AxxonSoft

INTELLECT™ Software Package

Administrator's Guide

Installation and Configuration Manual

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1 NTRODUCTION

1.1 Purpose of the INTELLECT™ intelligent video surveillance system

INTELLECT™ software is designed for the deployment of industrial scalable, flexible (adjustable) integrated security systems, based on the digital video surveillance and audio monitoring systems.

INTELLECT™ software possesses the following basic features:

1. Integration of digital video surveillance and audio monitoring systems with the existing data systems, various security equipment, auxiliary software of other developers, using integrated open interfaces of the data exchange.

2. Compatibility with diverse security devices and data systems, in particular, with the fire and security alarm and access control systems, video surveillance cameras, data analysis systems and systems for recognition of objects (events) and identification by their images.

3. Single-source registration and processing of events, generation of notifications and controlling response in compliance with the flexibly modified logics.

4. Ultimately unlimited capabilities for scaling, solution—specific adjustments, re-distribution of resources with changes in the number or quality of tasks in monitoring guarded locations and operating various equipment.

1.2 Setting up logical interrelations among objects in the Intellect software system

Functional facilities of Intellect software complex are based on logical cooperation of objects. Common data about ways of setting up the logical interrelation is given in Table 1.2-1.

Table 1.2-1

Ways of setting up the logical interrelation	Description	Realization	Example
Objects settings panels	Base setting of system objects interrelation	Is realized with the use of system objects functionality-see. Intellect software: Administrator guide.	Setting up the video signal displaying in Monitor interface window
Macros	Setting up simple interrelations among objects which functionalities do not allow to carry out the required operations	Is realized with the use of Macros object functionality-see. Intellect software: Administrator guide.	Setting of enabling the additional executive relay with ray closed
Program	Setting up complex interactions among objects, when Macros object functionality does not allow to carry out the required	Is realized on the basis of Program object as a code on the embedded Intellect program language-see. this guide	It is necessary to return the cameras to the reference position and make a frame
Script		Is realized on the basis of Script object as a code on embedded JavaScript language –	

Ways of setting up the logical interrelation	Description	Realization	Example
	operations	see. Intellect program complex: Program guide (JavaScript).	

1.3 Purpose and structure of the guide

Documentation for the INTELLECT™ intelligent video surveillance system, Video surveillance and audio monitoring Administrator Guide is a reference and information handbook on programming on embedded Intellect software language, which is designed for system administrators, installation and configuration technicians, users with administrator rights to the digital video surveillance and audio monitoring systems, developed on the basis of INTELLECT™ software.

Programming in the INTELLECT™ enables system control by setting up complex logical interactions among objects. This guide contains the following materials:

1. Software programming;
2. Description of embedded program language syntax;
3. Examples of program on the embedded language.

1.4 License method of the INTELLECT™ software

Licensing of the INTELLECT™ software is performed by means of software and program protection.

The INTELLECT™ software protection is built on one of the following components:

1. dallas-codes of video capture cards' cryptochips (FS-5B, FS-6C, FS-8, FS-16(Exp), WS-7, WS-17);
2. dallas-codes of the electronic hardware security key «Guardant»;
3. codes of HID devices (hardware id).

The key file, connecting the software protection with program modules, belongs to the program protection part. A list of available for using functional program modules depends on the configuration of security system's delivery and is registered in the key file.

While extending the system configuration (for example while installing a new functional subsystem) for activating the program module functionality, corresponding to the installed subsystem, in the previous key file has to be changed by a new one, which the updated system functionality will be regulated with.

While using the distributed architecture a single key file is used for all the computers of the system.

Note! If the video capture card is changed, its dallas-codes are changed too, so the previous key file should be respectively changed by a new one. While using the distributed architecture the key file should be changed on all the computers of the system.

If video capture cards, manufactured by ITV Company are used on the video server, the «Guardant» electronic hardware security key connection will result in impossibility of starting the software.

2 Software programming

2.1 Debug window

Intellect software makes possible to view in real time all the events and reactions that happen in the system. Events and reactions with object features are displayed in the debug window and can be copied to the Windows clipboard for further application in programs.

2.1.1 Enabling the debug window

On default the debug window is disabled. To enable the debug window do the following:

1. End the operation of Intellect program software.
2. Run the utility «Extended setting» Tweaki.exe.

Note. Debug window can be enabled even without tweaki.exe utility. For this the line parameter «Debug», equal to 1, 2, or 3 should be set in sector «HKEY_LOCAL_MACHINE\SOFTWARE\ITV\Intellect» of OS Windows register.

3. Select the section «Intellect» in the tree, allocated in the left part of the utility dialog window.
4. Change the value of the parameter «Debug mode» from «None» to «Debug 1», «Debug 2» or «Debug 3».
5. Click«OK»button.
6. Run the Intellect program software.
7. New point Debug window will appear in the main control panel of the Intellect program software (Figure 2.1-1).



Figure 2.1-1. New point Debug window in the main control panel

8. Select the Debug window point in the main control panel for displaying the debug window on the screen of the monitor (see.Figure 2.1-1). The selected point in the menu will be marked by a checkbox (Figure 2.1-2).



Figure 2.1-2. Debug window in case of its selection

To hide Debug window it is necessary to reselect the point Debug window in the main control panel.

Note. Debug window Select the value «None» for «Debug mode» parameter in the utility tweaki.exe, or set the line parameter «Debug» equal to 0 in the section «HKEY_LOCAL_MACHINE\ SOFTWARE\ ITV\ Intellect» of OS Windows register to disable Debug window. These operations are run with unloaded Intellect software.

2.1.2 Operation with Debug window

Face of Debug window is shown in Figure 2.1-3. The sequence of events and reactions in the system are displayed in Debug window.



Figure 2.1-3. Debug window

Debug window has the following features:

1. Is placed above all the other windows.
2. To change the sizes of Debug window use the mouse.
3. It is possible to copy information about the event or detection to Windows clipboard for further application in programs.

To read and/or copy information about the event or detection to Windows clipboard do the following:

1. Select the required line in the Debug window.

2. Make a right mouse click upon the selected line. In result «Message »window containing information about the required event or detection will open (Figure 2.1-4).

3. To copy to Windows clipboard select the required data and then click «Ctrl+C».

Note. In is convenient to use contextual menu for operating with text in «Message»window (is called by right mouse click upon the selected text).

To close «Message» it is necessary to click «  ».

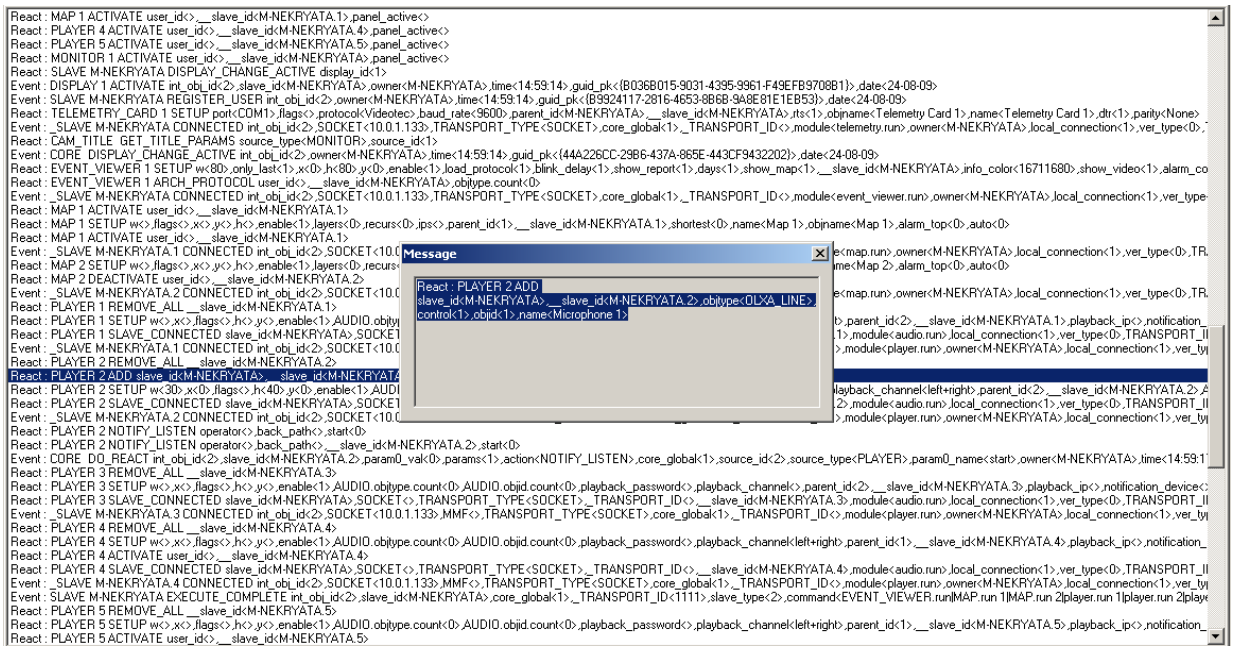


Figure 2.1-4. Copying the message to use in the program

Coping information about event or detection to Windows clipboard is completed.

1. Multiple camera/video servers split screen image simultaneously displayed on a single PC monitor.

2. Priority-oriented automatic selection of displayed video images from alarm or active cameras to bring the required scenes into Operator focus (selection of images depending on set parameters).

3. Flexible split screen configuration including the number of sources observed.

4. Priority window magnification (surveillance windows), magnified surveillance windows slideshow option for a selected camera.

5. Color coding of surveillance window (camera) state: “armed”, “alarm”, “recording”, etc.

6. Remote access to audiovisual streams from any workplace with both local and remote archive recording option.

7. Video recording can be performed:

   7.1. continuously;

7.2. on schedule;

7.3. on alarm or by Operator's command with a pre-event recording option.

8. Pre-event video recording.
9. Freeze frame by Operator's command selection and viewing, without interruption of the recording.
10. Image burn-in option.
    10.1. Current time;
    10.2. Current date;
    10.3. Camera No (ID).
11. On demand video recording.
12. Real time viewing of images from video cameras.
13. Priority-oriented viewing of critical video stream based on alarm detection.
14. Web interface-based surveillance.
15. Audio- and video-archive management.
16. Viewing of recorded video with search and retrieve options (time/event type/camera ID criteria).
17. Synchro playback of footage recorded by several cameras.
18. Recorded time calculation.
19. Timestamp based footage search.
20. Image processing:
    20.1. Digital zooming;
    20.2. Contrast maximizing;
    20.3. Image sharpening;
    20.4. masking;
    20.5. Dynamic outlining.
21. Management of end devices using:
    21.1. the 3rd party programmable interface panel;
    21.2. the universal control panel for end devices;
    21.3. a PC mouse;

21.4. a joystick.

22. Viewing video server footage from any system workplace using the TCP/IP communications environment.

23. Storage and exporting of single frames and video sequences.

24. Integrated use of various types of multi-zone detectors:

    24.1. main motion detector;

    24.2. motion;

    24.3. focus loss;

    24.4. video signal stability;

    24.5. changes in the image background;

    24.6. light-struck camera lens;

    24.7. closing camera lens;

    24.8. abandoned items;

    24.9. object tracker;

    24.10. infra-red

25. Detector zone(s) masking.

26. Image de-interlacing.

27. Analog video-signal output.

2.1.3 Audio monitoring functionality

1. Audio monitoring.
2. Audio and video synchro recording.
3. Sound activated audio recording.
4. Manually activated audio recording.
5. Exporting audio recordings.

2.1.4 Structuring guarded objects

1. Virtual subdividing of guarded objects.

2. Multilevel hierarchical object mapping to obtain:

    1.1. Automatic switching and recursive structural event analysis possibility;

    1.2. Graphical representation of active objects on the map (on different levels) for simple device control via the shortcut menu.

2.1.5 Event registration functionality

1. Event log maintenance.

2.1.6 Notification functionalities

1. Automatic notification using:

    1. SMS (Short Message Service);

    2. email;

    3. V-dial auto dialing service;

    4. Audible/voice notification.

2.1.7 Functions of workability control

1. System object «Restarting system service».

2.1.8 Management functionality

Macro commands programming of user specific functions.

2.1.9 Integration of the distributed video surveillance and audio monitoring system

1. Remote interaction of the program kernel and automated replication of internal databases (containing system setup parameters and data about the events registered by the system) between video servers and the Administrator automated work station, comprising of the distributed digital video surveillance system.
2. Generation of the integrated database of system setup parameters and registered events, followed by their processing in compliance with standard and specialized adjustable algorithms, including generation of notifications and system response.
3. Programmable optimization of video data flows within the distributed digital video surveillance system, whenever throughput capacity of the communication links is not sufficient (optional video gateway function).

2.2 Technical features of the digital video surveillance and audio monitoring system based on INTELLECT™ software

Digital video surveillance systems based on INTELLECT software demonstrate the following features:

1. Maximum number of video input channels for video signal processing in the live video mode (25/30 frames per sec. (PAL/NTSC)) per video server – 32.

2. Maximum number of video input channels for video signal processing in the multiplexing mode per video server – 64 (8 frames per sec within 64 channels).

3. Maximum number of simultaneous analogue video signals – 4.

4. Maximum number of simultaneously incoming processed signals from the microphones or telephone lines – 64.

5. Maximum number of audio outputs (to the loudspeakers, earphones, etc.) depends on the sound card used for playback.

6. Maximum number of PTZ units used – up to 64.

7. Maximum number of remote workstations connected to the server to obtain video signals is limited by the number and parameters of the transmitted video signals, video surveillance system architecture and network capacity.

8. Maximum number of video servers, from which the video signals are simultaneously transmitted to a remote work station, is limited by the number and parameters of transmitted video signals, video surveillance system architecture and network capacity.

9. Maximum number of video images displayed simultaneously on the screen of a remote work station is limited by video image characteristics and network capacity.

10. Maximum video flow rate transmitted via a video gateway is limited by the video gateway hardware parameters and network capacity.

11. Types of supported video input cards: FS-5, FS-6, FS-16, FS-8, WS-6, WS-7, WS-17.

12. Types of supported video cards: any PCI-E video cards, not integrated in the motherboard, mainframe memory at least 256 Mb.

13. Types of supported sound cards: standard sound cards: MidiMan Delta, Comart Hera, Eholot USB (8, 32, etc.), Olkha 9P.

14. Supported digitization bandwidth: depends on the sound card parameters, software limitations: 0 –48 000 Hz.

2.3 Structure of the digital video surveillance and audio monitoring system based on INTELLECT™ software

The versatile structure of the digital video surveillance and audio monitoring system based on INTELLECT™ software and standard hardware and software is shown in Figure 2.3-1.

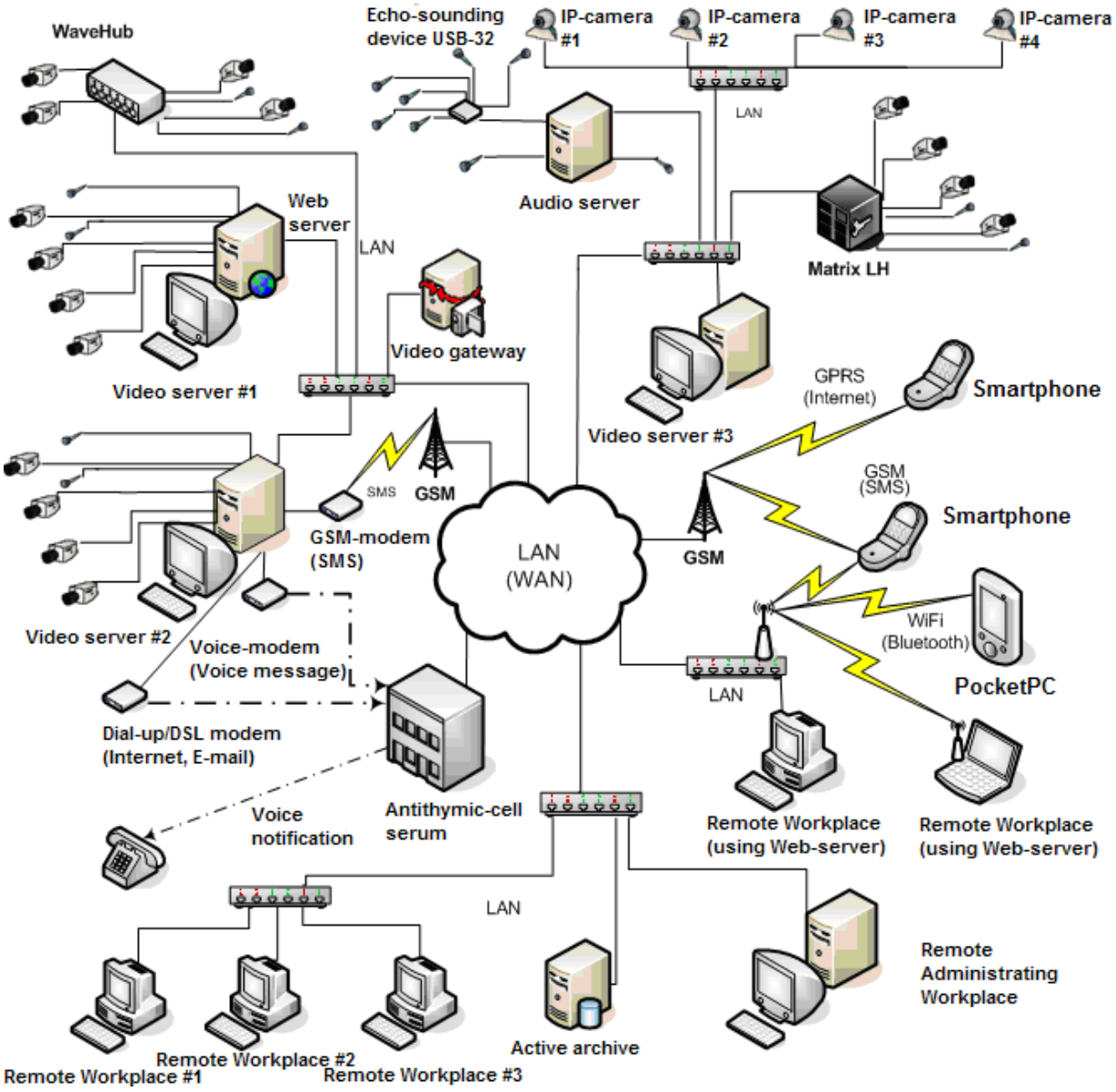


Figure 2.3-1. Versatile structure of the digital video surveillance and audio monitoring system based on INTELLECT™ software

2.3.1 Basic hardware components of the digital video surveillance system

The distributed video surveillance and audio monitoring system based on the INTELLECT system may be deployed using the following basic hardware and software components:

1. Operator workstations (Remote Monitoring Workstations) or Administrator workstations (Remote Administrator Workstations), supporting the functions of Operator Workstations based on PCs (IBM PC-based).

2. Video servers based on a PC (IBM PC–based) with pre-installed specialized hardware (audio and video input cards, USB ports for audio input), supporting additionally the functions of Operator and System Administrator Workstations.

3. Administrator Workstations (remote Administrator Workstation) supporting video server functionality using network (IP) audio and video input hardware.

4. Network video hubs (WaveHub, Linux Hub, etc.).

5. Network video servers (Matrix, etc.).
6. Analogue and IP video cameras.
7. Network audio input hardware (Eholot, etc.).
8. TCP/IP communication medium.

2.3.2 Software

2.3.2.1 *Operating system*

«Intellect» operates in Microsoft Windows family.

1. Windows XP Professional SP2-SP3
2. Windows Server 2003 R2 Standard SP2
3. Windows Server 2003 R2 Enterprise SP2
4. Windows Vista Business SP1
5. Windows Vista Enterprise SP1
6. Windows Vista Ultimate SP1

2.3.2.2 *Software kernels*

The Intellect™ system can be implemented in the following options (installation options):

1. Based on the full-featured INTELECT software kernel (this option corresponds to the intellect.exe software module) The full-featured software kernel ensures operation the video server, Administrator and Operator workstation.
2. Software kernel with minimized functionality supporting the Remote Operator Workstation functions (this option corresponds to the slave.exe software module).

Software of the Remote Operator Workstation does not support system administration (create, delete, set system objects, register users, user rights administration), as well as local database maintenance (operations with ROW use a remote database operated by the intellect.exe kernel and belonging to the video server or Remote Administrator Workstation).

Intellect.exe, the fully software kernel, is the central software component of the system. The system kernel interacts with the program modules, which form the software basis for the subsystems.

Integration of the distributed digital video surveillance and audio monitoring system is provided by the data exchange between software kernels.

2.3.2.3 *Program modules*

Program modules support direct interworking of the hardware, and also serve as a source of data about controllable objects. The software kernel of the system processes the incoming data from various program modules, providing their integration.

The list of the program modules available for the operations depends on the configuration option of the system. Executive files, corresponding to the subsystems are automatically launched by the kernel as the system is configured

For instance, if the “Surveillance Camera” object is created and as soon as the relevant settings are confirmed, the video sub-system executive module (video.run executive file) will be launched.

2.3.2.4 *Internal video server database*

The internal video server database contains the following information:

1. system settings (objects created in the system, their attributes, users and user rights and other additional data);
2. events registered by the system within the period as defined at the system configuration stage (event logs).

The internal video server database or Remote Administrator Workstation is maintained in a MS SQL format. The list of MS SQL Server versions, supported in Intellect PC, is given in Table 2.3-1

Table 2.3-1

Version MS SQL Server	Supportes edition
MS SQL Server 2005 - see. http://www.microsoft.com	Express Edition(Memory capacity restriction– 4 Gb)
	Workgroup Edition
	Standard Edition
	Enterprise Edition
MS SQL Server 2008 R2 - см. http://www.microsoft.com	Enterprise Edition (Restrictions– maximum number of processors and memory capacity, supported by OS)
	Developer Edition (Restrictions– maximum number of processors and memory capacity, supported by OS)
	Standard Edition (Restrictions- 4 supported processors; maximum memory capacity, supported by OS)
	Express Edition (Restrictions- 1 supported processor, memory capacity -10 Gb)
	Web Edition (Restrictions- 4 supported processors; maximum memory capacity, supported by OS)
	Workgroup Edition (Restrictions- 2 supported processors; maximum memory capacity, supported by OS (32-bit version), or memory capacity– 4Gb(64- bit version))

Note! In Intellect PC the DBMS MS SQL Server 2000 and MS SQL Server 2008 R2 are not supported.With the use of DBMS data technical support is not granted.

Note1. Free (of charge version MS SQL Express is installed with Intellect PC on default.To get information about technical features and limitations of free version see. http://www.microsoft.com.

Note 2. If an error occurs while installing the Microsoft SQL Server 2008 Express R2 it is necessary to create «Repair.bat»file, following the instructions, given on the site «http://support.microsoft.com/kb/958043».

Note! While exceeding maximum database memory capacity (when MS SQL Server edition with memory capacity is used) there is no guarantee for the Intellect PC correct operation.

Information about the objects, settings of the digital video surveillance and audio monitoring system and event logs can be automatically replicated from the video server database or Remote Administrator Workstation to the databases of all other video servers and Remote Administrator Workstations of the system. Communication between full featured program kernels of the INTELLECT system is supported by the TCP/IP environment (if the system configuration defines certain program kernels, between which communication should be provided).

Information about system objects and their settings is initially stored in the database of the video server (Remote Administrator Workstation), which the objects belong to. Replication is initiated automatically whenever data is changed, the kernel is launched or communication is restored.

Replication is used to create a common event environment within the distributed digital video surveillance system.

Replication is a hidden process for the user.

2.3.2.5 *Workstation software*

The digital video surveillance and audio monitoring system based on INTELLECT™ software can be comprised of the following workstations:

1. Remote Operator Workstation;
2. Remote Administrator Workstation;
3. Video server supporting Operator and Administrator workstation functionality.

Implementation of the Remote Operator Workstation requires installation of the software for the Remote Operator Workstation in the workstation (this option corresponds to the slave.exe, basic executive program module).

The “Remote Monitoring Workstation” option is selected at the installation of INTELLECT software on PCs, which are not furnished with specialized hardware for audio and video input and are designed to function as Operator Workstations.

Implementation of the Remote Administrator Workstation requires installation of a full featured INTELLECT software kernel in the workstation (this option corresponds to the intellect.exe, executive program module). To install Remote Administrator Workstation, select “Remote Administrator Workstation” in the appropriate dialog box at the INTELLECT software installation stage. The remote Administrator Workstation is installed on the PCs designed for system administration (Remote Administrator Workstations), which have no pre-installed video input cards (FS 5, FS 6, WS 4, WS 6) and audio input cards.

To enable remote system administration, if required, the base PC should be furnished additionally with Guardant, an electronic hardware protection key. The PC with Remote Administrator Workstation software installed can also be used as a Remote Operator Workstation, if the system is entered using

the Operator password. The Remote Administrator Workstation, which is not protected by an electronic hardware protection key (dongle), may be used only as an Operator Workstation.

PCs with the Administrator Workstation software installed can process incoming audio and video signals from IP-units (video server functionality).

To create a video server, select the “Video Server” option in the appropriate dialog box of the program, while installing INTELLECT software in the PC furnished with pre-installed video input cards.

If a video server has ITV Group video input cards installed, the Administrator may operate the system without a Guardant dongle.

2.3.2.6 *Interaction of basic modules with the Intellect kernel*

Basic modules interact with the Intellect kernel via the data exchange interface of the Intellect kernel, using module.mdl, a dynamic library.The program modules and Intellect kernel interaction scheme are shown in Figure 2.3-2.

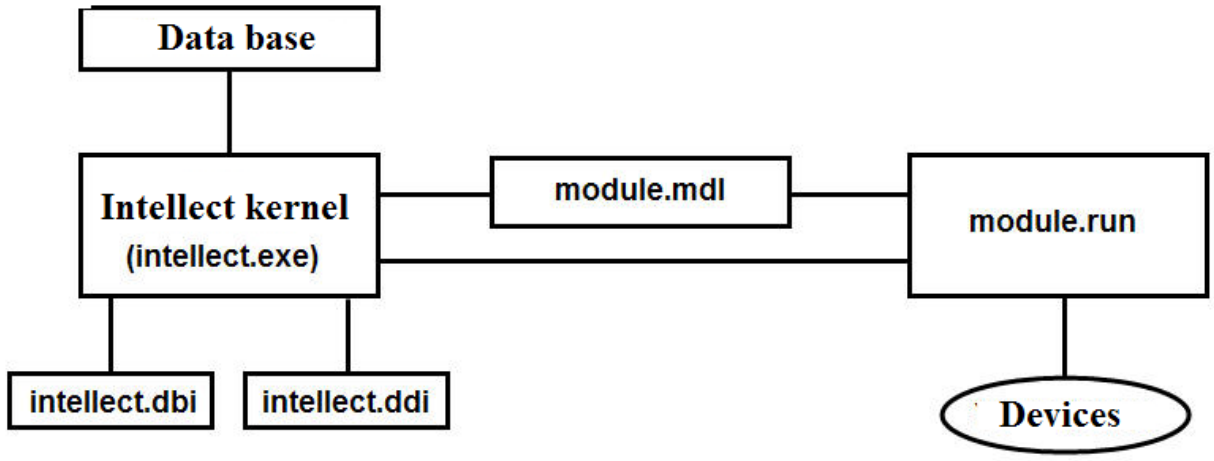


Figure 2.3-2. Scheme of the modules and Intellect kernel interaction, using the Intellect kernel data exchange interface (intellect.exe process)

Intellect.dbi and intellect.ddi object setting files contain the information about integrated modules (objects) required to support operation of the Intellect kernel. System setting files are edited using ddi.exe, a specialized utility. At the object integration stage, the names and parameters of the integrated object and related system events and responses, used for this object, and the values thereof are recorded in the system setting files.

The module.mdl file supports operation with objects of the same type: creation, modification, deletion, changing object parameters at the configuration stage or during operation and saving updated parameters in the database, as well as certain special operations with the object. Apart from that, the module.mdl transmits parameters of the created or modified objects to the executive module.

The module.mdl file stores the configuration of the object setting panels.

The module.run execution file supports interworking with the units, transmits information about events to the kernel and also supports unit control.

Consequently, module.mdl supports two-way data exchange between the Intellect kernel and module. The responses and events, which are used, will be described in the system manuals of the appropriate object (in intellect.ddi file).

To simplify integration with the joint data systems, auxiliary software or extension modules, Intellect™ system offers an alternative interface for data exchange between modules and the Intellect kernel – IIDK.

2.3.2.7 *Interaction of modules of other vendors with Intellect kernel*

INTELLECT™ software architecture is designed for intertask communication between the Intellect kernel and modules (joint information systems) using the TCP/IP communication environment, requiring the following parameters to support connection:

1. port number;
2. IP address of the PC using the Intellect kernel;
3. ID, an identifier of the connectable object;

To enable the above mechanism, the IIDK interface object should be created in the Intellect software tree based on the PC object at the stage of Intellect software configuration.

Where the IIDK interface is used, setting panels for the integrated modules (of already existing software) are not created.

To enable interworking between modules and the Intellect kernel, one of the following prerequisites should be complied with:

1. Integrated software should be adjusted for TCP/IP data exchange in the Intellect kernel format.
2. An interface program module should be developed to support transmission of events and responses of the integrated software in the Intellect kernel format and interoperate with the kernel through TCP/IP. This option is used in cases where integrity of the integrated software (for instance, integration of ATM software) is especially important.

The Intellect kernel adjusts to the data exchange over the specified port, as soon as the IIDK interface is created in the program (Figure 2.3-3).

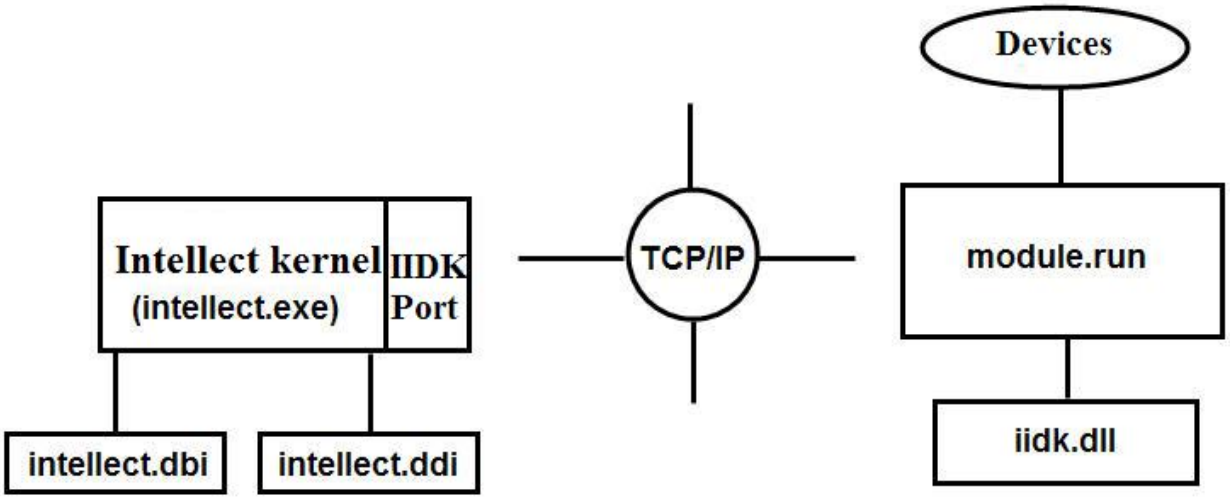


Figure 2.3-3. Scheme of interaction between the Intellect kernel and external software (modules) within the TCP/IP communication environment

Being a module and hierarchy object-based structure, INTELLECT™ software ensures efficient extension of functionalities through the integration of modules supporting new equipment or new service functions. INTELLECT™ software offers IIDK (Intellect Integration Developer Kit) to the vendors, integrating proprietary security equipment with INTELLECT™ software.

The above kit includes the software tools required for the development of integrated modules (auxiliary software) or modification of existing software to process messages, events and responses in the Intellect kernel format.

2.3.3 Key file and Guardant electronic hardware security key

Functionality (configuration) of the system is controlled by a key file supplied together with the INTELLECT™ software installation package. Operations with the key files are described in the section “Intellect™ system installation”.

The key file activates the system functionality. Whenever a system configuration needs to be extended (for instance, where a subsystem, which is not included in the basic configuration, is required), to enable functionality of the program module, corresponding to the subsystem, which needs to be installed, the previous key file should be replaced with a new one, which will control updated system functionality.

Replacement of the previous key file with a new key file initiates the updated set of functional subsystems, when the system is reset.

In a distributed system, the configuration of each computer depends not only on this computer’s key file, but on the key files of other computers in the distributed system. That is, the maximum functionality of each computer in the distribute system is limited by the key file of the computer with minimum capabilities. Thus, the same key file is recommended to be used on all computers of a distributed system.

In order to install an Administrator Workstation on a certain PC a Guardant dongle should be installed on the given PC. Guardant hardware security key is also required when a video server, which is not equipped with video input cards, is used to process incoming audio and video signals, from IP-units.

If the video server is equipped with ITV Group video input cards, an electronic hardware security key is not required.

Note. If a distributed system consists of an operator workstation and a server with a key file, no key file is required on the workstation. Hardware objects on this workstation should be created according to the server's key file. That is, the workstation is used as a server with no separate key file.

2.3.4 Communication environment

The communication facilities of INTELLECT™ software allows deployment of distributed digital video surveillance systems, which control lengthy and versatile objects. Remote system components interact automatically with each other forming a common security system.

Data exchange and communication between distributed digital video surveillance and the audio monitoring system is supported by the local access networks (LAN), Internet (WAN), telephone lines (Dial-Up) and leased communication channels, when TCP/IP telecommunications transportation protocol is used.

3 REQUIREMENTS FOR THE SOFTWARE AND HARDWARE PLATFORM

3.1 Requirements for base PCs

INTELLECT™ software is designed for use with IBM compatible PCs. Efficiency and performance of the Intellect system depends, in particular, on the technical parameters and performance of the PCs. Before you start system design, you should carefully study the requirements for the hardware components and check if they are able to support the target performance of the system.

3.1.1 General requirements for PCs used as servers

Servers are designed for digitization, processing, recording, transmission and displaying the incoming video signals from the cameras of the video surveillance system.

Minimal requirements for server configuration are specified in Table 3.1-1.

Table 3.1-1

Component	Description	QTY	Parameter
Tower	ATX (eATX) of any type with additional cooling.	1	-
Motherboard	Intel of any type on a chipset or Nvidia PCI-e, compatible with the recommended platforms	1	Pay attention to the number of free PCI (-e) slots and the type of processor, which is installed.
Processor	Intel compatible with the recommended platform with a standard fan	1	HT function in BIOS should be switched off.
Memory	At least 1 Gb.	-	The number of modules should match the number of memory channels.
Hard drive	For installation of the OS and application SW (20 Gb is sufficient).	1 (+1)	Mirroring can be used to improve the fault-tolerance.
Hard drive	To maintain video/audio archive compatible with the requirements for the archive depth.	-	External disk systems can be connected through SAS, SCSI, Fiber Channel interfaces.
FDD	Any 3.5” floppy disk drive of 1.44 Mb.	1	For fallback recovery (not compulsory).
DVD-RW	Any type of DVD-RW.	1	To reload the archive to an external carrier (not compulsory).
Video card	Any from 256 Mb.	1	Not compulsory, if the image is not required to be displayed on a monitor.
Power supply unit	Any ATX matching the PC tower. Capacity depends on the hardware configuration.	1	Two fans are recommended: a suction fan and an induced draft fan. A redundant fan can also be installed.
FAN&Temp Control	Any temperature control module.	1	Not compulsory

Component	Description	QTY	Parameter
OS	OS Windows supported versions (see. Operating system requirements).	1	Internet access is recommended to be switched off.

Note. The system clock on the server must be synchronized with the client's system clock, or run a couple of seconds ahead. Otherwise, problems during re-connecting (for example, on connection loss) may occur.

3.1.2 General requirements for PCs used as Remote Administrator Workstations

Remote Administrator Workstations are designed for remote monitoring of video signals, for creating gateways and archives of video sequences, for logging the events registered by INTELLECT™ software and use as a web server for the transmission of video signals over HTTP (this protocol is used to transmit signals over the Internet and display them with standard Web-browsers).

Configuration requirements for the Remote Administrator Workstation depend on the functions it is designed to perform. Table 3.1-2 shows general requirements, including comments.

Table 3.1-2

Component	Description	QTY	Parameter
Tower	ATX (eATX) of any type with additional cooling.	1	-
Motherboard	Any Intel on a chipset or Nvidia PCI-e.	1	-
Processor	Any Intel on a chipset.	1	HT function in BIOS should be switched off.
Memory	At least 1 Gb.	-	The number of modules should match the number of memory channels.
Hard drive 1	For installation of the OS and SW application (20 Gb is sufficient).	1 (+1)	Mirroring can be used to improve the fault-tolerance.
Hard drive 2	To maintain video/audio archive compliant with the requirements for the archive depth.	-	External disk systems can be connected through SAS, SCSI, Fiber Channel interfaces. Will be installed in cases where video/audio archives are required.
FDD	Any 3.5" floppy disk drive of 1.44 Mb.	1	For fallback recovery (not compulsory).
DVD-RW	Any type of DVD-RW.	1	To reload the archive to an external carrier (not compulsory).
Video card	Any from 256 Mb.	1	Not compulsory, if the image is not required to be displayed on a monitor.
Power supply unit	Any ATX matching the PC tower. Capacity depends on the hardware configuration.	1	Two fans are recommended: a suction fan and an induced draft fan. A redundant fan can also be installed.

Component	Description	QTY	Parameter
FAN&Temp Control	Any temperature control module.	1	Not compulsory
OS	OS Windows supported versions (see. Operating system requirements).	1	Internet access should be disconnected, if the Remote Administrator Workstation will be used as a Web server.

Note. The system clock on the server must be synchronized with the client's system clock, or run a couple of seconds ahead. Otherwise, problems during reconnecting (for example, on connection loss) may occur.

3.1.3 General requirements for PCs used as Remote Monitoring Workstations

Remote Monitoring Workstations are designed to playback incoming video and audio signals from video surveillance system servers and to control cameras, microphones, PTZ units, etc.

Minimal requirements for Remote Monitoring Workstation configuration are given in Table 3.1-3.

Table 3.1-3

Component	Description	QTY	Parameter
Tower	ATX (eATX) of any type with additional cooling.	1	-
Motherboard	Any Intel on a chipset or Nvidia PCI-e.	1	-
Processor	Any Intel on a chipset.	1	HT function in BIOS should be switched off.
Memory	At least 1 Gb.	-	The number of modules should match the number of memory channels.
Hard drive 1	For installation of the OS and SW application (20 Gb is sufficient).	1 (+1)	Mirroring can be used to improve the fault-tolerance.
FDD	Any 3.5" floppy disk drive of 1.44 Mb.	1	For fallback recovery (not compulsory).
DVD-RW	Any type of DVD-RW.	1	To reload the archive to an external carrier (not compulsory).
Video card	Any from 256 Mb.	1	-
Power supply unit	Any ATX matching the PC tower. Capacity depends on the hardware configuration.	1	Two fans are recommended: a suction fan and an induced draft fan. A redundant fan can also be installed.
FAN&Temp Control	Any temperature control module.	1	Not compulsory
OS	OS Windows supported versions (see. Operating system requirements).	1	Internet access should be disconnected.

Note. The system clock on the server must be synchronized with the client's system clock, or run a couple of seconds ahead. Otherwise, problems during re-connecting (for example, on connection loss) may occur.

3.1.4 Operating system requirements

Intellect software is compatible with 32 bit licensed versions of Microsoft Windows operating system (Table 3.1-4). File system – NTFS.

Table 3.1-4

Windows version	Supported architecture	Supported release	Note	
Windows XP SP3	x86	Windows XP Home Edition	Restrictions, imposed by OS release (1 physical processor, 5 SMB connections) – see. http://www.microsoft.com	
		Windows XP Professional	OS edition, enabling to use all realized product features.	
		Windows XP Tablet PC Edition	OS edition, enabling to use all realized product features.	
		Windows XP Media Center Edition	OS edition, enabling to use all realized product features.	
Windows Server 2003 R2 SP2	x86, x64	Standard Edition	OS edition, enabling to use all realized product features.	
		Enterprise Edition	OS edition, enabling to use all realized product features.	
		Datacenter Edition	OS edition, enabling to use all realized product features.	
		Web Edition	Restrictions, imposed by OS release (2 Gb of main memory, 2 physical processors) – see. http://www.microsoft.com	
Windows Vista SP2	x86, x64	Home Basic	Restrictions, imposed by OS release (1 physical processor, 5 SMB connections) – see. http://www.microsoft.com	
		Home Premium	Restrictions, imposed by OS release (1 physical processor) – see. http://www.microsoft.com	
		Business	OS edition, enabling to use all realized product features.	
		Enterprise	OS edition, enabling to use all realized product features.	
		Ultimate	OS edition, enabling to use all realized product features.	
Windows Server 2008 SP2	x86, x64	Enterprise	OS edition, enabling to use all realized product features.	Full Installation type is supported.Server Core Installation type is not supported
		Datacenter	OS edition, enabling to use all realized product features.	
		Standard	OS edition, enabling to use all realized product features.	
		Web	OS edition, enabling to use all realized product features.	
		HPC	OS edition, enabling to use all realized product features.	
Windows 7	x86, x64	Starter	Restrictions, posed by OS edition (2GB of main memory, 1 physical processor, 1 monitor) - see. http://www.microsoft.com	
		Home Basic	Restrictions, posed by OS edition (1 physical processor) - see. http://www.microsoft.com	
		Home Premium	Restrictions, posed by OS edition (1 physical processor) - see. http://www.microsoft.com	
		Professional	OS edition, enabling to use all realized product features.	
		Enterprise	OS edition, enabling to use all realized product features.	
		Ultimate	OS edition, enabling to use all realized product features.	

Note. Stretch cards are not compatible with OS Windows 7.

Note! For stable and correct Intellect PC operatin the swap file (the size is selected according to system requirements) should be enabled in OS.

3.1.5 Processor and motherboard requirements

Table 3.1-5 gives summarized information about the platforms recommended for different video surveillance system configurations. Short symbols in Table 3.1-5 correspond to the types of processors required to support the appropriate performance of the video surveillance system of a certain configuration. Table 5 displays a legend to the processor type symbols. The colors of Table 3.1-5 cells indicate the motherboard requirements. Table 6 describes the meaning of the cell colors.

Table 3.1-5

System	Resolution - color	Number of channels													
		1	2	4	6	8	12	16	20	24	32	40	48	56	64
A (1 f/s)	352x288 b/w				PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	352x288 color				PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x288 b/w				PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x288 color				PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x576 b/w				PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x576 color				PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
B (2 f/sec)	52x288 color			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	352x288 color			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x288 b/w			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x288 color			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x576 b/w			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x576 color			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D E6700	C2D E6700
C (3	352x288 ч/б			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820

System	Resolution - color	Number of channels													
		1	2	4	6	8	12	16	20	24	32	40	48	56	64
f/sec)	352x288 color			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x288 b/w			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x288 color			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x576 b/w			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D
	704x576 color			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D E6700	C2D E6700	C2D E6700	2X 5110
D (4 f/sec)	352x288 b/w			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	352x288 color			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x288 b/w			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x288 color			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D
	704x576 b/w			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D	C2D	C2D
	704x576 color			PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D E6700	C2D E6700	2X 5110	2X 5110	2X 5110
E (6 f/sec)	352x288 b/w		PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	352x288 color		PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	704x288 b/w		PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D
	704x288 color		PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D	C2D	2X
	704x576 b/w		PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D	2X	2X	2X
	704x576 color		PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D E6700	C2D E6700	2X 5110	2X 5110	2X 5140	2X 5140	NA

System	Resolution - color	Number of channels													
		1	2	4	6	8	12	16	20	24	32	40	48	56	64
F (8 f/sec)	352x288 b/w		PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820
	352x288 color		PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D
	704x288 b/w		PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D	C2D	C2D
	704x288 color		PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D	2X	2X	2X
	704x576 b/w		PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D	C2D	2X	2X	2X	2X
	704x576 color		PD 820	PD 820	PD 820	PD 820	PD 820	C2D E6700	C2D E6700	2X 5110	2X 5110	2X 5140	NA	NA	NA
G/2 (12 f/sec)	352x288 b/w	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820				
	352x288 color	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820				
	704x288 b/w	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D				
	704x288 color	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D	2X				
	704x576 b/w	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D	2X	2X				
	704x576 color	PD 820	PD 820	PD 820	PD 820	PD 820	C2D E6700	2X 5110	2X 5110	2X 5140	NA				
G (25 f/sec)	352x288 b/w	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D				
	352x288 color	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D	2X				
	704x288 b/w	PD 820	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	C2D	2X	2X				
	704x288 color	PD 820	PD 820	PD 820	PD 820	PD 820	C2D	2X	2X	2X	NA				
	704x576 b/w	PD 820	PD 820	PD 820	PD 820	C2D	2X	2X	2X	NA	NA				

System	Resolution - color	Number of channels												
		1	2	4	6	8	12	16	20	24	32	40	48	56	64
	704x576 color	PD 820	PD 820	PD 820	C2D E6700	2X 5110	2X 51400	NA	NA	NA	NA				

Table 3.1-6 gives a legend to the brief processor symbols used in Table 3.1-5.

Table 3.1-6

Symbol	Description	Example:
PD 820	Intel Pentium D 820 Processor	-
C2D E6700	Intel Core2Duo Processor 2,6 GHz or 2*XEON 3,4 GHz (Dempsey)	-
2X 5110	Two XEON DualCore 1.6GHz (Woodcrest) processors	-
2X 5140	Two XEON DualCore 2.33GHz (Woodcrest) processors	-
NA	More powerful processors have not been tested.	-

Table 3.1-7 describes the meaning of Table 3.1-5 cell colors corresponding to the requirements of the motherboard.

Table 3.1-7

Color	Description	Example:
	One PCI or PCI-e bus is required.	Any type with a chipset, min. i945 (Asus P5xx)
	Two PCI or PCI-X or PCI-e buses (in combinations)	Any type, with two PCI-e or PCI-X slots (Asus P5LD2, Asus P5WDG2-WS Pro)
	Three PCI or PCI-X or PCI-e buses (in combinations)	Any type with three PCI-e slots (ASUS P5B) or PCI-X slots (SM X7DBE)
	Four PCI or PCI-X or PCI-e buses (in combinations)	SM X7DBE-X
	Insufficient total throughput capacity	-

3.1.6 Free disk space (video archive size) required

Intellect™ system allows saving the video recordings to the hard drives (maintain video recordings archive). Archived information can be saved to the hard drives of such types as SCSI, IDE, SATA, USB and also RAID arrays. SCSI disks and RAID arrays (in particular RAID-5) allow accelerating data search and recording.

The size of the redundant array defines the length (time based length) of the saved and archived video recording. The size of the redundant array is selected based on the required parameters of the video recording.

Table 3.1-8 below shows the average frame size of a PAL video signal as a function of video signal compression, color grade of the image and frame resolution.

Table 3.1-8

Resolution		Non-compressed frame (Kb)	Compressed frame (Kb)
Standard black and white	352x288	99	18
Standard colore	352x288	149	20
High resolution black and white	704x288	198	24
High resolution colore	704x288	297	25
Full resolution black and white	704x576	396	33
Full resolution colore	704x576	594	34

Archive size will be calculated on the basis of frame resolution and compression, image color grade, rate of video signal frames per second, number of cameras, recording events continuously to the hard drives.

Archive size can be calculated from formula no. 1:

$$Archive\ size\ (days) = (1024\ (Mb\ /\ Cb) * 1024\ (Mb\ /\ Kb) * Hard\ drive\ size\ (Gb))/(60\ (min\ /\ sec) * 60\ (sec\ /\ hr) * 24\ (hr\ /\ day) * Frame\ size\ (Kb) *$$

Formula no. 1. Calculation of the archive size as a function of daily recording time of a camera, frame ize and rate and number of cameras

Comments relating to Formula no. 1. To estimate the archive size, the following should be performed: the size of hard drive in Kb (the rates for converting Gb into Kb are included into the numerator of Formula no. 1) divide by the frame size, defined in Table A as a function of video signal parameters, and by the frame rate per camera and the number of cameras, connected to the video server. Archive size in this case will be measured in seconds. Now, the archive size expressed in seconds should be converted to the number of days (the rates to convert seconds to days are given in the denominator of Formula no. 1).

Note. Archive size can also be calculated from a simplified formula, where numerical conversion factors are reduced to a numerical value (Formula no 2).

$$Archive\ size\ (days) = 12\ \left(Kb/_{Gb} * day/_{sec}\right) * \frac{Hard\ Drive\ Size\ (Gb)}{Frame\ size\ (Kb) * Frame\ Rate\ \left(\frac{Frame}{sec}\right) * Number\ of\ cameras}$$

Formula no. 2. Simplified formula to calculate video archive size

Example. If the size of a hard drive, for instance, is 40 GB, 4 cameras are continuously recording PAL video signals with 10 frames per second and 150Kb frame size. Based on the formula, you work out:

$$Archve\ size\ (days) = 12\ \left(^{Kb}/_{Gb} * {}^{day}/_{sec}\right) * \frac{40\ (Gb)}{150\ (Kb) * 10\ \left(^{frames}/_{sec}\right) * 4} = 0.08\ (days)$$

The arithmetic calculation shows, that the video archive size in the particular case will be 0.08 days (about 1 hour 55 minutes).

For the purpose of calculations, frame size can be defined in Table 3.1-8 above.

Note. To calculate the size of a hard drive, the following specific features should be accounted for: 1) About 5-10% of the hard drive size is taken up by the filing subsystem data. To ensure that Windows OS is operating correctly, at least 20% of free disk space is required. By default, Windows OS auxiliary files are assigned 500Mb. To modify the above value, Windows OS catalogue should be updated, using Tweaki.exe utility, supplied together with the INTELLECT distribution software package.

Table 3.1-9 shows archive sizes calculated for hard drives of various sizes, based on a continuous incoming PAL video signal recording, from 1 camera with a frame rate of 25 f/sec.

Table 3.1-9

Resolution	Hard drive size			
	80 GB	160 GB	400 GB	750 GB
352x288 b/w	2,1	4,3	10,7	20,0
352 x 288 color	1,9	3,8	9,6	18,0
704x288 b/w	1,6	3,2	8,0	15,0
704 x 288 color	1,5	3,1	7,7	14,4
704x576 b/w	1,2	2,3	5,8	10,9
704 x 576 color	1,1	2,3	5,6	10,6

3.2 Requirements for TCP/IP Network throughput capacity

Throughput capacity of the network refers to the factors restricting performance of the distributed network. Data exchange flow is primarily made up of image data. For instance, where surveillance cameras are used to monitor remote objects, likes ATMs, the data flow (image flow) is transmitted over communication links.

Table 3.2-1 shows the maximum number of remote surveillance cameras as a function of the throughput capacity of various communication links. The frame rate of the image flow (reference format is PAL) for calculation purposes was accepted as equal to 1 frame per second.

Table 3.2-1

Communication mode	Link capacity	Black and white image			Color image		
		standard	high	full	standard	high	full
Dial-Up	56 Kb/sec	<1*	<1*	<1*	<1*	<1*	<1*
ADSL, Ethernet	128 Kb/sec	1	<1*	<1*	<1*	<1*	<1*
ADSL, Ethernet	256 Kb/sec	2	1	1	1	1	<1*
ADSL, Ethernet	512 Kb/sec	4	3	2	3	3	2
ADSL, Ethernet	1 Mb/sec	7	5	4	6	5	4
ADSL, Ethernet	1.5 Mb/sec	11	8	6	10	8	6
Ethernet	2 Mb/sec	14	11	8	13	10	8
Ethernet	10 Mb/sec	71	53	39	64	51	38
Ethernet	100 Mb/sec	711	533	388	640	512	376
Ethernet	1 Mb/sec	7282	5461	3972	6554	5243	3855

1. max. one surveillance camera, provided that maximum compression and/or image flow gapping is supported.

To calculate the maximum number of remote cameras transmitting image flow to the network with a rate over 1 f/sec, the corresponding value shown in the table should be divided by the number of frames.

Example: To transmit live video, a 100 Mb/sec network should be used (25 frame/sec – PAL), video image – color; frame resolution – standard. As the table shows, the Mb/sec link can transmit the image flow at a rate of 1f/sec, specified color grade and resolution from max. 640 surveillance cameras. Consequently, if the image flow rate is 25 frames per second, the maximum number of cameras will decrease by 25 times and will be equal to: 640/25=25 cameras.

NOTE. More often than not, video signal processing, transfer and recording requirements take up only a small proportion of the digital video surveillance system resources. While calculating performance of the video surveillance system, the proportion of resources, consumed by audio monitoring, may be neglected.

3.3 Requirements for PTZ and control panels

INTELLECT™ software is compatible with PTZ units, control panels and tilt IP-cameras from such manufacturers as Panasonic, Samsung, Videotec, Sanyo, etc. You can find an updated list of PTZ units and control panels that are compatible with INTELLECT™ software on the ITV site in the Integration section at: http://www.itv.ru/products/integration/.

3.4 Requirements for audio input units

INTELLECT™ software can use the following audio inputs:

1. FS/WS video grabbers. These boards support simultaneous digitization of 2-16 audio signals, depending on the type of the board used. The list of video inputs compatible with **INTELLECT™** software is given in Attachment No. 3.

2. Standard sound cards, including cards, integrated with the motherboard. Standard sound cards, as a rule, support simultaneous digitization of up to 2 audio signals.

3. Multi-channel sound cards and converters for digitization of outgoing audio signals from microphones and telephone lines, software and hardware complex for the digital audio registration, etc. You can find an updated list of multi-channel audio inputs that are compatible with INTELLECTTM software on the ITV site in the Integration section at: http://www.itv.ru/products/integration/.

4. IP-units. You can find an updated list of IP-units for audio input that are compatible with INTELLECTTM software, as well as specific application features thereof on the ITV site in the Integration section at: http://www.itv.ru/products/integration/.

3.5 Requirements for IP-units and audio and video inputs

INTELLECT™ software is compatible with IP-units and video and audio inputs.

Specific application features of certain IP-units:

1. To ensure correct registration of sound from Axis IP-cameras, in cases where AAC audio codec is used, avoid setting the audio steam bit rate at 8 or 12 Kbps, if the digitizing rate is 8 kHz: the bite rate should be 16, 24, 32, 48 or 64 Kbps.

2. To ensure correct registration of outgoing sound from Sony IP-cameras, avoid using G.726 audio codec: use G.711 codec instead.

*NOTE. You can find an updated list of IP-units and the functionality range of the units supported by **INTELLECT™** software on the ITV site in the Integration section at: http://www.itv.ru/products/integration/.*

Note! It is possible to install update drivers and codecs , taking into account the changed distributive structure, irrespective of the general Intellect PC version update.

3.6 Requirements for GSM Equipment

GSM equipment is used in the **INTELLECT™** software to send SMS, whenever the program registers pre-defined events (detector alarms, Operator commands, etc.). The list of said GSM equipment includes GSM modems, GSM adapters or mobile phones supporting such standards as ETSI GSM 07.07 or ETSI GSM 07.05.

3.7 Requirements for voice modems

Voice modems are used in the INTELLECT™ software to automatically send out voice messages, whenever the program registers pre-defined events (detector alarms, Operator commands, etc.). INTELLECT™ software is compatible with the voice modems, which are not designed to code (compress) audio streams, or the voice modems, which support such audio stream coding standards as 4-bit Rockwell ADPCM 7200 Hz, 4-bit IMA ADPCM 4800 Hz, 4-bit IMA ADPCM 7200 Hz, 4-bit IMA ADPCM 8000 Hz, 8-bit unsigned linear PCM at 7200 Hz, 8-bit unsigned linear PCM at 8000 Hz, 4-bit Rockwell ADPCM 7200 Hz, 8 bit u-law (G.711) at 8000 Hz, 8 bit A-law (G.711) at 8000 Hz.

4 Personnel skills requirements

The Administrator of a digital video surveillance system based on INTELLECT™ software should possess the following qualifications:

1. «Windows 2000/XP local network administrator».
2. ITV Group product expert. The above qualifications can be obtained through authorized training in ITV Group Products in the ITV Group Training Centre.

5 Installation of intellect™ digital video surveillance system components

5.1 Equipment Installation

The digital video surveillance system based on INTELLECT™ software comprises of a set of hardware supporting the functionality of the basic option of software. This section outlines the procedures for setting basic equipment components of the digital video surveillance system.

5.1.1 Assembly and installation of video surveillance subsystem hardware

The video surveillance subsystem of INTELLECT™ software can include the following hardware:

1. FS/WS video grabbers and analogue video cameras connected to them. Installation of video grabbers is described in the following chapter.
2. Connection of network cameras and network servers to the video server via the TCP/IP communication environment. Installation and setting of procedures for the above hardware is outlined in the documentation package supplied with the network component.
3. Add-on cards to the analogue video signal output are installed in the video grabbers to transmit video signal to the analogue monitors.

5.1.1.1 *Installation of video grabbers and connection of analogue video camera channels*

Video grabbers are designed to process (digitize) analogue video and audio signals. To install video grabbers the following steps are required:

1. install video grabbers in the video server and connect video cameras to the video grabbers.
2. install a driver for video grabbers.
3. check if the driver for video grabbers is in place.
4. check if video grabbers are installed correctly using the Codereader.exe utility.

5.1.1.1.1 Installation of video grabbers into the computer tower

Digital video surveillance system based on INTELLECT™ software comprises one or a few video grabbers of the following types: FS-5B, FS-6C, FS-8, FS-16, WS-6, WS-7, WS-17.

FS-5B, FS-6B, FS-6C, FS-8, WS-6, WS-7 boards are connected to the PCI interface; version 2.1 and above, boards FS-16, WS-17 – are connected to PCI-express (PCI-E X1). Installation of video grabbers is very similar to installation of standard PCI or PCI-express boards (sound, network, etc.)

NOTE. Standard safety measures should be observed while installing the video grabbers into the computer tower.

To install video grabbers, the following steps should be performed:

1. Disconnect the PC from the mains; unplug the system unit from the socket.

2. Remove the system unit cover (Figure 5.1-1).



Figure 5.1-1. Removing the system unit cover

3. Install the video grabber in a free PCI-E X1 slot of the motherboard. Secure the video grabber with a screw (Figure 5.1-2, Figure 5.1-3).

NOTE. Before you start installation of video grabbers, make sure that your hands are free from static electricity, which can damage PC boards and video grabbers. To prevent damage to the boards, various special antistatic tools may be used (for instance, an antistatic wristband).



Figure 5.1-2. Example of FS-6C video grabber installation in a PCI slot

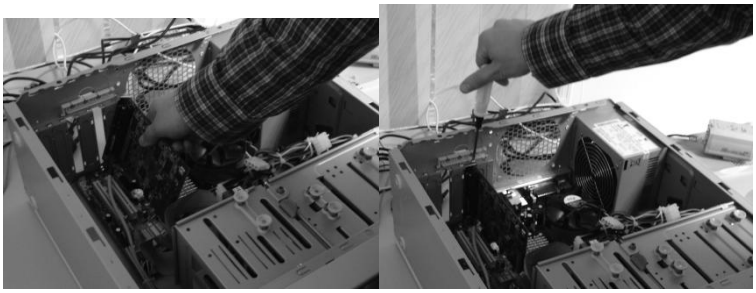


Figure 5.1-3. Example of FS-16 video grabber installation in a PCI-E X1 slot

4. Place the cover of the system unit into position (Figure 5.1-4).



Figure 5.1-4. Installation of the system unit cover

5. Connect the interface cable with the numbered BNC-pins (Figure 5.1-5).



Figure 5.1-5. Connection of the interface cable

6. Connect the video cameras to the interface cable (Figure 5.1-6).



Figure 5.1-6. Connecting video cameras to the interface cable

7. Connect the power cord of the system unit to the mains and switch the PC on.

8. While the operating system is loading, new hardware (video grabber) will be detected and the monitor will display a “New Hardware Wizard” dialog box. If INTELLECT™ software is to be installed on the given PC, select “cancel” in the “New Hardware Wizard” dialog box. In this case, the driver of the video grabber will be installed automatically in the course of INTELLECT™ software installation.

If INTELLECT™ software has already been installed and a new video grabber needs to be installed, the driver of the board(s) is installed from the INTELLECT™ software installation disk using the “New Hardware Wizard” application.

9. Installation of video grabbers is complete.

5.1.1.1.2 Installation of drivers for video grabbers

If the video grabber is installed in the PC, the monitor will display the “Found new hardware” textbox while the operating system is loading (Figure 5.1-7).

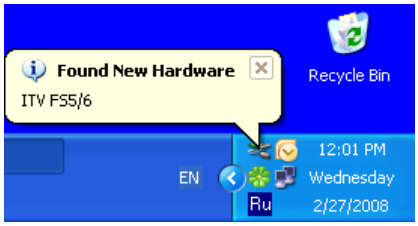


Figure 5.1-7. “Found New Hardware” textbox

In this case the monitor will automatically display an OS Windows dialog box “Found New Hardware Wizard” (Figure 5.1-8).



Figure 5.1-8. “Found New Hardware Wizard” OS Windows dialog box

If INTELLECT™ software needs to be installed in the given PC, select “cancel”. In this case, the driver of the video grabber will be installed automatically in the course of INTELLECT™ software installation.

If INTELLECT™ software already exists on the PC and you need to either install a new board or re-install a driver, the following steps should be performed:

1. Select search and SW installation mode by clicking “No, not this time” in the “Found New Hardware Wizard” dialog box in the Windows Update line. Select “Next”.

2. At this stage the monitor will display the driver location request box for the new hardware. Select “Install from a list or specific location” and then click “Next” (Figure 5.1-9).

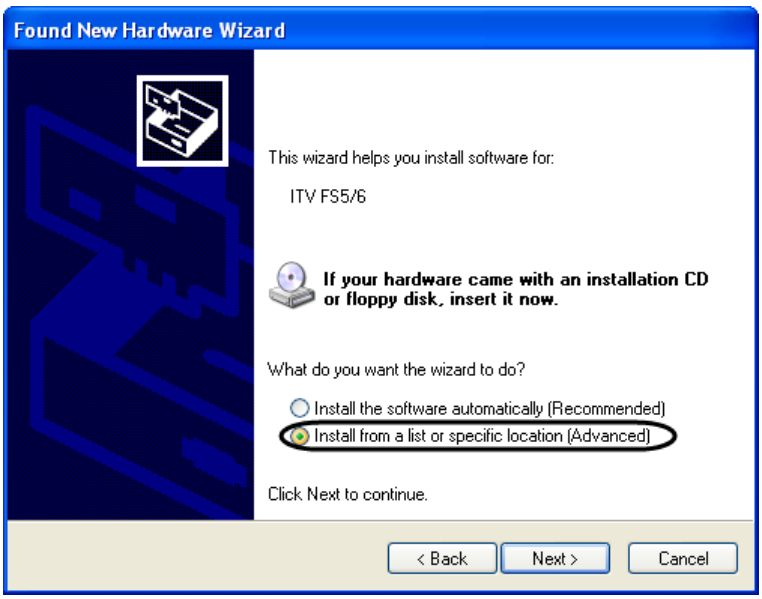


Figure 5.1-9. Selection of option "Install from a list or specific location"

3. While setting up the driver search parameters, check the box "Include this location in the search" and then select "Browse". At this stage the "Browse for folders" dialog box will be displayed. Drivers for the video grabbers are stored in the folder Drivers\ITV\Video in the installation disk or in the INTELLECT™ software installation directory. To install video grabber drivers, select the folder, where the drivers of the video grabbers are stored (in OS Windows the drivers for video grabbers are stored in Drivers\ITV\Video folder) (Figure 5.1-10).

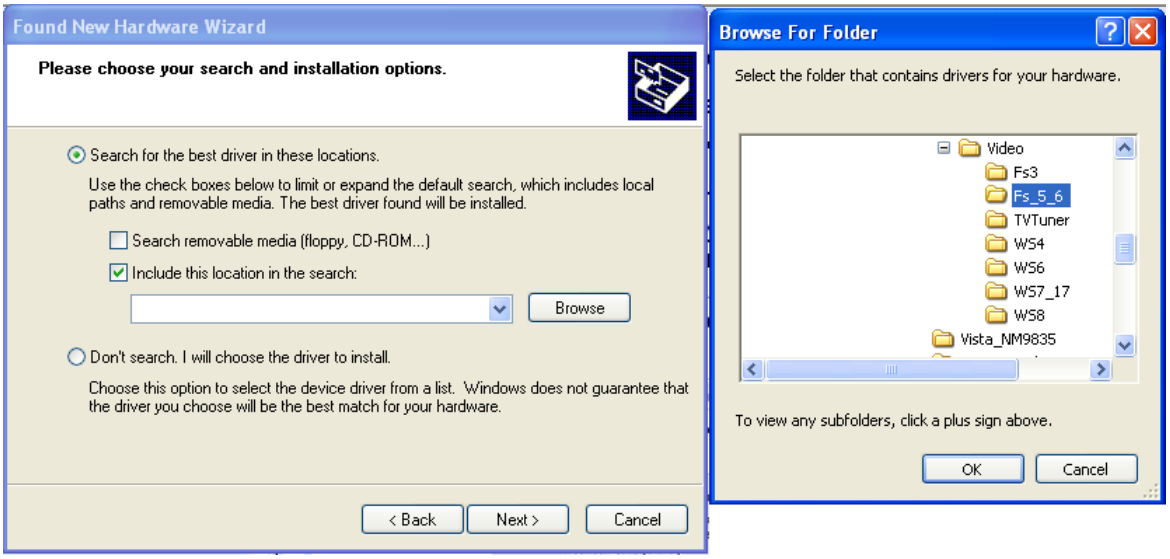


Figure 5.1-10. Example of selecting a folder containing hardware drivers

Now, confirm the selected folder by clicking "OK" in the "Browse for folders" window. Select "Next" in the "Found New Hardware Wizard" dialog box (Figure 5.1-11).

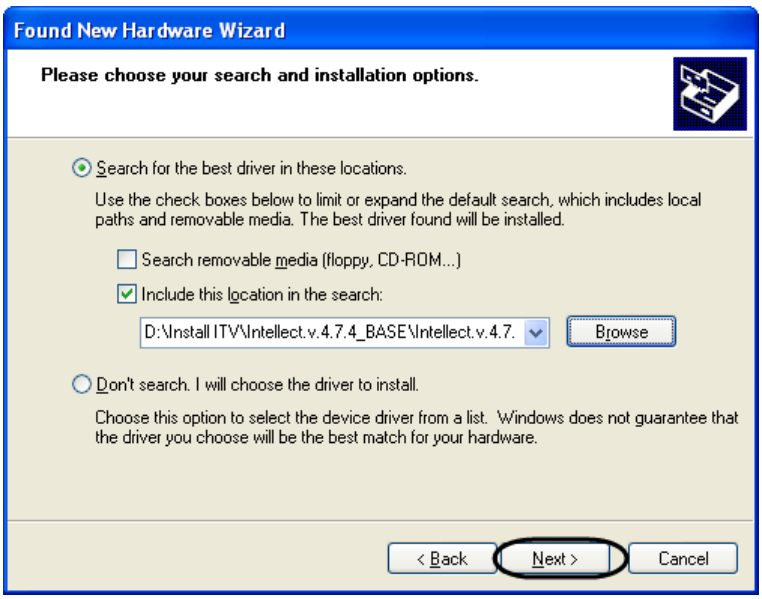


Figure 5.1-11. Installation process after entering driver path

4. At the next step the operating system searches for the video grabber driver and installs it. The monitor will display the corresponding dialog boxes. Select “Continue Anyway” in the dialog box, which is requesting confirmation for installation of hardware that has not been tested for OS Windows compatibility (Figure 5.1-12).

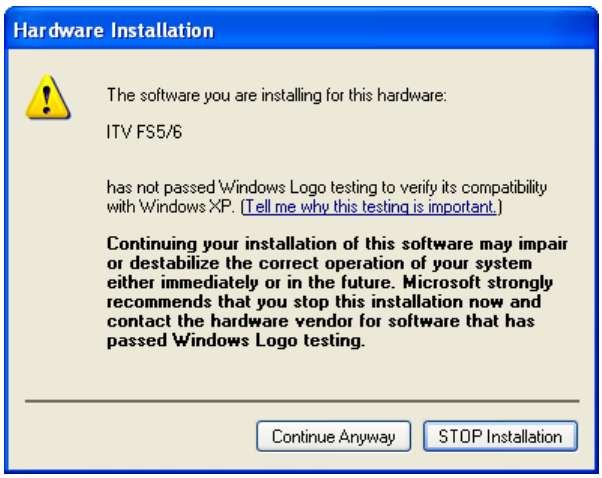


Figure 5.1-12. Installation process continues upon Windows compatibility warning

5. As soon as the driver is installed, the monitor displays a dialog box advising to close the "New Hardware Wizard" application dialog box (Figure 5.1-13).

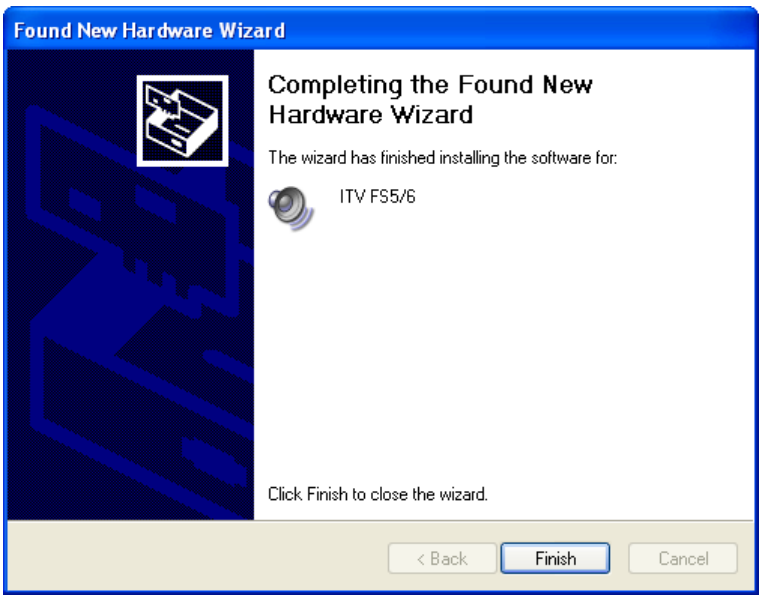


Figure 5.1-13. Finish of installation of the video grabber driver

Select “Finish” in the above dialog box. The notification zone of the OS Windows menu will display “Your new hardware is installed and ready to use” (Figure 5.1-14).

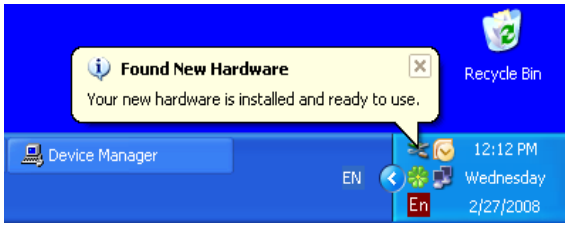


Figure 5.1-14. Displaying the message "Your new hardware is installed and ready to use”

6. Driver installation at this stage is completed, if only one driver is required for only one FS-5 video grabber.

Where a driver should be installed for a few FS-5 or any other type of video grabbers with a few AD converters (FS-6 and WS-6 boards, WS-7 – 4 AD converter, FS-8 – 8 AD converter), the monitor will show “Found New Hardware Wizard” again. Repeat the steps described in p.p. 1-6.

Driver installation procedures for each board should be repeated as many times as the number of AD converters it has (i.e. once for FS-5, 4 times for FS-6, FS-16, WS-7, WS-6 and 8 times for FS-8).

The driver installation procedure for a few video grabbers should be repeated for each AD converter installed in all video grabbers (for instance, for two FS-5 boards the driver installation procedure should be repeated 2 times, for three FS-6, FS-16 boards or 12 times for WS-6, WS-7).

5.1.1.1.3 Video grabber driver installation check

When installation of the drivers for video grabbers is finished, the installed video grabber drivers should be checked in the Windows operating system. At this stage the following steps should be performed:

1. Launch the Device Manager” application. To launch this application, click “My computer” on the OS Windows desktop with the right mouse button. In the appearing context menu select “Properties” (Figure 5.1-15).

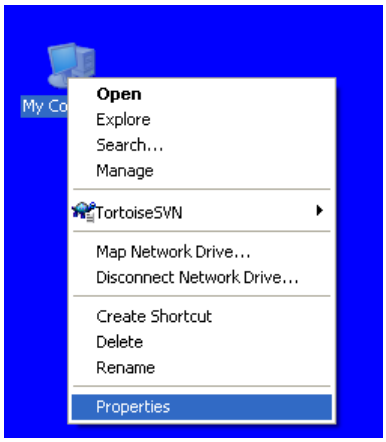


Figure 5.1-15. Launching the “Properties” dialog box from the “My computer” context menu

The “Device manager” application may also be launched from Windows Control panel, which appears on the monitor with the selection of “Start”->”Control panel”. In the Windows Control panel double-click the “System” icon with the left mouse button (Figure 5.1-16).

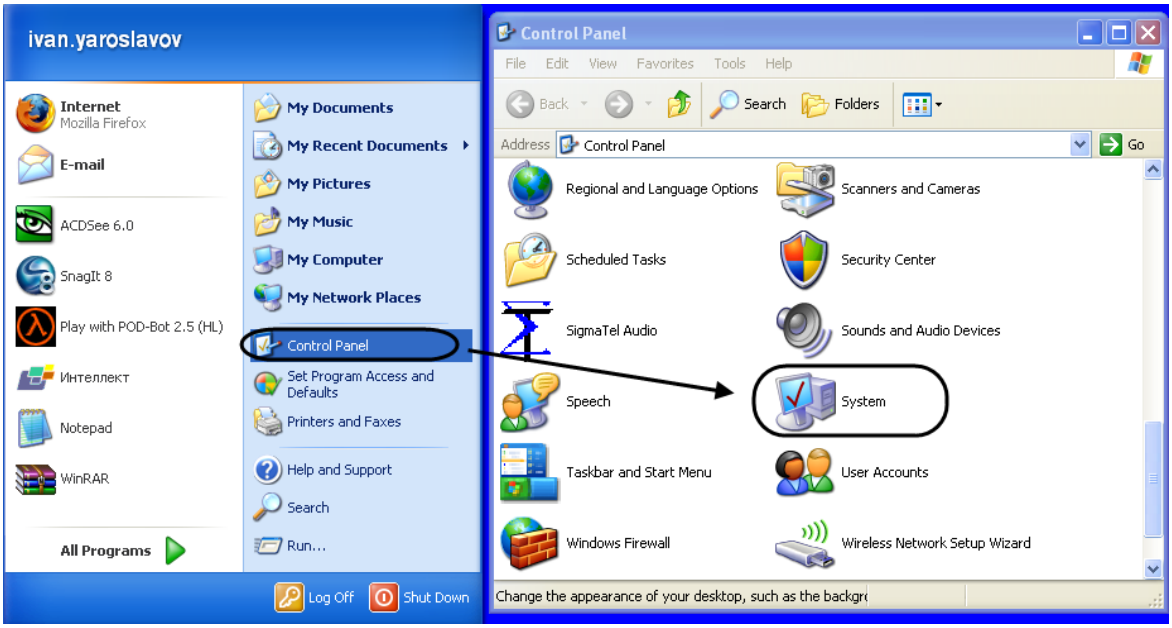


Figure 5.1-16. Launching “System properties” dialog box from the Windows Control Panel

2. Using “System properties” go to “Hardware” tab and then select “Device Manager” (Figure 5.1-17).

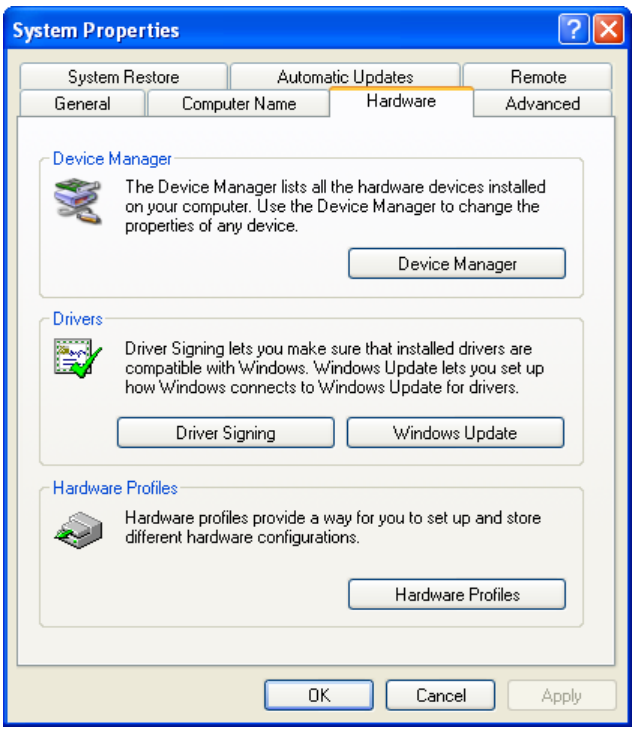


Figure 5.1-17. Launching the "Device Manager" application

3. Now your monitor will display the "Device Manager" application window. Open "Sound, video and game controllers" in the Windows hardware tree and check, if the displayed list of devices agrees with the types of video grabbers installed (for instance, 4 ITV FS5/6 for one installed FS-6 board, Figure 5.1-18).

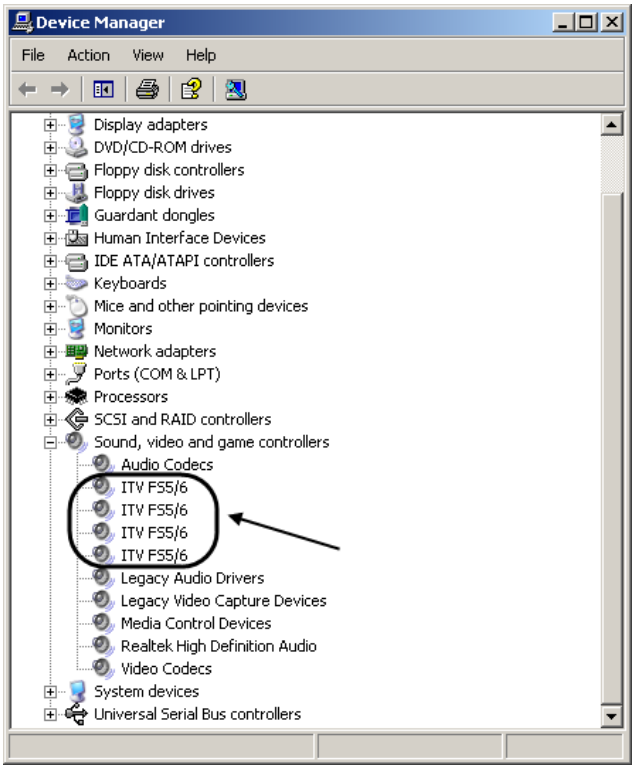


Figure 5.1-18. Example of Windows hardware tree in the "Device Manager" window, if drivers for the FS-6 video grabber are installed successfully

You should keep in mind, that each AD-converter installed in the video grabber should be displayed in the Windows hardware tree as a separate object. Accordingly, if FS-6 video grabber with 4 AD-converters is installed correctly, the hardware tree should display 4 ITV FS5/6 objects.

5.1.1.1.4 Using Codereader.exe to check if video grabber drivers are installed correctly

To check if video grabber drivers are installed correctly, make use of the Codereader.exe that is designed to read video grabber codes, which is supplied together with INTELLECT™ software.

The above utility is launched from the “Tools": folder of INTELLECT™ software installation package. For instance: C:\Program Files\Intellect\Tools\codereader.exe.

In addition, to launch Codereader.exe, select “Start” ⇒ “All programs” ⇒ “INTELLECT” ⇒ “Utilities” ⇒ “Code Reader”.

As soon as the utility is launched, the monitor will display a window with the video grabber codes.

If the drivers for the video grabber are installed correctly, the utility window will show the board codes (Figure 5.1-19). If a board has a few AD converters installed, the board codes will be repeated as many times as there are AD converters in the video grabber.

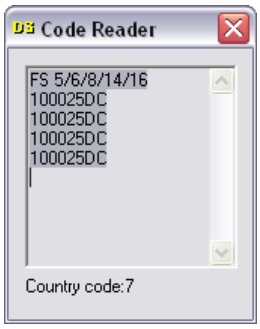


Figure 5.1-19. Example of reading FS-6 board codes

If Codereader.exe window does not display AD converter codes of the video grabbers or shows them as “0000”, it means that the driver is either not installed or installed incorrectly and consequently INTELLECT™ software cannot be launched (Figure 5.1-20).

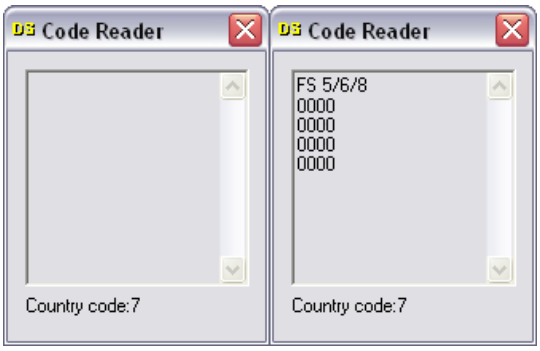


Figure 5.1-20. Example of incorrect installation of a video grabber driver

Causes rendering video grabber codes unreadable with the Codereader.exe utility:

1. Video grabber is not installed in the PC.
2. Video grabber is damaged.

3. Driver for the video grabber is not installed.
4. The installed driver does not match the video grabber in use.
5. The installed driver of the video grabber does not operate correctly.

Check, if the video grabber is installed in the PC and re-install drivers for all AD converters of the video grabber. If after re-installation AD converter codes still cannot be read by Codereader.exe, contact your distributor to check the board.

5.1.1.2 *Installation of an add-on card for analogue video signal output*

To playback the video stream of the surveillance cameras with the analogue monitors, a special function, analogue video output is used. To enable this function with FS-5, FS-6 and FS-16 video grabbers, an analogue video output board is used additionally.

Note. The FS-8 video grabber has an integrated analogue output and consequently, installation of the analogue video output board is not required.

Note. Video output boards with hardware compression, such as WS-6, WS-7, WS-17 do not support analogue video output functionality.

The analogue video output board enables the output of a video signal from one of the cameras connected to the video server, directly to the analogue monitor, without digitization.

The analogue output board is a three pin board compatible with FS-5, FS-6, FS-16 video grabbers (Figure 5.1-21).

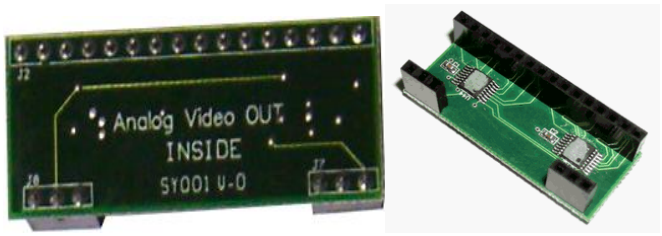


Figure 5.1-21. Analogue video output board (rear and front view)

To install the analogue video output board, the following steps should be performed:

1. Check if the video grabber is disconnected from the power supply (or the PC with the video grabber is switched off, or the video grabber is not installed in the PC).
2. Install the analogue video output board on the video grabber, using designated pins in the video grabber (Figure 5.1-22, Figure 5.1-23).

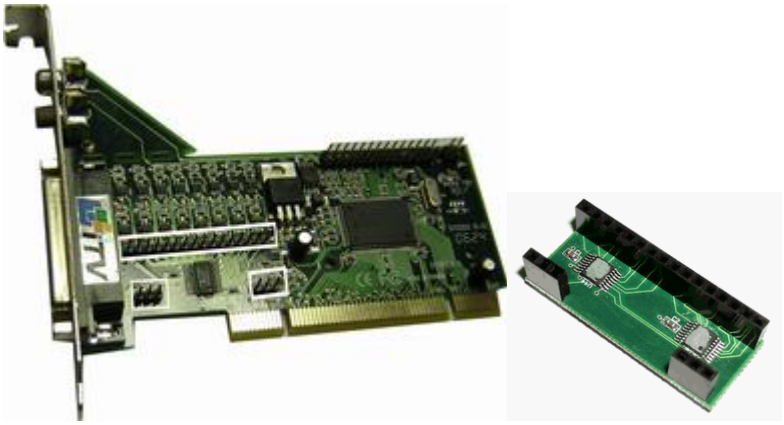


Figure 5.1-22. Pins on the analogue video output board and corresponding pins on the video grabber

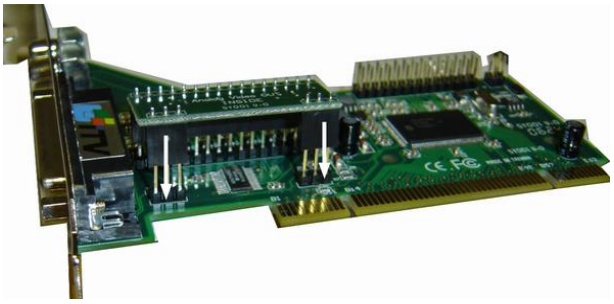


Figure 5.1-23. Connecting the analogue video output board to the corresponding pins on the video grabber

3. Connect the interface cable of the analogue monitor to the red BNC of the video input cable, which will be connected to the video grabber (Figure 5.1-24).

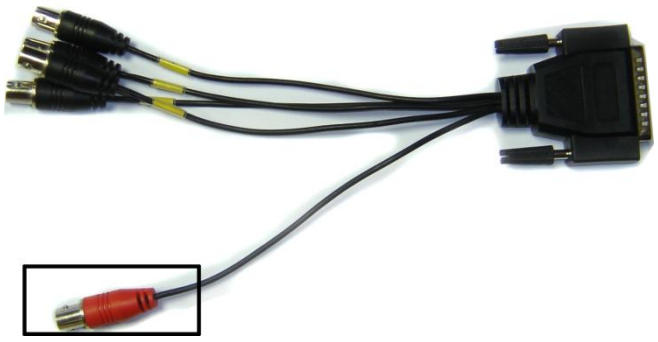


Figure 5.1-24. Analogue video output plug

5.1.1.3 *Connecting the hardware control of system's performance*

Watchdog, the hardware performance tester is designed to automatically restart the computer whenever any failure in the operating system Windows or basic modules of INTELLECT™ software occurs.

Hardware control of system's performance is done in one of two ways:

- With the help of «Watchdog». Is used on servers with installed video capture cards FS-5, FS-6, FS-16, FS-8.
- With the help of «USB-Watchdog». Is used on servers and clients without installed video capture cards.

5.1.1.3.1 Connecting the Watchdog hardware performance tester

In case of hardware control of «Watchdog »performance the «Reset» button is connected to the computer's main board through the video capture card with the help of special «Watchdog» cable (*Figure 5.1-25*).

Note. «Watchdog» cable is included to the delivery package of video capture card optionally. If several video capture cards are installed on the Server, «Watchdog» is connected to only one card.

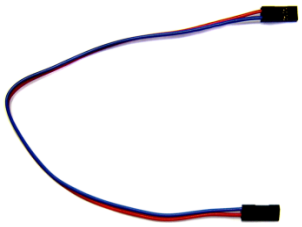


Figure 5.1-25. The cable for connecting Watchdog, the hardware performance tester

A special four-pin plug is installed on the video capture card to connect «Watchdog» cable (Figure 5.1-26).

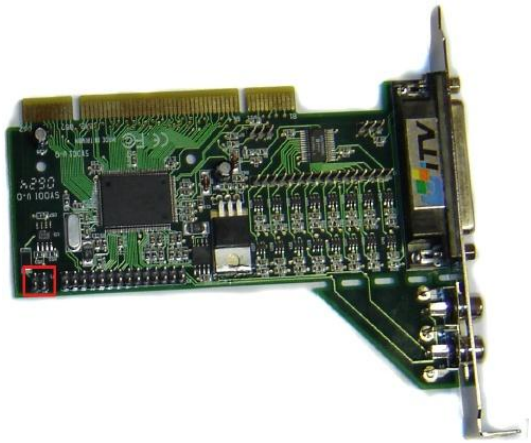


Figure 5.1-26. Special four-pin plug for connecting the hardware control of Watchdog pending (is exemplified by video capture card FS-5)

To connect hardware control of Watchdog performance do the following:

1. Make sure, that mother board and video capture card are disconnected.
2. Connect the cable of Reset button to the four-pin plug of video capture card with the help of a pair of connections 1/0 or 2/0 (Figure 5.1-27). Connection of Reset button cable to FS-5 card is exemplified in Figure 5.1-28.

Note. Cables connection should be done taking into account the positioning of the main wire of video capture card's (Figure 5.1-27).

Note. To specify the positioning of the main wire (earth conditioned «–/–»)multimeter may be used in the mode of resistor measurement. In this case the wire is identified by 0 resistance value between contacts.

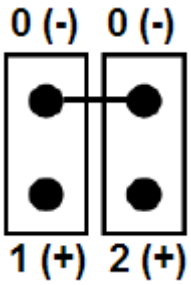


Figure 5.1-27. Face and plug of four-pin interconnection of video capture card:0/0-main wire (earth conditioned «–/–»), 1/0 and 2/0- pairs of contacts for cables connections («+/–», «+/–»)

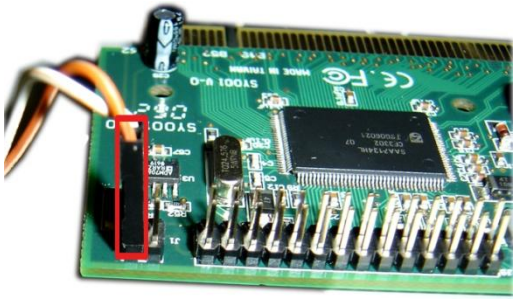


Figure 5.1-28. Example of Reset button cable connection to the four-pin plug of FS-5 video capture card

3. Connect Watchdog cable to four-pin plug of video capture card with the help of free pair of contacts (1/0 or 2/0) – Figure 5.1-27. Watchdog cable connection to FS-5 card is exemplified in Figure 5.1-29.

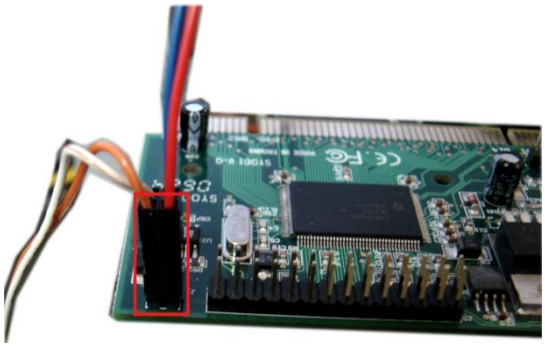


Figure 5.1-29. Connection of Watchdog cable to four-pin plug of FS-5 video capture card

4. Connect the free end of the Watchdog cable to the plug on the mother board for Reset button cable.

Connecting the hardware control of Watchdog performance is completed.

Note. Program setting of Watchdog function is necessary to activate the hardware control of performance (see. Setting the hardware control of Watchdog performance).

5.1.1.3.2 Connecting the USB Watchdog hardware performance tester

In case of software control of «USB Watchdog »performance «Reset» button is connected to computer's mother board through «USB Watchdog» device with the help of special Watchdog cable. The face of «USB Watchdog» device is shown in Figure 5.1-30.

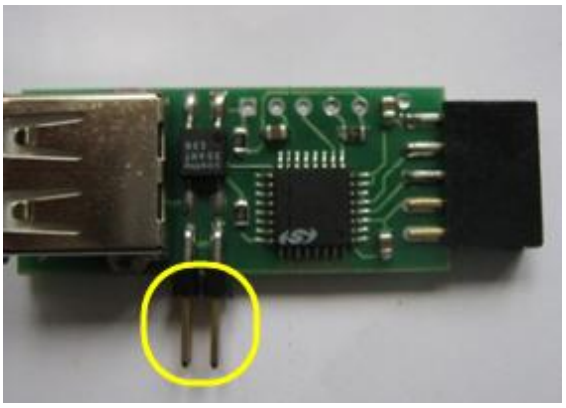


Figure 5.1-30. The general view of the software control of «USB Watchdog »performance

Special four-pin plug is installed on USB Watchdog device to connect Watchdog cable (Figure 5.1-30).

To connect the USB Watchdog, the following steps should be performed:

1. Make sure, that motherboard is disconnected.

   Connect «USB Watchdog» device to USB-plug on the motherboard (Figure 5.1-31).

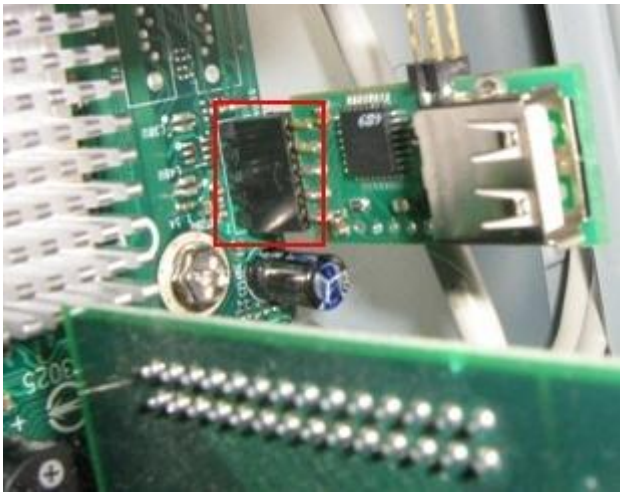


Figure 5.1-31. Plugging the USB Watchdog into the motherboard

2. Connect Reset button cable to the four –pin plug of «USB Watchdog» device with the help of a pair of contacts 1/0 or 2/0 (Figure 5.1-32).

Connection of Reset cable button is exemplified in Figure 5.1-33.

Note. Cables connection should be done taking into account the positioning of the main wire of video capture card's (Figure 5.1-33).

Note. To specify the positioning of the main wire (earth conditioned «–/–»)multimeter may be used in the mode of resistor measurement. In this case the wire is identified by 0 resistance value between contacts.

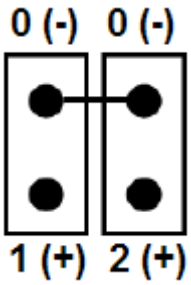


Figure 5.1-32. Face and interconnection of four-pin plug USB Watchdog:
0/0-main wire(earth conditioned «–/–»), 1/0 and 2/0- pairs of contacts for cables connections («+/–», «+/–»)

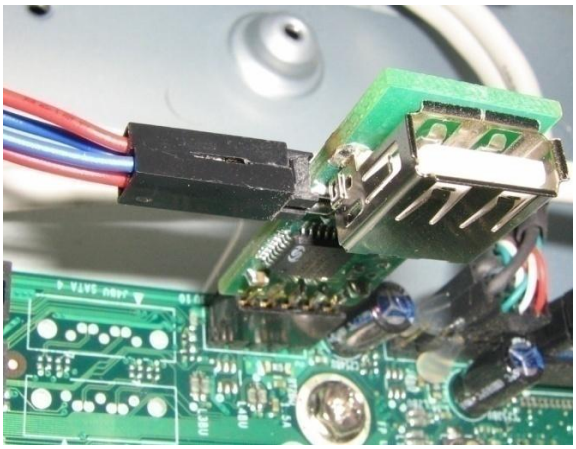


Figure 5.1-33. Cables connected to four-pin plug of USB Watchdog device

3. Connect Watchdog cable to four-pin plug of USB Watchdog device with the help of free pair of contacts (1/0, or 2/0) – Figure 5.1-33.

4. Connect the free end of the Watchdog cable to the plug on the mother board for Reset button cable.

Connecting the hardware control of «USB Watchdog» performance is completed.

Note. USB plug on «USB Watchdog» may be used for connecting any external USB-devices to the computer. Connected USB-devices do not have influence on performance of hardware control of USB Watchdog workability.

5.1.1.4 *Setting up I/O cards*

I/O card is installed on the video capture cards and is used for connecting relays and sensors to the control system - the server with installed «Intellect» complex. General information about relays and sensors are shown in the Table 5.1-1.

Table 5.1-1

Type of device	Description	Functions	Operation condition	Changes in work operation condition	Examples of devices
Sensor	Coupling line of external sensor and control system	Informs the control system about changes in sensor's state	Closed– logical item Open – logical zero	Disconnection/ connection – with alarm registration by sensor	Annunciators(smoke, heat, window, etc), button

Type of device	Description	Functions	Operation condition	Changes in work operation condition	Examples of devices
Relay	Coupling line of control system and final control device	Changes operation condition of final control device on command from the control system.	Closed – logical item Open – logical zero	Disconnection/ connection– on command from the control system.	Annunciators (light, sound, etc.), mechanized gates

Electrical and technical features of DI/Do cards are in the section «**Ошибка! Источник ссылки не найден.**».

Multichannel digital-analogue converters 4/4 and 16/4 I/O cards, depending on security system requirements, may be installed on the server (Figure 5.1-34).

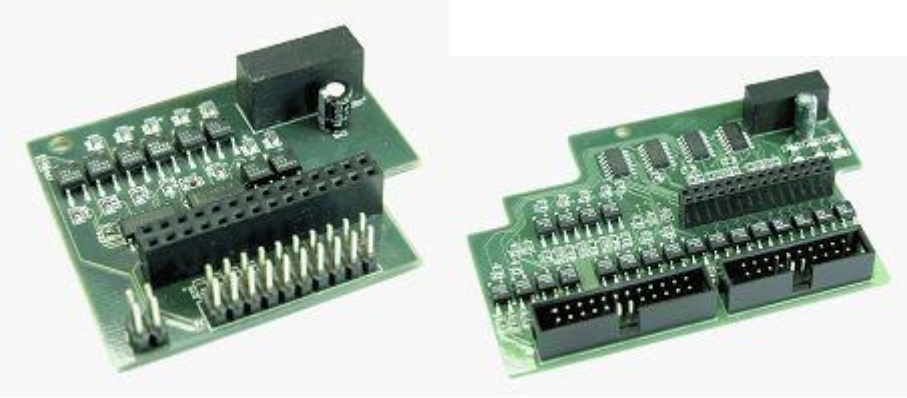


Figure 5.1-34. 4/4 and 16/4 I/O cards

4/4 and 16/4 I/O cards enable to process the signals from 4 sensors (sensor lines), and the 16/4 cards - from 16 sensors. Simultaneously with the relay's signals processing, these cards perform digital-analogue conversion and delivering up to 4 control signals to executive devices (relays).

4/4 and 16/4 I/O cards have a supply (24V) and earth contacts and are installed on the FS-5, FS-6, FS-16, F-8 video capture cards.

Note. The I/O cards cannot be installed on WS-6, WS-7, WS-17 cards. (For more details on video capture cards, see Appendix 3).

To set up I/O cards do the following:

1. Make sure, that supply is disconnected.
2. Install I/O card on the video capture card with the help of special sockets. (Figure 5.1-35, Figure 5.1-36, Figure 5.1-37).

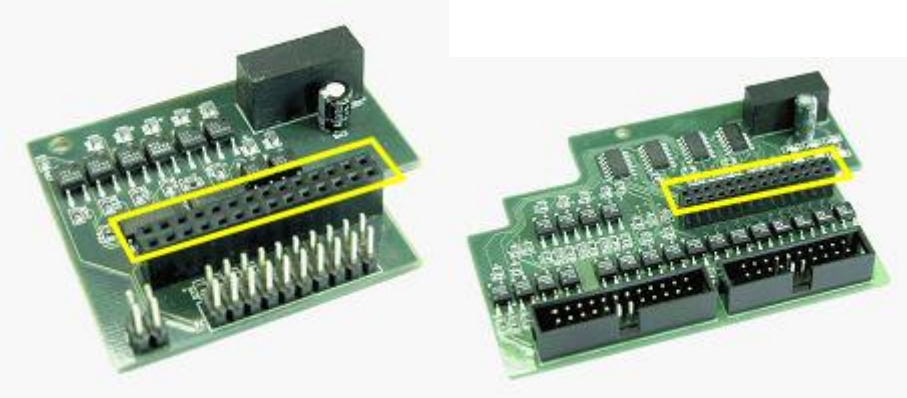


Figure 5.1-35. Socket on the I/O card for connecting to the video capture card (is exemplified in 4/4 and 16/4 I/O cards)

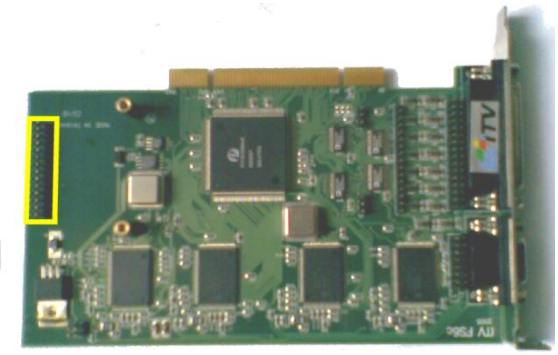


Figure 5.1-36. Socket on the video capture card for connecting the I/O card (is exemplified in video capture card FS6)

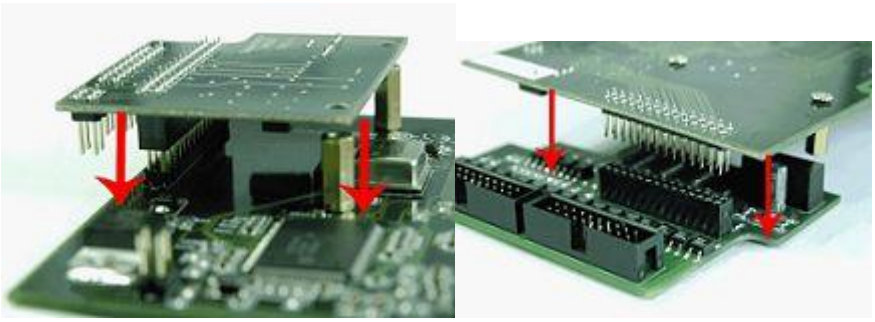


Figure 5.1-37. Setting up the I/O card on the video capture card (is exemplified in 4/4 and 16/4 I/O cards and video capture card FS6)

3. Fix the I/O card on the video capture card with the help of screws, that are included in the delivery set of the I/O card.

4. Connect interface cable that is included in the delivery set of the I/O card, to the I/O card with the help of special socket (Figure 5.1-38, Figure 5.1-39, Figure 5.1-40, Figure 5.1-41)

Note. For connection of interface cable the 4/4 I/O card has a socket J6, 4/4 I/O card has sockets J6 and J7 (Figure 5.1-39, Figure 5.1-40).

Note. The first cable of the interface cable (is marked by red color) should match the first pin of rerresponding socket of the I/O card (Figure 5.1-39, Figure 5.1-40, Figure 5.1-41).

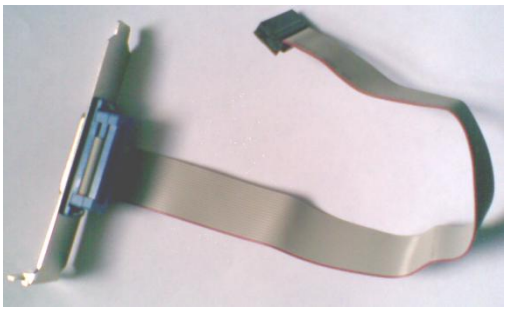


Figure 5.1-38. Interface I/O cable

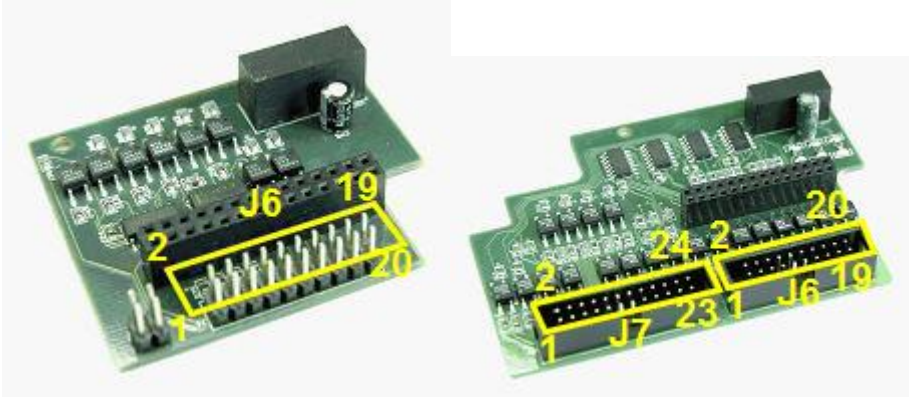


Figure 5.1-39. Sockets on the I/O card for connecting interface cable (is exemplified in 4/4 and 16/4 I/O cards)

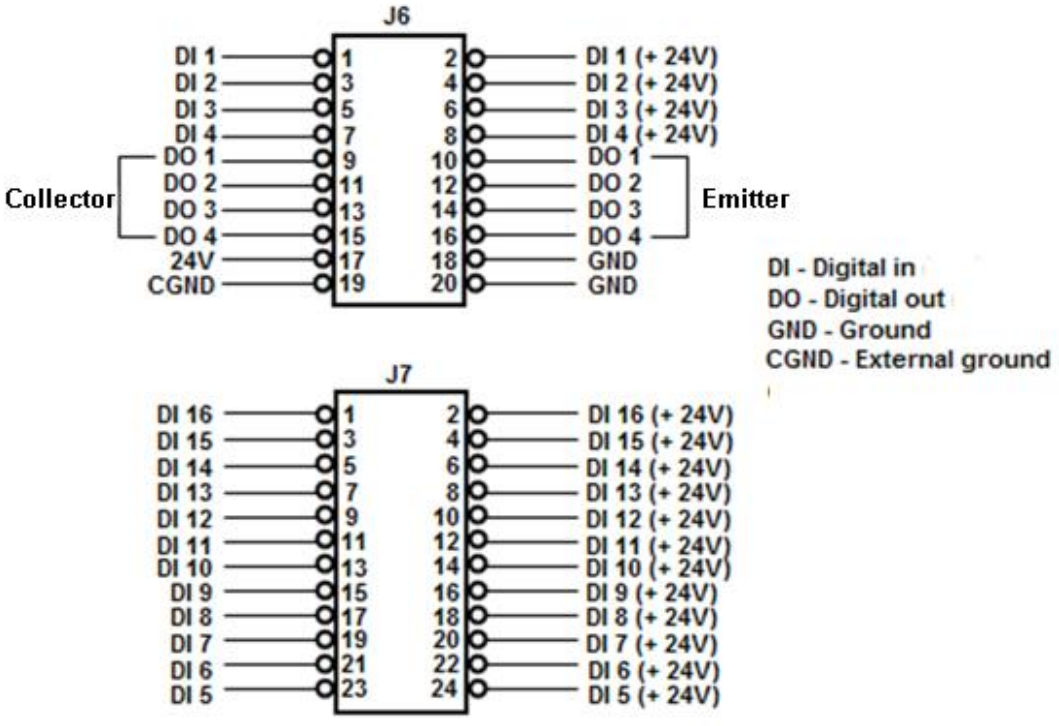


Figure 5.1-40. Socket wiring J6 and J7 I/O cards



Figure 5.1-41. Example of interface cable's connection to 4/4 I/O card

5. Unsolder the socket, that is included in the delivery set of the I/O card, to connect DI/DO. Soldering is made in accordance with the wiring of external socket of interface I/O cable, considering power plan of connected devices (Figure 5.1-42, Figure 5.1-43, Figure 5.1-44, Figure 5.1-45).

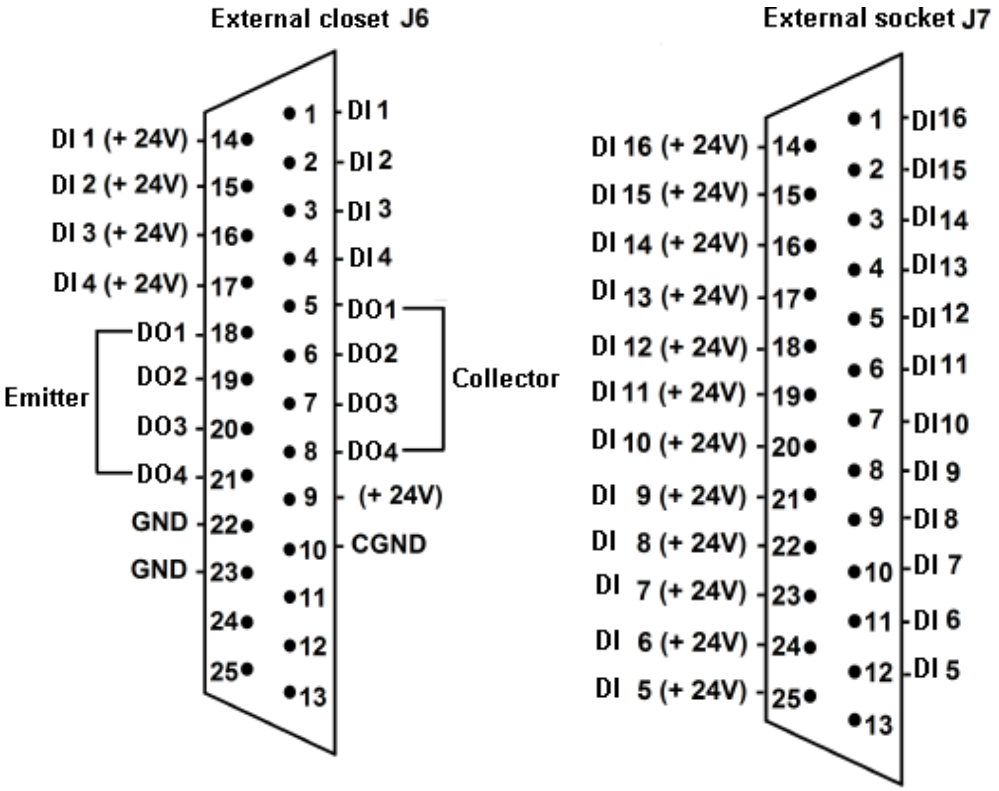


Figure 5.1-42. Wiring of external interface I/O cable

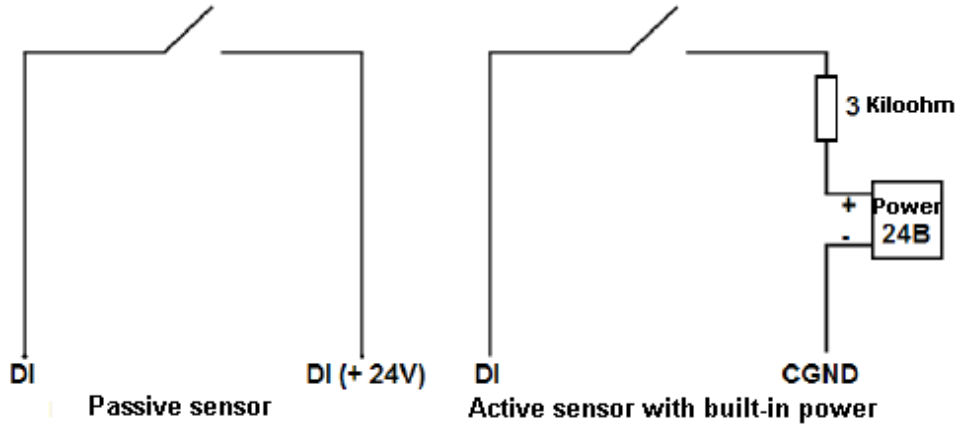


Figure 5.1-43. Types of sensors and its connection option

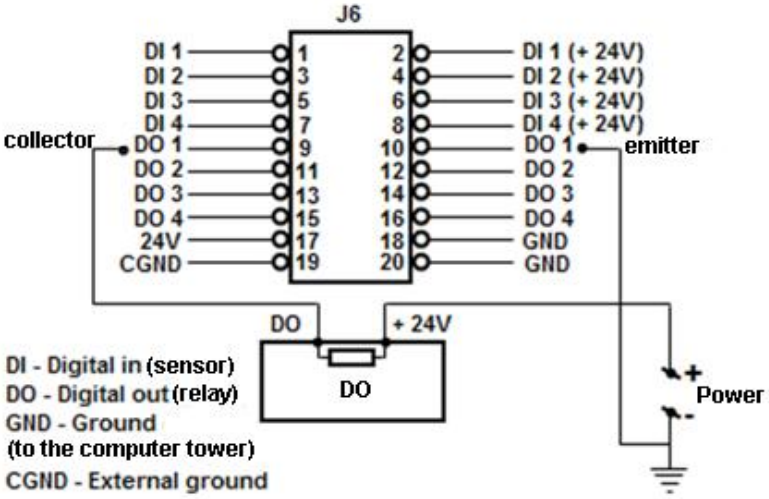


Figure 5.1-44. Connection of power relay (with external power)

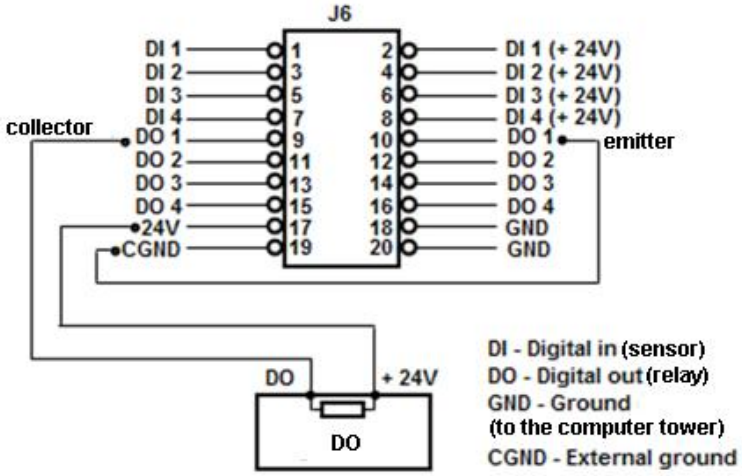


Figure 5.1-45. Connection of low-power relay (on board power)

6. Fix the unsoldered socket in the pack, that is included in the delivery set of the I/O card

7. Connect ready for use socket with external socket of interface I/O cable to connect DI/DO to the server.

Setting up I/O cards is over.

5.1.2 Assembly and installation of the audio subsystem hardware components

INTELLECT™ software supports synchro video and audio recording and remote audio monitoring.

To enable operation of audio subsystems, the Operator Workstation should be equipped with auxiliary hardware, such as sound cards, microphones, loud speakers and earphones.

5.1.2.1 *Supported sound cards and other audio input hardware*

An audio subsystem may use the following audio input hardware:

1. Standard sound cards installed in a PC or integrated PC motherboards.
2. Multi-channel sound cards such as Comart Hera, MidiMan Delta, Olkha 9P.
3. Ekholot USB-32, an external module for multi-channel audio signal input (32 channels).
4. Audio input channels of the network units.
5. Audio input board channels such as FS/WS. Since the above boards are not equipped with audio output channels for reproducing the audio signal, a sound card should be installed.

5.1.2.2 *Options for increasing the number of audio input channels when standard sound cards are used*

A videoserver based on INTELLECT™ software can process as many analog audio signals as specified in the key file.

A standard sound card has, as a rule, only one stereo audio input channel. To increase the number of audio input channels, the following options are offered:

1. Use a stereo audio input channel of a standard sound card as two separate mono-channels.
2. Use audio input channels of the FS/WS video grabbers.
3. Install a few standard sound boards on the videoserver.

Note. A few sound cards of the same type installed within the system may cause conflicts in Windows OS.

4. Use multi-channel audio input boards (special sound cards support up to 16 separate audio input channels).
5. Use Ekholot USB-32, an external module for multi-channel audio signal input (32 channels).

5.1.2.3 *Installation of audio input hardware*

Manuals for the installation of sound cards of other manufacturers and the drivers for these cards, as well as any other hardware in a PC are provided in the documentation supplied with the equipment.

Sound channels of the network components do not require any additional settings. The only requirement here is that the component supports communication with the videoserver via TCP/IT.

Installation of video input cards, such as FS/WS and required drivers is outlined in Chapter “Installation of video grabbers and connection of analog camera channels”.

5.1.2.4 *Installation of microphones and loud speakers*

Microphones should be installed in inaccessible locations, ensuring unobstructed receipt of audio signals. Each microphone is connected to a sound card installed in a PC or to a audio plug on a FS/WS video grabber.

Loud speakers or earphones designed for audio signal receipt are installed in the Operator Workstation. Loud speakers or earphones are connected to the audio output plug of the sound card.

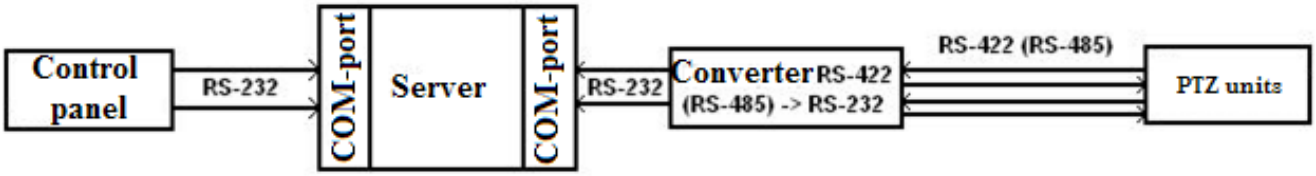
The layouts of plugs for connecting microphones, earphones and loud speakers are given in the documentation for the sound cards.

To connect microphones to the FS/WS boards you are best advised to use RCA plug(white plug-for mono audio signal of left channel of stereophonic audio signal, red plug –for right channel of stereophonic audio signal). Audio connector assignment layouts for FS/WS video grabbers are shown in the documentation supplementing the FS/WS board.

Note. Yellow plug is used for receiving a video signal.

5.1.3 Connection of PTZ units and control panels

The PTZ unit and control panel are connected to the videoserver via a free serial port (COM) (RS-232 interface).(Figure 5.1-46).



5.1-46 Connection scheme of Control panel and PTZ units

As a rule, PTZ units use RS-422 or RS-485 interfaces. The PTZ unit is connected to a COM port of a videoserver, equipped with RS-232, via a RS-422 converter (RS-485) ⇒ RS-232.

The PTZ unit uses RS-422/RS-485 based on a 4-wire diagram (2 wires for receipt and 2 wires for transmission). To control PTZ units from the INTELLECT environment, only 2 wires are used, transmitting data from the videoserver to the PTZ. The “T+” and “T-” contacts of the converter are connected with the “R+” and “R-” contacts of the PTZ.

The control panel is operated via the RS-232 interface of the videoserver COM port without converters. To control the PTZ with the control panel from the INTELLECT system, only 2 wires are used, receiving the data sent to the videoserver.

The PTZ and control panel controlling the PTZ should be connected to one videoserver.

Detailed information about connection of PTZ units and control panels is given in the documentation accompanying the corresponding PTZ units and converters. An example of managing the PTZ units by control panel is described in «**Ошибка! Источник ссылки не найден.**».

5.1.4 Connecting and setting network devices

Network devices allow remote video surveillance and audio monitoring through the TCP/IP telecommunication environment.

Network devices can be defined as separate hardware and software units integrated in the digital video surveillance system using the TCP/IP telecommunication environment. To operate the network devices, the system requires connection to the telecommunication network using TCP/IP to interact with other components of the digital video surveillance system.

Network devices for video surveillance and audio monitoring comprise of the following types of equipment:

1. network surveillance cameras (IP-cameras);
2. various types of network videoservers.

Network surveillance cameras are designed to transmit the digital video signal to the users via the TCP/IP telecommunication environment. Network surveillance cameras are designed for video surveillance and transmission of the digital video signal to the users via the TCP/IP telecommunication environment.

Note. Where a network camera is equipped with an analog lens instead of a digital lens, the video signal is first digitized by an in-built AD converter in the camera and then transmitted to the users via the TCP/IP telecommunication environment.

Network videoservers are connected directly to the analog cameras; they digitize the video signal and transmit it to the users via the TCP/IP telecommunication environment. The users operating analog cameras connected to the network servers can use the same functionality range for the video stream playback and transmission, as the functionality of network cameras.

5.1.4.1 *Connection of the network devices*

Network devices are connected with RJ-45, a standard network plug.

Detailed information describing connection of network devices to the videoserver is given in the documentation for the corresponding network devices.

5.1.4.2 *Configuration of IP-devices in Windows OS (Axis camera example)*

IP-devices in Windows OS are configured with the software delivered together with the network module.

To configure the IP-device in Windows OS, the following software supplied with the device is used:

1. the software supplied in the package with the network device. This software allows:
    a. searching for the network devices connected to the local network PCs;
    b. assigning initial IP-addresses (without routing);

Note. An initial IP-address is required to enable access to the home pages of the devices installed in the built-in Web-servers.

2. The Web-server module of the network device. This module contains home pages of all connected network devices. The Web-server module allows the following:

    a. configuring network devices, including routing;

    b. setting modes of operation of the network devices with video and audio signals;

    c. playback of the video image from the network devices in the standard Web-browser mode.

5.1.4.2.1 Search for IP-devices

The delivery bundle of the network devices includes various software, including different utilities designed to search for the network devices of the same type connected to the local network PCs.

Where Axis cameras are used, connected network cameras are searched for with IPUtility.exe utility. IPUtility.exe is supplied in the bundle with Axis cameras and is stored in the Axis installation software directory.

The search for Axis IP-cameras connected to the local network PCs, using IPUtility.exe utility goes through the following steps:

1. Select Search in the IPUtility.exe tools panel (Figure 5.1-47).

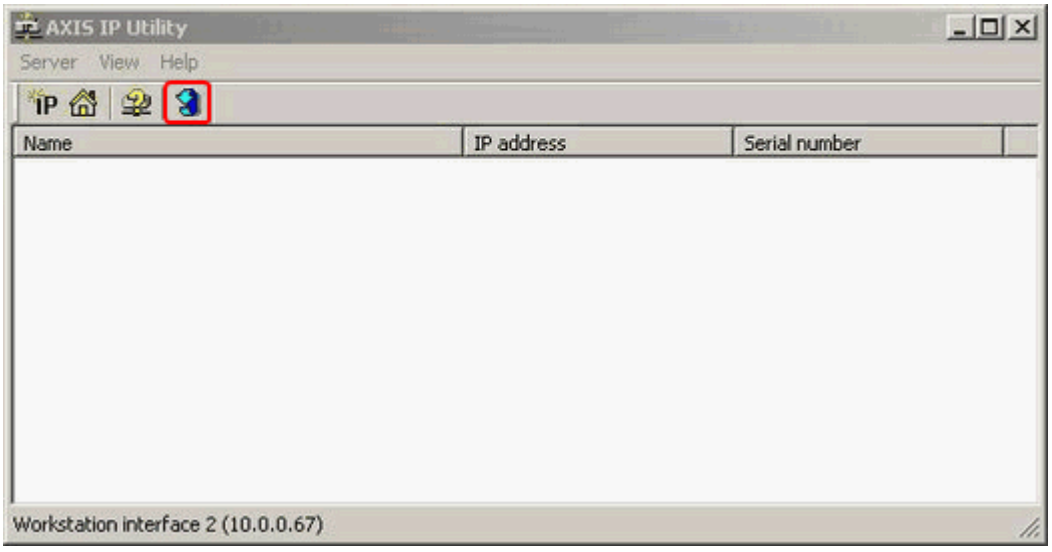


Figure 5.1-47. IPUtility.exe interface window. The Search button

The search for Axis IP-cameras starts as soon as the Search button is clicked.

2. The IPUtility.exe window will display a list of Axis IP-cameras available in the local network (Figure 5.1-48).

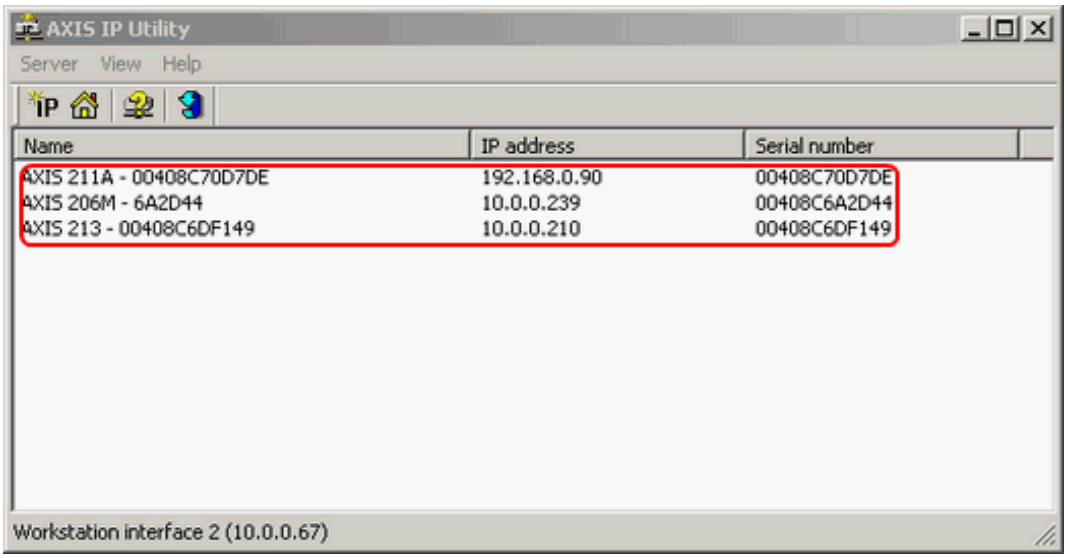


Figure 5.1-48. Example of the network Axis cameras search result

5.1.4.2.2 Assignment of the network addresses to IP-devices

To ensure correct operation of the network devices within the local video surveillance system, the network devices should be assigned appropriate IP-addresses. IP-addresses are assigned using the utilities included into the software bundle.

Before assigning an IP-address to the Axis network surveillance camera, follow the next steps:

1. Check that the Axis network camera is connected to the mains and correctly connected to the telecommunication network.
2. Obtain a unique IP-address from the Network Administrator.
3. Check that the device shows its own MAC-address correctly. The MAC-address of Axis cameras corresponds to the serial number of the camera).

Note A. The following examples will use a PC with IP-address 192.168.0.1, whereas an Axis camera will be installed to IP-address 192.168.0.90. The MAC-address for an Axis camera will be 00408C70D7DE. The addresses given as an example should not be used; always consult your network administrator before assigning an IP-address.

Note B. When assigning an IP-address to an IP-camera, keep in mind that the initial IP-address of the camera connected for the first time should correspond to the same subnetwork as the IP-address of PC. Later on, if required, the IP-address can be modified using the Web-server of the device.

To assign an IP-address to the Axis network surveillance camera, follow the next steps:

1. Check that the IP-address to be assigned to the Axis network camera is not used by any other devices.

   The IP-address in Windows OS is checked using the command line. To display the command line on the monitor, select the Run command from the Start menu (Figure 5.1-49).



Figure 5.1-49. “Run” command selected from the “Start” menu

Now enter the cmd command in the Open field of the Run dialog box and click OK to confirm the entry (Figure 5.1-50).

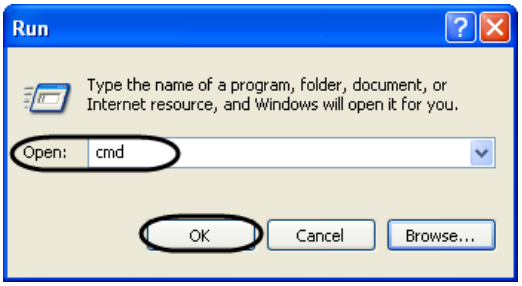


Figure 5.1-50. Command line window

Now you have the command line displayed in the monitor (Figure 5.1-51).

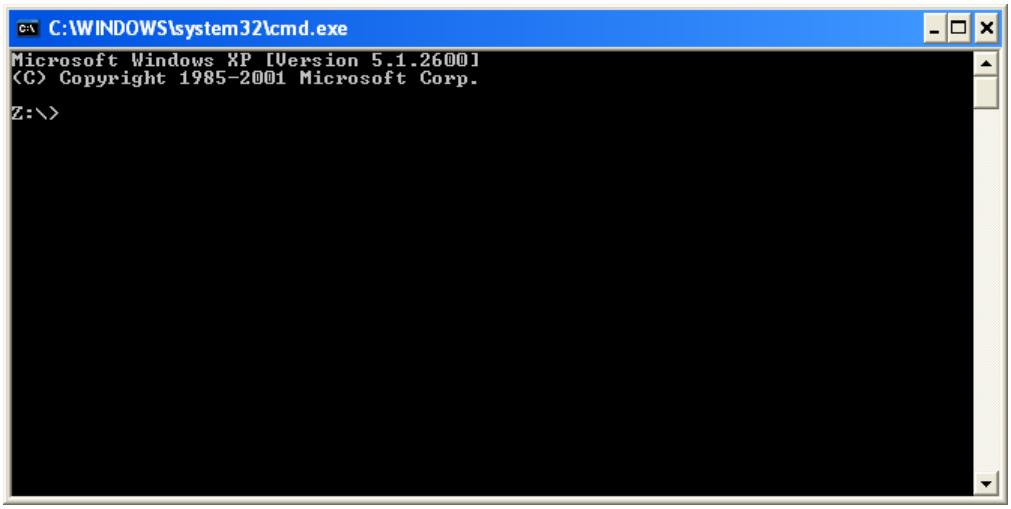


Figure 5.1-51. Command line

To check the selected IP-address, enter ping 192.168.0.90 in the command line window. If the given IP-address does not belong to any other device, the monitor will display the following message: “Request timed out” (Figure 5.1-52).

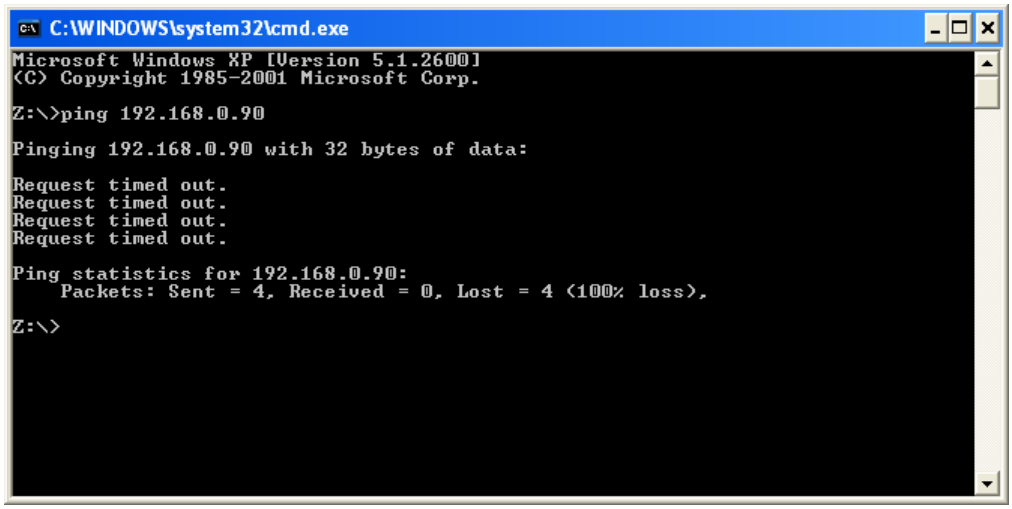


Figure 5.1-52. The message: "Request timed out"

2. Assign the required IP-address to the Axis camera. To assign the selected IP-address, follow the next steps:

   a. Start IPUtility.exe.

   b. Start searching for all Axis IP-cameras (see section "Search for IP-devices").

   c. Highlight the line containing the required IP-camera in the list of Axis IP- cameras connected to the local network.

   d. Select Set IP Address in the appearing Server list of IPUtility.exe main menu (Figure 5.1-53).

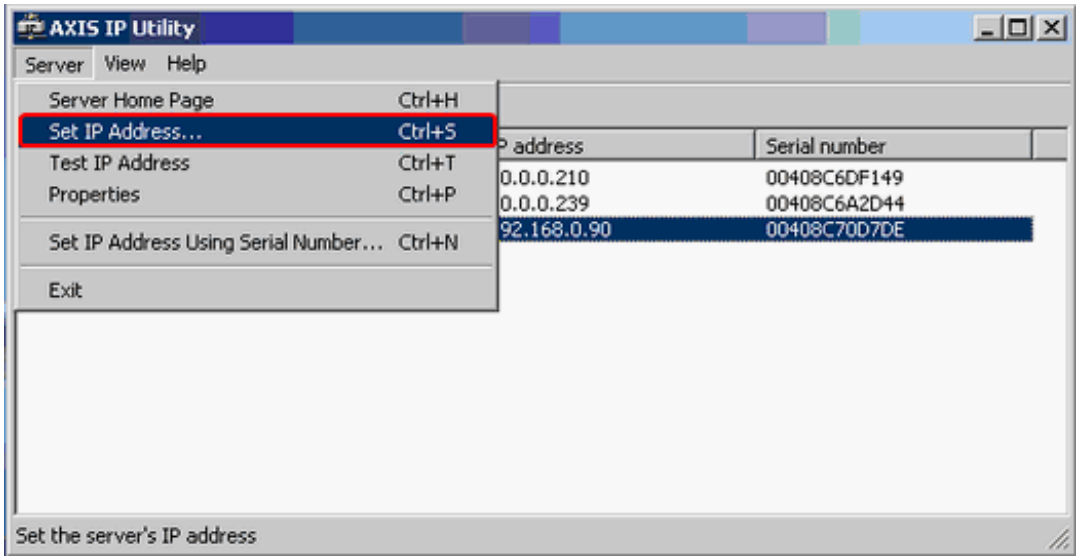


Figure 5.1-53. «Set IP Address» in the appearing Server list of IPUtility.exe main menu

   e. In the Set IP Address panel enter the required IP-address (Figure 5.1-54).

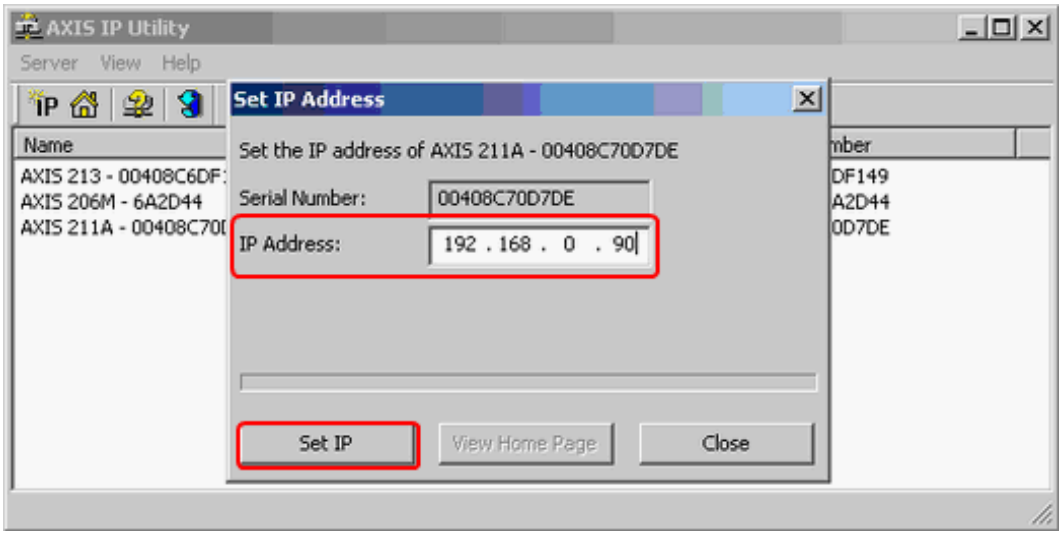


Figure 5.1-54. Entering the required IP-address in the Set IP Address dialog box

f. Confirm the IP-address assigned to the Axis network camera by clicking Set IP (Figure 5.1-54).

As soon as the above operations are done, IP-address settings of the network device will be enabled.

Note. To prevent possible failures of the camera, check the assigned IP-address again.

3. Check the IP-address assigned to the Axis network camera.

Note. The IP-address is checked with the use of the command line, following the steps outlined in point 1 of the given section. If the IP-address is correct, the following message should be displayed in the command line window in reply to the ping 192.168.0.90 command (Figure 5.1-55).

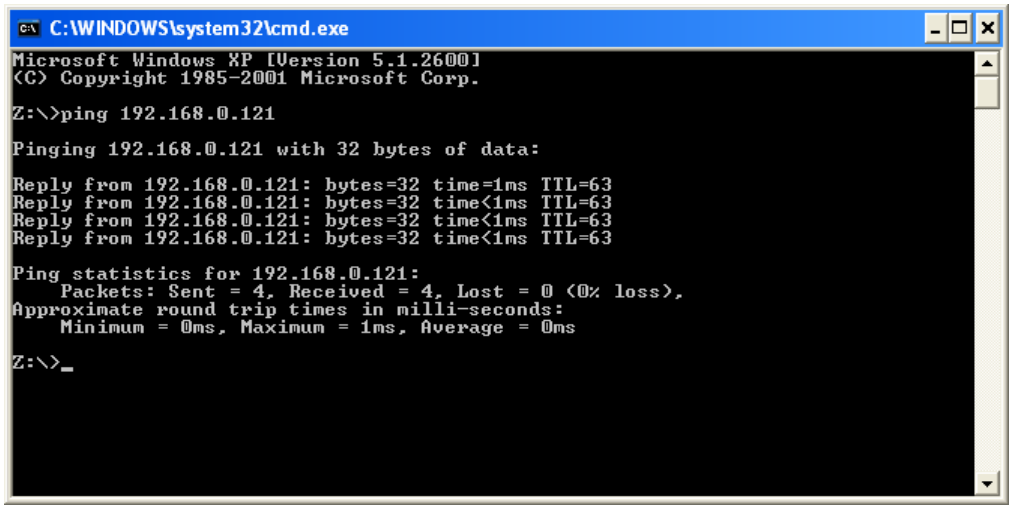


Figure 5.1-55. Reply to the ping 192.168.0.90 command

Now the process of assigning an IP-address to the Axis camera is complete. If assignment of the IP-address to the Axis camera is successful, proceed to the network configuration of the device using the in-built Web-server.

5.1.4.2.3 How to display the Web-server home page of an IP device

The home page of a network device is created on the Web-server of the network device automatically, as soon as an IP-address is assigned to the device by IPUtility.exe (see section “Assignment of the network addresses to IP-devices”).

To upload an IP-device home page, follow the next steps:

1. Launch Internet Explorer.
2. Enter the address in the Address line: http://assigned IP-address (for instance, http://192.168.0.90) and click Enter on the keyboard (Figure 5.1-56).

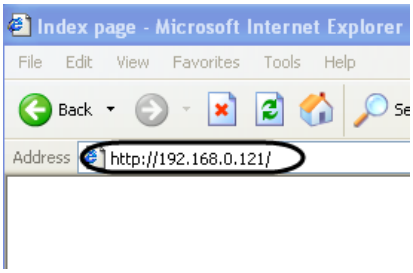


Figure 5.1-56. Entering the IP-address of the network camera

3. Enter user name and password to access an IP-device home page. The data entered in the User name and Password fields can be found in the documentation to the connectable IP-device (Figure 5.1-57).

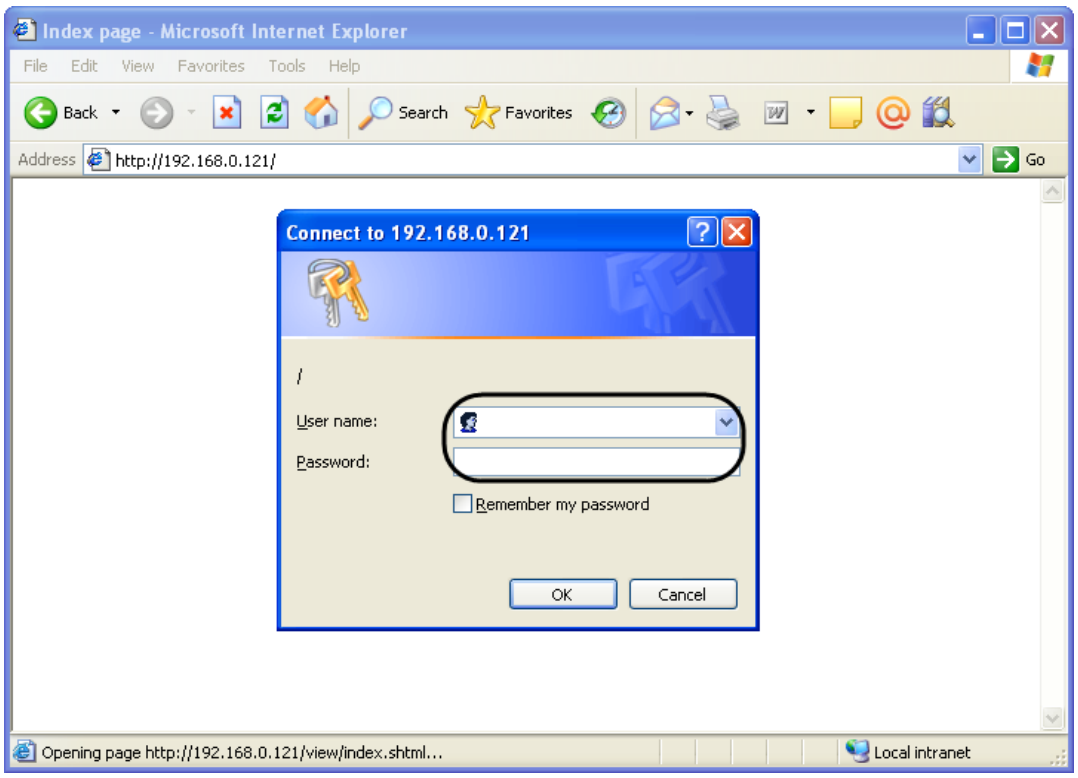


Figure 5.1-57. User name and password request window for access to the device home page

Having entered the user name and password, click OK.

4. The monitor will display the surveillance window of the IP-camera, if a network camera is used, or one of the analog cameras connected to the network server, if a network server is used (Figure 5.1-58).

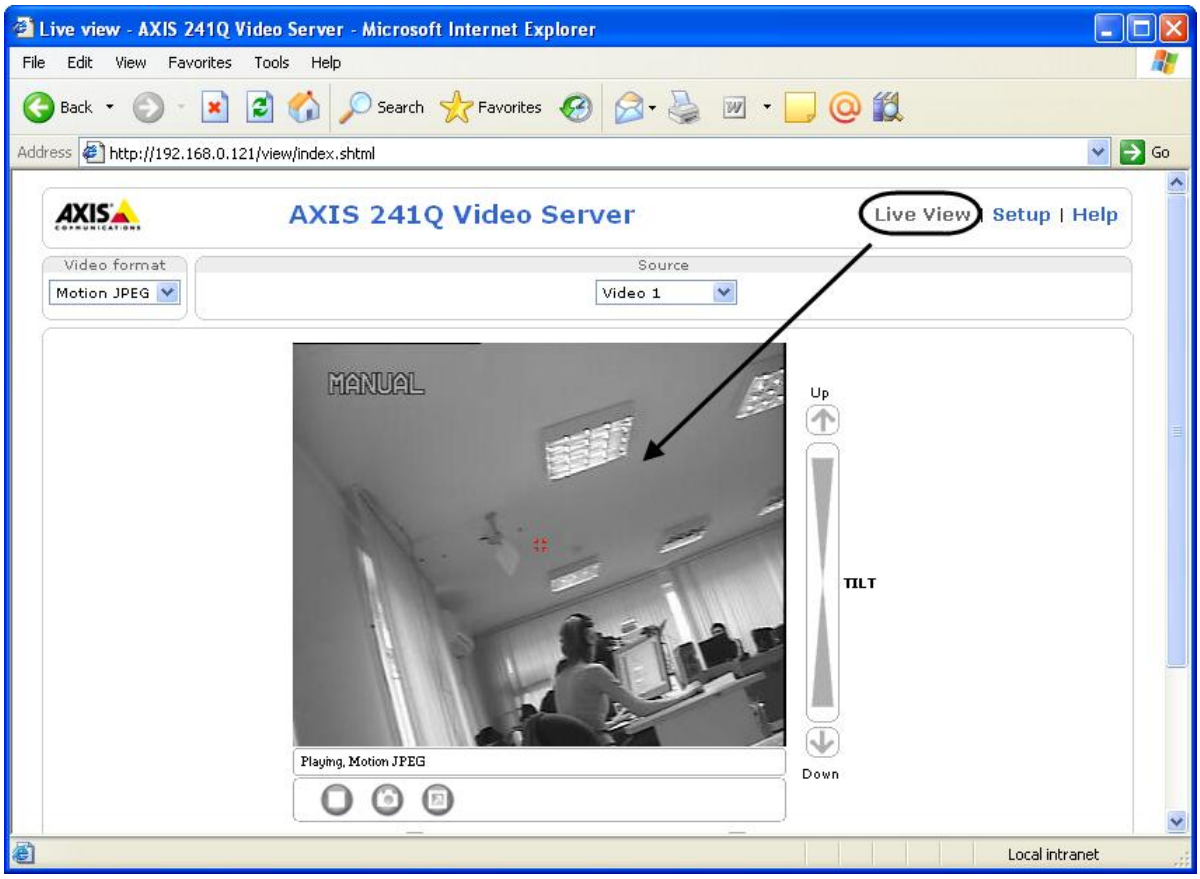


Figure 5.1-58. Surveillance windows displaying an image of an IP camera or one of the analog cameras connected to the network server

Note. If an IP-camera gives no image, check if the IP-address was assigned correctly (see section "Assignment of the network addresses to IP devices").

5.1.4.2.4 Configuration of the network parameters for IP-devices using the Web-server

Network parameters of the IP-devices are configured with the in-built Web-server of the IP-device.

Note. Configuration of the network parameters for the IP-devices using the Web-server is a compulsory procedure.

To configure IP-devices for operations in the local network, which is either equipped or non-equipped with the routers, follow the next steps.

1. Launch Internet Explorer.
2. Open the home page of the IP device (see section "How to display the Web-server home page of an IP device").
3. Open the Setup section in the Web-server functions menu of the Web browser home page (Figure 5.1-59).



Figure 5.1-59. The Setup section of the Web-server functions menu of the IP-device

4. Select the TCP/IP tab in the Setup section.

Enter the IP-address, Subnet mask and Default router in the given tab. To confirm the settings click Save (Figure 5.1-60).

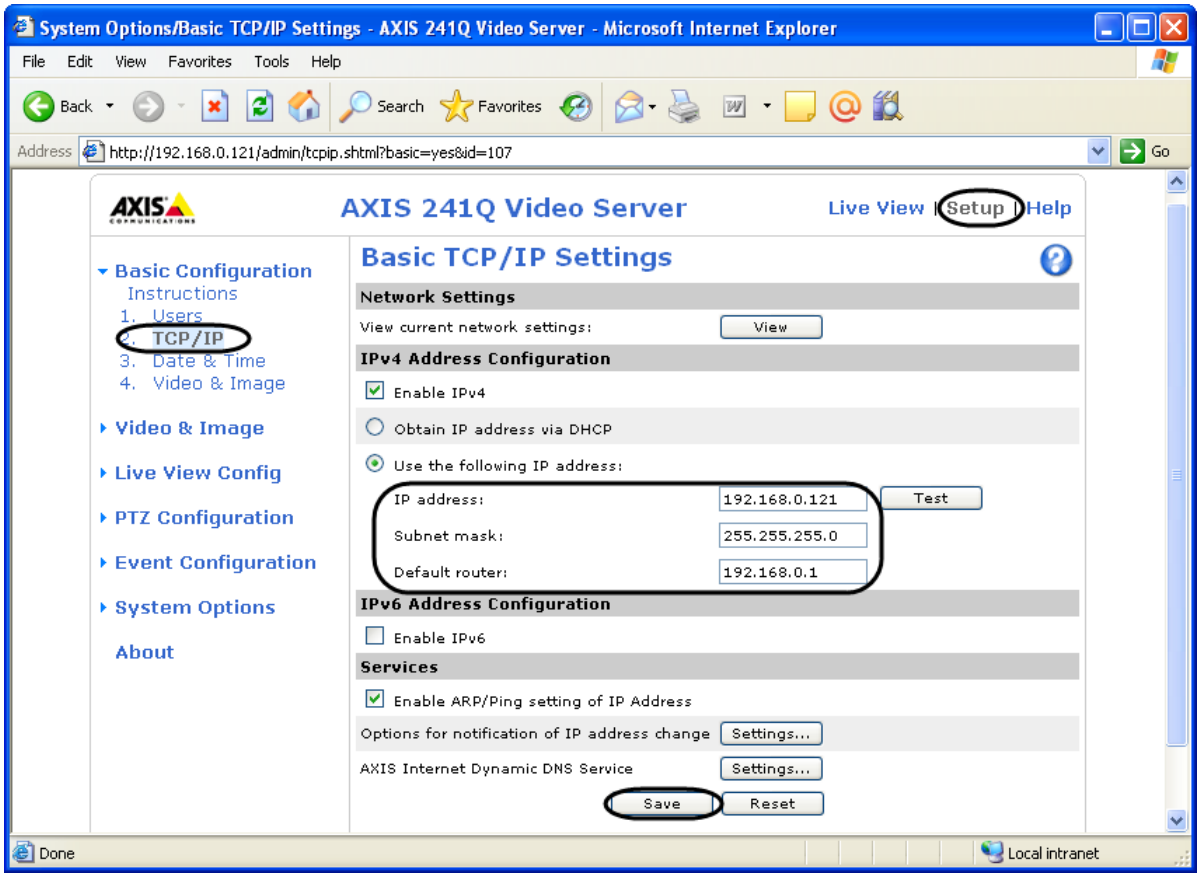


Figure 5.1-60. Configuration of the network parameters for the IP-devices

Enter the IP-address of the network device in the designated field (see section “Assignment of the network addresses to IP-devices”).

Enter the mask of the subnet, to which the network device is connected, in the Subnet mask field.

While entering data in the Default router field, the following should be taken into consideration:

1. If the videoserver and IP-camera are installed in the same subnetwork, the Default router parameter is not required to be specified (Figure 5.1-61).

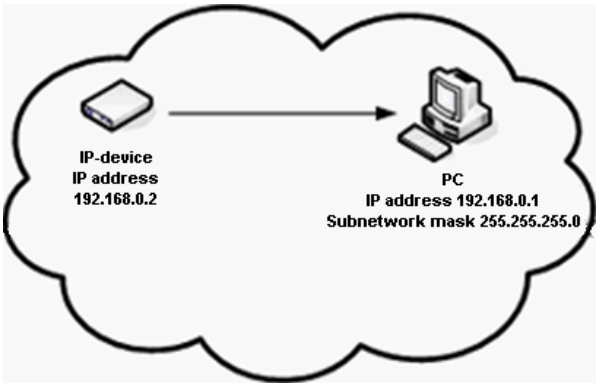


Figure 5.1-61. Videoserver and IP-camera are in the same subnetwork

2. If the videoserver and IP-camera are installed in different subnetworks, the Default router parameter must be specified (Figure 5.1-62).

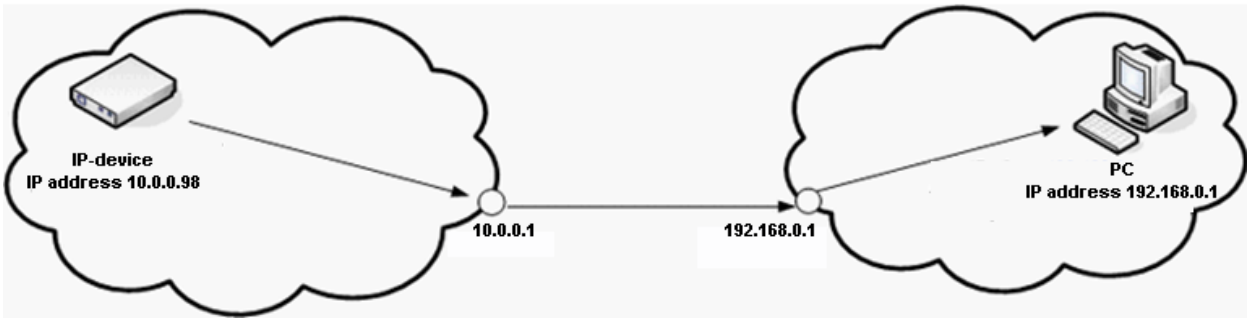


Figure 5.1-62. The video server and IP-camera are in different subnetworks

The IP-address of the default router should match the subnetwork, which the camera IP-address belongs to.

Note. The camera will not be operable, if the IP-address of the router is wrong or missing (Figure 5.1-63).

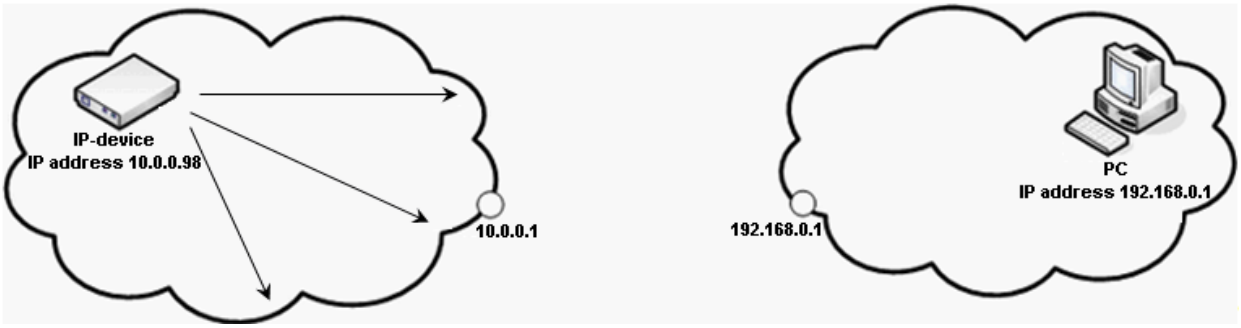


Figure 5.1-63. The IP-address of the router is not specified (no communication)

Select System Options / Ports & Devices / RS232 tab in the Setup section.

Select Pan Tilt Zoom in Port 1 Usage, to show that the given interface is used for telemetry. To confirm the settings click Save (Figure 5.1-64).

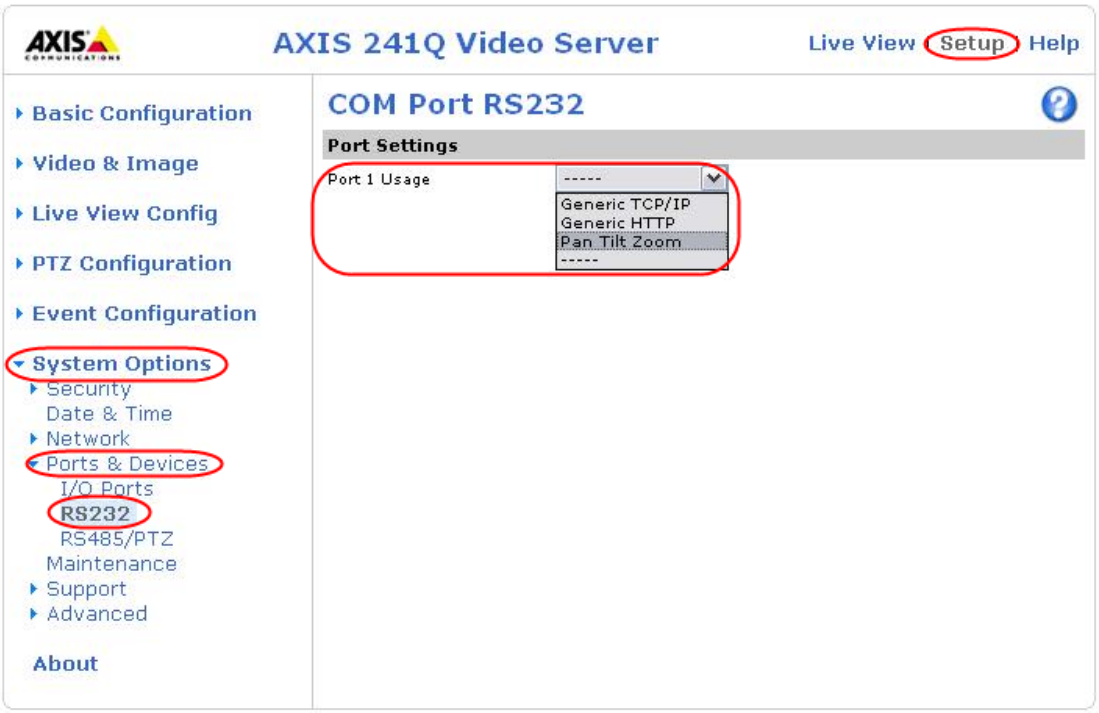


Figure 5.1-64. Configuration of telemetry parameters for the IP-devices

Now configuration of the network parameters for the IP-devices is complete.

Now we can proceed to the configuration of IP-devices in the INTELLECT™ software.

5.1.4.3 *Details of setting up IP-device through Web-interface*

Note.Detailed information about setting up IP-device through Web-interface is given in reference manual to corresponding devices.

5.1.4.3.1 Details of setting up IP-device Panasonic I Pro through Web-interface

If IP device Panasonic i-Pro is set to simultaneous transmission of video streams in MJPEG and MPEG-4 formats, video stream rate in MJPEG format is limited by value 5(10) fps.

Note. WV-NP1000\1004, WV-F284, WV-NP240\244, WV-NS202 and other models belong to IP device i-Pro.

5.1.4.3.2 Details of setting up IP-device Samsung through Web-interface

Amplification of input audio signal for IP device Samsung SNC-B2315 is et with settings «Setup» ⇒ «Video & Audio Configuration» ⇒ «Input Gain». On default «Input Gain» parameter is equal to 0 and audio signals are not played back by IP-device. The value «Input Gain» from 1 to 10 dependant on the required amplification of output signal should be selected to play back audio signals.

IP –device Samsung SNC-M300P supports double- stream compression mode of video signals in MJPEG and MPEG-4 formats. In case when the value 25fps is selected for the frame rate of MJPEG-video stream (parameter «Frame Rate»), the range of analog parameter's value for MPEG-4 format is restricted by frame rate 3fps.The value not less than 25fps for Frame Rate parameter of MJPEG-video stream to extend the given parameter.

5.1.4.3.3 Details of setting up Ip-device Mobotix through Web-interface

Resolution of panoramic camera Mobotix MX-Q22M-Sec-D11 is determined by selected mode of video displaying «Display Mode» on the tab «Setup Menu» (Table 5.1-2).

Table 5.1-2

Video displaying mode«Display Mode»	Corresponding resolution
Full Image	2048*1536
Normal	1456*1088
Surround	1456*1088
Panorama	2048*768
Double Panorama	1456*1088
Focus Panorama	1456*1088

Note. The screen is devided by horizontal line into equal areas, each of which displays panoramic video in«Double Panorama» mode.

As camera Mobotix MX-Q22M-Sec-D11 is panoramic, vide proportions in PC Intallect are distorted. «Normal» mode is recommended to be installed for correct video displaying.

5.1.4.3.4 Details od setting up IP-device Sony through Web-interface

«Light Funnel»function is used to raise sensitivity of IP-device Sony SNC-CM120 .Access to settings of this function is on the tab «Setting» -> «Camera» -> «Sense up».

Enabling the function «Light Funnel» leads to changing the range of values of the following settings PC Intellect (Table 5.1-3):

1. Video rate;
2. Video resolution (in MJPEG format).

Table 5.1-3

Setting up Intellect PC	Realization of setting in Intellect PC	Value range	
		With disabled function«Light Funnel»	With enabled function «Light Funnel»
Video rate	Slider«Rate» on the settings panel of video capture card	No more then 10fps	Up to 30 fps
Video resolution (in MJPEG format)	Dropdown list «Resolution» on the settings panel of Camrera object	Full (1280*960) High(960*720) Standard (640*480)	Standard(640*480)

Example. When full resolution is set with enabled «Light Funnel» function in PC Intellect,video is displayed in standard resolution.

5.2 Installation of INTELLECT™ software

5.2.1 Description of the INTELLECT™ software distribution package

INTELLECT™ software is offered as a software installation package (distribution package) on a compact disk (Figure 5.2-1).



Figure 5.2-1 Installation CD of INTELLECT™ software

The distribution disk (software bundle) contains all software components necessary for the installation of INTELLECT™ software on the base PC.

The software is made operable with the intellect.sec key file. The key file is a part of the software bundle and can be found in the Key folder on the CD. The key file defines the configuration of the INTELLECT™ software delivery package.

Note. If there is no key file INTELLECT™ software will operate in demo mode within two month from the intellect.exe file creation date, from 8 a.m till 12 midnight.

To install and configure INTELLECT™ software, administrator rights are required.

5.2.2 Installation of INTELLECT™ software as a server

This section outlines a step-by-step routine for the installation of INTELLECT™ software as a server.

Note 1.While installing the INTELLECT™ software the following specific features of version 4.8.0 should be taken into account:

INTELLECT™ software should be installed on a "clean" OS Windows (see section «OS system requirements »).

To install INTELLECT™ software, OS Windows administrator rights are required.

Note 2. While reinstalling the INTELLECT™ software the following specific features of version 4.8.0 should take into account: Before re-installation, uninstall INTELLECT™ software (as well as all other ITV software products, if there are installed any of them).

To install INTELLECT™ software do the following:

1. Insert INTELLECT installation disk in the CD-ROM drive, its contents will be displayed in a dialog window (Figure 5.2-2).

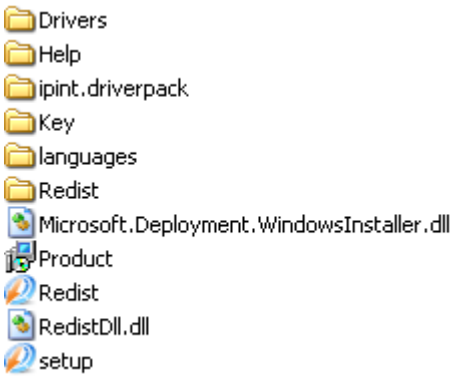


Figure 5.2-2 Interface window displaying INTELLECT installation software

2. Run the setup.msi file, destined for starting the INTELLECT™ software installation procedure.

Choose language dialog window will open in result (Figure 5.2-4).

*Note. Notification window will open if Microsoft.Net Framework 2.0 has not been installed (*Figure 5.2-3*).*

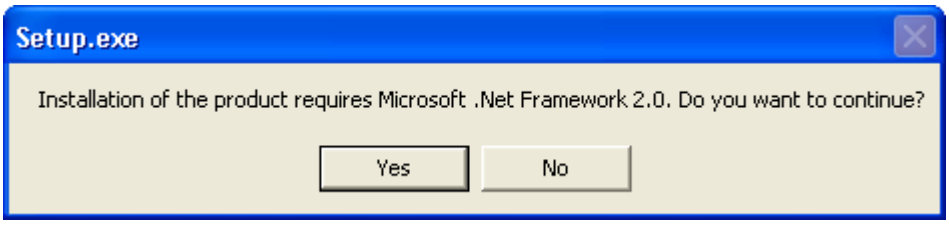


Figure 5.2-3 Notification window

Click Yes for Microsoft.Net Framework 2.0 auto installation.

3. Select the language of INTELLECT™ software installation and click Install (Figure 5.2-4).

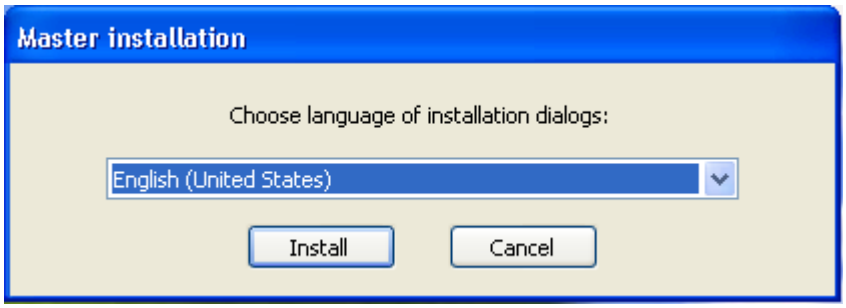


Figure 5.2-4 Choose language dialog box

Installation type dialog window will open in result (Figure 5.2-5).

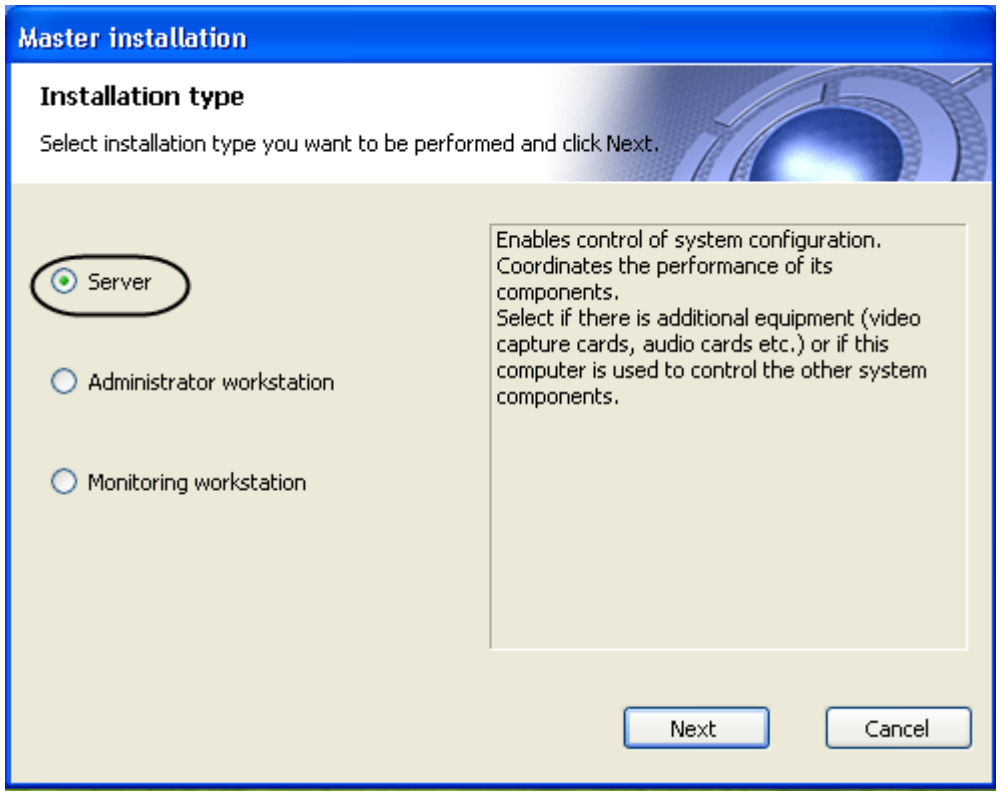


Figure 5.2-5 Installation type dialog window

4. Select Server installation type (Figure 5.2-5).
5. Click Next (Figure 5.2-5).

Components for install dialog window will be displayed (Figure 5.2-6).

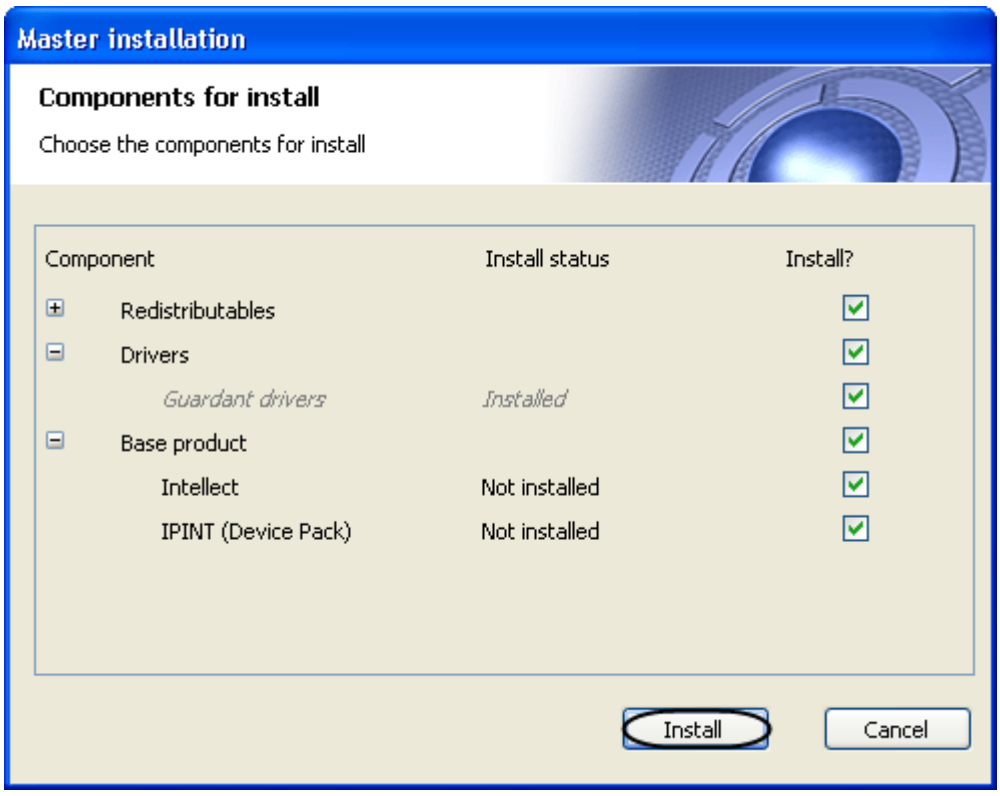


Figure 5.2-6 Components for install dialog window

6. Set the check boxes opposite the components that have to be installed (Figure 5.2-6).

Note. The offered components are recommended to be installed.

7. Click Install (Figure 5.2-6).

Then the selected components will be automatically installed except Microsoft SQL Server Express 2008 R2 database (is necessary for work with the Intellect PC databases), that is manually installed (see section «**Ошибка! Источник ссылки не найден.**Setup ») (Figure 5.2-7).

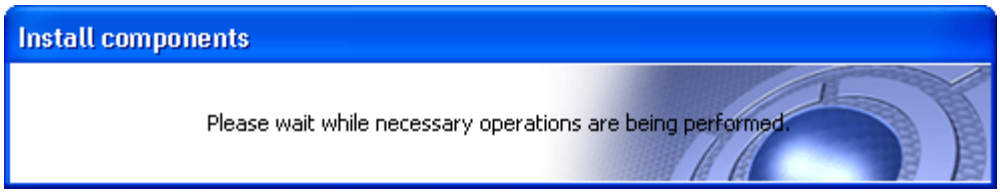


Figure 5.2-7 Auto installation of necessary prerequisites

Note! Auto installation of necessary prerequisites may require more than 10 minutes.

After this the Intellect PC install window will be displayed (Figure 5.2-8).

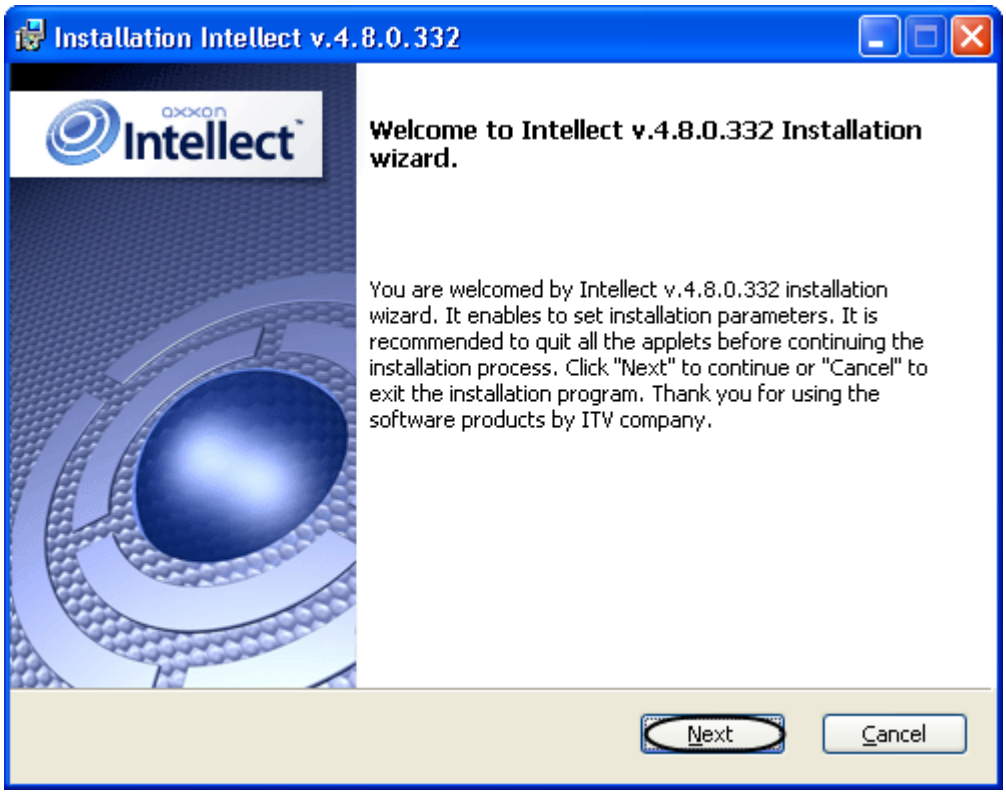


Figure 5.2-8 Welcome to installation wizard

8. Click Next (Figure 5.2-8).

License agreement dialog window will be displayed (Figure 5.2-9).

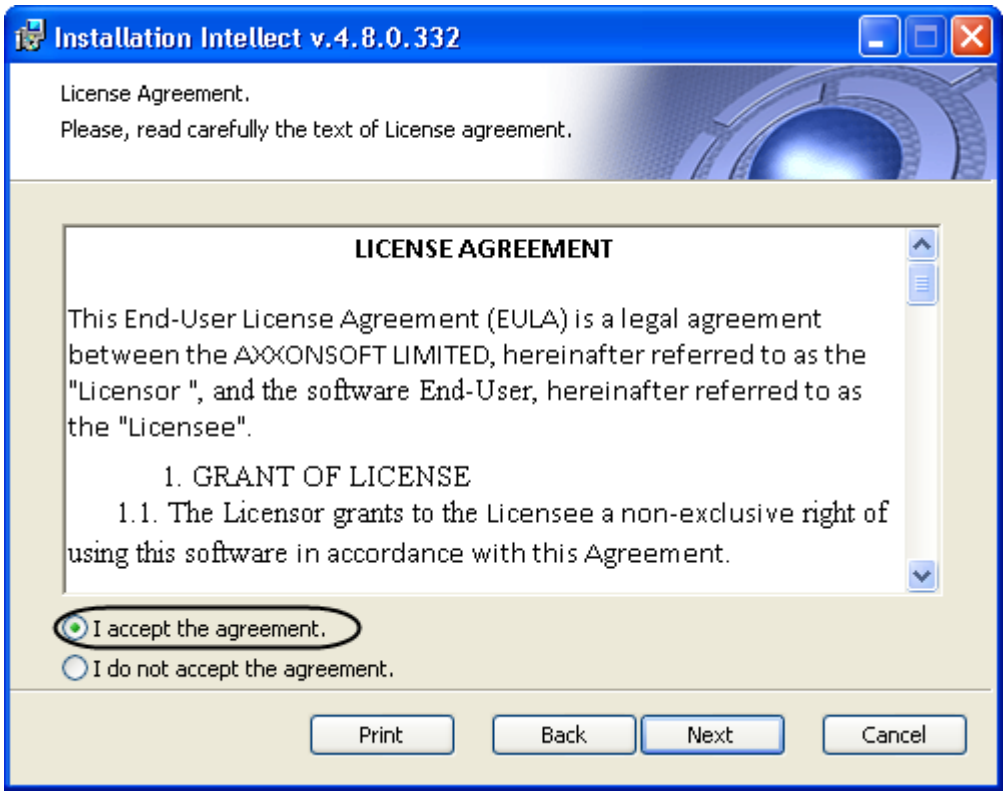


Figure 5.2-9 License agreement dialog window

9. Confirm the agreement to the terms of License agreement by setting the switch to the position «I accept the agreement» being informed with the terms of License agreement, otherwise the Intellect PC installation will be cancelled (Figure 5.2-9).
10. Click Next (Figure 5.2-9).

Choose a language dialog window will open (Figure 5.2-10).

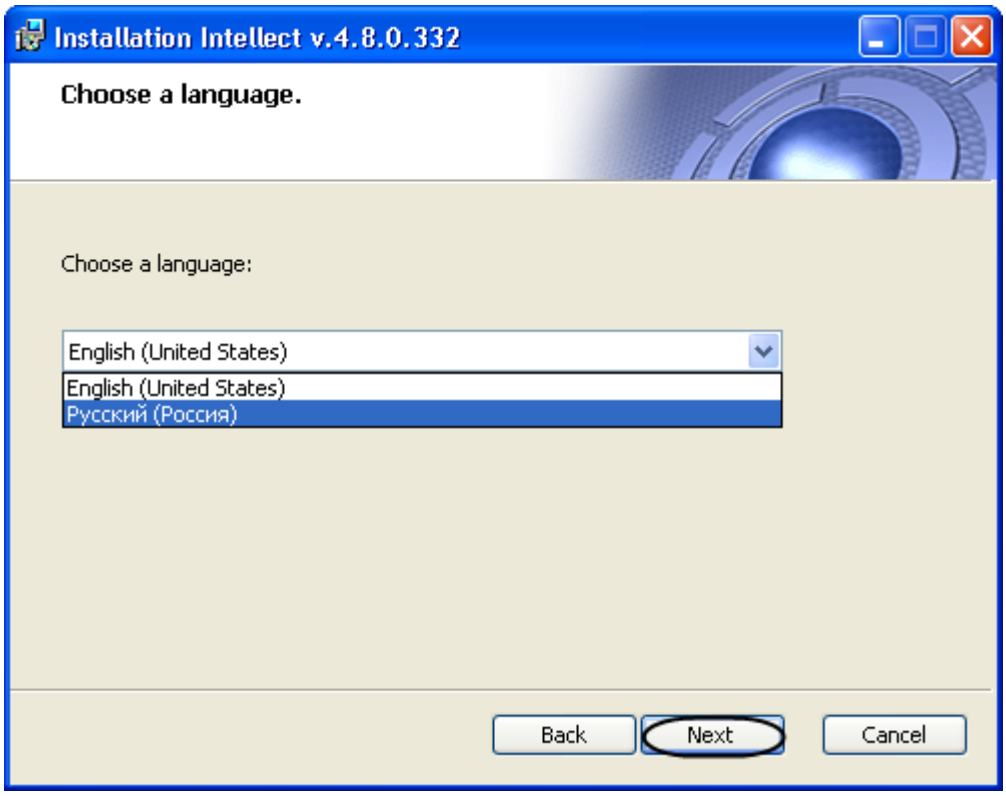


Figure 5.2-10 Choose a language dialog window

11. Select the required language from the list (Figure 5.2-10).
12. Click Next (Figure 5.2-10).

Installation mode selection dialog window will be displayed (Figure 5.2-11).

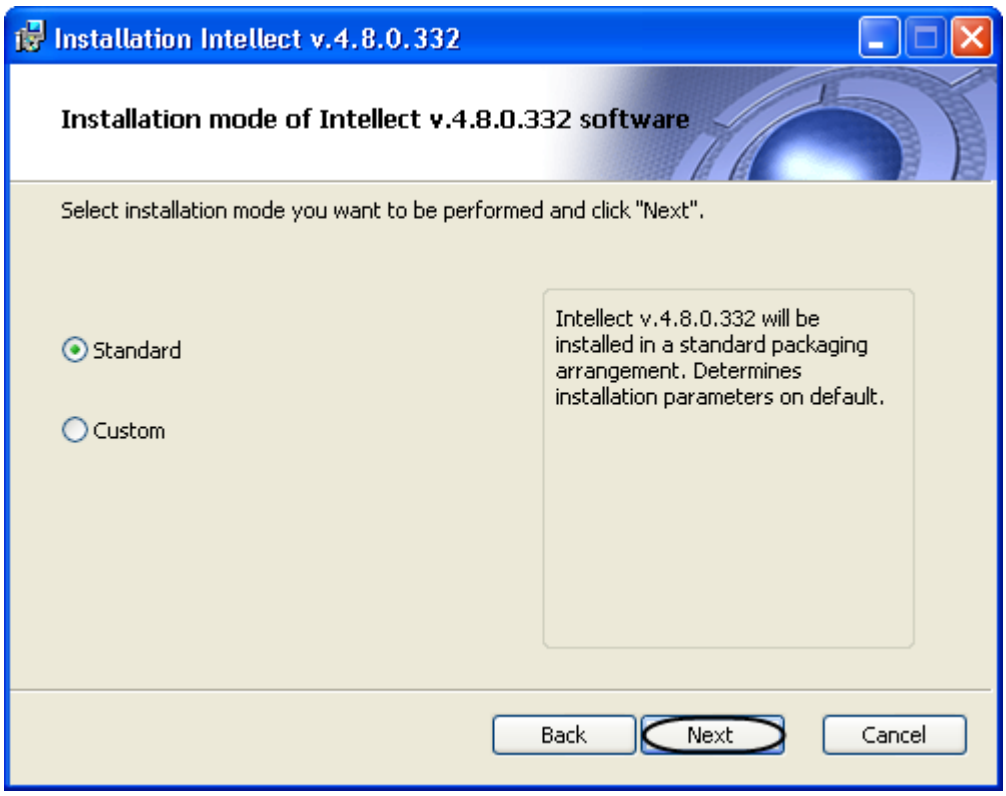


Figure 5.2-11 Installation mode selection

13. Select installation type (Figure 5.2-11).
14. Click Next (Figure 5.2-11).

Note. While selecting the manual installation type the Select components dialog window will be opened (Figure 5.2-12). This step is omitted while selecting the standard installation type.

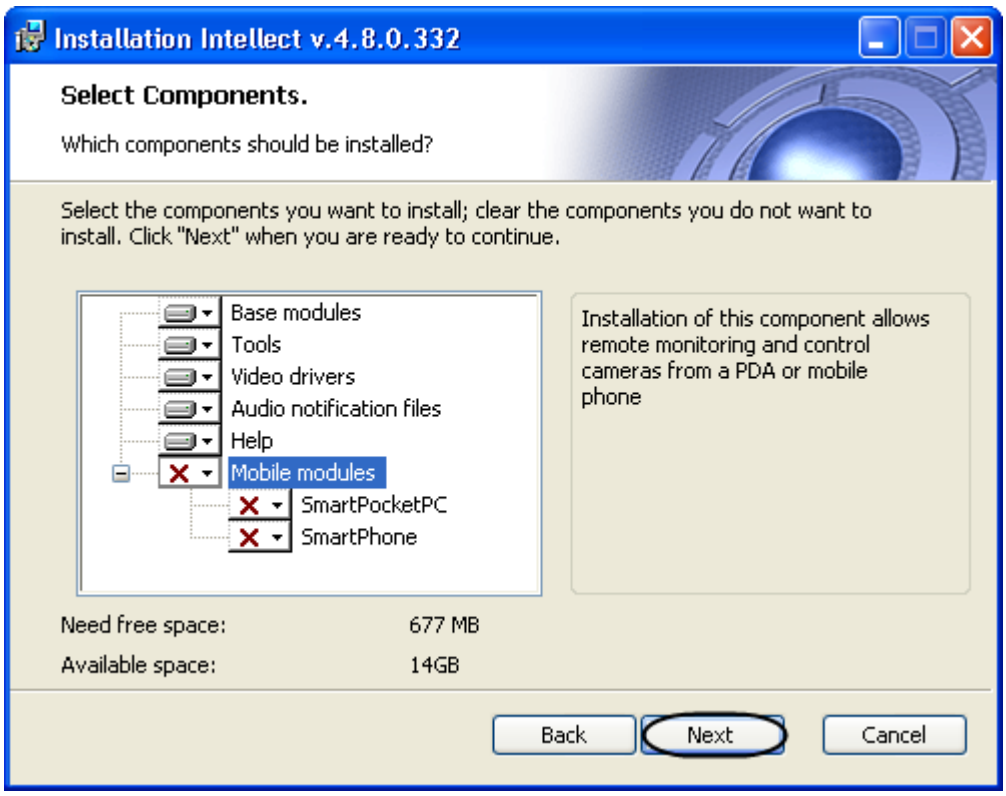


Figure 5.2-12 Select components dialog window

Select the components that should be installed and click Next. The component description is displayed in the install window while it is being selected.

Choose installation folder dialog window will be displayed (Figure 5.2-13).

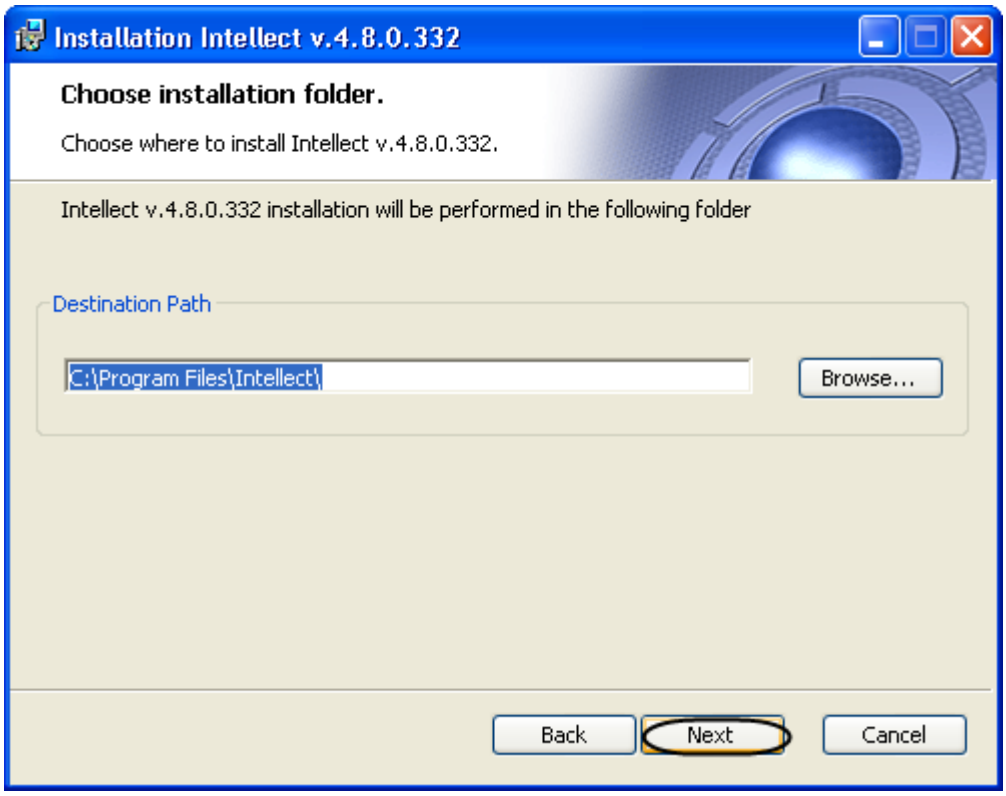


Figure 5.2-13 Choose installation folder dialog window

15. Click Next (Figure 5.2-13).

Dialog window of indicating the folder where the key file is located will be displayed (Figure 5.2-14).

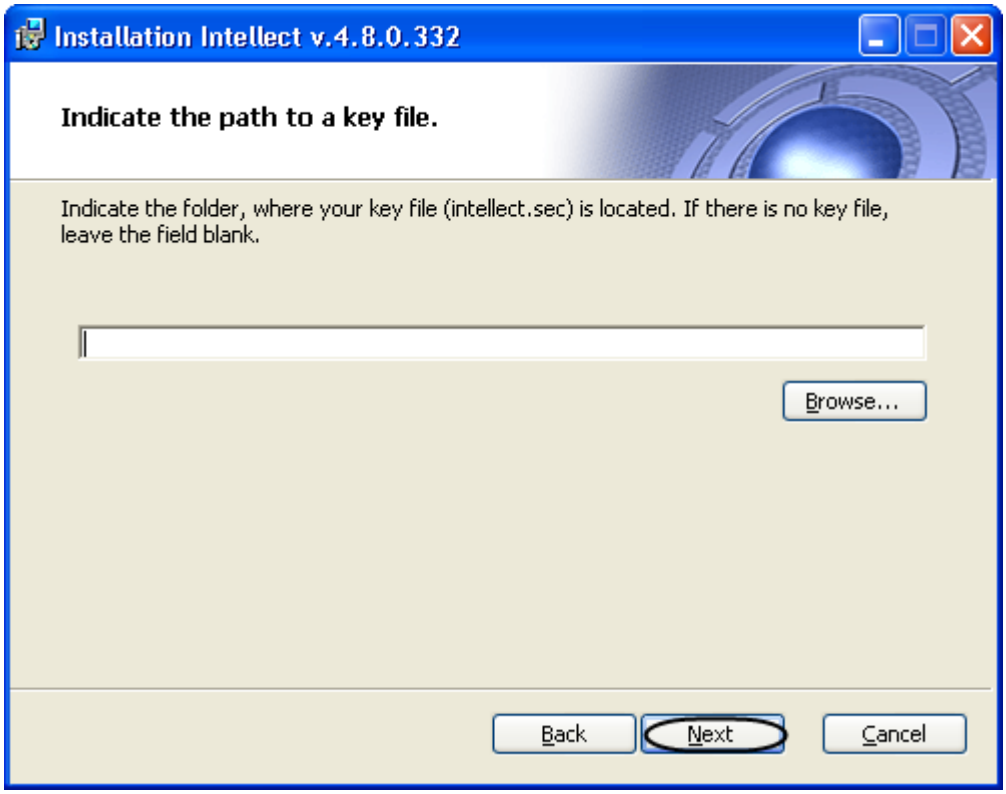


Figure 5.2-14 Indicate the folder dialog window

Note. Leave the field blank if the key file will be copied later.

16. Click Next (Figure 5.2-14).

Additional settings dialog window will open (Figure 5.2-15).

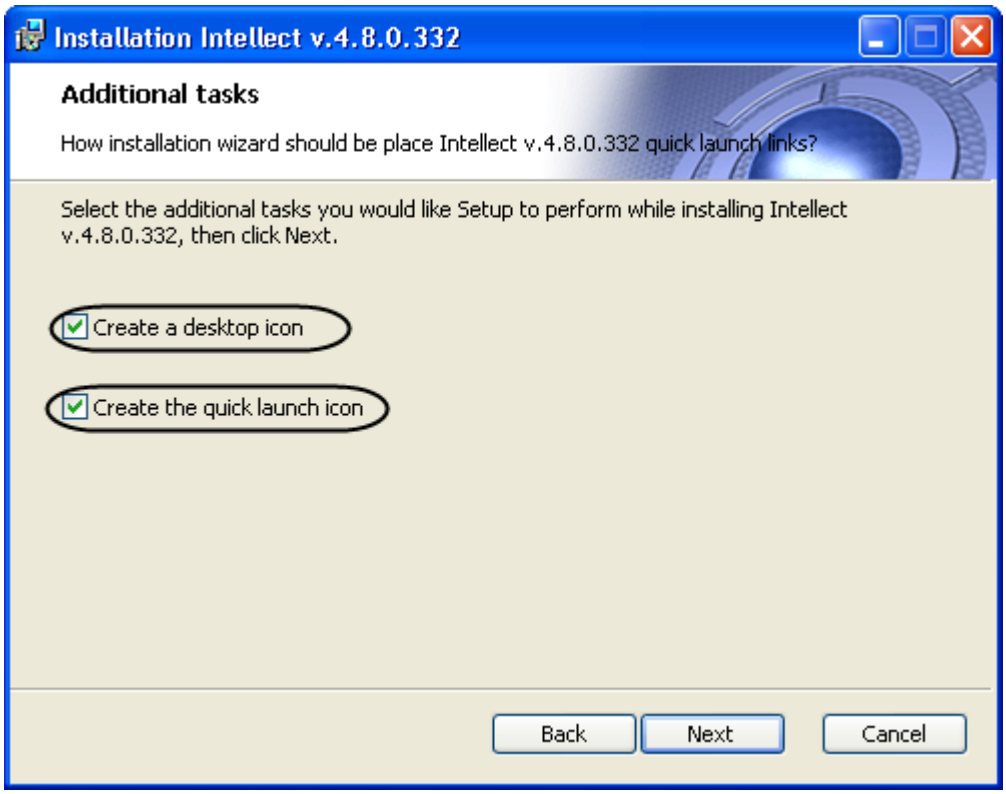


Figure 5.2-15 Additional settings dialog window

17. If necessary create an icon of the Intellect PC on the desktop by setting the corresponding checkbox (Figure 5.2-15).
18. If necessary create an icon of the Intellect PC in the start panel by setting the corresponding checkbox (Figure 5.2-15).
19. Click Next (Figure 5.2-15).

Install Intellect as a service dialog box will be displayed (Figure 5.2-16).

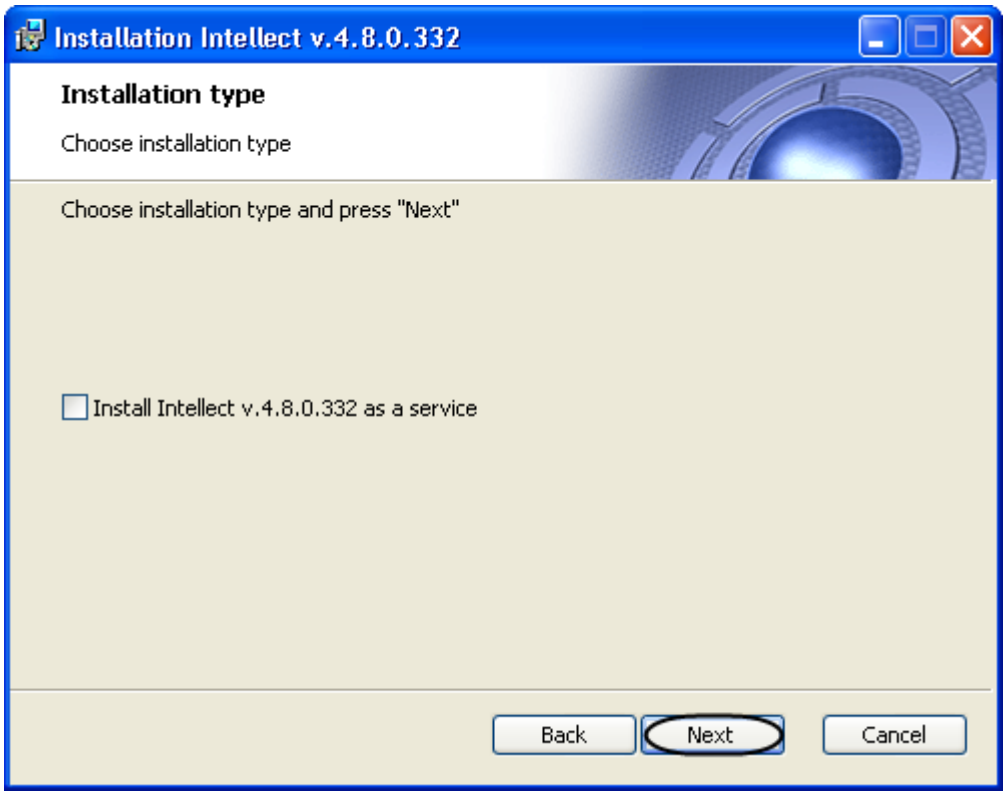


Figure 5.2-16 Installation type selection dialog window

20. At this stage, define, whether the INTELLECT™ software should not be launched before the user is authorized by the Windows OS and before Windows applications are launched (including the Explorer application) which is used for starting up such applications as Windows OS and various other applications installed on the Server.

Note 1.The Intellect™ system will operate in the mode selected above only when the user is authorized by the Windows OS.

Note2. The Intellect™ system, installed in the mode Intellect as a service, operates without user interface on the OS Windows Vista and Windows 7. To set up the system Intellect™ has to be installed in a usual mode and then enable the mode «Intellect as a service». For correct installation of this mode the user account «IntellectServiceUser» has to be registered with a password «ITV_Intellect_4» in the Administrators group and then should be added to local politics with «Logon as service» rights.

21. Click Next (Figure 5.2-16).

Database server selection dialog window will be displayed (Figure 5.2-17).

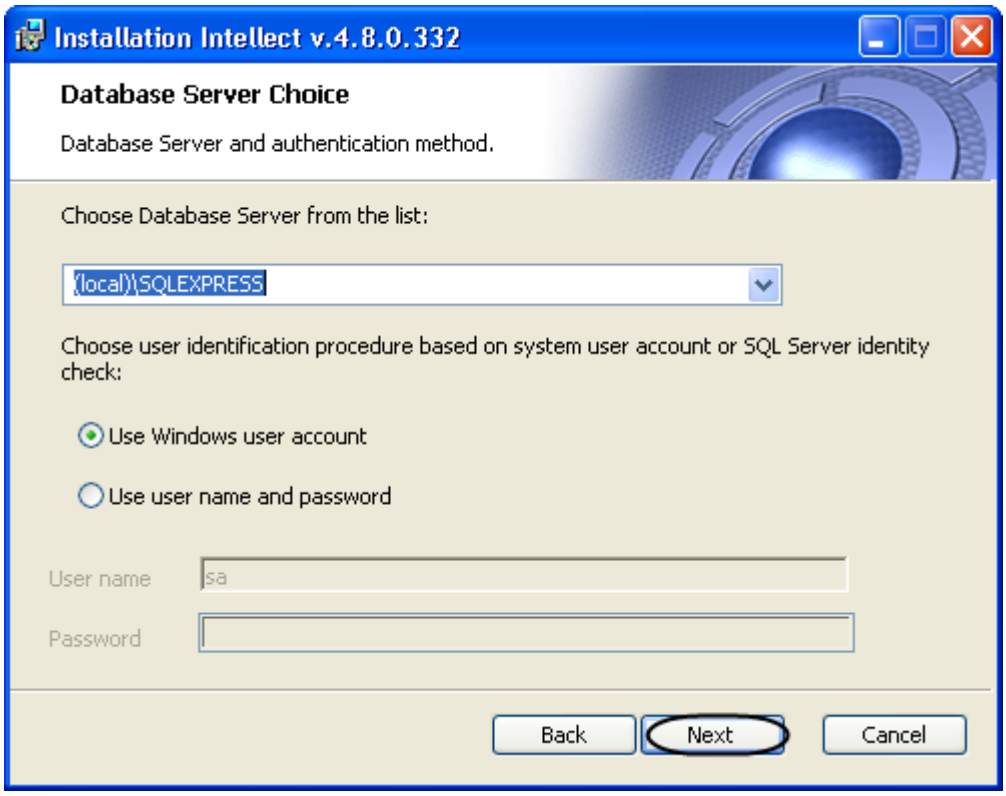


Figure 5.2-17 Database server selection dialog window

22. Select SQL-server, using the dropdown «Database Server» (Figure 5.2-17).

Note. If there is necessity to use SQL-server, installed on this (local)PC, one should select the point , «(local)\SQLEXPRESS» (is set on default).

23. Set the authorization parameters that will be used by the Intellect PC while connecting to SQL-server.

Authorization means, realized in the dialog window (Figure 5.2-17,Table 5.2-1).

Table 5.2-1 Authentification methods

Authorization means	**«checking Windows authenticity»**	**«checking SQL- server authenticity with the use of next use name and password» (is recommended)**
Usage	SQL-server from Intellect PC distributive (or from the distributive of the external vendor) and Intellect PC is installed on one computer	SQL-server and PC Intellect from Intellect PC distributive are installed on the same computer. Meanwhile connection to SQL-server with the set user name (login) and password may be performed from any remote computer that is in the same net domain of TCP/IP net with a computer, where SQL-server is being installed.
	SQL-server and Intellect PC are installed on different computers connected through	SQL-server and PC Intellect from Intellect PC distributive are installed on

	TCP/IP net that are in the same net domain. Meanwhile in OS Windows on the computer with installed MS SQL-server there should be created an account for currently authorized user on the computer, where PC Intellect is being installed.	different computers, connected through TCP/IP net that are in the same net domain. Meanwhile user name(login) and password should correspond to user name(login) and password, used for access to SQL-server.
	Full-function SQL-server (is additionally installed) and Intellect PC is installed on different computers, connected through TCP/IP net that are in the same net domain. Meanwhile on the remote SQL-sever there should be created an account for currently authorized user on the computer, where PC Intellect is being installed.	Full-function SQL-server (is additionally installed) and Intellect PC is installed on the same or different computers, connected through TCP/IP net that are in the same net domain. Meanwhile user name(login) and password should correspond to user name(login) and password, used for access to SQL-server.

Note. For SQL-server, installed from PC Intellect distributive, user name «sa» and password«Intellect_default_DB_4» are used on default. While installing the Microsoft SQL Server Express 2008 R2 the password may be changed for any other password.

24. Click Next to continue the installation(Figure 5.2-17)

Then Select or set database name dialog window will be displayed (Figure 5.2-18).

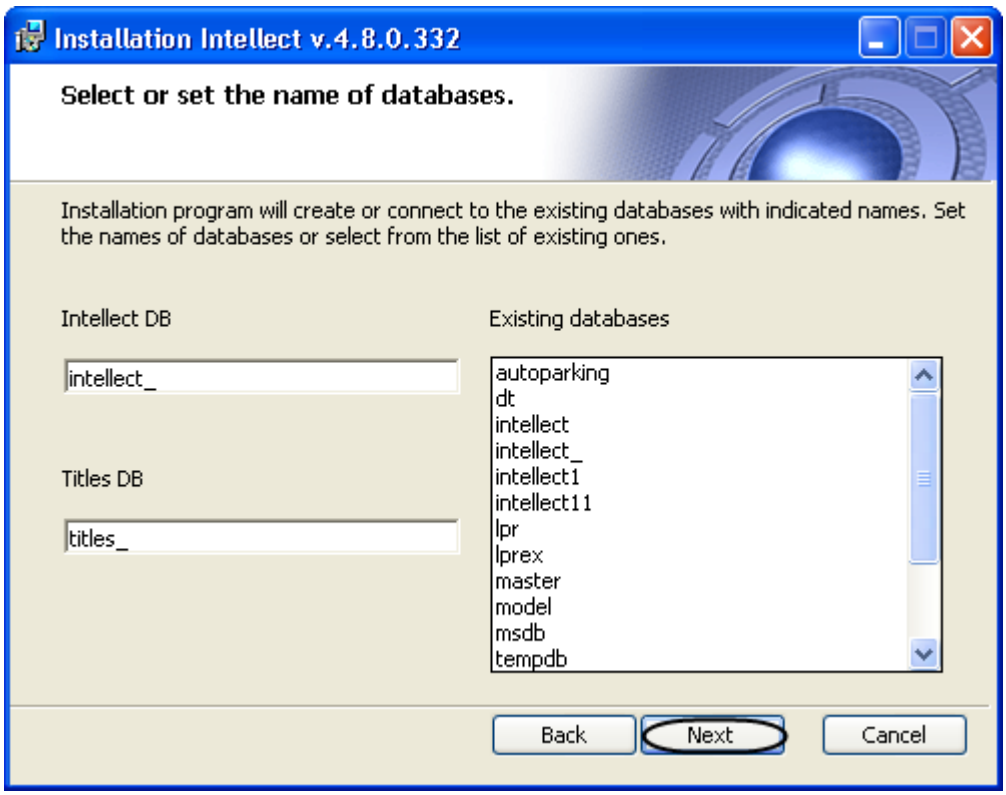


Figure 5.2-18 Select or set database name dialog window

25. Click Next (Figure 5.2-18).

Note. If the system while being installed displays a message «Rights are required to create or edit databases», the installation process must be cancelled and then restart the installation again.

Ready to install dialog window will be displayed (Figure 5.2-19).

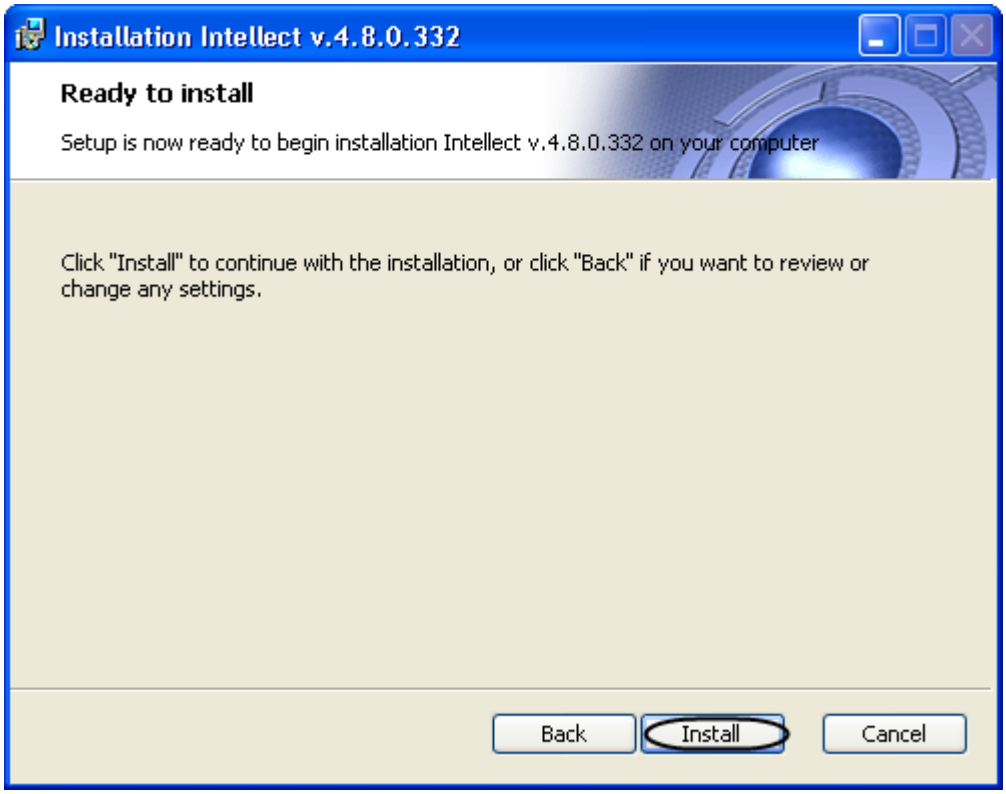


Figure 5.2-19 Ready to install dialog window

*Note. Click Back to change the settings (*Figure 5.2-19*).*

26. Click Install (Figure 5.2-19).

Then Process of intellect installation dialog window will be opened (Figure 5.2-20).

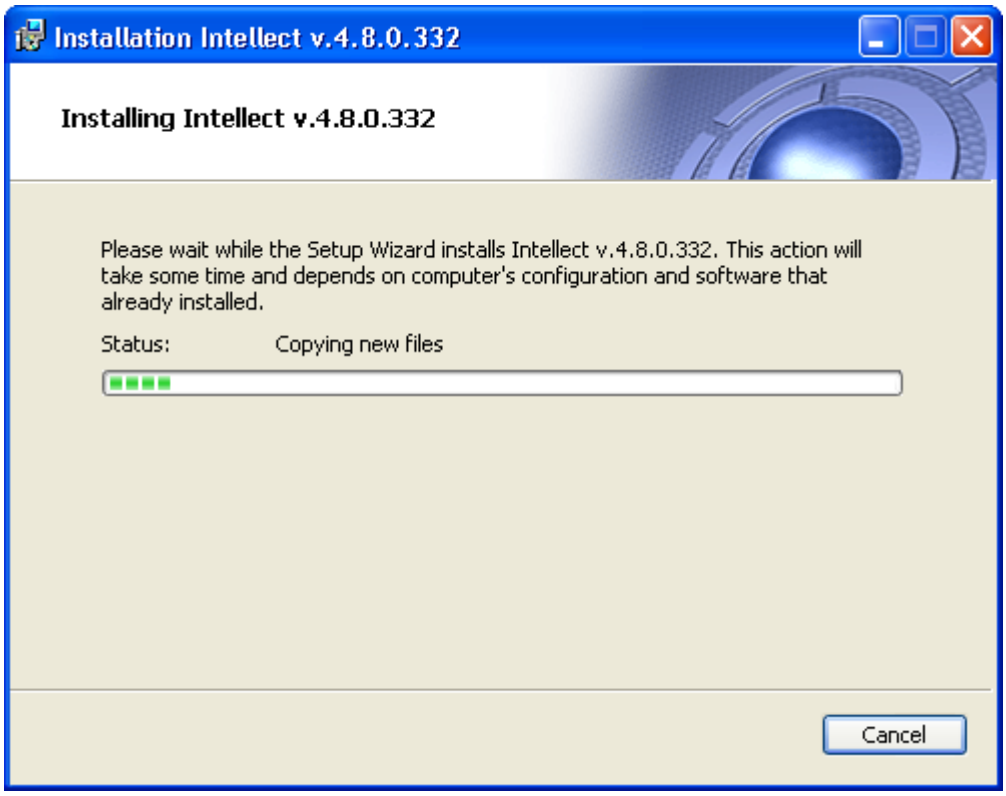


Figure 5.2-20 Process of intellect installation

Note. In case if the«SmartPocketPC»module installation was selected in the process, the «SmartPocketPC» module will be installed to the pocket PC at this stage.

Software installation dialog window will be displayed (Figure 5.2-21).

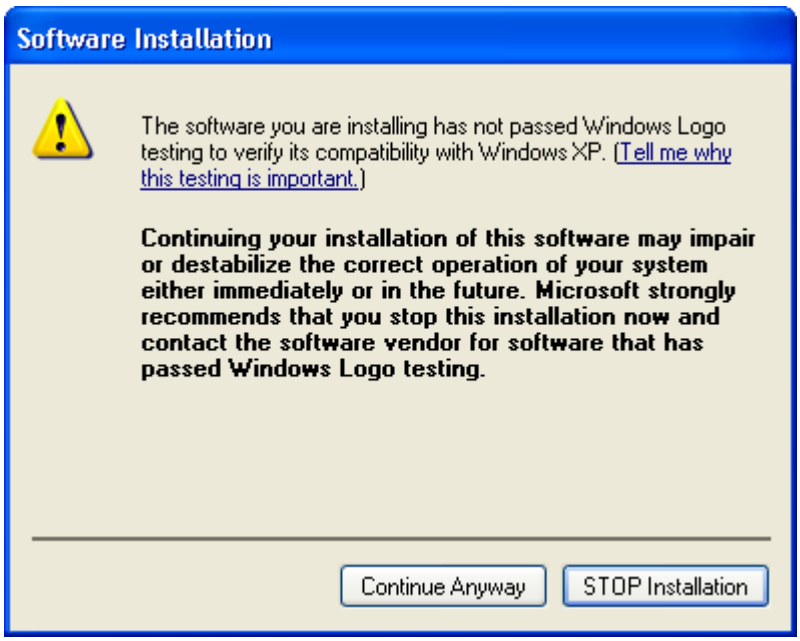


Figure 5.2-21 Software installation dialog window

27. Click Continue anyway to continue the installation (Figure 5.2-21).

Installation complete dialog window will be displayed (Figure 5.2-22).

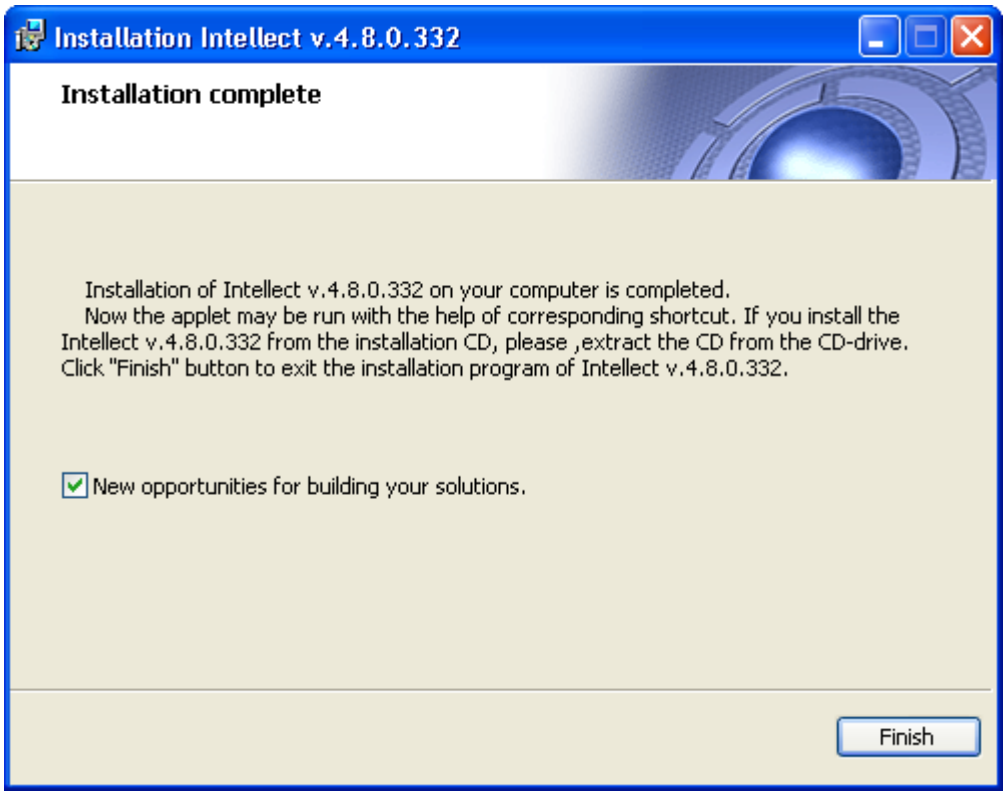


Figure 5.2-22Installation complete dialog window

28. Set the checkbox New opportunities for building your solutions to view the document, containing information about new features of the installed Intellect PC (Figure 5.2-22).
29. Click Finish (Figure 5.2-22).

Note. Then the Axxon Driver Pack will be installed.

Then the installation wizard dialog window will be displayed, containg information about the state (installed or not) of Intellect PC components (Figure 5.2-23).

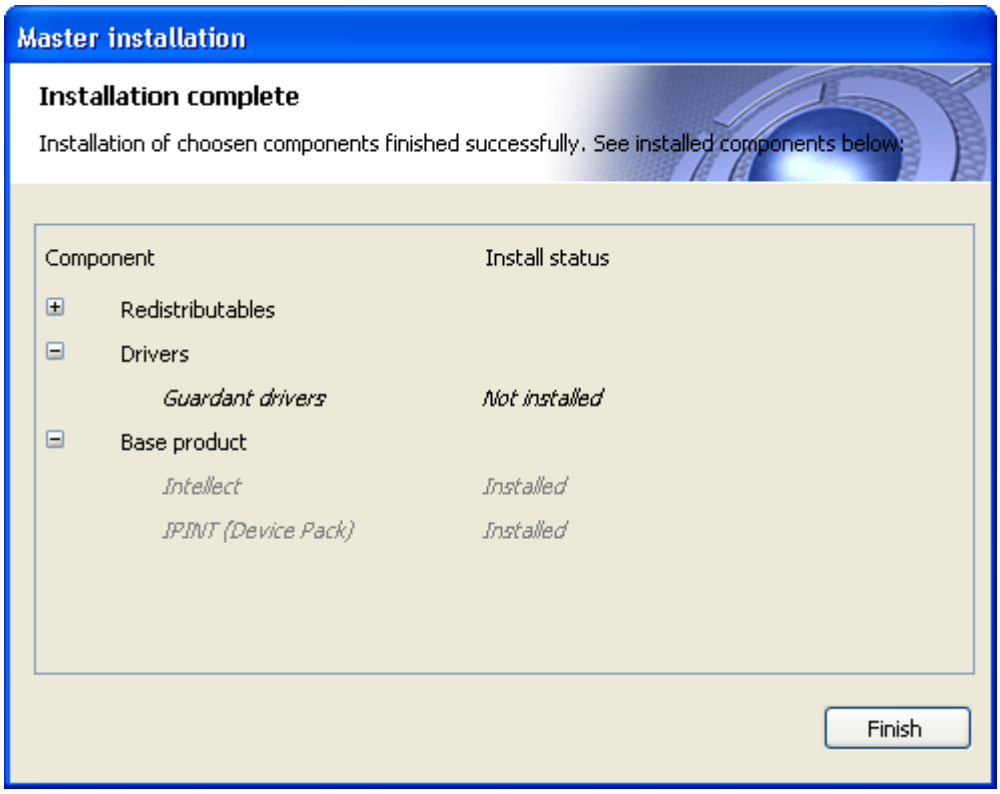


Figure 5.2-23 Installation complete dialog window

30. Click Finish (Figure 5.2-23).

Dialog window offering to restart the system will be displayed (Figure 5.2-24).

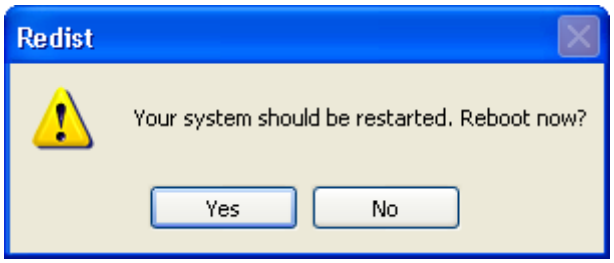


Figure 5.2-24 Redist message window

Note. The variant with installation completion and system restarting is the most recommended.

The Intellect as a server installation is completed.

5.2.3 Installation of the INTELLECT™ Software as an Administrator Workstation

The Intellect installation as an Administrator workstation is similar to the installation as a server and one should state «Administrator workstation» at the stage of installation type selection (Figure 5.2-25).

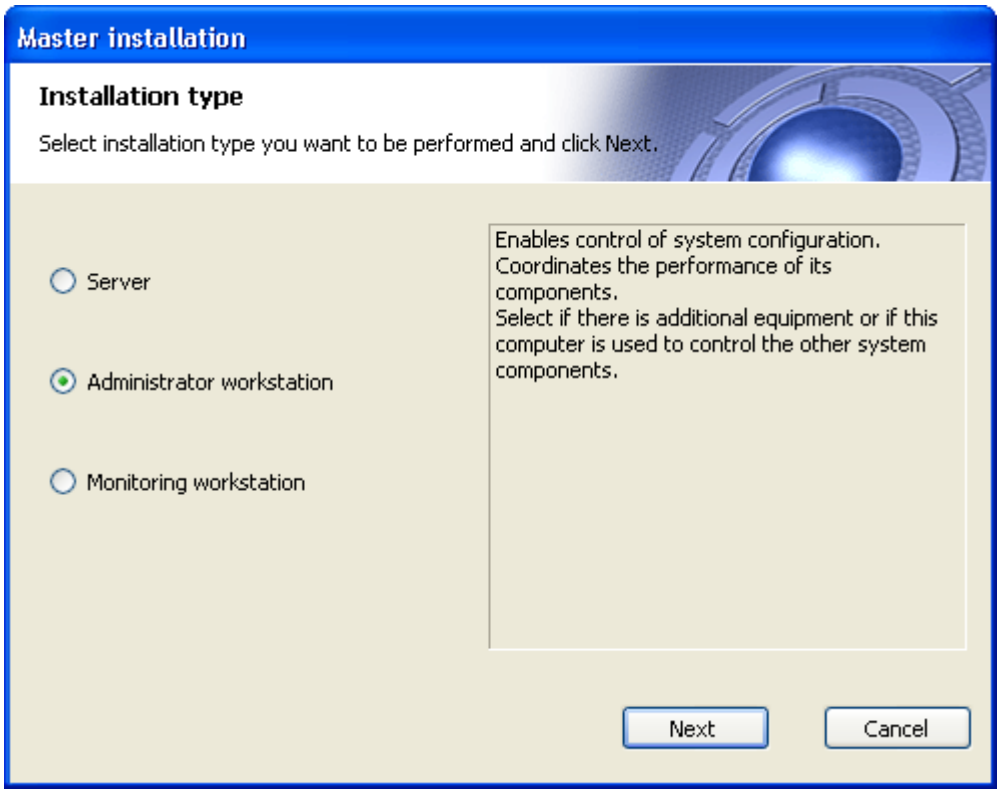


Figure 5.2-25 Installation type dialog window

5.2.4 Installation of INTELLECT™ Software to the Remote Monitoring Workstations

This section outlines a step-by-step guide to the installation of INTELLECT™ software onto the remote monitoring workstations.

Note 1. Installation of INTELLECT™ software should take into account the following specific features of version 4.8.0:

INTELLECT™ software should be installed on a "clean"OS Windows (see section OS requirements).

To install INTELLECT™ software, administrator rights are required.

INTELLECT™ software should be installed in the folder, which appears by default in the corresponding dialog box of the installation program (i.e., C: Intellect). It is not recommended to change the names of the logical disk and folder for the installation.

Note 2. When you re-install INTELLECT™ software take into account the following specific features of version 4.8.0:

Before re-installation, uninstall INTELLECT™ software (as well as all other ITV software products, if any).

INTELLECT™ software should be installed in the folder, which appears by default in the corresponding dialog box of the installation program (i.e., C: Intellect). It is not recommended to change the names of the logical disk and folder for the installation.

1. Insert the INTELLECT installation disk in the CD-ROM drive and display its contents in a separate window of your PC (Figure 5.2-26).

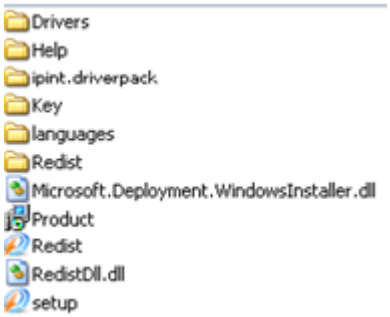


Figure 5.2-26. Interface window displaying INTELLECT installation software

2. Run setup.msi file, destined for the Intellect installation program launching.

Setup language selection dialog window will be opened in result (**Ошибка! Источник ссылки не найден.**).

Note. If Microsoft.Net Framework 2.0 hasn't been installed there will appear a window with a note. (Figure 5.2-27*).*

.

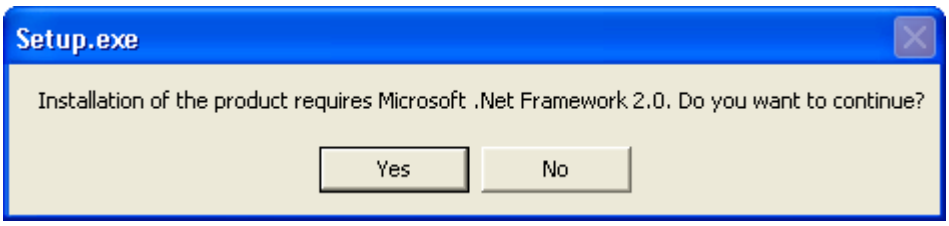


Figure 5.2-27. Setup language panel of INTELLECT™ software

Click Yes to install Microsoft.Net Framework 2.0 automatically.

Select the language and click Install button (Figure 5.2-28).

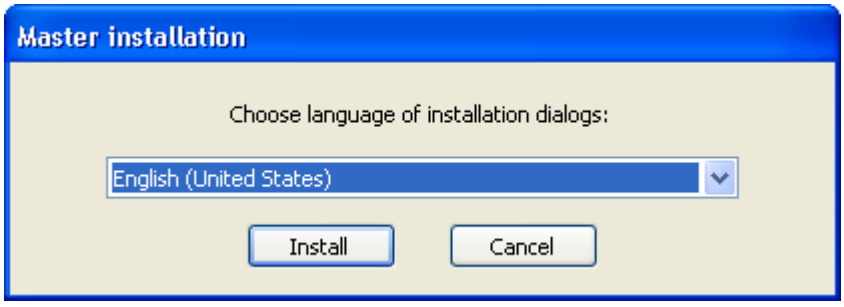


Figure 5.2-28. Select language dialog window

Installation type dialog window will open in result (Figure 5.2-29).

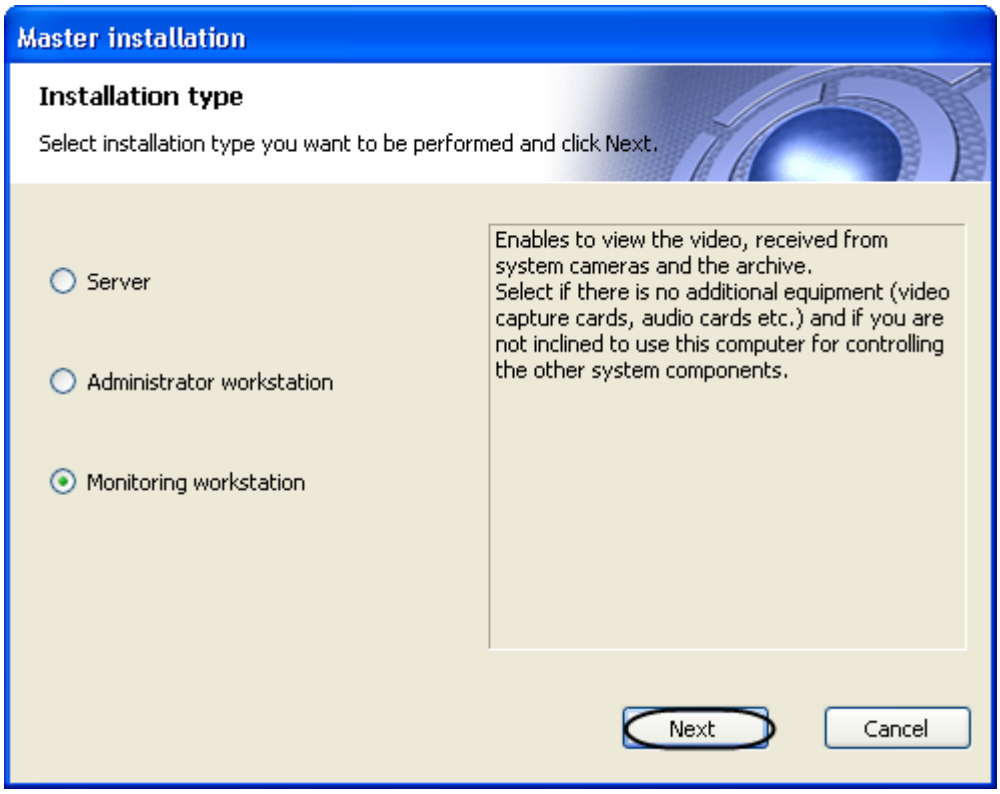


Figure 5.2-29 Installation type dialog window

3. Select Monitoring workstation installation type(Figure 5.2-29).
4. Click Next (Figure 5.2-29).

Components for install dialog window will be displayed (Figure 5.2-30).

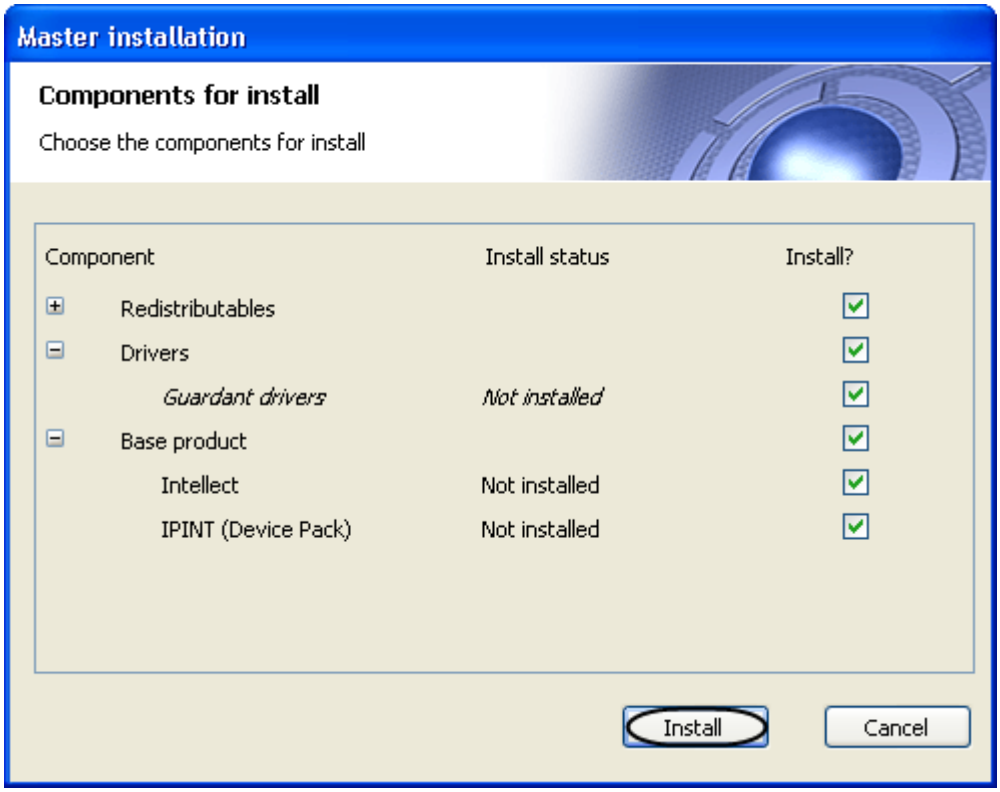


Figure 5.2-30 Components for install dialog window

5. Set checkboxes opposite the components to be installed (Figure 5.2-30).

Note. All offered components are recommended to be installed.

6. Click Install (Figure 5.2-30).

Necessary prerequisites auto installation will be performed (Figure 5.2-31).

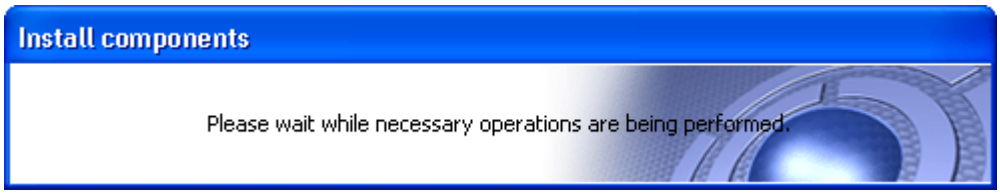


Figure 5.2-31 Necessary prerequisites auto installation

Note! Necessary prerequisites auto installation may take over ten minutes.

Then Welcome to Intellect installation wizard will be displayed (Figure 5.2-32).

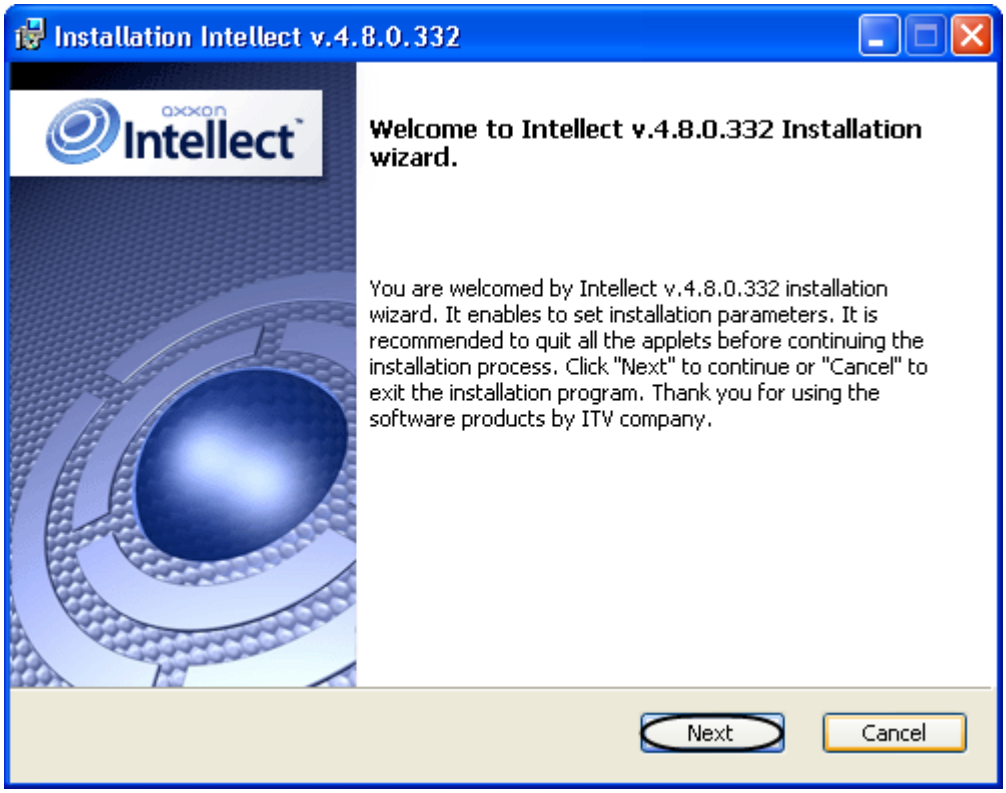


Figure 5.2-32 Welcome to Intellect installation wizard

8. Click Next (Figure 5.2-32).

License agreement dialog window will open (Figure 5.2-33).

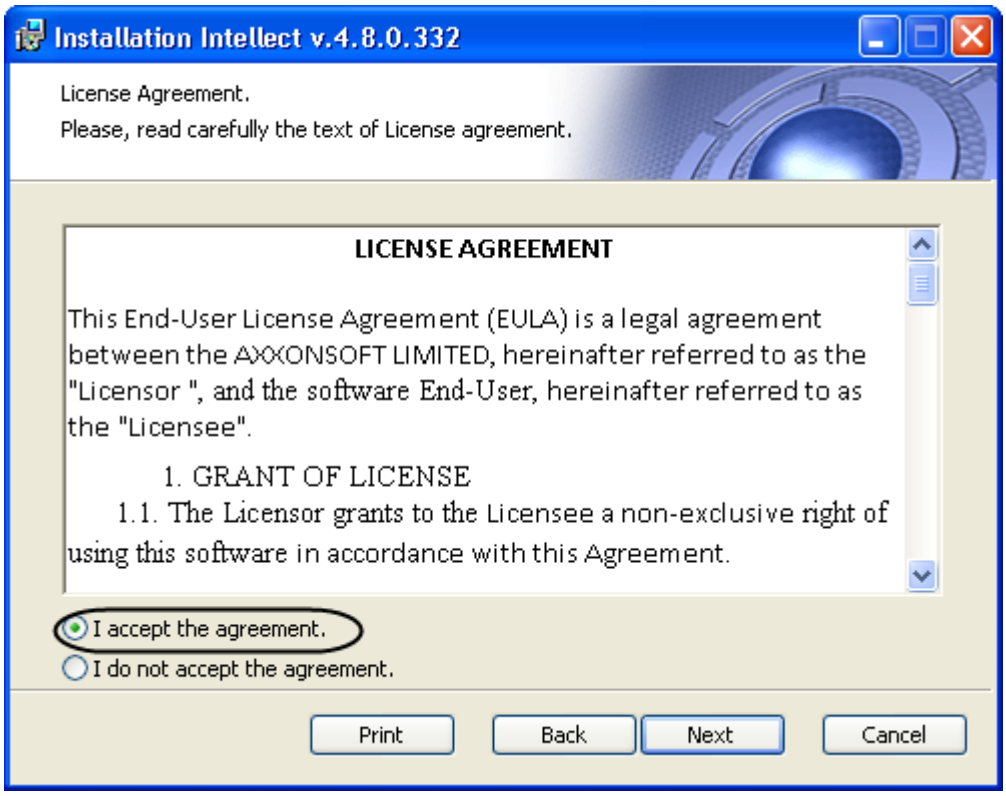


Figure 5.2-33 License agreement dialog window

9. Confirm the agreement to the terms of License agreement by setting the switch to the position «I accept the agreement» being informed with the terms of License agreement, otherwise the Intellect PC installation will be cancelled (Figure 5.2-33).
10. Click Next (Figure 5.2-33).

Select language dialog window will be displayed (Figure 5.2-34).

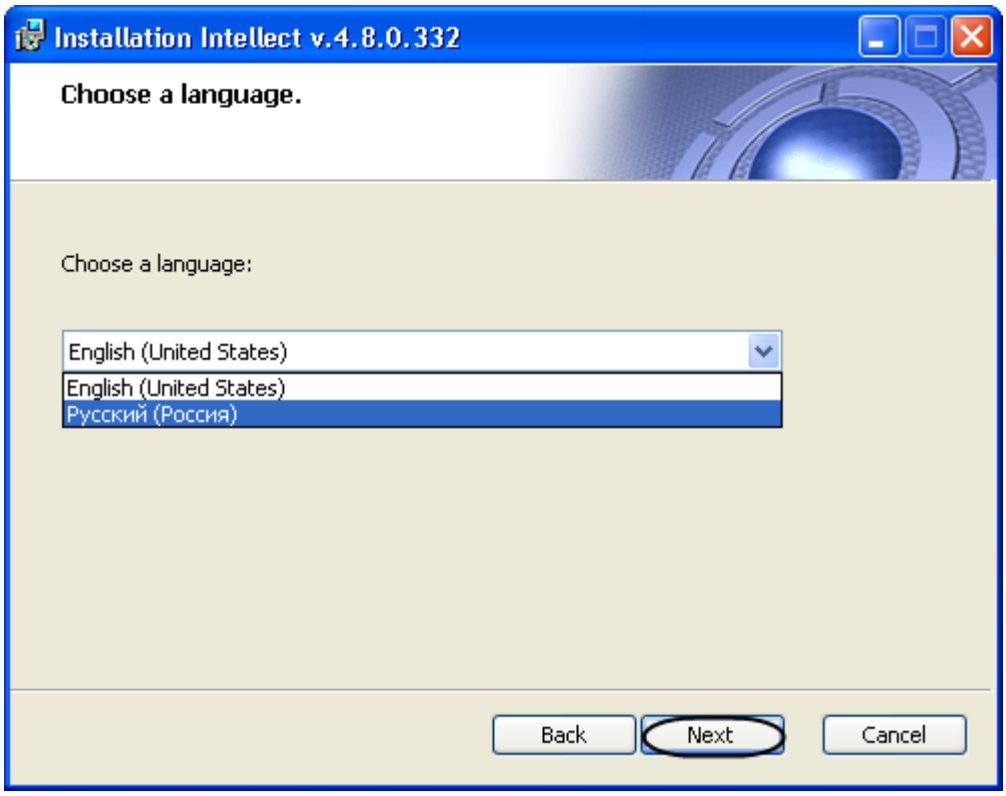


Figure 5.2-34 Select language dialog window

11. Select the required language from the list (Figure 5.2-34).
12. Click Next (Figure 5.2-34).

Ready to install dialog window will be displayed (Figure 5.2-35).

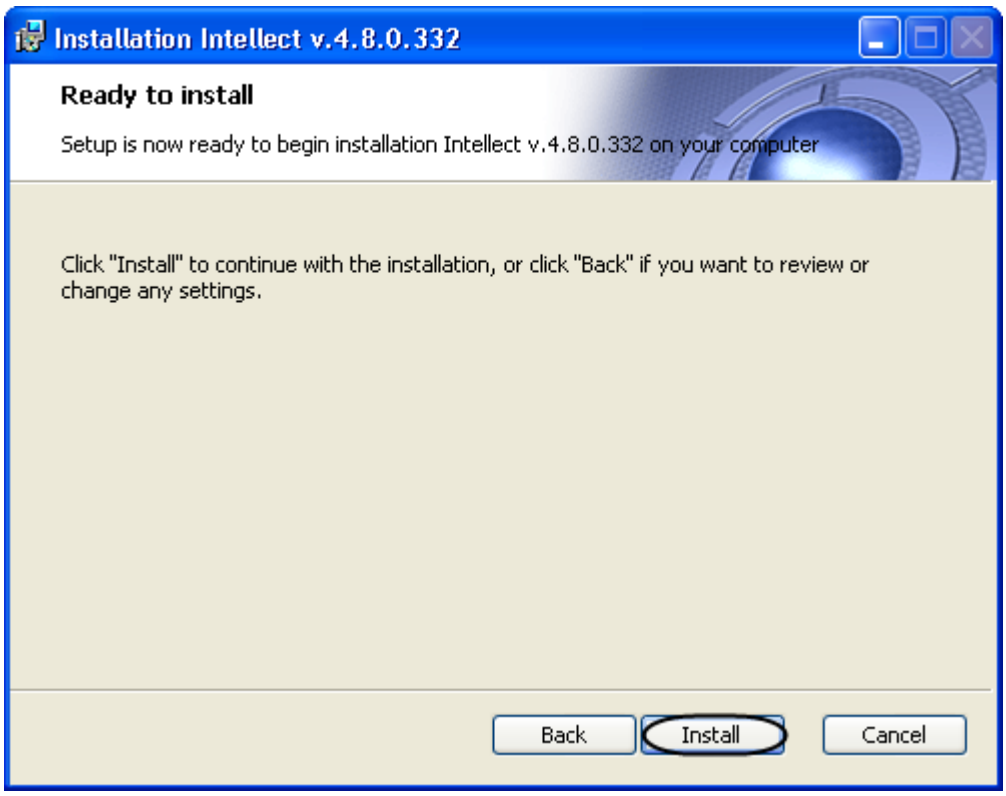


Figure 5.2-35 Ready to install dialog window

Рис. 5.2-1 Диалоговое окно готовности к установке

Note. Click Back to change any settings (Figure 5.2-35).

13. Click Install (Figure 5.2-35).

Then File copying process will be displayed (Figure 5.2-36).

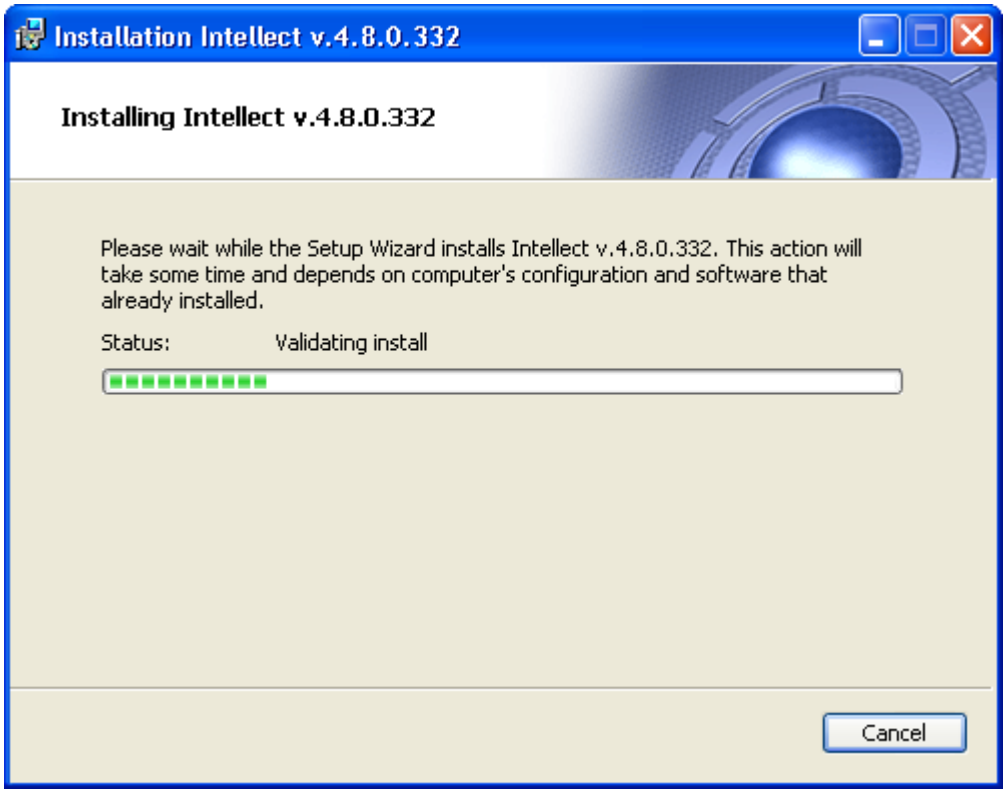


Figure 5.2-36 File copying process

Note. In case if the«SmartPocketPC»module installation was selected in the process, the «SmartPocketPC» module will be installed to the pocket PC at this stage.

Software installation dialog window will be displayed (Figure 5.2-37).

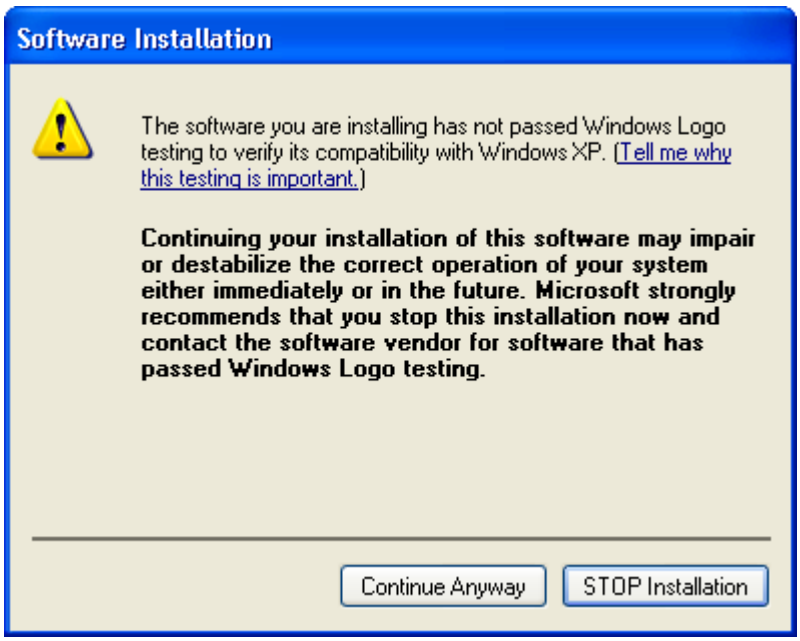


Figure 5.2-37 Software installation dialog window

14. Click continue anyway to continue the installation (Figure 5.2-37).

Installation complete dialog window of the Intellect PC will be displayed (Figure 5.2-38).

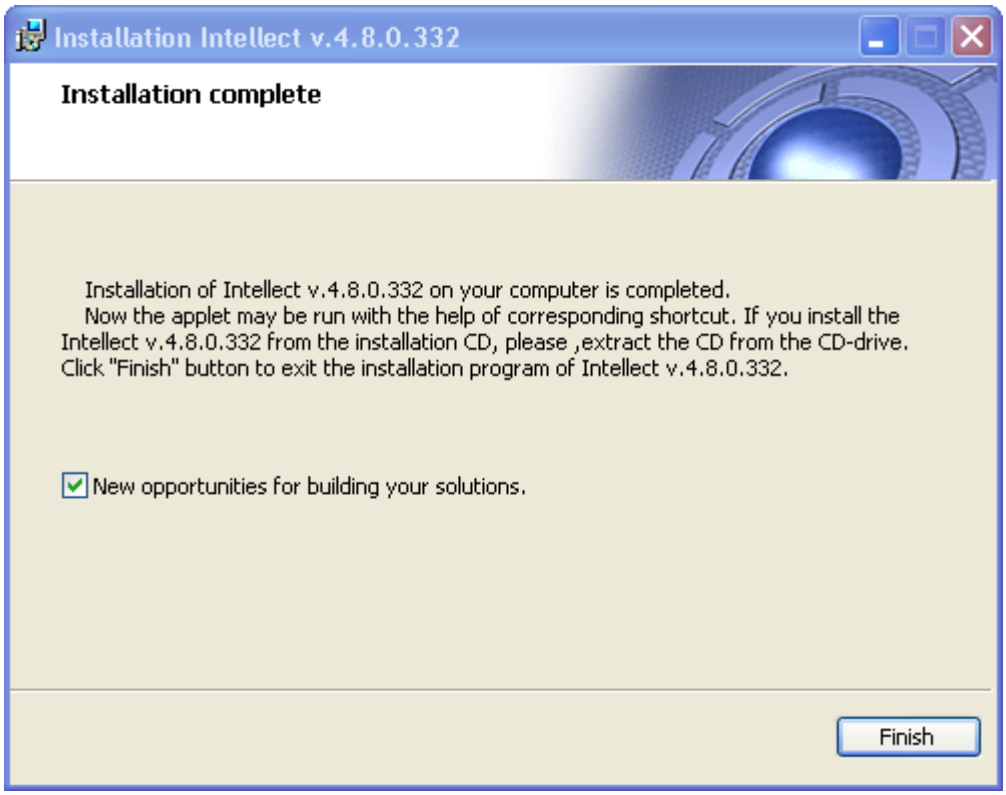


Figure 5.2-38Installation complete dialog window

15. Set the checkbox New opportunities for building your solutions to view the document, containing information about new features of the installed Intellect PC (Figure 5.2-38).
16. Click Finish.

Note. Then Axxon Driver Pack will be installed.

Dialog window containing information about Intellect PC components installation (installed or uninstalled) will be displayed (Figure 5.2-39).

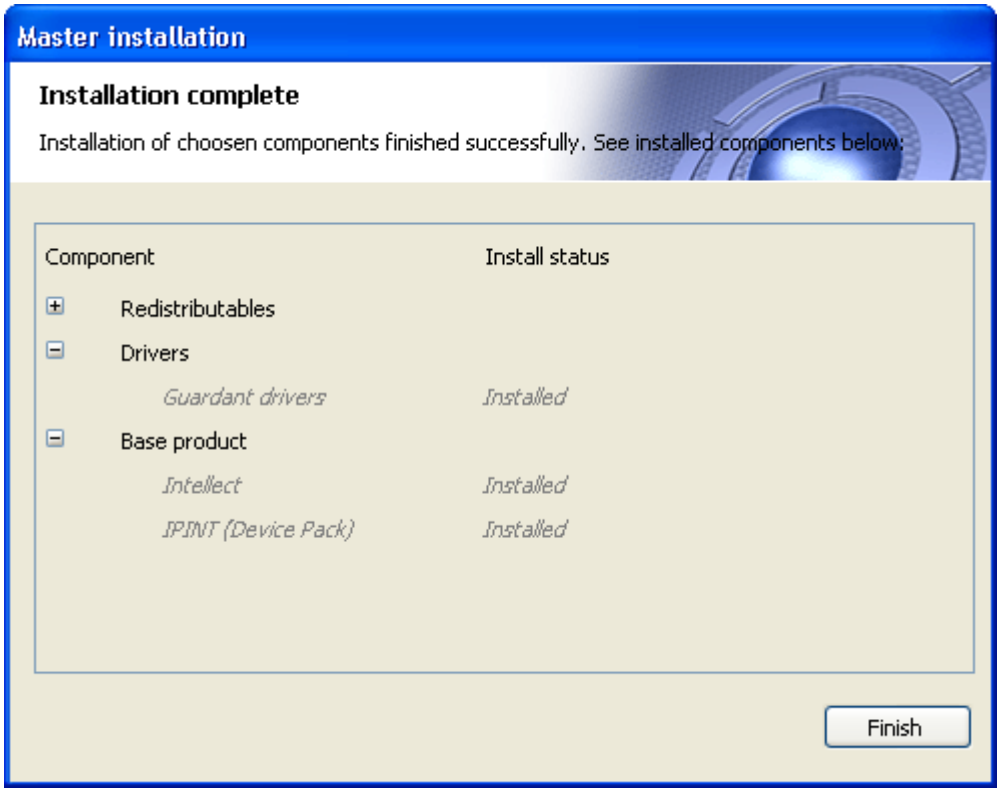


Figure 5.2-39 Installation complete dialog window

17. Click Finish (Figure 5.2-39).

Dialog window offering to restart your PC will be displayed (Figure 5.2-40).

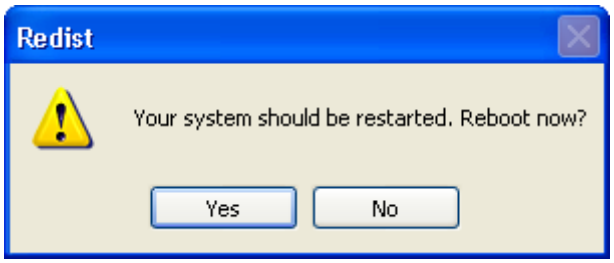


Figure 5.2-40 Dialog window offering to restart your PC

Note. It is recommended to choose option of closing the program with PC restarting.

Installation of the INTELLECT™ software as a Monitoring workstation is complete.

5.2.5 Description of the installation directory filing structure

Table 5.2-2 describes the folders and basic files of the installation directory of the INTELLECTTM software.

Table 5.2-2

Intellect	
Directory	**Description**
Bmp	A directory containing all symbols used in the on-line map.
Drivers	Drivers to the devices interacting with the INTELLECT system.
Help	A directory for the help files on configuration and use of the Intellect system hardware and modules.
Languages	A directory for files with the resources libraries for the INTELLECTTM software modules in various languages.
Mobile	A directory for installation files of the SmartPocketPC and SmartPhone modules.
Modules	A directory for all modules in the system.
Program	A directory containing interface description files of the Operator search windows for control of the PTZ units.
Report	A directory for subsystem report files.
Tools	A directory for utilities.
Files	**Description**
AppSettings.dll	Auxiliary library file.
dbcompact.exe	Startup file for the utility designed for database compression in Access format.
dbghelp.dll	Auxiliary library file.
idb.exe	Startup file for the utility designed to edit external system settings (*.ddi) and templates of the basic database intellect.dbi and intellect.ext.dbi
idb.ini	Configuration file for the idb.exe utility.
Intellect.sec	Key files of the Intellect system.
intellect.dbi	Intellect database structure.
intellect.exe	Intellect system startup file.
intellect.index	Indexes for the Intellect database.
product.config	Configuration file.
Slave.exe	Remote option startup file for the Intellect system.
WebEyeNet.dll	Auxiliary library file.
Intellect/Bmp	A directory containing all symbols used in the on-line map.
Intellect/Drivers	Drivers to the devices interacting with the INTELLECT system.
Alder	Drivers for the Olkha sound card.
Guardant	Drivers for the installation of the electronic Guardant key.

Hera	Drivers for the Hera sound card.
ITV	Drivers for ITV devices.
USB_EM_Reader	Drivers for the EM-Reader, designed for reading access card codes.
Vista_NM9835	Drivers for the Vista Access Control System.
Vista_SerialPort	Drivers for the COM port, to which Vista ACS is connected.
Intellect/Drivers	Drivers for ITV devices.
USBWatchDog	Drivers for USB WatchDog.
Video	Drivers for ITV video capture cards.
Intellect/Drivers/ITV /Video	Drivers for ITV video capture cards.
Fs3	Drivers for FS-3 video capture cards.
Fs_5_6	Drivers for FS-5 and FS-6 video capture boards.
Ws4	Drivers for the WS-4 video capture board.
WS6	Drivers for the WS-6 video capture board.
WS7	Drivers for the WS-7 video capture board.
WS7_17	Drivers for WS-17 video capture cards.
WS8	Drivers for WS-8 video capture cards.
Files	
_setup.dll	Additional libraries for the installation components of the video capture card drivers.
data1.cab	Library of basic components for the installation of video capture board drivers.
data1.hdr	Additional libraries for the installation components of the video capture card drivers.
data2.cab	Library of basic components for the installation of video capture card drivers.
ISSetup.dll	Additional libraries for the installation components of the video capture card drivers.
layout.bin	Additional libraries for the installation components of the video capture card drivers.
setup.exe	Startup file for the automatic installation of the video capture card drivers.
setup.ini	Configuration file for the video capture card drivers.
setup.iss	Additional libraries for the installation components of the video capture card drivers.
Intellect/Help	A directory for the help, configuration and user files of the Intellect system hardware and modules.
Intellect\Languages	A directory for files with the resources libraries for the INTELLECTTM software modules in various languages.
Intellect\Languages\ru	A directory for files with the resources libraries for the INTELLECTTM software modules in Russian.

Intellect\ Mobile	A directory for the installation files of SmartPocketPC and SmartPhone mobile modules.
PocketPC	A directory for the installation files of the SmartPocketPC program module.
SmartPhone	A directory for the installation files of the SmartPhone program module.
Intellect\PocketPC	A directory for the installation files of the SmartPocketPC program module.
Files	
SmartPocketPC.arm.CAB	A file for the installation of the SmartPocketPC program module directly onto a pocket PC.
SmartPocketPCInstall.exe	A file for the installation of the SmartPocketPC program module from a video server (Remote Administrator Site).
Intellect\SmartPhone	A directory for the installation files of the SmartPhone program module.
Files	
SmartPhone.jad	Configuration file for the SmartPhone mobile module.
SmartPhone.jar	A file for the installation of the SmartPhone program module directly onto a pocket PC.
Intellect\Modules	A directory for all modules in the system.
Webroot	Configuration files for the Web-server module.
Files	**Description**
*.run	The files supporting startup of INTELLECT™ software modules.
*.mdl	The files supporting interaction of INTELLECT™ software modules with the program kernel.
*.IA	The libraries supporting operation with the audio capture cards.
Keyb_0.ini	The file with the keyboard layout designed for a special keyboard.
Boards.exe	A utility displaying all connected audio capture cards, including the channels.
IntellectLoader.exe	Executive file for operations with the system restart module; allows restarting the INTELLECT™ software kernel.
ITVMDLMap.exe	Startup file for the Map Editor application.
itvscript.exe	Startup file for the Java scripts write application.
Intellect\Modules\Webroot	Configuration files for the Web-server program module.
get_java_blue-button.gif	Java symbol.
index.htm	Htm file, containing modules for Java applet generation and page generation in the Internet browser.
favicon.ico	Web-server program module symbol, displayed in the notification field of the Windows Start menu while the module is operating.
cc.jar	A file, containing modules for Java applet generation and page generation in the Internet browser.

Intellect\Program	A directory for files describing interfaces of the Operator search dialog boxes, designed for PTZ units control.
Intellect\Report	A directory for subsystem report files.
Forms	A directory for printed forms.
Files	**Description**
Report.exe	Startup file for the utility for report subsystem editing.
Intellect\Tools	A directory for utilities.
ArpEdit	A utility for Operator dialog box editing.
Hub	Utilities for operations with remote IP-devices.
Files	**Description**
AudioWizard.exe	Startup file for the utility designed for extended audio subsystem configuration. The utility allows setting microphone sensitivity and loudspeaker volume, monitoring audio signal playback, microphone operation, sound recording and playback of the records.
codereader.exe	Startup file of the utility designed to read dallas code from the cryptochip of the video capture card or the Guardant dongle.
Convert.exe	Startup file of the utility designed to correct the file modification date, stored in the archive.
dbview.exe	Startup file of the utility designed to view Intellect Security System databases in MS Access and MS SQL formats.
ddi.exe	Startup file for the utility designed to edit external system settings (*.ddi) and templates of the basic database intellect.dbi and intellect.ext.dbi.
grdapi32.dll	Library for Guardant dongle drivers.
guardant.api32ru.dll	Library for Guardant dongle drivers.
SignCheck.exe	Startup file for the utility designed to check the validity of frames exported from the Intellect system in BMP or JPG formats.
sync.exe	A utility designed for the acceleration of synchronization with the administrator server database, when the Intellect system is launched in the video servers and Remote administrator site.
tweaki.dll	Dynamic library for the tweaki.exe. utility.
tweaki.exe	Startup file for the utility designed to configure the Intellect system by editing Windows catalog sections, containing settings of the Intellect kernel and modules.
Intellect\Tools\Hub	
Files	**Description**
HubSearch.EXE	This utility searches for web and Linux hub and Linux servers and network settings thereof (assignment of IP-addresses and names of Linux servers).

MatrixCodeReader.exe	This utility reads dallas codes from Linux Hub and Linux server.

5.3 Repairing INTELLECT™ software

The repair mode is used to re-install all INTELLECT™ software components.

To launch repair mode, restart INTELLECT™ software installation from the installation CD, without deleting the previous version of the program.

Note. To ensure that INTELLECT™ software is installed correctly, all applications should be closed before the installation startup.

Step 1. Insert the INTELLECT installation disk in the CD-ROM drive and display its contents in a separate window of your PC (Figure 5.3-1).

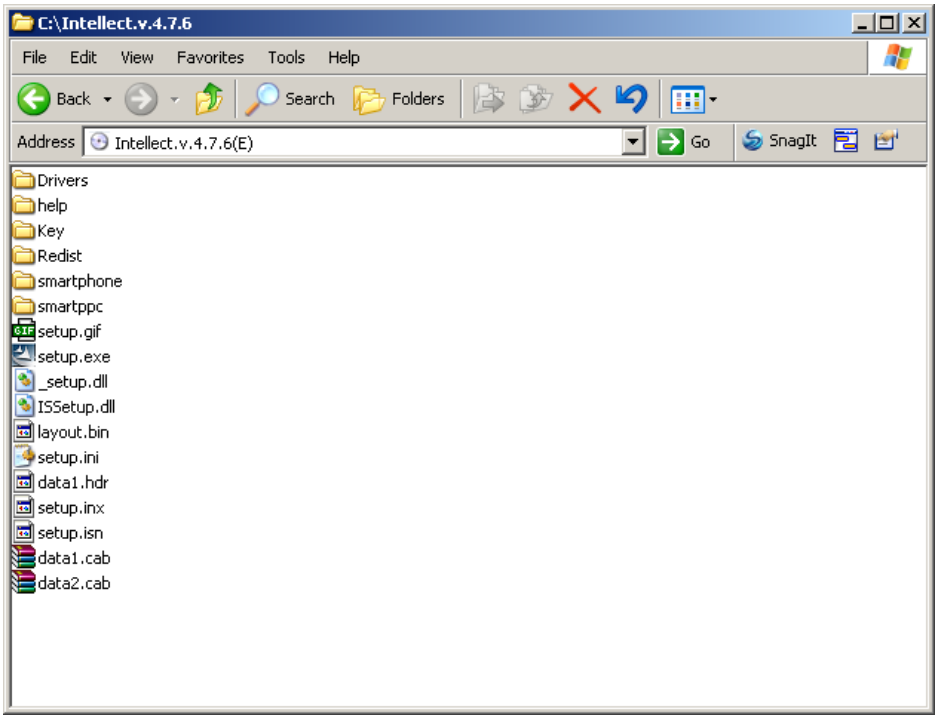


Figure 5.3-1 Interface window displaying INTELLECT installation software

The window will display a list of folders and separate files (Figure 5.3-1). To start the re-installation, launch the setup.exe file, which is in the root directory of the CD. Double click on it with the left mouse button. Follow the installation setup prompts.

Step 2. At this stage, select the type of INTELLECT™ software re-installation (Figure 5.3-2). To select INTELLECT™ software components repair mode, select Repair installation type.



Figure 5.3-2. Re-installation type dialog box

To confirm the selected item, click Next.

Step 3. Enter a path to the key file (Figure 5.3-3). By default, the key file is located on the CD in the Key folder. Where appropriate, the path to the key file may also be selected using the Browse function.

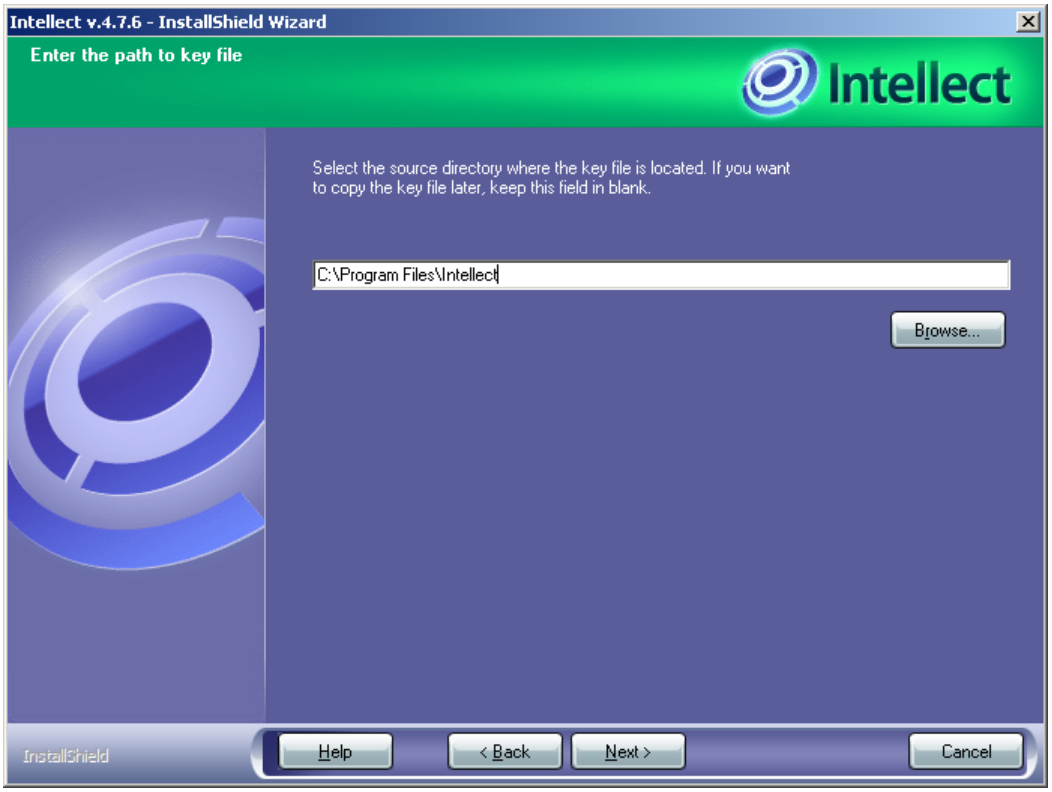


Figure 5.3-3. Dialog box to show the path to the key file

Leave the field blank, if the key file needs to be copied at a later stage. Check, if the path to the key file is correct and to confirm it, click Next.

Step 5. Now files of the INTELLECT™ software are checked and copied to the hard disk of your PC (Figure 5.3-4).

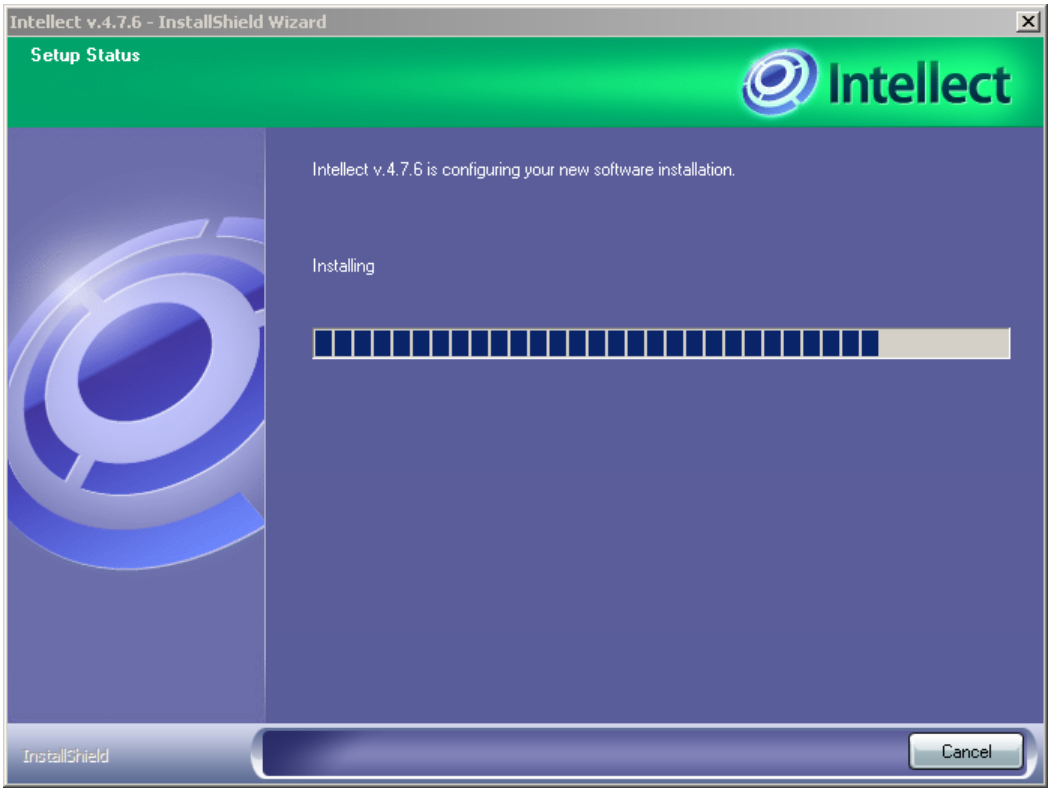


Figure 5.3-4. Dialog box displaying file copying in progress

Step 6. Now drivers for the FS/WS video capture cards are installed. The InstallShield Wizard displays a message warning that the given hardware has not been tested for compatibility with Windows XP (Figure 5.3-5).

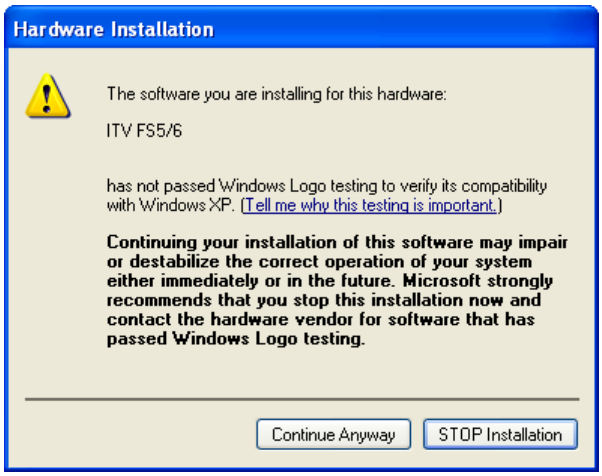


Figure 5.3-5. Driver installation dialog box

To continue INTELLECT™ software installation, click Continue Anyway.

Note. The number of warnings displayed in the corresponding dialog boxes depends on the total number of AD converters available in the FS/WS video capture cards installed in the PC.

Step 7. As soon as all files are copied, the InstallShield Wizard will advise you that INTELLECT™ software installation is complete (Figure 5.3-6).

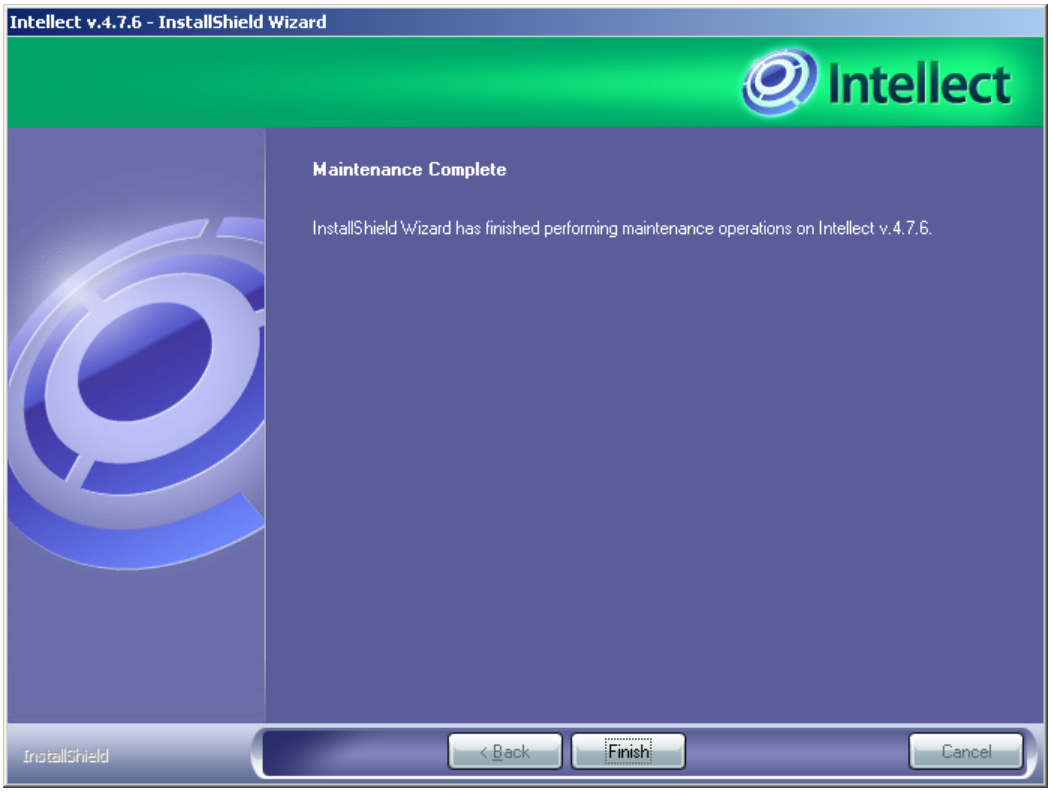


Figure 5.3-6. Re-installation finish dialog box

To quit the InstallShield Wizard, click Finish.

5.4 Removing (uninstallation) INTELLECT™ software

Installation program Intellect works in a deletion mode. This mode is required when all the components of the Intellect software should be deleted.

Note. Before starting the deletion process of the Intellect software all the other applets should be closed on the computer.

The Intellect™ software removal process can be launched using one of the following ways:

1. Using the Start menu;
2. With the help of OS Windows panel «Add or remove programs»;
3. With the help of installation CD.

5.4.1 Removing the Intellect from the Start menu

To remove the Intellect PC from the Start menu do the following:

1. In the command line select the following: Start ⇒ Programs ⇒ Intellect and then Uninstall in the drop down list, as shown in **Ошибка! Источник ссылки не найден.**.

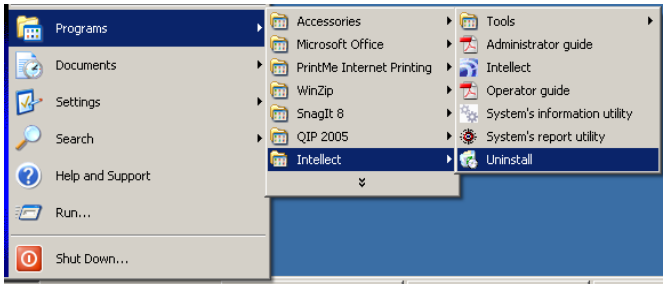


Figure 5.4-1. Launching the INTELLECT™ software uninstallation process with the Start menu

If Intellect PC is run at the moment of deletion, message window, prompting to quit Slave.exe process will appear(Figure 5.4-2).

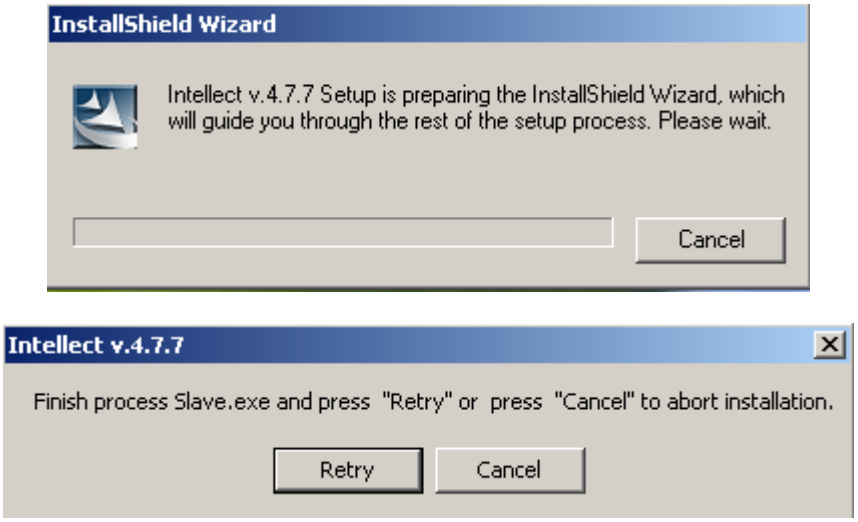


Figure 5.4-2 Message informing that Intellect is run

To confirm deletion quit the Intellect and Click the Repeat button. Message, prompting to confirm deletion of Intellect software will appear. (Figure 5.4-3).



Figure 5.4-3 Message, prompting to confirm deletion of Intellect software

2. Click Yes button to delete the Intellect software (Figure 5.4-3).

Dialog window, displaying the deletion process of the Intellect PC will be displayed (Figure 5.4-4).

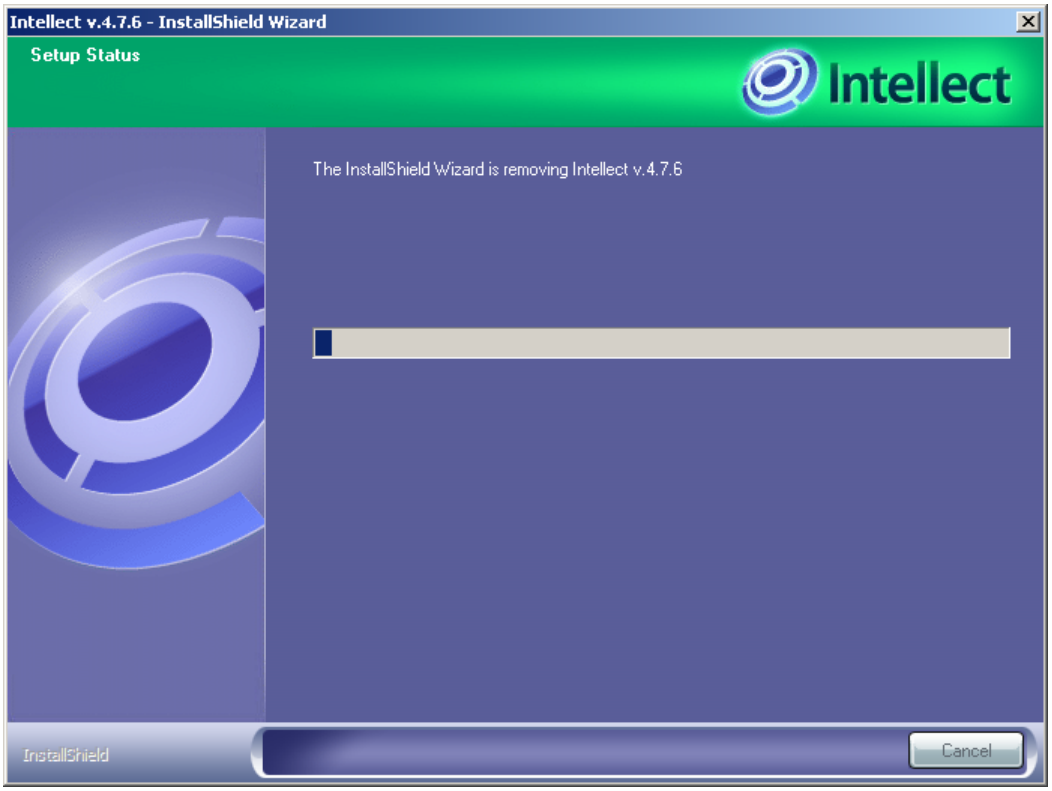


Figure 5.4-4 Intellect software deletion process

Message, confirming finish of the Intellect software selection will be displayed in result (Figure 5.4-5).

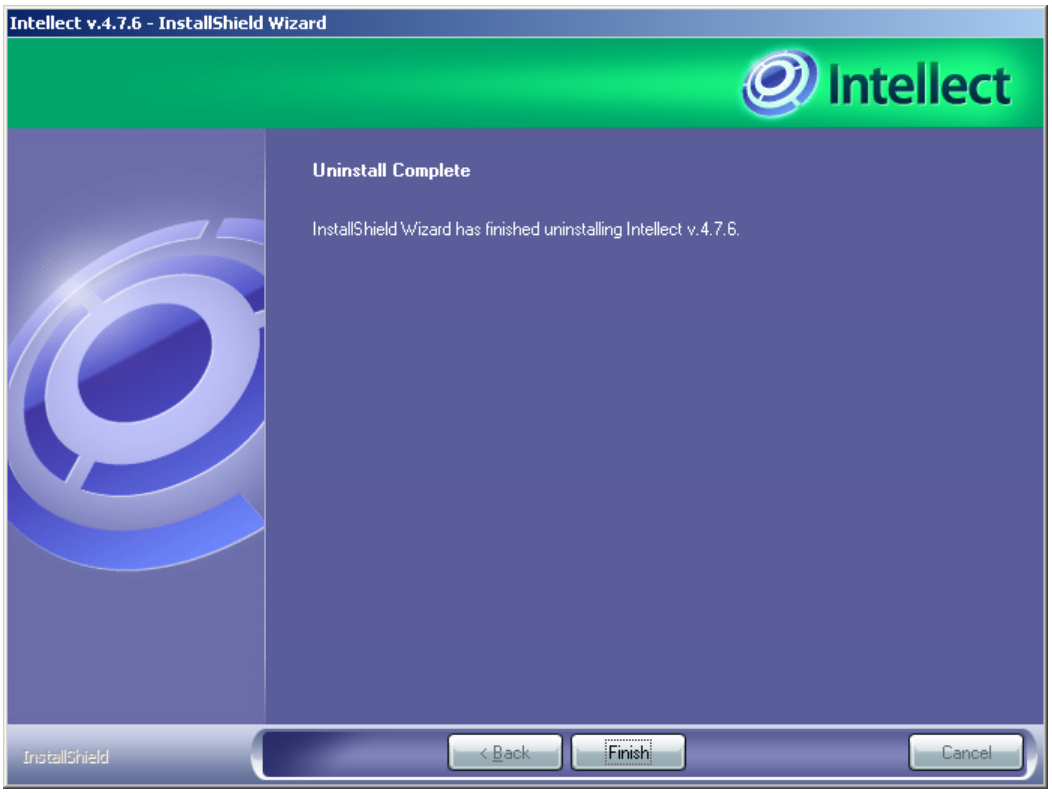


Figure 5.4-5 Intellect software deletion process

After deleting the files, message, informing about the deletion of Intellect software will be displayed (Figure 5.4-5).

3. Click Finish button.

*Note. For complete deletion of Intellect PC's files delete the installation catalogue and all the created Video folders for storing the audio and video recordings manually. Video (*Figure 5.4-6*).*

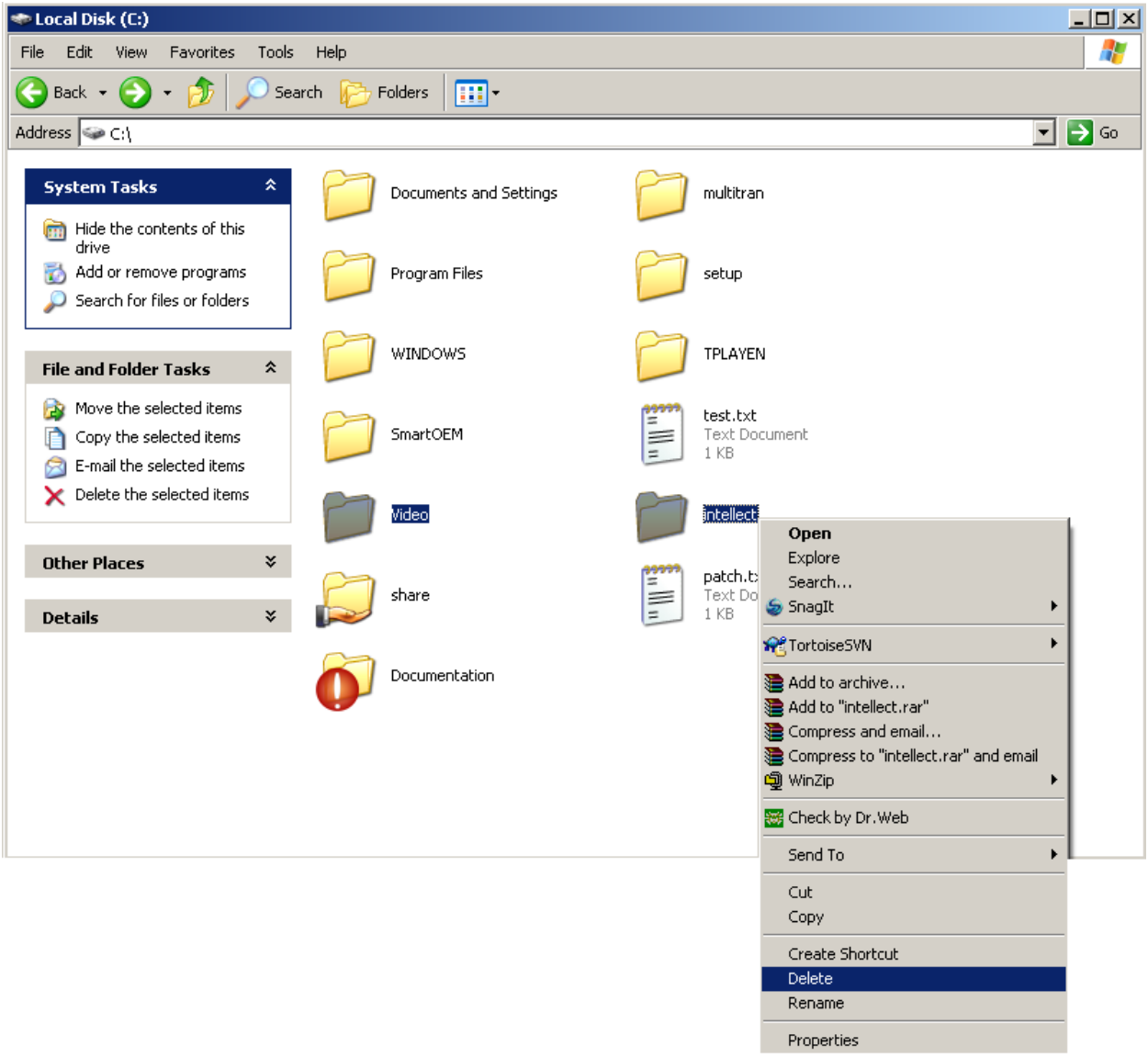


Figure 5.4-6 Deleting the catalogue and video recordings

Note. A. Please take into consideration, that the name of the INTELLECT™ software installation folder may differ from the default name (C:\Intellect).

Note B. In certain cases, Windows OS should be restarted before the INTELLECT™ software installation folder is deleted (for instance, Folders/Intellect).

Note C. We do not recommend deleting the INTELLECT™ software installation folder, if you need to re-install INTELLECT™ software. The folder contains:

1. *folders with video records and frames of video records exported during INTELLECT™ software operation;*
2. *log files containing the information about INTELLECT™ software module operations;*
3. *backup copies of these files.*

At this stage the deletion process of Intellect software from the Start menu is over.

5.4.2 Removing the Intellect software from the OS Windows panel Add or Remove programs

To uninstall Intellect™ system using Add or Remove Programs facility , follow the next steps:

1. Open the Control Panel window, selecting in the command line: Start ⇒Settings ⇒Control Panel (Figure 5.4-7).

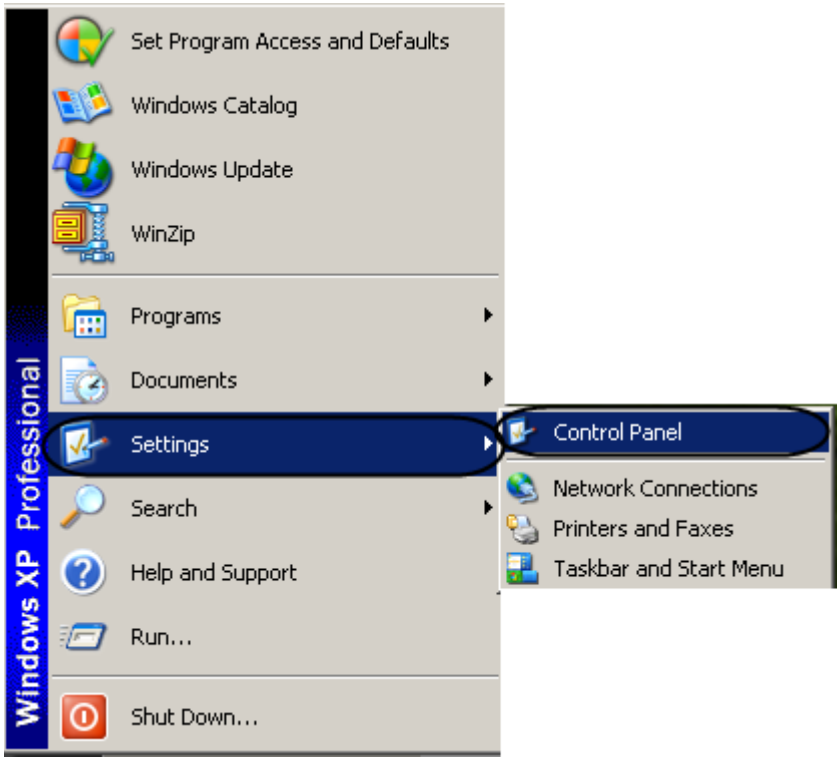


Figure 5.4-7. Opening the Control Panel window

2. Control panel dialog window will be displayed (Figure 5.4-8).
3. Select Add or Remove Programs facility in the Control Panel window.

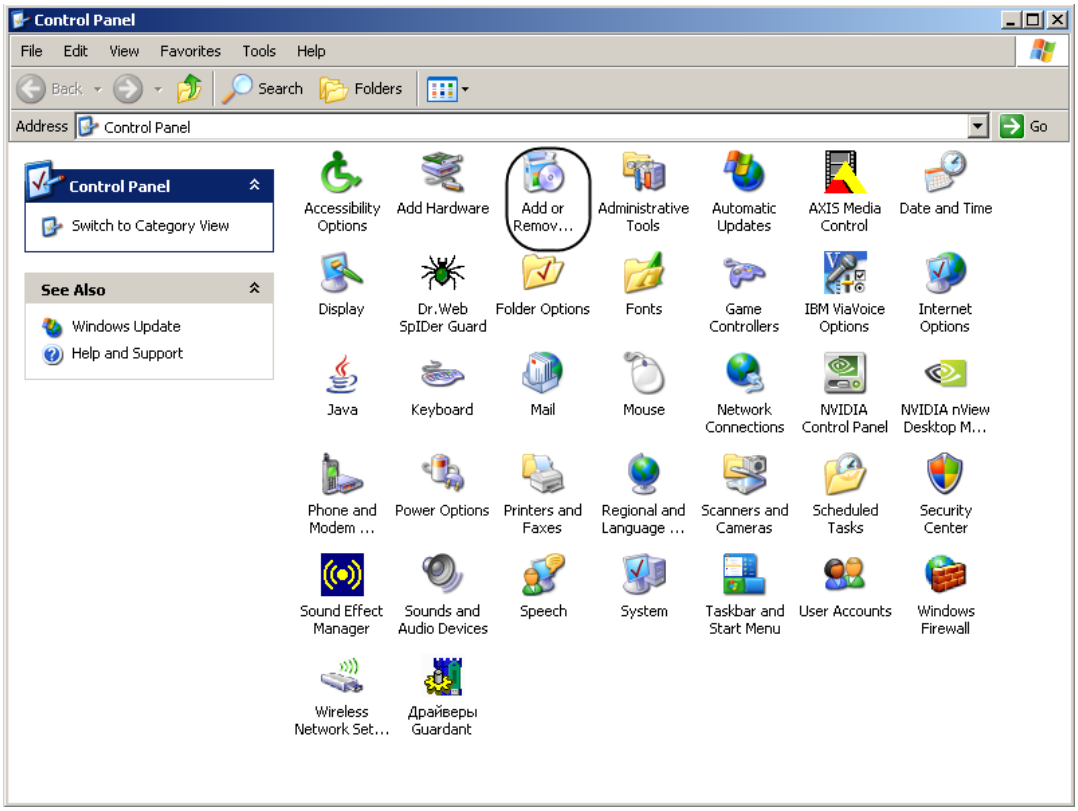


Figure 5.4-8. Control panel

Find the Intellect v.4.7.6 in the Add and Remove Programs window (Figure 5.4-9).

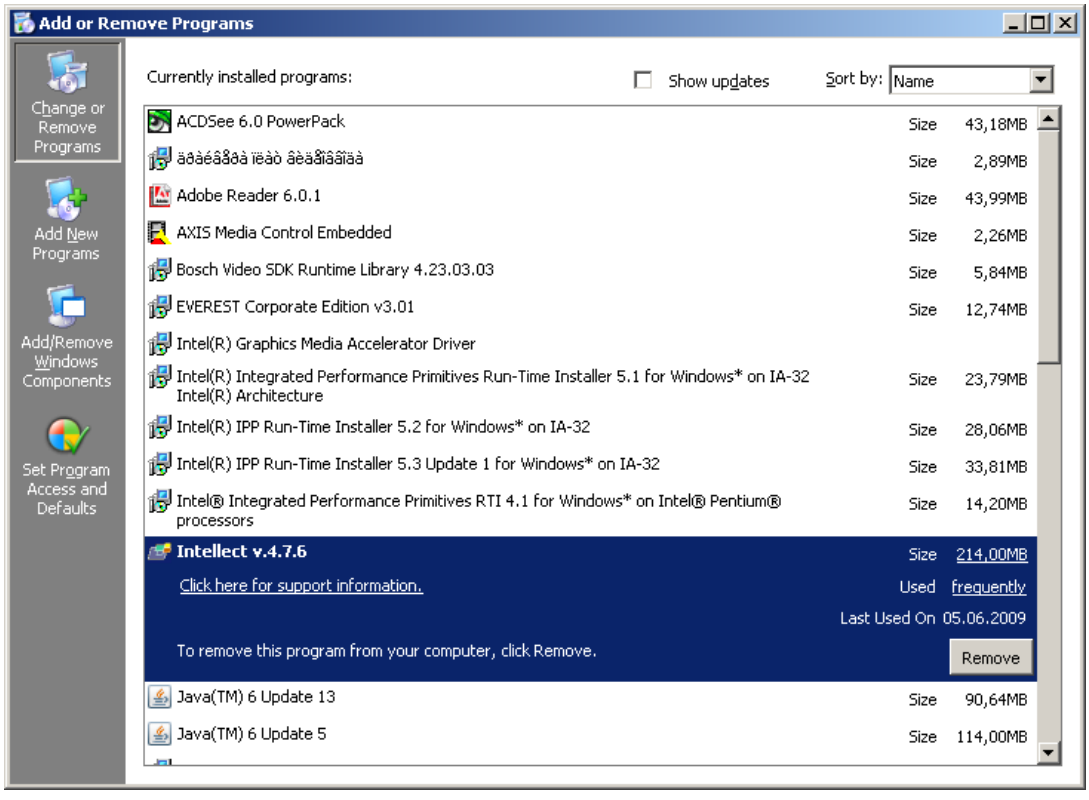


Figure 5.4-9. Add or Remove Programs

4. Click Remove button opposite the name of the Intellect program.
   Preparation process of deinstallation will be run and then there will be displayed a dialog window, prompting to confirm deletion of the Intellect software (Figure 5.4-10).



Figure 5.4-10 Message, prompting to confirm deletion of Intellect software

5. Click Yes button to confirm enquiry (Figure 5.4-10).

Dialog window, offering to choose configuration databases to be removed with the INTELLECT™ software will be displayed (Figure 5.4.2-5).

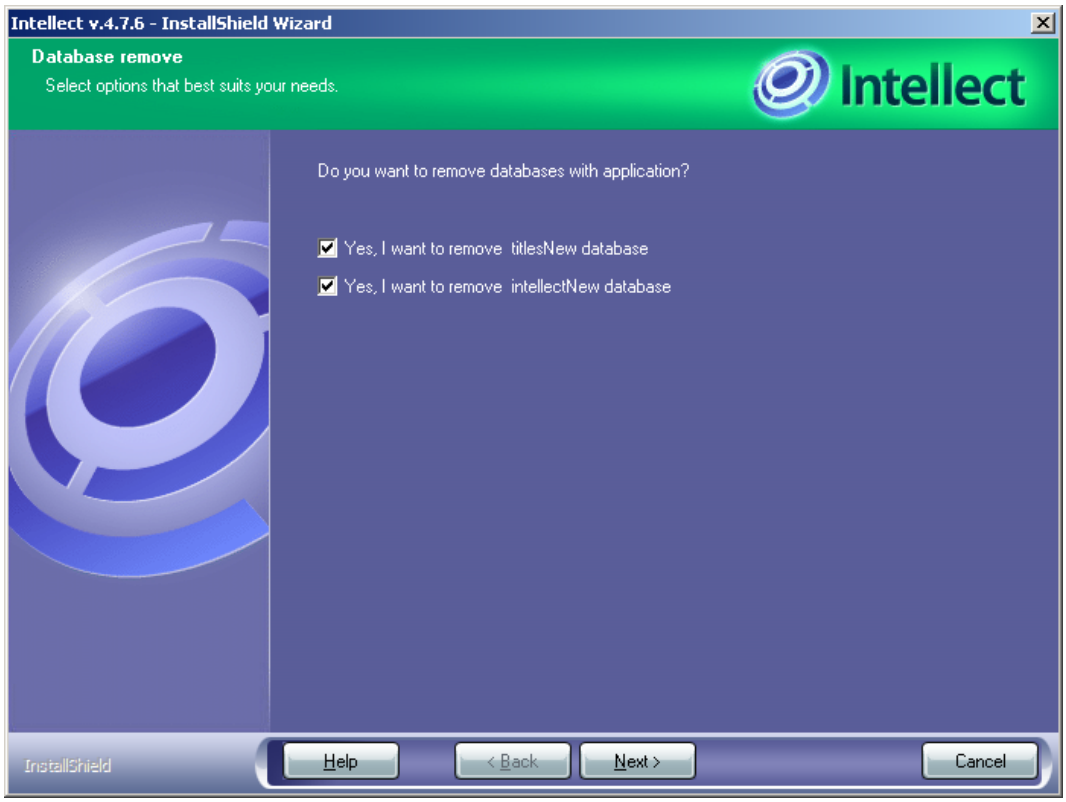


Figure 5.4-11 Section of databases to be removed dialog window

Deletion process of the Intellect software will be run in result (Figure 5.4-12).

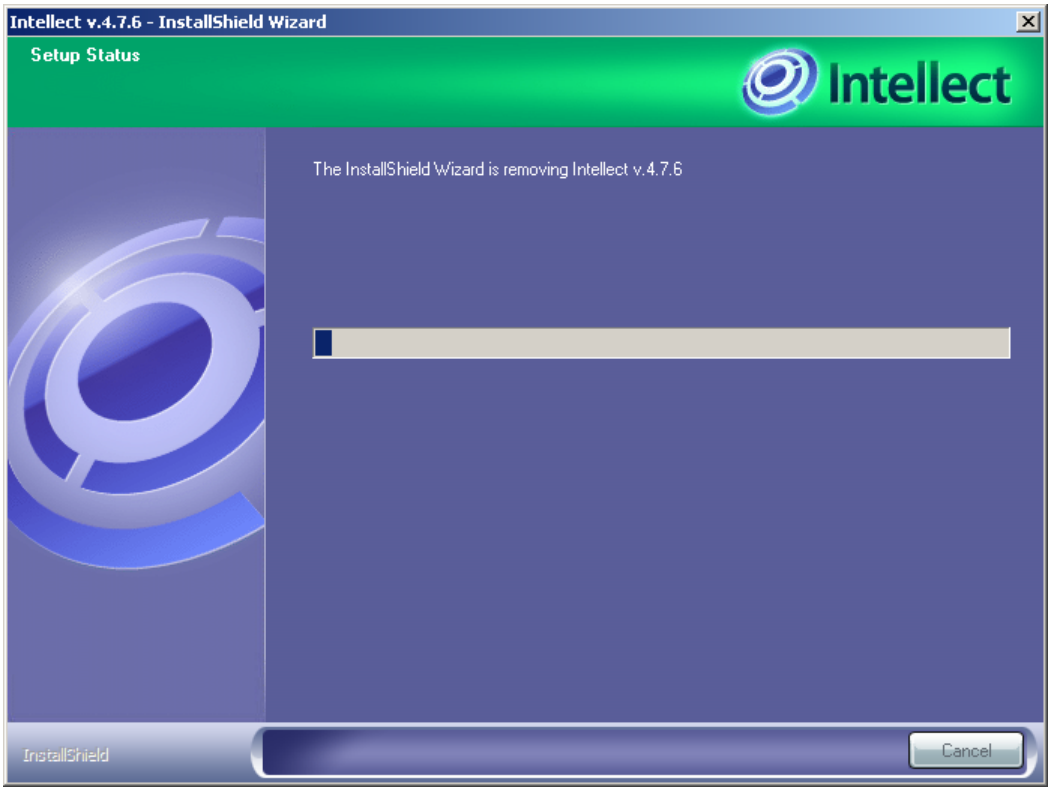


Figure 5.4-12 Intellect software deletion process

Message, confirming finish of the Intellect software selection will be displayed in result(Figure 5.4-13).

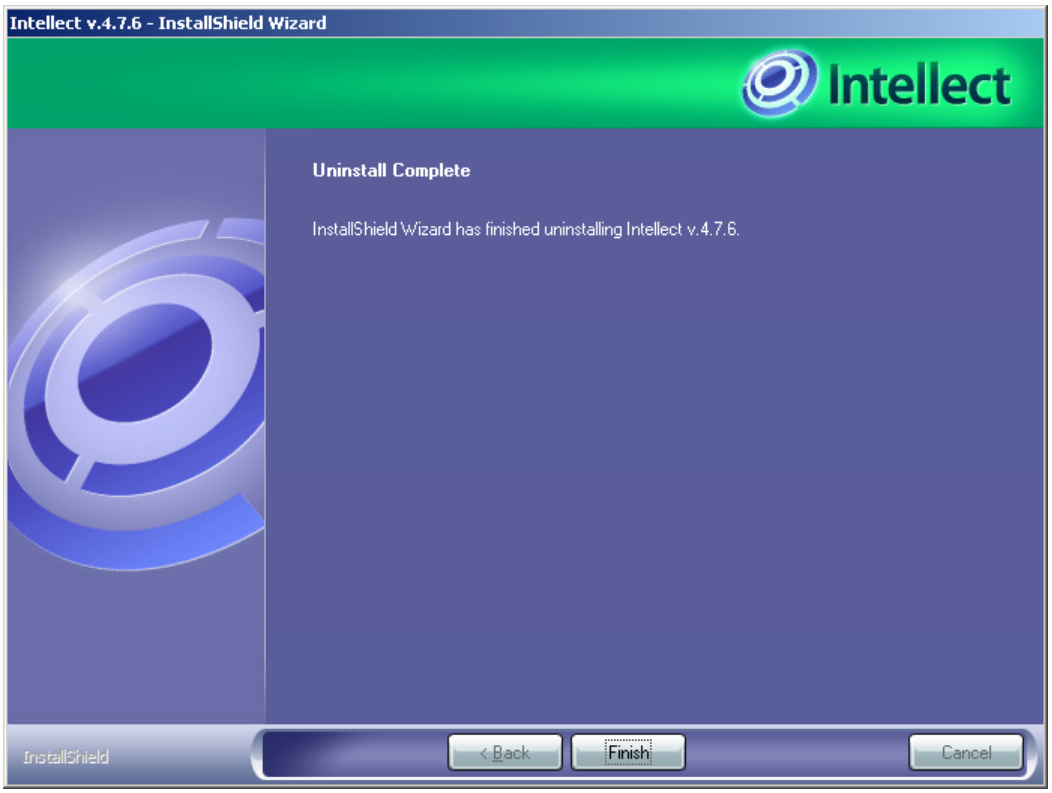


Figure 5.4-13 Intellect software deletion process

After deleting the files, message, informing about the deletion of Intellect software will be displayed (Figure 5.4-13).

6. Click Finish button.

Note. For complete deletion of Intellect PC's files delete the installation catalogue and all the created Video folders for storing the audio and video recordings manually. Video (Figure 5.4-14).

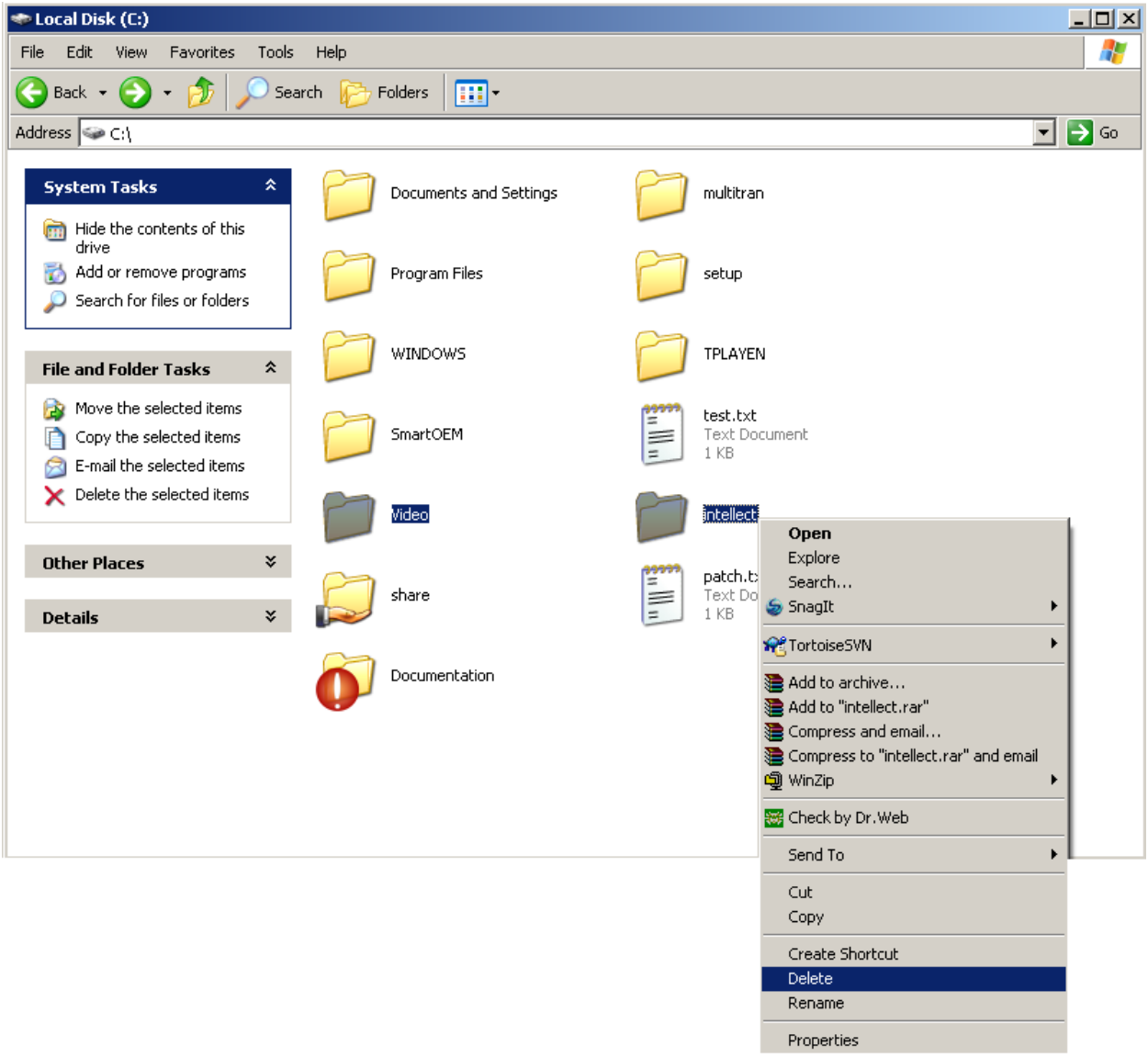


Figure 5.4-14 Deleting the catalogue and video recordings

Note. A. Please take into consideration, that the name of the INTELLECT™ software installation folder may differ from the default name (C:\Intellect).

Note B. In certain cases, Windows OS should be restarted before the INTELLECT™ software installation folder is deleted (for instance, Folders/Intellect).

Note C. We do not recommend deleting the INTELLECT™ software installation folder, if you need to re-install INTELLECT™ software. The folder contains:

1. *folders with video records and frames of video records exported during INTELLECT™ software operation;*

2. *log files containing the information about INTELLECT™ software module operations;*

3. *backup copies of these files.*

At this stage the deletion process of Intellect software with the help of OS Windows Add or Remove program panel is over.

5.4.3 Removing the Intellect with the help of installation CD.

Installation program Intellect works in a deletion mode. This mode is required when all the components of the Intellect software should be deleted.

Run the installation CD with Intellects software manually without removing the previous version to run installation program in a deletion mode.

Note. Before starting the deletion process of the Intellect software all the other applets should be closed on the computer.

To delete Intellect software do the following:

1. Insert the INTELLECT installation disk in the CD-ROM drive and display its contents in a separate window of your PC (Figure 5.4-15).

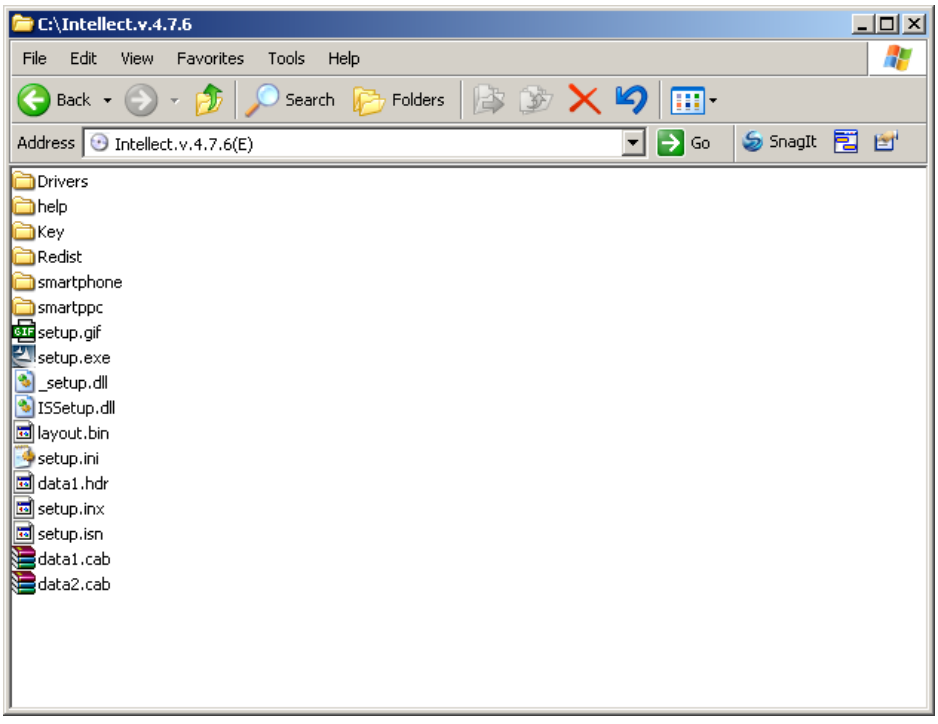


Figure 5.4-15 Interface window displaying INTELLECT installation software

2. Launch the file Setup.exe (Figure 5.4.3-2)

Dialog window, prompting to select type of operations with Intellect PC will be displayed in result (Figure 5.4-16).



Figure 5.4-16 Dialog box for Intellect™ program removal

3. Select the Remove option to delete the Intellect software (Figure 5.4.3-3).

4. Click Next (Figure 5.4-16).
   Dialog window, prompting to confirm the deletion of Intellect software will be displayed in result (Figure 5.4-17).



Figure 5.4-17 Dialog box of the uninstallation preparation stage

5. Click Yes button to confirm enquiry (Figure 5.4-17).

Dialog window, offering to choose configuration databases to be removed with the INTELLECT™ software will be displayed (Figure 5.4-18).

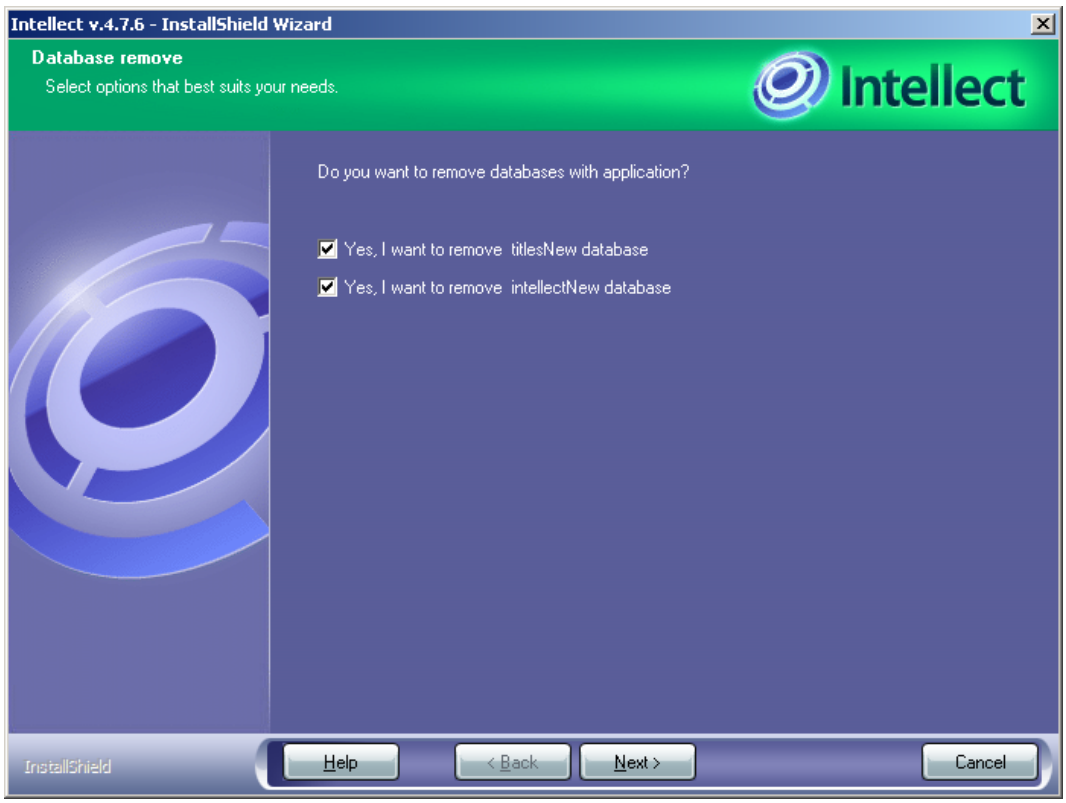


Figure 5.4-18 Dialog box for choosing the INTELLECT™ software removal option

Deletion process of the Intellect software will be run in result (Figure 5.4-19).

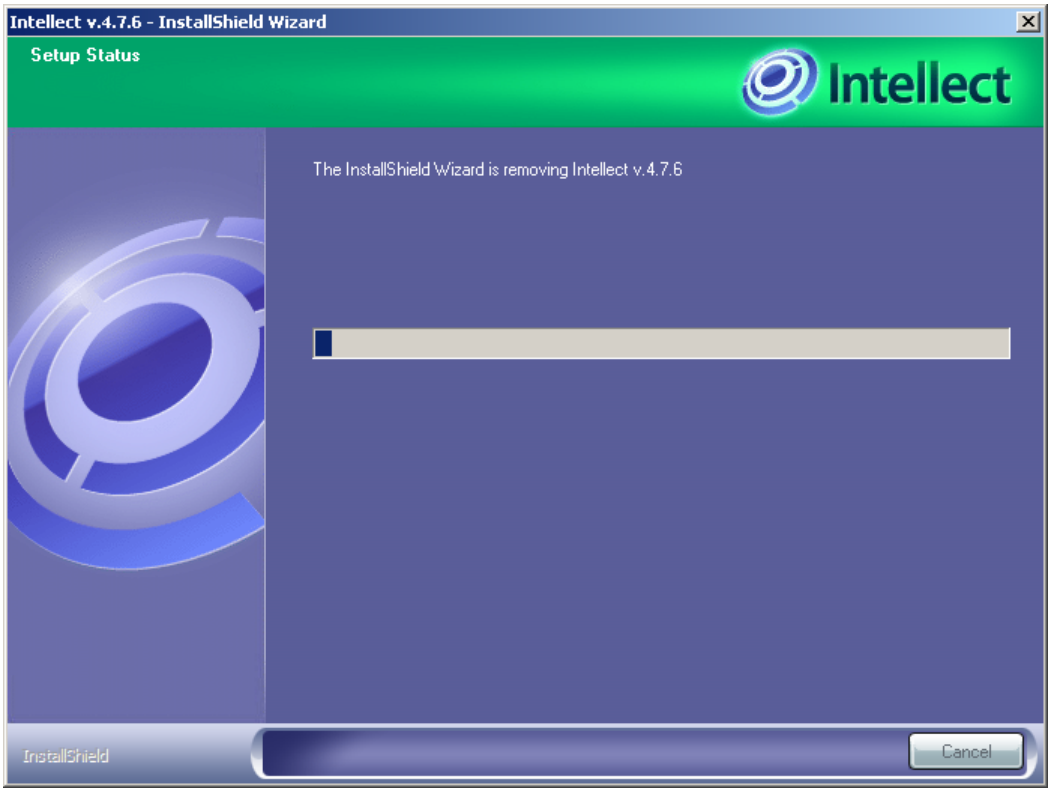


Figure 5.4-19 Intellect software deletion process

Message, confirming finish of the Intellect software selection will be displayed in result(Figure 5.4-20).

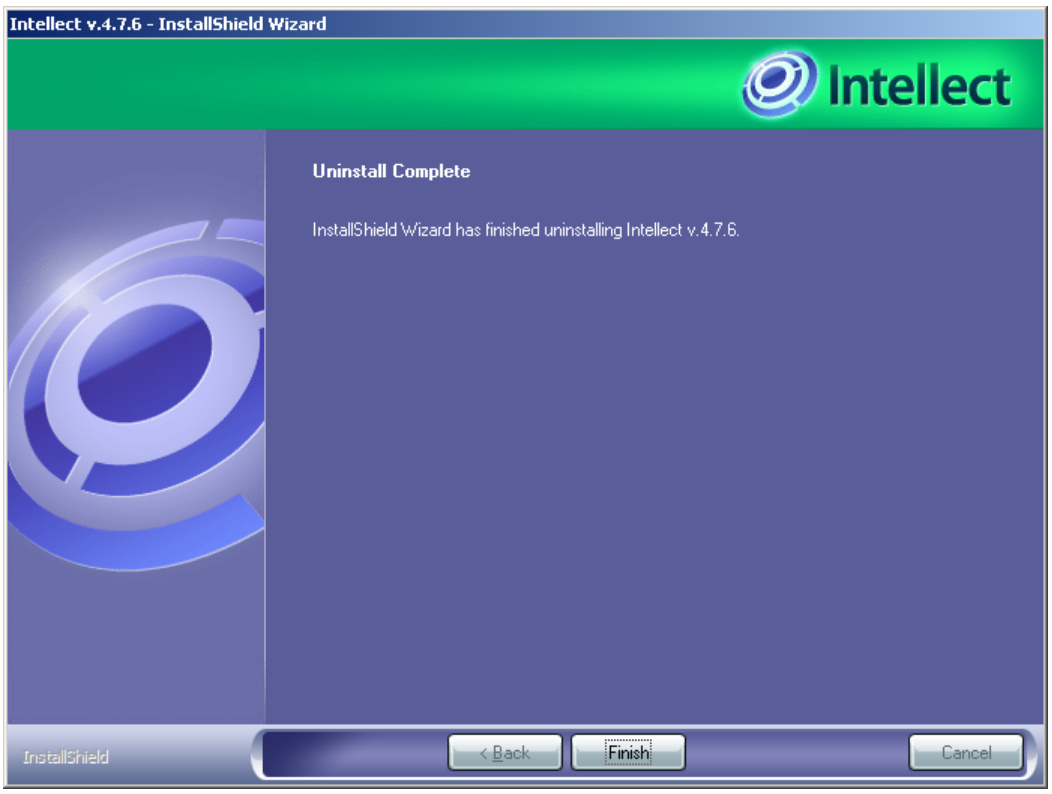


Figure 5.4-20 Intellect software deletion process

After deleting the files, message, informing about the deletion of Intellect software will be displayed (Figure 5.4-13).

6. Click Finish button.

*Note. For complete deletion of Intellect PC's files delete the installation catalogue and all the created Video folders for storing the audio and video recordings manually. Video (*Figure 5.4-21).

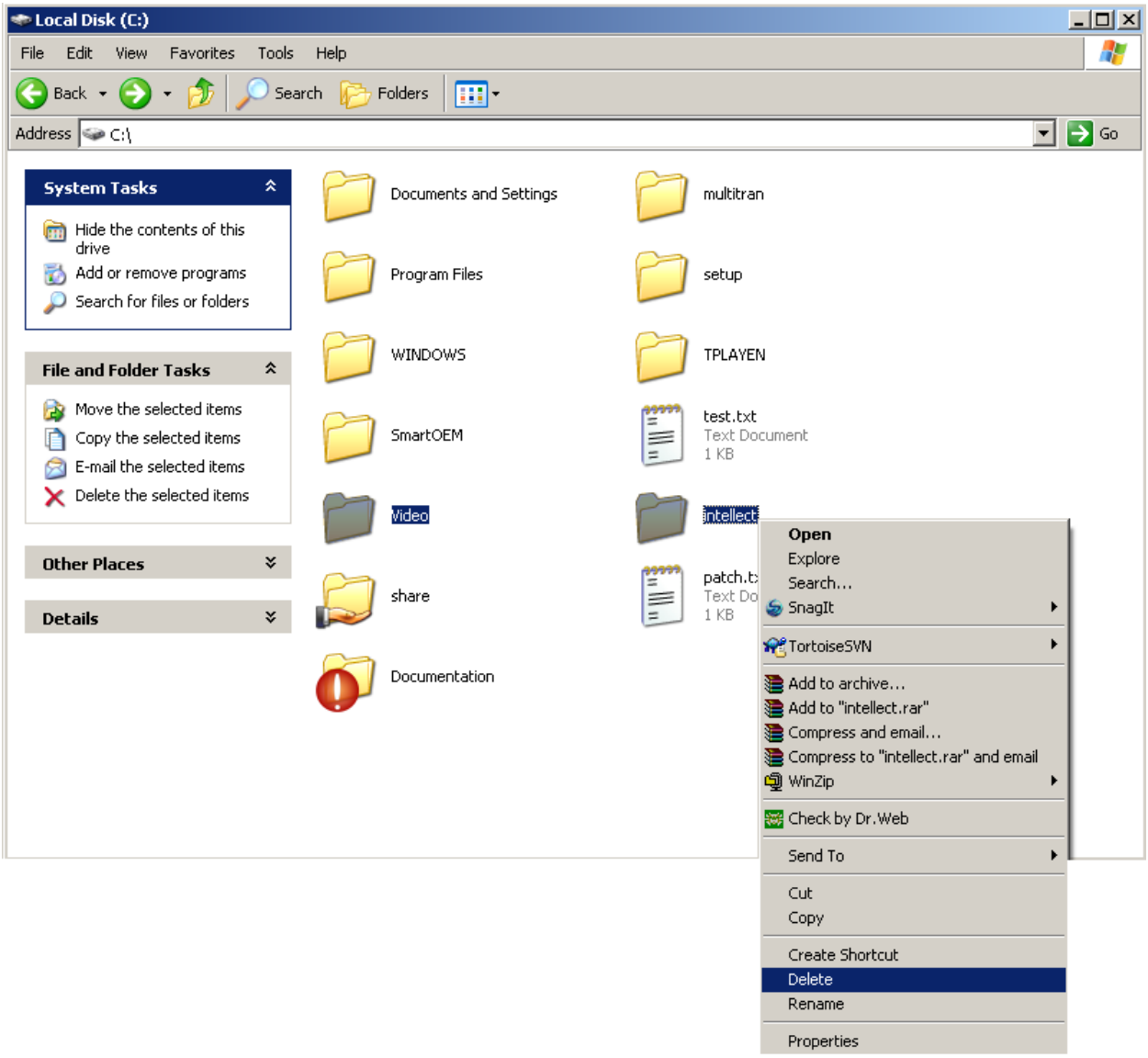


Figure 5.4-21 Deleting the catalogue and video recordings

Note. A. Please take into consideration, that the name of the INTELLECT™ software installation folder may differ from the default name (C:\Intellect).

Note B. In certain cases, Windows OS should be restarted before the INTELLECT™ software installation folder is deleted (for instance, Folders/Intellect).

Note C. We do not recommend deleting the INTELLECT™ software installation folder, if you need to re-install INTELLECT™ software. The folder contains:

1. *folders with video records and frames of video records exported during INTELLECT™ software operation;*
2. *log files containing the information about INTELLECT™ software module operations;*
3. *backup copies of these files.*

At this stage the deletion process of Intellect software with the help of installation CD is over.

5.4.4 Removing the Intellect PC, installed as a Service

To remove Intellect software , installed as a Service, do the following:

1. Insert the INTELLECT installation CD in the CD-ROM drive and display its contents in a separate window of your PC.

2. Launch setup.exe. Preparation window to run the installshield wizard will appear in result (Figure 5.4.4-1).



Figure 5.4-22 Preparation window to run the InstallShield Wizard

When Intellect PC works, it will be automatically logged off (Figure 5.4-23).



Figure 5.4-23 System's shutdown

Dialog window, prompting to select type of operations with Intellect PC will be displayed in result (Figure 5.4-24).



Figure 5.4-24 Dialog box for Intellect™ program removal

3. Select the Remove option to delete the Intellect software (Figure 5.4.4-4).

4. Click Next (Figure 5.4-24).
   Dialog window, prompting to confirm the deletion of Intellect software will be displayed in result (Figure 5.4-25).



Figure 5.4-25 Dialog box of the uninstallation preparation stage

5. Click Yes button to confirm enquiry (Figure 5.4-25).

Dialog window, offering to choose configuration databases to be removed with the INTELLECT™ software will be displayed (Figure 5.4-26).

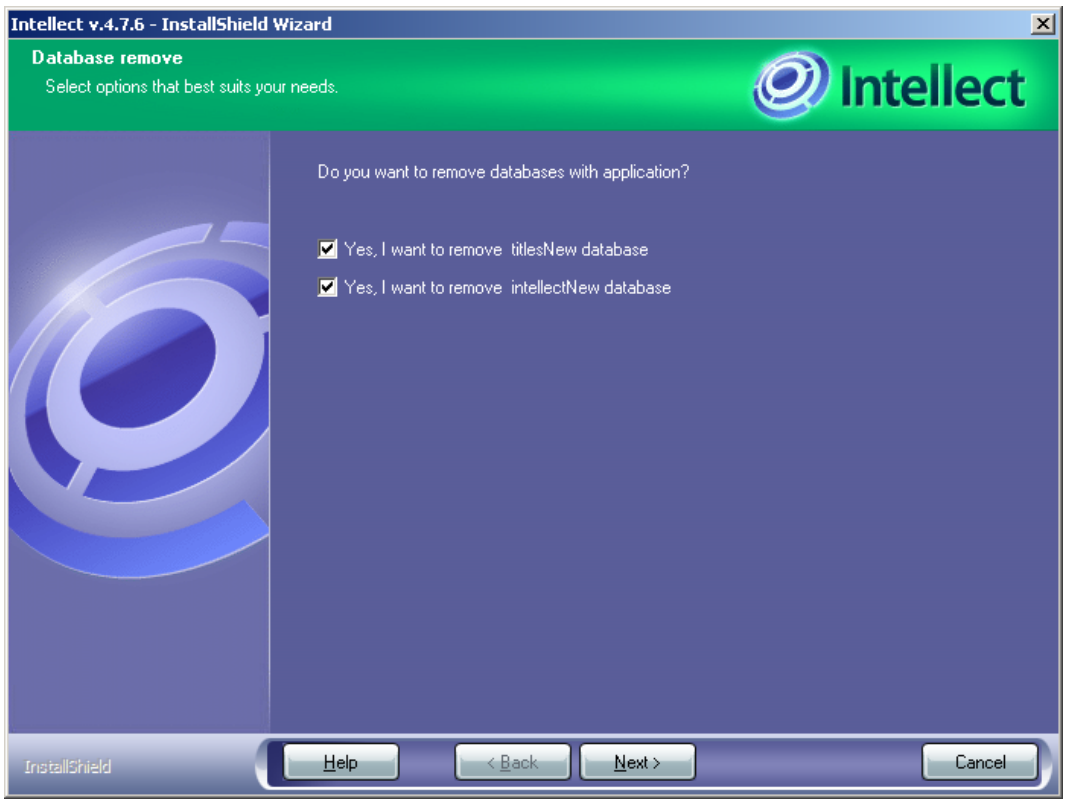


Figure 5.4-26 Dialog box for choosing the INTELLECT™ software removal option

Deletion process of the Intellect software will be run in result (Figure 5.4-27).

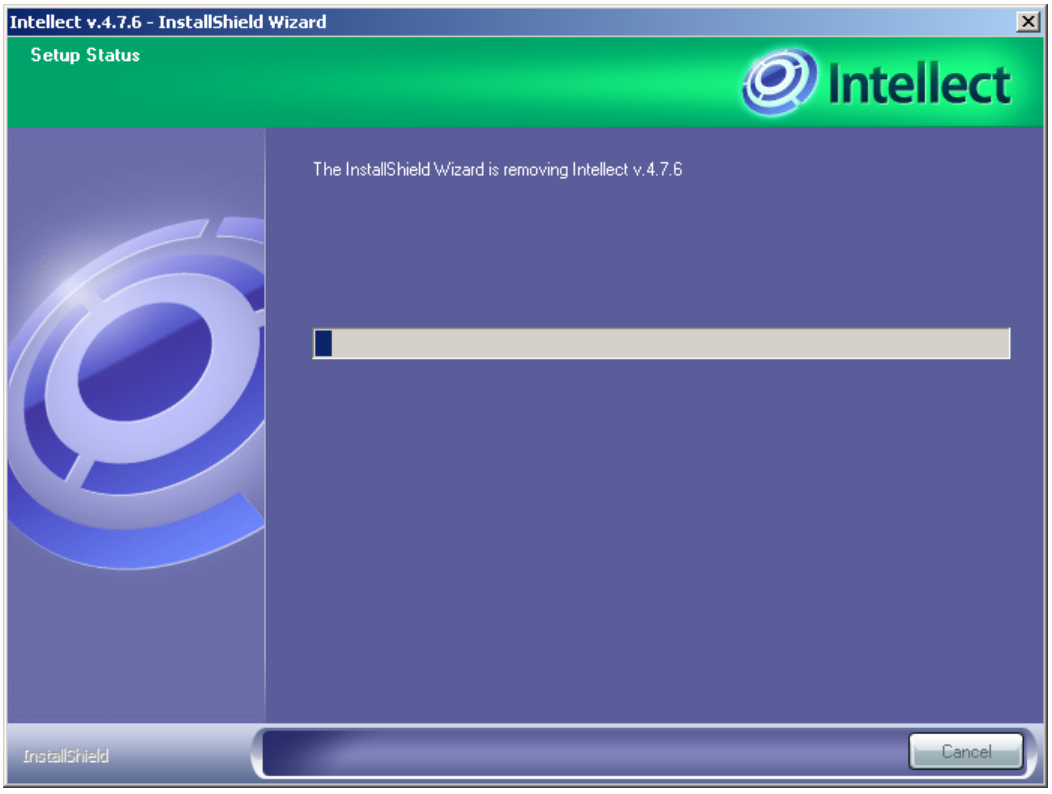


Figure 5.4-27 Intellect software deletion process

Message, confirming finish of the Intellect software selection will be displayed in result(Figure 5.4-20).

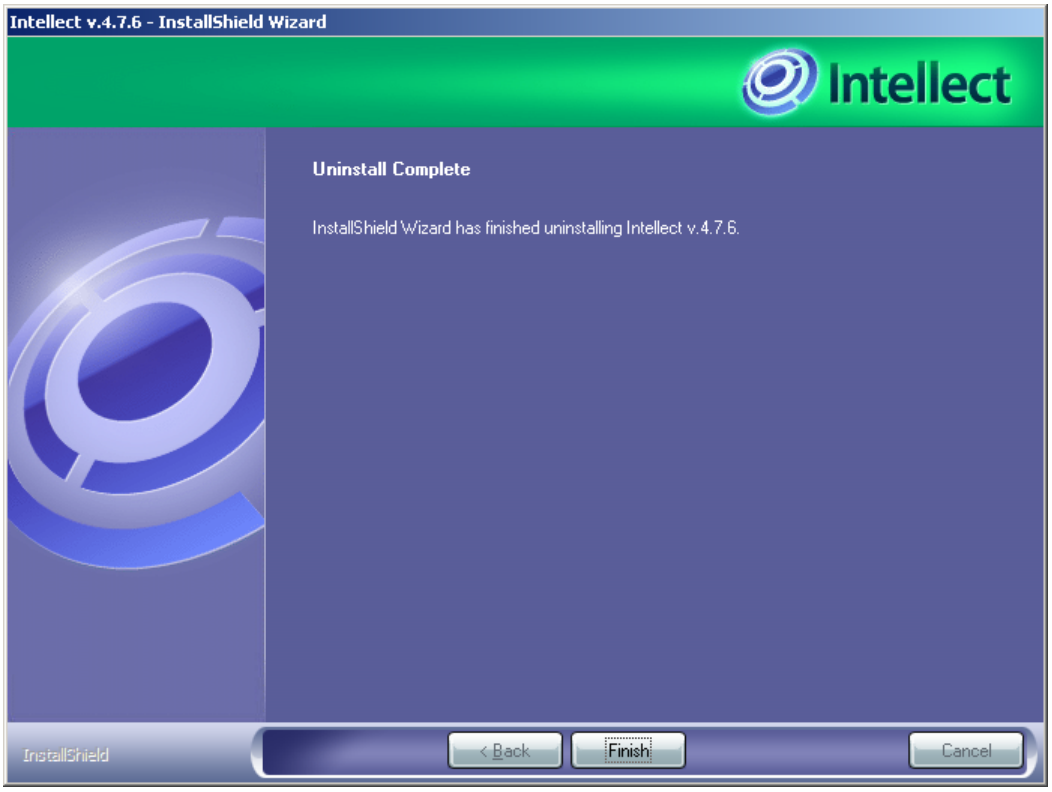


Figure 5.4-28 Intellect software deletion process

After deleting the files, message, informing about the deletion of Intellect software will be displayed (Figure 5.4-28).

6. Click Finish button.

Note. For complete deletion of Intellect PC's files delete the installation catalogue and all the created Video folders for storing the audio and video recordings manually. Video (Figure 5.4-29).

Note. A. Please take into consideration, that the name of the INTELLECT™ software installation folder may differ from the default name (C:\Intellect).

Note B. In certain cases, Windows OS should be restarted before the INTELLECT™ software installation folder is deleted (for instance, Folders/Intellect).

Note C. We do not recommend deleting the INTELLECT™ software installation folder, if you need to re-install INTELLECT™ software. The folder contains:

1. *folders with video records and frames of video records exported during INTELLECT™ software operation;*
2. *log files containing the information about INTELLECT™ software module operations;*
3. *backup copies of these files.*

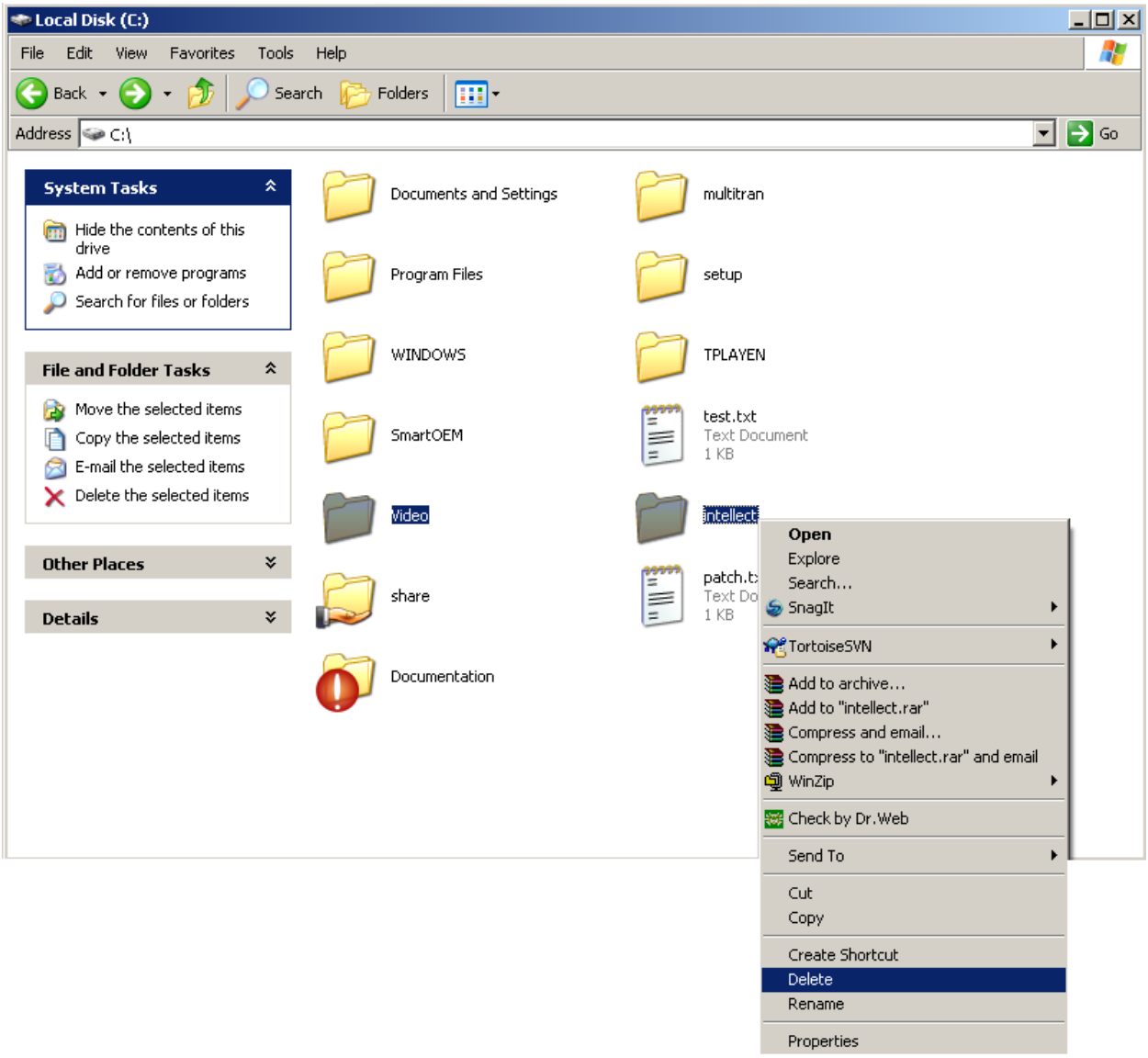


Figure 5.4-29 Deleting the catalogue and video recordings

At this stage the deletion process of Intellect software, installed as a Service, with the help of installation CD is over.

5.5 Setting up cluster decisions on the basis of Intellect PC

5.5.1 General requirements

Cluster is a group of independent computers operating together as a whole system providing clients with a general set of services. Cluster enables to expand both services' accessibility , scalability and controllability of its OS.

To set up a cluster fot the Intellect PC stick to the following rules:

1. The Intellect PC should be installed on all the computers, forming the cluster;
2. The Intellect PC configuration (paths to the installed Intellect PC and video archive discs) should be identical on all the computer;
3. All the computers, forming the cluster, should be defined in one network domain;

4. All the computers should operate under control of OS Windows Server 2003 R2 Enterprise Edition.

5.5.2 Cluster's organization and setting up order

Cluster's organization and setting up is done in the following order:

1. Create and set the net among the computers, that would form a cluster. Computers should be defined in one domain. The cluster should also be registered in this domain.

Note. Nets organization and setting up order is given in reference manual Windows Server 2003 R2 Enterprise Edition (см. http://technet.microsoft.com/ru-ru/library/cc527503(WS.10).aspx).

2. Install the Intellect PC on all the computers, forming the cluster (in the process paths to the installed Intellect PC and video archive discs on all the computers should be identical). Otherwise if one of the units is damaged, monitoring service of cluster's processes will not be able to run the Intellect PC on the other node.

3. Configure one of the computers, forming the cluster , with the help of «Cluster Administrator», utility that is included in OS Windows Server 2003 R2 Enterprise Edition in the following way:

   a. Select cluster type «Majority Node Set»

   b. Display cluster's features

   c. Go to the tab «Dependencies» (Figure 5.5-1) and add dependencies: IP-cluster address(«Cluster IP Address») and cluster's name in the domain(«Cluster Name»)

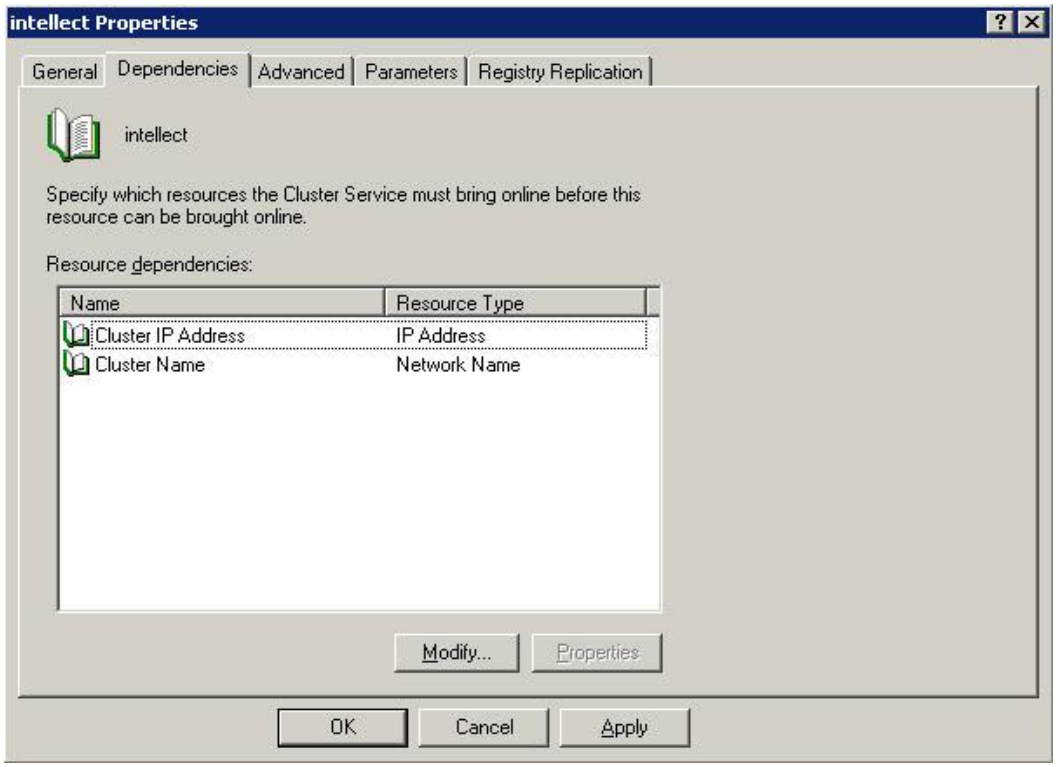


Figure 5.5-1«Dependencies» tab

   a. Click «Apply »to save the changes

b. Select «Parameters »tab. Enter a full path C:\Intellect\intellect.exe to the file«intellect.exe» in the edit text field «Command line:» (Figure 5.5-2, 1) or Intellect service (Figure 5.5-2, 2) (depends on the type of Intellect PC installation).

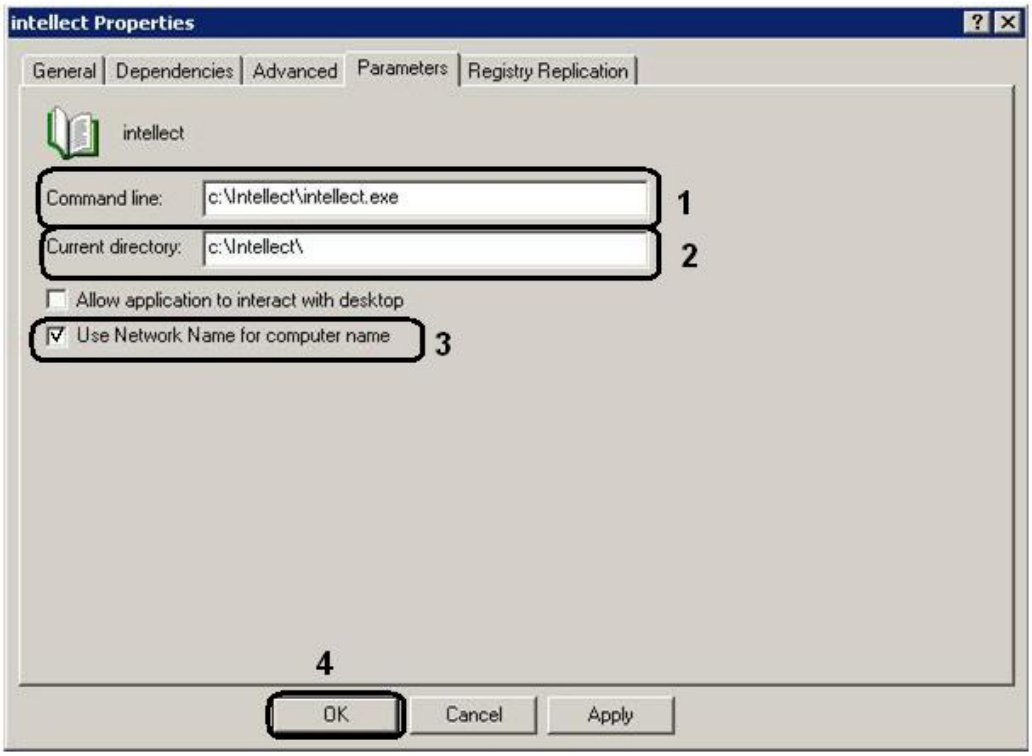


Figure 5.5-2«Parameters» tab

c. To use the network name as computer's name set the checkbox «Use Network Name for computer name» (Figure 5.5-2, 3)

d. Click OK to save the changes (Figure 5.5-2, 4)

4. Configure all the other computers of the cluster with the help of «Cluster Administrator» utility, indicating the above set computer as the cluster.

Note. Cluster's organization and setting up order is given in reference manual Windows Server 2003 R2 Enterprise Edition (см. http://technet.microsoft.com/ru-ru/library/cc783714(WS.10).aspx).

5.5.3 Creating and setting up the cluster Windows Server2003

To create a cluster Windows Server 2003 do the following:

6.1.Click Start ⇒ Administration ⇒ Cluster Administrator

6.2.In the open window «Open Connection to Cluster» select the point «Create new cluster» from the dropdown list «Action» (Figure 5.5-3)



Figure 5.5-3 Creating a new cluster

6.3.Click«OK» to continue

6.4. «New Server Cluster Wizard» window will open in result(Figure 5.5-4)



Figure 5.5-4New Server cluster wizard

Note. One can also click «Start» ⇒ «Run» and enter the path «Cluster.exe /create/wizard in the appeared window to run the wizard».

6.5.Click «Next» to continue («Next»)
6.6.Enter in the opened window (Figure 5.5-5):

1. In the dropdown list «Domain:» - domain's name where the cluster is being created;
2. In the text edit field «Cluster name:» - cluster's name(unique name of the computer, included in the domain).

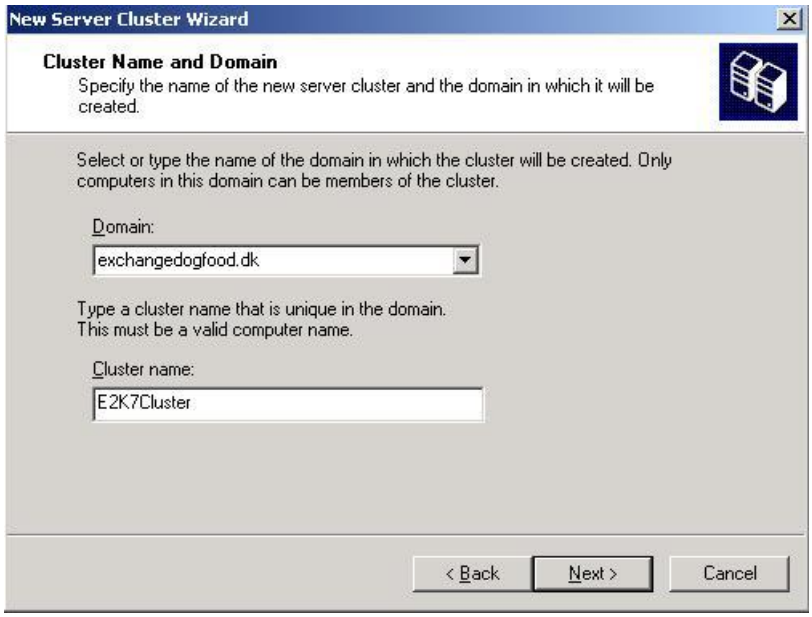


Figure 5.5-5 Domain and cluster's name

6.7.Click «Next» to continue («Next»)

6.8.In the text edit field «Computer name» enter server's name Windows 2003 that will be the first node of the cluster in the opened window (Figure 5.5-6)

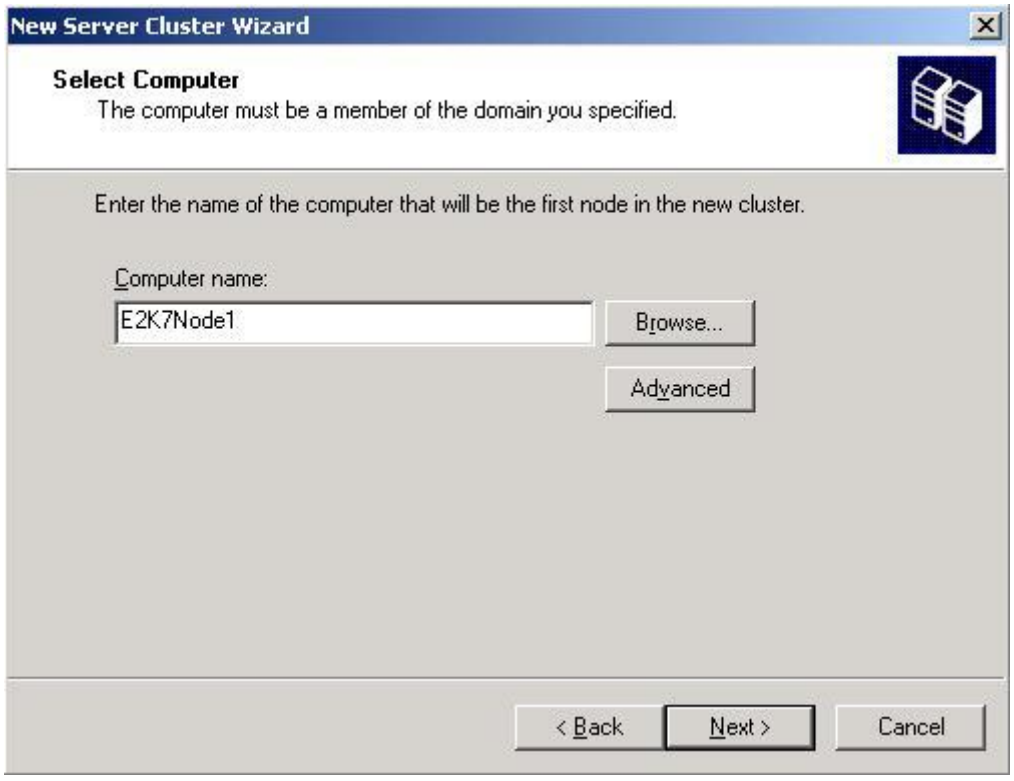


Figure 5.5-6 Adding the first node in the cluster

6.9. Click «Next» to continue(«Next»)

6.10. Cluster's configuration is determined in result (Figure 5.5.3-5)

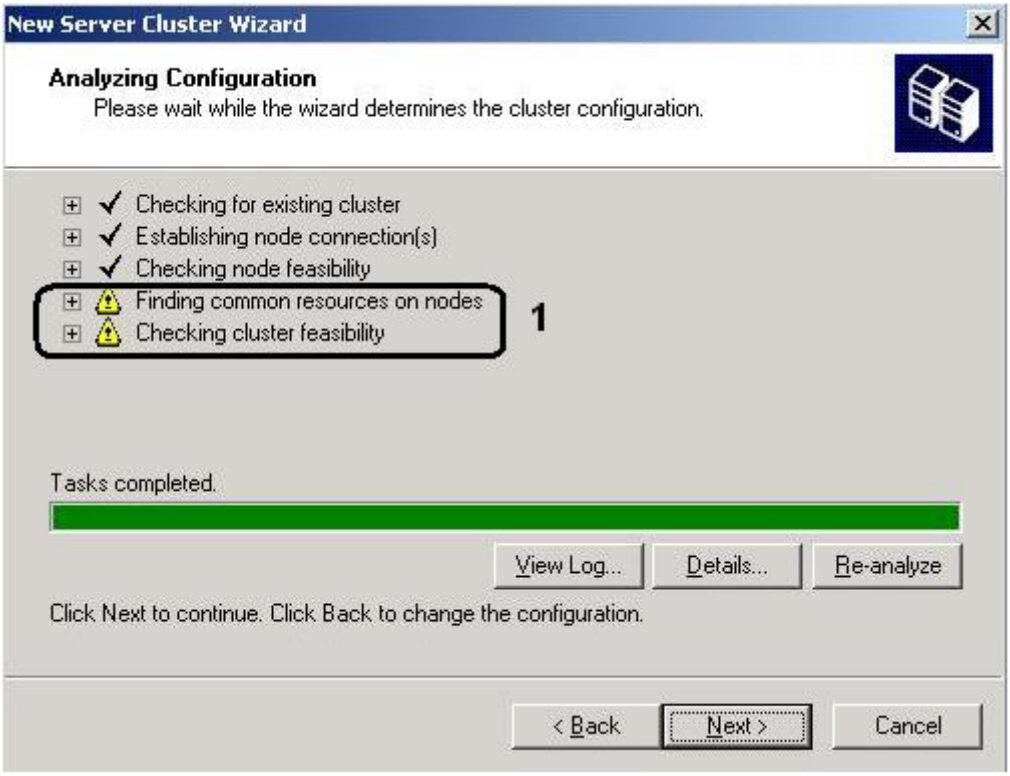


Figure 5.5-7 Analysis of cluster's configuration

Note. Do not pay attention to two notices (Figure 5.5-7, 1),as cluster's nodes of mail server with constant cluster replication will not use the same disc subsystem.

6.11. When the wizard has configured the cluster, click «Next» («Next»)

6.12. The window will open in result (Figure 5.5-8), whre IP address should be entered in the edit text field «IP Address:» IP sddress, that cluster management tools will use to connect to the cluster.



Figure 5.5-8 IP-address to connect to the cluster

6.13. Click «Next» to continue(«Next»)

6.14. Enter the accounting data of cluster's service (user name, password and domain's name, where the cluster is being created) in the opened window (Figure 5.5-9) .

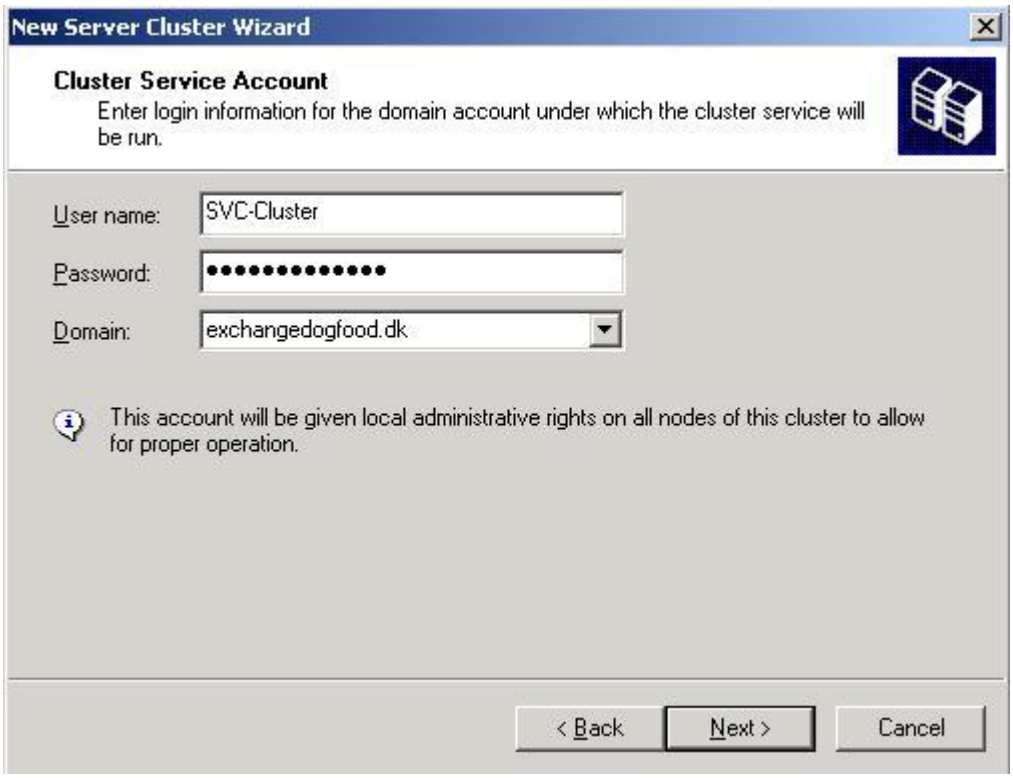


Figure 5.5-9 Cluster Service account

6.15. Click «Next» to continue(«Next»)

6.16. The window with proposed cluster configuration will open in result (Figure 5.5-10, 1).

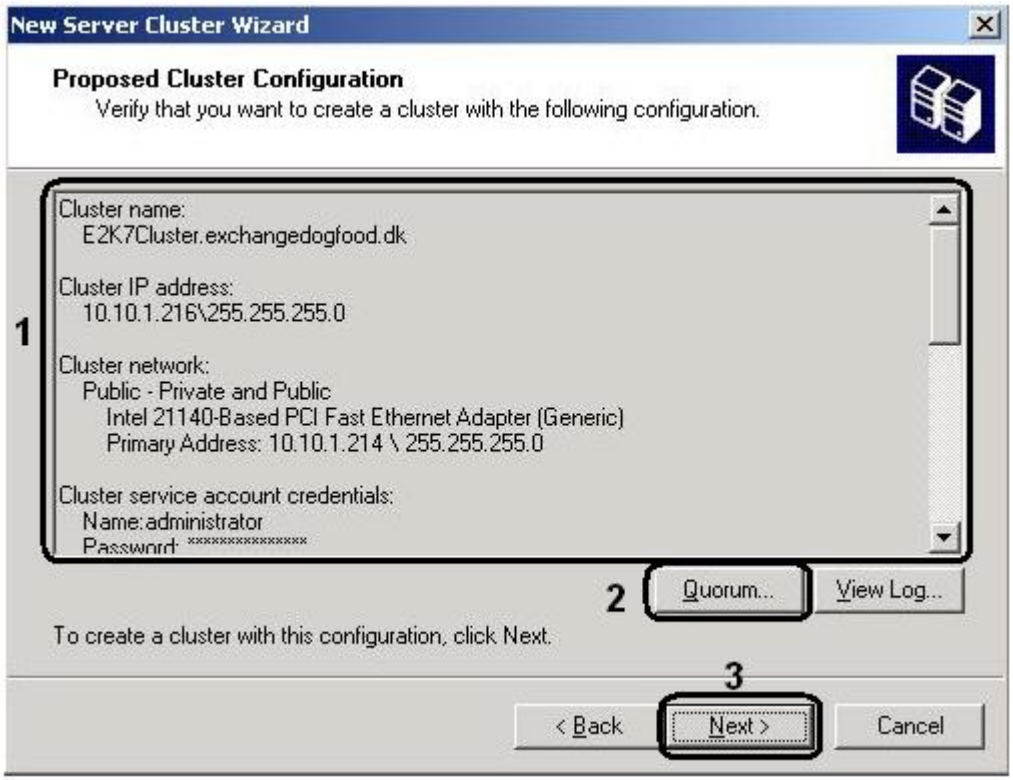


Figure 5.5-10 Cluster's settings

6.17. Then «Quorum» should be clicked («Quorum») (Figure 5.5-10, 2)

6.18. The window of selecting the quorum resource will open in result (Figure 5.5-11), where «Majority Node Set» should be selected in the dropdown list («Majority node set»)

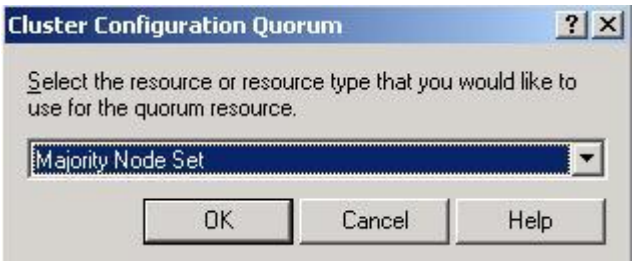


Figure 5.5-11 Setting up the resource type

6.19. Click «OK» to confirm

6.20. Click «Next» to continue(«Next») (Figure 5.5-10, 3)

6.21. Creating the cluster window will open in result (Figure 5.5-12).

6.22. It is necessary to wait while cluster's setting will be finished and then click «Next» («Next»).

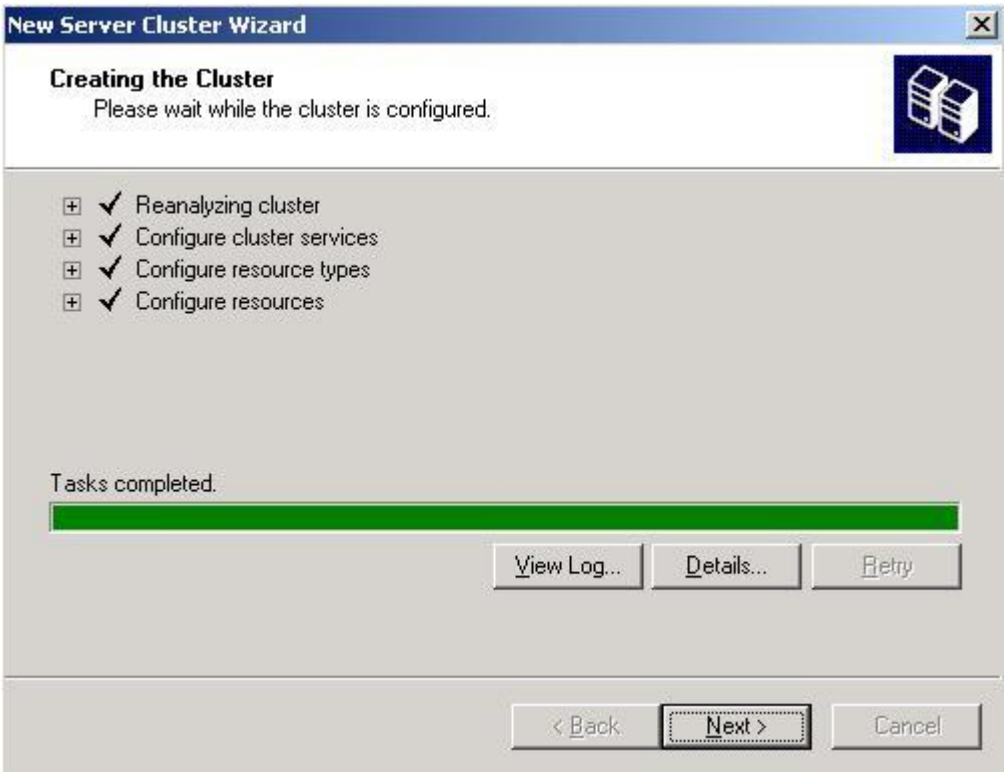


Figure 5.5-12 Creating the cluster

6.23. The window, informing that you have successfully completed the cluster, will open in result (Figure 5.5-13).



Figure 5.5-13 Successful finish of Wizard's operation

6.24. Click «Finish» to close the process of cluster creation(«Finish»).

A new one node cluster of Windows 2003 Server has been created in result.

To increase fault resiliency it is necessary to add the second Server Windows 2003.

To add the second Server Windows 2003 with the help of Cluster Administrator utility, do the following:

1. Go to the utility: Start ⇒ Administration⇒ Cluster Administrator.
2. Select the name of the first Server Windows 2003 in the left winodw's panel. Press the lefct mouse button and select in the opened window: «New» ⇒ «Node» («New» ⇒ «Node») (Figure 5.5-14).

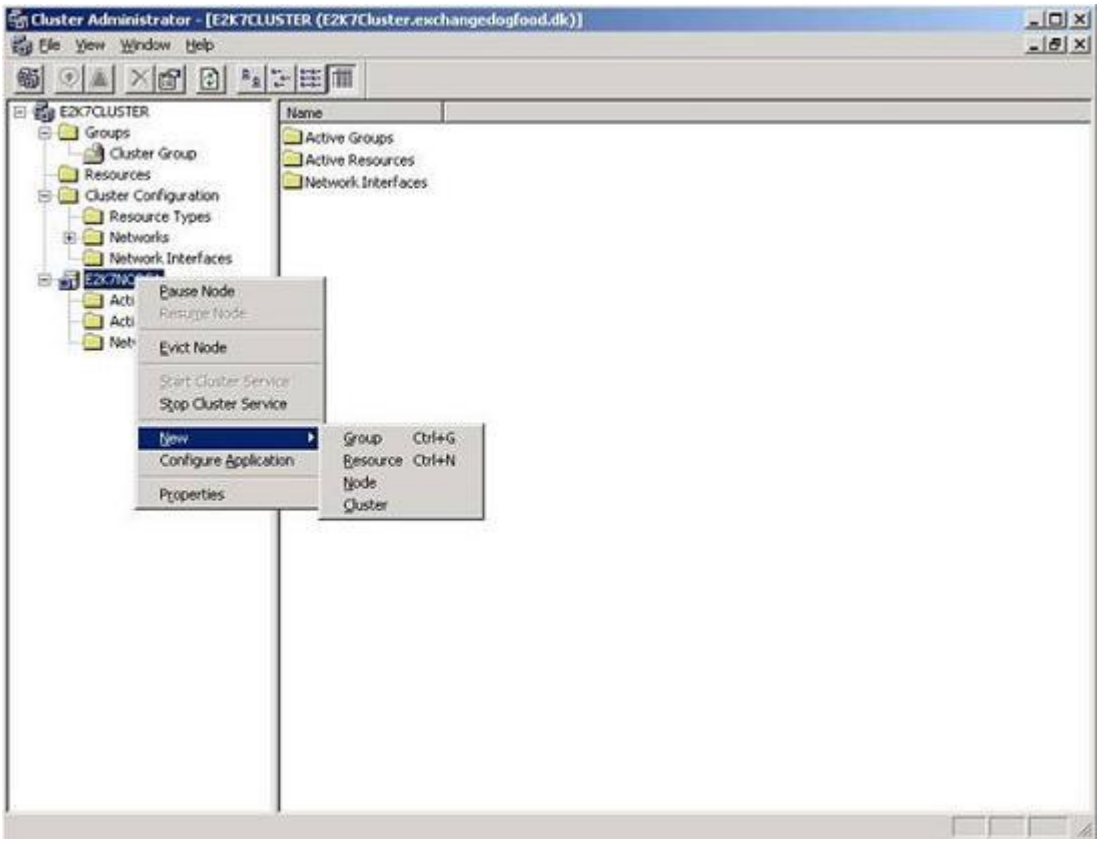


Figure 5.5-14 Adding the second node

3. Add Nodes Wizard will be run in result (Figure 5.5-15).



Figure 5.5-15 Add Nodes Wizard

4. Click «Next» to continue(«Next») .

5. Enter the name of the Server, that will be the second cluster node in the edit text field «Selected Computers» (Figure 5.5-16).

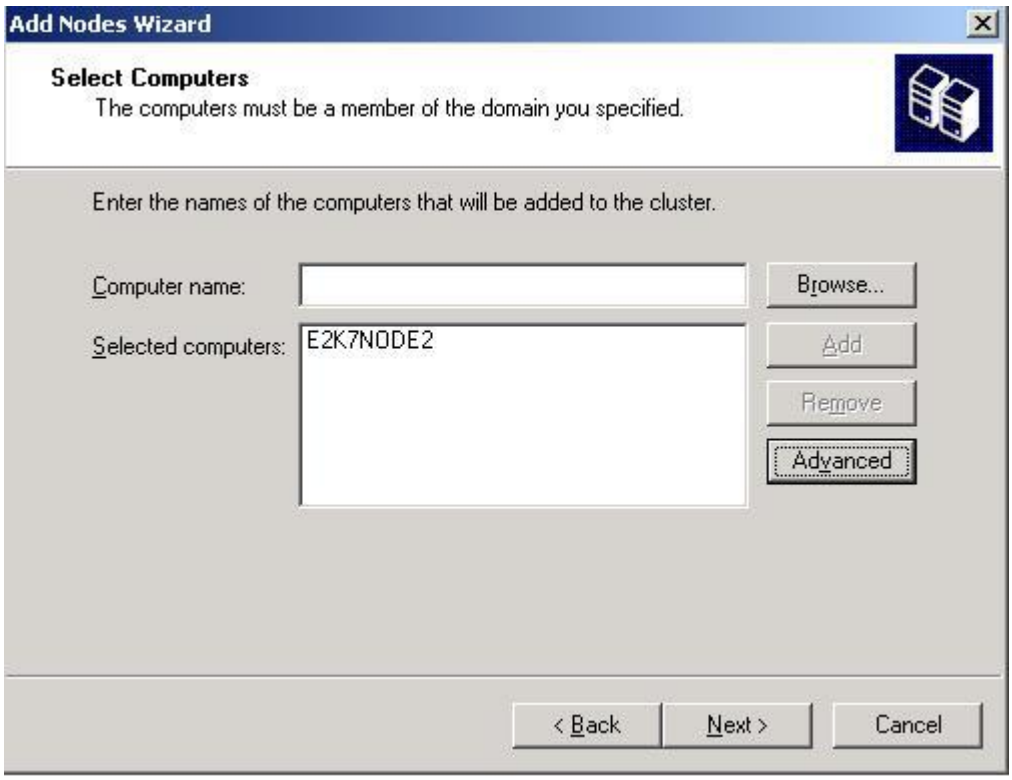


Figure 5.5-16 Entering the name of the second node

6. Click «Next» to continue(«Next»).

7. Wait while the wizard determines the cluster configuration (Figure 5.5-17).

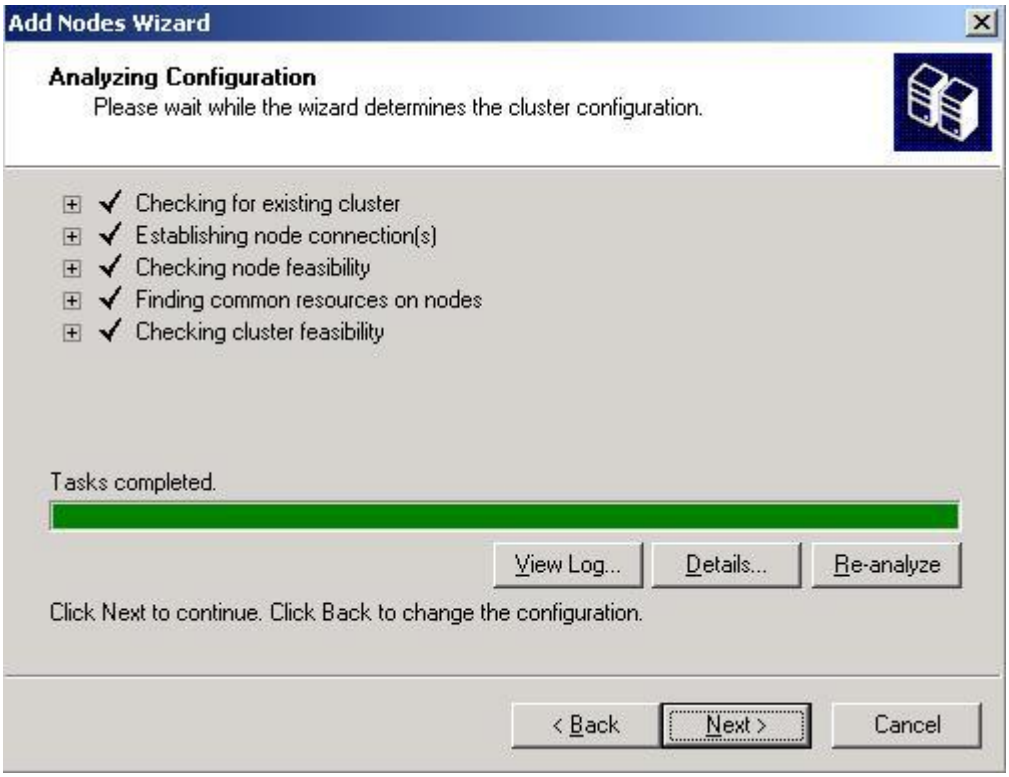


Figure 5.5-17 Cluster configuration analysis

8. Click «Next» to continue(«Next»).

9. The window will open in result where one should enter the accounting data of cluster's service in the edit text file «Password:» and select domain in the dropdown list «Domain:» (Figure 5.5-18).



Figure 5.5-18Entering the password of cluster service account

10. Click «Next» to continue («Next»).
11. When the second node's configuration has been checked, it is necessary to click «Next» in the opened window (Figure 5.5-19).

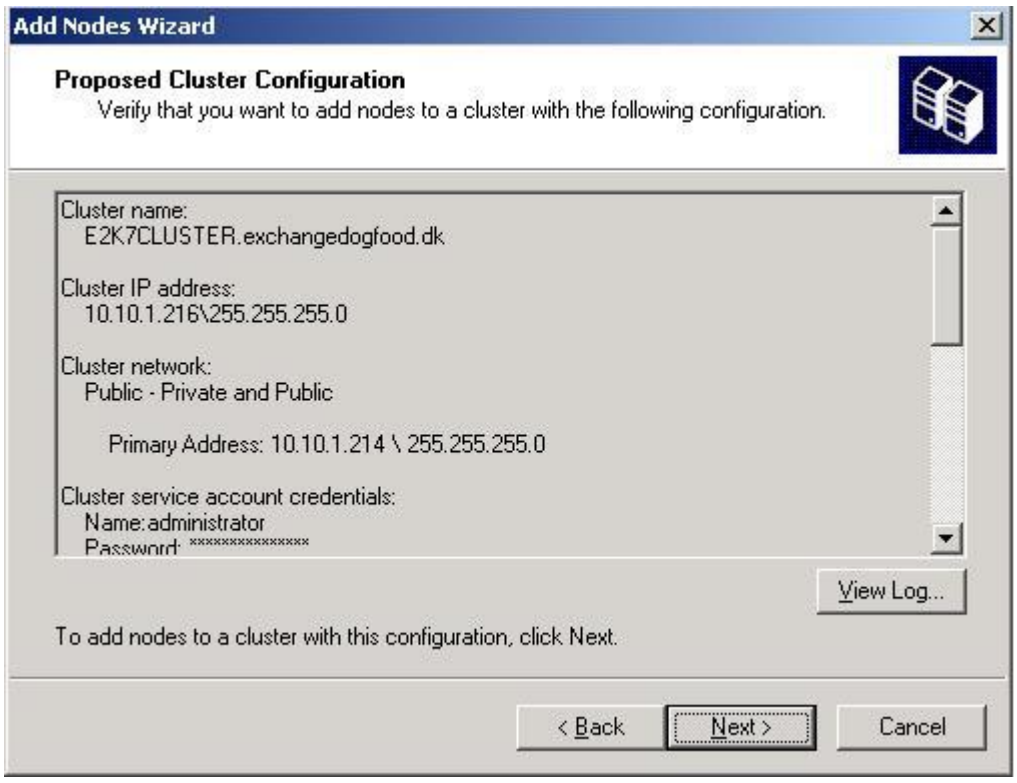


Figure 5.5-19 Cluster's second node configuration

12. In the opened window there take place a process of adding a new node to the cluster (Figure 5.5.3-18).

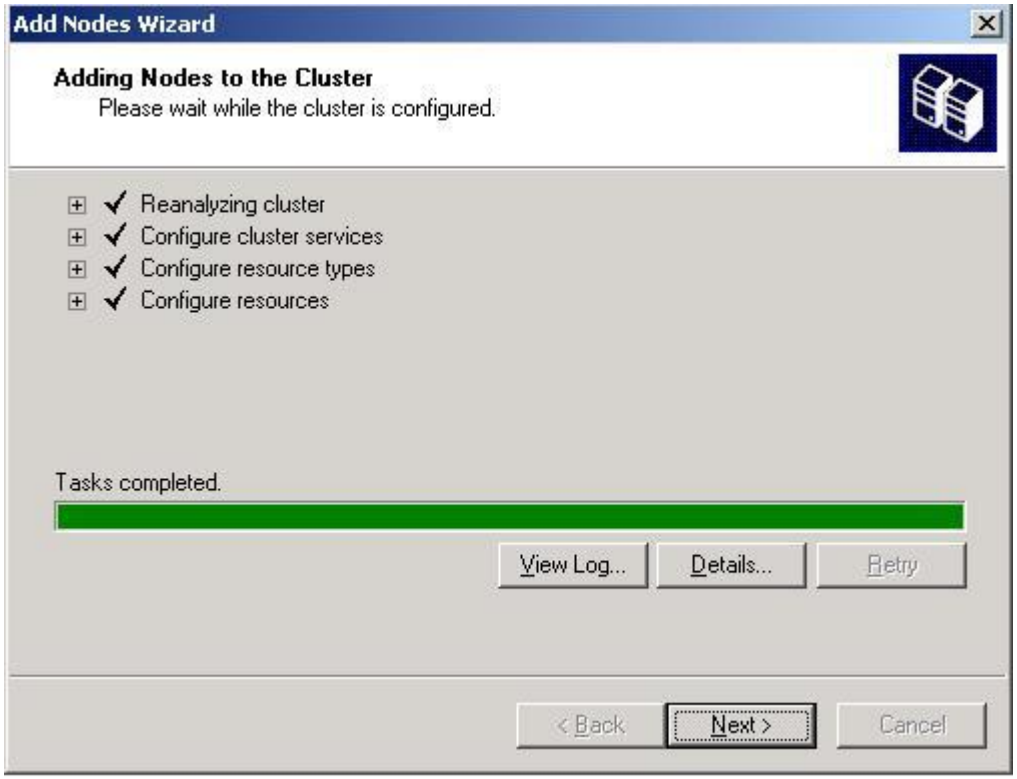


Figure 5.5-20 The cluster is set for the second node

13. If the cluster is set correctly (without mistakes and notices), click «Next» («Next»).

14. The message informing about successful completing the add nodes wizard will appear in result (Figure 5.5-21).



Figure 5.5-21 Completing the wizard operation

15. Click «Finish» to close the add nodes wizard («Finish»).

The second node of the cluster Windows 2003 was created in result (Figure 5.5-22).

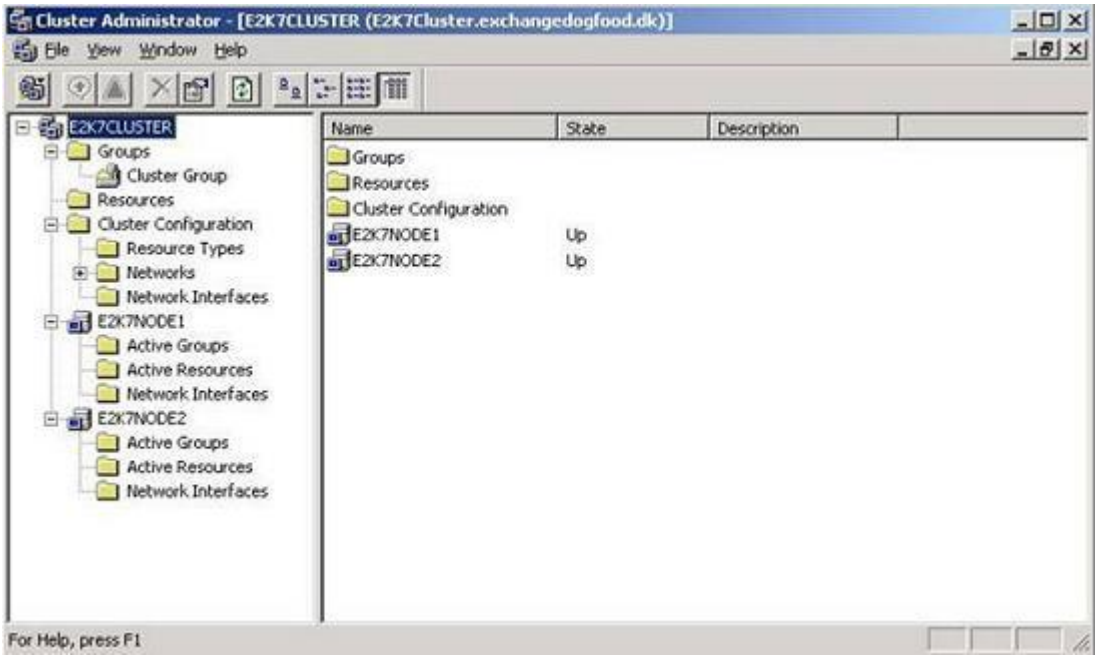


Figure 5.5-22 Two nodes of the cluster

6 System startup and closure configuration

6.1 Configuration of Intellect™ software launch

6.1.1 Possible options for Intellect™ software launch

Intellect™ software is launched in one of the following ways:

1. Manual launch;
2. launch from Windows OS Start menu;
3. launch from Windows OS command line;
4. automatic launch;
5. launch from Startup of the Windows OS;
6. launch with the PC switched on, without starting Windows OS;

Manual launch of Intellect™ software does not require additional settings. Automatic launch of Intellect™ software using one of the above methods, requires certain additional Windows OS settings. Windows OS settings are given in the corresponding sections of this chapter.

If the video surveillance system uses pre-defined rights and authorizations for the users, Intellect™ software launch starts with user authorization. Depending on the Intellect™ system settings, the following user authorization options are available:

1. through a password. In this case, when the system is launched, the user will be able to access only those functions of Intellect™ system, which comply with his rights and authorities.
2. without a password. In this case Intellect™ system makes available only those functions, which comply with the rights and authorities of the default user.

By default, Intellect™ system authorizes a user through a password. To launch Intellect™ software without a password, an Operator should identify a user, whose rights and authorities will be used to launch the Intellect™ system. Procedures for identification of the default user are described in the Rights and Authorities Administration chapter.

Note. If the Intellect software is installed as a service, and the user rights and privileges are not set, password authorization is required upon entering the Intellect. Otherwise the Intellect modules and services will not be launched.

6.1.2 Configuration of Intellect™ system automatic launch from Windows OS Startup

Intellect™ software can be launched automatically from the Startup function, as soon as Windows OS services and shell start downloading.

To configure the Intellect™ system launch from the Startup function, the Intellect™ system icon should be placed in the Startup group of the Start menu (Figure 6.1-1).

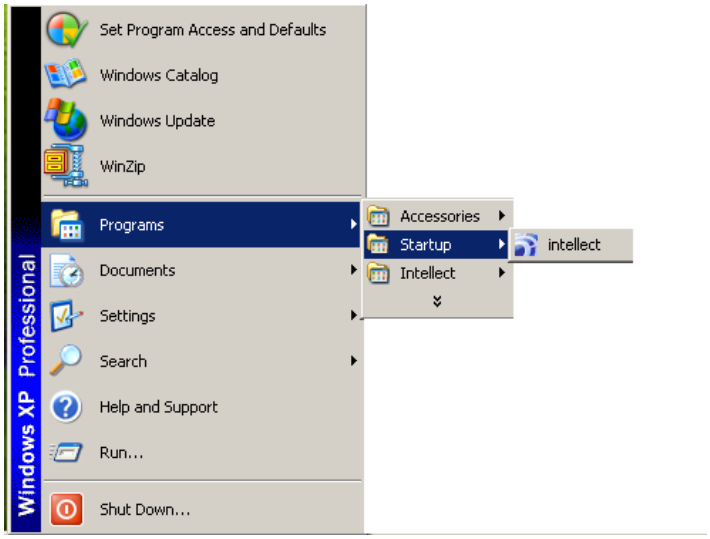


Figure 6.1-1. Example of displaying the Intellect™ software launch file icon in the Startup group of the Start menu

6.1.3 Configuration of Intellect™ system automatic launch bypassing standard Windows OS

Automatic launch of Intellect™ system, instead of launching the standard Windows OS shell is used in cases, when access to the basic PCs of the video surveillance system need to be restricted: to prevent launching of various applications, file copying and deletion, operations with Windows OS and other non-standard PC operations.

In cases where Startup is set for launching instead of Windows OS, the Intellect™ system will start downloading after Windows OS, instead of Explorer. This makes launching of various applications installed in a PC, and operations with the program dialog boxes, inaccessible for a user.

To set up an automatic Intellect™ software launch instead of the standard Windows OS (Explorer), the following parameters of the Windows OS catalog should be modified:

Catalog section: HKEY_LOCAL_ MACHINE\SOFTWARE\Microsoft\ WindowsNT\CurrentVersion\.

Folder: Winlogon.

Parameter: Shell.

Default parameter: Explorer.exe.

Required parameter: entire path to the Intellect™ software launch file.

For instance, to set up Intellect™ system automatic launch for configuration of the videoserver, the Shell parameter should be identified as: C:\Intellect\intellect.exe».

To set up Intellect™ system automatic launch for configuration of the Remote Monitoring Workstation, the Shell parameter should be identified as: C:\Intellect\slave.exe.

If the rules of distributed network security, including the PC, which is being configured, require that the PC be authorized in the domain, Windows OS may be configured to start without requesting the name (login) and password of the user, who is registered in the domain of the distributed network. This

procedure requires assigning a name (login) and a password of the user, which will be used for the PC authorization in the domain by default. To set up Windows OS launch without user name (login) and password request, change the following parameters of the Windows OS catalog:

Catalog section: HKEY_LOCAL_ MACHINE\SOFTWARE\Microsoft\ WindowsNT\CurrentVersion\.

Folder: Winlogon.

Parameter 1: AutoAdminLogon.

Default parameter 1: 0.

Required parameter 1: 1.

Parameter 2: DefaultUserName.

Default parameter 2: one of the registered user names (logins).

Required parameter 2: user name (login) for authorization in the domain.

Parameter 3: DefaultPassword.

Default parameter 3: parameter does not exist (should be created).

Required parameter 3: user name for authorization in the domain.

Catalog parameters are edited either using Tweaki.exe utility (recommended), or manually. Setup of Intellect™ system startup with Tweaki.exe utility is shown in Attachment No. 2. Basic information required for manual system catalog editing is outlined in the corresponding attachment.

6.2 Configuration of quitting Intellect™ system

The Intellect™ system is always closed manually. If the video surveillance system uses pre-defined rights and authorizations for the users, Intellect™ software should be closed by entering a user password.

Intellect™ system may be closed using the following options:

1. using an authorized user password.
2. using an administrator password.
3. using an administrator password entered in the displayed administrator password request window.

Intellect™ system closure is configured at the stage of administration of user rights and authorizations, and is described in the corresponding sections of the Guide.

7 Working with the Intellect™ system settings dialog box

7.1 General information about the System settings dialog box

The Intellect™ system is configured using the System settings dialog box.

The System settings dialog box is designed to configure and set up the digital components of the video surveillance system.

The System settings dialog box helps to solve the following key objectives:

a. creation and configuration of the system objects corresponding to the function modules (groups) of the Intellect™ system;

b. configuration of video surveillance and audio monitoring functions;

c. user interface configuration;

d. administration of user rights and authorizations.

The interface of the System settings dialog box is described in Attachment No. 1.

7.2 Startup and closure of the System settings dialog box

7.2.1 Startup of the system settings dialog box

To start up the System settings dialog box follow the next steps:

a. Display the main control panel on the monitor. For this purpose, drag the mouse cursor to the upper left corner of the monitor (Figure 7.2-1).



Figure 7.2-1. Main Control Panel

b. Click Run (Figure 7.2-2, 1) and then select System settings in the appearing dropdown menu (Figure 7.2-2, 2).

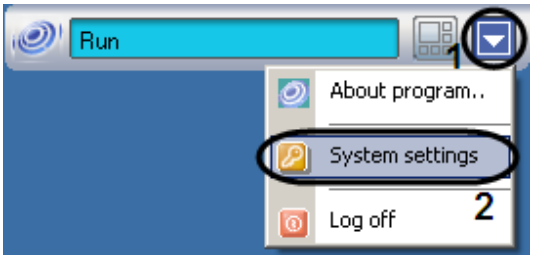


Figure 7.2-2. System settings dialog box startup

Now you have the System settings dialog box displayed on the monitor (Figure 7.2-3).



Figure 7.2-3. System settings dialog box

Note. The interface of the INTELLECT™ Main Control Panel is given in Attachment No. 1.

7.2.2 Closure of the system settings dialog box

To exit the System settings dialog box, select Run in the Main Control Panel (Figure 7.2-4, 1) and then System settings in the appearing dropdown menu, which will already be checked (Figure 7.2-4, 2).

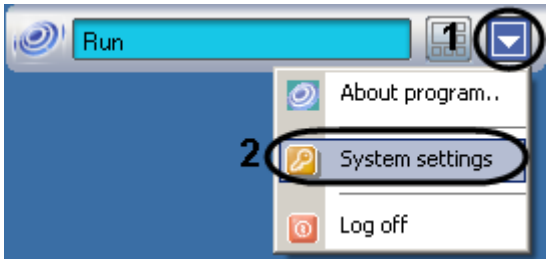


Figure 7.2-4. Selecting the System settings from the menu again

The System settings dialog box will be closed after repeated selection of the System settings in the menu.

7.3 Operations with the System settings dialog box

Configuration of Intellect™ system objects generally includes the following stages:

Select an object. To select an object, do the following:

a. open the objects tree tab (Figure 7.3-2);



Figure 7.3-1. Selecting an object tree tab

b. select an object in the object tree (Figure 7.3-2).



Figure 7.3-2. Selecting an object in the object tree

Create an object. To create an object, do the following:

a. open the objects tree (Figure 7.3-3);



Figure 7.3-3. Selecting an object tree tab

b. select a parent object in the object tree, which should be used as a basis for the creation of a daughter object (Figure 7.3-4);



Figure 7.3-4. Select an object.

c. d

isplay the context menu by clicking the right mouse button and select Create object (Figure 7.3-5);

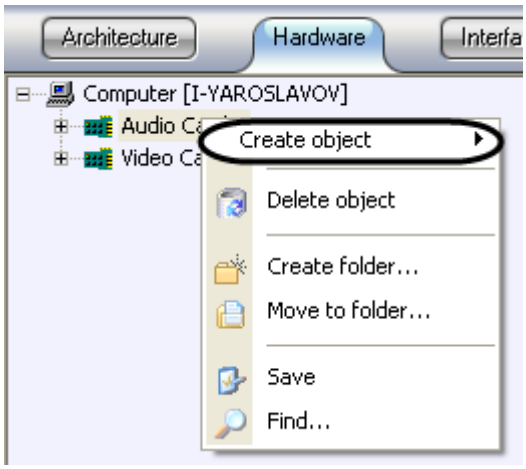


Figure 7.3-5. Selecting Create object in the Main functions menu

d. select the type of a new object using the corresponding second level menu (Figure 7.3-6);

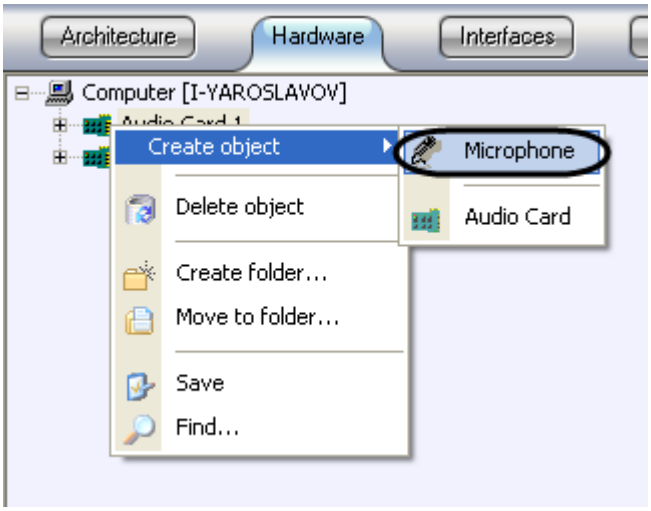


Figure 7.3-6. Selecting Microphone as a new object to create

As a result of the above operations, the object settings panel will display an identification panel for the Microphone, a new object (Figure 7.3-7).

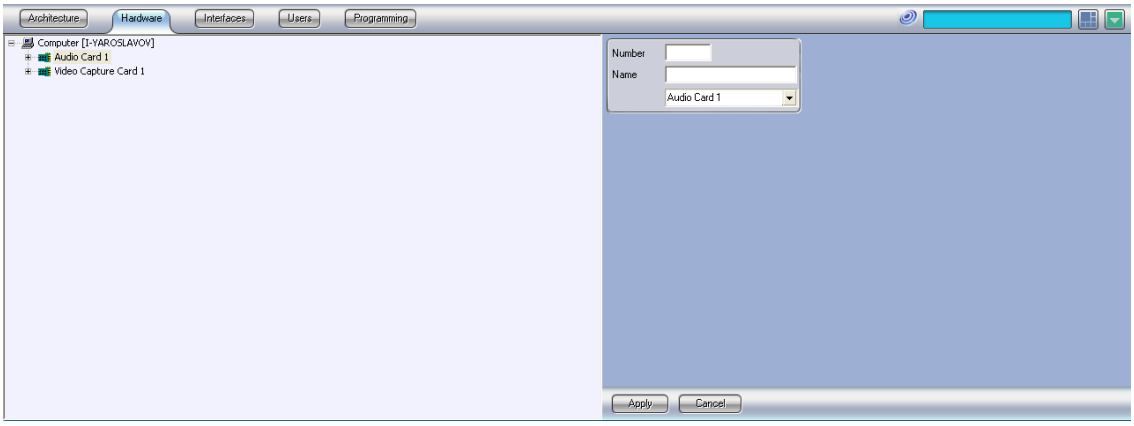


Figure 7.3-7. An identification panel

e. enter a unique identification number in the Number field (see Fig. 149, 1) and the name of a new object, Microphone, in the field Name (see Fig. 149, 2).

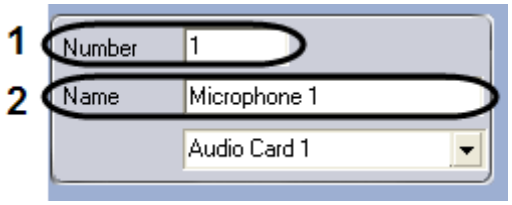


Figure 7.3-8. Entering identification data for the Microphone object

f. click the Apply button to finish the object creation process (see Fig. 150);

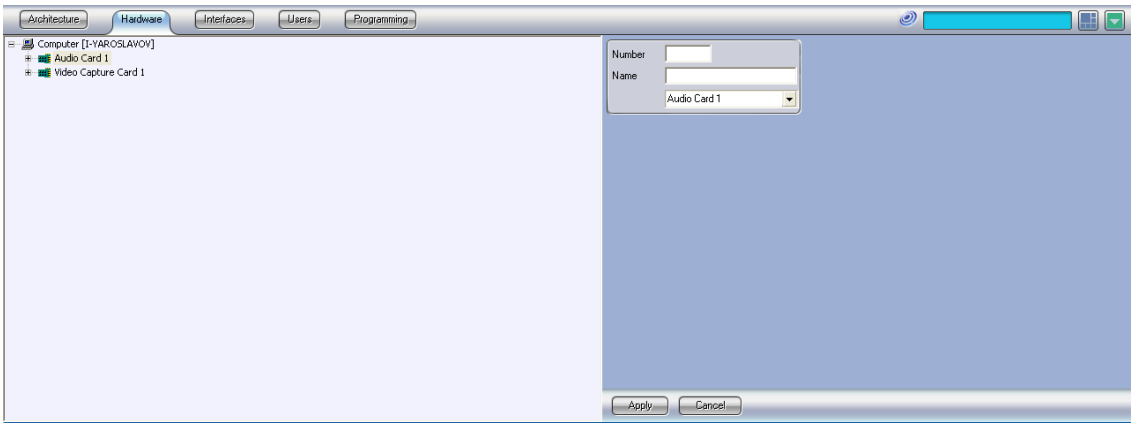


Figure 7.3-9. The Apply button

As a result, a new daughter object will be created based on the selected parent system object (Figure 7.3-10).



Figure 7.3-10. Result of object creation

Editing. Editing means any modification of the object settings, i.e., changes in the object parameter values. The tools panel of the system object is the key configuration instrument of the object setup.

To edit an object, do the following:

a. select a system object, whose parameters should be edited (Figure 7.3-11, 1); b) modify the object parameters using the tools panel of the object (Figure 7.3-11, 2); c) click the Apply button to save all changes (Figure 7.3-11, 3).

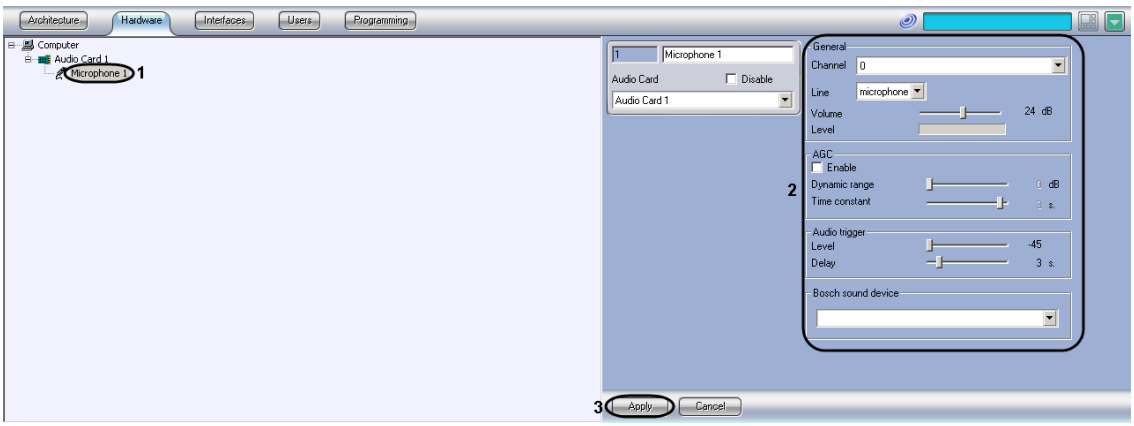


Figure 7.3-11. Object editing steps

Deletion. To delete an object, follow the next steps:

a. select an object for deletion (Figure 7.3-12, 1) and click the right mouse button to display the context menu on the monitor (Figure 7.3-12, 2);

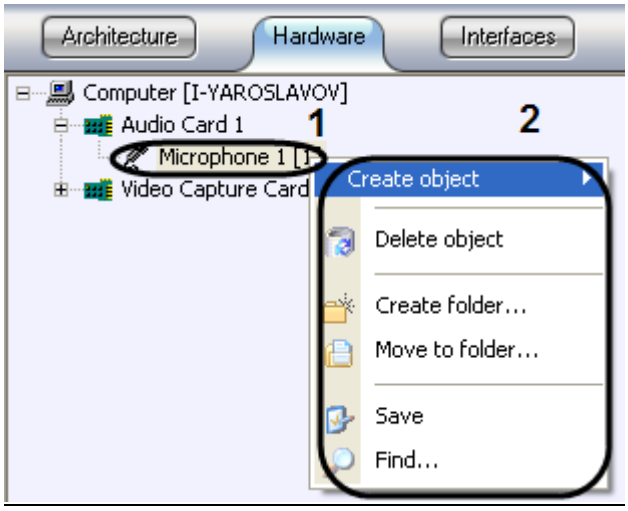


Figure 7.3-12. Selecting an object for deletion

b. select Delete object in the menu (Figure 7.3-13);

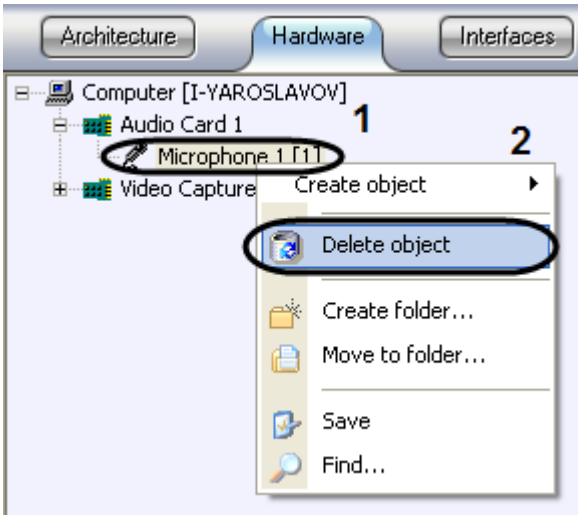


Figure 7.3-13. Selecting Delete object in the menu

Now a dialog box requesting confirmation of the object deletion will appear on the monitor.

c. click OK (Figure 7.3-14).



Figure 7.3-14. Confirmation for the object deletion

Figure 7.3-15 shows the result of an object deletion (object tree contents after the object has been deleted). The Microphone object, which has been deleted is no longer displayed in the objects tree.



Figure 7.3-15. Object deletion

8 INTELLECT™ software configuration and setup

8.1 Setting up servers and remote workstations

8.1.1 Server settings

8.1.1.1 *Server hardware and program platform*

The video surveillance system based on INTELLECT™ software uses servers to receive and process video signals from analog and IP surveillance cameras. The server hardware and program platform generally contains:

1. A personal computer, that meets the requirements of INTELLECT™ software.
2. Internal video capture cards or Guardant dongle, that enables to receive video from IP devices only.
3. Intellect™ software for “Server” (using video capture cards) and “Remote Admin Workstation” configurations (using IP cameras only).
4. License key file with rights to use grabber cards and IP devices together with INTELLECT™ software.
5. MS SQL server software for Intellect™ system database control.

Note! The same set of program modules should be set on all the Servers for system correct operation (see. «Functional program modules»), written in the key file intellect.sec.

Note! INTELLECT™ correct operation is possible only if the user has OS Windows administrator rights.

8.1.1.2 *Server settings*

The basic function of the server is receipt and processing of video signals. It provides several options: audio signal receipt and processing, PTZ control, security measures, user’s auto functions (macro commands) etc. Server setup sequence depends on its hardware configuration and the options to be realized.

Follow the steps to set up the server:

1. Sync the server database to other servers and Remote Admin Workstation databases (for example, via the centralized database of the administering server, see “Database administering”).
2. Launch the INTELLECT™ program on the server.
3. With remote setup (e.g., from the administering server), log in the “Computer” object, which corresponds to the server, and set the interaction parameters with the servers, Remote Admin

Workstations, Remote Monitoring Workstations of the distributed video surveillance system (see “INTELLECT ™software system configuring with distributed architecture of the digital video surveillance system”). While setting up the local server the relevant “Computer” object is created automatically on the “Hardware” tab during the first startup.

4. Set up the server video subsystem (see “Video subsystem settings”).
5. Set up the PTZ units, attached to the server cameras (see “PTZ settings”).
6. Set up the server audio subsystem, if there are microphones (see “Audio subsystem settings”).
7. If sensors and relays are used create, and set up the relevant objects (see «Sensor setup» and «Relays setup»).
8. Set up backup video archiving on the server, if necessary (see “Backup video archiving setup”).
9. Set up the hardware performance tester and restart service, connect and setup the notification services (see the title Sections).
10. If auto options are to be used, create the macros and time zones (see the title Sections).
11. If the server is to be used as the Operator’s workstation, setup the user interface: video surveillance monitor, audio player, map etc. (see “User interface setup”).
12. Assign the users rights to work with server system objects (see “User rights ”).
13. Set up logging of events, registered for the server system objects (see “Event log.setup”).

8.1.2 Setting up a Remote Admin Workstation

8.1.2.1 *Remote Admin Workstation hardware and program platform*

The video surveillance system based on INTELLECT™ software uses Remote Admin Workstations for remote administering of the INTELLECT™ software, set on servers and other Remote Admin Workstations of the distributed video surveillance system, and as the specialized platforms for: video gate, remote archive server, remote web server etc. The Remote Admin Workstation can realize several of these functions or one of them.

Remote Admin Workstation hardware and the program platform generally contain:

1. A personal computer, that meets the requirements of INTELLECT™ software.
2. A Guardant dongle.
3. Set Intellect™ software (“Remote Admin Workstation” configuration).
4. A license key file.
5. MS SQL server software for control of the Intellect™ system database.

8.1.2.2 *Remote Admin Workstation setup*

In a simple case Remote Admin Workstation may be used for remote administering only.

Follow the steps to set up Remote Admin Workstation:

1. Sync the Remote Admin Workstation database to other servers and Remote Admin Workstation databases (for example, via the centralized database of the administering server, see “Database administering”).

2. Launch the INTELLECT™ program on Remote Admin Workstation.

3. With remote setup (e.g., from the administering server) register the “Computer” object, which corresponds to the Remote Admin Workstation, and set the interaction parameters with the servers, Remote Admin Workstations, Remote Monitoring Workstations of the distributed video surveillance system (see “INTELLECT ™software system configuring with distributed architecture of the digital video surveillance system”). With setting up a Remote Admin Workstation on a local PC, the relevant “Computer” object is created automatically on the “Hardware” tab during the first startup.

4. Set up hardware performance tester and the Restart service (see the title Sections).

5. If auto options are to be used, create the macros, time zones, connect and set up the Notification services (see the title Sections).

6. If Remote Admin Workstation is to be used as an Operator’s workstation, set up the user interface: video surveillance monitor, audio player, map etc. (see “User interface setup”).

7. Assign users the rights to work with Remote Admin Workstation system objects (see Managing user rights and authorisation).

8. Setup the logging of events, registered for Remote Admin Workstation system objects (see “Event log.setup”).

8.1.2.3 *Video gateway setup*

Video gateways are used in large-scale distributed video surveillance systems for video signal routing among the servers and Remote Monitoring Workstations (or Remote Admin Workstation with Remote Monitoring Workstations functions) from different subnets.

Follow the steps to set up the gateway:

1. Sync the gateway database to other servers and Remote Admin Workstation databases (for example, via the centralized database of the administering server, see “Database administering”).

2. Launch the INTELLECT™ program on the gateway.

3. With gateway remote setup (e.g., from the administering server) you need to register the “Computer” object, which corresponds to the Remote Admin Workstation, and to set the interaction parameters with the servers, Remote Admin Workstations, Remote Monitoring Workstations of the distributed video surveillance system (see “INTELLECT ™software system configuring with distributed architecture of the digital video surveillance system”). With gateway local setup, the relevant “Computer” object is created automatically on the “Hardware” tab during the first startup.

4. Connect and set up the “Gateway” module (see “‘Gateway’ module setup”).

5. Set up hardware performance tester and the Restart service (see the title Sections).

6. If auto options are to be used, create the macros, time zones, connect and setup notification services (see the title Sections).

7. Assign users the rights to work with the video gateway system objects (see Managing user rights).

8. Set up logging of events, registered for the gateway system objects (see Event log setup").

8.1.2.4 *Remote archive server setup*

INTELLECT™ software has a backup archiving option for video records from the video surveillance servers. As the archiving process requires great computer resources (RAM, processor capacity), archiving should not be performed on the servers directly. It is strongly recommended to choose the separate Remote Admin Workstation as the archiving server.

Follow the steps to set up the archiving server:

1. Sync the archiving server database to the other servers and Remote Admin Workstation databases (for example, via the centralized database of the administering server, see "Database administering").

2. Launch the INTELLECT™ program on the archiving server.

3. When setting up the archiving server remotely (e.g., from the administering server) you need to register the "Computer" object, which corresponds to the archiving server, and to set the interaction parameters with the servers, Remote Admin Workstations, Remote Monitoring Workstations of the distributed video surveillance system (see "INTELLECT ™software system configuring with distributed architecture of the digital video surveillance system"). When setting up the local archiving server, the relevant "Computer" object is created automatically on the "Hardware" tab during the first startup.

4. Connect and set up the "Active archive" module (see "Backup video archiving setup").

5. Set up the hardware performance tester and Restart service (see the title Sections).

6. If auto options are to be used, create the macros, time zones, connect and setup Notification services (see the title Sections).

7. Assign users the rights to work with Remote Admin Workstation system objects (see "Managing user rights and authorisation").

8. Set up logging of events, registered for Remote Admin Workstation system objects (see "Event log.setup").

8.1.2.5 *Remote Web server setup*

The video surveillance system based on INTELLECT™ software uses the remote web server to transmit video signals and to receive Operator's commands via the Internet. It is recommended for large-scale systems with a distributed structure to use the remote web server on the separate Remote Admin Workstation instead of a local one on any server.

Note. The remote web server should be allocated in the separate subnet and on the outer IP address (for its operation as an Internet HTTP server). Therefore the web server should be set to receive video signals via the gateway.. The video gateway may be the remote one (remote computer with "Gateway" module set) or the local one ("Gateway" module set on the same computer with the web server).

Follow the steps to set up the remote web server:

1. Sync the web server database to other servers and Remote Admin Workstation databases (for example, via the centralized database of the administering server, see "Database administering").
2. Launch the INTELLECT™ program on the web server.
3. With remote web server setup (e.g., from the administering server), you need to register the "Computer" object, which corresponds to the web server, and to set the interaction parameters with the servers, Remote Admin Workstations, Remote Monitoring Workstations of the distributed video surveillance system (see "INTELLECT ™software system configuring with distributed architecture of the digital video surveillance system"). With web server local setup, the relevant "Computer" object is created automatically on the "Hardware" tab during the first startup.
4. Connect and set up the "Web server" module (see "Web server setup").
5. If no remote gateway is used, connect and set up the "Gateway" module (see "Gateway setup").
6. Set up hardware performance tester and the Restart service (see the title Sections).
7. If auto options are to be used, create macros, time zones, connect and setup notification services (see the title Sections).
8. Assign users rights to work with web server system objects (see Administration of user rights and authorization).
9. Set up logging of events, registered for web server system objects (see "Event log setup").

8.1.3 Setting up Remote Monitoring Workstations (RMW)

8.1.3.1 *Remote Monitoring Workstation hardware and program platform*

Remote Monitoring Workstations are used as Operator's workstations and provide remote video surveillance and audio monitoring: video and audio monitoring, sensor status control, cameras and PTZ units control and so on. Administering options are inaccessible at a Remote Monitoring Workstation.

The remote Monitoring Workstation hardware and program platform generally contains:

1. A personal computer, that meets the requirements of INTELLECT™ software.
2. The Intellect™ software ("Remote Monitoring Workstation" configuration).

8.1.3.2 *Setting up a Remote Monitoring Workstation*

The basic function of the remote Monitoring Workstation is to receive video and audio signals from video surveillance system servers, video and audio monitoring, cameras, microphones and PTZ units

control via various components of the Operator interface (video surveillance monitor, audio player, map, PTZ window etc.).

Follow the steps to set up the Remote Monitoring Workstation:

1. Register the “Computer” object, which corresponds to the Remote Monitoring Workstation, and set the interaction parameters with the servers, Remote Admin Workstations, Remote Monitoring Workstations of the distributed video surveillance system on the administering server (see “INTELLECT ™software system configuring with distributed architecture of the digital video surveillance system”).

2. Set up the User interface by creating screen(s) and setting up the Remote Monitoring Workstation access to them. The screen(s) should contain the user interface components: video surveillance monitor, audio player, map etc. (see “User interface setup”).

8.2 Configuration of the “INTELLECT™software system with distributed architecture of the digital video surveillance system”

8.2.1 General build-up principles of the digital video surveillance system with distributed structure

The digital video surveillance system generally contains:

1. Servers - hardware and program platforms used to receive and process video and audio signals from analog and IP surveillance cameras.

2. Remote Admin Workstations - hardware and program platforms used for remote administering of the video surveillance system and as the specialized platforms for: video gateway, remote archive server, remote web server etc.

3. Remote Monitoring Workstation - hardware and program platforms used as Operator’s workstations to realize remote video surveillance and audio monitoring:

Servers, Remote Admin Workstations and Remote Monitoring Workstations are integrated into the video surveillance system, fitting the system set of functions, safety requirements, specific features of the guarded location etc. The video surveillance system may include several subnets, that interact via selected (node) servers and Remote Admin Workstations. The distributed architecture of the video surveillance system provides synchro data exchange (events, commands, setting parameters, etc) among its components.

8.2.2 Configuring the distributed system

To configure the distributed video surveillance system, follow the steps:

1. Design the surveillance system structure project, if it has not been developed before.

2. Set up database synchronization for all servers and Remote Admin Workstations in compliance with the system structure project.

3. Register the servers, Remote Admin Workstations and Remote Monitoring Workstations from the same subnet on the administering server of this subnet (or at node Remote Admin Workstations and servers, that optionally realize the administering server function, if there are

any subnets). If any selected subnets are present in the system, register the servers and Remote Admin Workstations that provide interaction of subnets.

4. Set up interaction of servers, Remote Admin Workstation and Remote Monitoring Workstations in compliance with the system structure project.

8.2.3 Deciding on the structure of the distributed system

While designing the distributed video surveillance system structure you should take into account:

1. The number of servers, Remote Admin Workstations and Remote Monitoring Workstations to be installed on the guarded location.

2. The distances between video surveillance system components and their comminication channels capacity. For example, servers are divided by long stretches of land, and the Remote Admin Workstation and Remote Monitoring Workstation are within the same room – the central surveillance station. Given the engineering constraints, servers will have the low capacity channels, and the Remote Admin Workstation and Remote Monitoring Workstation will have high capacity channels. Then Remote Admin Workstation and Remote Monitoring Workstation will interact with the servers via the gateway only.

3. The system security requirements, for example, to prevent unauthorized administering, subnets with servers and Remote Admin Workstations and subnets with Remote Monitoring Workstations, are separated. Subnets interact via the gateway only.

An example of organization of the distributed video surveillance system is shown in Figure 8.2-1.

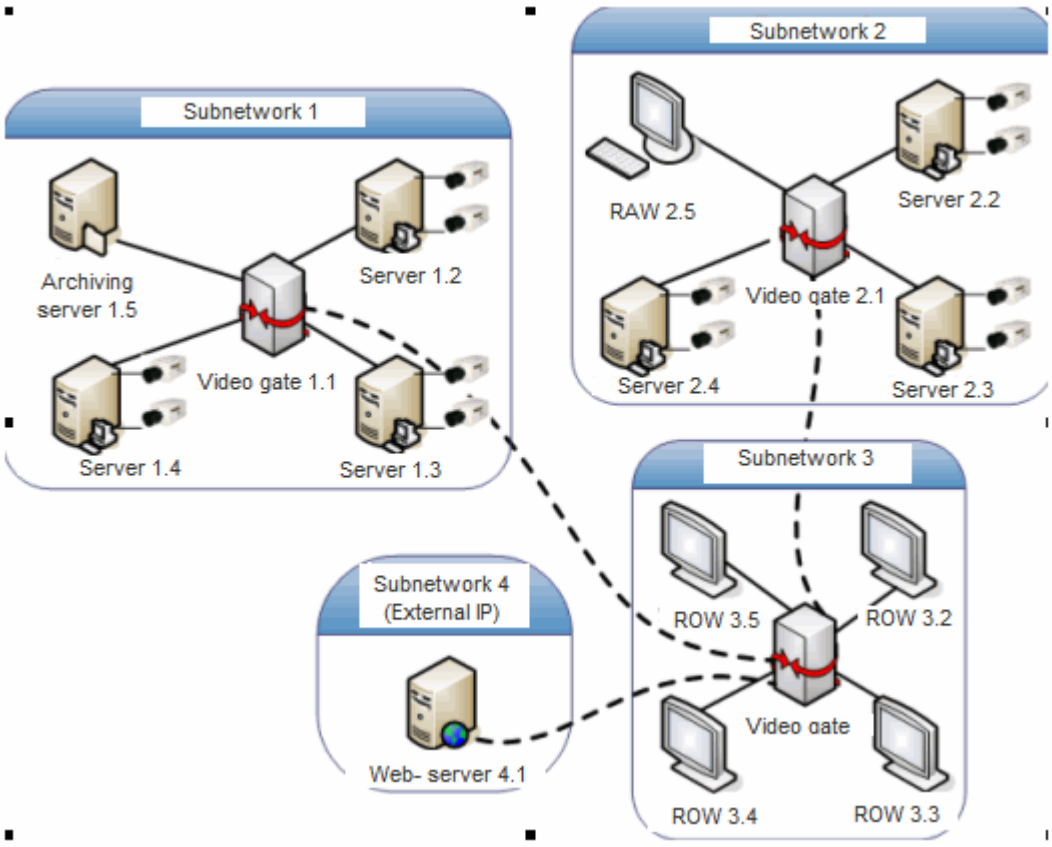


Figure 8.2-1. Example of a distributed video surveillance system

8.2.4 Synchronizing of the servers and remote workstations databases

INTELLECT™ software servers and Remote Admin Workstations configuration parameters are stored in the distributed database. Each server and Remote Admin Workstation store local copies of the distributed database. Local database copies should be synced to provide distributed operation of INTELLECT™ software and data replication (synchro alteration of local database copies).

Synchronizing of servers and Remote Admin Workstations should comply with the video surveillance system project design (see the previous Section).

In the simplest case, database synchronization is performed for all servers and Remote Admin Workstations with the database of the administering server (Figure 8.2-2).

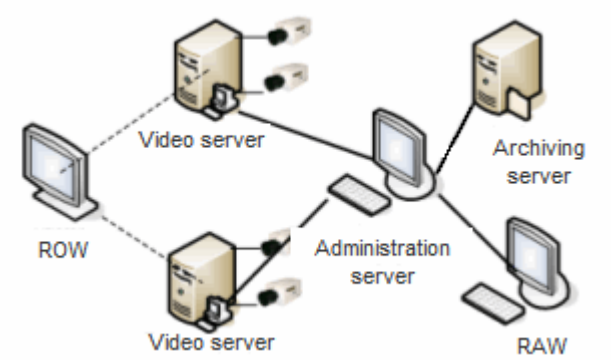


Figure 8.2-2. The simplest database synchronization

Note. The Remote Monitoring Workstation has no database; therefore the administering server database should not be synced with it.

If any selected subnets are present in the system, the servers and Remote Admin Workstation databases should be synced with the node server or Remote Admin Workstation database (see, for example, Figure 8.2-3).

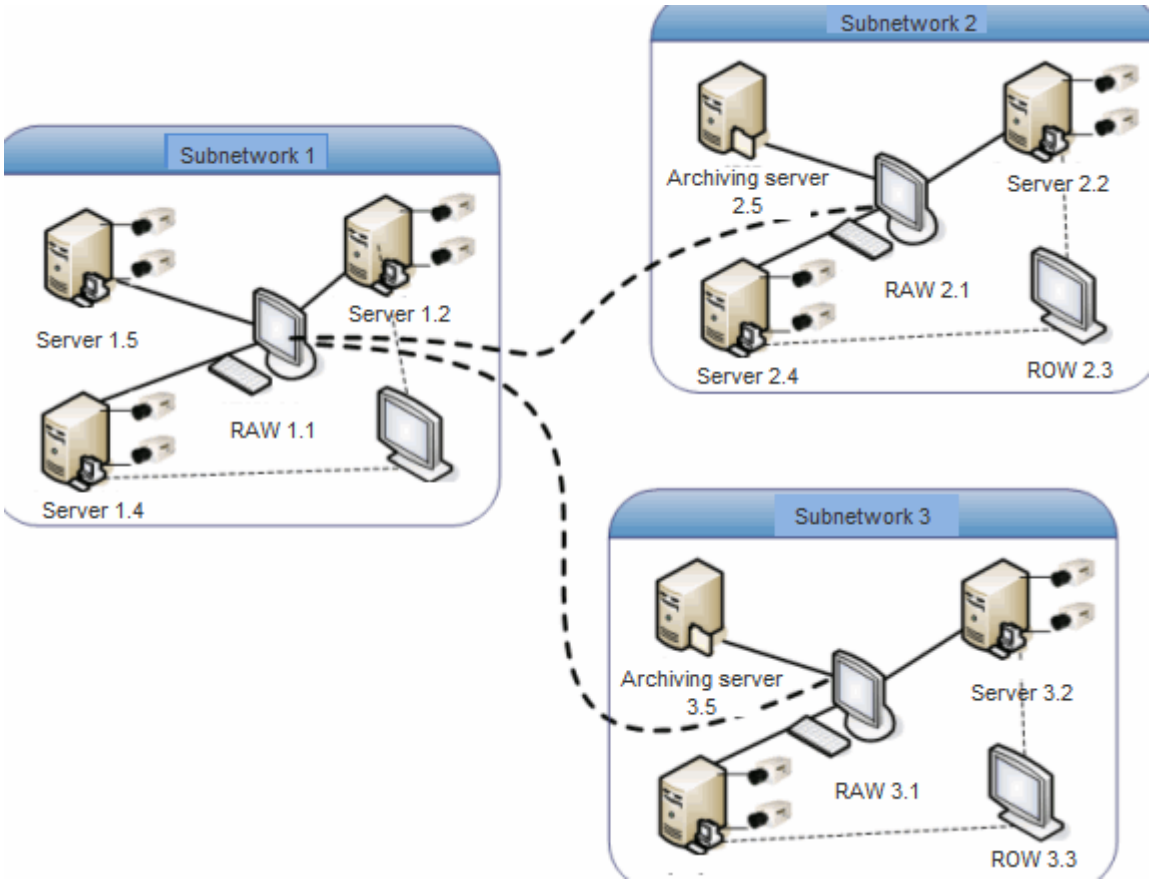


Figure 8.2-3. Example of a distributed video surveillance system with selected subnets

For example, to set up database synchronization for the servers of the distributed system shown in Figure 8.2-3, you need:

1. to sync the databases of 1.2, 1.4, 1.5 servers with 1.1 Remote Admin Workstation database;
2. to sync the databases of 2.2, 2.4 servers and 2.5 archiving server with 2.1 Remote Admin Workstation database;
3. to sync databases of 3.2, 3.4 servers and 3.5 archiving server with 3.1 Remote Admin Workstation database;
4. to sync databases of 3.1 and 2.1 and Remote Admin Workstations with 1.1 Remote Admin Workstation database;

For detailed instructions on database synchronization setup see “Database administering”.

8.2.5 Registration of servers and remote workstations on the administering server

Administering the servers and Remote Admin Workstations is usually performed from one selected Workstation – the administering server. It is recommended to have one administering server for any single selected video surveillance subnet (e.g. for security reasons).

All servers, Remote Admin Workstations and Remote Monitoring Workstations should be registered on the administering server.

To register the servers and remote Workstations on the administering server, follow the procedure:

1. Make sure that the synchronization of all servers and Remote Admin Workstations databases with the administering server database is set properly (see the previous section).

2. Check the servers, Remote Admin Workstations and Remote Monitoring Workstations connections to the subnet.

3. Launch the INTELLECT™ program on the administration server.

4. Register the “Computer” system object on the administering server for each server. Remote Admin Workstation or Remote Monitoring Workstation. For that follow the steps:

    a. Go to the «Hardware” tab in the “System Settings” dialog box (Figure 8.2-4).

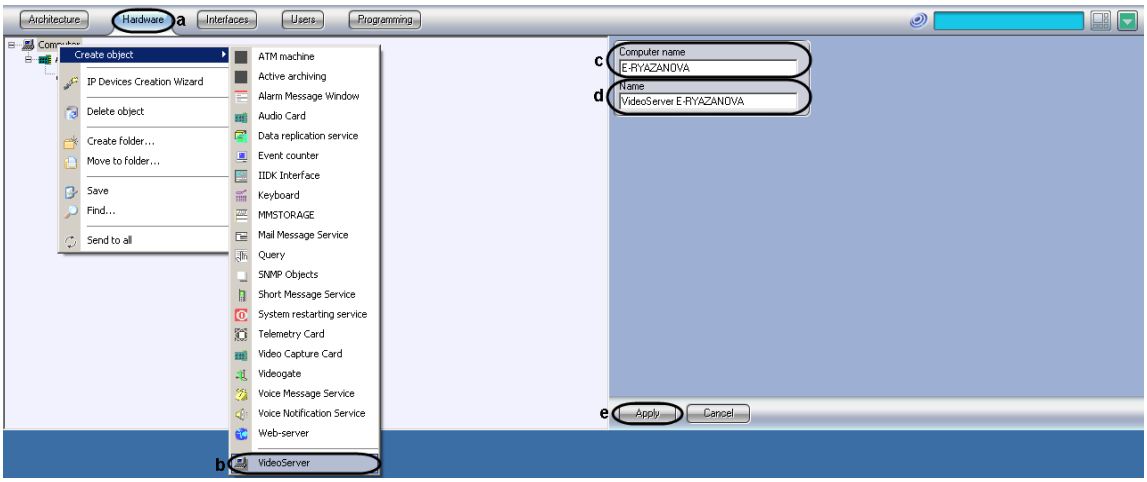


Figure 8.2-4. Server, Remote Admin Workstation or Remote Monitoring Workstation registration

    b. Create a “Computer” object on the base of the “Computer” object.

    c. Enter the network name of the server, Remote Admin Workstation or Remote Monitoring Workstation in the “Computer name” field.

    d. Enter the name, used for the computer by the INTELLECT™ software, in the “Name” field.

    e. Click the “Apply” button.

5. Repeat the 4th step for each server, Remote Admin Workstation and Remote Monitoring Workstation of the distributed video surveillance system (or its subnet).

6. Start the INTELLECT™ program on all operator and administration workstations and servers.

7. If communication exists between the administering server and the server, Remote Admin Workstation or Remote Monitoring Workstation, the “Computer” object will be assigned the «» icon on the object tree.

8. If no connection exists between the administering server and the server, Remote Admin Workstation or Remote Monitoring Workstation, the “Computer” object will be assigned the «» icon on the object tree. The most probable causes of disconnection are INTELLECT™ software failure on the server, Remote Admin Workstation or Remote Monitoring Workstation;

network disconnection, faulty database synchronization, wrong network name. Detect and remove the cause of disconnection before continuing to configure the system, then try to connect the administering server to the server, Remote Admin Workstation or Remote Monitoring Workstation again.

To connect to the the server, Remote Admin Workstation or Remote Monitoring Workstation from the remote administering server without restarting INTELLECT™ software, right click the relevant “Computer” object to display the context menu and select “Reconnect” (Figure 8.2-5).

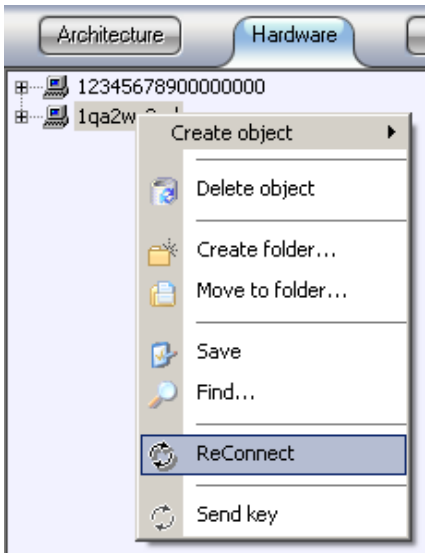


Figure 8.2-5. Forced Server, Remote Admin Workstation or Remote Monitoring Workstation connection

Registration of servers, Remote Admin Workstations and Remote Monitoring Workstations on the administering server is completed.

8.2.6 Distributed system interaction settings

To provide distributed system operation, servers, Remote Admin Workstations and Remote Monitoring Workstations interaction should be setup. Servers, Remote Admin Workstations and Remote Monitoring Workstations interaction means database (for servers and Remote Admin Workstations only) and event exchange. For each server, Remote Admin Workstation and Remote Monitoring Workstation lists should be composed of interacting and non-interacting servers, Remote Admin Workstations and Remote Monitoring Workstations.

Settings of the surveillance system interaction are performed from the administering server or, in the presence of selected subnets, from the node server or Remote Admin Workstation.

To set up the interaction among the distributed system components, follow the steps:

1. Go to the “Architecture” tab in the “System Setup” dialog box (see Fig. 162).

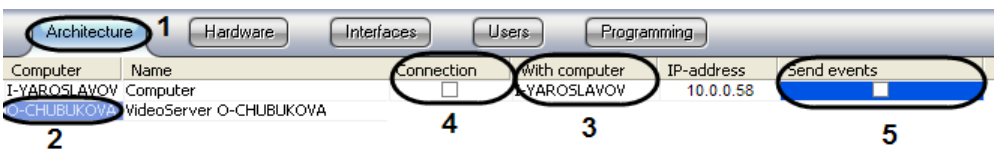


Figure 8.2-6. Settings of the distributed system components interaction

2. The “Computer” column displays the list of servers, Remote Admin Workstation and Remote Monitoring Workstation names, registered on the “Equipment” tab. Left click the name of the server, Remote Admin Workstation or Remote Monitoring Workstation to change its interaction settings. Text in the selected cell becomes gray.

3. The “With computer” column displays the list of those servers, Remote Admin Workstations and Remote Monitoring Workstations, with which the selected server, Remote Admin Workstation or Remote Monitoring Workstation is able to interact.

4. If the box against the “Connection” column and the row, corresponding to the server, Remote Admin Workstation or Remote Monitoring Workstation is checked, then the data on system configuration of the selected server, Remote Admin Workstation or Remote Monitoring Workstation with any server, Remote Admin Workstation or Remote Monitoring Workstation is exchanged. To forbid exchange of configuration data with the selected server, Remote Admin Workstation or Remote Monitoring Workstation, remove the check in the “Connection” column.

5. If the selected server, Remote Admin Workstation or Remote Monitoring Workstation exchanges events with any other server, Remote Admin Workstation or Remote Monitoring Workstation, a check appears in the cell on the crossing of the “Send event” column and the row, corresponding to the server, Remote Admin Workstation or Remote Monitoring Workstation. To forbid event exchange with the selected server, Remote Admin Workstation or Remote Monitoring Workstation, remove the check in the “Send event” column.

6. If modems are used for connecting the distributed system components, complete the Connection, User and Password fields in the Hardware tab of the Computer object according to the Windows modem configuration used. Repeat steps 2-5 for each twain of servers, Remote Admin Workstations and Remote Monitoring Workstations, to disable their interaction.

Settings of the distributed video surveillance system components interaction is completed.

Let’s consider setup of a server and Remote Admin Workstation connection via video gate as an example. A diagram of interaction of relevant components is shown in Figure 8.2-7.

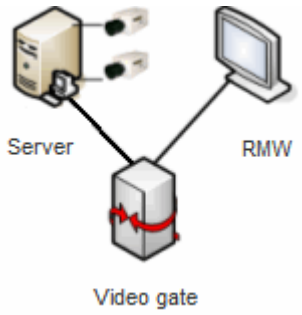


Figure 8.2-7. Server and Remote Admin Workstation connection via video gate

According to the diagram, shown in Fig. 163, interaction must be disabled between the server (SERVER1) and Remote Monitoring Workstation (MN1). As a result of setup, the “Architecture” tab should display the settings:

1. For the video gate (GATE), interaction must be set with the server (SERVER1) and with the Remote Monitoring Workstation (MN1) (Figure 8.2-8).

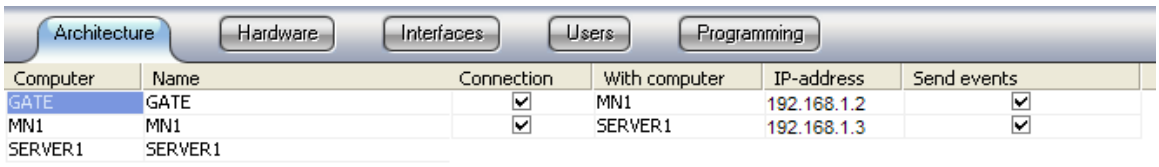


Figure 8.2-8. Interaction settings for the video gate (GATE), the server (SERVER1) and Remote Monitoring Workstation (MN1).

2. For Remote Monitoring Workstation (MN1), interaction must be set up with the video gate (GATE), and interaction with the server (SERVER1) should be disabled (Figure 8.2-9).

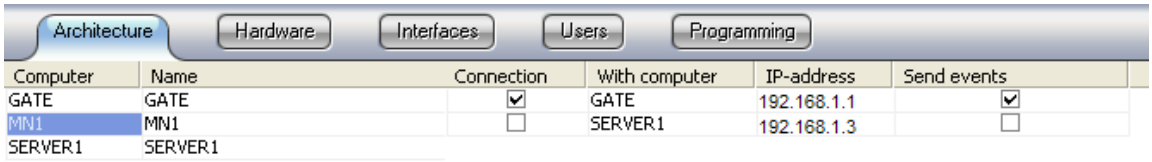


Figure 8.2-9. Interaction settings for the Remote Monitoring Workstation (MN1), the video gate (GATE) and the server (SERVER1)

3. For the server (SERVER1), interaction must be set up with the video gate (GATE), and interaction with the Remote Monitoring Workstation (MN1) should be disabled (Figure 8.2-10).

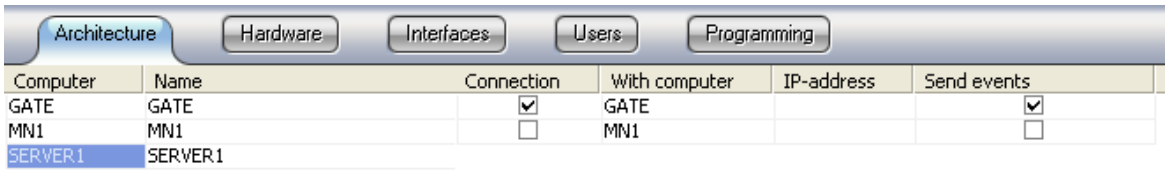


Figure 8.2-10. Interaction settings for the server (SERVER1), the video gate (GATE) and Remote Monitoring Workstation (MN1)

The Remote Monitoring Workstation (MN1) “Computer” object on the «Hardware” tab in the “System Settings” dialog box on the server (SERVER1) will have the « » icon with its name in gray. This indicates that administering of the given object is forbidden.

8.3 INTELLECT™ software database management

8.3.1 INTELLECT™ software database functions

INTELLECT™ software database provides:

1. Data storage:

a. data on registered system objects and their settings;

b. departments and user accounts and rights;

c. on registered system events;

d. on changes in servers and Remote Admin Workstations configuration;

e. on changes in registered system object specifications and their settings;

f. data on network names and IP-addresses of distributed system servers, Remote Admin Workstations, Remote Monitoring Workstations and their interaction parameters;

2. Data replication from different servers and Remote Admin Workstations.

The main and the single default database of the INTELLECT™ software is the “Configuration” database. The “Configuration” database is used to realize all the above-listed functions.

INTELLECT™ software can be configured to store the registered system events not in the default “Configuration” database, but in the “Events log” database.

8.3.2 Guidelines on INTELLECT ™ system database use

To provide effective and steady performance of the INTELLECT ™ system, take into account the recommendations on database use below:

1. Store the “Configuration” database on the MS SQL server. If MS Access is used to store the database, it is strongly recommended to install the MS SQL server and to convert the database from MS Access to MS SQL format.

2. Servers and Remote Admin Workstation databases should be synced with the administering server database.

3. If long-term centralized storage is necessary for registered system events, then it is recommended to apply INTELLECT™ software configuration at servers and Remote Admin Workstations in order to store events that are not in the “Configuration” database, but in the “Events log” database.

8.3.3 Converting the database from MS Access to MS SQL format

Intellect™ software version 4.7.6 is default configured to operate with the database MS SQL server format. MS Access format databases have been used in previous Intellect™ software versions. If the system needs configuration parameters, stored in MS Access format after INTELLECT™ software has been updated to version 4.7.6, it is strongly recommended to convert the database into MS SQL server format.

To convert the database from MS Access to MS SQL server format, follow the steps:

1. Set up MS SQL server software, if it has not been set up before.

2. Make sure that the MS SQL server software is.

3. Launch the idb.exe utility in the root of the INTELLECT™ software installation directory (for example, C:\Program Files\Intellect). The idb.exe utility dialog box is displayed (Figure 8.3-1).

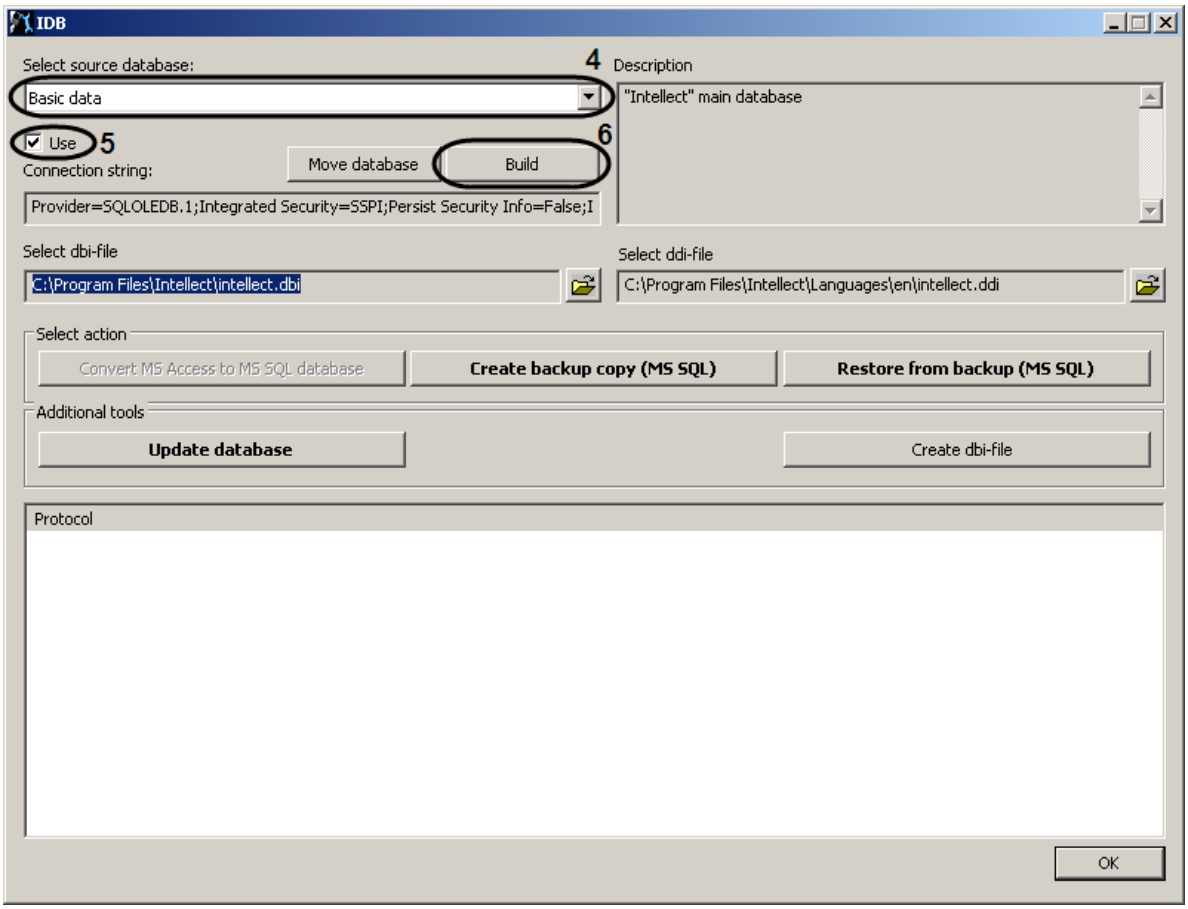


Figure 8.3-1. The idb.exe utility dialog box

4. Choose the «Basic data» item from “Select data source” list.
5. Check the “Use” checkbox, if not checked before.
6. Click the “Build” button.
7. The “Data link properties” dialog box is displayed. Go to the “Provider” tab in the “Data link properties” dialog box (Figure 8.3-2).

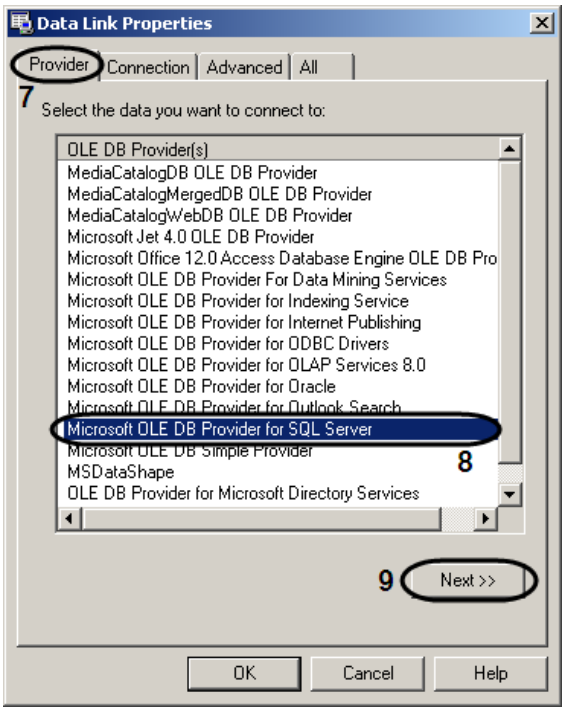


Figure 8.3-2. The “Data link properties” dialog box. The “Provider” tab

8. Select “Microsoft Jet 4.0 OLE DB Provider” from the “OLE DB Providers” list.

9. Click the “Next” button.

10. As soon as the “Next” button is clicked, the dialog box automatically takes you to “Connection” tab (Figure 8.3-3).

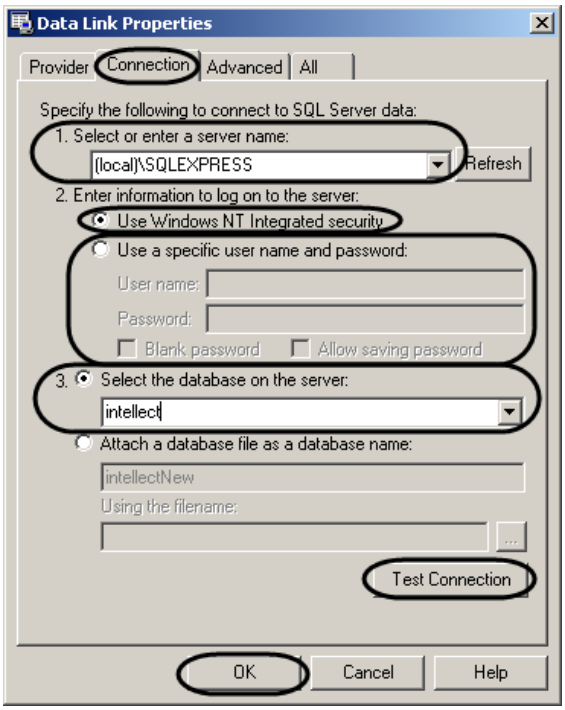


Figure 8.3-3. The “Data link properties” dialog box. The “Connection” tab

11. Type the complete path to the database file in the “1. Select or enter a database name” or select the necessary file from the file opening dialog box, which is displayed by the “…” button.

12. Enter the user name (login) for database access in the “User” field. If database access is not protected, leave the field empty.

13. If access to the database is protected, remove the default “Blank password” check and enter the database access password into the “Password” field.

14. Click the “Test Connection” button.

15. If MS SQL server connection was completed, the “Test connection succeeded” message is displayed (Figure 8.3-4).

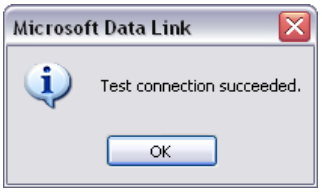


Figure 8.3-4. Database connection completion message

Click the “OK” button to close the window.

16. If the MS SQL server name and/or authentication parameters of MS SQL server connection were entered incorrectly, the relevant error message will pop up (Figure 8.3-5).

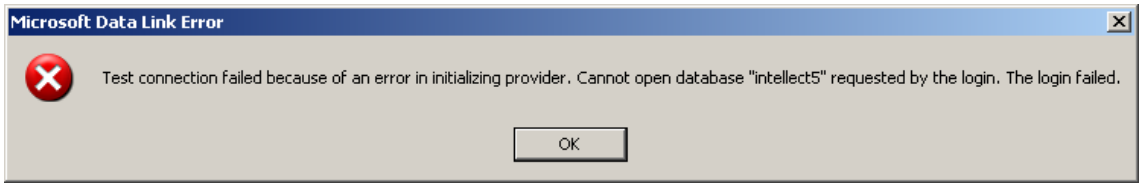


Figure 8.3-5. Example of the disabled SQL server connection message

Click the “OK” button to close the window. Then enter the correct password and try the MS SQL server connection again.

17. Click the “OK” button in the “Data link properties” dialog box. The window closes.

18. Update the database structure. To do that click the “Convert MS Access to MS SQL” button in the idb.exe utility dialog box.

19. The “Select MS SQL server” message appears (Figure 8.3-6).

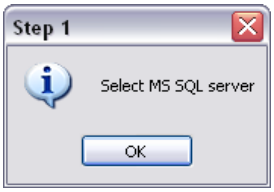


Figure 8.3-6. The “Select MS SQL server” message

Click the “OK” button to close the window.

20. The “Data link properties” dialog box is displayed. In the “1.Select or enter a server name” select from the list or type the name of the MS SQL server, which will be used to convert the database (Figure 8.3-7).

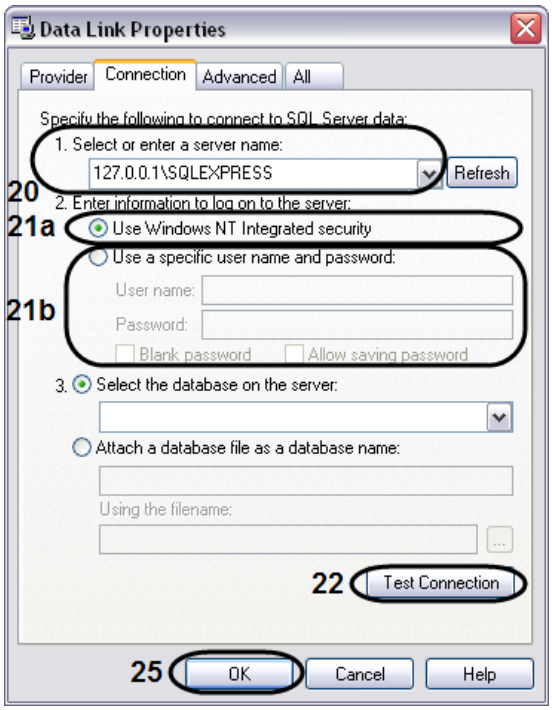


Figure 8.3-7. MS SQL server choice

21. The “Enter information to log on to the server” box is checked to enter the type and authentication parameters of MS SQL server connection. MS SQL server authentication is performed through the user account, authorized in Windows OS, or the user name (login) and password, that protect the MS SQL server connection.

The method and parameters of authentication at the MS SQL server are set during MS SQL server installation.

Different settings need to be entered, with different authentication techniques for MS SQL server connection:

a. If MS SQL server authentication is performed through the user account in Windows OS, switch to the “Windows NT account” box and check it.

Note. If converting is performed via remote SQL server, it is necessary to log in computer with MS SQL server the user’s current account from computer that performs the conversion.

b. If MS SQL server authentication is performed through the user login and password, follow the sequence:

- switch to to the “Next user name and password” position.
- in the “User” field: enter the user name (login) to connect MS SQL server.

- if access to the MS SQL server is password protected, remove the default “Blank password” check and enter the database access password into the “Password” field.

22. Click the “Test Connection” button.

23. If MS SQL server connection was completed, the “Test connection succeeded” message is displayed (Figure 8.3-8).

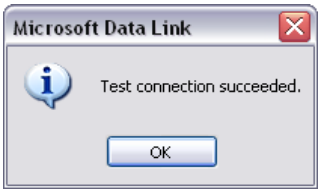


Figure 8.3-8. Database connection completion message

Click the “OK” button to close the window.

24. If the MS SQL server name and/or authentication parameters of the MS SQL server connection were misentered, the relevant message will appear (Figure 8.3-9).

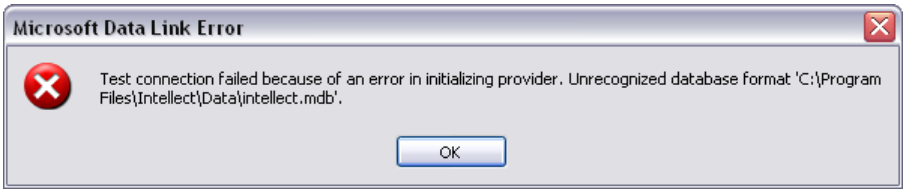


Figure 8.3-9. Example of the disabled SQL server connection message

Click the “OK” button to close the window. Then enter the correct password and try MS SQL server connection again.

25. Click the “OK” button in the “Data link properties” dialog box.

26. The “Enter database name” message will appear (Figure 8.3-10).



Figure 8.3-10. The “Enter database name” message

Enter the name to be used for database storage on the MS SQL server in the top field. It is default recommended to use “INTELLECT” as the database name.

Note. If the MS SQL server has a database with the same name, as has been entered in the “Enter the database name” field, it will be overwritten.

Confirm the entry of the database name by clicking the “OK” button and close the window.

27. Then the database conversion process starts from MS Access to the MS SQL server format, and the relevant steps appear in the “Protocol” table in the idb.exe utility dialog box (Figure 8.3-11).

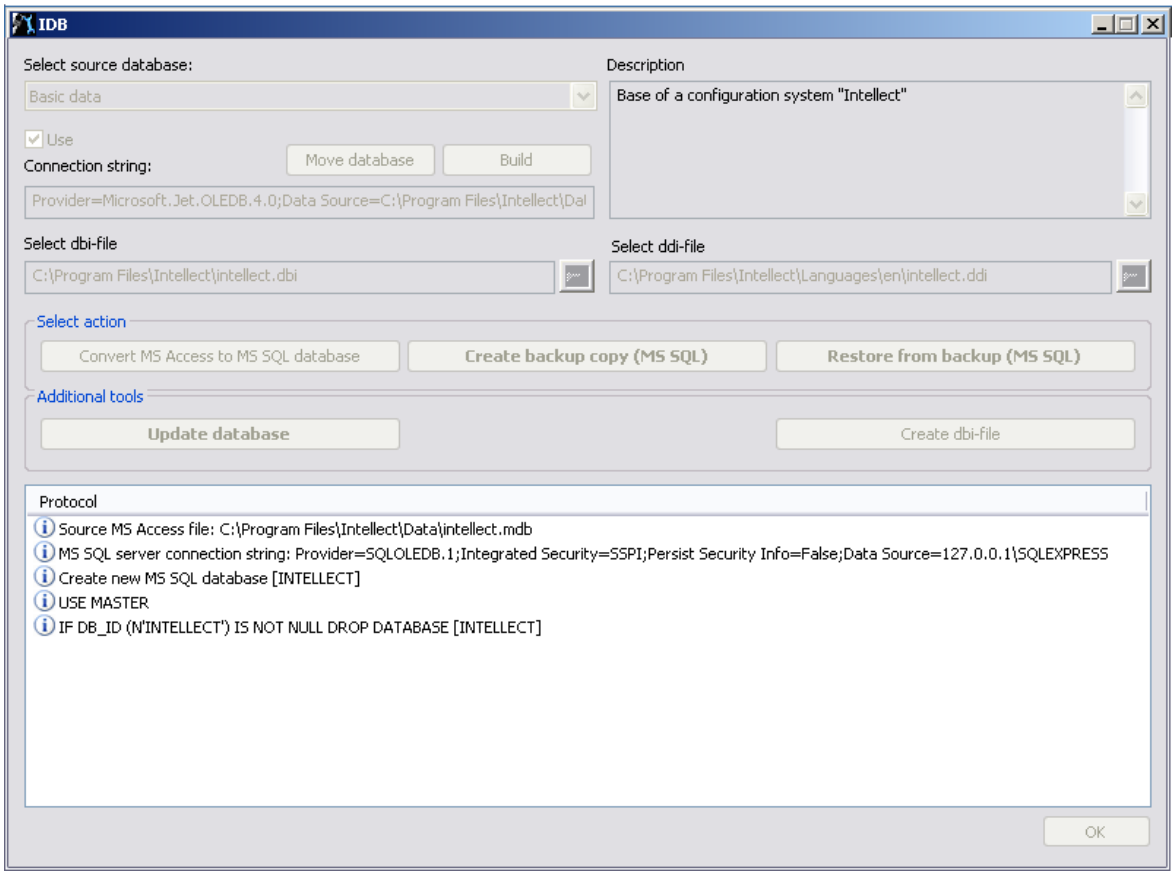


Figure 8.3-11. Displaying the messages on the database conversion progress

28. After the database conversion process is completed the request message appears: “Reset current connection to MS SQL?” «{0>.<}64{>(Figure 8.3-12).

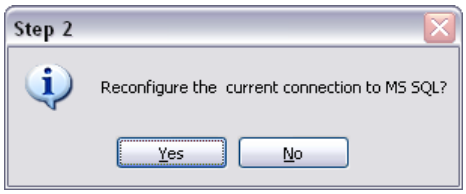


Figure 8.3-12. The “Reset current connection to MS SQL?” message

Click the “Yes” button, if you want to set up INTELLECT™ software to operate with a MS SQL server format database, converted from MS Access format. Otherwise click “No”.

When the conversion process is successfully completed, the “Completed!” step appears in the “Protocol” table in the idb.exe utility window.

29. Click the “OK” button in the bottom right corner of the idb.exe utility window.

Converting the database from MS Access to MS SQL format is completed.

8.3.4 INTELLECT™ software database connection

When the Intellect™ software version 4.7.6 is installed, it is configured to operate with the “INTELLECT” MS SQL server database.

Note. If the current database is stored in MS Access format, it needs to be converted to MS SQL format before INTELLECT™ software connection setup.

To connect the INTELLECT™ software “Configuration” database, follow the procedure:

1. Make sure that MS SQL Server software is.
2. Launch the idb.exe utility in the root of the INTELLECT™ software installation directory (for example, C:\Program Files\Intellect). The idb.exe utility dialog box is displayed (Figure 8.3-13).

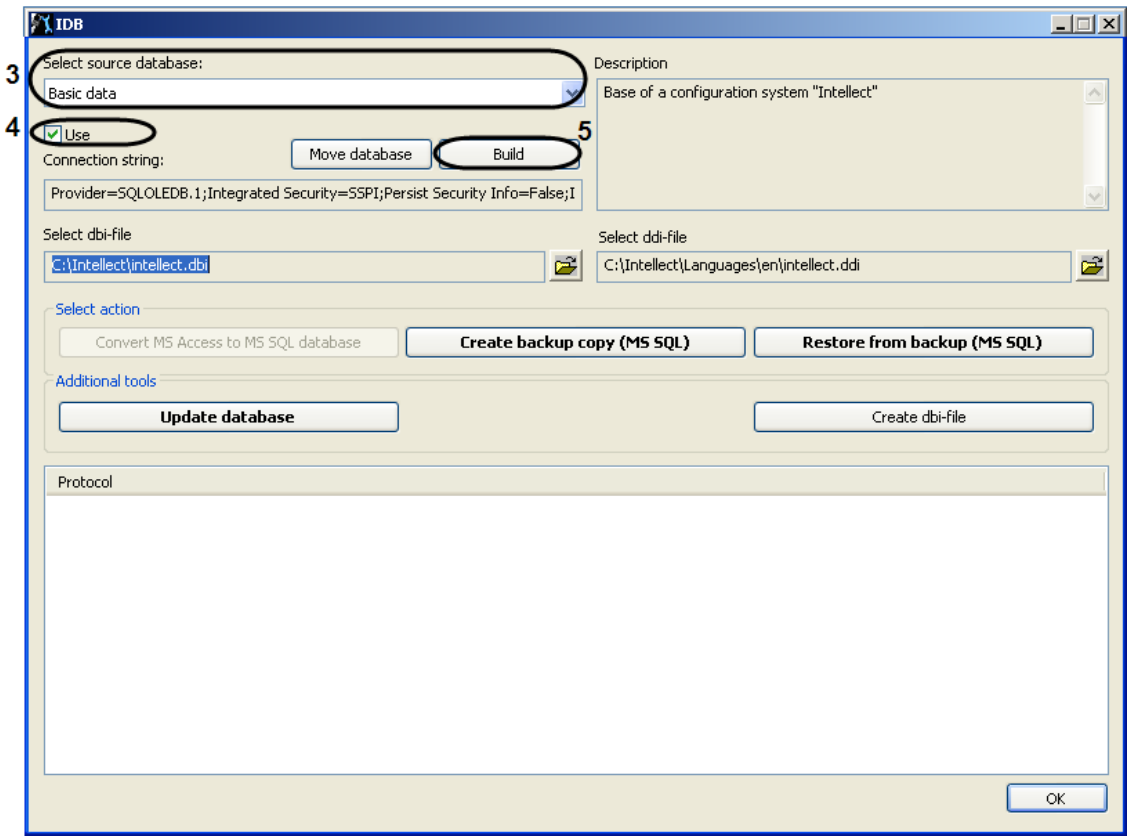


Figure 8.3-13. The idb.exe utility dialog box

3. Choose the «Basic data» item from the “Select data source” list.
4. Set “Use” check , if not set before.
5. Click the “Build” button.
6. The “Data link properties” dialog box is displayed. Go to the “Provider” tab in the “Data link properties” dialog box (Figure 8.3-14).

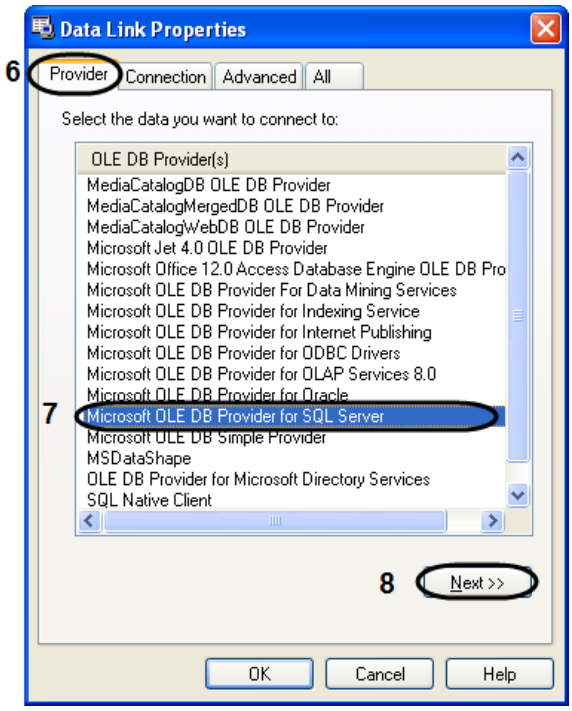


Figure 8.3-14. The "Data link properties" dialog box. The "Provider" tab

7. Select "Microsoft Jet 4.0 OLE DB Provider for SQL Server" from the "OLE DB Providers" list.
8. Click the "Next" button.
9. As soon as the "Next" button is clicked, go to "Connection" tab is automatically performed (Figure 8.3-15).

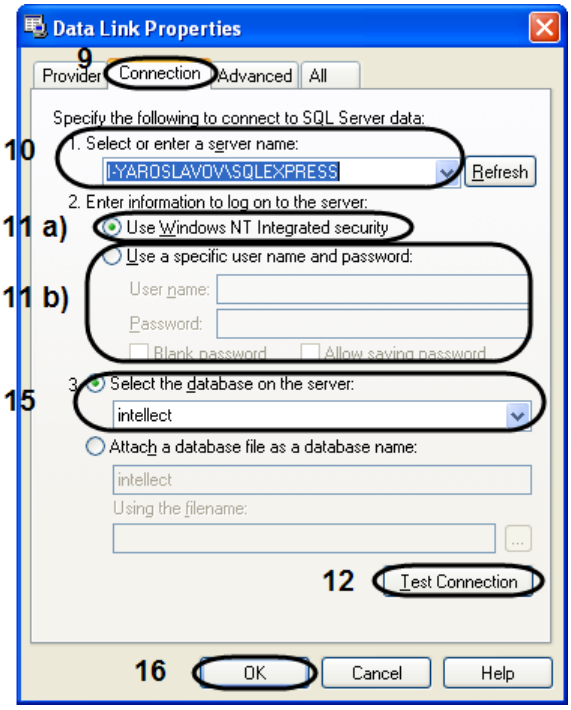


Figure 8.3-15. The "Data link properties" dialog box. The "Connection" tab

10. In the “1.Select or enter a server name” select from the list or type the MS SQL server name, which is used to store the database to be connected (Figure 8.3-15).

11. The “2.Enter information to log on to the server” group is used to enter the type and authentication parameters of the MS SQL server connection. MS SQL server authentication is performed through the user account, authorized in Windows OS, or by user name (login) and password, that protect the MS SQL server connection.

The method and parameters of authentication at the MS SQL server are set during MS SQL server installation.

Different parameters need to be entered, with different authentication techniques for MS SQL server connection:

a. If MS SQL server authentication is performed through the user Windows OS account, switch to the “Windows NT account” position.

Note. If converting is performed via the remote SQL server, the computer with MS SQL server installed must show the current user account. And the user is logged on under this account at the computer that performs the database connection.

b. If MS SQL server authentication is performed through the user login and password, follow the steps:

- Switch to the “Next user name and password”;
- In the “User” field: enter the user name (login) to connect to the MS SQL server.
- If access to the MS SQL server is password protected, remove the default “Blank password” check and enter the database access password into the “Password” field.

12. Click the “Test Connection” button.

13. If MS SQL server connection was completed, the “Test connection succeeded” message is displayed (Figure 8.3-16).

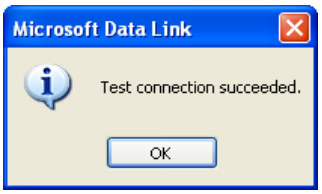


Figure 8.3-16. Database connection completion message

Click the “OK” button to close the window.

14. If the MS SQL server name and/or authentication parameters of the MS SQL server connection were entered inaccurately, the error message will appear (Figure 8.3-17).

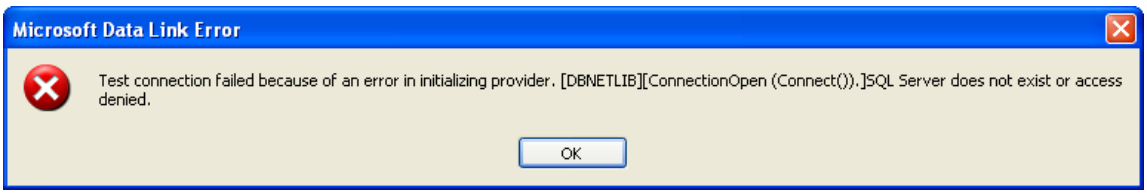


Figure 8.3-17. Example of the disabled SQL server connection message

Click the “OK” button to close the window. Then enter the correct password and try the MS SQL server connection again.

15. From the “Select source database” list choose the name of the database to be connected.

16. Click the “OK” button in the “Data link properties” dialog box. The window closes.

17. It is strongly recommended to update the database structure after this. To do this, click the “Update database” button in the idb.exe utility dialog box (Figure 8.3-18).

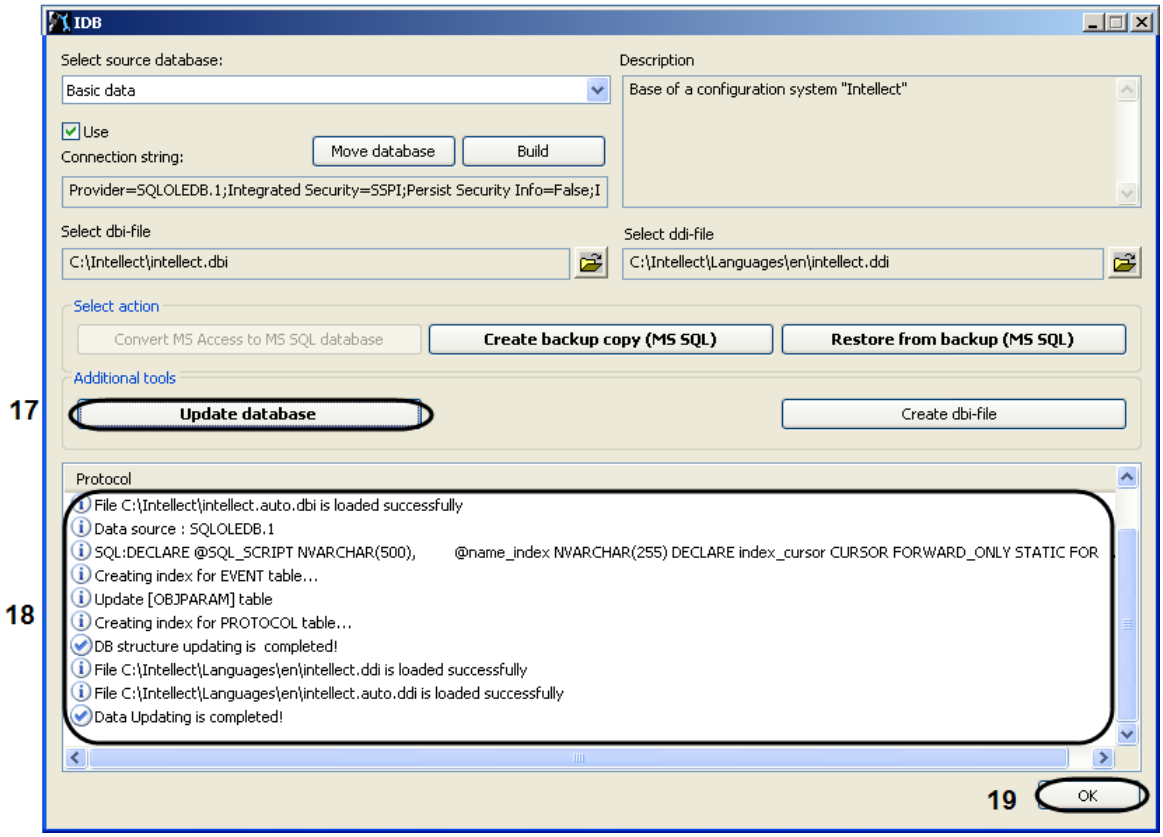


Figure 8.3-18. Database structure update

18. As a result, the database structure update process starts, and the error messages appear in the “Protocol” table.

When the conversion process is successfully completed, the “Completed!” message appears in the “Protocol” table in the idb.exe utility window.

19. Click the “OK” button in the bottom right corner of the idb.exe utility window.

INTELLECT™ software database connection is completed.

8.3.5 Database synchronization setup

When INTELLECT™ software is applied by a large-scale system with distributed architecture, servers and Remote Admin Workstations databases should be synced. Database synchronization allows to store data both centrally (on a single server or Remote Admin Workstation) and in a distributed manner (data replication from different servers and Remote Admin Workstation databases of the video surveillance system). Database synchronization provides parallel operation with servers and Remote Admin Workstations databases and their automatic updating after they have been modified.

INTELLECT™ software databases on servers and Remote Admin Workstations are not synced by default. Usually INTELLECT™ software is configured to sync all databases with a single centralized administering server database.

Note. If one or more databases are stored in MS Access format, they need to be converted to MS SQL format before the synchronization setup.

To sync the INTELLECT™ software "Configuration" database with the administering server database (or any other one), follow the procedure:

1. Make sure that MS SQL Server software is.
2. Launch the idb.exe utility from the root of the INTELLECT™ software installation directory (for example, C:\Program Files\Intellect). The idb.exe utility dialog box will be displayed (Figure 8.3-19).

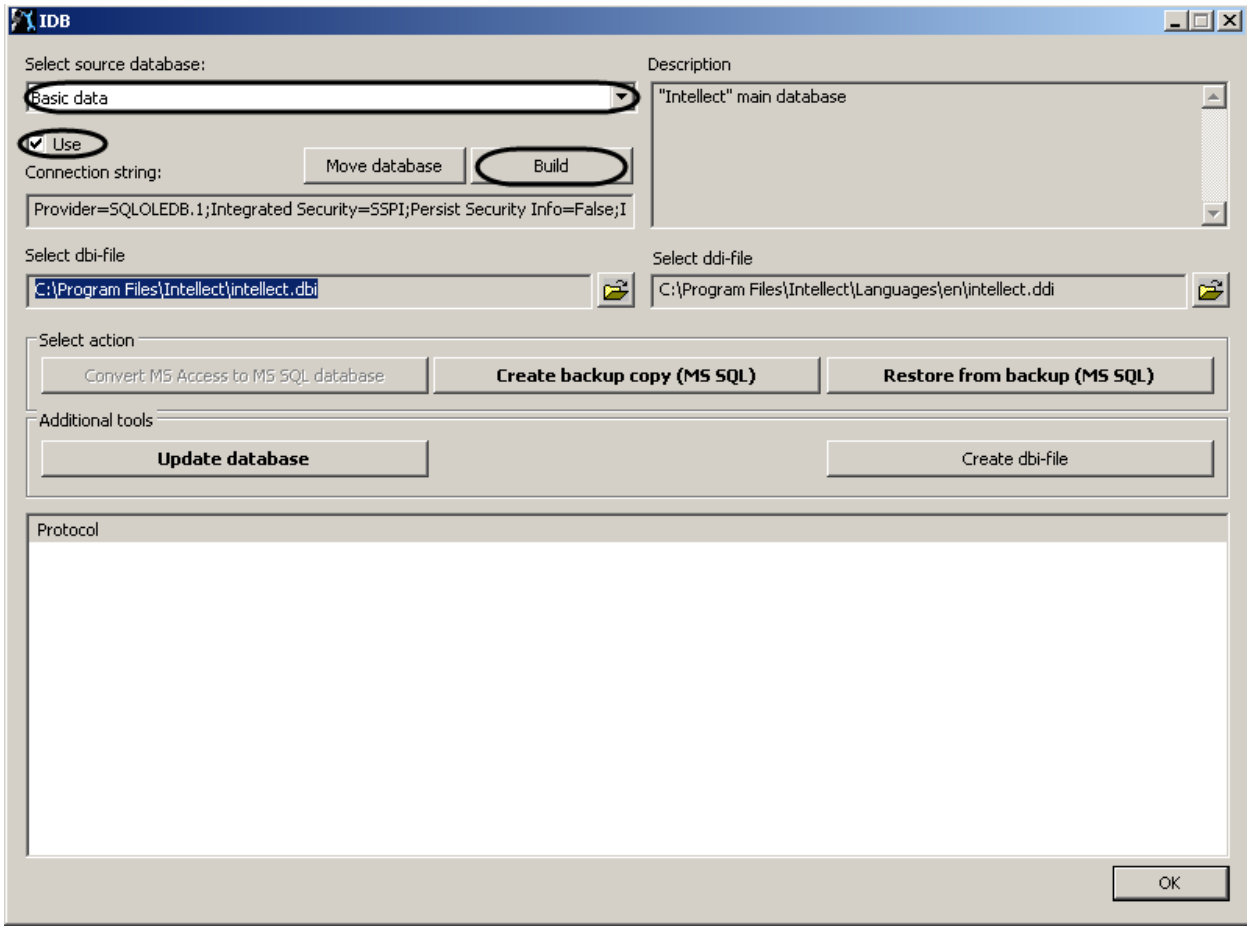


Figure 8.3-19. The idb.exe utility dialog box

3. Select the «Synchro source» item from the “Select data source” list.
4. Set “Use” check.
5. Click the “Build” button.
6. The “Data link properties” dialog box is displayed. Go to the “Provider” tab in the “Data link properties” dialog box (Figure 8.3-20).

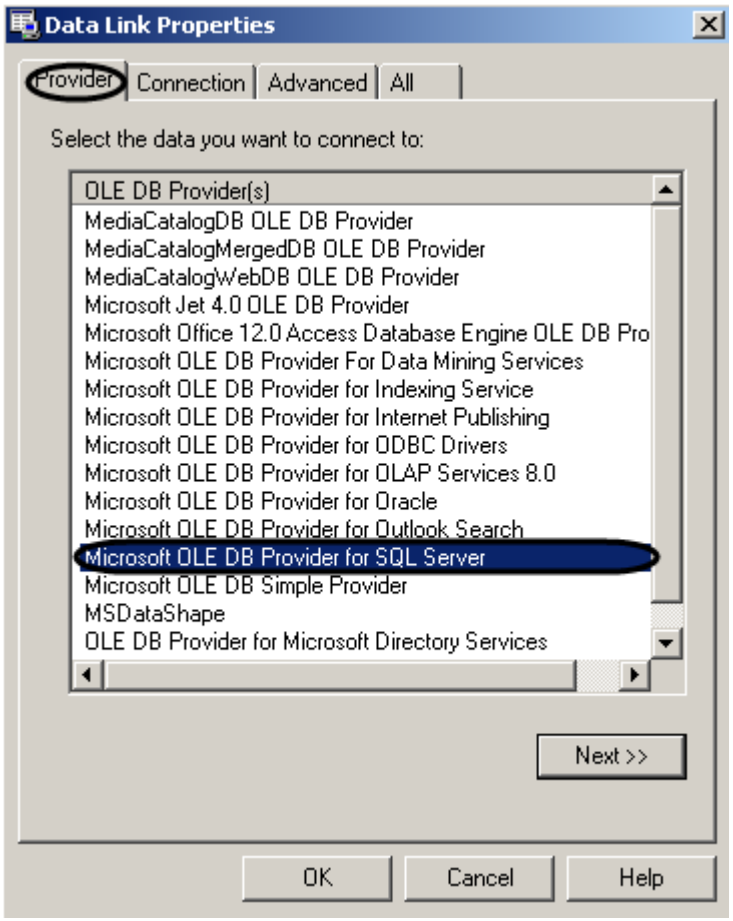


Figure 8.3-20. The “Data link properties” dialog box. The “Provider” tab

7. Select “Microsoft OLE DB Provider for SQL Server” from the “OLE DB Providers” list.
8. Click the “Next” button.
9. As soon as the “Next” button is clicked, go to the “Connection” tab is automatically performed (Figure 8.3-21).

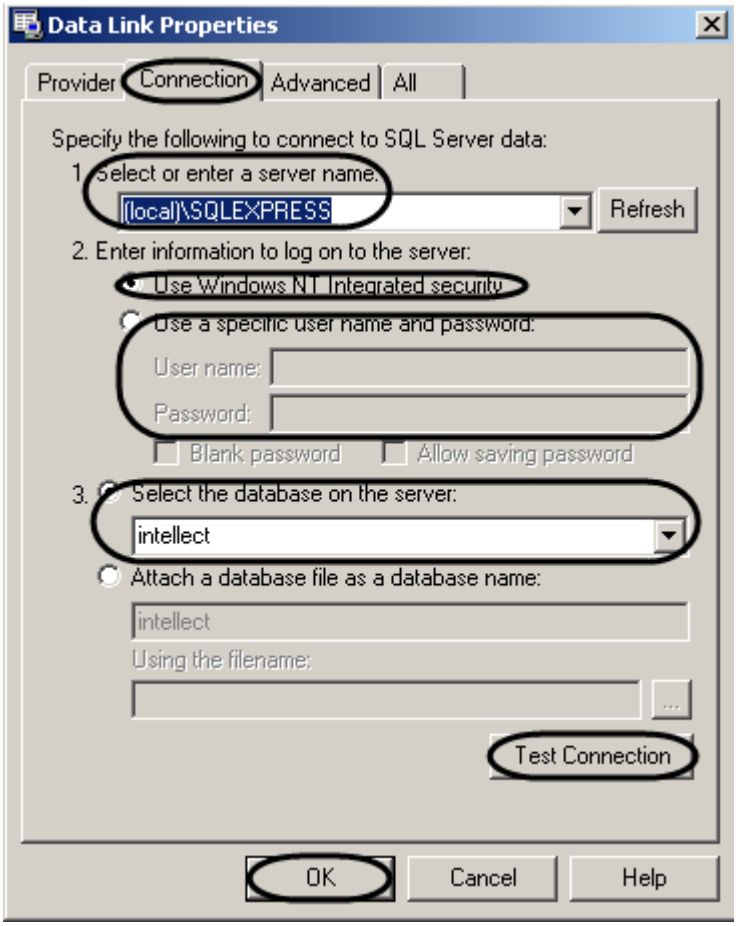


Figure 8.3-21. The "Data link properties" dialog box. The "Connection" tab

10. In the "1.Select or enter a server name" select from the list or type the MS SQL server name, which is used to store the database to be synced with the current base (Figure 8.3-21).

11. The "2.Enter information to log on to the server" group is used to enter the type and authentication parameters of the MS SQL server connection. MS SQL server authentication is performed through the user account, authorized in the Windows OS, or by user name (login) and password that protect the MS SQL server connection.

The method and parameters of authentication at the MS SQL server are set during MS SQL server installation.

Different parameters need to be entered, with different authentication techniques for MS SQL server connection:

a. If MS SQL server authentication is performed through a user's Windows OS account, switch to to the "Windows NT account" position. The user's current account on the computer, from which the synchronization is performed, should be logged into the computer with MS SQL server and the database to be synced with.

b. If MS SQL server authentication is performed through user login and password, follow the sequence:

- switch to the "Next user name and password" position;

- in the “User” field: enter the user name (login) to connect to the MS SQL server.
- if access to the MS SQL server is password protected, remove the default “Blank password” check and enter the database access password into the “Password” field.

12. Click the “Test Connection” button.
13. If the MS SQL server was successfully connected, the “Test connection succeeded” message is displayed (Figure 8.3-22).

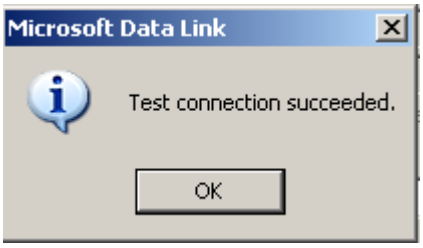


Figure 8.3-22. Database connection established message

Click the “OK” button to close the window.

14. If the MS SQL server name and/or authentication parameters of MS SQL server connection were entered inaccurately, the error message will appear (Figure 8.3-23).

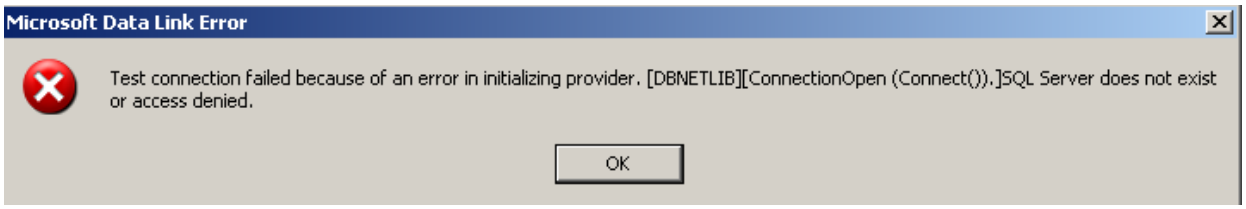


Figure 8.3-23. Example of the disabled SQL server connection message

Click the “OK” button to close the window. Then enter the correct password and try MS SQL server connection again.

15. From the “Select source database” list choose the name of the database to be synced with the current base.
16. Click the “OK” button in the “Data link properties” dialog box. The window will close.
17. Click the “OK” button in the right bottom corner of the idb.exe utility window.

Database synchronization setup is completed.

8.4 Video subsystem settings

8.4.1 General information on video subsystem settings

8.4.1.1 *Video subsystem components description*

In the video surveillance systems based on INTELLECT™ software by video subsystem you mean the set of software modules and hardware devices used to receive, transmit, digitize, process, record and display video signals from video surveillance system cameras on monitor screens.

Video subsystem hardware includes:

1. video capture cards;
2. analog video camera (cameras).

Video subsystem software includes:

1. components for configuring the video capture cards.
2. components for digitized video signal compression and decompression.
3. components for digitized video signal recording.
4. components for digitized video signal transmission to Remote workstations.
5. components for displaying video signal on the monitor.

8.4.1.2 *How to use video capture cards and analog video cameras*

Video capture cards are used for entry, digitization and processing of analog video signals from attached analog video cameras. For these purposes every video capture card has one or more analog-to-digital converter (ADC). A single ADC can digitize and process analog video signal from one or more cameras. Each ADC digitizes and processes analog video signals independently. ADC processes and digitizes its input analog video signals only. There is no direct correspondence of grabber inputs for connection of cameras to ADC inputs. Video signals (cameras) are allocated to the ADC via programmable switch, configured from INTELLECT ™ software.

An example of video signals (cameras) allocation to the FS-6 grabbers 4 ADC is shown in Figure 8.4-1.

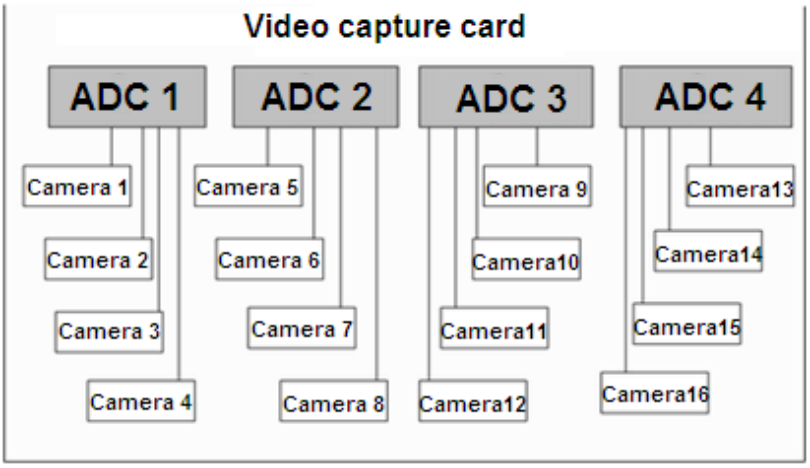


Figure 8.4-1. An example of assigning video signals (cameras) to the grabber 4 ADC

The maximum number of cameras, related to a single ADC, is defined by the card type and by the desired qualities of the digital video signal.

8.4.1.3 *How to use IP-devices*

INTELLECT™ software system supports audio signals reception, digitization, processing and playback using video capture IP-devices. IP-cameras and IP-servers may be IP-devices used for audio signals reception, digitization and processing. For the list of INTELLECT™ software compatible IP-devices for video signal reception, digitization, processing and playback, see the “Integration” section on the ITV company site: http://www.itv.ru/products/integration/.

8.4.1.4 *Configuring video capture cards*

Video capture cards are configured in the course of INTELLECT™ software administering. Video capture cards are configured by video signal digitization and processing settings, which comply with:

1. signal format (PAL or NTSC);
2. frame rate;
3. frame resolution;
4. brightness;
5. contrast;
6. color depth;
7. color rendition format.

Each camera has its individual video signal processing and digitization settings (except for the signal format, which is set for all cameras, and is attached to the same ADC).

Moreover, configuring the video grabber involves setting up a proper switching of the video input channels.

8.4.1.5 *Configuring IP-devices*

IP-devices are configured via the web server or any other software, supplied together with the device, and via INTELLECT™ software.

Video signal compression and processing settings (format, frame rate, frame resolution, brightness, contrast, color depth, color rendition format) are performed via the web server or any other software, supplied together with the device.

The INTELLECT™ software system receives the image, processes it with detectors, records the video signals from IP-devices and transfers it to the Remote Monitoring Workstation.

Be sure before using an IP-device that processing and digitization settings of IP-devices (especially codecs), set via the web server, are supported by INTELLECT™ software. For actual information on IP-device compatibility, see the “Integration” section on the ITV company site: http://www.itv.ru/products/integration/.

8.4.1.6 *Video signal compression and decompression*

Video signal soft compression is digital video sequence soft processing, aimed at reducing its size. Compression is performed according to a specific software algorithm.

INTELLECT™ software uses a specific MotionWavelet algorithm to compress video signal, received from video capture cards. This algorithm allows to reduce video stream size by tens of times (5 to 30, subject to video signal characteristics and compression rate). To compress video signals from IP-devices, standard or manufacturer designed algorithms are used.

With compression, video stream size decreases at the cost of its quality. That is why INTELLECT™ software compresses the video signal in two modes only: in disk recording mode and in transmission to the Remote Workplace mode. Before displaying on a video server monitor, the video signal is not compressed.

Before displaying the compressed video signal it is decompressed. Decompression is automatically performed during video signals displaying (both real-time and archive footage playback) at Remote Workplaces and video recordings playback on the videoserver.

8.4.1.7 *How to record digitized video signals*

Video signals archiving provides post-event analysis of evidence footage.

The archive is located on the local disks of the videoserver. Having reached the end of the archive disk volume, the archive is overwritten.

Before archiving on the videoserver, the video signal is compressed. It is compressed to reduce the size of the video recordings.

INTELLECT™ software is capable of auto recording, initiated by cameras (Main detectors) and detectors alarm detection or by Operator command.

Pre-event, post-event, and Hot (higher frame rate) recording can be performed to make post-event analysis of evidence footage more effective.

8.4.1.8 *Digital video signal transmission to Remote Workplaces*

INTELLECT™ software provides video surveillance from Remote Workstations based on:

1. A PC (IBM PC–based) personal computer, connected to the videoserver via local TCP/IP net;
2. An IBM PC, connected to the videoserver via the “web server” module by HTTP protocol;
3. PocketPC, connected to the videoserver via the «SmartPocket» module;
4. SmartPhone, connected to the videoserver via the «SmartPhone» module.

Both real-time and archive video signals may be transmitted to Remote Workstations. Prior to being transmitted to a Remote Workplace, video signals are compressed.

8.4.1.9 *Video signal display*

Video signals are displayed using the “Video Surveillance Monitor” interface object. The Video monitor is especially used to display video signals, received from cameras, and to play back the video recordings.

The video monitor has several options: detectors, PTZ units and microphones control, image processing and exporting.

Different video monitors are used with different video signal transmission modes:

1. Video server surveillance Monitor.
2. Video surveillance Monitor of the Remote Workstation, connected to the videoserver via the TCP/IP net, identical to the videoserver surveillance Monitor.
3. Video monitor of the “web server”, depicted in web browsers on Remote Workstations, connected to the videoserver via the “web server” module by HTTP protocol.
4. “SmartPocket” module video monitor, displayed on the PocketPC screen, connected to the videoserver via the “SmartPocket” module.
5. “SmartPhone” module video monitor, displayed on the SmartPhone screen, connected to the videoserver via the “SmartPhone” module.

The above video surveillance monitors have different components and functions. Any video monitor can be set up to display real-time video and play back archive footage.

8.4.2 Registration of video grabbers and camera registration in the INTELLECT™ software

Video grabbers are registered in the INTELLECT™ software by creating and setting up “Video capture card” objects. “Video capture card” objects are created on the “Hardware” tab on the base of “Computer” objects. The video grabber registration sequence depends on the type and number of devices used. Different types of video grabber registration sequences are described in the relevant sections.

Example of registration of the FS-5 card as a video capture device is shown in.

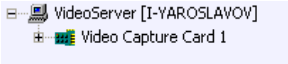


Figure 8.4-2. Example of registration of the FS-5 video capture card as a video capture device

Cameras are registered in the INTELLECT™ software by creating the objects of the same name and by setting the channel numbers to connect them to the grabbers. “Camera” objects are created on the “Hardware” tab on the base of the relevant “Video Capture Card” objects. The camera registration sequence depends on the type and number of the grabbers used, and on the allowable configuration, set by the License key file. The camera registration sequence for different types of video grabbers is described in the relevant sections. An example of the “Hardware” tab objects tree after two cameras, connected to FS-5 card, were registered is shown in Figure 8.4-3.

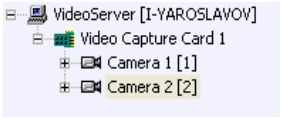


Figure 8.4-3. Registration of two cameras, connected to an FS-5 card

8.4.3 Setting up the video signals processing mode while using video capture cards and analog video cameras

8.4.3.1 *Video signals digitization and processing settings*

8.4.3.1.1 Setting up format (PAL or NTSC) for the input analog video signal

Different digitization and processing algorithms are used with different input video signal formats: The input signal format is individually set for every grabber ADC. Any single ADC processes and digitizes single format signals only; either PAL or NTSC.

All video capture card ADCs are default set to digitize video signal in PAL format.

To set the video capture card ADC to digitize and process video signal in NTSC format, follow the steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box.
2. Select the relevant “Video Capture Card” object, created before, on the “Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-4).

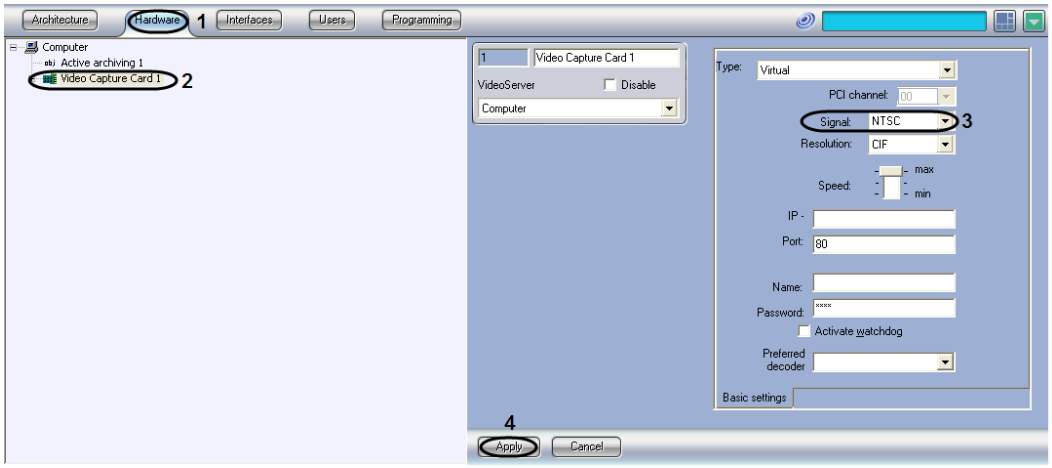


Figure 8.4-4. Choice of NTSC format

3. Select “NTSC” from the “Signal” drop-down list.
4. Click the “Apply” button.

Selection of the input video signal format is completed.

8.4.3.1.2 Setting up frame resolution

There are three options of frame resolution with INTELLECT™ software:. “Normal”, “High” and “Full”.

The actual resolution of the digital video signal depends on the input analog video signal format. A table for the settings and actual resolution in different formats is given below (Table 8.4-1).

Table 8.4-1

Resolution	.PAL	NTSC
Normal	352 x 288 pixels	352 x 240 pixels
High	704 x 288 pixels	640 x 240 pixels
Full	704 x 576 pixels	640 x 480 pixels

Digital video signal resolution is set for each camera individually.

Default resolution for all camera video signal digitization is “Normal”.

To change the selected camera resolution, follow the steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box.
2. Select the relevant “Video Capture Card” object, previously created on the “Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of “Hardware” tab (Figure 8.4-5).

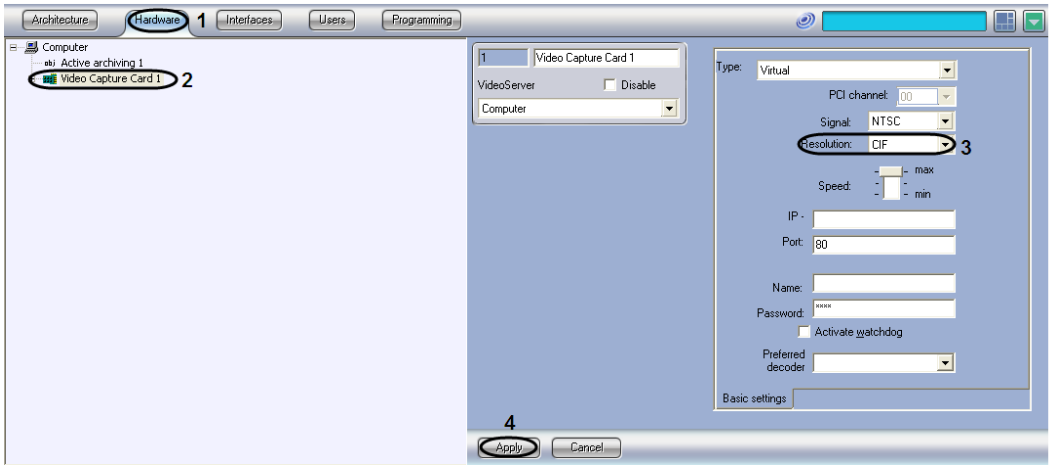


Figure 8.4-5. Resolution settings

3. Select the desired resolution from the “Resolution” drop-down list.
4. Click the “Apply” button.

Video signal resolution setup is completed.

Note. While changing video signal resolution, remember, that:

1. *In the multiplex mode (when video capture card ADC digitizes signals from several cameras), with the "Full" resolution setting for any camera, the total frame rate digitized by this ADC video signal will decrease by 1.3 times.*

2. *An improvement of resolution leads to an increase in frame size and, hence, builds up the video stream, recorded onto the hard drive and transmitted in the network.*

8.4.3.2 *Setting up frame resolution*

8.4.3.2.1 Frame rate settings

8.4.3.2.1.1 Video capture card resources

The video capture cards resources for video signal digitization and processing are uniformly distributed to the cameras. The frame rate of the digitized video signal is limited by the ADC resources for video signal processing and digitization.

Video capture cards may be configured, so as to give to one or more cameras additional ADC resources, and thus to increase the frame rate of video signals from these cameras. Parallel to that, the frame rate of the video signals from another camera decreases.

Joint use of INTELLECT™ software and video capture cards allows to reallocate video capture card resources to the cameras:

Alternative 1. Reassigning cameras to a video capture card ADC.

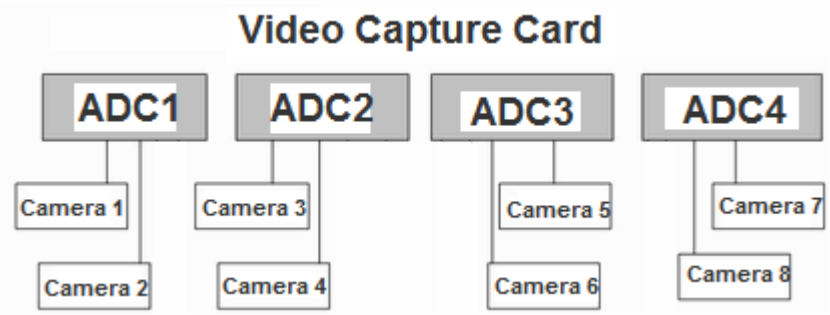
ADC resources are generally characterized by the maximum total frame rate of the video signal. Video capture card ADC resources are uniformly distributed to the assigned cameras by default. So, the more camera video signals are digitized and processed by the ADC, the lower the frame rate of the single video signal.

Reassigning of cameras to the ADCs allows to increase the frame rate for some cameras at the expense of another ones.

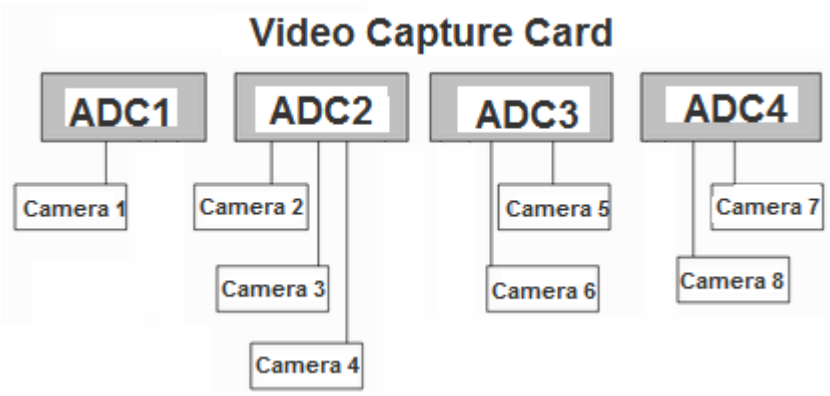
If all allowable cameras are connected to a video capture card, then only uniform distribution on ADC is possible. In this case every ADC digitizes and processes video signal from an equal number of cameras. So, the maximum frame rate is the same for all video signals (except for video signals of different formats and different resolutions).

If the number of cameras connected to a video capture card is less than their maximum number, it is possible to reallocate them to ADC. To do this, those cameras, whose frame rate should be increased, are assigned separately to one ADC, or assigned in an amount, less than the maximum allowable number. Cameras assigned to a given ADC and not subject to strict frame rate requirements, are reassigned to other ADCs.

An example of assigning cameras to ADCs is schematically shown in Figure 8.4-6.



A. Uniform camera allocation to the ADCs.



B. reassigning the cameras to the ADCs to allocate camera No1

Figure 8.4-6. An example of reassigning cameras to ADCs

Alternative 2. Reallocation of resources from 1 ADC to the cameras, assigned to it.

The video capture card ADC resources are uniformly allocated to the assigned cameras by default.

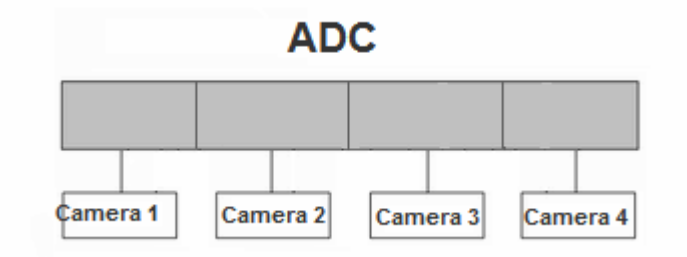
ADC resources reallocation allows to increase the frame rate for some cameras at the expense of another ones. Reallocation of resources from 1 ADC to the cameras is much less effective than camera reallocation to the ADC. Therefore this should be done only if camera reallocation to the ADC is impossible or if it doesn't help.

With reallocation of resources from 1 ADC to the cameras, one of the cameras gets additional ADC resources for its video signal processing and digitization. Additional ADC resources are formed by removing them from other cameras, whose video signals are processed by the ADC.

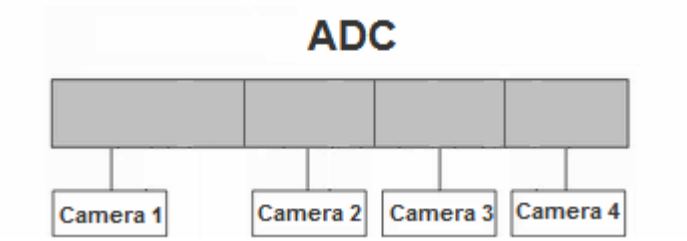
So, for a single ADC, when the frame rate of a certain camera increases, the frame rates of other cameras decrease.

To perform this operation, a selected camera should have priority in the process queue.

An example of reallocation of resources from 1 ADC is shown in Figure 8.4-7.



A. Uniform camera allocation on the ADC.



B. reassigning the cameras on the ADC to allocate camera No. 1.

Figure 8.4-7. An example of reallocation of resources from 1 ADC to the cameras

8.4.3.2.1.2 Operation modes of the video capture card's ADC

ADC operation mode is defined by the number of processed and digitized video signals. There are two modes:

1. "Real time video".
2. Multiplexing.

In "real time" mode all ADC (video grabber) resources are used to process the single video signal. The mode provides digital video stream with a maximum frame rate of 25 frames per second in PAL format and 30 frames per second in NTSC format.

If ADC processes two or more video signals, its resources are used in multiplex mode. Then the ADC resources are uniformly allocated to the cameras, and part of its resources support the multiplexing process. So, in the multiplex mode the total frame rate of video signals, digitized by a single ADC, is much lower than in the "Real time" mode.

The maximum permissible total frame rate in the multiplex mode depends on the video signal resolution.

For ADC that digitizes all video signals with normal (352 x 288 pixels in PAL format, 352 x 240 pixels in NTSC format) and/or high (704 x 288 pixels in PAL format, 640 x 240 pixels in NTSC format) frame resolution, the total frame rate is 16 frames per second in PAL format and 20 frames per second in NTSC format.

When ADC digitizes at least one of the video signals with full resolution (704 x 576 pixels in PAL format, 640 x 480 pixels in NTSC format), the maximum allowed total frame rate falls to 12 frames per second in PAL format and 15 frames per second in NTSC format.

8.4.3.2.1.3 Frame rate setup sequence

Default settings for the digitized video signals frame rate are 2 frames per second in PAL format and 2.5 frames per second in NTSC format.

The settings allow to increase or to reduce the frame rate.

To set up the frame rate, follow the sequence:

1. Switch off the “Camera” objects, which are assigned to the idle video capture channels. This allows to allocate the resources to the working cameras only and thus to increase the frame rate.
2. Change frame scaling.
3. Reallocate the cameras on the video capture card ADC.
4. Reallocate resources from 1 ADC to the cameras (priority process queue).

In most cases steps 1 and 2 are sufficient to set the frame rate. Steps 3 and 4 are necessary only with high frame rate requirements to one or more cameras.

8.4.3.2.1.4 Video subsystem settings with video capture channels switched off

Video capture card’s ADC resources allocation is uniformly performed to all the video capture channels by default, irrespective of whether there is any signal passing through it or not. So, even if a video channel has no signal, it nevertheless is assigned ADC resources.

To prevent inefficient ADC resources consumption, “Camera” objects, assigned to the idle video input channels, should be switched off in the Intellect.

Several “Camera” objects are switched off in turn.

To switch off “Camera” objects in the INTELLECT™ system, follow the procedure:

1. Define the numbers of the idle video capture channels (taking into account BNC plug numbering).
2. Go to the “Hardware” tab in the “System Setup” dialog box (Figure 8.4-8).
3. Select the “Camera” object, created before, with the same channel number as the BNC plug (idle channel). The settings panel of the selected object appears in the right part of the “Hardware” tab.

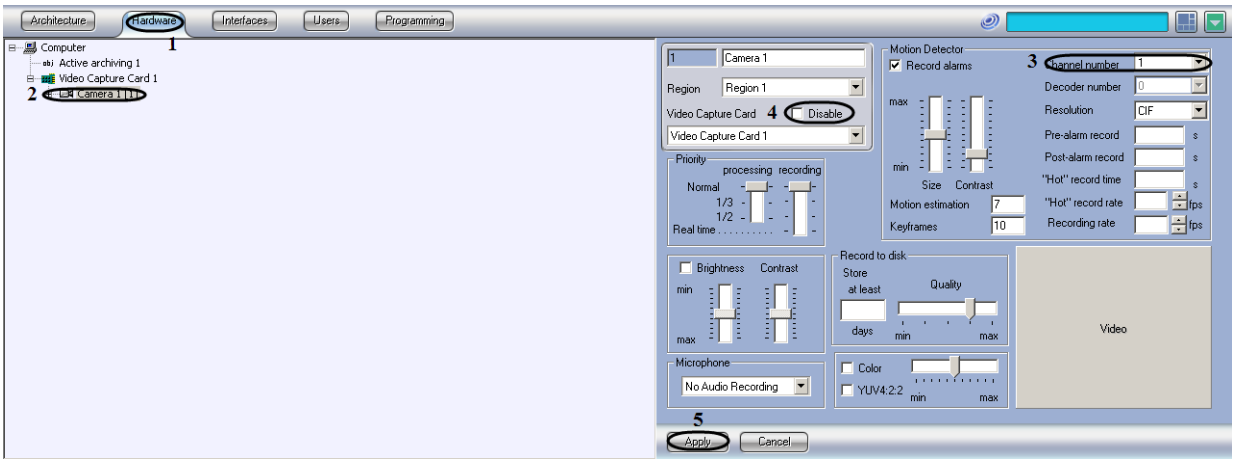


Figure 8.4-8. Switch off the “Camera” object

4. Make sure that no signal is displayed in the “System Setup” dialog box video surveillance field.

5. The signal displayed in the “System Setup” dialog box video surveillance field indicates that the “Camera” object is assigned to another video capture channel. The video capture channel number is set up from the “Channel number” drop-down menu. Assign the “Camera” object to the channel, which corresponds to the BNC plug number and the “Camera” object number, or scan for a “Camera” object, assigned to the desired number of the video capture channel.

6. Check the “Disabled” checkbox.

7. Click the “Apply” button.

8. The disabled “Camera” object is indicated with a cross mark (Figure 8.4-9).

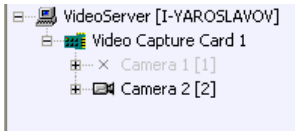


Figure 8.4-9. Disabled “Camera” object in the objects tree

Video subsystem setup with switched off video capture channels is completed.

8.4.3.2.1.5 Actual frame rate definition

It is recommended to firstly define the current actual frame rates of video signal digitization and then to set up the frame rates for video signals from video surveillance system cameras.

Frame rate setup should be done only if video signal frame rates from one or more cameras do not meet the requirements.

Actual frame rates are defined for each camera individually.

To define the actual frame rate for a selected camera, follow the steps:

1. Set up the video surveillance monitor (see the relevant sections of the Guide);

2. Switch on debugging mode in the Intellect™ software using the tweaki.exe utility (see this utility description);

In Intellect™ software, actual frame rates of digitized video signals in debugging mode are displayed on the monitor. To define the frame rate of video signal from a selected camera, follow the steps:

1. Display the selected camera surveillance window on the monitor.
2. Activate the selected camera surveillance window by left clicking it.
3. The actual frame rate of the selected window video signal is displayed in the information window in the top right corner of the surveillance monitor (Figure 8.4-10).



Figure 8.4-10. Actual frame rate definition

8.4.3.2.1.6 Changing frame scaling

By default INTELLECT™ software digitizes video signals with the frame rate lower than maximum allowed one. This is caused by the following:

1. Video signal processing and digitization with a high frame rate is a resource-intensive process. When the video signal frame rate increases, configuration requirements increase for the computer used as a videoserver.
2. Video signal is transmitted to the Remote Workplaces with the same frame rate as it was digitized. So, network capacity requirements increase together with the frame rate increase.

By default the total frame rate of video signals, which are digitized and processed by the same ADC, is 2 times lower than the maximum allowed one. This relationship is provided by frame scaling, which allows every second frame to be processed by the program.

Settings allow to reduce (total frame rate increases) or to increase (total frame rate decreases) the scaling.

Frame scaling is changed separately and independently for every ADC.

To change scaling of ADC video signals, follow the steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box.

2. Select the relevant “Video Capture Card” object, created before, on the “Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-11).

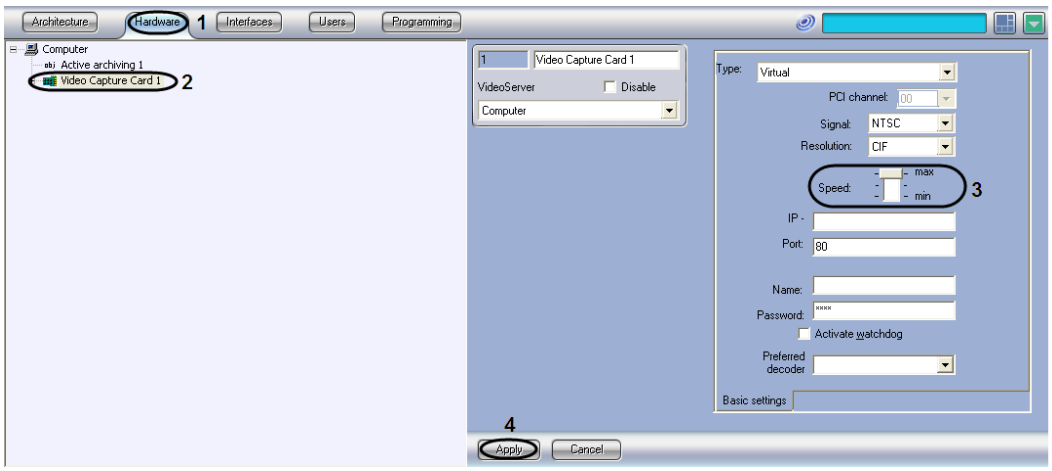


Figure 8.4-11. Changing the video signals frame scaling

3. If it is necessary to increase the total frame rate up to the maximum allowed value, move the “Rate” slider to the “Max” position.

4. If it is necessary to reduce the total frame rate to the minimum allowed value, move the “Rate” slider to the “Min” position. The minimum total frame rate of video signals, digitized and processed by selected ADC, is 3 times lower than the maximum allowed one.

5. If it is necessary to return the default scaling settings, move the “Rate” slider to the middle position. The default total frame rate is 2 times lower than the maximum allowed one.

6. Click the “Apply” button.

7. Close the “System Setup” dialog box and restart INTELLECT™ software.

Note.Without restart, changes in video signal scaling may be incorrectly applied.

8.4.3.2.1.7 Video capture card’s resources allocation

All cameras are default uniformly allocated to video capture card ADC. Thus ADC is uniformly distributed to the cameras, attached to the video capture card, and all cameras have the same frame rate digitized video signals.

If the number of cameras connected to a video capture card is less than their maximum allowed number, it is possible to reallocate them to different ADCs of the video capture card. Reassigning of cameras allows to increase the frame rate for some cameras at the expense of a decrease in the frame rate of other ones.

Before reassigning the cameras to ADCs of the video capture card, switch off “Camera” objects corresponding to disabled cameras.

In most cases steps 1 and 2 are sufficient to set the frame rate. Steps 3 and 4 are necessary only with high frame rate requirements to one or more cameras.

To increase the frame rate of the video signal from one or more cameras, follow the steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box.

2. Select the “Camera” object, created before, corresponding to the camera, whose frame rate should be increased, on the “Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-12).

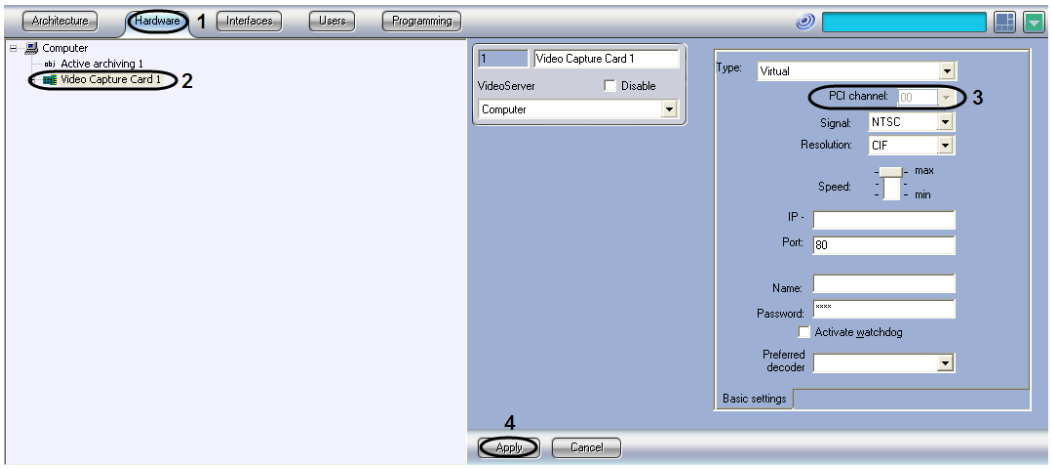


Figure 8.4-12. Video capture card’s resources allocation

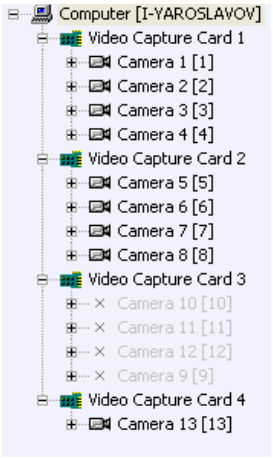
3. To increase the frame rate of a camera up to “Real time” rate (25 frames per second in PAL format and 30 frames per second in NTSC format), reassign other cameras serviced by the same ADC as with the camera above , to other ADCs.

To perform this operation, move “Camera” objects to parent branches of other “Grabber” objects. The parent “Grabber” for a “Camera” object object is set by selecting the number of the parent object from the “Card” list of the “Camera” object settings panel. As a result the “Camera” object moves to a subdirectory of the selected “Grabber” object.

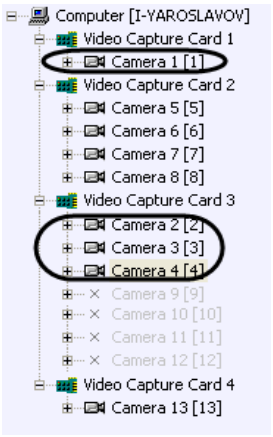
Example 1.Video signal digitization settings with a “Real time” frame rate.

Problem Camera No 2. The video signal should be digitized with a “Real time” frame rate.

Given. The card has 4 ADCs. They are matched to 4 “Grabber” objects in the objects tree. The video capture card may have up to 16 cameras attached to it. 8 cameras are actually connected to the video capture card. Objects matched to the remaining 8 cameras are disabled. Either one of the two ADCs, matched to “Grabber 1” and “Grabber 2” objects, is set to digitize the signals from 4 cameras. The ADCs, matched to “Grabber 3” and “Grabber 4” objects, are not set up to digitize signals from any cameras. An example of the objects tree is presented in Fig. 202 a.



A. Given



B. Setup result

Figure 8.4-13. Setup example of camera 2 video signal digitization with a "Real time" frame rate

Solution. You should follow the steps:

a. Select the "Camera 2" object in the tree. The settings panel of the selected object appears in the bottom of the "System Setup" window.

b. Select "3" from the "Card" list.

c. Click the "Apply" button.

d. The "Camera 2" object moves to the subdirectory of the "Grabber 3" object (see Fig.

e. Repeat (a) – (d) operations for the "Camera 3" and "Camera 4" objects.

f. Select the "Grabber 1" object in the tree.

g. Make sure that the "Rate" slider is in the "max" position.

If the "Rate" slider is in the "max" position, setup is completed.

If the "Rate" slider is in another position, move it to the "Max" position and perform the (a) – (i) operations.

h. Click the “Apply” button.

Close the “System Setup” dialog box and restart INTELLECT™ software.

i. The frame rate of the selected camera increases up to the “Real time” rate (for information on testing the frame rate change, see the “Actual frame rate definition” section).

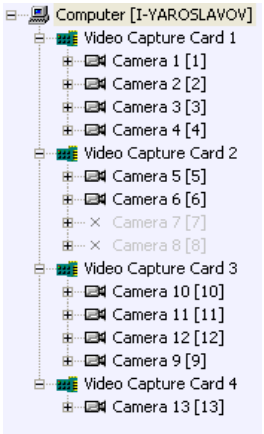
4. If the number of attached cameras prevents the setup of video signal digitization from one of the cameras with a “Real time” rate (for example, when 15 of 16 allowed cameras are connected), or if the frame rate on several cameras should be increased simultaneously to the rate, lower than the “Real time” one, then the cameras, whose frame rate should be increased, are allocated to ADC and they don’t exceed the maximum permissable number. The frame rate is increased by as many times, as the number of cameras on ADC is reduced.

The first way to perform the operation is to move “Camera” objects with no special frame rate demands to the parent branches of other “Grabber” objects. The parent “Grabber” object is set for the “Camera” object by selecting the number of parent objects from the “Card” list of the “Camera” object settings panel. As a result the “Camera” object moves to the subdirectory of the selected “Grabber” object.

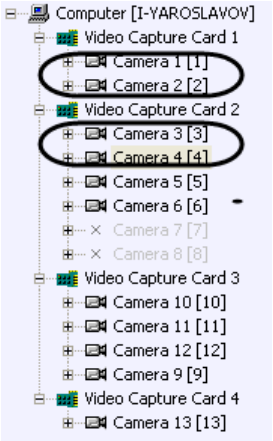
Example 2.Video signal digitization settings from 2 cameras with increased frame rate

Problem Cameras No. 1 and 2. The video signal should be digitized with increased frame rate.

Given. The card has 4 ADCs. They are matched to 4 “Grabber” objects in the objects tree. The video capture card may have up to 16 cameras plugged into it. 14 cameras are actually connected to the video capture card. Objects matched to the remaining 2 cameras are disabled. Either one of the 3 ADCs, matched to “Grabber 1”, “Grabber 3” and “Grabber 4” objects, is set to digitize the signals from 4 cameras. The ADC, matched to the “Grabber 2” object, is set to digitize the signals from 2 cameras. An example of the objects tree is presented in Figure 8.4-14, a.



A. Given



B. Setup result

Figure 8.4-14. Settings example of video signal digitization from cameras No.1 and 2 with increased frame rate

Settings example of video signal digitization from cameras No.1 and 2 with increased frame rate.

Solution. You should follow the steps:

a. Select the “Camera 3” object in the tree. The settings panel of the selected object appears in the bottom of the “System Setup” window.

b. Select “2” from the “Card” list.

c. Click the “Apply” button.

d. The “Camera 3” object moves to a subdirectory of the “Grabber 3” object (Figure 8.4-14, B).

e. Repeat (a) – (d) operations for the “Camera 4” object.

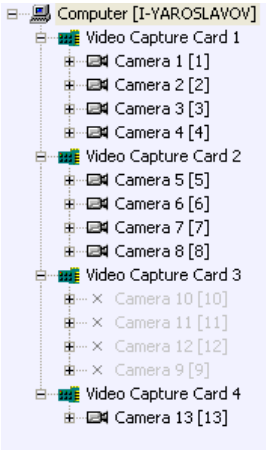
f. The frame rate of No. 1 and 2 cameras increases twofold (for information on testing the frame rate change see the “Actual frame rate definition” section).

Another way to change camera allocation on ADC is to move one or more “Camera” objects with higher frame rate demands to the parent branches of other “Grabber” objects.

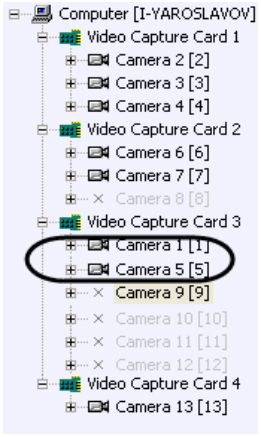
Example 3.Video signal digitization settings from 2 cameras with increased frame rate

Problem Cameras No. 1 and 5. The video signal should be digitized with increased frame rate.

Given. The card has 4 ADCs. They are matched to 4 “Grabber” objects in the objects tree. The video capture card may have up to 16 cameras attached to it. 12 cameras are actually connected to the video capture card. The objects matched to the remaining 4 cameras are disabled. Any of the 3 ADC, matched to “Grabber 1”, “Grabber 2” and “Grabber 4” objects, is set to digitize the signals from 4 cameras. The ADC, matched to the “Grabber 3” object, is not set to digitize the signals from any camera. An example of the objects tree is presented in Figure 8.4-15, A.



A. Given



B. Setup result

Figure 8.4-15. Settings example of video signal digitization from cameras No. 1 and 5 with increased frame rate

Solution. You should follow the steps:

a. Select the “Camera 1” object in the tree. The settings panel of the selected object appears in the bottom of the “System Setup” window.

b. Select the “3” from the “Card” list.

c. Click the “Apply” button.

d. The “Camera 1” object moves to a subdirectory of the “Grabber 3” object (Figure 8.4-15, B).

e. Repeat (a) – (d) operations for the “Camera 5” object.

f. The frame rate of No. 1 and 5 cameras increases twofold (for information on testing the frame rate change see the “Actual frame rate definition” section).

5. Click the “Apply” button.

Video capture card’s resources allocation is completed.

8.4.3.2.1.8 Video signal processing priorities

The ADC resources are uniformly distributed to the assigned cameras by default.

ADC resources reallocation allows to increase the frame rate for a camera at the expense of other cameras. Reallocation of resources from 1 ADC to the cameras is much less effective than camera reallocation on the ADC. Therefore it should only be done if camera reallocation to the ADC is impossible or if it doesn't help.

With reallocation of resources from 1 ADC to the cameras, one of the cameras is allocated additional ADC resources for its video signal processing and digitization. Additional ADC resources are formed by removing them from other cameras, whose video signals are processed by the ADC.

A camera is allocated additional ADC resources via the priority process queue.

INTELLECT™ software provides 1/2 and 1/3 process queues.

When a camera has a 1/2 process queue, its video signal is processed every second frame. So, the digitization frame rate of this camera's video signal is half the total frame rate of the considered ADC.

When a camera has a 1/3 process queue, its video signal is processed every third frame. So, the digitization frame rate of this camera's video signal is a third of the total frame rate of the considered ADC.

Example 1. The ADC is set to digitize video signal from 4 cameras.

If all the cameras have a common queue, the ADC digitizes video signals in the sequence:

Camera 1, Camera 2, Camera 3, Camera 4, Camera 1, Camera 2, Camera 3…

Let us suppose that Camera 1 has queue, and the rest of the cameras are in the common queue. Then the ADC digitizes video signals in the sequence:

Camera 1, Camera 2, Camera 1, Camera 3, Camera 1, Camera 4, Camera 1…

So, the frame rate of Camera 1 is increased by 2 times and becomes a half of the total frame rate of the considered ADC. The frame rate of each of the remaining cameras becomes 1.5 times less and makes up 1/6 of the total frame rate of the considered ADC.

Example 2. The ADC is set to digitize the video signal from 3 cameras.

If all the cameras have a common queue, ADC digitizes video signals in the sequence:

Camera 1, Camera 2, Camera 3, Camera 1, Camera 2, Camera 3…

Let us suppose that Camera 1 has a 1/2 queue, and the rest of the cameras are in the common queue. Then the ADC digitizes video signals in the sequence:

Camera 1, Camera 2, Camera 1, Camera 3, Camera 1, Camera 2…

So, the frame rate of Camera 1 is increased by 1,5 times and becomes a half of the total frame rate of the considered ADC. The frame rate of each of the remaining cameras becomes 1.3 times less and makes up 1/4 of the total frame rate of the considered ADC.

Example 3. The ADC is set to digitize video signal from 4 cameras.

If all the cameras have a common queue, ADC digitizes video signals in the sequence:

Camera 1, Camera 2, Camera 3, Camera 4, Camera 1, Camera 2, Camera 3…

Let us suppose that Camera 1 has a 1/3 queue, and the remaining cameras are in the common queue. Then the ADC digitizes video signals in the sequence:

Camera 1, Camera 2, Camera 3, Camera 1, Camera 4, Camera 2, Camera 1…

So, the frame rate of Camera 1 is increased by 1.33 times and becomes a third part of the total frame rate of the considered ADC. The frame rate of each of the remaining cameras becomes 1.125 times less and is equal to 2/9 of the total frame rate of the considered ADC.

Example 4. The ADC is set to digitize video signal from 4 cameras.

If all the cameras have a common queue, ADC digitizes video signals in the sequence:

Camera 1, Camera 2, Camera 3, Camera 4, Camera 1, Camera 2, Camera 3…

Let us suppose that Camera 1 and Camera 2 have a 1/2 queue, and the remaining cameras are in the common queue. With these parameters the ADC digitizes video signals in the sequence:

Camera 1, Camera 2, Camera 3, Camera 1, Camera 2, Camera 4, Camera 1…

So, the frame rate of Camera 1 is increased by 1.33 times and becomes equal to a third part of the total frame rate of the considered ADC. The frame rate of each of the remaining cameras becomes 1.5 times less and becomes equal to 1/6 of the total frame rate of the considered ADC.

Note A. If Camera 1 and Camera 2 have a 1/3 queue, Camera 3 and Camera 4 are in the common queue, the ADC resources are distributed as it is showed in the Example4.

Note B. It has no sense to enqueue one of two cameras, with 1/2 priority allocated to the same ADC, because this camera video signal will be processed as if it were in the common queue.

Note C. It has no sense enqueue one of two or three cameras with 1/3 priority allocated to the same ADC, because this camera's video signal will be processed as if it were in the common queue.

Reallocation of resources from 1 ADC to the cameras is possible in two modes:

1. in the processing mode, i.e. with video signal digitization and processing before it is displayed;
2. in the recording mode, i.e. with video signal digitization and processing before it is recorded into the videoserver archive. When cameras are switched to the recording mode, video signals are displayed with the rate, corresponding to the given ADC resources allocation.

8.4.3.2.1.9 Video signals processing priority setting

While processing the video signal before displaying it, ADC resources are reallocated to the cameras by queueing one of the cameras with 1/2 or 1/3 priority.

To change the processing sequence of the video signal from the selected camera, follow the steps:

1. Go to the "Hardware" tab in the "System Setup" dialog box.

2. Select the “Camera” object, created before, corresponding to the camera, whose ADC video signal processing queue needs to be changed, on the “Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-16).

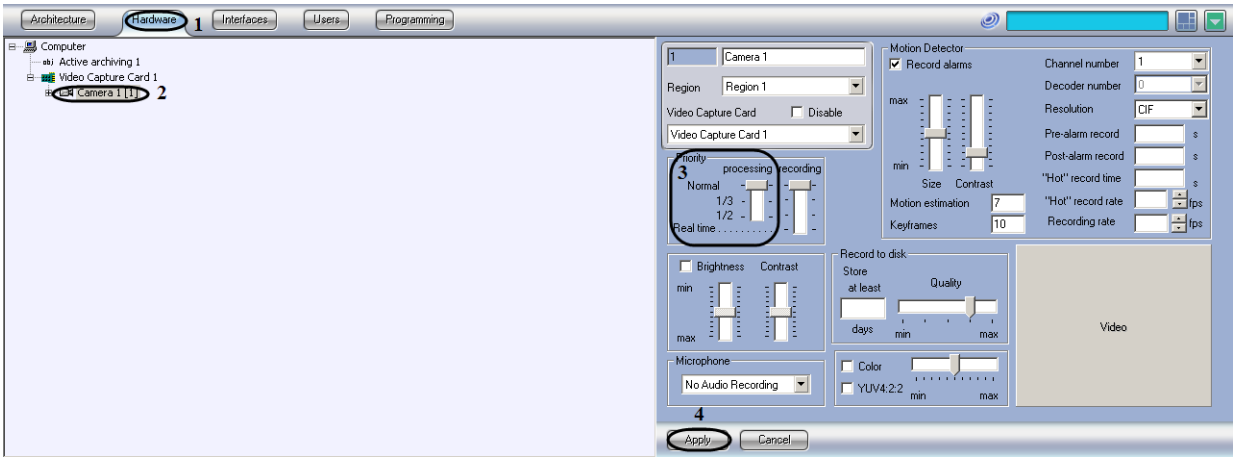


Figure 8.4-16. Change of video signal processing queue from the selected camera in the processing mode

3. If it is necessary to queue the camera with 1/2 priority for ADC video signal processing, move the “Processing” slider in the “Priority” group to the “1/2” position.

4. If it is necessary to queue the camera with 1/3 priority for ADC video signal processing, move the “Processing” slider in the “Priority” group to the “1/3” position.

5. If it is necessary to return the camera into the common queue for ADC video signal processing (set by default), move the “Processing” slider in the “Priority” group to the “Normal” position.

6. Click the “Apply” button.

Video signals processing priority setup is completed.

8.4.3.2.1.10 Video signals recording priority setting

While processesing the video signal before recording it, into the video server archive, ADC resources are reallocated to the cameras by queueing one of the cameras with 1/2, 1/3 or the “All resources” priority.

If the camera with “All resources” priority switches into the recording mode, it will be allocated all ADC resources for its video signal processing. So, the frame rate of this camera video signal becomes equal to the total frame rate of the considered ADC. No video signals from the other cameras, allocated to a given ADC, are processed, displayed and recorded to the disk.

To change the processing sequence of the video signal from the selected camera in recording mode, follow the steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box.

2. Select the “Camera” object, created before, corresponding to the camera, whose queue for video signal ADC processing in recording mode needs to be changed, on the “Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-17).

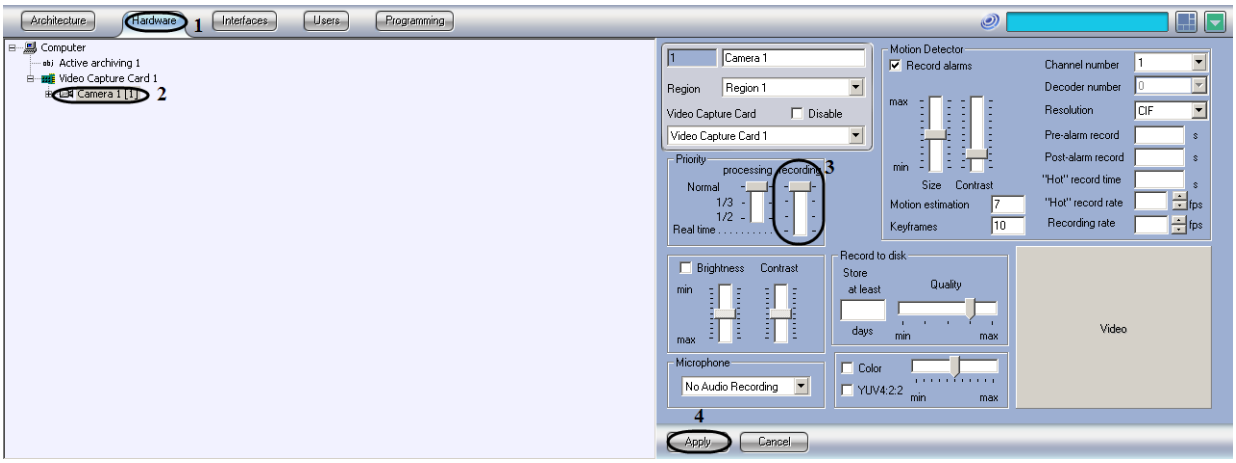


Figure 8.4-17. Change the queue of video signal processing from the selected camera in recording mode

3. If it is necessary to queue the camera with 1/2 priority for ADC video signal processing in recording mode, move the “Recording” slider in the “Priority” group to the “1/2” position.

4. If it is necessary to queue the camera with 1/3 priority for ADC video signal processing in recording mode, move the “Recording” slider in the “Priority” group to the “1/3” position.

5. If it is necessary to queue the camera with “All resources” priority for ADC video signal processing in recording mode, move the “Recording” slider in the “Priority” group to the “All resources” position.

6. If it is necessary to return the camera into the common queue for ADC video signal processing in recording mode (set by default), move the “Recording” slider in the “Priority” group to the “Normal” position.

7. Click the “Apply” button.

Video signals processing in recording mode priority setup is completed.

8.4.3.2.2 Brightness, contrast, color depth, color rendition format settings

8.4.3.2.2.1 Brightness and contrast settings

INTELLECT™ software provides facilities for video image brightness and contrast adjustment in the different modes, depending on the demands of the video characteristics.

Brightness can be adjusted in the following modes.

1. Auto brightness and contrast adjustment. In this mode INTELLECT™ software automatically applies the internal algorithm of video image brightness and contrast adjustment. In this mode manual brightness and contrast adjustment is unavailable.

The mode is default activated and doesn’t need any additional settings. This mode to adjust brightness and contrast is recommended for video image with no special demands on video characteristics.

2. Manual brightness and contrast adjustment. In this mode the administrator may change image brightness and contrast settings.

3. Manual brightness and contrast adjustment with auto optimization. In this mode the administrator manually presets the “Brightness” and “Contrast” values. After the preset is confirmed, INTELLECT™ software automatically launches the process of video image brightness and contrast optimization. This process involves step-by-step changing of video image brightness and contrast.

Note 1. Line parameter «ManualBrightnessControl» in the register branch HKEY_LOCAL_MACHINE\SOFTWARE\ITV\INTELLECT\Video is used to enable automatic setting of IP-cameras’ brightness and contrast .If ManualBrightnessControl is equal to 1, manual control of IP-cameras’ brightness and contrast is enabled.If ManualBrightnessControl is equal to 0, mode of IP-cameras’ brightness and contrast control is set on the settings panel of corresponding Camera object.

Note 2. ManualBrightness and ContrastControl of IP-cameras is disabled in Intellect 4.7.7 by default, for Intellect 4.8 it is enabled.

Brightness and contrast are changed separately and independently for every camera.

To adjust the brightness and contrast, follow the steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box.
2. Select the “Camera” object, created before, corresponding to the camera, whose brightness and contrast should be adjusted, on the “Hardware” tab in the objects tree. The settings panel of selected object appears in the right part of the “Hardware” tab (Figure 8.4-18).

To adjust the brightness and contrast, use the controls on the “Camera” object settings panel, in particular the “Brightness” and “Contrast” sliders (Figure 8.4-18).

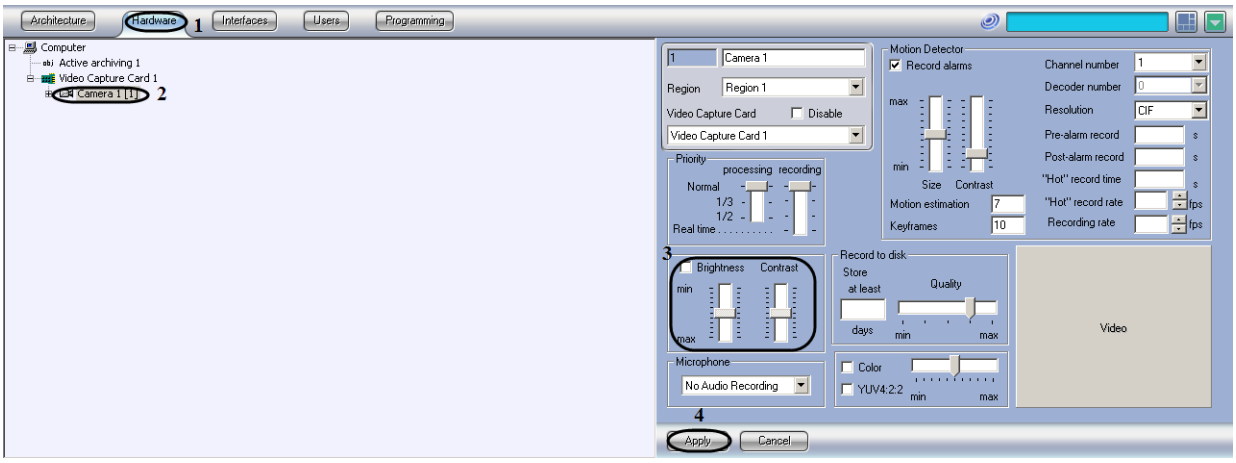


Figure 8.4-18. Brightness and contrast adjustment

Auto brightness and contrast adjustment mode is activated by default. Active brightness and contrast auto adjustment mode is indicated by absence of the check (mark) in the “Brightness” and “Contrast” box (Figure 8.4-19). In this mode manual brightness and contrast adjustment is unavailable. So, the “Brightness” and “Contrast” sliders are deactivated.

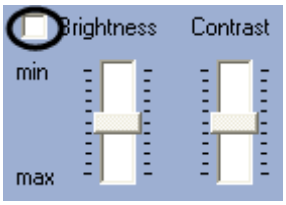


Figure 8.4-19. Auto adjustment mode is activated

The mode is activated by default. To return to this mode, clear the checkbox next to the “Brightness” and “Contrast” sliders.

To enter the manual brightness and contrast adjustment mode, check the check field next to the“Brightness” and “Contrast” controls (Figure 8.4-20). In this mode image brightness and contrast settings are changed with the sliders.

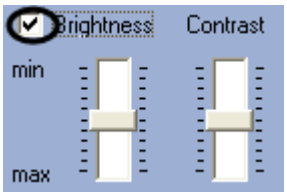


Figure 8.4-20. Manual adjustment mode is activated

To enter the mode of manual brightness and contrast adjustment with auto optimization, check the checkbox next to the “Brightness” and “Contrast” controls (Figure 8.4-21).

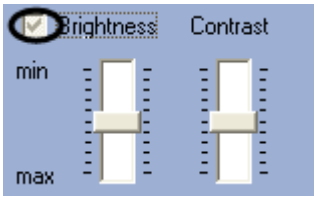


Figure 8.4-21. Manual adjustment mode with auto optimization activated

In this mode image brightness and contrast settings are changed with the “Brightness” and “Contrast” sliders. To launch the video image brightness and contrast auto optimization, click the “Apply” button in the bottom of the “System Setup” dialog box. The optimization sequence involves a step-by-step change of video image brightness and contrast.

To activate the new brightness and contrast settings, click the “Apply” button.

To check the video image brightness and contrast settings, look at the video surveillance field in the top right corner of the “System Setup” dialog box.

Brightness and contrast adjustment is completed.

8.4.3.2.2.2 Color depth adjustment

Color depth (“Saturation” parameter in the HSL color spectrum model) defines the number of colors used to build a video image, while digitizing it by the video capture card. Color depth in the INTELLECT™ software corresponds to the “Color Depth” setting.

Color depth is set for each camera individually.

The color depth mean value is set by default.

While adjusting the color depth bear in mind that the image color depth is directly proportional to the frame size and thus to the video stream size. So, the digitized video stream with the greater color depth is bigger. The bigger the video stream, the bigger the HDD capacity to store it and the higher the channel capacity required to transmit it.

To change the image color depth, follow the steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box.

2. Select the relevant “Camera” object, created before, on the “Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-22).

To adjust brightness and contrast, use the controls on the “Camera” object settings panel with the “Color” checkbox (Figure 8.4-22).

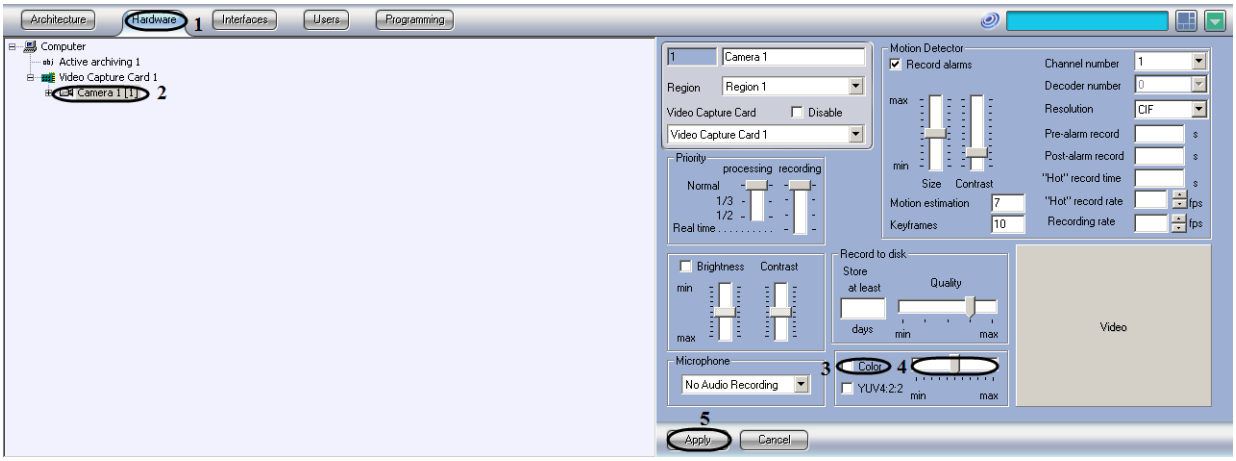


Figure 8.4-22. Color depth adjustment

3. To reduce the video image color depth to the black-and-white palette, remove the “Color” check.

4. To change the color depth in the other cases, move the “Color” slider on the right of the “Color” check into the desired position. The slider’s “Max” position corresponds to the maximum color depth of the video image, and the “Min” position - to its minimum color depth (black-and-white image). To check the video image color depth settings, look at the video surveillance field in the bottom right corner of the “System Setup” dialog box.

5. Click the “Apply” button.

Color depth adjustment is completed.

8.4.3.2.2.3 Selection of the video image color rendition format

Video image color rendition format fixes the number and the sequence of digitized video signal bits (or analog video signal frequencies), that carry its color depth data. So, the digitized video stream with the higher color depth is bigger. The bigger the video stream size, the bigger the HDD capacity to store it and the higher the channel capacity required to transmit it.

The TV systems use two video signal color rendition formats: YUV 4:2:0 and YUV 4:2:2.

YUV 4:2:2 color rendition format is the standard format in TV systems. YUV 4:2:2 format provides high color depth and gives a large size of video stream. That is why video surveillance systems use to apply the YUV 4:2:0 format. In YUV 4:2:0 format, video signal color depth is slightly lower, than in YUV 4:2:2 format, and video stream size, digitized in YUV 4:2:0 format, is several times less than that in YUV 4:2:2 format.

INTELLECT™ software has digitization options in both formats. YUV 4:2:0 and YUV 4:2:2.

Video signal color rendition format is set for each camera individually.

Default encoding of video signals for all cameras is performed by the video capture card in YUV 4:2:0 color rendition format.

Follow the steps to set up encoding of video signals in the YUV 4:2:2 format:

1. Go to the “Hardware” tab in the “System Setup” dialog box.
2. Select the relevant “Camera” object, created before, on the “Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-23).

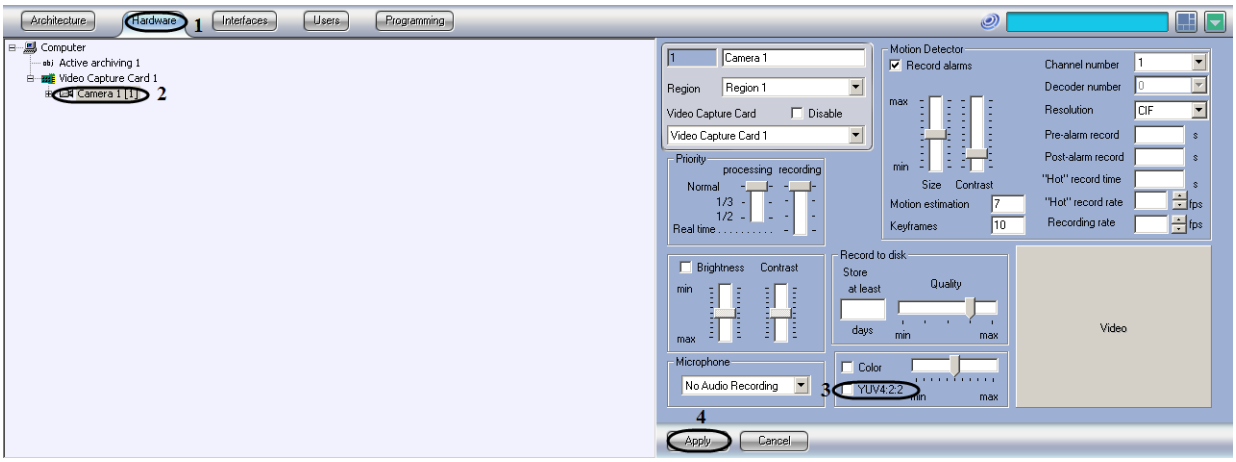


Figure 8.4-23. Selection of the YUV 4:2:2 color rendition format

3. Set the “Color rendition” to the”YUV 4:2:2” position. To check the video signal color rendition format settings, look at the video surveillance field in the top right corner of the “System Setup” dialog box.
4. Click the “Apply” button.

Selection of the video signal color rendition format is completed.

8.4.3.2.3 Video signal compression settings

8.4.3.2.3.1 Compression rate settings

The video image is compressed to reduce the size of the video sequence. With displaying the video signal on the server monitor, the video signal is not compressed.

An increase in compression rate leads to degradation of the video image. Intellect™ software compresses the video image right after its digitizing by the video capture card, prior to its recording and/or before transmitting it to the Remote Workstations.

The video signal compression rate is set for each camera individually.

The INTELLECT™ system uses the “Quality” setting for the compression rate parameter, which is inverse to the compression rate.

In most cases the default “Quality” setting is sufficient.

To change the video signal compression rate, follow the steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box.
2. Select the relevant “Camera” object, created before, on the “Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-24).

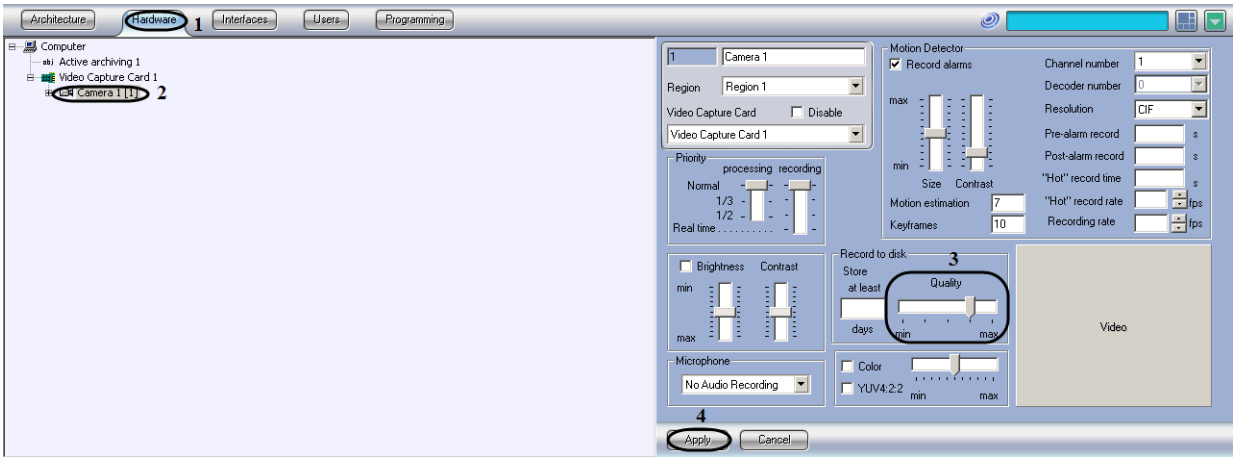


Figure 8.4-24. Video signal compression settings

3. If it is necessary to improve the video signal quality, move the “Quality” slider in the “Max” direction.

If it is necessary to reduce the size of the video stream from the camera, move the “Quality” slider in the “Min” direction.

To estimate the improvement or degradation of the video image, look at the video surveillance field in the bottom right corner of the “System Setup” dialog box.

4. Click the “Apply” button.

8.4.3.2.3.2 Keyframe rate settings

INTELLECT™ software uses Motion Wavelet algorithm for video signals processing and compression. Processed by this algorithm, the video signal is the sequence of key - and delta frames. Keyframe is a full frame of the video image. Delta frame (differential frame) is the video image frame that contains only the pixel blocks which differ from the previous keyframe.

Motion Wavelet algorithm guarantees stable quality of video frame independent on keyframe rate. With a rising motion intensity the delta frame size rises in the frame and the quality of video does not change. With a very intense motion (more than 70% of frame's value is engaged) the setting of keyframe rate is ignored and every frame is processed as a keyframe.

On default in Intellect software complex there is set optimal value of frame rate: every tenth frame of the video is processed as a keyframe.

If no special demands are made on video image size and quality, it is recommended to keep the default keyframe rate.

To change the keyframe rate, follow the steps:

1. Go to the "Hardware" tab in the "System Setup" dialog box.
2. Select the relevant "Camera" object, created before, on the"Hardware" tab in the objects tree. The Settings panel of the selected object appears in the right part of the "Hardware" tab (Figure 8.4-25).

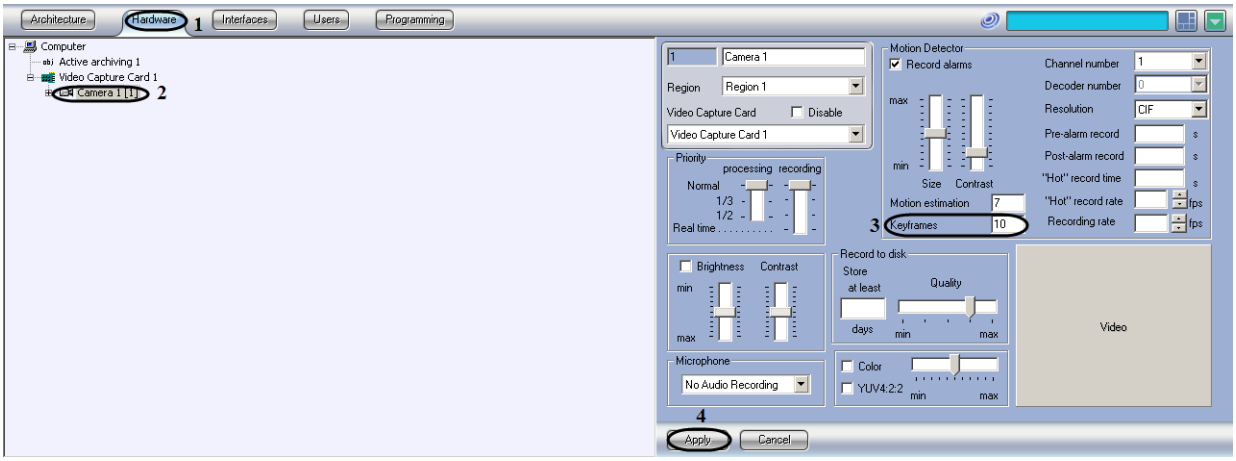


Figure 8.4-25. Keyframe rate settings

3. Enter the desired keyframe rate value in the "Keyframes" field.
4. Click the "Apply" button.

Keyframe rate setup is completed.

8.4.3.2.3.3 Delta frames generation criterion settings

INTELLECT™ software uses Motion Wavelet algorithm to process and compress the video signal. Video signal, processed by this algorithm, is the sequence of key - and delta frames. Keyframe is the full frame of the video image. Delta frame (differential frame) is the video image frame that contains only the pixel blocks, which differ from the previous keyframe. To compare the pixel block of the keyframe to that of the frame next to the keyframe, the average brightness of blocks is compared. If the difference in brightness exceeds a preset value, the block is considered to have fixed motion, and it becomes part of the delta frame. Otherwise, the block is considered to have no motion, and it is not included into the delta frame.

Accepted values of pixel block brightness lie within the 0-225 range. The block becomes part of the delta frame by default, if the difference between its average brightness in the current frame and in the previous keyframe exceeds 7 units. If this value is increased, the size of the delta frame reduces, and the video stream size is consequently decreased, because the delta frame now contains less pixel blocks.

Note. That the image quality deteriorates, since the blocks with the useful motion data now are more likely to be excluded from the processed video image. So, by reducing the parameter, which defines the criterion for blocks to be included into the delta frame, you may improve the image while building up its size.

The optimal value of the parameter, which sets the criterion for blocks to be entered into the delta frame, is defined by the brightness gradient of the video image background and the moving objects in the frame. With a high gradient the parameter may be increased; with a low gradient the parameter value should be decreased.

To change the value of the parameter, which sets the criterion for the block to be entered into the delta frame, follow the steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box.
2. Select the relevant “Camera” object, created before, on the “Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-26).

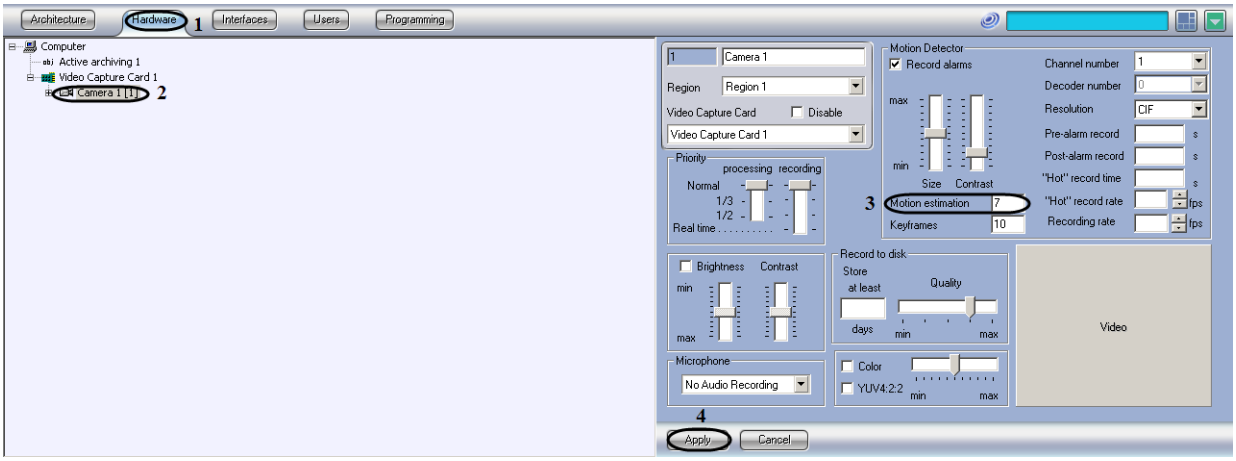


Figure 8.4-26. Delta frame generation criterion setup

Enter the value of the parameter, which sets the criterion for the block to be entered into the delta frame, into the “Motion estimation” field.

Click the “Apply” button.

Delta frames generation criterion setup is completed.

8.4.3.3 *Using FS-5 video capture cards*

8.4.3.3.1 General information on the FS-5 video capture card

FS-5 video capture cards are used in low capacity video surveillance systems.

FS-5 video capture cards are PCI standard multi-channel audio and video capture cards. They are used for hardware processing (digitization) of one or more input video and audio signals.

The cards provide one “real time” channel processing and digitization (25 frames per second in PAL format and 30 frames per second in NTSC format) and concurrent processing of 16 channels in the multiplex mode. Four FS-5 cards can be installed on a single videoserver; and this allows to process the video signals from 64 cameras simultaneously.

FS-5 cards have a plug for connection to the dial-up analog video output card.

Moreover, these cards provide digitization of 2 audio channels.

For more information on video capture cards compatible with INTELLECT™ software, see Appendix 3.

8.4.3.3.2 FS-5 video capture card resources and their representation in the INTELLECT™ software

The hardware video capture card is registered in the INTELLECT™ software as a “Video capture card” object; each object corresponds to the single video signal ADC (audio signal ADC), installed on this card. The FS-5 card has a single ADC, so one FS-5 card is represented by one “Video capture card” object.

The FS-5 card ADC is designed to process 16 video signals from different cameras (equal to the number of available video channels on a single hardware FS-5 card). ADC resourcess, represented by the “Video capture card” objects in the INTELLECT™ software, are allocated among the connected cameras, by placing the “Camera” object on the base of the “Video capture card” object.

The number of video signals, processed by the ADC, is equal to the number of “Camera” objects, created on the base of the “Video Capture Card” object, related to the certain ADC. Up to 16 “Camera” objects may be placed on the base of the “Video capture card” object.

Figure 8.4-27 shows the graphical chart of the FS-5 video capture card resources allocation with 16 cameras connected to it.

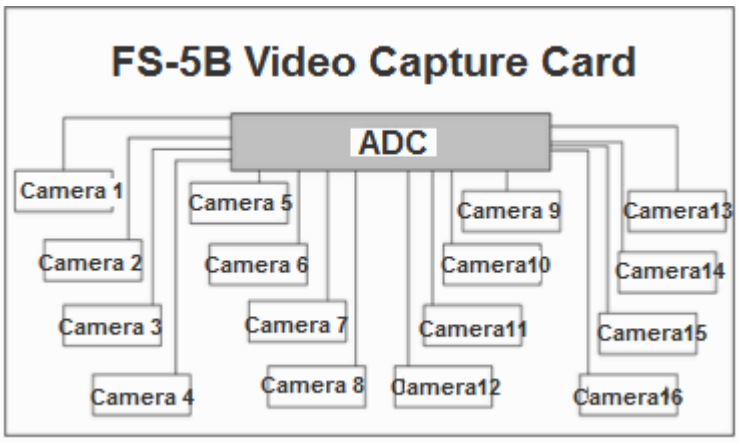
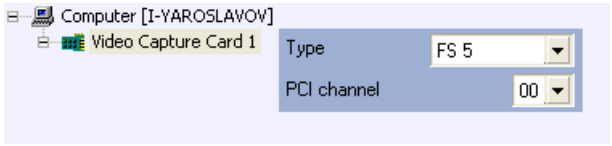


Figure 8.4-27. Graphical chart of resources allocation of the FS-5 video capture card with 16 connected cameras

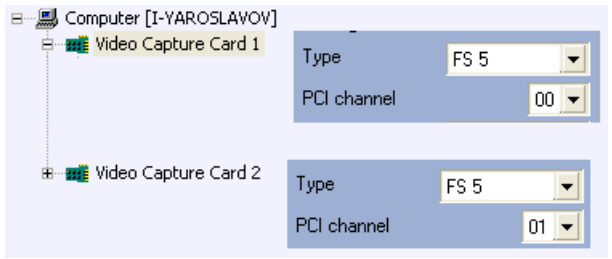
8.4.3.3.3 Setting up FS-5 video capture cards

The FS-5 video capture card has one ADC, which digitizes no more than 16 video signals. Every FS-5 video capture card is registered in the INTELLECT™ software by creating and setting up a “Video capture card” object. “Video capture card” objects are created on the “Hardware” tab on the base of the

“Computer” object. During creation of the “Video capture card” object for each FS-5 video capture card, the “FS-5” value should be assigned to the “Type” setting, and different values in the numbering order – to the “PCI channel” setting. For the first “Video capture card” object the “00” value should be selected, for the second one - “01” and so on (Figure 8.4-28).



A. at single FS-5 video capture card registration



B. at registration of two FS-5 video capture cards

Figure 8.4-28. Allocation of PCI channel numbers at FS-5 video capture card registration

To register the cameras, connected to the FS-5 card video channels, create “Camera” objects on the base of the “Video capture card” object. Up to 16 “Camera” objects may be placedon the base of a single “Video capture card” object. The relevant Hardware tree segment during registration of the FS-5 video capture card and 16 cameras, is shown in Figure 8.4-29.

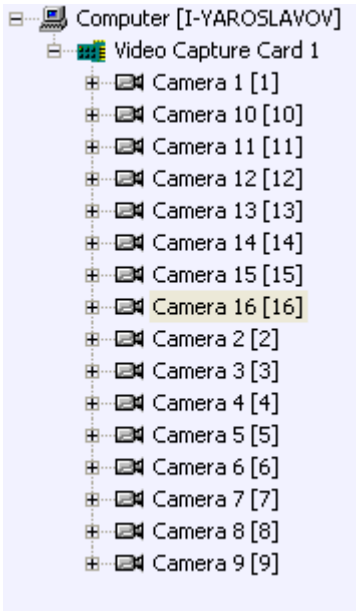


Figure 8.4-29. The Hardware tree segment at registration of the single FS-5 video capture card with 16 cameras

After registration in the INTELLECT™ system, the values should be assigned to the “Channel number” settings of the “Camera” objects according to the channel (BNC plug) numbers of the camera connections to the FS-5 card. The channel numbering scheme and examples of “Camera” object settings

with one and two FS-5 video capture cards, registered in the INTELLECT™ system, are shown in Figure 8.4-30 and Figure 8.4-28 respectively.

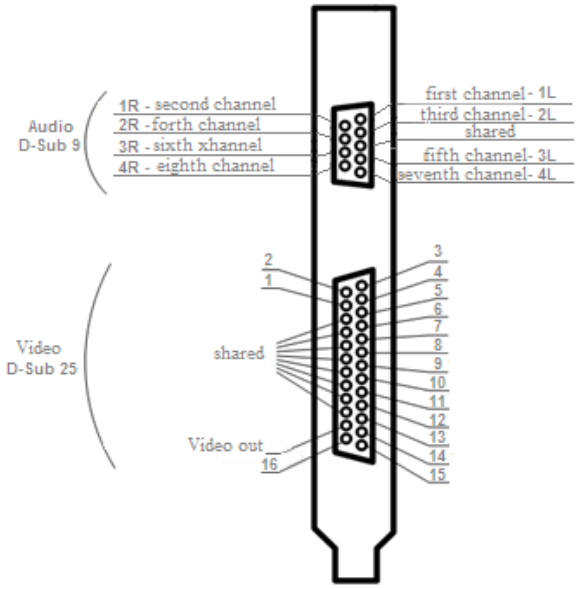
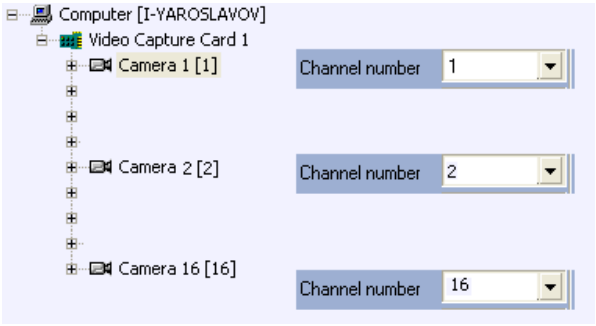
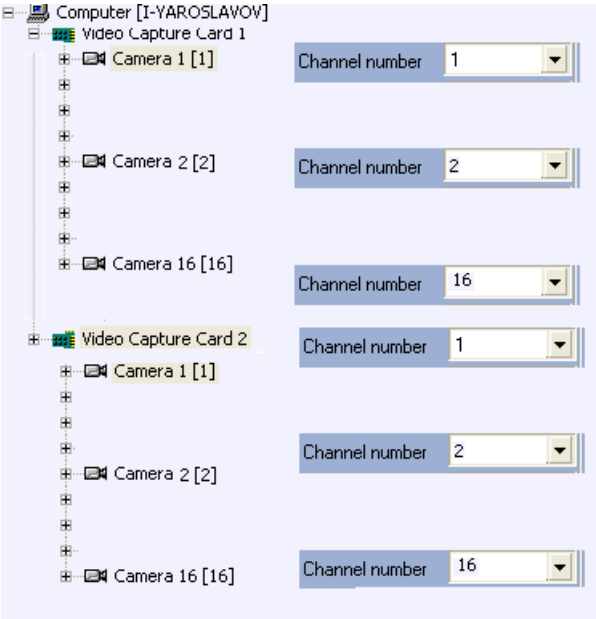


Figure 8.4-30. Video channel numbering scheme for an FS-6 or FS-16 cards



A. with a single FS-5 video capture card



B. with two FS-5 video capture cards

Figure 8.4-31. Examples of "Camera" object settings

8.4.3.4 *Using FS-6 and FS-16 video capture cards*

8.4.3.4.1 General information on FS-6 and FS-16 video capture cards

FS-6 and FS-16 video capture cards are used in industrial digital video surveillance systems.

The FS-6 card is a PCI multi-channel card for video signal hardware processing.

The FS-16 card is a multi-channel PCI-express card for video signal hardware processing, which provides high-rate transmission of digital video signals by PCI-express bus.

The cards provide processing and digitization of up to 4 "real time" channels (25 frames per second in PAL format and 30 frames per second in NTSC format) and concurrent processing of 16 channels in multiplex mode in PAL and NTSC formats. Four FS-6 or FS-16 cards can be installed on a single videoserver; this allows simultaneous processing of video signals from 64 cameras.

The cards have one dial-up analog video output. The cards have built-in options of brightness, contrast and color depth control.

Moreover, these cards provide concurrent digitization of 8 audio channels (with video signal processing).

For more information on the specifications of video capture cards compatible with INTELLECT™ software, see Appendix 3.

8.4.3.4.2 FS-6 and FS-16 video capture card resources and their representation in the INTELLECT™ software

The hardware video capture card is registered in the INTELLECT™ software as a "Video capture card" object; each object corresponds to the single video signal ADC (audio signal ADC), installed on this card. FS-6 and FS-16 cards have four ADC's, so one FS-6 or FS-16 card is represented by 4 "Video capture card" objects.

Each ADC of the FS-6 or FS-16 card digitizes no more than 4 video signals from different cameras. So, one video capture card is able to process 16 video signals from different cameras (equal to the number of available video channels on a single FS-6 or FS16 hardware card). ADC resourcess, represented by the “Video capture card” objects in the INTELLECT™ software, are allocated among the connected cameras by placing “Camera” objects on the base of the “Video capture card” object.

The number of video signals, processed by the ADC, is equal to the number of “Camera” objects, created on the base of the “Video Capture Card” object, related to the given ADC. Up to 4 “Camera” objects may be placed on the base of the “Video capture card” object.

Figure 8.4-32 shows the graphical chart of resources allocation for an FS-6 or FS-16 video capture card with 16 connected cameras.

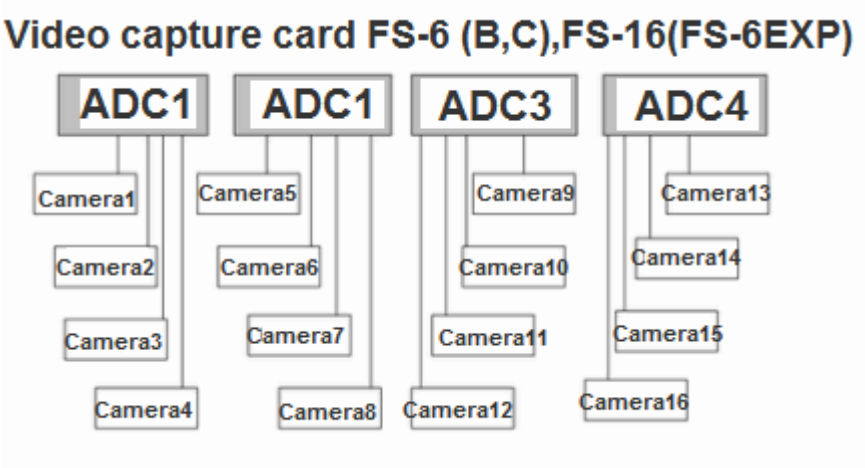
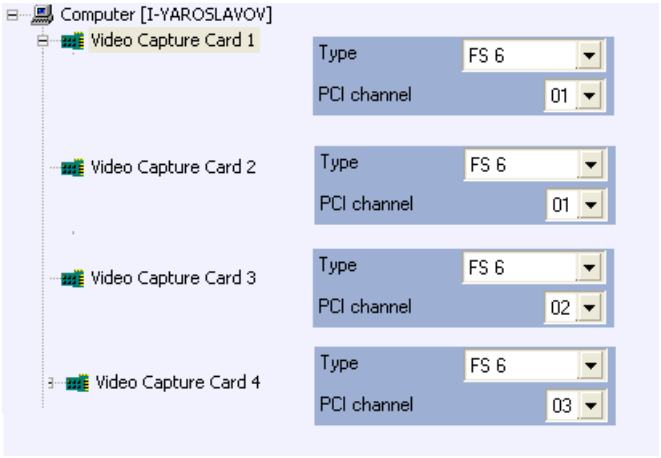


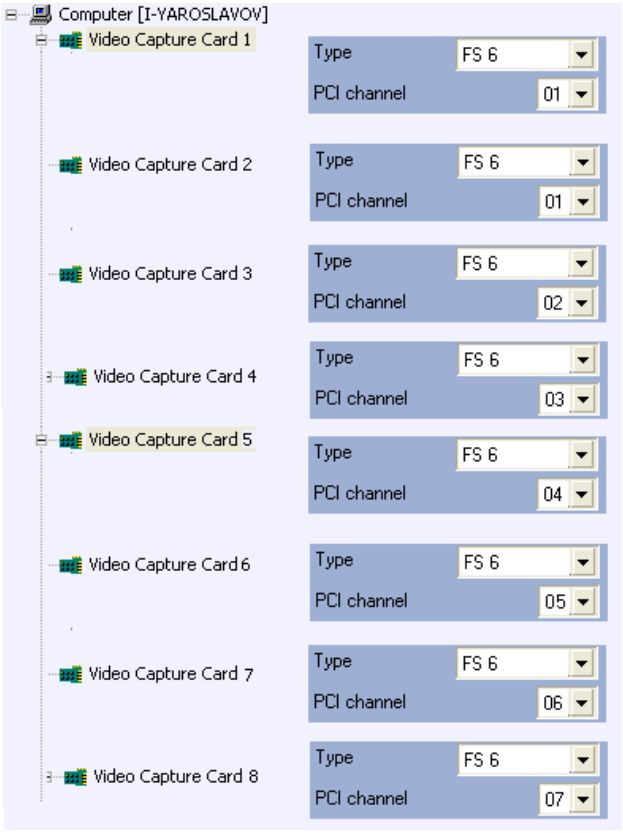
Figure 8.4-32. Graphical chart of FS-6 or FS-16 video capture card resources allocation with 16 cameras

8.4.3.4.3 Setting up FS-6 and FS-16 video capture cards

FS-6 and FS-16 video capture cards have 4 ADC’s, each of them digitizing 4 video signals. Every FS-6 or FS-16 video capture card is registered in the INTELLECT™ software by creating and setting up a “Video capture card” object. “Video capture card” objects are created on the “Hardware” tab on the base of the “Computer” object. During creation of the “Video capture card” object for each FS-6 and FS-16 video capture card, the “FS-6” value should be assigned to the “Type” setting, and different values in the numbering order – to the “PCI channel” setting: for the first “Video capture card” object the “00” value should be selected, for the second one - “01” and so on (Figure 8.4-33).



A. single FS-6 or FS-16 video capture card registration



B. registration of two FS-6 or FS-16 video capture cards

Figure 8.4-33. Allocation of PCI channel numbers at registration of the FS-6 or FS-16 video capture cards

To register the cameras, connected to the video input channels on the FS-6 or FS-16 cards , in the INTELLECT™ software, create the “Camera” objects on the base of the “Video capture card” object. Up to 4 “Camera” objects may be placed on the base of a single “Video capture card” object. The relevant Hardware tree segment during registration of the FS-6 or FS-16 video capture card with 16 cameras is shown in Figure 8.4-34.

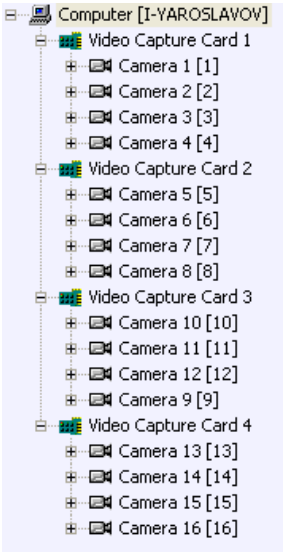


Figure 8.4-34. The Hardware tree segment during registration of a single FS-6 or FS-16 video capture card and 16 cameras

After registration in the INTELLECT™ system, the values should be assigned to the “Channel number” settings of the “Camera” objects according to the channel (BNC plug) numbers of the camera connections to the FS-6, FS-16 cards. The channel numbering scheme and examples of “Camera” object settings with one and two FS-6 or FS-16 video capture cards, registered in the INTELLECT™ system, are shown in Figure 8.4-35 and Figure 8.4-33 correspondingly.

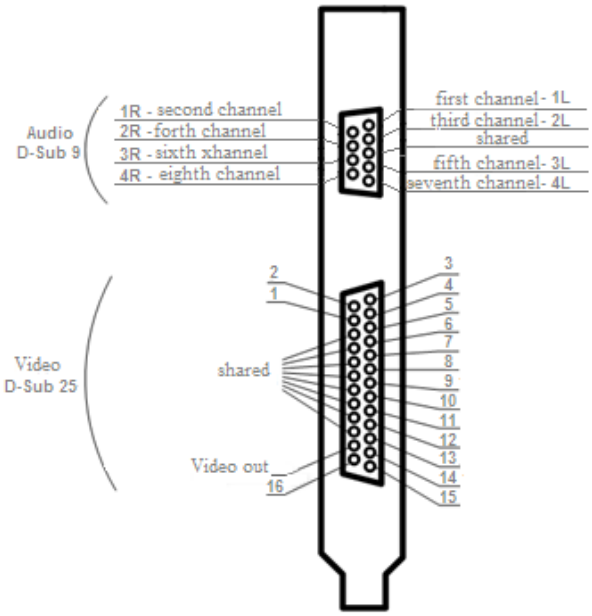
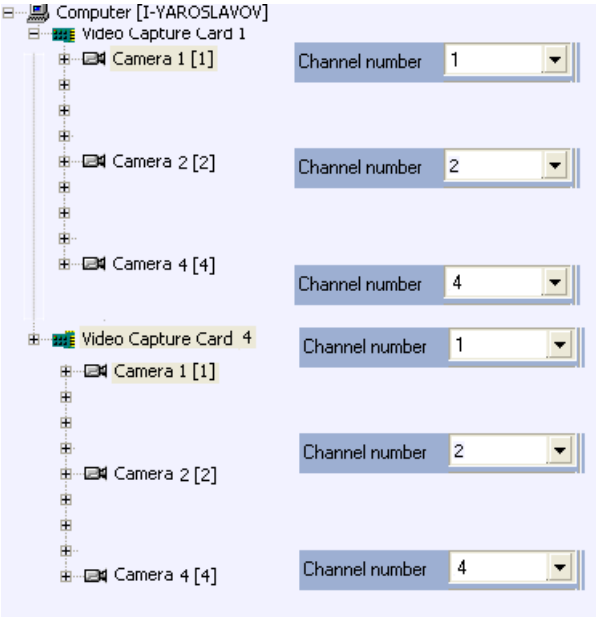
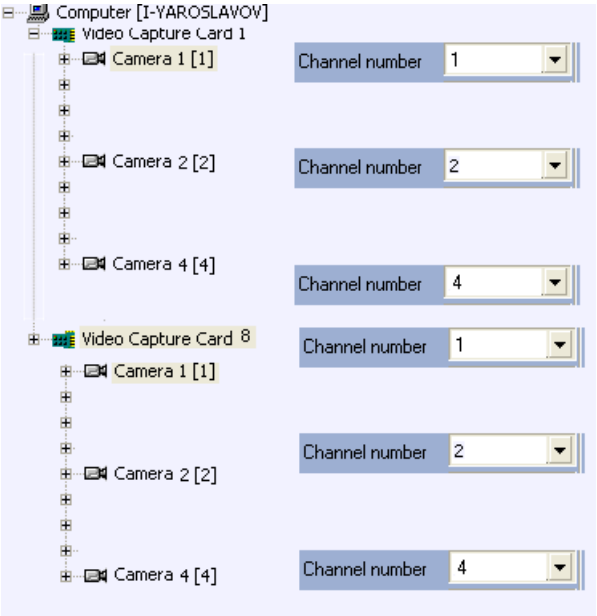


Figure 8.4-35. Video channel numbering scheme for a WS-7 or WS-17 card



A. single FS-6 or FS-16 video capture card registration



B. registration of two FS-6 or FS-16 video capture cards

Figure 8.4-36. Examples of “Camera” object settings

8.4.3.5 *Using FS-8 video capture cards*

8.4.3.5.1 General information on the FS-8 video capture card

FS-8 video capture cards are used in industrial digital video surveillance systems.

The FS-8 card is a PCI multi-channel card for video signal hardware processing.

The cards provide 8 channel “real time” processing and digitization (25 frames per second in PAL format and 30 frames per second in NTSC format) and concurrent processing of 16 multiplexed video signal channels in PAL and NTSC formats. Up to 4 FS-8 cards can be installed on a single videoserver; this allows simultaneous processing of video signals from 64 cameras.

The cards have one dial-up analog video output.

The cards provide 16 audio channel concurrent digitization (in parallel with video signal processing).

For more information on the specifications of video capture cards compatible with INTELLECT™ software, see Appendix 4.

8.4.3.5.2 FS-8 video capture card resources and their representation in the INTELLECT™ software

The hardware video capture card is registered in the INTELLECT™ software as a "Video capture card" object; each object corresponds to the single video signal ADC (audio signal ADC), installed on this card. FS-8 cards have 8 ADC's, so one FS-8 card is represented by 8 "Video capture card" objects.

Each ADC of an FS-8 card digitizes no more than 2 video signals from different cameras. So, one video capture card is able to process video signals from 16 different cameras (equal to the number of available video channels on a single FS-8 hardware card). Resources allocation of an ADC, represented by the "Video capture card" objects in the INTELLECT™ software, among the connected cameras, is achieved by placing "Camera" objects on the base of the "Video capture card" object.

The number of video signals, processed by the ADC, is equal to the number of "Camera" objects, created on the base of the "Video Capture Card" object, related to the given ADC.Up to 2 "Camera" objects may be placed on the base of "Video capture card" object.

Figure 8.4-37 shows the graphical chart of Resources allocation for an FS-8 Video capture card with 16 cameras connected to it.

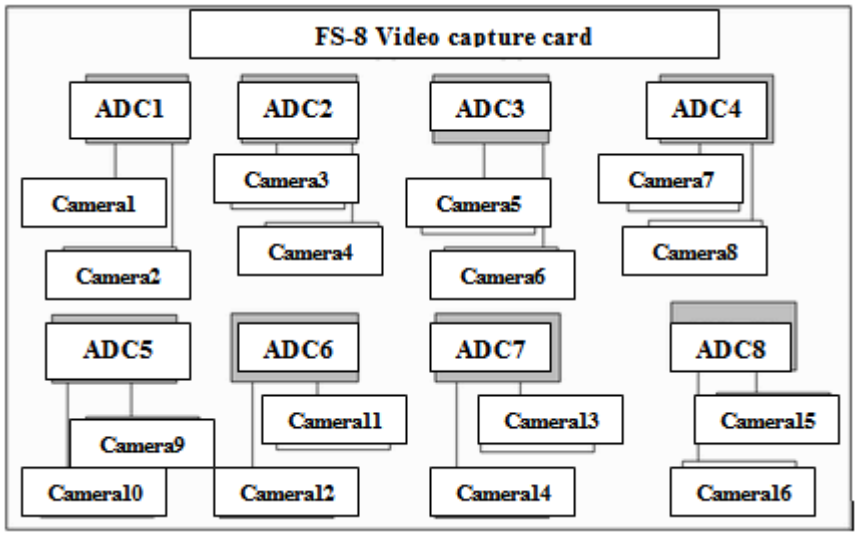
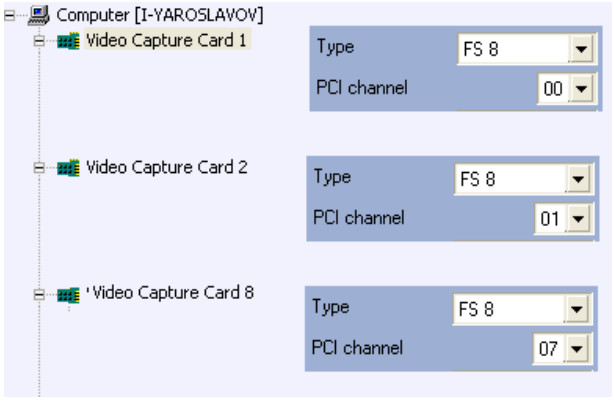


Figure 8.4-37. Diagram of resources allocation of an FS-8 video capture card with 16 cameras

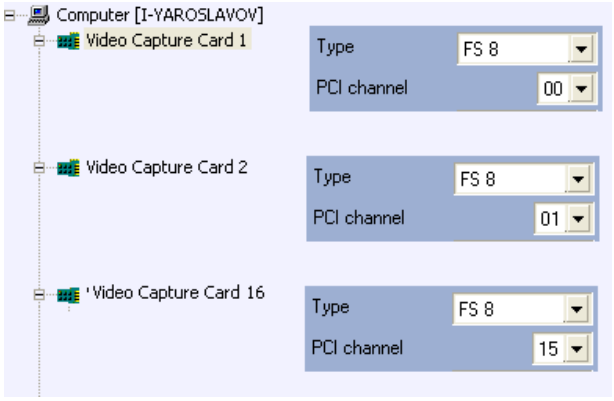
8.4.3.5.3 Setting up FS-8 video capture cards

An FS-8 video capture card has 8 ADC's, each digitizing no more than 2 video signals. Every FS-8 video capture card is registered in the INTELLECT™ software by creating and setting up 8 "Video capture card" objects. "Video capture card" objects are created on the "Hardware" tab on the base of the "Computer" object. During creation of the "Video capture card" object for each FS-8 video capture card, the "FS-8" value should be assigned to the "Type" setting, and different values in the numbering order – to the "PCI

channel” parameter. For the first “Video capture card” object the “00” value should be selected, for the second one - “01” and so on (Figure 8.4-38).



A. AT SINGLE FS-8 VIDEO CAPTURE CARD REGISTRATION



B. AT REGISTRATION OF TWO FS-8 VIDEO CAPTURE CARDS

Figure 8.4-38. Allocation of PCI channel numbers at the FS-8 video capture cards registration

To register the cameras, connected to the FS-8 card video channels, create “Camera” objects on the base of the “Video capture card” object. Two “Camera” objects may be placed on the base of a single “Video capture card” object. The relevant Hardware tree segment during the registration of the FS-8 video capture card and 16 cameras is shown in Figure 8.4-39.

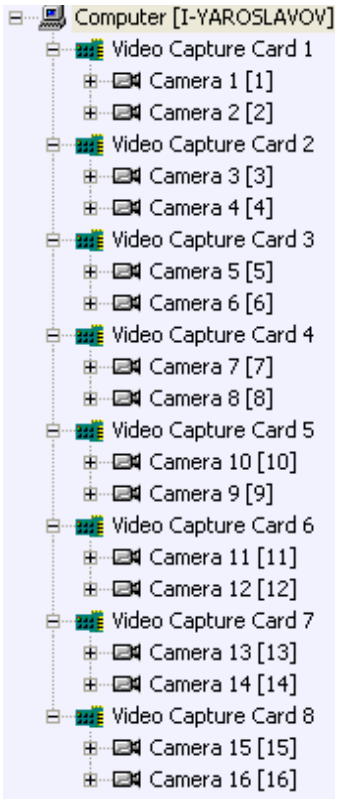


Figure 8.4-39. The Hardware tree segment at registration of a single FS-8 video capture card and 16 cameras

After registration in the INTELLECT™ system, the values should be assigned to the “Channel number” settings of the “Camera” objects, according to the channel (BNC plug) numbers of the camera connections to the FS-8 cards. The channel numbering scheme and examples of “Camera” object settings with one and two FS-8 video capture cards, registered in the INTELLECT™ system, are shown in Figure 8.4-40 and Figure 8.4-38 correspondingly.

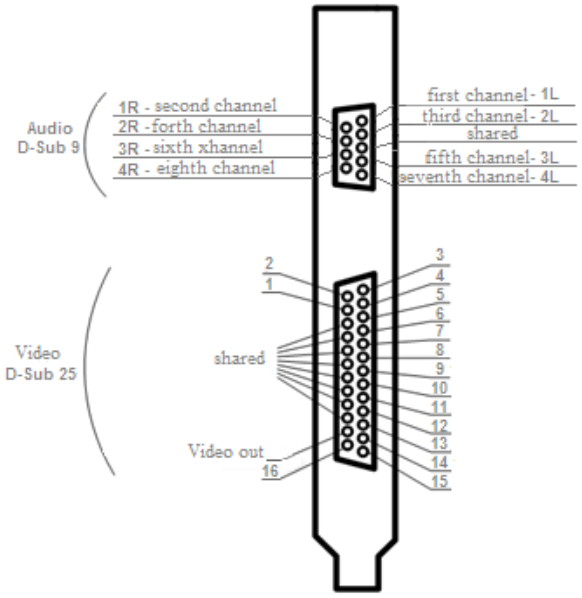
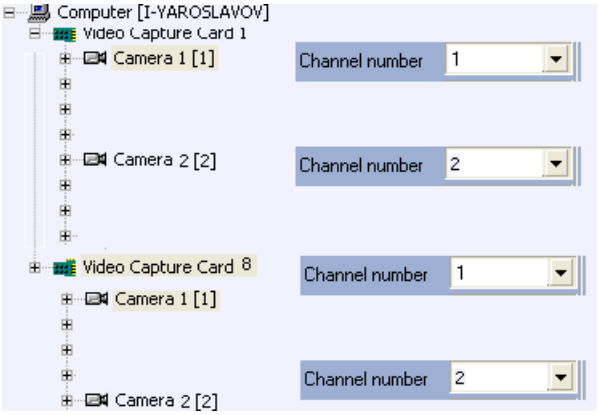
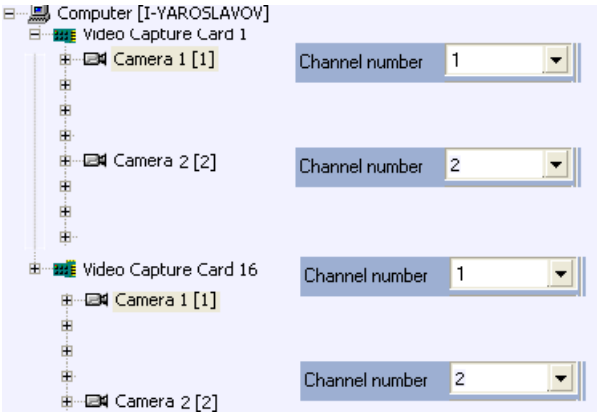


Figure 8.4-40. Channel numbering scheme for FS-8 audio cards



A. with a single FS-8 video capture card



B. with two FS-8 video capture cards

Figure 8.4-41. Examples of "Camera" object settings

8.4.3.6 *Using WS-6, WS-7 and WS-17 video capture cards*

8.4.3.6.1 General information on WS-6, WS-7 and WS-17 video capture cards

FS-6 and FS-16 video capture cards are used in industrial digital video surveillance systems.

WS-6 and WS-7 cards are PCI multi-channel cards for video signal processing.

The WS-17 card is a multi-channel PCI-express card for video signal processing, which provides high-rate transmission of digital video signal by PCI-express bus.

The cards provide 4 channel "real time" video signal processing and digitization (25 frames per second in PAL format and 30 frames per second in NTSC format). Up to 6 WS-6 cards can be installed on a single videoserver; this allows simultaneous processing of the video signals from 24 cameras.

Note.The WS-6 card does not support NTSC. Moreover, these cards provide 8 audio channel concurrent digitization (in parallel with video signal processing).

For more information on the specifications of video capture cards compatible with INTELLECT™ software, see Appendix 3.

Note. It is not recommended to use 4 WS-7 cards with Asus ATI X1600 video adapters. This may cause Windows problems. Compared to WS-17, the WS-7 card does not allow video output on the server in full resolution. Both cards support video recording in full resolution, though.

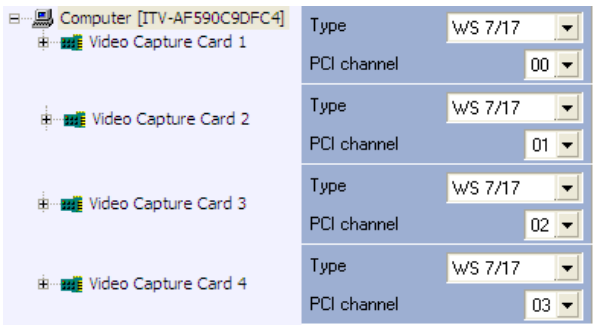
8.4.3.6.2 WS-6, WS-7 and WS-17 video capture card resources and their representation in the INTELLECT™ software

The hardware video capture card is registered in the INTELLECT™ software as a "Video capture card" object; each object corresponds to the single video signal ADC (audio signal ADC), installed on this card. Each WS-6, WS-7 and WS-17 card has four ADC's, so one WS-6, WS-7 or WS-17 card is represented by 4 "Video capture card" objects.

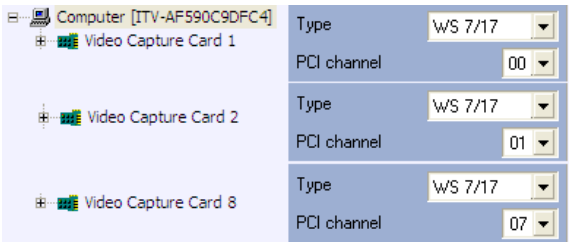
Each ADC of the WS-6, WS-7 and WS-17 cards processes a single video signal. So, one video capture card is able to process 4 video signals from different cameras (equal to the number of available video channels on a single WS-6, WS-7 or WS17 hardware card). ADC setup is performed by placing the "Camera" object on the base of the relevant "Video capture card" object. One "Camera" object may be placed on the base of a single "Video capture card" object.

8.4.3.6.3 Setting up WS-6, WS-7 and WS-17 video capture card

Each WS-6, WS-7 and WS-17 video capture card has 4 ADC's that digitize 1 video signal. Every WS-6, WS-7, and WS-17 video capture card is registered in the INTELLECT™ software by creating and setting up 1-4 "Video capture card" objects. "Video capture card" objects are created on the "Hardware" tab on the base of the "Computer" object. During creation of the "Video capture card" objects, for each WS-6, WS-7 and WS-17 video capture card, the "WS-6" or "WS-7/17" value should be assigned to the "Type" setting, and different values in the numbering order – to the "PCI channel" setting: for the first "Video capture card" object the "00" value should be selected, for the second one - "01" and so on (Figure 8.4-42).



A. single WS-6, WS-7 or WS-17 video capture card registration



B. registration of two WS-6, WS-7 or WS-17 video capture cards

Figure 8.4-42. Allocation of PCI channel numbers at the WS-6, WS-7 or WS-17 video capture cards registration

To register the cameras, connected to the WS-6, WS-7 or WS-17 card video channels, in the INTELLECT™ software, create “Camera” objects on the base of the “Video capture card” object. One “Camera” object may be placed on the base of a single “Video capture card” object. The relevant Hardware tree segment during the registration of WS-6, WS-7 or WS-17 video capture cards and 4 cameras is shown in Figure 8.4-43.



Figure 8.4-43. Hardware tree segment during the registration of WS-6, WS-7 or WS-17 video capture cards and 4 cameras

After registration in the INTELLECT™ system, the values should be assigned to the “Channel number” parameters of the “Camera” objects according to the channel (BNC plug) numbers of the camera connections with the WS-6, WS-7 and WS-17 cards. The channel numbering scheme and examples of “Camera” object settings with one and two WS-6, WS-7 or WS-17 video capture cards, registered in the INTELLECT™ system, are shown in Figure 8.4-44 and Figure 8.4-42 correspondingly.

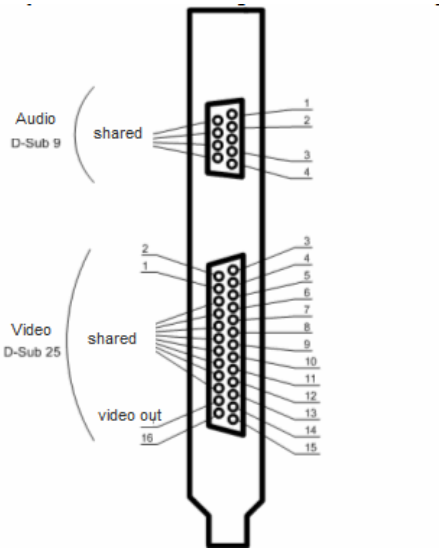
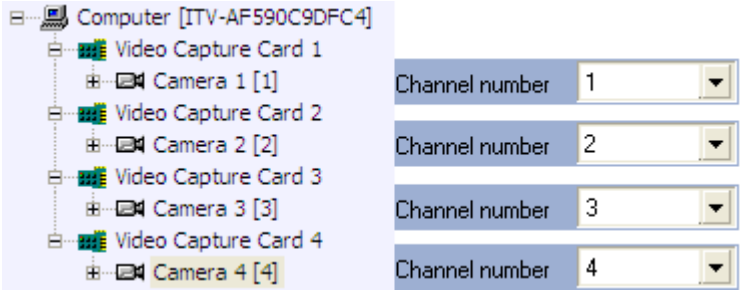
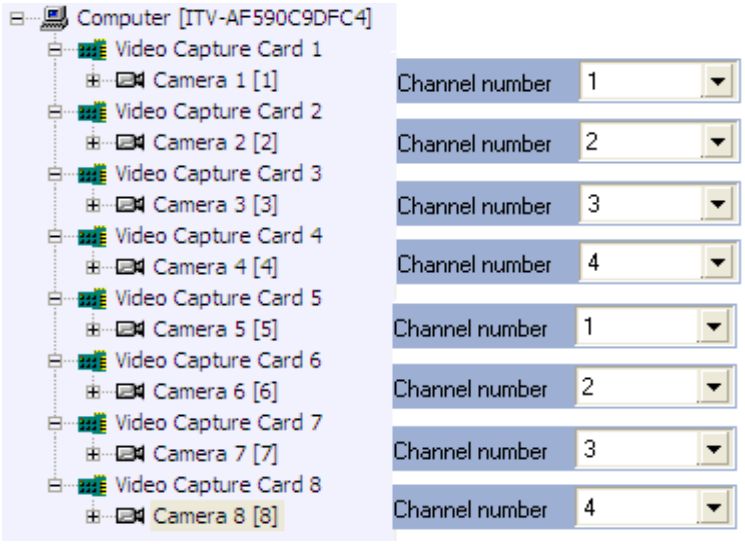


Figure 8.4-44. The channel numbering scheme for WS-6, WS-7 or WS-17 video capture cards



A. a single WS-6, WS-7 or WS-17 video capture card



B. two WS-6, WS-7 or WS-17 video capture cards

Figure 8.4-45. Examples of "Camera" objects settings

Note. The Channel Number field for Camera objects does not matter for WS-6, WS-7 and WS-17 cards.

8.4.4 Video signals archiving settings

8.4.4.1 *General information*

Video signals archiving allows saving the footage according to the settings and analyse the fragments of interest for the user.

The archive is saved on the server disks. Video is stored in the archive as one or more indexed files. To limit the size of the files, use the Video Subsystem tab in the Tweaki.exe utility.

Video signal recording may be initialized by one of three methods:

1. Forced recording by operator command
2. Automatic recording upon alarm event registration
3. Automatic recording upon a macro/script execution.

To make the analysis of the causes and effects of an alarm event more effective, INTELLECT™ software realizes expanded schemes of video recording file. An example of a video recording expanded scheme is presented in Figure 8.4-46.

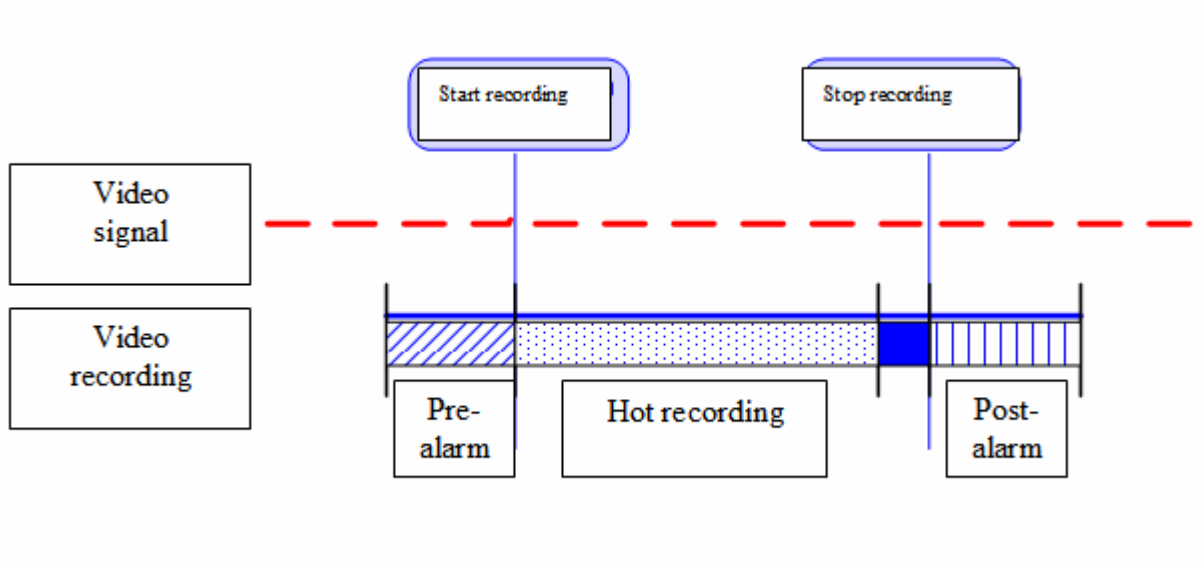


Figure 8.4-46. Expanded scheme of video recording

The scheme contains the following segments:

1. Pre-event event, recorded before the recording start time on the camera alarm. Pre-event event recording option facilitates the analysis of event causes.

2. Post-event event, recorded after the recording end time on camera alarm, detector alarm or by Operator command. Post-event event recording option facilitates the consequences analysis.

3. Hot recording – video recording segment with higher frame rate. Increasing frame rate on the Hot recording segment makes event analysis more effective. The Hot recording segment always starts from the recording start time on the alarm event registration. The Hot recording segment is finished at the recording end time (depending on the Hot recording settings and event duration).

Further use of video recording segments is restricted by INTELLECT™ software. The restriction list is presented in Table 8.4-2.

Table 8.4-2

Video recording initialization mode	Recording option		
	pre-event	hot recording	post-event
By Operator command	No	yes	no
On alarm event	yes	yes	yes
On detector alarm	no	yes	yes
On macro command or script	no	yes	yes

Note. In case the MPEG4 recording format is chosen, a small fragment of the recording (about 0.5 seconds from the beginning) may be lost.

8.4.4.2 *Setup procedure of video signals archiving*

To set up video signal archiving, follow the sequence:

1. Select the discs for video archive storage.

2. Switch off/on auto alarm recording.

3. Set the video recording frame rate.
4. Set up video Hot recording.
5. Set up video pre-event recording.
6. Set up video post-event recording.
7. Assign the queue of video signal processing in the recording mode.

8.4.4.3 *Selecting the discs for video archive storage*

INTELLECT™ software performs video signal archiving to a storage device. After the Intellect installation, set the local disks to save the archive to, in the Hardware tab of the Computer object.

Follow the steps to select the disks for the archive:

1. Go to the “Hardware" tab in the “System Setup” dialog box.
2. Select the “Computer” object, related to the required server, on the “Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-47).

Each local disk available for archiving has the check of the same name in the “Archive storage drives” field (Figure 8.4-47).

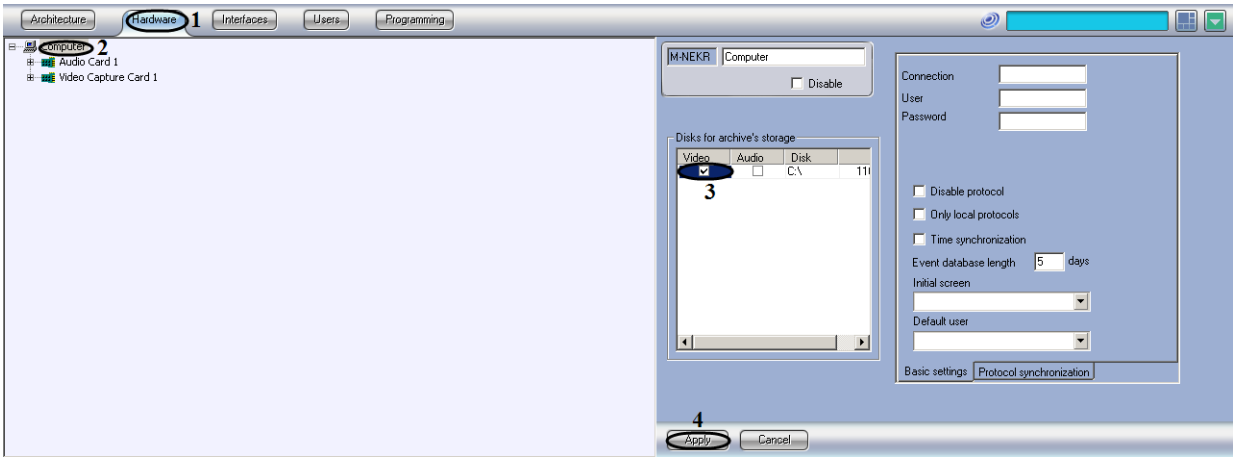


Figure 8.4-47. Selecting the discs for video archive storage

3. To select the archive storage disc, set the relevant check in the “Video” column.

Note.To exclude the archive storage disc, remove the relevant check in the “Video” column.

4. Click the “Apply” button.

Selection of the video archive storage discs is completed.

Note. If no disks were selected for video archive storage, no video signals will be saved in the server archive.

8.4.4.4 *Switching off automatic recording on alarm event registration*

INTELLECT™ software supports automatic video recording upon alarm event registration for each Camera object individually.

By default, the auto recording option is enabled for all cameras in the Hardware tab.

The auto recording option is disabled for each camera individually, as well.

To disable the auto recording option on alarm for a selected camera, follow the steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box.
2. Select the “Camera” object, related to the required camera in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-48).



Figure 8.4-48. Switching off auto recording on alarm event

3. Remove the “Record alarms” check.
4. Click the “Apply” button.

Switching off auto recording on alarm event is completed.

Note. To re-enable the auto recording, repeat the above steps and check the “Record alarms” checkbox.

8.4.4.5 *Video frame rate setup*

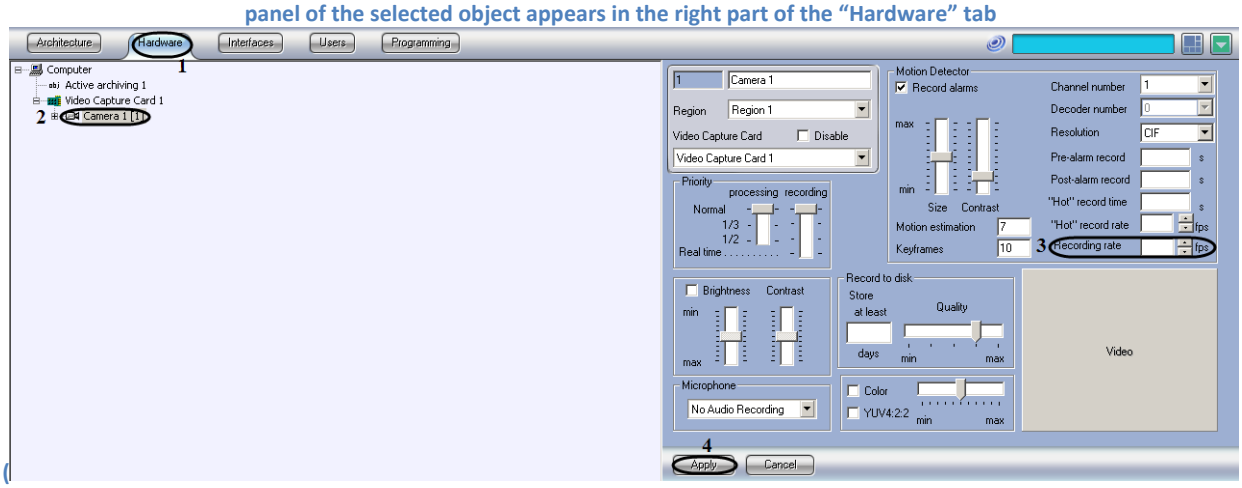
By default, the video signal is recorded at the same frame rate as the video capture card digitizes it. Thus, to reduce the archive size, the frame rate may be reduced.

Note A. The reduction of the video recording frame rate doesn’t affect the displaying of the video signal on the server monitor and its transmission to the Remote Workstations by the network.

To reduce the recording frame rate, follow the steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box.

Select the “Camera” object, related to the required camera in the objects tree. The settings panel of the selected object panel of the selected object appears in the right part of the “Hardware” tab



2. Figure 8.4-49).

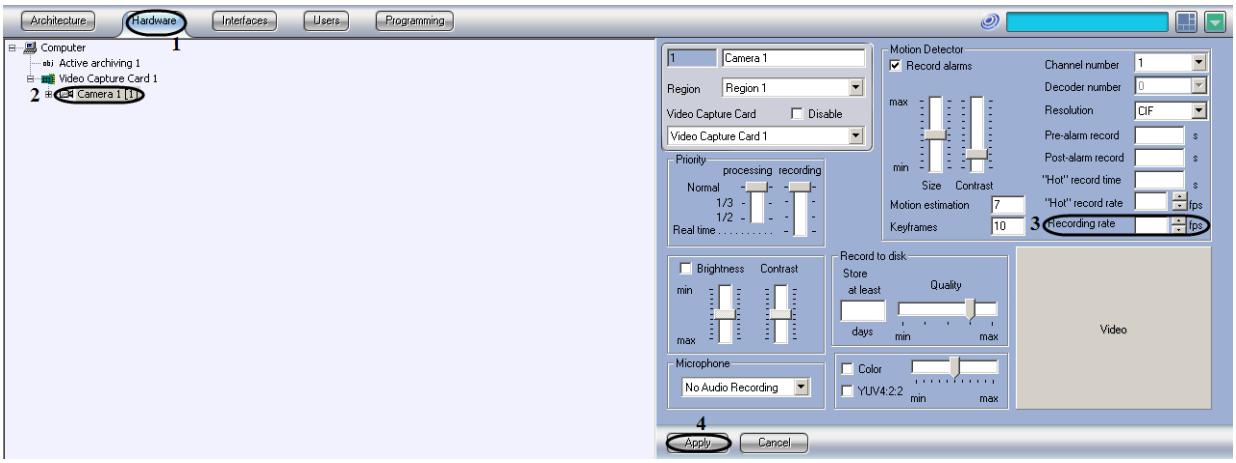


Figure 8.4-49. Frame rate reduction in recording mode

3. Enter the desired recording frame rate value in the “Recording rate” field. The entered value should not exceed the digitization frame rate value of the video capture card.

4. Click the “Apply” button.

8.4.4.6 *Video settings in the Hot Recording mode*

In the Hot Recording mode the video is recorded with a larger frame rate compared to the set value.

By default, this mode is disabled.

Follow the steps to enable the Hot recording mode:

1. Go to the “Hardware” tab in the “System Setup” dialog box.

2. Select the “Camera” object, related to the required camera in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-50).

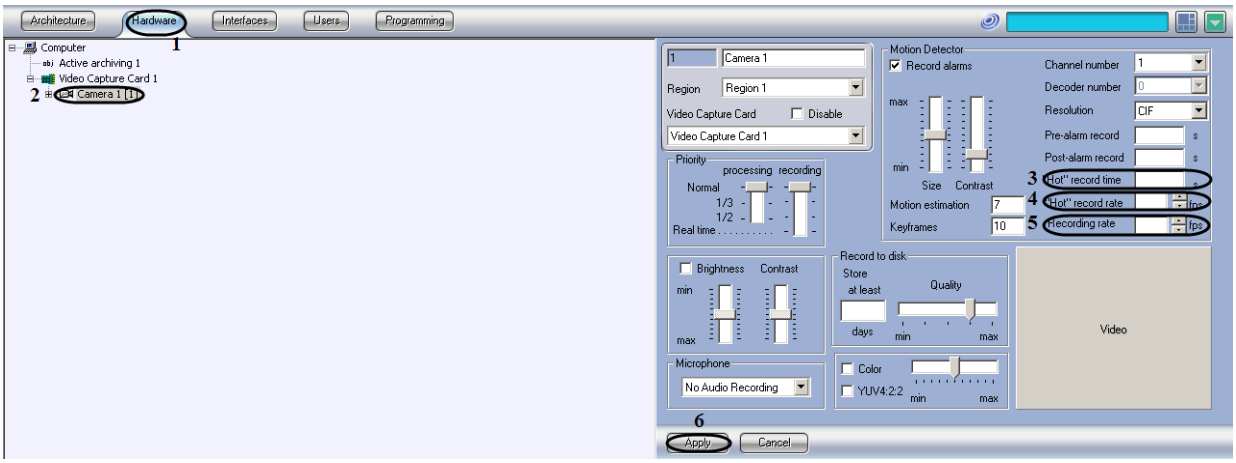


Figure 8.4-50. Hot recording mode setup

3. Enter the frame rate of the video signal, that is being recorded, in the “Recording rate” field.
4. Enter the hot recording’s frame rate of the alarm in the “Hot record rate” field.
5. In the field “Hot” record time enter the time interval in sec, during which the video is being recorded at the rate, that has been set in the field “Hot” record rete, from the moment of alarm registration. Accepted values are in the range from 0 to 20 sec.
6. Click the “Apply” button.

8.4.4.7 *Video signal pre-event recording setup*

Pre-event recording is performed before the recording start time on alarm event.

By default, the pre-event recording in disabled. To enable the pre-event recording, follow the steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box.
2. Select the “Camera” object, related to the required camera in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (**Ошибка! Источник ссылки не найден.**).

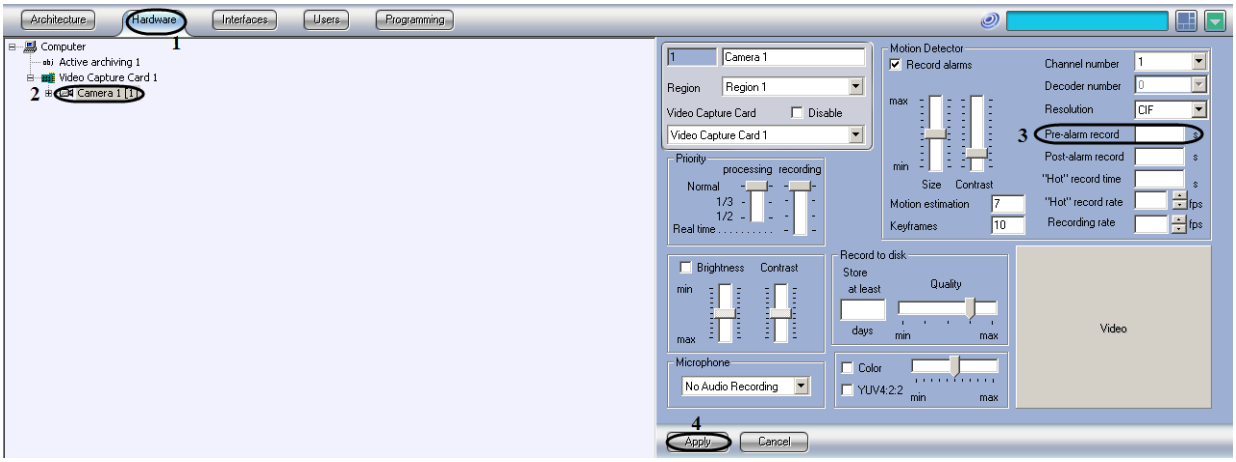


Figure 8.4-51. Pre-event recording setup

3. Enter the desired duration (in seconds) of pre-event recording in the “Pre-event” field.

4. Click the “Apply” button.

8.4.4.8 *Post-event recording setup*

Post-event recording is performed for a specified amount of time after the end of the alarm event.

By default, post-event recording is disabled. To enable the post-event recording, follow the steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box.
2. Select the “Camera” object, related to the required camera in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-52).

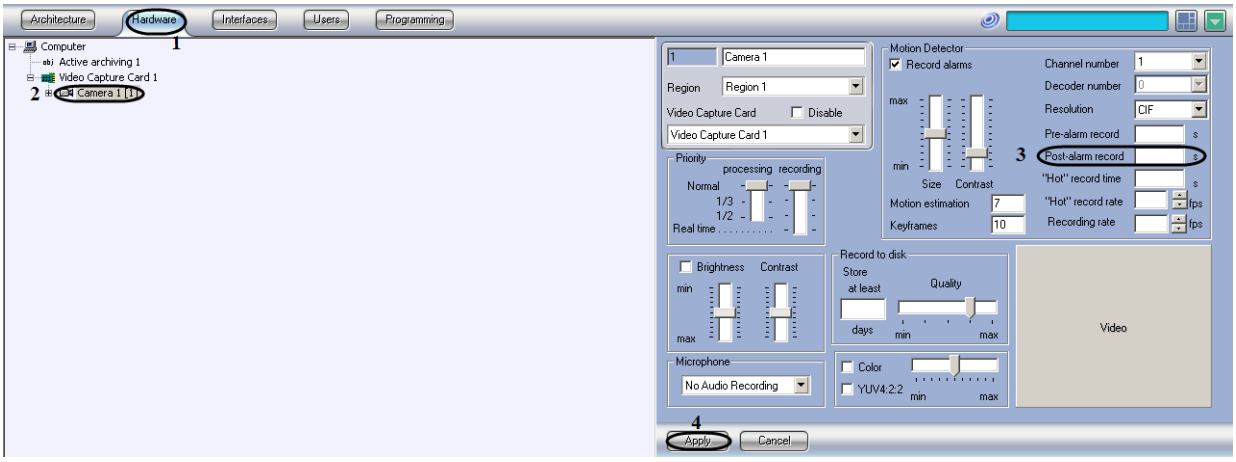


Figure 8.4-52. Post-event recording setup

3. Enter the desired duration (in seconds) of the post-event recording in the “Post-event” field.
4. Click the “Apply” button.

8.4.4.9 *Audio and video synchro recording settings*

INTELLECT™ software provides an audio and video synchro recording option.

Audio signal recording begins at the start time and ends at the end time of video signal recording. In synchro recording mode, audio files are stored together with video files in the server archive in the “VIDEO” folders on the server archive local disks.

To use the synchro recording option, the INTELLECT ™ software audio subsystem should be properly configured. The audio subsystem setup procedure in the INTELLECT™ system is described in the “Audio subsystem settings” section.

If the audio subsystem is configured, follow the steps to set up synchro recording on the selected camera and microphone:

1. Go to the “Hardware” tab in the “System Setup” dialog box.
2. Select the “Camera” object, related to the required camera, on the “Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4-53).

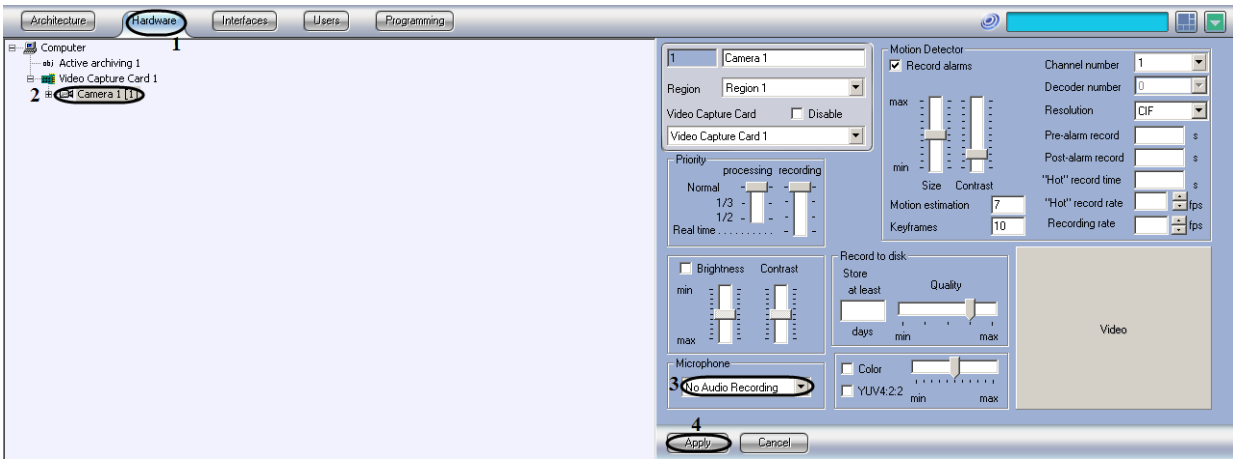


Figure 8.4-53. Audio and video synchro recording settings

3. From the “Microphone” list select the desired microphone registration name.

4. Click the “Apply” button.

Camera and microphone setup for audio and video synchro recording is completed.

8.4.5 Settings of video signal transmission to Remote Workstations

INTELLECT™ software supports transmitting the digital video signal from the server to the Remote Workplaces for remote video surveillance, archiving, routing with video gate, transmitting via the web-server by HTTP protocol (Internet), to a PocketPC or a SmartPhone. Both real-time and archive video signals may be transmitted to the Remote Workstations.

Real-time video signals are transmitted on Remote Workplace demand for displaying, archiving, routing with video gate or transmitting via the web-server by HTTP protocol (Internet), to a PocketPC or a SmartPhone. By default, transmitted video signals have the same parameters (resolution, color depth, frame rate etc.) they had during digitizing and processing by the video capture card or IP-device.

Prior to transmission to a Remote Workplace, video signals are compressed. By default, video signals, transmitted to the TCP/IP place via local net, and archived video signals are compressed at the same rate. For the setup procedure of video signal compression rate, see the “Video signal compression settings” section in this chapter.

When video signals are transmitted to the Remote Workplaces for displaying, archiving and routing with video gate, it is possible to reduce their frame rate and to increase their compression rate.

When video signals are transmitted to the Remote Workplaces for displaying, their frame rate reduction and their compression rate increase are set on the “Monitor” object settings panel for each camera individually.

When video signals are transmitted to the Remote Workplaces for archiving, their frame rate reduction and compression rate increase are set on the “Active archive” or “Archiver” object settings panel for each camera individually.

When video signals are transmitted to the video gate, their frame rate is reduced and compression rate is increased on the “Gateway” object settings panel for each camera individually.

When video signals are transmitted via a web-server by HTTP protocol to a Remote Workplace , a PocketPC or a SmartPhone, its compression rate is set on the “Web-server” object settings panel that corresponds to the “Web-server” module. For the setup procedure of the video signal compression rate, see the chapters on «Web-server», «SmartPocketPC», «SmartPhone» modules setup.

8.4.6 Video signal display settings

8.4.6.1 *General information*

With different video signal transmission modes, different video monitors are used:

1. Video server surveillance Monitor.
2. Video surveillance Monitor of the Remote Workstation, connected to the videoserver via TCP/IP net.
3. Video monitor of the “web-server”, displayed in web browsers on Remote Workstations, connected to the videoserver via the “web-server” module by HTTP protocol.
4. “SmartPocket” module video monitor, displayed on the PocketPC screen, connected to the videoserver via the “SmartPocket” module.
5. “SmartPhone” module video monitor, displayed on the SmartPhone screen, connected to the video server via the “SmartPhone” module.

Video surveillance monitors on the server and Remote Workstations, connected to the videoserver via TCP/IP local net, are identical. Video surveillance onitors on the videoserver and on Remote Workstations are set up with the “System Setup” dialog box and is described below.

To set up the video surveillance monitor of the “Web-server” module, Java-applet settings of its home page are changed (see the chapter ““Web-server” module settings”).

Video surveillance monitors of the “SmartPocket” and «SmartPhone» modules cannot be adjusted.

The video monitor is used to:

1. display video signals;
2. play back the archives;
3. change the sequence of displaying video signals (surveillance windows layout, selection of video signals to be displayed in the surveillance windows, windows slide show, etc.);
4. process the displayed signals (deinterlacing, zooming, image sharpening and changing contrast);
5. export and hardcopy selected frames, export video and audio records;
6. control detectors, including camera alarm detectors (main motion detectors);
7. control video recording;
8. control PTZ units and microphones.

8.4.6.2 *Video monitor setup sequence*

To set up video monitor do the following:

1. Choose the screen and create the Monotor for it.
2. Set the parameters of interface window Monitor.
3. Select and set cameras for displaying in the Monitor window.
4. Set up the cameras' windows displaying option.
5. Seect ovelay type for video displaying.
6. Set the priority of PTZ units control.

8.4.6.3 *Creation of Monotor object*

To create Monitor object, do the following:

1. Select the required Screen object in the "interfaces" tab of the system settings dialog box (Figure 8.4-54).

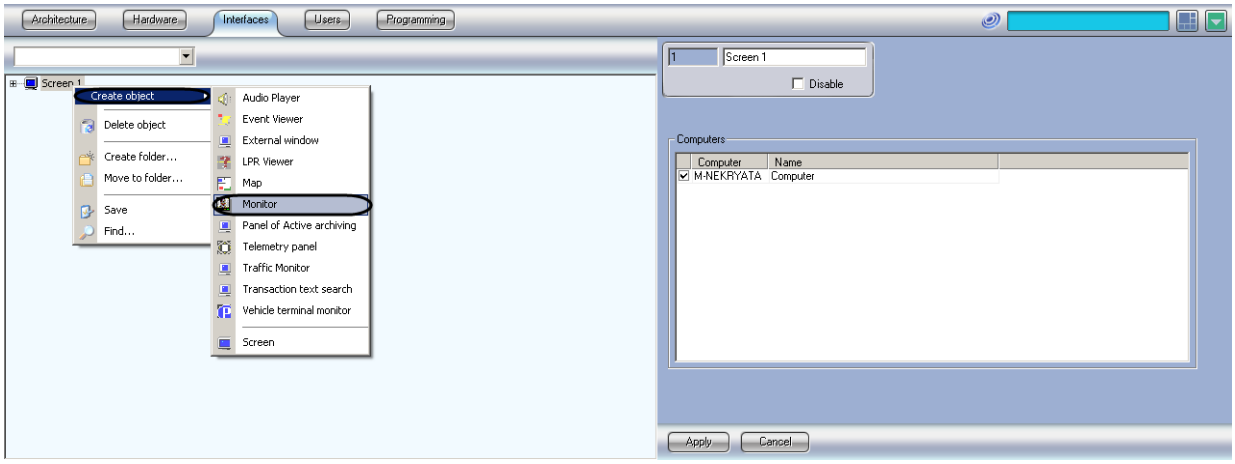


Figure 8.4-54. "Monotor" object creation

2. Click with the right mouse click upon the selscted Screen object and choose Create object > Monitor in the contextual window, thet will open.Set checks in the "Computers" table for those computers, whose screens should display the created virtual screen (Figure 8.4-55).
3. 3.Set the number and name of the Monitor object in the window, that will open, then click the "Apply" button.

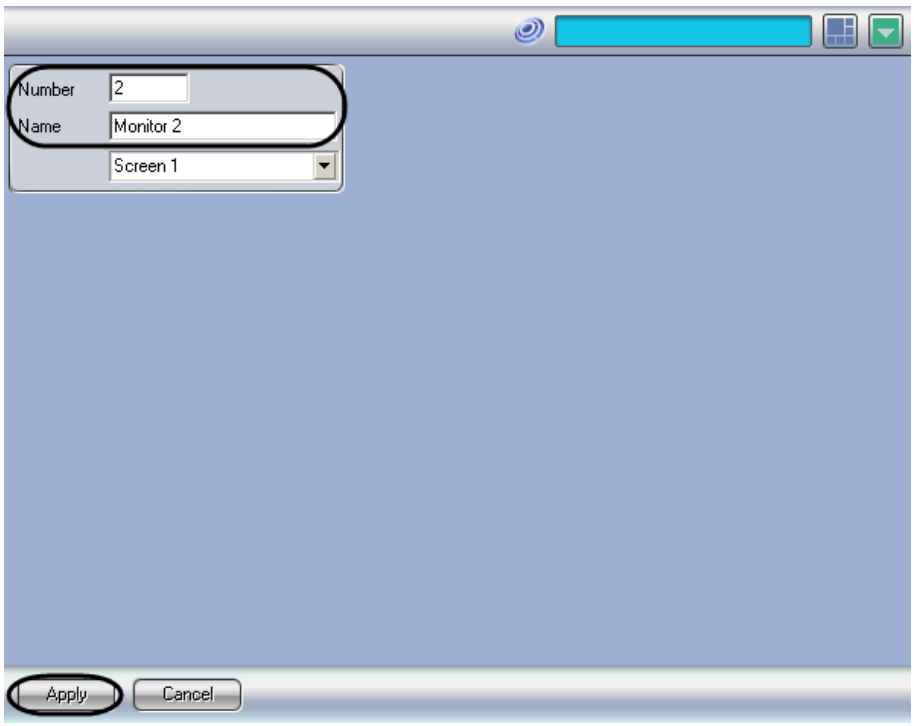


Figure 8.4-55. Setting of number and name of the Monitor

Note. In result of operation performance settings panel of Monitor object will be shown.

4. Repeat steps 1-3 for all the required objects Screen and Monitor.

Creation of Monitor object is over.

8.4.6.4 *Selecting the parameters of «Monitor» interface window*

It is possible to set the following parameters of «Monotor» interface indow:

- Window's coordinates.
- Window size.

Toolbar (only in the mode of camera's windows displaying «List» - See. Setting up camera's windows displaying).

To set the parameters of «Monitor» interface window do the following:

1. Go to the settings panel of interface object«Monitor» (Figure 8.4-56).

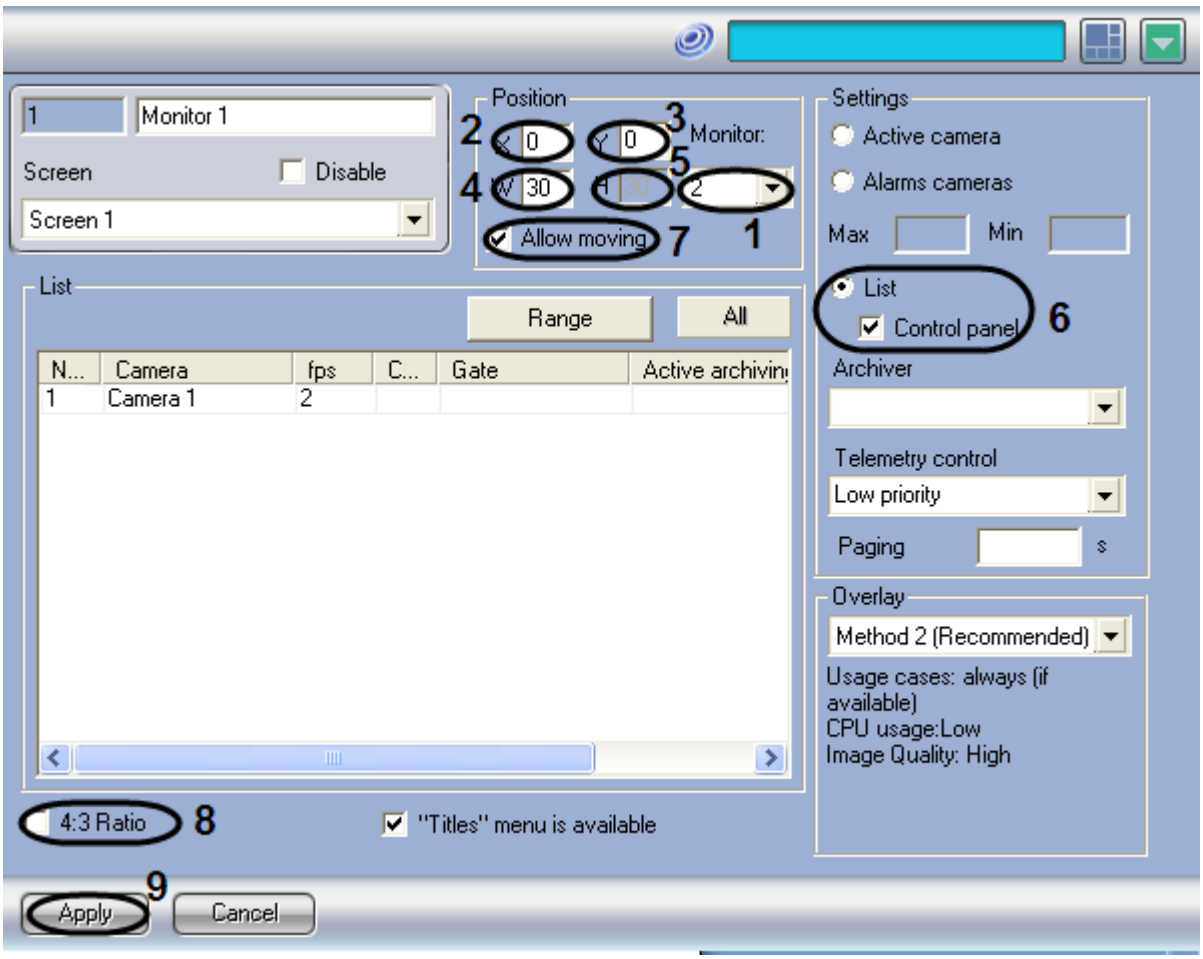


Figure 8.4-56. Setting the parameters of Monitor interface window

2. Fom the Monitor dropdown list select the monitor number, which coordinates have to be set further (Figure 8.4-56, 1).

3. Set coordinates of the left upper corner of Monitor interface window: fields «X»(horizontal ident from the left image edge) and «Y» (vertical ident from the upper image edge)– Figure 8.4-56, 1-2. Coordinates are set in percentage relative to the screen size horizontally and vertically correspondingly.

Note. On default «Monotor» interface window is displayed in the upper left corner of the screen.

4. Set the dimentions of interface window «Monitor»: fields«W» (window's width) and «H» (window's height) – Figure 8.4-56, 3-4. Sizes are set in percentage relative to the screen size horizontally and vertically correspondingly.

5. For displaying toolsbar in the interface window «Monitor» the switch must be set in the group «Settings» in the position «List», then set the check box «Control panel» (Figure 8.4-56, 5).

Note. In case, when the toolsbar is on, window's height «H» is automatically equal towindow's width «W».

In case, when moving interface window «Monitor» must be enabled, set the check box «Allow moving» (Figure 8.4-56, 6).

Note. This setting is urgent only with the usage of toolsbar.

6. In case, when the ratio of width and height of the window shoul be 4:3, set the check box «Ratio 4:3» (Figure 8.4-56, 7).

7. To save all the changes click the “Apply” button (Figure 8.4-56, 8).

Setting the parameres of interface window Monitor is completed.

8.4.6.5 *Selection and setting of video cameras*

One can select and set cameras for displaying in two ways:

- Separately. Settings panel «Monitor» is used.
- Complex. Dialog window «Add/Edit cameras» is used.

Note. Order of complex selection of video cameras for displaying in the interface window «Monitor» is described in Complex selection of cameras.

To selection the video cameras on the object settings panel «Monitor» do the following:

1. Go to the interface object settings panel «Monitor» (Figure 8.4-57).

2. From the dropdpwn list in the column Number select number of the required camera (Figure 8.4-57).

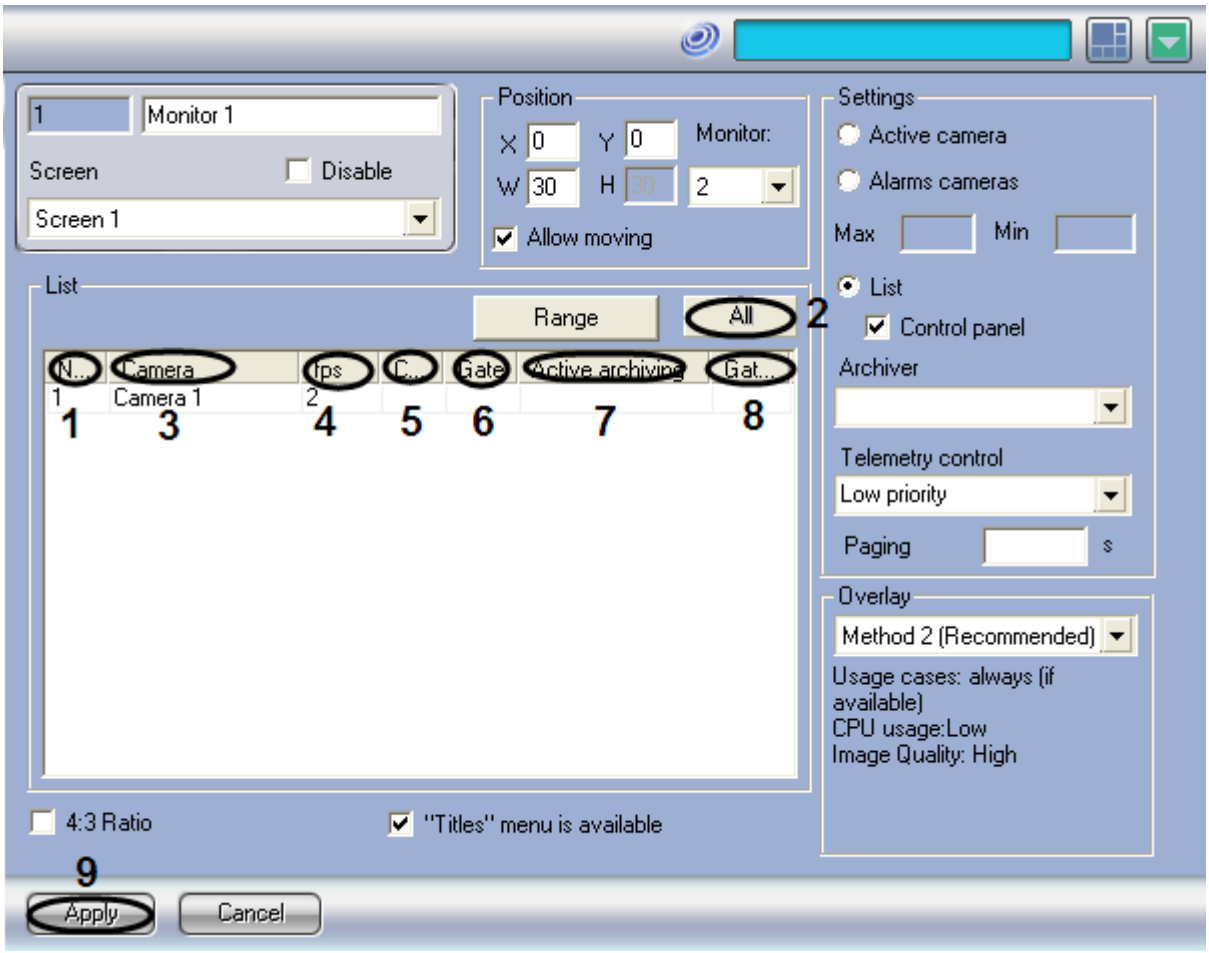


Figure 8.4-57. Selection of cameras

Note. For selection of all the cameras, registered in the system, click button All (Figure 8.4-57).

3. In result in the column Cameras of the List group the name of the selected camera will be automatically displayed (Figure 8.4-57).

4. In case, if video signal must be thinned out for its transmitting to the Monitor of the Client, select from the dropdown list in the column «fps» the required frame rate of video signal (Figure 8.4-57).

Note. To set additional thinning out and/or compression of video signals, displayed on the Monitor of the Server, is particularly unrecommended, as this leads to extra consumption of Server's resources simultaneously with worse quality of images.

Note. The selected value of «fps» should be less than frame rate of video signal's digitaising by video capture card.Otherwise frame rate of video signal will be equal to frame rate of digitaising.

5. In case, when compression level shoul be changed for transmitting to the Monitor of the Client, select from the dropdown list in the column Compression the required level of video signal's compression (Figure 8.4-57). Compression level rises from «0» (no compression) to «5» (maximum compression).

Note. In case of setting compression level for the Client, video signal on the Server should be preliminary decompressed, that results in great load increase on CPU of the Server.

6. In case, when video archive from the selected camera should be transmitted to Monitor through the Video gate object, selct the name of this object from the dropdown list in the column Gate (Figure 8.4-57).

7. In case, when video archive from the selected camera should be transmitted to Monitor from Active archive object, selct the name of this object from the dropdown list in the column Active archive (Figure 8.4-57).

8. In case, when the tansmission from the object Active archive is performed through the Video gate object, select from the dropdown list in the column Gateway for active archive the name of this object (Figure 8.4-57).

9. Repeat steps 2-8 for all the required video cameras.

10. To save all the changes click the “Apply” button (Figure 8.4-57).

Selection of video camera on the settings panel of Monitor object is completed.

8.4.6.6 *Complex selection of video cameras*

There is an opportunity of complex selection and editing of cameras’parameters for displaying in the Monitor interface window.

Complex selection can be performed in the following way:

1. Go to the settings panel of Monitor interface object, then click in the group button List and then button Range (Figure 8.4-58).

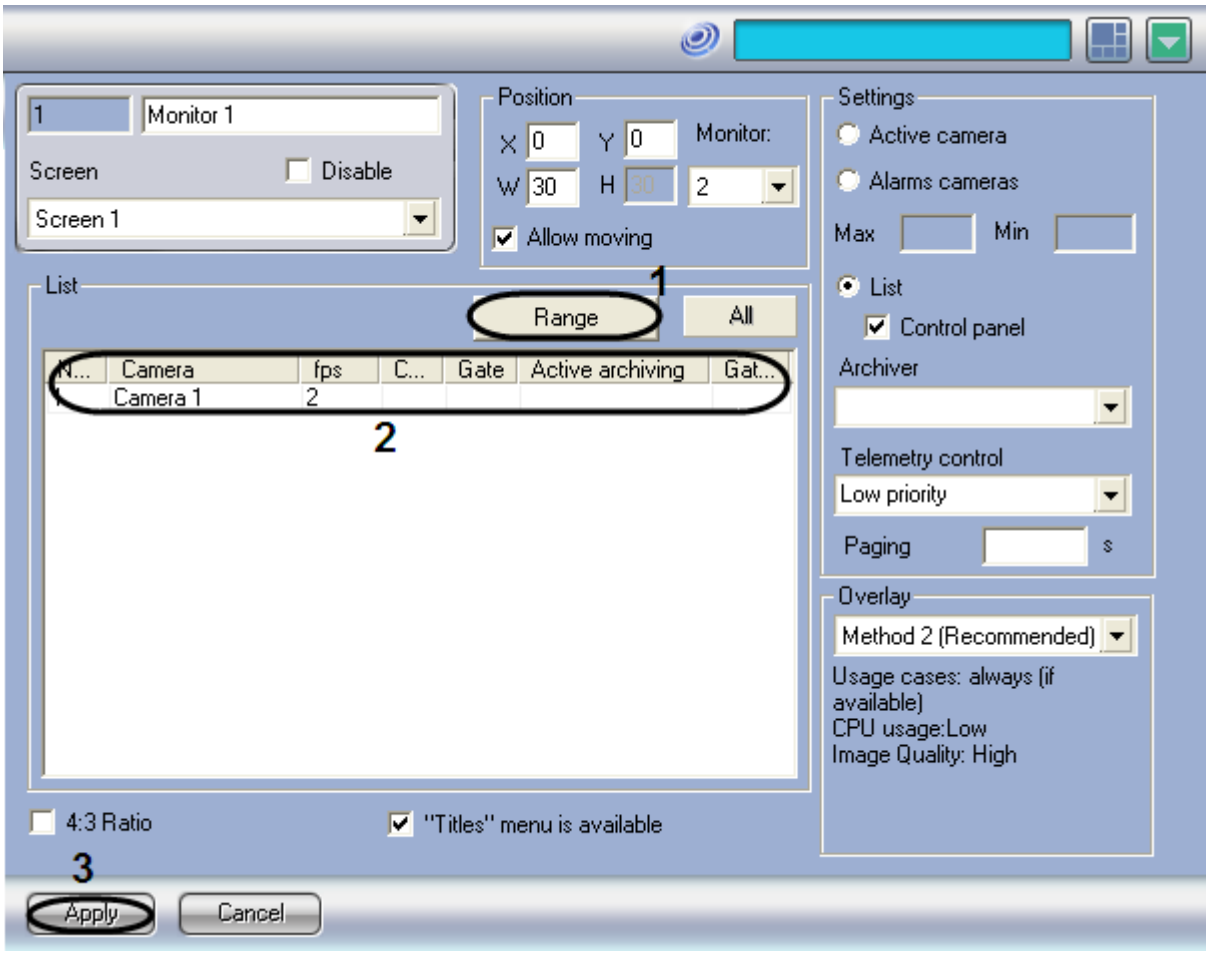


Figure 8.4-58. Range button

2. In result dialog window Add/Edit cameras will open (Figure 8.4-58).

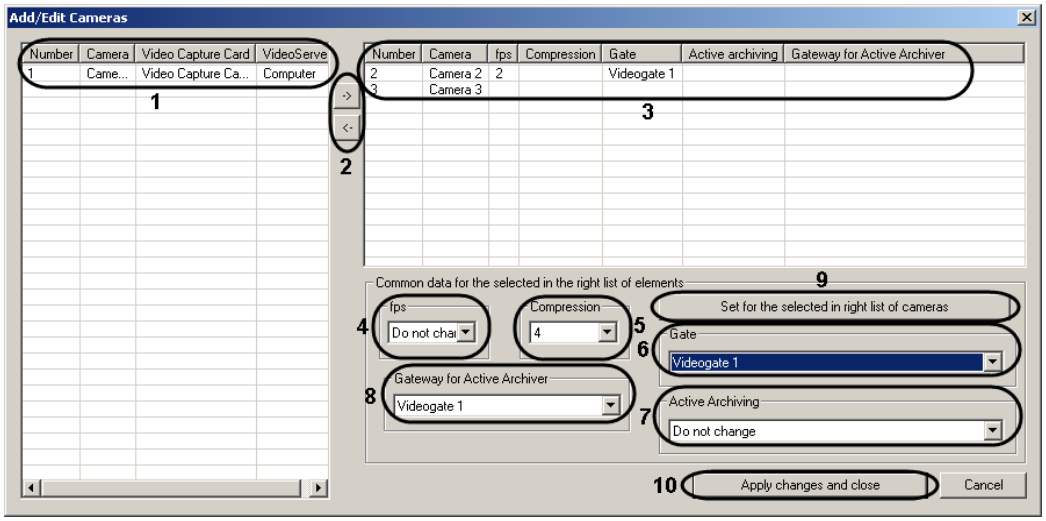


Figure 8.4-59. Add/Edit cameras dialog window

3. Select the required cameras in the left list of the Add/edit cameras window (Figure 8.4-59, 1).

4. Move the selected cameras to the right list, clicking the button «  » (Figure 8.4-59, 2).

Note.The right list is enumeration of cameras, selected for displaying in the interface window Monitor.

Button «  » is used for back action, that is for moving the selected video cameras from the right list to the left one (Figure 8.4-59, 2).

5. In result the selected cameras will be displayed in the right list of the window Add/Edit cameras.

6. If it is necessary select in the right list the names of required cameras for complex editing of parameters (Figure 8.4-59, 3).

Note. For all the selected cameras the same values of parameters will be set.

7. In case, when video signal has to be thinned out for transmitting to the Monitor of the Client, select from the dropdown list «fps» the required frame rate of video signal (Figure 8.4-59, 4).

Note. Set additional thinning out and/or compression of video signals, displayed on the Monitor of the Serve, is particularly unrecommended , as it this leads to extra consumption of Server's resources simultaneously with worse quality of images.

Note. The selected value «fps» must be less than frame rate of video signal's digitaization by video capture card.Otherwise frame rate of a video signal will be equal to frame rate of digitization.Settings «fps», «Compression», «Gate», «Active archiving», «Gateway for active archiver» belong to the group «Common data for the elements, selected in the right list».

8. In case, when compression level of video signal has to be changed for transmitting to Monitor of the Client ,select from the dropdown list Compression the required compression level of video signal (Figure 8.4-59, 5).Compression level of video signal rises from «0» (no compression) to «5» (maximum compression).

Note. In case when compression level is set for the Client, video signal on the Server has to be preliminarily decompressed, that leads to great load on CPU of the Serever.

9. In case, when video archive from the selected video cameras shoul be transmitted to Monitor through Videogate object, select from the dropdown list the name of this object (Figure 8.4-59, 6).

10. In case, when video archive from the selected video cameras shoul be transmitted to Monitor from Active archiving object , select the name of this object from the dropdown list Active archiving (Figure 8.4-59, 7).

11. In case, when the transmission from the Active archiving object is performed through Videogate object, select the name of this object from the dropdown list Gateway for Active archiving (Figure 8.4-59, 8).

12. Click button Save for the selected in the right list of cameras to save seve the set parameters (Figure 8.4-59, 9).

13. In result the set parameters will be shown in the right list of the window Add/ edit cameras (Figure 8.4-59, 3).

14. Repeat steps 6-12 for complex editing of all the required cameras.

15. Click button Apply changes and close to save all the canges and close the window Add/edit cameras click (Figure 8.4-59, 10).

16. Set camera settings will be shown in the table List on the object settings panel Monitor (Figure 8.4-59, 2).

17. To save all the changes click the “Apply” button (Figure 8.4-59, 3).

Complex selection of video cameras is over.

8.4.6.7 *Setting the option of camera’s windows displaying*

To display camera’s windows (windows with video images) use one of the following modes:

1. Mode «Active camera». In the interface window Monitor only active window of the camera is displayed.

Note.To make camera’s window active it is necessary to click upon it with the left mouse click.

2. Mode«Alarm cameras». Windows of alarmed cameras are displayed in the interface window Monitor.

3. Mode «List».Cameras’ windows are displayed in the window Monitor in accordance with the selected lay out.

Functions, available in the mode List:

- Toolsbar;
- Listing function.

Toolsbar is displayed in the interface window Monitor and enable to perform the following operations:

- Select the number of dislayed cameras;
- Set and use the lay outs of cameras;
- Control the listing function.

Current date and time are also displayed in the toolsbar.

Listing function is used for successive CS displaying of camera’s windows on the Monitor.Listing of windows is performed with the help of Monitor’s toolsbar buttons in two ways:

1. Manually. Buttons of transference to the previous or next window of cameras

2. Automatically.Transferance to the next window of a camera is performed automatically within a set period of time.

To set the option of camera’s windows displaying do the following:

1. Go to the tab of interface window Monitor (Figure 8.4-60).

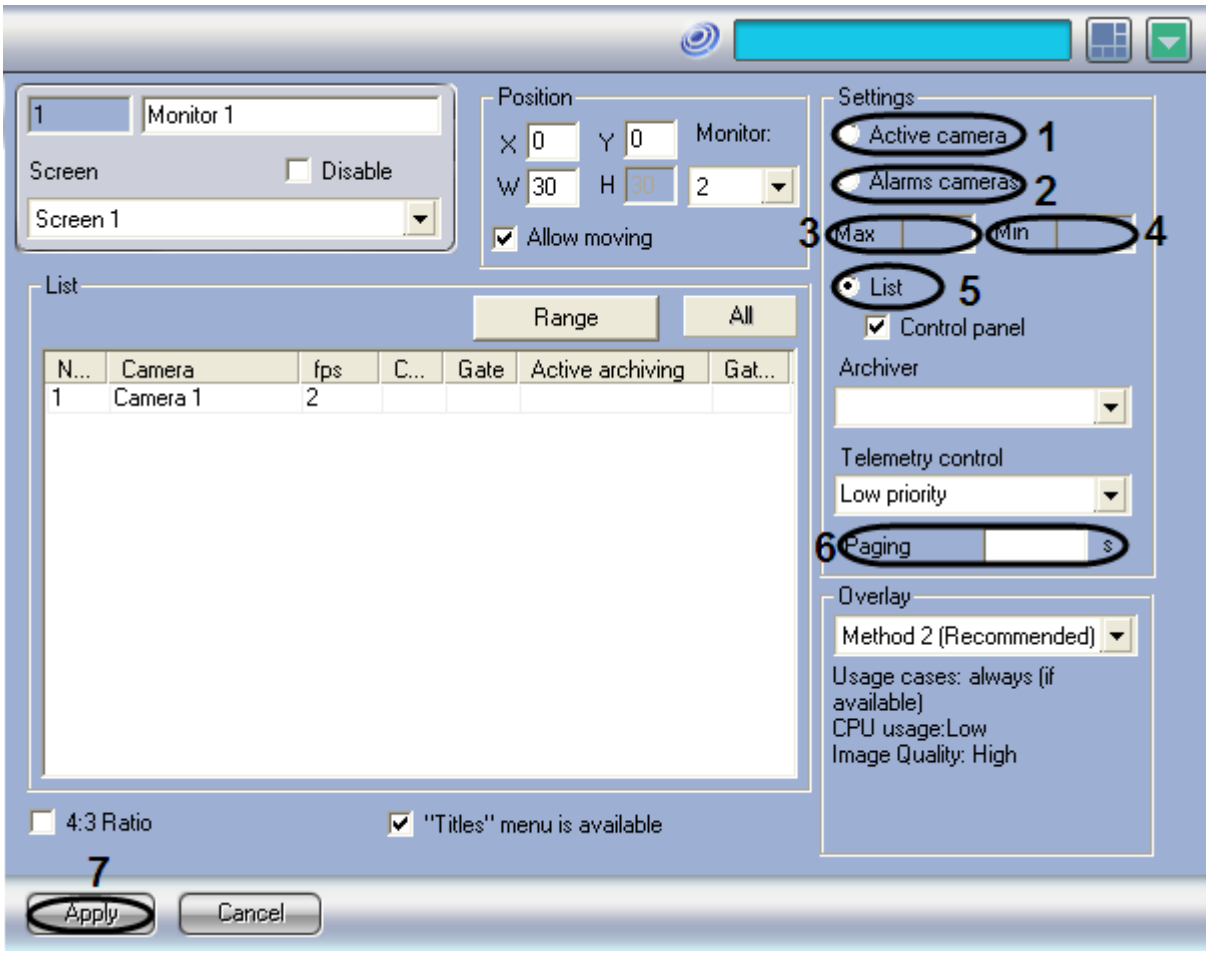


Figure 8.4-60. Setting the mode of cameras' displaying.

2. To activate the mode Active camera set the switch Active camera in the settings group (Figure 8.4-60).

3. To activate the mode Alarm cameras set the switch Alarms cameras in the settings group (Figure 8.4-60).

4. In result Max and Min fields will be available. In the field Max enter the maximum required number of cameras, which windows can be displayed on the Monitor with the registration of alarms (Figure 248-3). In case, when the number of alarms cameras exceeds maximum, displaying of camera's windows, which alarms have been registered earlier, stops.

Note. Example. Object Monitor is set to work with maximum number of alarms cameras, equal to 5. Windows of 4 alarms cameras are displayed in the Monitor window.Alarms from these cameras have been registered in the following sequence: Camera 1, Camera 2, Camera 3, Camera4. After the alart has been registered from three more cameras, seven cameras are in the alarmed state simultaneously.This exceed maximum acceptable number, so the displaying Camera 1 and Camera 2' windows stops.

5. In the field Min enter the minimum required number of cameras, wchich images have to be displayed on the Monitor even with the abcence of alarm (Figure 8.4-60). In case, when the number of alarms cameras is less than minimum, windows of cameras, which alarms were the last, are displayed on the Monitor.

Note. Example. Object «Monitor» is set to work with minimum number of alarms cameras equal to 3. Windows of 4 alarms cameras are displayed in the Monitor window.After the alarm from 4 cameras stops in the consequence: Camera 1, Camera 2, Camera 3, Camera 4, one camera is in the alarm state. This is less than the minimum number, Camera 3 and Camera 4 are also displayed on the Monitor. With the absence of alarm when the value is set on default («0») of Min parameter, cameras' windows are not displayed in the Monitor window.

6. To activate mode List set the List switch in the List settings group (Figure 8.4-60).
7. When necessary enter in the List field the required value in seconds of automatic cameras' windows listing (Figure 8.4-60).

Note. This detting is urgent only in the List mode with the use of toolsbar.

8. To save all the changes click the "Apply" button (Figure 8.4-60).

Setting the mode of cameras' displaying is over.

8.4.6.8 *Selecting the overlay mode*

Overlay is used to process the image using the video card and Direct X libraries, before it is displayed; Overlay allows to improve the image due to optimization of the pixel color settings. At the same time, the CPU's load reduces, as the video image is processed with the resources from the video capture card.

In Intellect program software three overlay modes are available:

1. «Mode1».Video signals from cameras are processed as a single video flow.
2. «Mode2 (it is recommended)». Video signals from cameras are processed independently.
3. «Do not use». Video signals from cameras with cards are not processed.

As a rule, Mode II overlay is optimal. This mode is supported by the most graphics cards. If the graphics card doesn't support the chosen overlay mode, the video signal is displayed with a big delay.

To select the overlay mode do the following:

1. Got to the settings panel of interface object Monitor (Figure 8.4-61).

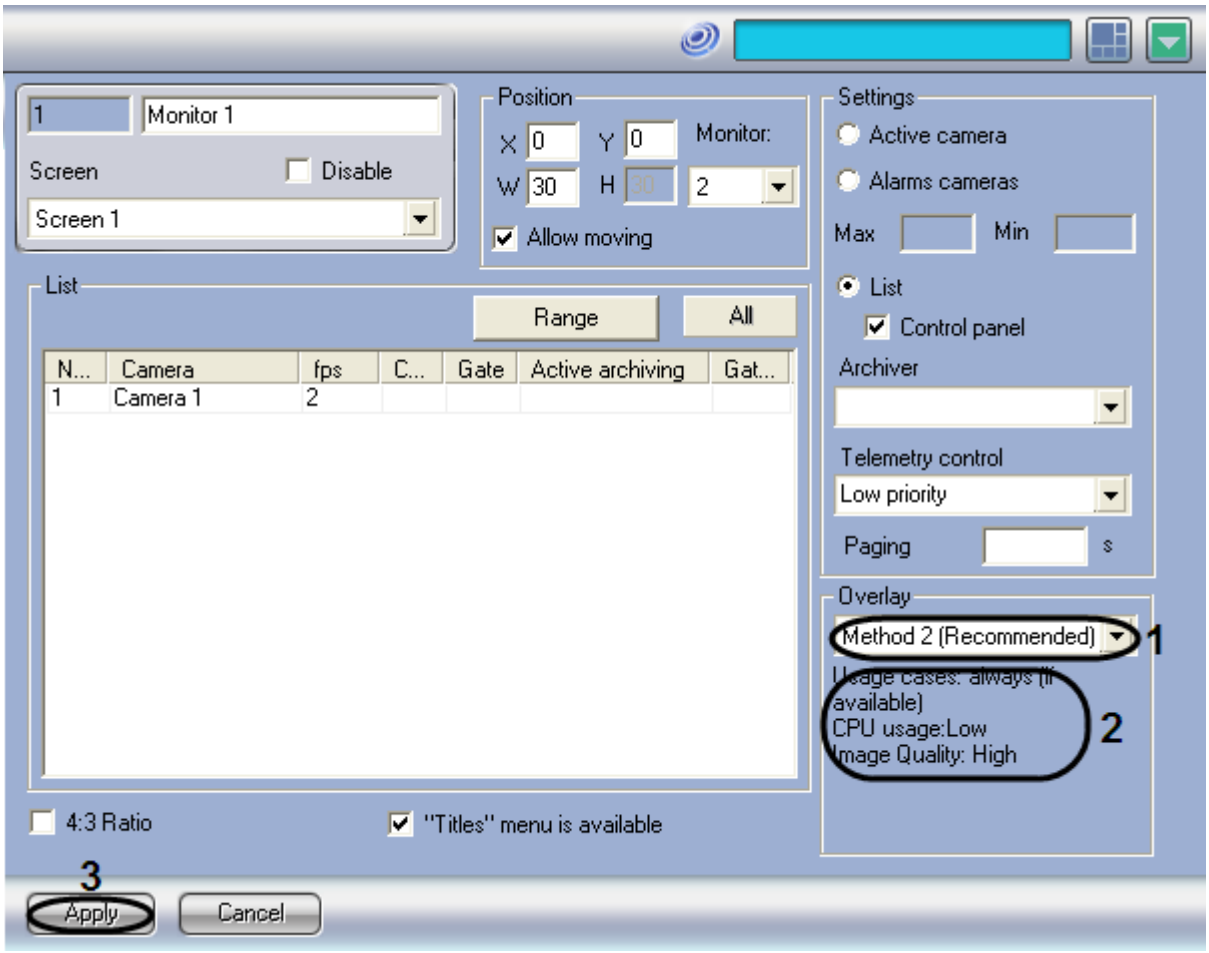


Figure 8.4-61. Selecting the overlay mode

2. Select the needed mode in the “Overlay” dropdownlist (Figure 8.4-61).

Note. In the field below the dropdown list there is a description of the selected overlay mode. (Figure 253-2).When «Mode1» is selected, layout with simultaneous displaying of camera’s six windows is not available.

3. To save all the changes click the “Apply” button (Figure 8.4-61).

Selecting the overlay mode is over.

8.4.6.9 *Setting up PTZ control priority with the use of Monitor object*

INTELLECT™ software has the option of PTZ control with the use of Monitor object, by mouse or joystick.

By default, the PTZ control option with the use of Monitor object is not available. To enable the PTZ control option, control priority should be set up for the Monitor object (seePTZ control priorities).

To set PTZ control priority with the use of Monitor object do the following:

1. Go to the settings panel of interface object Monitor (Figure 8.4-62).

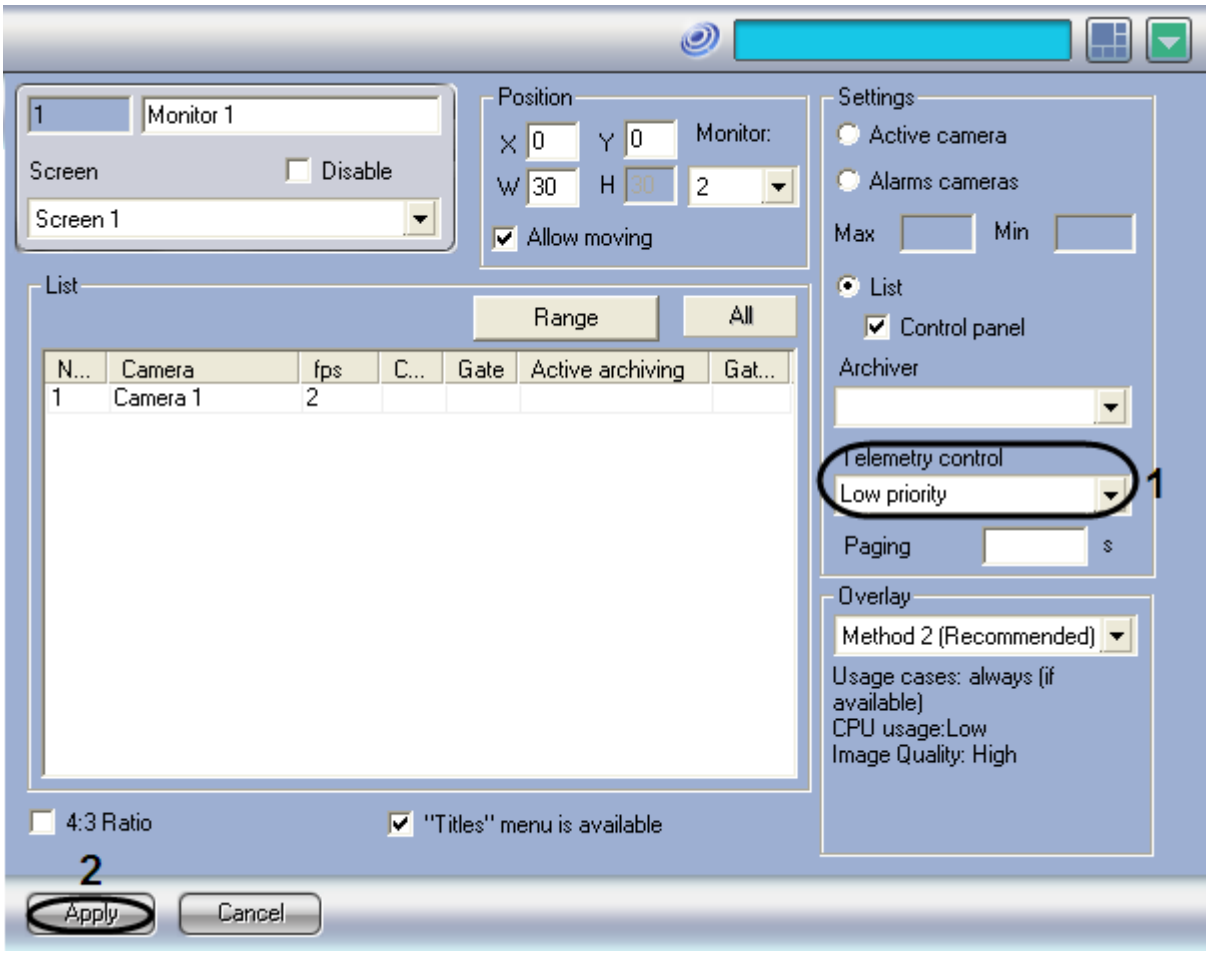


Figure 8.4-62 Setting up PTZ control priority with the use of Monitor object

2. From the dropdown list Telemetry control select the required PTZ control (Figure 8.4-62).

Note. To disable PTZ control function with the use of Monitor object select the value Forbidden.

3. To save all the changes click the “Apply” button (Figure 8.4-62).

Setting up PTZ control priority with the use of Monitor object is over.

4. Select the desired PTZ control priority for the video monitor from the “Priority” list: low, normal or high.

5. To disable the PTZ control option via the video monitor, select “Disabled” in the “Priority” list.

6. Click the “Apply” button.

Setup of PTZ control via the video monitor is completed.

8.4.6.10 *Setting up the titles displaying*

INTELLECT™ software has the option of titles displaying for a list of cameras that are displayed in the Monitor interface window. This function is enabled on default.

To disable the option of titles displaying do the following:

1. Go to the settings panel of interface object Monitor (Figure 8.4-63).

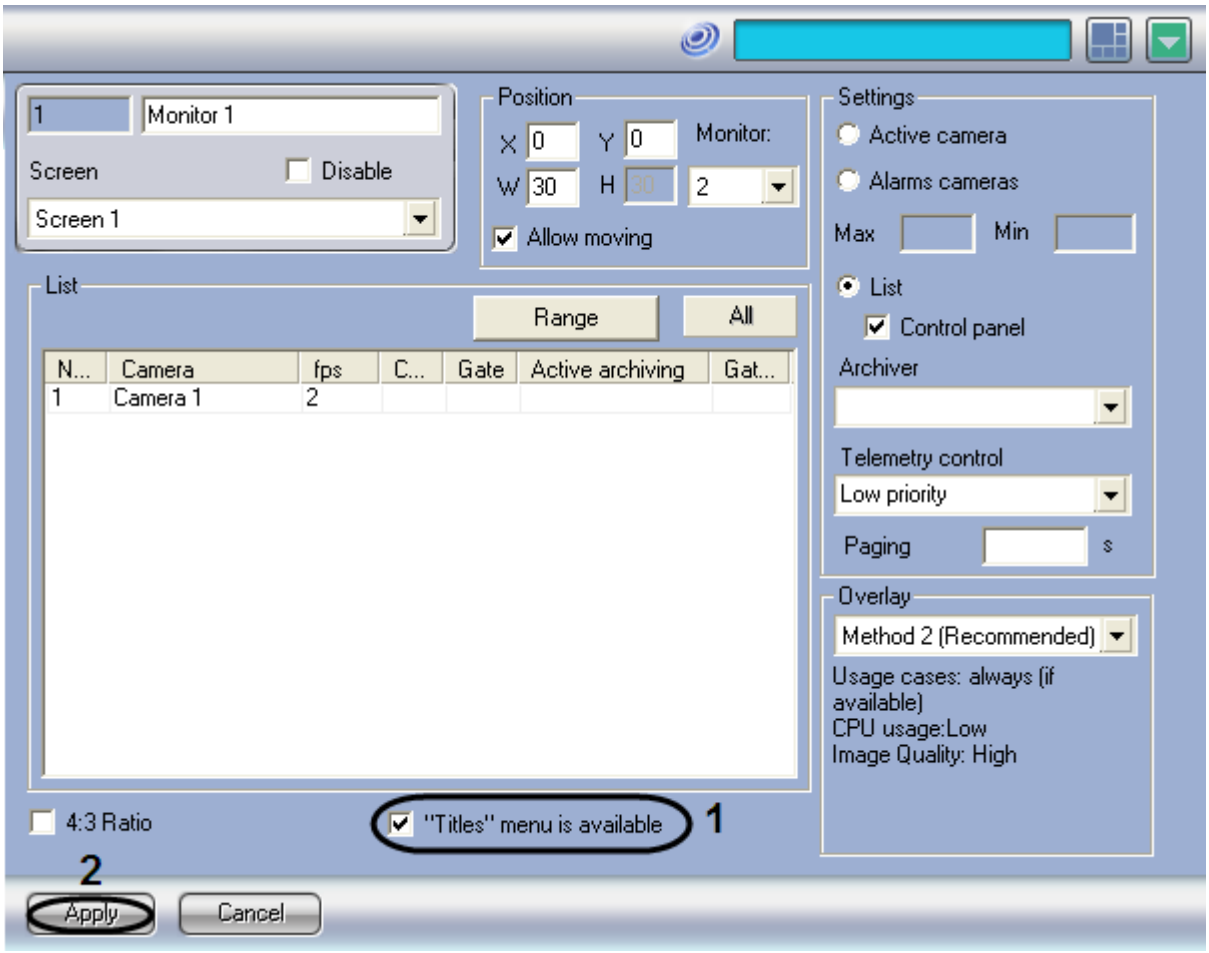


Figure 8.4-63 Setting up the titles displaying

2. To disable the titles displaying menu uncheck the checkbox «Titles» menu is available» (Figure 8.4-63, 1).
3. Click the “Apply” button to save the changes (Figure 8.4-63, 2).

The option of titles displaying is disabled.

8.4.7 Enabling, setting up and disabling the video detectors

8.4.7.1 *General information*

Motion detectors provide automatic video image analysis to recognize events occurring within the observed scene. Event recognition capabilities depend on the detector type.

In INTELLECT™ software several types of detectors are available:

1. main motion detector
2. motion detector;
3. focusing detector;
4. video signal stability detector;

5. background change detector;
6. camera blinding detector;
7. camera covering detector;
8. lost items detector;
9. object tracking detector;
10. infrared detector.

By default, INTELLECT™ software uses solely the main motion detector, which detects the video surveillance camera alarms. The rest of the detectors are optionally activated in the course of INTELLECT™ software administration.

To set up the detectors, set up the program algorithms for them , enable auto recording on detector alarm option etc.

8.4.7.2 *Enabling and setting up the sequence of detectors*

Generally, the procedure of detector setup includes (except for the main motion detector (camera alarm detector), whose setup procedure is described in the “Main detector setup” section):

1. Detector connection. Is performed for each camera independently.
2. Detector settings.
3. Detector operation check by testing it with the use of the video monitor.
4. If the detector operates unsatisfactorily, go back to 2 step, change the settings and test it again.
5. If the detector operates satisfactorily, the setup is completed.

8.4.7.3 *Detectors connection*

The video detectors list for each camera (video surveillance field) is formed individually.

A single detector for each camera is registered at the start i.e. the main motion detector . No other detectors are registered by default.

To connect the detectors (except the main motion detector), follow the steps:

1. Go to the «Hardware” tab in the “System Settings” dialog box.
2. Select the “Camera” object, related to the required detector, on the «Hardware” tabin the objects tree.
3. Create the “Detection zone” object on the base of the “Camera” object. The settings panel of the “Detection zone” object appears in the right part of the «Hardware” tab(Figure 8.4-64).

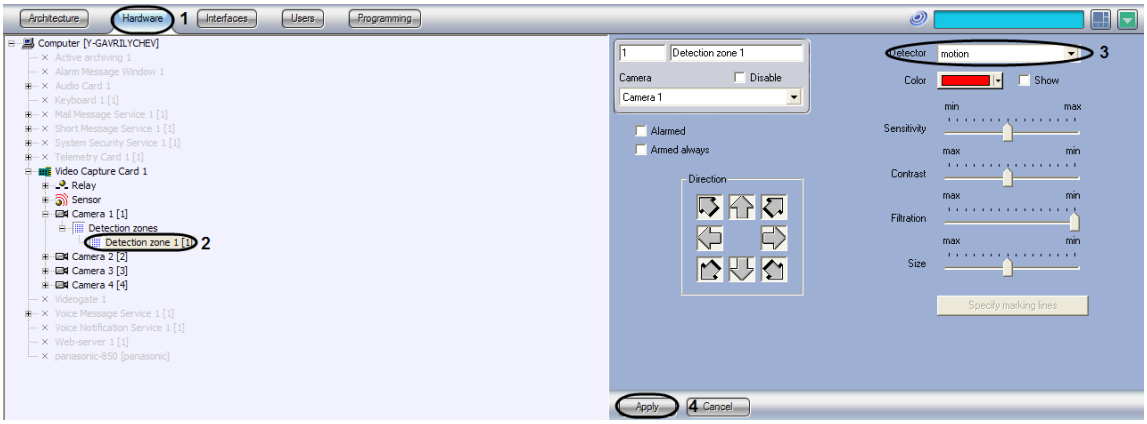


Figure 8.4-64. Detector registration

4. Select the desired detector type from the “Detector” list.

5. After the detector is connected, the controls for the selected detector setup are activated. Controls that are not required are disabled. With different types of detectors, the same graphics object may correspond to different settings.

The setup procedure depends on the type of detector. Setup sequences for different types of detectors are described in the relevant sections.

6. Click the “Apply” button.

Detector connection is completed.

8.4.7.4 *Detectors setup*

8.4.7.4.1 Main motion detector setup

The main motion detector is used to detect motion on the guarded location and to generate the system alarm events when the relevant camera is armed.

Main motion detector setup is performed for each camera independently.

In most cases the default main detector settings are sufficient for it to function correctly.

Follow the steps to set up the main detector:

1. Display the video surveillance monitor on the screen and check, if the INTELLECT™ system registers the camera alarm correctly.

If registration is correct, additional settings may be skipped.

Note.If camera alarm registration is incorrect (for example, a detector is triggered by artificial or natural video signal interference – rain, snow, etc, the detector does not detect small object motion and high speed motion), the main detector should be set up. The proper setup of the main motion detector allows to significantly lower the probability of unsatisfactory camera alarm detection.

2. Go to the“Hardware” tab in the “System Settings” dialog box.

3. Select the “Camera” object, related to the required camera, on the «Hardware” tabin the objects tree. The settings panel of the selected object appears in the right part of the «Hardware” tab(Figure 8.4-65).



Figure 8.4-65. Main motion detector setup

4. Set the “Size” value by moving the slider of the same name. This setting value corresponds to the part of the total frame square, occupied by the smallest detected object. When a bigger object than the preset one moves, the motion detector switches to alarm status.

The optimal “Size” setting value is defined by testing the triggering of the detector. With low “Size” setting values, triggering by interference (including rain, snow) is more probable. With high “Size” setting values, triggering by object motion is less probable.

It is recommended to set the “Size” values slightly lower than the average size of the moving objects in the frame. If the detector is triggered by video signal interference, it is necessary to change the “Contrast” settings.

5. Set the “Contrast” value by moving the relevant slider. This setting value corresponds to the detected object contrast.

The optimal “Contrast” setting value is defined by testing the triggering of the detector. With low “Contrast” setting values, triggering by moving objects, whose color spectrum is very similar to that of the background, is less probable. In most cases the default “Contrast” setting (the average value) is sufficient.

6. Click the “Apply” button.

Main motion detector setup is completed.

8.4.7.4.2 Motion detector setup

The motion detector discovers moving objects within the controlled scene. Detected moving objects are dynamically outlined. The motion is detected by calculating the gradient between sequential frames to time.

Follow the steps to set up the motion detector:

1. Go to the“Hardware” tab in the “System Settings” dialog box.

2. Select the “Detection zone” object, related to the required detector, on the «Hardware” tabin the objects tree. The settings panel of the selected object appears in the right part of the «Hardware” tab(Figure 8.4-66).

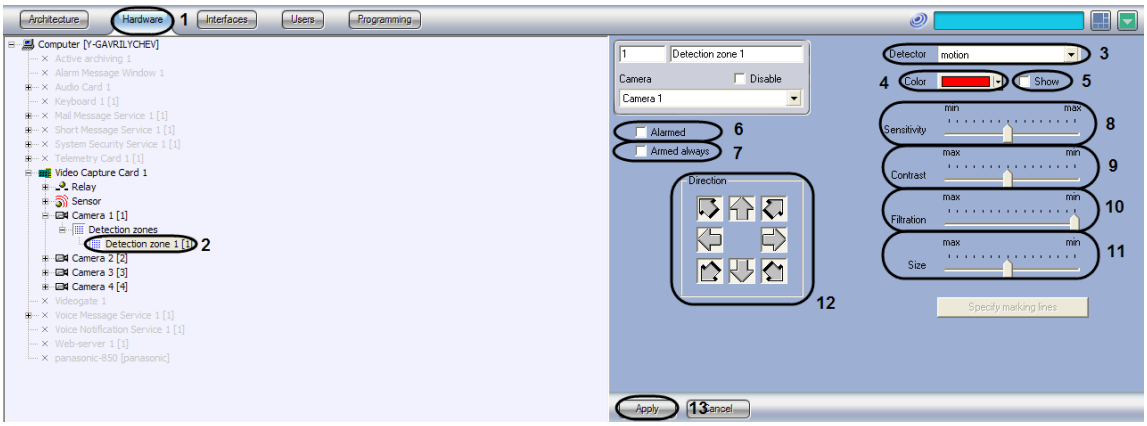


Figure 8.4-66. Motion detector setup

3. Connect the motion detector (see the “Detectors connection” section) or select the motion detector registered earlier.

4. By default, the detected moving object is dynamically outlined with its motion direction marked with an arrow. If the moving object doesn’t need to be outlined, remove the “Show” check.

5. By default, the moving object is outlined with a red border. The border color may be changed.

To change the color of the border, select the color from the “Color” list or from the “Select color” panel, called by “Select color” command from the “Color” list. To return the default border color, select the “By default” command from the “Color” list.

6. To enable the auto recording option on a motion detector alarm for the selected camera, set the “Alarmed” check.

Note A. If the “Recording alarms” option in the “Camera” object settings is deactivated, then no video recording is performed after the detector has triggered.

Note B. If the “Alarmed” option is disabled in the detector settings, then detector arming is ineffective, though this detector name in the functions menu of the video surveillance window is highlighted by a yellow square.

7. To disable disarming of the motion detector by any user (irrespectively of his rights), set the “Armed always” check.

Note. When the “Armed always” check is set, the row with the motion detector name is not displayed in the functions menu of the video surveillance window.

8. Set the “Sensitivity” value by moving the relevant slider. This setting corresponds to such minimum value of the average brightness of the moving object, with which the detector triggers by its motion only, and not by interference (including rain, snow).

The optimal “Sensitivity” value is defined by testing the detector’s false triggering. With low “Sensitivity” values, false triggering by interference is more probable. With high “Sensitivity” values, triggering by object motion is less probable.

Set the “Sensitivity” value after the “Size”, “Filtration” and “Contrast” settings have been set. It is recommended to select a “Sensitivity” value that will exclude false triggering by video signal interference.

9. Set the “Contrast” value by moving the slider of the same name. This setting value corresponds to the detected object contrast.

The optimal “Contrast” setting value is defined by testing the triggering of the detector. With low “Contrast” values, triggering by moving objects, whose color spectrum is very similar to that of the background, is less probable. With high “Contrast” values, false triggering of the detector by interference is more probable.

In most cases the default setting (the average value) is sufficient.

10. Set the “Filtration” value by moving the relevant slider. This setting corresponds to the object’s upper speed threshold, with which the detector should trigger. With the minimum value of this setting, the detector is triggered by an object, moving at any speed.

The optimal “Filtration” setting value is defined by testing the triggering of the detector. With low “Filtration” setting values, triggering by interference (including rain, snow) is more probable. With high “Filtration” setting values, triggering by object motion is less probable.

It is recommended to set the “Filtration” values, slightly lower than the average speed of the moving objects in the frame. If a detector is triggered by video signal interference, it is necessary to change the “Sensitivity” settings.

11. Set the “Size” value by moving the slider of the same name. This setting value corresponds to the part of the total frame square, occupied by the smallest detected object. When a bigger object than the preset one moves, the motion detector switches to alarm status.

The optimal “Size” setting value is defined by testing the triggering of the detector. With low “Size” setting values, triggering by interference (including rain, snow) is more probable. With high “Size” setting values, triggering by object motion is less probable.

It is recommended to set the “Size” values, slightly lower than the average size of the moving objects in the frame. If a detector is triggered by video signal interference, it is necessary to change the “Sensitivity” settings.

12. By default, a detector recognizes motion in any direction. To disable detection of motion in certain directions, click the relevant buttons in the “Direction” group. A detector detects motion in the directions of the “pressed” arrow buttons and does not detect it in the directions of “pulled” arrows.

13. Click the “Apply” button.

Motion detector setup is completed.

8.4.7.4.3 Focusing detector setup

This detector notifies the Operator about camera tampering, resulting in focus loss or camera sensitivity degradation.} The high frequency component of the video signal is analyzed to check for presence of distinct contours.

Follow the steps to set up the focusing detector:

1. Go to the“Hardware” tab in the “System Settings” dialog box.
2. Select the “Detection zone” object, related to the required detector, on the «Hardware” tabin the objects tree. The settings panel of the selected object appears in the right part of the «Hardware” tab(Figure 8.4-67).

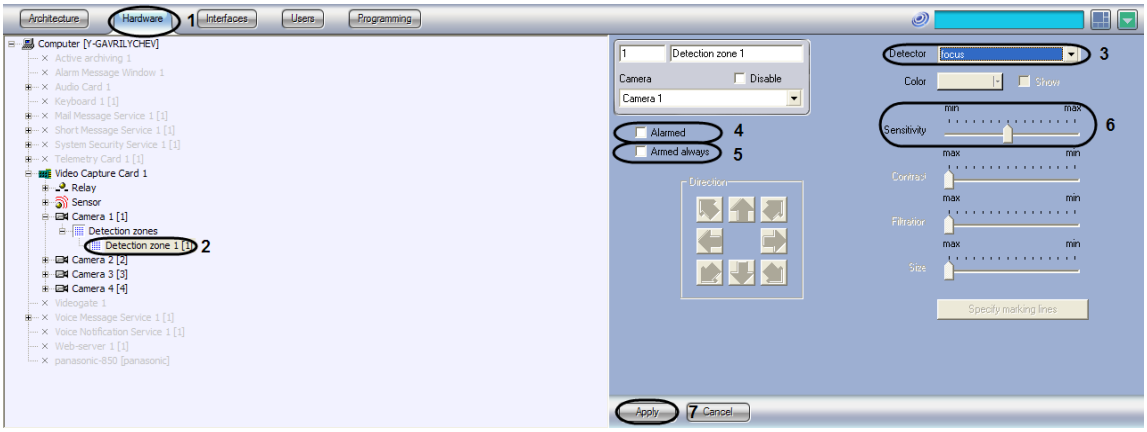


Figure 8.4-67. Focusing detector setup

3. Connect the focusing detector (see the“Detectors connection” section) or select the focusing detector, registered earlier.
4. To enable the auto recording option on a focusing detector alarm for the selected camera, set the “Alarmed” check.

Note A. If the “Recording alarms” option in the “Camera” object settings is deactivated, then no video recording is performed after the detector has triggered.

Note B. If the “Alarmed” option is disabled in the detector settings, then detector arming is ineffective, though this detector name in the functions menu of the video surveillance window is highlighted by a yellow square.

5. To disable disarming of the focusing detector by any user (irrespectively of his rights), set the “Armed always” check.

Note. When the “Armed always” check is set, the row with the motion detector name is not displayed in the functions menu of the video surveillance window.

6. Set the “Sensitivity” value by moving the relevant slider. This setting corresponds to the minimum drop in image sharpness (that is the difference between the average number of contours and the number of contours in the current frame), with which the detector should trigger.

The optimal “Sensitivity” setting value is defined by testing the triggering of the detector. In most cases the default setting is sufficient.

7. Click the “Apply” button.

Focusing detector setup is completed.

8.4.7.4.4 Setup of the video signal stability detector

This software detector reacts to any change in video camera position. The detector operation is based on a comparison between each frame’s parameters and the average parameters. It uses high frequency filtration to detect the objects’ contours, if they are distinct enough.

Follow the steps to set up the stability detector:

1. Go to the“Hardware” tab in the “System Settings” dialog box.

2. Select the “Detection zone” object, related to the required detector, on the «Hardware” tabin the objects tree. The settings panel of the selected object appears in the right part of the «Hardware” tab(Figure 8.4-68).

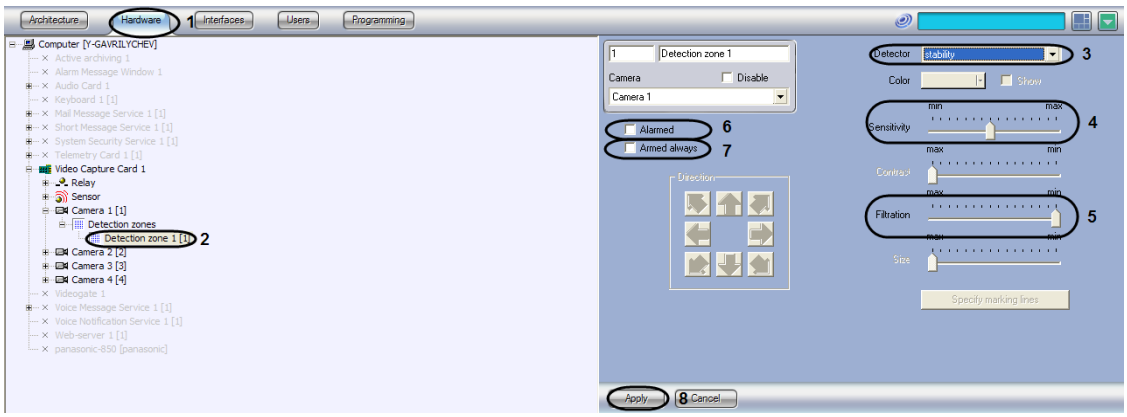


Figure 8.4-68. Setup of the stability detector

3. Connect the stability detector (see the “Detectors connection” section) or select the stability detector, registered earlier.

4. Set the “Sensitivity” value by moving the slider of the same name. This setting corresponds to the minimum drop in image sharpness (that is the difference between the average number of contours and the number of contours in the current frame), with which the detector should trigger.

The optimal value of the “Sensitivity” setting is defined by testing the triggering of the detector. In most cases the default setting is sufficient.

5. Set the “Filtration” value by moving the relevant slider. This setting corresponds to the object’s upper speed threshold, at which the detector should not trigger.

The optimal value of the “Filtration” setting is defined by testing the triggering of the detector. In most cases the default setting is sufficient.

6. To enable the auto recording option by stability detector alarm for the selected camera, set the “Alarmed” check.

Note A. If the “Recording alarms” option in the “Camera” object settings is deactivated, then no video recording is performed after the detector has triggered.

Note B. If the “Alarmed” option is disabled in the detector settings, then detector arming is ineffective, though this detector name in the functions menu of the video surveillance window is highlighted by a yellow square.

7. To disable disarming of the stability detector by any user (irrespectively of his rights), set the “Armed always” check.

Note. When the “Armed always” check is set, the row with the motion detector name is not displayed in the functions menu of the video surveillance window.

8. Click the “Apply” button.

Setup of the video signal stability detector is completed.

8.4.7.4.5 Setup of the background change detector

This detector is capable of discovering changes in the scene background due to physical tampering of the CCTV camera. The detector operation is based on calculation of the standard deviation of integral frame intensity from its mean value.

Follow the steps to set up the background change detector:

1. Go to the“Hardware” tab in the “System Settings” dialog box.

2. Select the “Detection zone” object, related to the required detector, on the «Hardware” tabin the objects tree. The settings panel of the selected object appears in the right part of the «Hardware” tab(Figure 8.4-69).

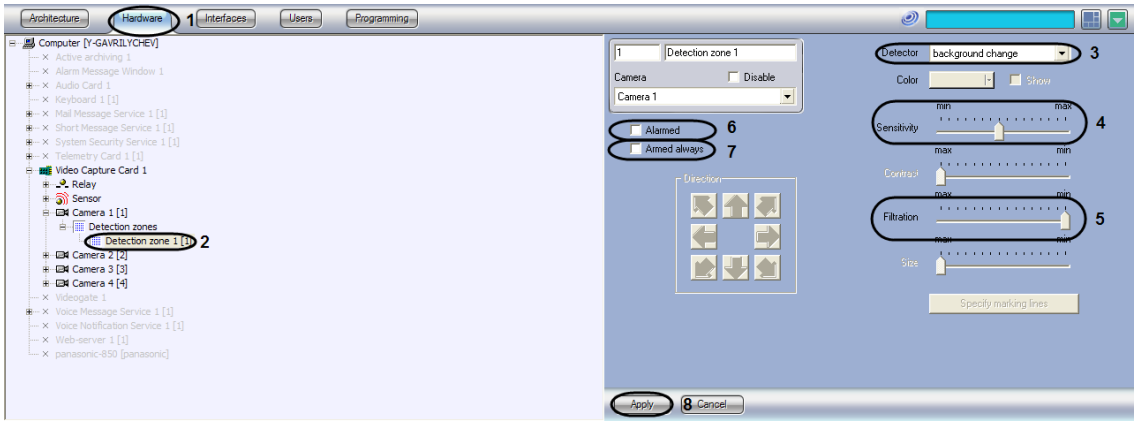


Figure 8.4-69. Setup of the background change detector

3. Connect the background change detector (see the “Detectors connection” section) or select the background change detector, registered earlier.

4. Set the “Sensitivity” value by moving the slider of the same name. This setting defines the deviation of the integral frame brightness from its mean value, at which the detector should trigger.

The optimal “Sensitivity” setting value is defined by testing the triggering of the detector. In most cases the default setting is sufficient.

5. Set the “Filtration” value by moving the relevant slider. This setting corresponds to the object’s upper speed threshold, at which the background change detector should not trigger.

The optimal “Filtration” setting value is defined by testing the triggering of the detector. In most cases the default setting is sufficient.

6. To enable the auto recording option on a background change detector alarm for the selected camera, set the “Alarmed” check.

Note A. If the “Recording alarms” option in the “Camera” object settings is deactivated, then no video recording is performed after the detector has triggered.

Note B. If the “Alarmed” option is disabled in detector settings, then detector arming is ineffective, though this detector name in the functions menu of the video surveillance window is highlighted by a yellow square.

7. To disable disarming of the background change detector by any user (irrespectively of his rights), set the “Armed always” check.

Note. When the “Armed always” check is set, the row with the motion detector name is not displayed in the functions menu of the video surveillance window.

8. Click the “Apply” button.

The background change detector setup is completed.

8.4.7.4.6 Setup of the camera blinding detector

The camera blinding detector discovers attempts to over-illuminate the camera lens to make the surveillance ineffective. Its operation is based on comparison of the bitmap histogram of the current frame to that of the reference blinding frame (white).

Follow the steps to set up the blind detector:

1. Go to the“Hardware” tab in the “System Settings” dialog box.

2. Select the “Detection zone” object, related to the required detector, on the «Hardware” tabin the objects tree. The settings panel of the selected object appears in the right part of the «Hardware” tab(Figure 8.4-70).

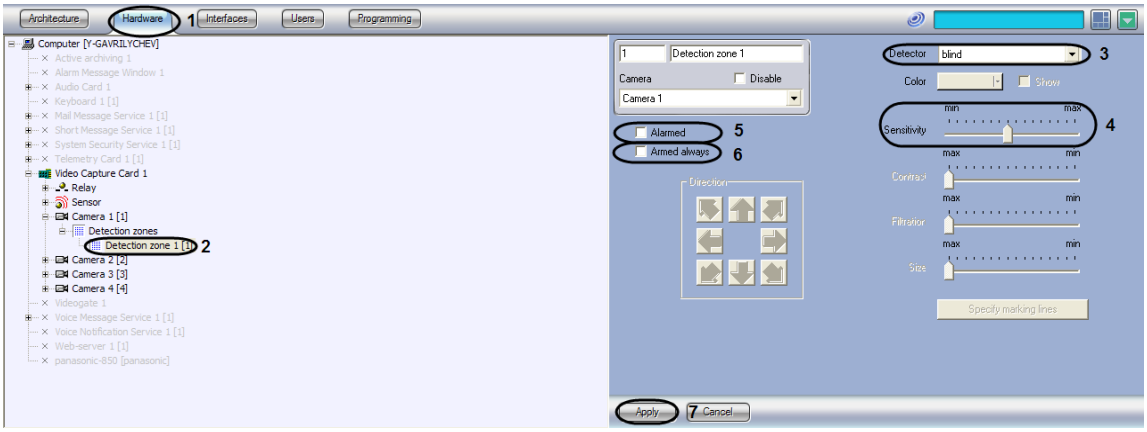


Figure 8.4-70. Blind detector setup

3. Connect the blind detector (see the “Detectors connection” section) or select the blind detector, registered earlier.

4. Set the “Sensitivity” value by moving the relevant slider. This setting defines the image blinding rate, expressed in the difference between the brightness histogram median position of the current and reference frames, with which the detector should trigger.

The optimal “Sensitivity” setting value is defined by testing the triggering of the detector. In most cases the default setting is sufficient.

5. To enable the auto recording option on a blind detector alarm for the selected camera, set the “Alarmed” check.

Note A. If the “Recording alarms” option in the “Camera” object settings is deactivated, then no video recording is performed after the detector has triggered.

Note B. If the “Alarmed” option is disabled in the detector settings, then detector arming is ineffective, though this detector name in the functions menu of the video surveillance window is highlighted by a yellow square.

6. To disable disarming of the blind detector disarming by any user (irrespectively of his rights), set the “Armed always” check.

Note. When the “Armed always” check is set, the row with the motion detector name is not displayed in the functions menu of the video surveillance window.

7. Click the “Apply” button.

Camera blinding detector setup is completed.

8.4.7.4.7 Setup of the lens blocking detector

The lens blocking detector discovers attempts to block the camera lens. Its operation is based on analysis of the broadening of the frame histogram, relative to the histogram median of the reference closing frame (grey).

Follow the steps to set up the lens blocking detector:

1. Go to the “Hardware” tab in the “System Settings” dialog box.

2. Select the “Detection zone” object, related to the required detector, on the «Hardware” tabin the objects tree. The settings panel of the selected object appears in the right part of the «Hardware” tab(Figure 8.4-71).

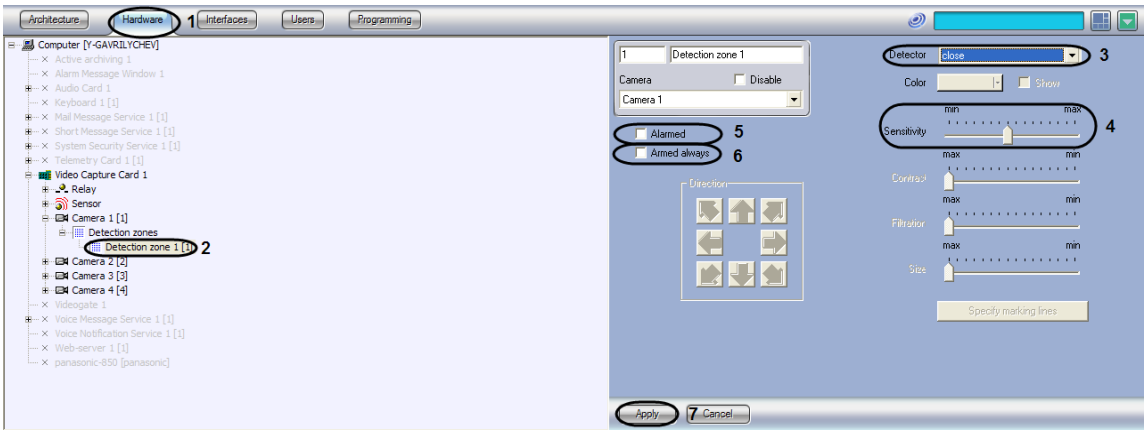


Figure 8.4-71. Lens blocking detector setup

3. Connect the lens blocking detector (see the “Detectors connection” section) or select a lens blocking detector, registered earlier.

4. Set the “Sensitivity” value by moving the relevant slider. This setting corresponds to the contraction rate of the frame brightness histogram, i.e. to the estimate of grey filling ratio, which triggers the detector.

The optimal value of the “Sensitivity” setting is defined by testing the triggering of the detector. In most cases the default setting is sufficient.

5. To enable the auto recording option on a lens blocking detector alarm for the selected camera, set the “Alarmed” check.

Note A. If the “Recording alarms” option in the “Camera” object settings is deactivated, then no video is recorded after the detector has triggered.

Note B. If the “Alarmed” option is disabled in the detector settings, then detector arming is ineffective, though this detector name in the functions menu of the video surveillance window is highlighted by a yellow square.

6. To disable disarming of the lens blocking detector by any user (irrespectively of his rights), set the “Armed always” check.

Note. When the “Armed always” check is set, the row with the motion detector name is not displayed in the functions menu of the video surveillance window.

7. Click the “Apply” button.

Camera lens blocking detector setup is completed.

8.4.7.4.8 Setup of the lens blocking detector

The lens blocking detector discovers attempts to block the camera lens. Its operation is based on analysis of the broadening of the frame histogram, relative to the histogram median of the reference closing frame (grey).

Follow the steps to set up the lens blocking detector:

1. Go to the “Hardware” tab in the “System Settings” dialog box.

2. Select the “Detection zone” object, related to the required detector, on the «Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the «Hardware” tab (Figure 8.4-72).

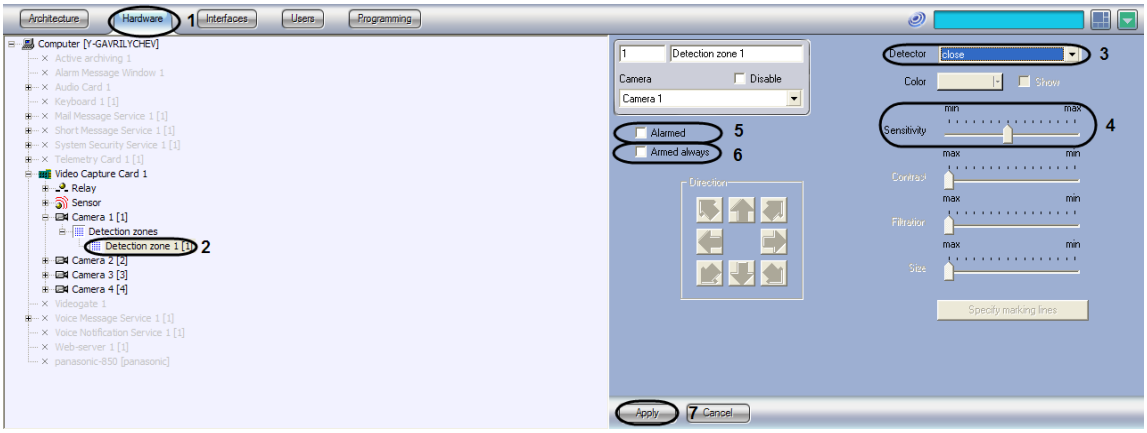


Figure 8.4-72. Lens blocking detector setup

3. Connect the lens blocking detector (see the “Detectors connection” section) or select a lens blocking detector, registered earlier.

4. Set the “Sensitivity” value by moving the relevant slider. This setting corresponds to the contraction rate of the frame brightness histogram, i.e. to the estimate of grey filling ratio, which triggers the detector.

The optimal value of the “Sensitivity” setting is defined by testing the triggering of the detector. In most cases the default setting is sufficient.

5. To enable the auto recording option on a lens blocking detector alarm for the selected camera, set the “Alarmed” check.

Note A. If the “Recording alarms” option in the “Camera” object settings is deactivated, then no video is recorded after the detector has triggered.

Note B. If the “Alarmed” option is disabled in the detector settings, then detector arming is ineffective, though this detector name in the functions menu of the video surveillance window is highlighted by a yellow square.

6. To disable disarming of the lens blocking detector by any user (irrespectively of his rights), set the “Armed always” check.

Note. When the “Armed always” check is set, the row with the motion detector name is not displayed in the functions menu of the video surveillance window.

7. Click the “Apply” button.

Camera lens blocking detector setup is completed.

8.4.7.4.9 Set up of face detector

Face detector recognizes «faces» objects in the controlled zone. While detecting the «faces» in the frame the following can be observed:

1. A face is dynamically framed on the frame;
2. In case of installed system of face recognition Face-Intellect »there is possibility to record a frame with a face to the file of.bmp format to the folder «<Face-Intellect installation directory >\ Bmp\ person\».

Note. There is no additional detector zones creation while creating the Face detector object. It is not possible to arm the camera while using the face detector.

To set up a face detector do the following:

1. Go to the “Hardware” tab in the “System Settings” dialog box(Figure 8.4-73, 1)
2. Select the “Face detector” object, related to the required detector, on the «Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the «Hardware” tab (Figure 8.4-73, 2).

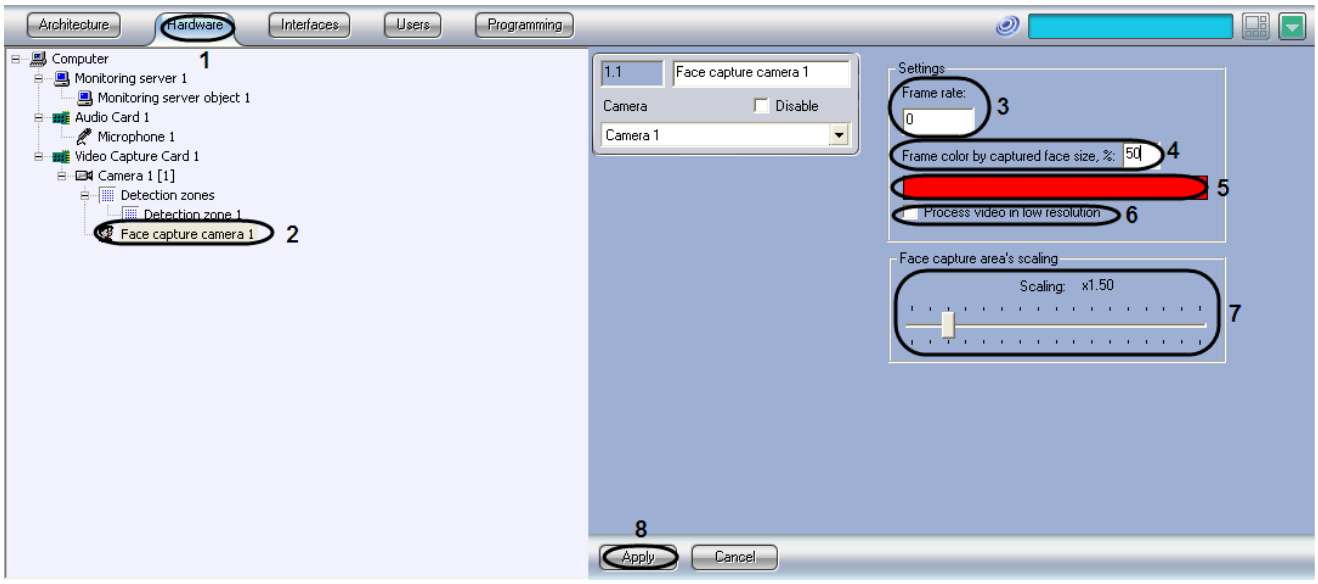


Figure 8.4-73 Face detector setup

3. State how much fps from the video stream is processed by the Face detector program module. This parameter is necessary for reducing the load on the Server (Figure 8.4-73, 3)
4. State the size of a face in percent relative to the camera’s video surveillance window sizes when the face is required to be dynamically framed (Figure 8.4-73, 4)
5. In case when the color of a dynamic frame has to be changed, make a left click upon the field «Color» (Figure 8.4-73, 5). In the appeared standard dialog window «Color» select the required color and click «OK».

6. On default the Face detector processes a video with the resolution, set for the Camera parent object. To process a video with320x240 pixels resolution set the checkbox «Process video in low resolution» (Figure 8.4-73, 6)

Note. Enabling this option reduces the load of the Server's processor, but the probability of face detection also reduces.

Note! The setting «Process video in low resolution» is not relevant in case, when a high resolution is set for a Camera parent object.

7. Evaluate the part of recognized faces while processing the video with 320x240 pixels resolution. In case, when this value is not great enough, uncheck the checkbox « Process video in low resolution ».
8. Set the slider «Face capture area's scaling» to the position, corresponding to the required scaling of a face in the frame for recording (Figure 8.4-73, 7). The current scale value is displayed in the field above the slider and ranges from 1 (only the face image is recorded) to 5 (the whole frame is recorded).

Note. This setting is relevant in case of installed face recognition system «Face-Intellect». A frame with a face is recorded to the folder «< Face-Intellect installation directory>\ Bmp\ person\».

9. Click Apply to save the changes (Figure 8.4-73, 8).

Face detector setup is completed.

8.4.7.4.10 Lost items detector setup

The lost items detector is capable of recognizing objects that have been lost (or disappeared) from the scene. If the presence/absence time of a motionless object exceeds the pre-defined time value, rectangular border outlines the critical object.

The special algorithm analyses the changes in averaged frames within a certain time interval. The detector is capable of recognizing lost objects and the objects that reside within the scene. This is done by the motion detector that registers the object's appearance in the frame.

Follow the steps to set up the lost items detector:

1. Go to the «Hardware" tab in the "System Settings" dialog box.

2. Select the "Detection zone" object, related to the required detector, on the «Hardware" tabin the objects tree. The settings panel of the selected object appears in the right part of the «Hardware" tab(Figure 8.4-74).

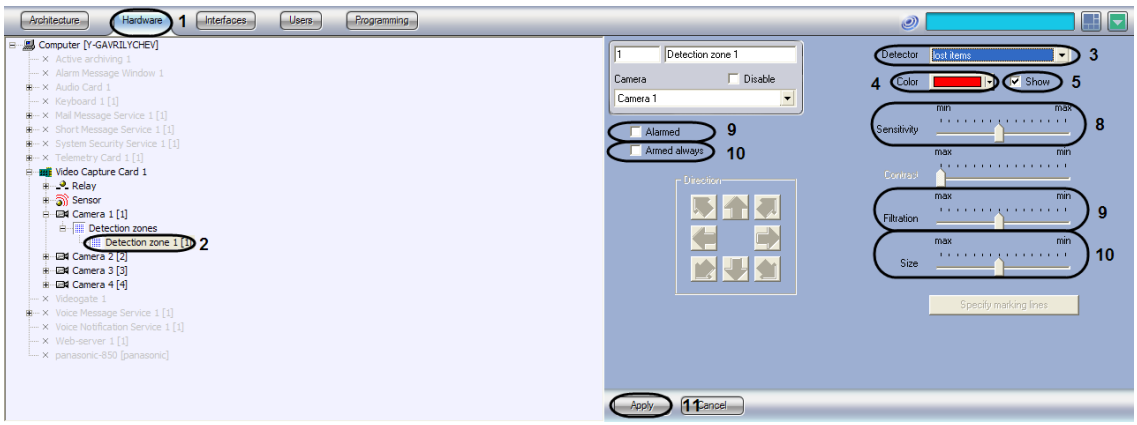


Figure 8.4-74. Lost items detector setup

3. Connect the lost items detector (see the “Detectors connection” section) or select the lost items detector, registered earlier.

4. By default, the lost (or dissapeared) object is outlined in red. The border color may be changed.

To change the border color, select it from the “Color” list or from the “Select color” panel, called by “Select color” command from the “Color” list. To return the default border color, select the “By default” command from the “Color” list.

5. By default, the detected lost (or dissapeared) object is dynamically outlined with a red border. If the lost (or disappeared) object doesn’t need to be outlined, remove the “Show” check.

6. Set the “Sensitivity” value by moving the relevant slider. This setting corresponds to the minimum value of the average brightness of the lost (or disappeared) object, which triggers the detector only by its appearance in the frame, not by the appearance of any other objects.

The optimal “Sensitivity” value is defined by testing the detector’s false triggering. With low “Sensitivity” values, false detector triggering by appearance of other objects is more probable. With high “Sensitivity” values, triggering by a lost object is less probable. It is recommended to select a “Sensitivity” value, which will exclude false triggering of the detector.

7. Set the “Filtration” value by moving the relevant slider. This setting corresponds to the time interval, after which the object in the frame is considered to be “lost” (or “disappeared”). The slider’s “Max” position corresponds to 3 minutes, the “Min” position – to 3 seconds.

8. Set the “Size” value by moving the relevant slider. This setting value corresponds to the part of the total frame square, occupied by the smallest detected object. When a bigger object than the preset one, is recognized as a “lost item”, the face detector switches to alarm status.

The optimal “Size” setting value is defined by testing the triggering of the detector. It is recommended to set the “Size” values, slightly higher than the mean size of the lost (or disappeared) objects in the frame. If a detector is falsely triggered, it is necessary to change the “Sensitivity” settings.

9. To enable the auto recording option on a lost items detector alarm for the selected camera, set the “Alarmed” check.

Note A. If the "Recording alarms" option in the "Camera" object settings is deactivated, then no video recording is performed after the detector has triggered.

Note B. If the "Alarmed" option is disabled in the detector settings, then detector arming is ineffective, though this detector name in the functions menu of the video surveillance window is highlighted by a yellow square.

10. To disable disarming of the lost items detector by any user (irrespectively of his rights), set the "Armed always" check.

Note. When the "Armed always" check is set, the row with the motion detector name is not displayed in the functions menu of the video surveillance window.

11. Click the "Apply" button.

Lost items detector setup is completed.

8.4.7.4.11 Setup of the tracking objects detector

The tracking objects detector performs the following functions:

1. Identifies moving objects and outlines it with a border.
2. Arrows direction of moving object.
3. Displays object's path.

The motion is detected by calculating the gradients between consequent frames to time.

Follow the steps to set up the tracking objects detector:

1. Go to the «Hardware" tab in the "System Settings" dialog box (Figure 8.4-75, 1).
2. Select the "Detection zone" object, related to the required detector, on the «Hardware" tabin the objects tree. The settings panel of the selected object appears in the right part of the «Hardware" tab(Figure 8.4-75, 2).

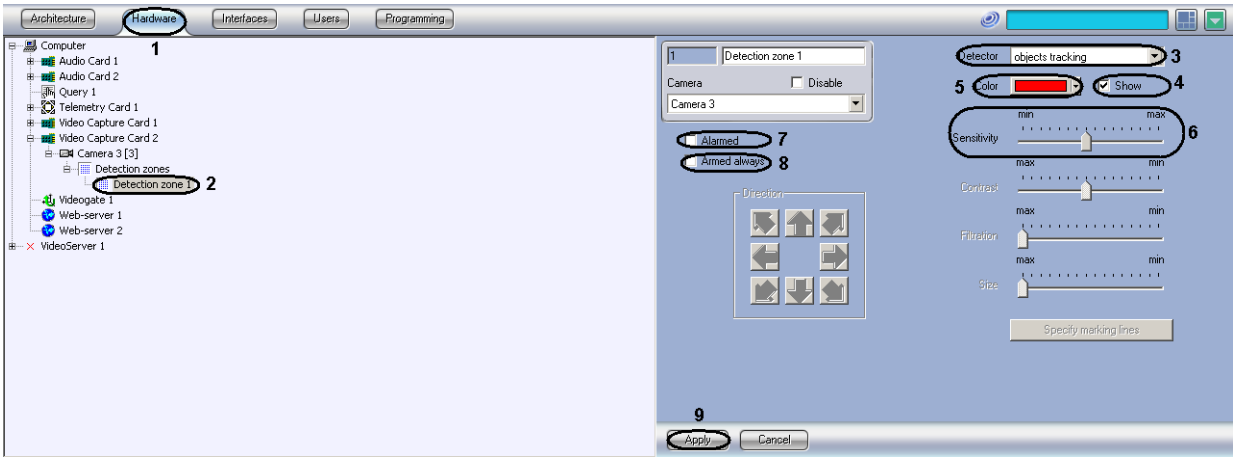


Figure 8.4-75. Tracking objects detector setup

3. Connect the tracking objects detector (see the "Detectors connection" section) (Figure 8.4-75, 3).

4. Detected moving objects are dynamically outlined with a border. If the moving object doesn't need to be outlined, remove the "Show" check (Figure 8.4-75, 4).

5. If the color of the border for outlining the moving object has to be changed, make a left mouse click over the Color field (Figure 8.4-75, 5). In the dialog window, that will open, select the required color and click OK.

6. Set the slider Sensitivity to the position, corresponding to minimum value of moving object's averaged brightness which will trigger the detector by its motion (Figure 8.4-75, 6).

Note. The optimal "Sensitivity" value is defined by testing the false triggering of the detector. With low "Sensitivity" values, false triggering by interference is more probable. With high "Sensitivity" values, triggering by object motion is less probable. Set the "Sensitivity" value after the "Size", "Filtration" and "Contrast" settings. It is recommended to select a "Sensitivity" value that will exclude false triggering by video signal interference.

7. To enable the auto recording option on a motion detector alarm for the selected camera, set the "Alarmed" check (Figure 8.4-75, 7).

Note A. If the "Recording alarms" option in the "Camera" object settings is deactivated, then no video is recorded after the detector has triggered.

Note B. If the "Alarmed" option is disabled in the detector settings, then detector arming is ineffective, though this detector name in the functions menu of the video surveillance window is highlighted by a yellow square.

8. To disable disarming of the tracking objects detector by any user (irrespectively of his rights), set the "Armed always" check (Figure 8.4-75, 8).

Note. When the "Armed always" check is set, the row with the motion detector name is not displayed in the functions menu of the video surveillance window.

9. Click the "Apply" button (Figure 8.4-75, 9).

Tracking objects detector setup is completed.

8.4.7.4.12 Setup of the infrared detector

The infrared detector is used for thermal imagers – infrared cameras. The infrared detector discovers moving objects within the controlled scene. Detected moving objects are dynamically outlined. The motion is detected by calculating gradients between consequent frames.

Note A. The thermal imager is a device, that allows both day and night, to control the situation in any weather, functioning in the thermal, invisible spectral range. It enables to see things that are invisible for night vision devices and TV cameras. Heavy snow, fog, the absence of lighting at night strongly reduce the effectiveness of standard video surveillance facilities. The thermal imager, unlike the common highly sensitive camera or infrared camera, functions properly without regard to the weather and illumination: moonless night, heavy clouds, mist, smoke or, vice versa, very bright sunlight do not affect its functioning. The sensitive element of the thermal imager operates in the invisible spectral range and in fact is not affected by the environmental changes. The thermal imager provides instant temperature measurement at thousands of object points.

Note B. The video signals from the thermal imager is treated as a standard video signal, but the size of a detected object may be very small (as small as 3 pixels), so the detector needs fine tuning.

Follow the steps to set up the infrared detector:

1. Go to the «Hardware” tab in the “System Settings” dialog box (Figure 8.4-76, 1)

2. Select the “Detection zone” object, related to the required detector, on the «Hardware” tabin the objects tree. The settings panel of the selected object appears in the right part of the «Hardware” tab(Figure 8.4-76, 2).

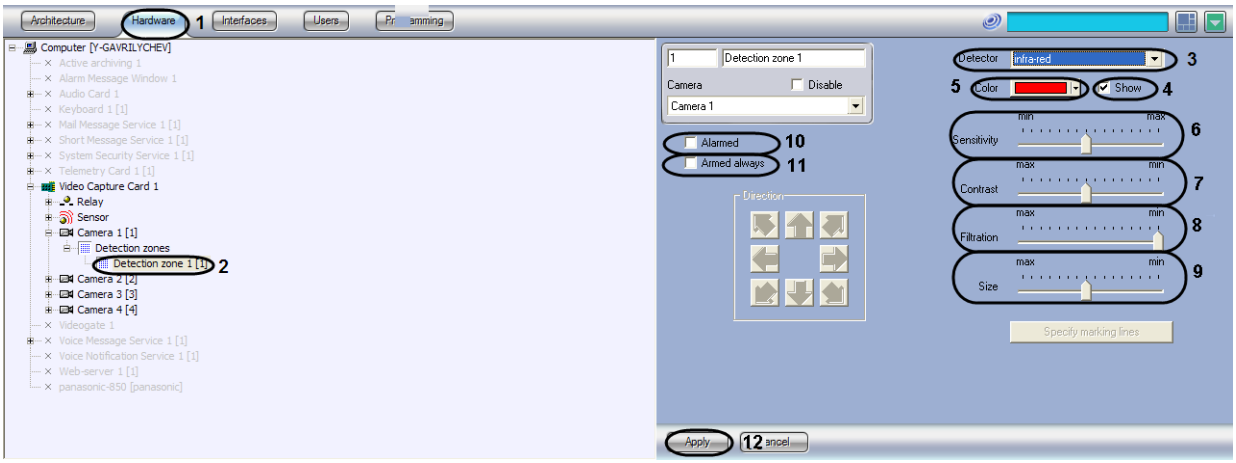


Figure 8.4-76. Set up of the infrared detector

3. Connect the infrared detector (see the “Detectors connection” section) or select a motion detector, registered earlier (Figure 8.4-76, 3).

4. By default, the detected moving objects are dynamically outlined. If the moving object doesn’t need to be outlined, remove the “Show” check (Figure 8.4-76, 4).

5. To change the border color for outlining the moving make a left mouse click over the field Color (Figure 8.4-76, 5). In the dialog window Windows Color select the required color and click OK.

6. Set the “Sensitivity” slider to the position, corresponding to the minimal value of the average brightness of the moving object, which triggers the detector by its motion (Figure 8.4-76, 6).

Note. Optimal value of Sensitivity parameter is determined by testing the detector to check false alarms. The less the value of Sensitivity parameter - the more possibility of false alarms because of thermal noise. The more the value of Sensitivity parameter - the less possibility of detector’s correct identification of motion in the frame.

Parameter Sensitivity should be set after parameters Size, Filtration and Contrast. It is recommended to set the value for the parameter Sensitivity which does not lead to false alarms with noise in video signal.

7. Set the slider Contrast to the position, corresponding to the minimal value of the contrast, which triggers the detector by its motion (Figure 8.4-76, 7).

Note. Optimal value of Contrast parameter is determined by testing the detector for response with the required conditions. Reduction of Contrast parameter results in lesser possibility of detector’s response to

motions of objects, which colors are close to the color of the ground. Greater Contras parameter results in greater possibility of detector's response to noise in video signal. In most cases the value given on default is quite enough (average value).

8. Set the slider Filtration to the position, corresponding to the minimal rate of object's motion, which triggers the detector (Figure 8.4-76, 8).When the slider is set to the min, detector responses to the objects, moving at any rate.

Note. Optimal value of the Filtration parameter is determined by testing the detector for response with the required conditions. Reduction of Filtration parameter leads to increased possibility of response to noise in video signal (including snow, rain). Greater Filtration parameter results in lesser possibility of detector's response to motion in the frame. When with the set value of given parameter the detector responses to noise in video signals, one should change the value of Sensitivity parameter.

9. Set the slider Size to the position, corresponding to minimal size of the object, which triggers the detector (Figure 8.4-76, 9). Size of the object is given in portion relating to the overall area of the square. When the object, which size exceeds the given value, motion detector is getting alarmed.

Note. Optimal value of the Size parameter is determined by testing the detector for response with the required conditions. Reduction of Size parameter leads to increased possibility of response to noise in video signal (including snow, rain). Greater Size parameter results in lesser possibility of detector's response to motion in the frame.

It is recommended to Size parameter the value, which is much lesser than the average size of objects, moving in the frame. If detector responses to noise in video signal with the set value, the value of Sensitivity parameter should be changed.

10. If infrared detector arms to record the signal from video camera automatically, Alarmed checkbox should be set (Figure 8.4-76, 10).

Note A. If the "Recording alarms" option in the "Camera" object settings is deactivated, then no video recording is performed after the detector has triggered.
Note B. If the "Alarmed" option is disabled in the detector settings, then detector arming is ineffective, though this detector name in the functions menu of the video surveillance window is highlighted by a yellow square.

11. If it is necessary to prohibit the users (independently on their rights and authority) of video surveillance system to disarm the infrared detector, check the Armed always check box (Figure 8.4-76, 11).

Note. When the "Armed always" is checked, the row with the motion detector name is not displayed in the functions menu of the video surveillance window.

12. Click the "Apply" button (Figure 8.4-76, 12).

Infrared detector setup is completed.

8.4.8 Setup of reception and processing of video signals from IP-devices

8.4.8.1 *General information on IP-devices*

The INTELLECT™ software system supports audio signals reception, digitization, processing and playback using video capture IP-devices. IP-cameras and IP-servers may be used to receive and process video signals.

IP-devices are configured via the web-server or any other software, supplied together with the device, and via INTELLECT™ software.

Video signal compression and processing settings (format, frame rate, frame resolution, brightness, contrast, color depth, color rendition format) are performed via the web-server or any other software, supplied together with the device.

The INTELLECT™ software system receives the image, processes it with detectors, recordings the video signals from IP-devices and transfers them to the Remote Monitoring Workplace.

Before using an IP-device, be sure that the processing and digitization settings of IP-devices (especially codecs), set via the web-server, are supported by INTELLECT™ software. For the list of INTELLECT™ software compatible IP-devices for video signal reception, digitization, processing and playback see the “Integration” section on the ITV company site: http://www.itv.ru/products/integration/.

8.4.8.2 *Setup of video signals reception from IP-devices*

NOTE. Before setting up the IP-device, be sure that the processing and digitization settings of IP-devices (especially codecs), set via the web-server, are supported by INTELLECT™ software. For actual information on IP-device compatibility see the “Integration” section on the ITV company site: http://www.itv.ru/products/integration/.

Usually IP-devices process 1 or more video signals, depending on the device type.

Each IP-device, used to enter a video signal, is registered in the INTELLECT™ software by creating and setting up the “Video capture card” object. “Video capture card” objects are created on the «Hardware” tabon the base of the “Computer” object. When creating the “Video capture card” objects, make the following settings:

1. Select the IP-device name from the “Type” list.

Note. INTELLECT™ software has two codec options for Axis IP- devices: MJPEG and MPEG4. If it is necessary to encode the video signal in MJPEG format, select “Axis” from the type list. If it is necessary to encode the video signal in MPEG4 format, select “Axis (MPEG4)” from the type list.

2. Enter the IP-address, assigned to the device, in the “IP-address” field. Assigning the IP-address to the IP-device is described in the relevant sections of this Manual.

3. For authorization at the IP-device web-server enter the user’s name (login) and password in the “Name” and “Password” fields.

After registration in the INTELLECT™ system, the values should be assigned to the “Channel number” settings of the “Camera” objects, according to the channel numbers of the camera connections to the IP-device.

Note. The “Channel number” setting should be “1”. Otherwise the IP-camera is disabled.

8.4.8.3 *Details of setting up the IP-devices*

8.4.8.3.1 Details of setting IP-cameras Axis

INTELLECT™ software has two codec options for Axis IP- devices: MJPEG and MPEG4. If it is necessary to encode the video signal in MJPEG format, select “Axis” from the type list. If it is necessary to encode the video signal in MPEG4 format, select “Axis (MPEG4)” from the type list.

8.4.8.3.2 Details of setting IP-cameras Beward

Port 80 is set by default to connect to IP devices on the object settings panel. Enter the value «5000» in the Port field to connect to IP device Beward B-975W, B-970, B-915, B2.920.

8.4.8.3.3 Details of setting Panasonic cameras i- Pro

When IP-device Panasonic i-Pro is set to compess in MPEG4 format, Speed slider controls videodata bitrate on the settings panel of Video capture card.When this parameter is changed the speed of video stream and image quality change.

Note. Models WV-NP1000\1004, WV-F284, WV-NP240\244, WV-NS202 and other models belong to IP-devices i-Pro.

Image from IP device Panasoni i-Pro is displayed in Monitor interface window with delay from 15 sec to 1 min, dependand on cameras’s model.

8.4.8.3.4 Details of setting IP-devices Trendnet

IP device TrendNet is restarted when one of the fallowing settings is changed on the settings panel of Video capture card object or Camera object:

1. Speed parameter(«Video capture card»);
2. Quality parameter («Camera»);
3. Resolution parameter («Video capture card », «Camera»).

After saving the changes video image disappears for 1 min and then it is recovered with new parameters.

Note. Restarted IP devices TrendNet TV-IP312W, TV-IP212W, TV-IP110, TV-IP410.

8.4.8.3.5 Details of setting IP-devices Pelco Spectra IV

If IP device Pelco Spectra IV is set to compress in MPEG4 format, dropdown list Resolution on the Camera object settings panel is used for simultaneous setting the three parameters of a video signal:

1. Resolution;
2. Speed;
3. Compression quality.

At the same time Speed (Video capture card object) and Quality (Camera object) do not interfere with the corresponding parameters of a video signal.

To set maximum quality of resolution and speed select the value Full or High from the dropdown list Resolution on the Camera object settings panel. Standard value should be selected to set the lowered compression quality of resolution and speed of video signal.

8.4.8.3.6 Details of setting up IP-device AEBELL

Port 80 is set on default on the settings panel of Video capture card object for connection to IP-devices. The value 36688 should be entered in the Port field for correct connection to IP video server AEBELL BL-E704F.

8.4.8.3.7 Details of setting up IP-device Dynacolor

IP device Dynacolor DynaHawk ZH-801+ is restarted when one of the following settings is changed on the settings panel of Video capture card and/or Camera object:

1. Parameter«Type» («Video capture card») – selection of compression format of video stream Dynacolor (mjpeg) or Dynacolor (mpeg-4);
2. Parameter «Speed» («Video capture card»);
3. Parameter«Quality» («Camera»);
4. Parameter«Resolution» («Camera»);

After changes the video disappears for a minute and then is restored with new parameters.

After starting PC Intellect video can also be absent for a minute or so.

8.4.8.3.8 Details of setting up IP-cameras Stream Labs

Currently Intellect PC supports four IP-devices by Stream Labs:

1. Camera Wave Cam MX.
2. Camera Wave Cam M5.
3. Video server Wave Server WH1501.
4. Hardware net complex Wave Server Enterprise .

Note. Detailed description of the given devices one can see on the site http://www.ipstreamlabs.ru/products-index.html

8.4.8.3.8.1 Details of camera Wave Cam M5

1. Brightness auto regulation. In this mode Intellect automatically uses internal algorithm of image's brightness regulation. This mode is enabled when the slider Brightness is set to a minimum position. When the image does not have specific requirements, this mode of brightness regulation is particularly recommended.

Note. Brightness can be controlled manually, moving the Brightness slider.

2. *Video stream frame rate.* Camera Wave Cam M5 supports two channels of video displaying. When only one video channel is engaged in Intellect PC, *frame rate of the video stream will be 25 fps.* When both channels are engaged, *frame rate of video stream for each channel will be 12fps.*

3. Telemetry. Camera Wave Cam M5 is not a PTZ. One can control some area of an image with the help of video surveillance monitor. While setting the Telemetry on a camera Wave Cam M5, the following should be done:

- Select protocol of changing the data with a camera - «IP-Camera» (on the settings panel of «Telemetry control »object).

- Apply PTZ to the first channel of video capture(is set in the list «Channel number» on the settings panel of Camera object).

- Apply telemetry control panel to the first channel of video capture (is set in the list «Channel number» on the settings panel of Camera object).

Note. Image will move through the second channel of video capture.

8.4.8.3.8.2 Details of hardware net complex Wave Server Enterprise

1. Video stream frame rate . If only one camera is connected to hardware net complex Wave Server Enterprise, video signal will be digitized with frame rate equal to 25fps. If two or more cameras are connected, the summarized frame rate of the digitized video signal will be equal to 16fps.

Note. When two video capture channels are used, the frame rate of the digitized video signal of each is equal to 16/2=8 fps. When four video capture channels are used, the frame rate is 16/4=4 fps.

2. Telemetry. Telemetry is realized on a separate card with its own interface. While its setting the following should be done:

- Select the change data with a camera protocol with the help of which connected to the video server analog camera is controlled on the settings panel of Telemetry control object (for example, Pelco-D, Pelco-P, Panasonic-850).

- Create two objects «Video capture card».

Note. For every analog camera, connected to Wave Server Enterprise, two Camera objects are necessary to be created on thebase of different Video capture card objects for video viewing and setting up Telemetry correspondingly.

8.4.8.3.8.3 Details of video server Wave Server WH1501

Telemetry. While setting the Telemetry for video server Wave Server WH1501 it is necessary to select protocol, with the help of which the connected to the video server analog camera is controlled, on the settings panel of Telemetry control object (for example, Pelco-D, Pelco-P, Panasonic-850).

8.4.8.3.9 Details of setting up IP-device Cisco

IP-device Cisco 4500 supports the following formats of video signal compression:

1. H.264;

2. MJPEG.

While setting the resolution the H.264 format has a higher priority in comparison with MJPEG: a possibility to set the resolution for MJPEG,exceeding the given for H.264, is not provided.

Priority difference leads to the following effects:

1. After changing the video capture cad of type «Cisco(h264)» for «Cisco(mjpeg)» with standard resolution of video ,MJPEG-resolution of video signal can not be increased;

2. When the video capture cad of type «Cisco(mjpeg)» is changed for «Cisco(h264)» with full video resolution, the resolution will be changed from 704*576 to 1280*720. Resolution 720*576 will be set after refferance to type «Cisco(mjpeg)» .

Note. The type of video capture card is selelcted from the dropdown list Type on the Video capture card object settings panel. Video resolution is set with the use of analoguos parameter on the settings panel of Camera subclass.

8.4.8.3.10 Details of setting up IP-camera Mobotix

IP-camera Mobotix supports the following formats of video signal compression in the Intellect PC:

2.1. MJPEG;

2.2. MxPEG.

Audiosubsystem of IP-devices Mobotix may be used when video is encoded in MxPEG.To choose this format, select value «Mobotix MxPEG» from the Type list on the object's settings panel Video capture card.

Note 1.When the value «Mobotix» is selected, video signal is received in «MJPEG»and audiosubsystem functionality of Ip device is not realized.

Note 2. Ip-cameras Mobotix, supporting sound, are Q24M, D12, M22 and other cameras. Detailed description of these devices one can see at http://www.mobotix.ru/default.aspx

8.5 Telemetry settings

8.5.1 PTZ use in the digital video surveillance system

Video cameras PTZ's in the digital video surveillance system are used to widen the video surveillance zone by mechanical rotating of the video camera.

The following interface elements of INTELLECT™ software control the PTZ units:

1. Video Monitor;

2. universal PTZ control window;

3. PTZ control panel.

PTZ control uses:

1. A “Mouse” and standard keyboard (when interface objects “Video surveillance monitor” and “Universal PTZ window” are used).

2. Specific devices, used for telemetry control, like PTZ control panel and the “joystick”.

To manage simultaneous use of the PTZ by different users, control priority must be set up for:

1. the Video Monitor;

2. The Universal PTZ window;

3. The PTZ control panel.

8.5.2 PTZ units control priority

The “Telemetry control” or “Priority” setting, depending on the type of the object, defines the privilege to control PTZ, when several interface objects or several users control the same PTZ simultaneously.

To set up interface objects, used for PTZ control, the telemetry control priority setting should be selected from the list.

The “Telemetry control” parameter is set for the following objects:

1. Video Monitor;

2. Universal PTZ control window;

3. PTZ control panel.

Note. PTZ control priority of the joystick is equal to that of the mouse and that of the “Monitor” system object.

Priority settings of PTZ control are:

a. Control is forbidden (Forbidden). This item forbids PTZ control.

b. Low (Low priority). PTZ control is last in the queue after the “normal” and “high” priorities. It is lowest in the queue in PTZ control.

c. Normal (Normal priority). PTZ is controlled after the device with “high” priority. It is higher in the queue in PTZ control than any device with “low” priority.

d. High (High priority). This item is set as first in the queue in PTZ control. It is highest in the PTZ control queue.

The PTZ control priority drop-down menu for the “Monitor” interface object is called “PTZ control” and lists “Forbidden”, “Low priority”, “Normal priority”, “High priority” (Figure 8.5-1):

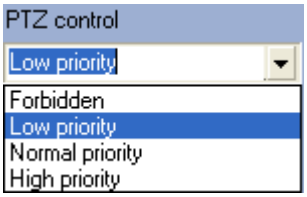


Figure 8.5-1. The “PTZ control” settings panel for the interface “Monitor” object

The PTZ control priority panel for the “PTZ control window” interface object is called “Priority” and lists “Forbidden”, “Low priority”, “Normal priority”, “High priority” (Figure 8.5-2):

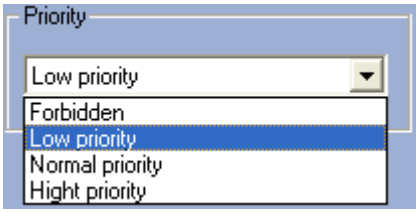


Figure 8.5-2. The “Priority” settings panel for the “PTZ control window” interface object

The PTZ control priority panel for the “Control panel” interface object is called “Priority” and contains the “Forbidden”, “Low priority”, “Normal priority”, “High priority” items (Figure 8.5-3).

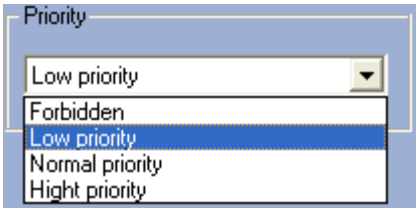


Figure 8.5-3. The “Priority” settings drop-down menu for the “Control panel” system object

If the same PTZ is controlled from several workstations by the interface objects of the same type with the same PTZ control priority, then the following rules apply:

1. Any user can control a PTZ, when no other user with the same control priority is controlling the unit at that moment.

2. If a user with a higher priority interface object delegates control to a user with a lower priority interface object, then this procedure is delayed. The priority delay time is set by the tweaki.exe utility.

To change the priority delay time using the tweaki.exe utility, follow the steps:

1. Open the tweaki.exe utility. It resides in the Tools folder of the INTELLECT™ software installation directory.

2. Select the “Telemetry” section (Figure 8.5-4).

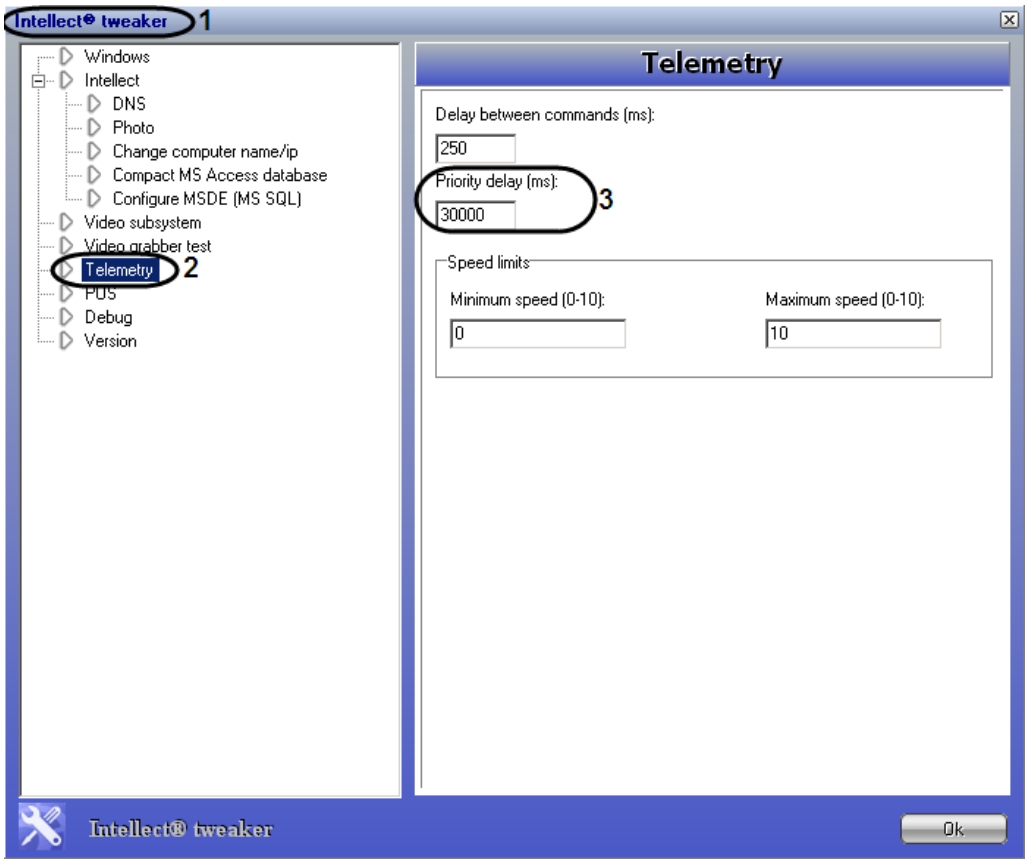


Figure 8.5-4. "Telemetry" section of the tweaki.exe utility

3. Enter the value of PTZ control priority delay in the "Priority delay (ms)" field.

Delay setting units are milliseconds. The default value is 30000.

4. Click the "OK" button to save the changes.

Note. While setting up objects with variable PTZ priority controls it is recommended to assign different PTZ control priorities to different system objects (object types) . If different system objects have the same PTZ control priority, problems may arise in operation, especially in controlling the PTZ.

8.5.3 PTZ (telemetry) setup

8.5.3.1 *PTZ setup sequence*

Setting up a PTZ in INTELLECT™ software involves creation and setup of the system objects that correspond to the PTZ module, and user interface for operation of the PTZ.

The user interface for PTZ operation is represented by:

1. The PTZ control window;
2. The Operator request window;
3. The Video Monitor.

Setup and configuration of the PTZ and control panels is as follows:

1. Setup of video server ports for PTZ connection.

2. PTZ setup.
3. PTZ control panel setup.
4. PTZ control window setup.
5. Setup of operator dialog box for telemetry control (control of a certain type of PTZ).
6. Video monitor setup to control the PTZ by mouse or joystick.

8.5.3.2 *Setup of video server ports and the Remote Workplace for PTZ connection*

PTZ units are connected to the video server serial (COM) ports. INTELLECT™ software has the facility to plug in the required number of PTZ units on demand.

Data exchange with a PTZ unit is performed via the COM port by a special protocol. Any PTZ type has its own individual communications protocol. Only one protocol may be chosen for data exchange with a PTZ unit via the COM port. Hence, only one type of PTZ units may be connected to anyone of the COM ports.

The setup of several serial (COM) ports is performed in turn. Any type of COM port, used to attach the PTZ units, has the corresponding “Telemetry card” object, created and set up on the «Hardware” tab in the “System Settings” dialog box.

To set up the COM port, used to plug in the same type of PTZ units, follow the steps:

1. Go to the “Interfaces” tab in the “System Setup” dialog box.
2. Create the “Telemetry card” object on the base of the “Computer” object or select the relevant object on the «Hardware” tab in the “System Settings” dialog box (Figure 8.5-5).

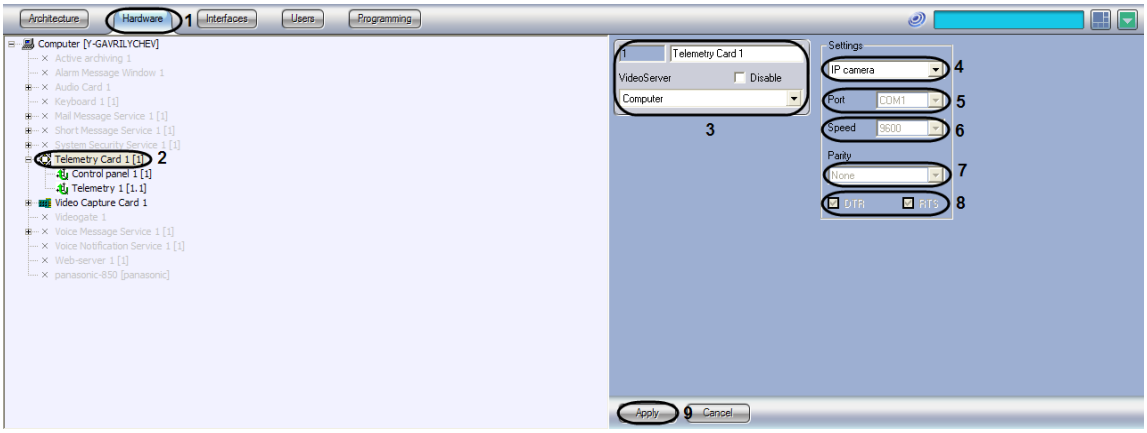


Figure 8.5-5. Settings panel of the “Telemetry card” object

3. Enter the ID, the name of the “Telemetry card” object and select, to which videoserver COM port the PTZ unit should be connected.
4. Choose the data exchange protocol from the list. The Data exchange protocol names in this list correspond to the PTZ types.
5. Select the COM port number from the “Port” list.

6. Change the data exchange rate (see Speed) if necessary.

Note. Note, that the data exchange rate is specified by the PTZ manufacturer. The speed of data exchange with the PTZ unit via the COM port must correspond to the speed, specified by the manufacturer.

Note. If you need to change the COM port settings,also change the relevant COM port settings in the Windows OS (for instructions on COM port setup in the Windows OS see Appendix 4).

7. Change the parity check settings for data exchange, if necessary.

8. If PTZ units are passive (i.e. with no independent power supply), the power supply of the PTZ units must be activated via the COM port DTR or RTS outputs by setting the «DTR» or «RTS» check.

9. Click the “Apply” button to save the changes.

8.5.3.3 *PTZ setup in the INTELLECT™ software system*

The number of PTZ units, connected to the videoserver, is stated in the key file, supplied together with the INTELLECT™ software distribution kit.

Any PTZ unit has the corresponding “Telemetry” object in the INTELLECT™ software. The “Telemetry” object is a daughter object relative to the “Telemetry card” object.

Setup of PTZ units involves selection of a camera, equipped with a PTZ unit, and setting of PTZ hardware addresses.

The setup of several PTZ units is performed in turn.

Follow the steps to set up a PTZ unit:

1. Go to the «Hardware” tabin the INTELLECT™ software settings.

2. Create the “Telemetry” object on the base of the “Telemetry card” object or select the relevant object in the objects tree on the «Hardware” tab in the “System Settings” dialog box (Figure 8.5-6).

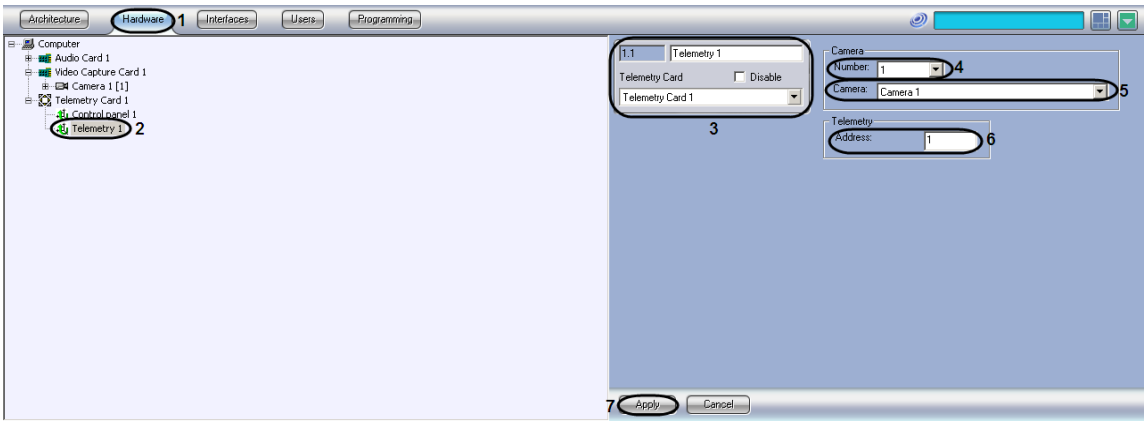


Figure 8.5-6. Settings panel of the “Telemetry” object

3. Enter the ID, the name of the “Telemetry” object and select the “Telemetry card” object, to which the PTZ unit will be connected.

4. Choose the ID of the video camera, equipped with a PTZ unit.

5. Choose the name of the video camera, equipped with a PTZ unit.

Note. Enter either the video camera ID or its name.

6. Enter the hardware address for the PTZ unit in the “Address” field. The PTZ hardware address corresponds to the address, set on the PTZ device with the help of bridges (jumpers) or configured while programming the PTZ in the the supplied software.

7. Click the “Apply” button to save the changes.

8.5.4 Setup of the PTZ unit control panel

The Telemetry control panel is used to operate PTZ units. The “Telemetry control panel” hardware device is registered in the INTELLECT™ software with the use of “Control panel” system object.

To register and set up the “Control panel” object, follow the steps:

1. Go to the «Hardware” tab in the “System Settings” dialog box.

2. Create the “Control panel” system object on the base of the “Telemetry card” object or select the relevant object on the «Hardware” tab in the “System Settings” dialog box (Figure 8.5-7).

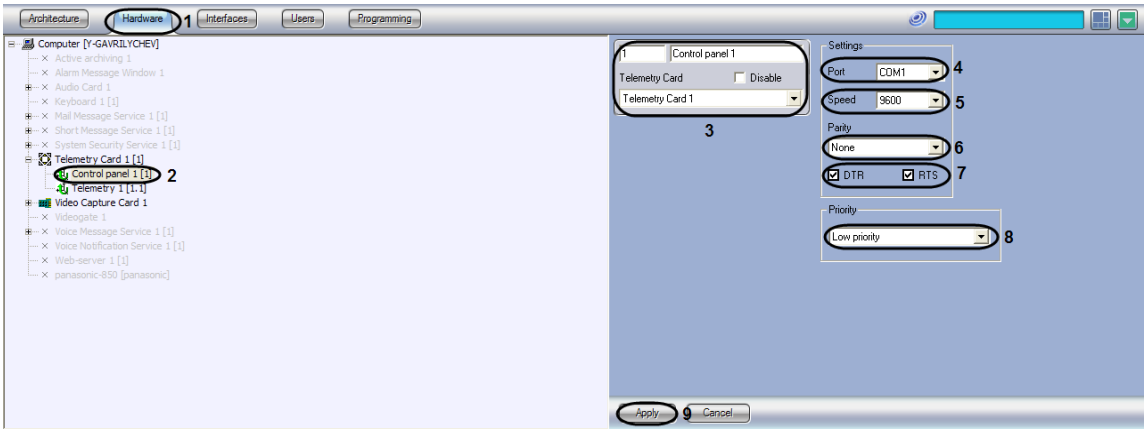


Figure 8.5-7. Settings panel of the “Control panel” object

3. To create the “Telemetry” object, enter its ID, name and select the “Telemetry card” object, to which the PTZ unit is connected.

4. Select the COM port number from the “Port” list.

NOTE. The Control panel and PTZ unit are connected to different COM ports. Hence, in the settings panel of the parent (for the “Control panel” object) “Telemetry card” object, a different COM port number must be entered.

5. Enter the speed of data exchange between the computer and the “Telemetry control panel” device, if necessary.

6. Enter the parity check settings for data exchange, if necessary.

7. If the “Telemetry control panel” device is passive (with no independent power supply), the power supply should be activated via COM port DTR or RTS outputs. To do so, set the «DTR» or «RTS» checkmark.

Note A. The COM port speed and parity settings of the parent “Telemetry card” object do not relate to the similar settings of the “Control panel” object, as they refer to another COM port.

Note B. The “Speed” and “Parity” settings must correspond to the COM port settings in the Windows OS (Appendix 4).

8. To change the PTZ control priority for the “Telemetry control panel” device, select the relevant item from the “Priority” list.

9. Click the “Apply” button to save the changes.

8.5.5 Pan-tilt IP-cameras setup

The pan-tilt IP-cameras setup routine differs from that of other PTZ units.

Pan-tilt IP-cameras are linked via the local net with the TCP/IP transport protocol. Every pan-tilt IP-camera uses a common communications protocol.

Follow the steps to set up the “Telemetry card” object with an IP-camera connected:

1. Go to the Equipment” tab in the “System Setup” dialog box.

2. Create the “Telemetry card” object on the base of the“Computer” object or select the relevant object on the «Hardware” tab in the “System Settings” dialog box (Figure 8.5-8).

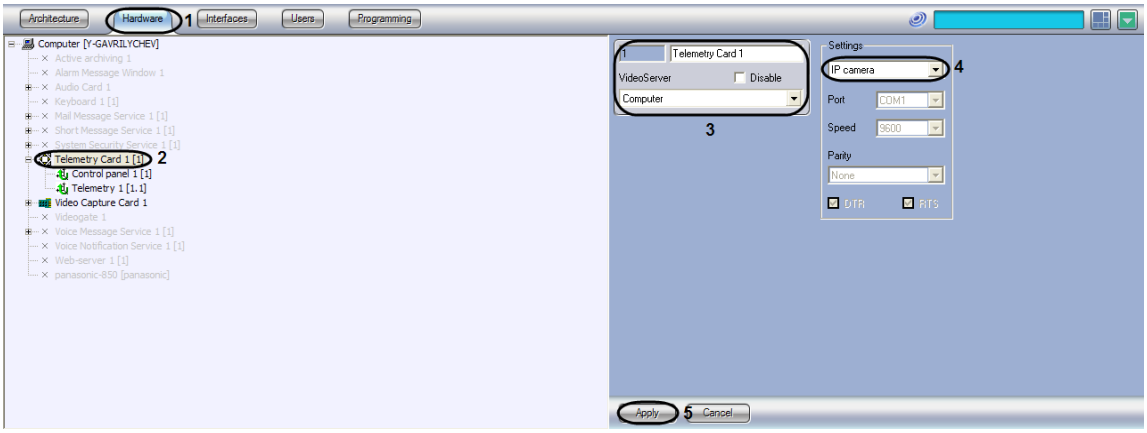


Figure 8.5-8. Settings panel of the “Telemetry card” object for pan-tilt IP-camera setup

3. Enter the ID, the name of the “Telemetry card” object and select the videoserver connected via the COM port with the PTZ unit.

4. Choose the data exchange protocol from the list. To use TCP/IP communication for data exchange with a pan-tilt IP-camera, select “IP camera” for the protocol.

Note. When the “IP-camera” item was selected in the “Telemetry card” object “Settings” panel, the other settings cannot be changed.

5. Click the “Apply” button to save the changes.

Note. The “Telemetry” object setup routine or control of pan-tilt IP-cameras is the same as for PTZ units control, when they are connected via the videoserver COM port.

8.5.6 Telemetry panel setup

The telemetry panel is an interface object, used to control PTZ units. The telemetry panel interface is the same for any PTZ unit.

To create and set up the Telemetry panel, follow the steps:

1. Go to the “Interfaces” tab in the “System Setup” dialog box.
2. Create the “Telemetry panel” object on the base of the “Screen” object or select the relevant object on the “Interfaces” tab in the “System Setup” dialog box (Figure 8.5-9).

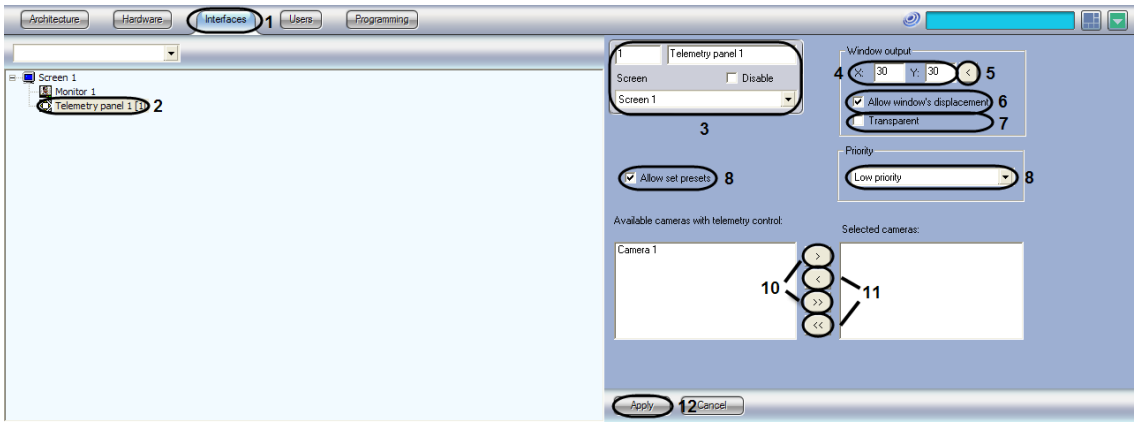


Figure 8.5-9. Telemetry panel setup

3. Enter the object ID, the name and select the “Screen” object to be the base for creation of the “Telemetry panel” object.
4. Change the “X” and “Y” coordinates of the telemetry panel window position on the screen in the relevant fields. The “X” and “Y” settings correspond to the screen coordinates of the top left corner of the telemetry panel, and are measured as a percentage of the horizontal and vertical screen sizes correspondingly.
5. Enter the “X” and “Y” coordinates of the telemetry panel position on the screen, if necessary.
6. By default, the telemetry panel can be dragged over the screen. To fix the telemetry panel position, remove the “Allow window’s displacement” checkmark.
7. By default, the telemetry panel is opaque. To display interface objects on the same screen with the telemetry panel, set the “Transparent” checkmark.
8. To change the PTZ control priority for the “Telemetry panel” window, select the relevant item from the “Priority” list.
9. By default, the Operator is allowed to save the PTZ unit presets (presets of the camera position). To save presets, use the digital buttons on the “Presets” panel. To forbid the saving of presets, remove the “Allow set presets” checkmark.

10. Move the names of the cameras, equipped with PTZ units, to the “Selected cameras” list. (These cameras will be controlled by the “Telemetry panel”). You can move the selected cameras in turn, if you click the one-arrow button, or move all cameras, if you click the two-arrow button.

11. Move the camera names from the “Selected cameras” list to the “Available cameras with telemetry control” list (These cameras will be unavailable for the “Telemetry panel”). To move the selected cameras in turn, click the one-arrow button; to move all cameras , click the two-arrow button.

12. Click the “Apply” button to save the changes.

8.5.7 Creation and setup of the Operator dialog box for telemetry control

INTELLECT™ software provides the PTZ control option with the help of the “User dialog box” interface object. The “User dialog box” interface object is a separate user dialog box with the relevant controls for a certain PTZ unit type control.

The unique control panel is designed by the PTZ unit manufacturer and is supplied together with the PTZ software. The files of the unique PTZ unit control panels are stored in the Program folder of the INTELLECT™ software installation directory.

To create and set up the Operator dialog box, follow the steps:

1. Open the “Programming” tab in the “System Setup” dialog box of the INTELLECT™ software.

Create a “Macro” object on the “Programming” tab on the base of the “Macro” object. Enter the object ID and name (Figure 8.5-10).

Note. The “Macro” object is necessary to refer to the INTELLECT™ software core and to display the “Operator dialog box” interface on the screen.

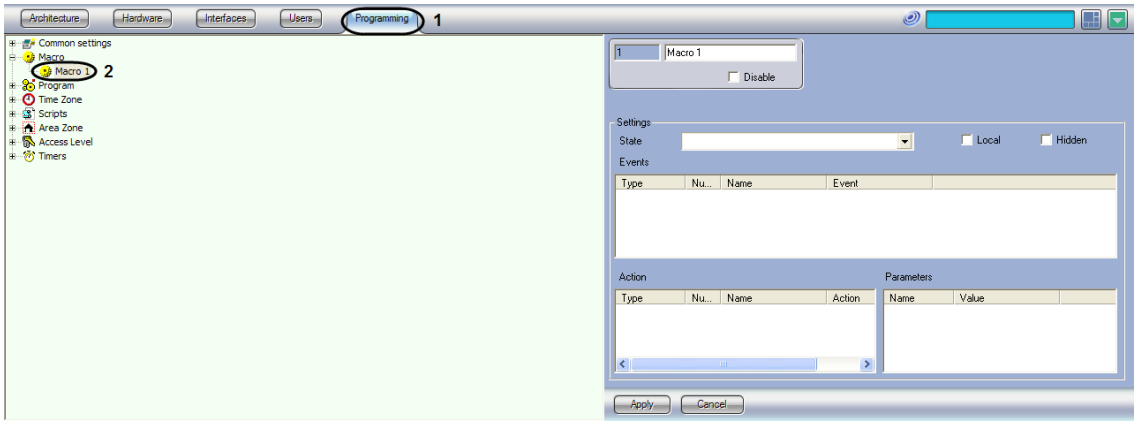


Figure 8.5-10. Settings panel of the “Macro” object

2. Open the «Hardware” tab in the “System Settings” dialog box of the INTELLECT™ software.

3. Create the “Operator dialog box” object on the «Hardware” tabon the base of the “Computer” object (Figure 8.5-11).

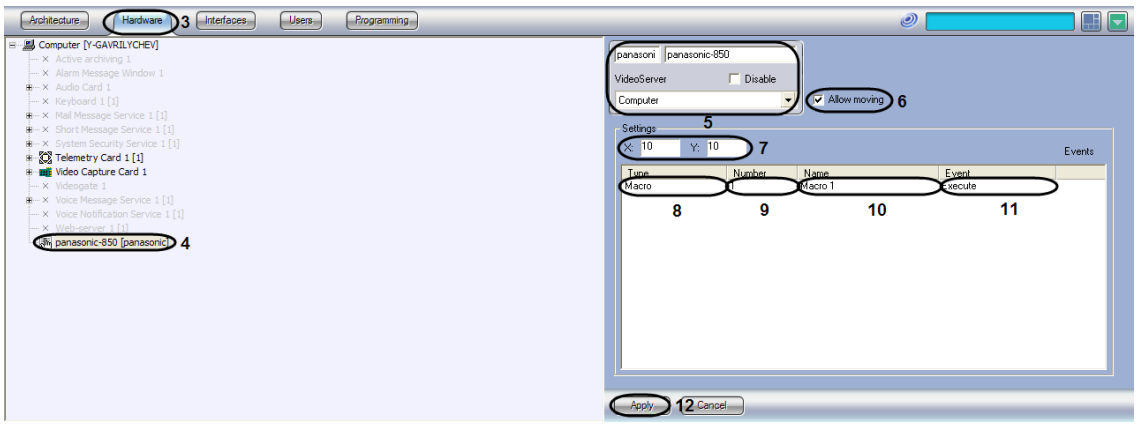


Figure 8.5-11. Settings panel of the “Operator dialog box” object

4. Enter the file name (without extension) of the dialog box, used for PTZ unit control, in the ID field. The necessary files are stored in the «program» folder of the INTELLECT™ software installation directory (Figure 8.5-12).

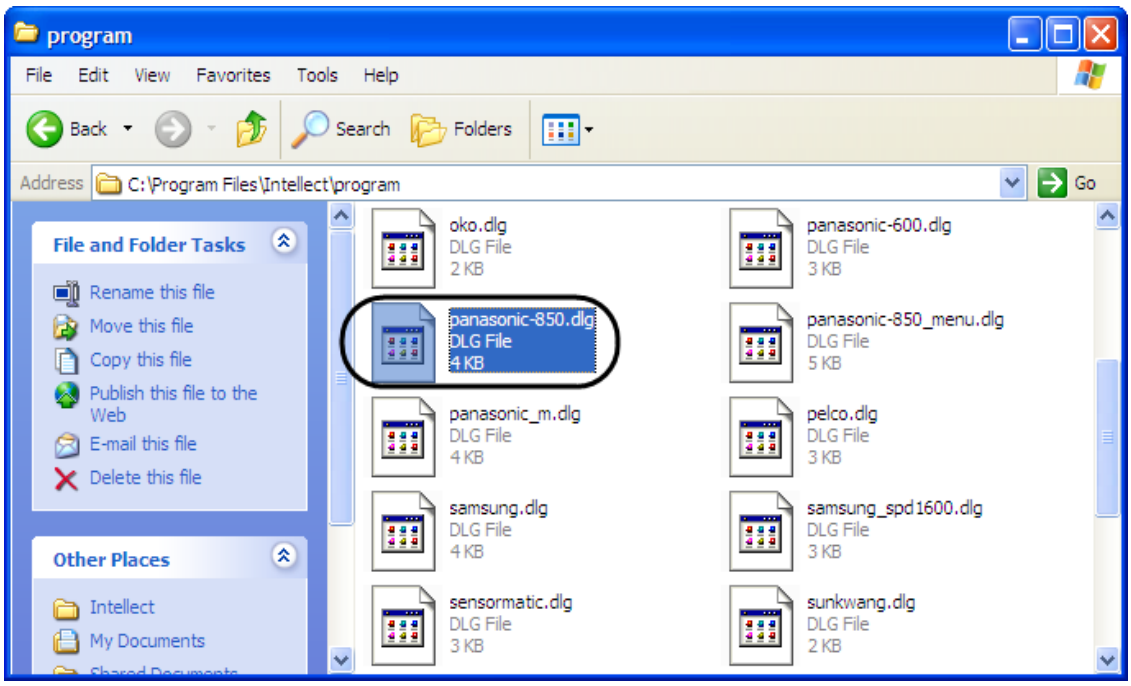


Figure 8.5-12. The «Program» folder of the INTELLECT™ software installation directory

5. To activate the dragging option for the “Operator dialog box” object, set the “Allow moving” checkmark.

6. Enter the “X” and “Y” coordinates of the Operator dialog box position on the screen in the relevant fields. The “X” and “Y” settings correspond to the screen coordinates of the top left corner of the Operator dialog box and are measured measured as a percentage of the horizontal and vertical screen sizes correspondingly.

7. Select the type of “Macro” objects from the objects and events list.

8. Enter the ID of the “Macro” object, created to call up the Operator dialog box.

9. In this column (№ 10 in Figure 8.5-11) the name of the selected “Macro” object is automatically displayed.

10. Choose the «Execute» item from the “Event” list.

11. Click the “Apply” button to save the changes.

8.5.8 Video monitor setup for PTZ unit control

INTELLECT™ software has facilities to control PTZ units via monitor windows, which correspond to the cameras with PTZ units. In this case the PTZ unit is controlled by the mouse via video surveillance windows of the pan-tilt cameras.

PTZ control function via the video surveillance windows , corresponding to the cameras with PTZ units, is always activated and can’t be disabled. To access PTZ control via the video surveillance window, follow the steps:

1. On condition that the equipment is functional, set up the “Telemetry” object, related to the selected PTZ unit.

2. Select the PTZ control priority for the video surveillance window in the “Monitor” settings.

That is the end of the setup procedure for the video surveillance window.

8.5.9 Joystick setup for PTZ control

8.5.9.1 *Joystick setup sequence*

If the joystick is connected to the videoserver and is set up, INTELLECT™ software automatically activates the joystick PTZ control option. The option is valid for any PTZ unit, connected to the videoserver and adapted to INTELLECT™ software.

Follow the steps to set up the joystick:

1. Check the joystick handle functionality in the INTELLECT™ system. For a detailed description see the “Joystick test” section.

2. Set up issuing the commands to PTZ units by joystick buttons. For setup instructions see the “Assignment of the commands to joystick push-buttons for PTZ control” section.

3. Check the joystick push-buttons functionality in the INTELLECT™ system. The procedure is similar to the joystick handle test. For a detailed description see the “Joystick test” section.

The following functions are activated by default and requires no additional settings:

1. The rotating function of cameras , equipped with PTZ units, is realized by inclination of joystick handle;

   Note.Joystick threshold corresponds to the line parameter Joystic Threshold and is set at the OS Windows register HKLM\SOFTWARE\ITV\Intellect\Telemetry. By default Joystic Threshold=1, the value of this parameter may be varied from 0 inclusive. The more the value, the less sensitive the joystick is.

2. The image shrinkage function from cameras is realized by turning the joystick handle around its vertical axis.

The image shrinkage function is available only for joysticks with Z axis, as for exampleAxis 295. This axis is formed by joystick handle's angles of rotation.

Z axis isactivated by default and that corresponds to parameter value Zenable=1 in the register section OS Windows HKLM\SOFTWARE\ITV\INTELLECT\Telemetry.

Note! Coordinate at joystick's Z axis should be automatically zeroized after every image shrinkage operation for correct control of PTZ units. Otherwise Z axis should be disconnected by setting Zenable=0 parameter in the section HKLM\SOFTWARE\ITV\INTELLECT\Telemetry.

Note. Disconnecting Z axis is necessary to be carried out by USB joystick Logitech.

8.5.9.2 *Joystick test*

Before you set up and use joystick to control PTZ units, check its functionality in the INTELLECT™ system.

To check the joystick functionality in the INTELLECT™ system, follow the steps:

1. Make sure that the PTZ units are connected, adjusted and function properly in the INTELLECT™ system.
2. Display the video surveillance monitor window on the screen.
3. Check, if the surveillance window of the PTZ equipped camera is displayed on the monitor. If not, change the video surveillance windows layout.
4. Activate the selected camera surveillance window by left clicking it.
5. Display the telemetry module debug window. To display the telemetry module debug window, left double click the window icon in the notification zone of the Windows OS menu (Figure 8.5-13).



Figure 8.5-13. Telemetry module debug window icon

6. As a result the telemetry module debug window is displayed (Figure 8.5-14).

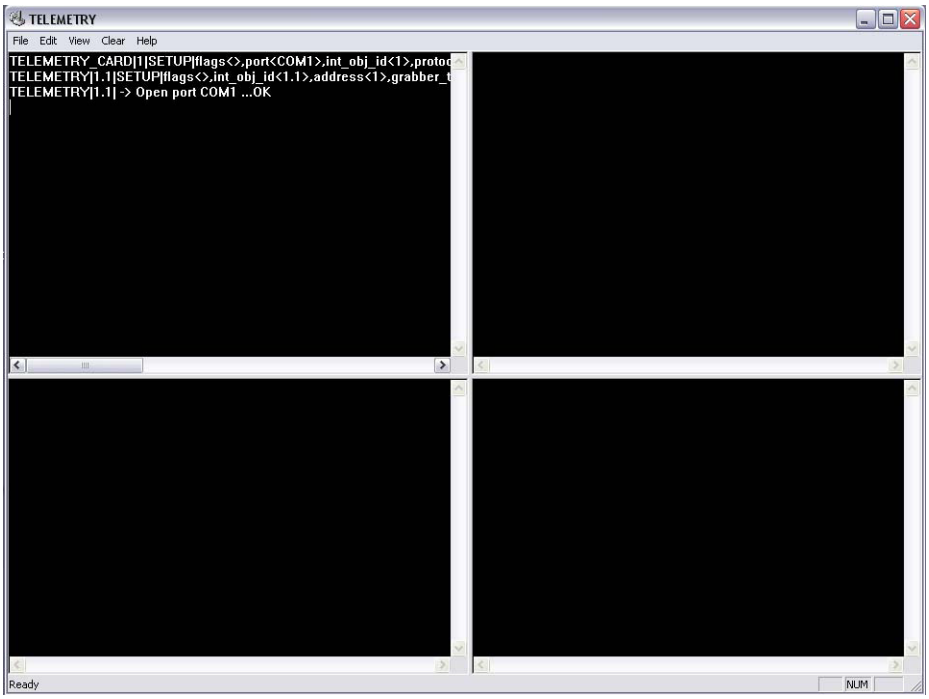


Figure 8.5-14. Telemetry module debug window

7. To test the stick, rotate it in different directions.

8. To check the joystick push-buttons functionality, click them in turn.

9. If the joystick functions properly, the relevant commands are displayed in the debug window.

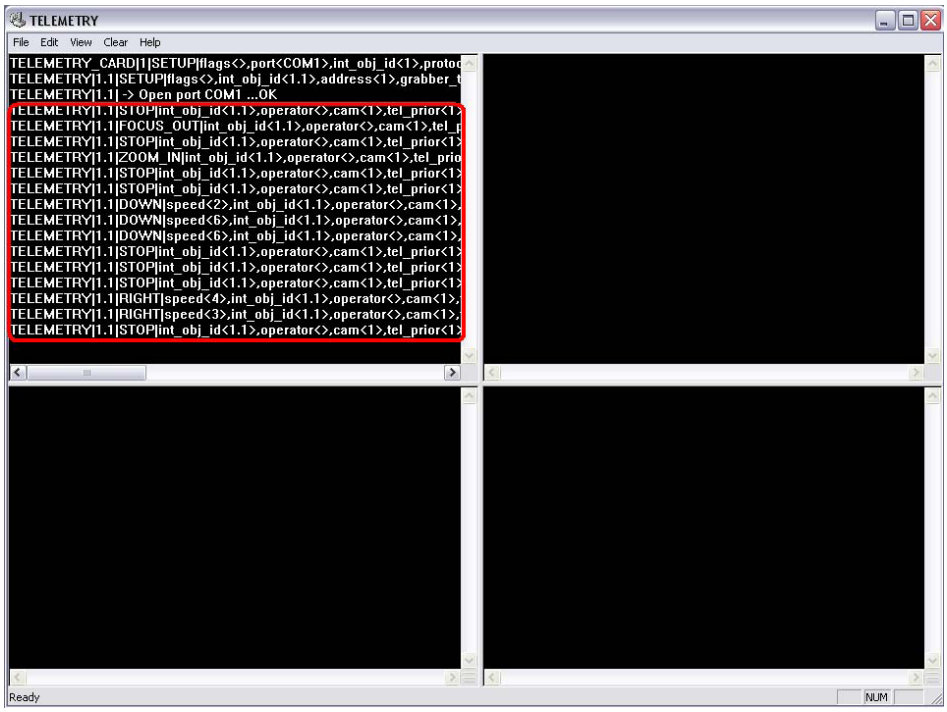


Figure 8.5-15. Telemetry module debug window after the joystick commands execution

10. If there are no commands in the debug windows, the joystick won't function in the INTELLECT™ system. Check its connection to the computer and its data exchange driver settings in the Windows OS.

The joystick functionality test is completed.

8.5.9.3 *Assignment of the commands to joystick push-buttons for PTZ control*

Certain commands are assigned to the joystick push-buttons with the aim to promote the issuing of commands to PTZ units by joystick buttons.

To assign the commands to joystick push-buttons, the Windows OS registry is edited.

For detailed information on operation of the Windows OS registry see Appendix 4.

To assign the commands to the joystick push-buttons in the Windows OS registry, follow the steps:

1. Open the “TELEMETRY” folder of the registry “HKEY_LOCAL_MACHINE ⇨ SOFTWARE ⇨ ITV ⇨ Intellect” branch.

2. Add the string parameter to the “TELEMETRY” folder.

3. Assign to the string parameter the name, which is identical to the number of the joystick push-button in the Windows OS (Figure 8.5-16).

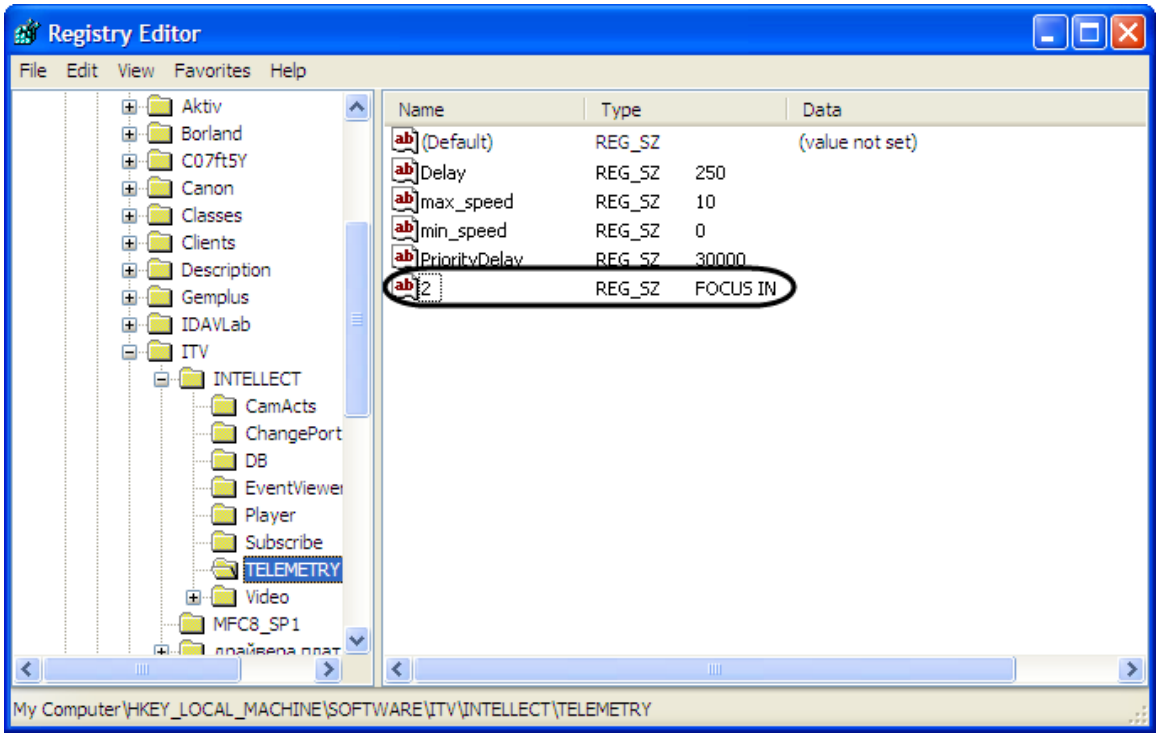


Figure 8.5-16. An example of editing the Windows OS registry for assignment of the commands to joystick push-buttons

Note.To define the numbers of the joystick push-buttons in the Windows OS, use the “Game devices” application. For more information how to use this application for defining the numbers of the joystick push-buttons in the Windows OS see the “Joystick connection and test” section.

4. Assign to the string parameter the value, identical to the name of the command, executed by the PTZ unit in INTELLECT™ software (the value is to be entered in the higher register). Available commands in the INTELLECT™ software are listed in Table 8.5-1.

Table 8.5-1

Item	Command
AUTOFOCUS _ON	Activate the auto focusing option
AUTOPAN _END _P	Set the auto rotation endpoint
AUTOPAN_ START	Start auto rotation
AUTOPAN _START _P	Set the auto rotation start point
AUTOPAN _STOP	Stop auto rotation
CLEAR_ PRESET	Clear the selected preset.
D2OFF	Disable additional dynamic settings for Panasonic pan-tilt cameras for improvement of the analog video signal
D2ON	Enable additional dynamic settings for Panasonic pan-tilt cameras for better analog video signal
DOWN	Move camera lens down.
FOCUS _IN	Zoom in on the image.
FOCUS_ OUT	Zoom out on the image.
FOCUS_ STOP	Stop zoom in/zoom out.
GO_PRESET.N	Rotate the camera into the preset position, set in N preset.
HOME	Rotate the camera into the home position.
IRIS_ CLOSE	Close the aperture
IRIS _OPEN	Open the aperture
IRIS _STOP	Stop the aperture
LEFT	Move camera lens to the left.
LEFT_DOWN	Move camera lens left and down.
LEFT_UP	Move camera lens left and up.
PATROL_LEARN	Begin the patrol programming procedure by recording the camera behavior.
PATROL_PLAY	Start patrolling.
PATROL_STOP	Stop patrolling.
RIGHT	Move camera lens right.
RIGHT_DOWN	Move camera lens right and down.
RIGHT_UP	Move camera lens right and up.
SET_PRESET	Save the current camera position into the preset.

STOP	Stop camera lens rotation.
UP	Move camera lens up.

5. Repeat 2-4 steps for each joystick push-button.

Setup of joystick push-buttons is completed.

8.6 Audio subsystem setup

8.6.1 General information on audio subsystem setup

8.6.1.1 *Description of audio subsystem components*

In the video surveillance systems, based on INTELLECT™ software, the audio subsystem contains software modules and hardware devices, used to receive, transmit, digitize, process, record and play back audio signals from video surveillance and audio monitoring system microphones.

Audio subsystem hardware includes optionally:

1. video capture cards;
2. standard soundcards;
3. multi-channel soundcards;
4. audio capture IP-devices;
5. microphones;
6. loudspeakers and headphones.

Audio subsystem software includes:

1. components for configuring the audio signal digitizing devices;
2. components for recording digital audio signals;
3. components for transmitting digital audio signals to Remote Workplaces and remote servers;
4. components for digital audio signals playback.

8.6.1.2 *Audio digitizing devices*

Audio capture and digitizing devices are used to receive and process analog audio signals from connected microphones.

To enter and digitize an audio signal, the servers, created in the INTELLECT™ software, use:

1. video capture cards;
2. standard soundcards;
3. multi-channel soundcards;
4. IP-devices.

8.6.1.2.1 Video capture cards

Video capture cards, used as audio capture devices, support reception and digitization of audio signals. Video capture cards don't support audio signal output to headphones and loudspeakers.

Video capture cards digitize audio signals in conjunction with processing and digitization of video signals. Audio and video signals are processed independently.

The facility to receive and digitize audio signals depends on the server hard- and software configuration, on the type of video capture cards and the key file parameters.

8.6.1.2.2 Standard soundcards, microphones, loudspeakers and headphones

Standard soundcards are used for audio capture and audio output devices. They receive and digitize audio signals, reconvert digitized audio signals and feed them to the loudspeakers and headphones.

INTELLECT™ software system supports the audio signal sample rate range, corresponding to the standard soundcard and restricted to a 48 kHz frequency.

Usually up to 2 microphones and 1 headphone are used with a standard soundcard.

8.6.1.2.3 Multichannel audio capture devices

Multichannel audio capture devices are PCI cards (for example, MidiMan Delta, Comart Hera, Olkha 9P) or outer hardware and software modules (for example, Эхолот USB-32), used for digitization and processing of 2 or more audio signals. For the list and features of INTELLECT™ software compatible multichannel audio capture devices, see the "Integration" Section on the ITV company site: http://www.itv.ru/products/integration/.

Multichannel audio capture devices reproduce sound and digitize audio signals in parallel, or sound is reproduced by the standard sound cards. The Audio signal sample rate range depends on the audio capture device type. The INTELLECT™ software system sample rate range, available to the installed card, is restricted to a 48 kHz maximum value.

8.6.1.2.4 IP-devices

The INTELLECT™ software system supports audio signals reception, digitization, processing and playback using audio capture IP-devices. IP-cameras and IP-servers' built-in microphones or the external analog microphones, connected to IP-devices, may be used for receipt, digitization and processing of audio signals. Outer loudspeakers or headphones, connected to IP-servers may be IP-devices used for playback of audio signals. For the list of INTELLECT™ software compatible IP-devices for audio signals reception, digitization, processing and playback see the "Integration" Section on the ITV company site: http://www.itv.ru/products/integration/.

The audio signal sample rate range depends on the IP-device type, which is used as the audio capture device. The sample rate range, available to the installed card, is restricted to a 48 kHz maximum value.

8.6.1.3 *Configuring the digitization devices for audio signals*

Audio capture and digitizing devices are configured via the "System Setup" dialog box.

Audio capture and digitizing devices are configured by setting the audio signal sample rate and sound volume.

The sample rate is the same for all audio signals, processed by a common device; it can't be individually set for every audio signal.

Volume is adjusted after the audio signal has been digitized by the audio capture device. With INTELLECT™ software you can restrict volume to a certain value or switch on the automatic gain control (AGC). This levels out the sound volume across the range to a constant level.

8.6.1.4 *Digitized audio signal recording*

Audio signals archiving provides post-event analysis of evidence footage.

Audio recording can be performed:

1. As an audio and video synchro recording;
2. Independently, by Operator command.
3. As a sound activated audio recording.

In synchro recording mode, audio recordings are combined with video recordings; they are stored in the videoserver archive.

When audio signals are recorded by Operator command or by sound activation, audio recordings are separately stored in the audio archive.

Once the archive disk(s) is full, the archive is overwritten.

8.6.1.5 *Digital audio signal transmission to Remote Workstations and servers*

INTELLECT™ software enables to transmit audio signals to Remote Workstations on IBM PC's, connected to the videoserver via local TCP/IP net, and to remote servers.

INTELLECT™ software doesn't support audio signal transmission to Remote Workplaces on the base of the web-server, PocketPC or SmartPhone.

Both real-time and archive audio signals may be transmitted to Remote Workstations.

8.6.1.6 *Audio signal playback*

Audio signal playback is performed on Remote Workplaces with the use of the "Video surveillance monitor" or "Audio player" interface objects.

Realtime audio monitoring and synchro audio and video playback is performed by the video monitor. Nonsynchronous audio recording cannot be replayed by the video monitor.

The Audio player allows to playback audio signals from microphones, and to replay audio recordings. Audio recordings, synchronous to video recordings, cannot be replayed by the Audio player.

A standard soundcard installed on a Remote Workstation or remote server and configured by INTELLECT software, with microphones or loudspeakers attached to its output, is necessary to play back audio signals.

8.6.2 Registration of audio capture cards and microphones in the INTELLECT™ software

Audio capture cards are registered in the INTELLECT™ software by creating and setting up "Audio card" objects. "Audio card" objects are created on the «Hardware" tabon the base of the "Computer" objects.

The Audio capture card registration sequence depends on the type and number of devices used. The registration sequence of different types of audio cards is described in the relevant sections.

An example of the FS-5 card registration as an audio capture device is shown in Figure 8.6-1.

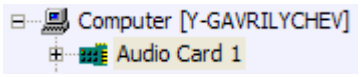


Figure 8.6-1. Example of FS-5 video capture card registration as an audio capture device

Microphones are registered in the INTELLECT™ software by creating the objects of the same name and by assigning numbers to the channels to connect them to the audio capture devices. “Microphone” objects are created on the «Hardware” tabon the base of the relevant “Audio Card” objects. The registration sequence of microphones depends on the type and number of audio capture cards used, and on the allowable configuration prescribed in the key file. An example of the «Hardware” tabobjects tree after two microphones, connected to an FS-5 card, were registered, is shown in Figure 8.6-2.



Figure 8.6-2. Anexample of registration of 2 microphones, connected to an FS-5 card

8.6.3 Setup of audio signals digitization and processing

8.6.3.1 *Audio signals sample rate settings*

The signal sample rate affects the quality of the audio signal and audio recording size. The higher the audio signal sample rate, the higher the signal quality and, hence, the efficiency of real-time and post-event analysis. When the audio signal sample rate increases, the size of the audio stream, transmitted by the network to Remote Workplaces and recorded to the disk, increases. These factors should be considered while choosing the sample rate of the audio signals.

The audio signal sample rate range depends on the audio capture device type. In INTELLECT™ software the upper threshold value of the sample rate range is 48 kHz.

By default, the audio signals sample rate is set to the minimum value. The sample rate is set for each audio capture device individually and covers any microphone, connected to it. Different sample rate settings for different microphones, connected to the same audio capture device, are unavailable.

To change the audio signal sample rate, follow the steps:

1. Go to the «Hardware” tab in the “System Settings” dialog box.
2. Select the relevant “Audio Card” object, created before, on the «Hardware” tabin the objects tree. The Settings panel of the selected object appears in the right part of the «Hardware” tab(Figure 8.6-3).

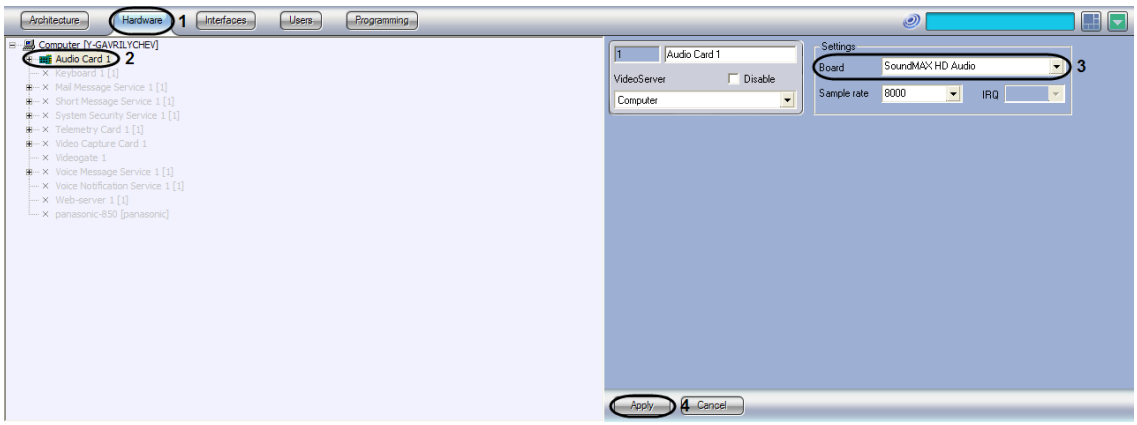


Figure 8.6-3. Audio signals sample rate settings

3. From the “Sample rate” list select the required sample rate of the audio signals.

4. Click the “Apply” button.

Audio signals sample rate settings for the audio card are completed.

8.6.3.2 *Set up of audio signal volume amplification*

It is possible to amplify incoming audio signals with the help of software.

Note. If the signal power varies during the audio session, it is necessary to increase the audio signal power by a constant value and to use Automatic Gain Control (AGC).

To amplify audio signal do the following:

1. Go to the Settings panel of the Microphone system object (Figure 8.6-4).

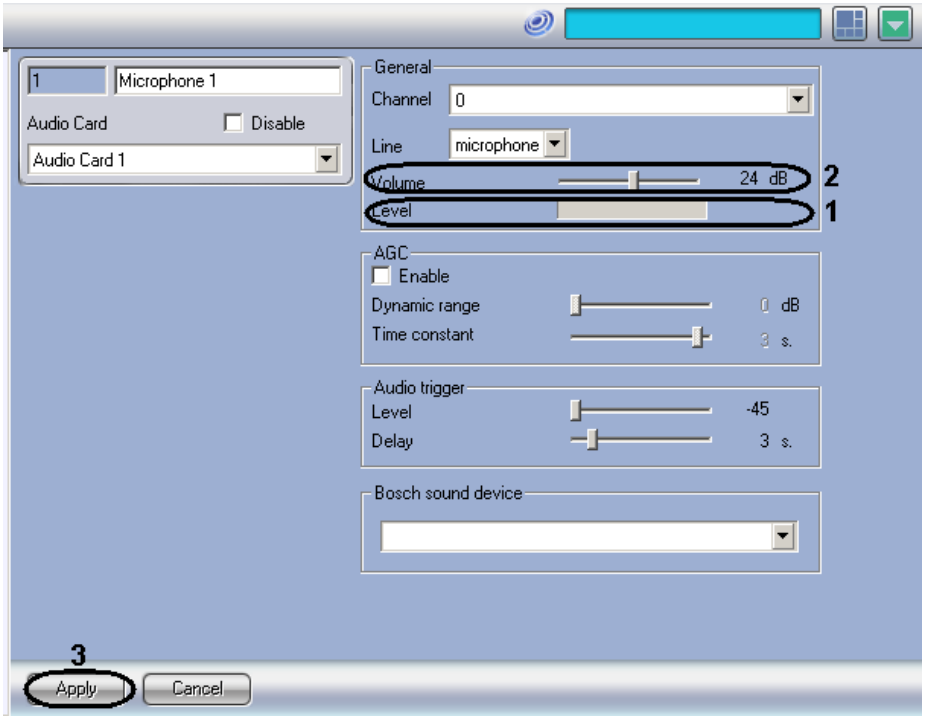


Figure 8.6-4. Set up of audio signal volume amplification

2. Feed the audio signal with to the microphone. Power level of incoming signal will be displayed on the indicator Level (Figure 8.6-4, 1).

3. When necessary set the slider Volume to the position, corresponding to the required value of amplification (Figure 8.6-4, 2).The current value in dB is shown in the right field next to the slider.

4. Repeat steps 2 and 3 for the required power level of audio signal.

5. Press Apply button to save all the changes (Figure 8.6-4, 3).

Set of audio signal volume amplification is completed.

8.6.3.3 *Setting up the Automatic Gain Control for sound cards of Olha line*

Automatic Gain Control (AGC) is designed to make the audio signal volume constant. AGC mechanism should be set only with the use of sound cards of Olha line : Olha-9P, Olha-10LP, Olha-12U, Olha-14.

It is recommended to use AGC when input audio signal power is unsteady or when the power of the sound signals, coming from different sources and forming the joint audio signal, differs significantly. AGC levels out the power levels of audio signal components from different sources.

INTELLECT™ software has an AGC adjust option. AGC has two adjustable parameters: a target power level, to which AGC brings different audio signals, and the adjustment time of bringing the signal to the target power level. The second parameter has certain restrictions: the less time it takes to bring the signal to a certain power level, the lower the quality of AGC operation, which may result in greater power level jumps in the processed signal. However a longer adjustment time lengthens the areas where the power of the processed audio signal builds up and decreases. So, processing may bring sizable distortions into the audio signal. Hence, AGC settings depend substantially on the conditions of audio signal formation, and when these conditions have been changed, new AGC settings should be set.

AGC is independently applied to any audio signal from any microphone of the video surveillance and audio monitoring system.

By default, AGC is disabled. The AGC option is enabled for each microphone independently.

To set up the AGC follow the steps:

1. Go to the settings panel of Microphone system object (Figure 8.6-5).

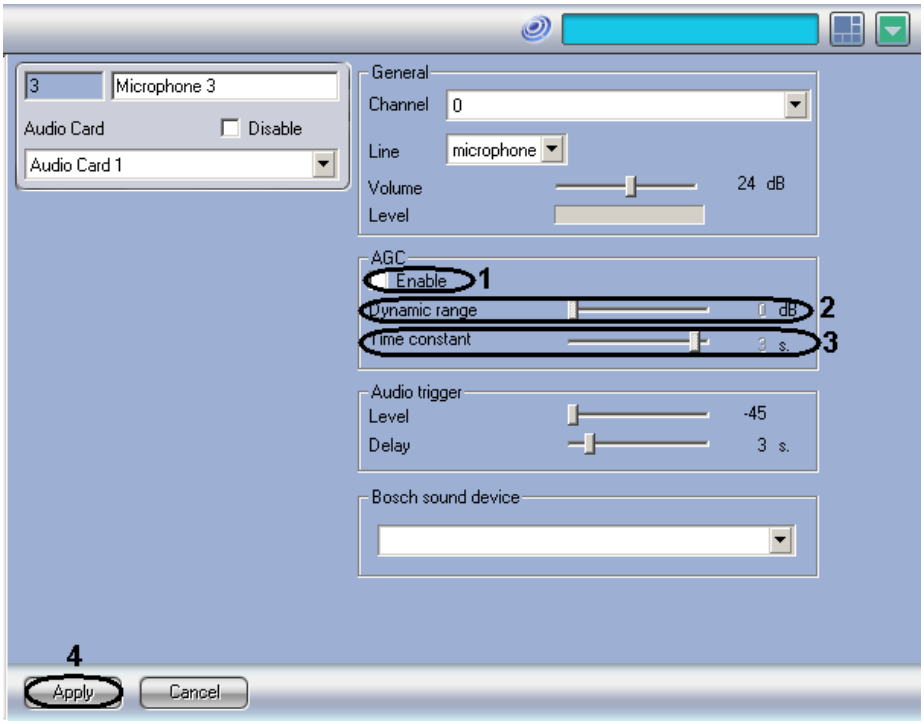


Figure 8.6-5. Setting up the automatic gain control of the audio signal

2. Set the “Enable” checkmark in the “AGC” group (Figure 8.6-5).
3. As a result, sliders in the “AGC” group Dinamic range and Time constant are activated (Figure 8.6-5, 3).
4. Set the “Dynamic range” slider to the position, corresponding to the desired level of video signal’s output power. The current power value, measured in decibels, is shown in the field on the right of the slider (Figure 8.6-5).
5. Set the “Time constant” slider to the position that corresponds to the time of bringing the signal to the defined power level (Figure 8.6-5). The value of the time constantin seconds, set by the slider, is displayed on the right of it.
6. Click the “Apply” button to save all the changes (Figure 8.6-5).
7. It is recommended to check AGC correctness after the settings were made. To do so, use one of the audio playback devices of the INTELLECT ™ software, for example, Audio player object. Audio player should be preset for audio signals playback.
8. If audio signal power is too high, move the “Dynamic range” slider some points to the left. If audio signal power is too low, move the “Dynamic range” slider some points to the right.
9. If increasing and decreasing of audio signal power is perceptible, move the “Time constant” slider some points to the left. If significant jumps in audio signal power are perceptible, move the “Time constant” slider some points to the right.
10. When necessary repeat 7-10 steps. If AGCis set up correctly, finish AGC setting up procedure.

AGC setting up is completed.

8.6.4 Setup of audio signals recording

8.6.4.1 *Audio signals recording modes*

Audio recording can be performed:

1. As audio and video synchro recording;
2. By sound activation, i.e. when input audio signal power exceeds a certain value.

In synchro recording mode audio and video signals' recording is initialized simultaneously (by Operator's command or by alarm).

Note. During post-alarm recording, no audio signal is recorded.

Audio and video signals' recording is stopped simultaneously. Audio recording shutdown may be caused by:

1. Video recording shutdown (by Operator command or by the end of alarm recording);
2. Post-alarm recording shutdown (if the relevant camera is configured to perform post-alarm recording).

In synchro recording mode, audio recordings are combined with video recordings; they are stored in the videoserver archive.

In sound activated recording mode, audio recording is initialized at the moment, when signal power exceeds a preset (threshold) value. Audio signal recording is shutdown at the moment, when signal power becomes lower than a preset value, that has been previously exceeded.

An audio recording file, created in sound activated recording mode, includes an audio signal segment from the start till the end of the recording. In sound activated recording mode, audio recording files are stored in a separate server archive (audio archive).

8.6.4.2 *Selecting the disks for audio archive storage*

INTELLECT™ software performs audio signal archiving to the local server disks only.

In synchro recording mode, audio recording files are stored together with video recordings in the "Video" folder(s). So, selecting the discs for audio recording storage in synchro recording mode is equivalent to selecting the discs for video recording storage. For description of the procedure, see the relevant section of this Guide. In sound activated recording mode, audio recording files are stored in the 'AUDIO" folder separately from the video archive.

By default, no HDD is listed for the sound activated audio recording storage, hence, sound activated recording is unavailable. To enable the sound activated recording, select one or more disks.

Disk(s) selection is done in one of the following ways:

1. Estimate the disk capacity, necessary for audio archive storage in the sound activated mode. The estimation technique is described in the relevant section of this Guide.
2. Go to the "Computer" object settings panel (Figure 8.6-6).

3. Select the “Computer” object on the “Hardware” tab in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.6-6,4).

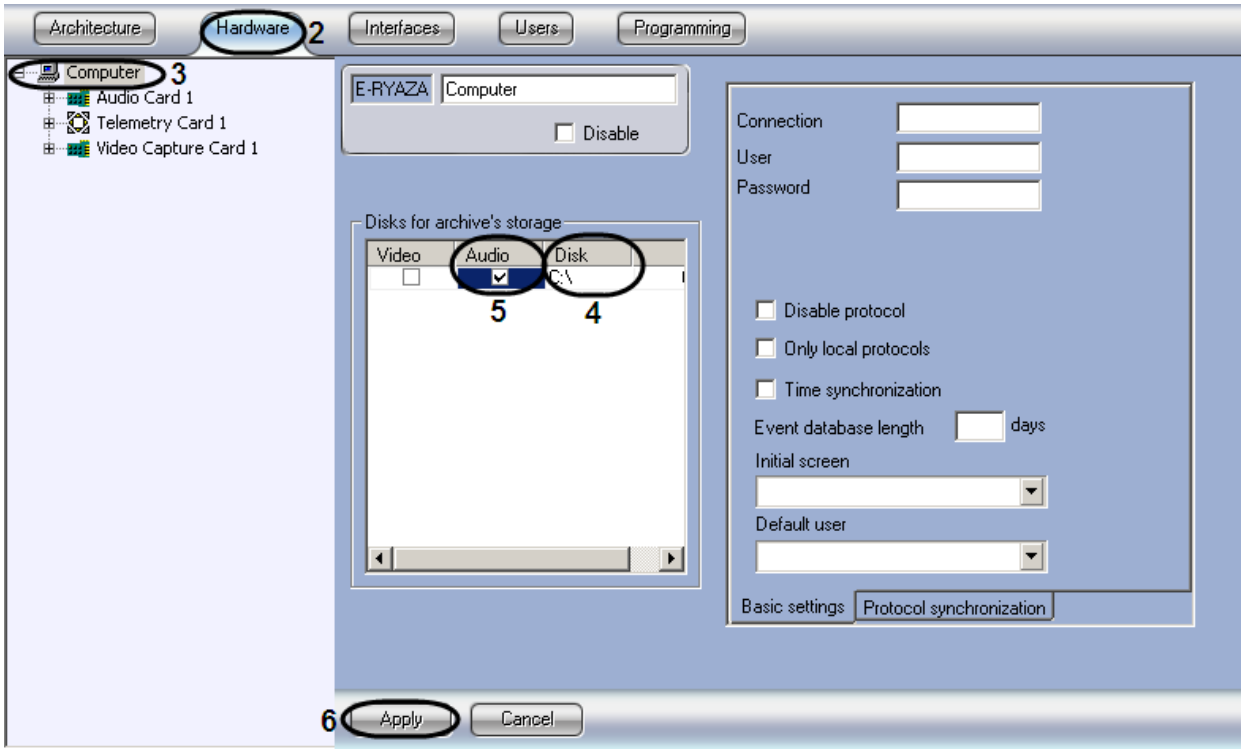


Figure 8.6-6. Selecting the discs for audio archive storage

4. The local disk names, available for audio archiving, are presented in the “Disk” column of the “Archive storage disks” table. The “GB” column contains the relevant disks’ capacities in gigabytes (GB). Select the disks for audio archiving and make sure that the total selected disk capacity is sufficient. Set the checkmarks in the “Audio” column for the selected disks’ names.

5. Click the “Apply” button(Figure 8.6-6,6).

Selecting the discs for audio archive storage is completed.

8.6.4.3 *Setup of sound activated recording*

The sound activated audio recording mode is the mode, in which audio signal recording starts at the moment, when signal power exceeds a preset level and is shutdown at the moment, when signal power becomes lower than the preset level that has been previously exceeded.

To set up the sound activated recording, INTELLECT™ software uses the settings:

1. “Level” - When audio signal power exceeds a threshold value (“Level” setting) during a preset interval (“Delay”), audio signal recording starts automatically(alarm’s registration).

1. The “Delay” setting defines the time interval, during which audio signal is prerecorded after the end of alarm.

Sound activated recording is adjusted separately and independently for any microphone. It is recommended to select the optimal settings by trial and error to avoid malfunction.

By default, sound activated audio signal recording is disabled.

Enabling and setting up the sound activated recording option for a selected microphone is done in the following way:

1. Select the disk(s) to store audio recordings in the sound activated mode (see. Selecting the discs for audio archive storage).
2. Set the Audio player object to operate with the selected microphones.
3. Go to the “Microphone” system object settings panel.
4. Set the slider «Audio trigger» to the position, corresponding to the required level of video signal.The current level in conventional units is displayed in the field on the right of the slider (Figure 8.6-7).

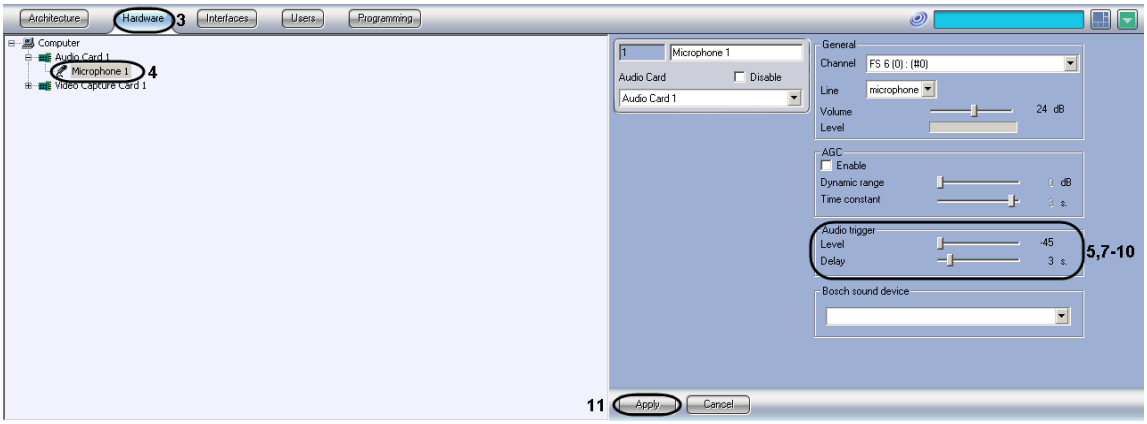


Figure 8.6-7. Setup of sound activated recording

5. Set the “Audio trigger” slider to the position, corresponding to the required delay time of audio signal after the end of alarm. The current delay time in sec is displayed in the field on the right of the slider.
6. Click the “Apply” button to save all the changes.
7. With the help of Audio player object check if the sound activated recording is initialized, when the sound signal of the required volume is fed to the microphone. If not, reduce the value of Level by moving the “Level” slider some points to the left (see 4-5 steps).
8. With the help of Audio player object check, if the sound activated recording is initialized, when the sound signal of lower volume, is fed to the microphone. If yes, move the “Level” slider some points to the right (see 4-5 steps) to increase the setting value.
9. Repeat steps 7-9. If the sound activated recording is properly set up, complete the set up procedure.

Setup of sound activated recording of audio signal is completed.

8.6.4.4 *Setup of audio and video synchro recording*

Audio and video synchro recording is applied to enable post-event analysis of evidence footage, retrieved simultaneously from video surveillance system microphones and cameras. In this mode audio recording is performed by start and end video recording times.

To set up the synchro recording option, cameras, registered in INTELLECT ™ software, should be coupled with microphones. Any single camera should be coupled with a single microphone. Any single microphone may be coupled with several cameras.

Setting up a selected camera for an audio and video synchro recording with a selected microphone do the following:

1. Go to the “Camera” system object settings panel (Figure 8.6-8).
2. From the dropdown list Microphone select the name of the required microphone object(Figure 8.6-8,1).

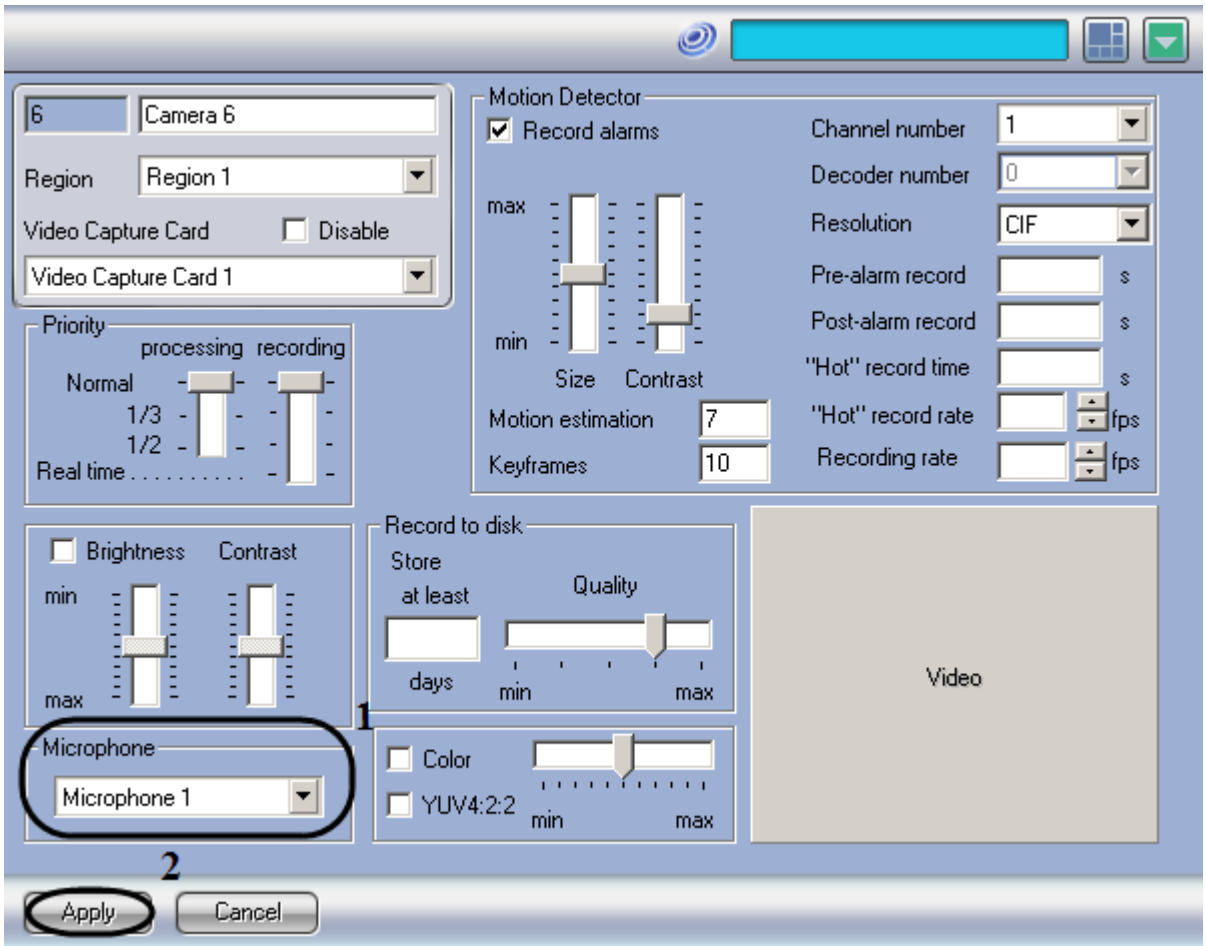


Figure 8.6-8. Settings of the audio and video synchro recording option

3. Click the “Apply” button to save all the changes(Figure 8.6-8,2).

Camera and microphone setup for audio and video synchro recording is completed.

8.6.5 Setup of audio signal transmission to Remote Workstations and servers

INTELLECT™ software has the facility to transmit audio signals both from microphones and from the archive to Remote Workstations and servers.

INTELLECT™ software version 4.74 doesn't support audio signal transmission to Remote Monitoring Workstations on the base of a web-server, PocketPC or a SmartPhone.

Audio signal transmission to Remote Workplaces and servers, connected by the TCP/IP net, is performed only via "Video surveillance monitor" or "Audio player" interface objects.

The video monitor has the facility to transmit only audio signals from the microphones that have been set to synchro video and audio recording. The Audio player may be configured to transmit audio signals from all video surveillance system microphones to the Remote Workstations and servers.

To enable audio signal transmission to Remote Workplaces and servers, follow the steps:

1. Go to the "Interfaces" tab in the "System Setup" dialog box.
2. Create the "Screen" object, if it was not created before (Figure 8.6-9).

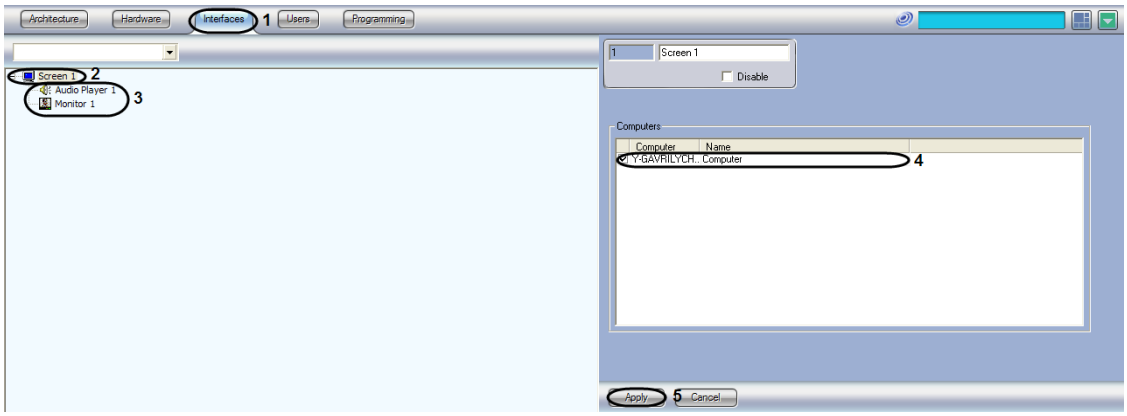


Figure 8.6-9. Setup of audio signal transmission to Remote Workplaces and videoservers

3. Set the checkmarks in the "Computers" table for those Remote Workplaces and servers, where audio signals should be transmitted.
4. Click the "Apply" button.
5. Create and set up "Monitor" and/or "Audio player" objects (for description of setting up these objects see the relevant sections).

Setup of audio signal transmission to Remote Workplaces and servers is completed.

8.6.6 Some features of audio signals playback by the video monitor

The video monitor has the facility to play back audio signals only from the microphones that have been set to synchro video and audio recording. INTELLECT™ software provides an audio playback option for real-time audio signal and for audio signals, archived in the synchro recording mode.

The option of audio signals playback by the video monitor is automatically activated for any microphone, when it is set to synchro video and audio recording with a camera. This option is deactivated automatically, when the synchro video and audio recording option is disabled for the selected camera and microphone:

The option is default activated and doesn't need any additional settings.

8.6.7 Setup of audio signals playback by the Audio player

8.6.7.1 *Audio player setup sequence*

Audio player object is a subclass of the Screen interface object and is designed for implementing the following functions:

1. perform recording of sound activated audio signals;
2. record audio signals by Operator command;
3. play back input audio signals;
4. play back audio signals, recorded by sound level or by Operator command;
5. perform voice notification.

To set Audio player object do the following:

1. Select the screen and create for it Audio player object.
2. Set the parameters of Audio player interface object.
3. Set the recording and playback of audio signals from microphones.
4. Set the voice notification during alarms registration by cameras' motion detectors.

Note. Setup sequence of Audio player object for transmition of audio signals to IP-device is described in the Setting up the transmission of audio signals to IP-device and the Setting up the transmission of audio signals to IP-device Bosch.

8.6.7.2 *Creating the Audio player object*

To create the Audio player object do the following:

1. Select the required object Screen on the tab Interface of System settings dialog window (Figure 8.6-10).

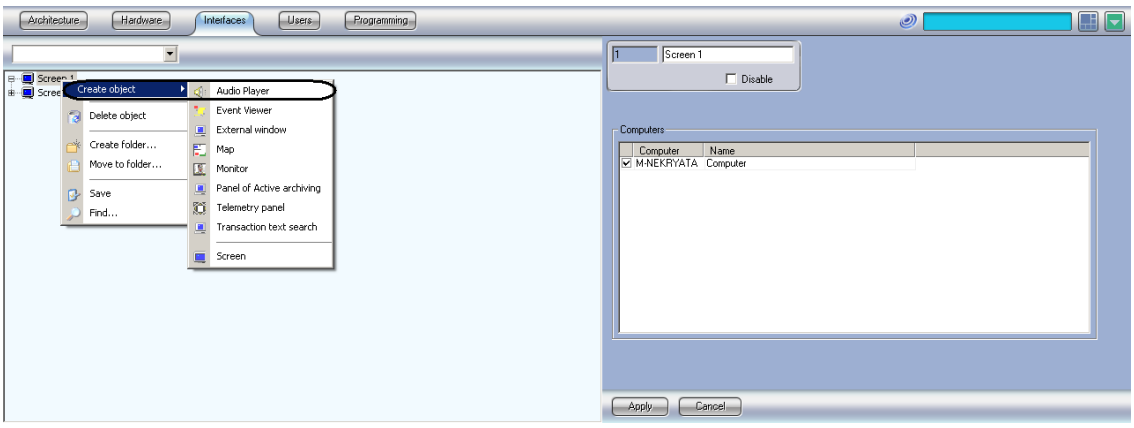


Figure 8.6-10. Creating the Audio player object

2. Click with the right mouse button upon the selected object Screen and in the contectual menu , that will open, select Create object ⇨ Audio player (Figure 8.6-10, 1).

3. In the window, that will open, set the name and number of the object Audio player and then click Apply button (*Figure 8.6-11*).

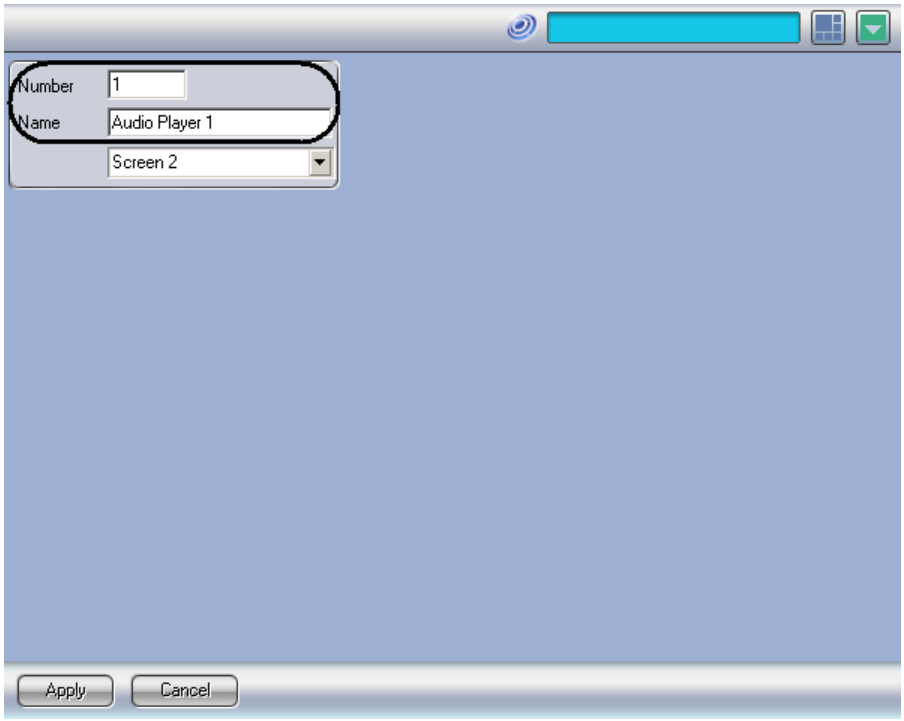


Figure 8.6-11. Setting up the number and name of the Audio player object

Note.In result Settings panel of Audio player object will be shown.

4. Repeat steps 1-3 for all the required objects Screen and Audio player.

Creation of Audio player object is over.

8.6.7.3 *Setting the parameters of Audio player window*

To set the parameters of Audio player interface window do the following:

1. Go to the settings panel of Audio player interface window (Figure 8.6-12).

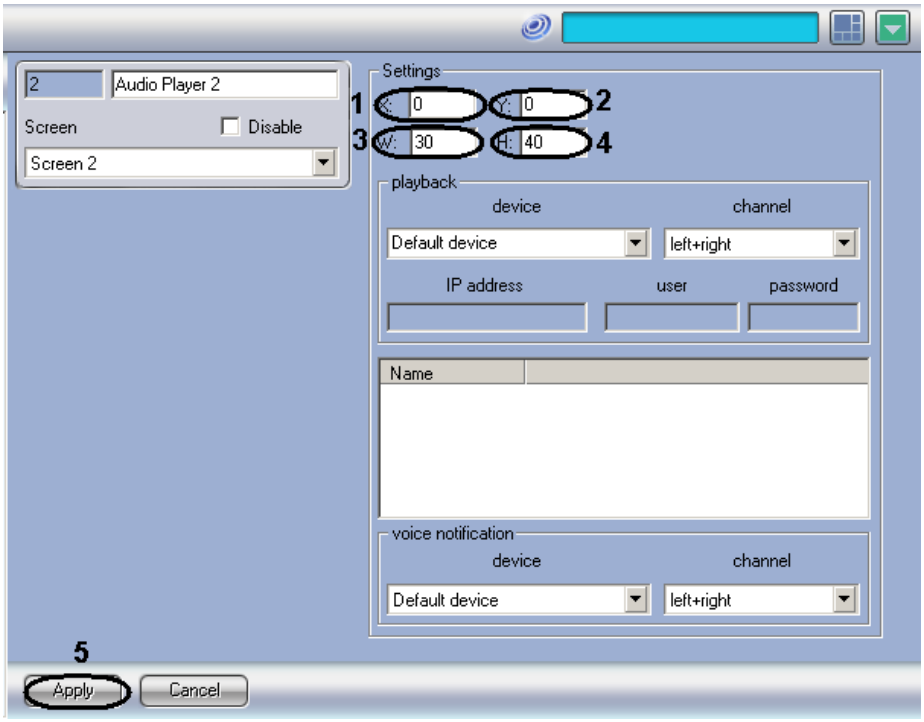


Figure 8.6-12. Setting the parameters of Audio player interface window

2. Set the coordinates of Audio player window's left upper corner:fields«X»(horizontal indent from the left image border) and «Y» (vertical indent from the upper image border.Figure 8.6-12- Coordinates are given in percentage in relation to screen size horizontally and vertically.

3. Set the dimensions of interface window Audio player: fields «W» (window's width) and «H» (window's height) – Figure 8.6-12, 3 and 4. Dimensions are given in percentage in relation to screen size horizontally and vertically.

Note. Minimal allowed value of parameter«W» is 35%, «H» – 40%. With lesser value displayed width or height of the window will correspond to minimal allowed value.

4. Click Apply button to save all the changes (Figure 8.6-12, 5).

Setting the parameters of Audio player interface window is completed.

8.6.7.4 *Setting uo the recording and audio signals' playback*

With the help of Microphone object the following opportunities of Audio player object are realized:

1. Playback of audio signals from the microphones.

2. Recording of audio signals by sound level or by Operator command.

To set up the recording and playback of audio signals from the microphones do the following way:

1. Go to the settings panel of Audio player interface object (Figure 8.6-13).

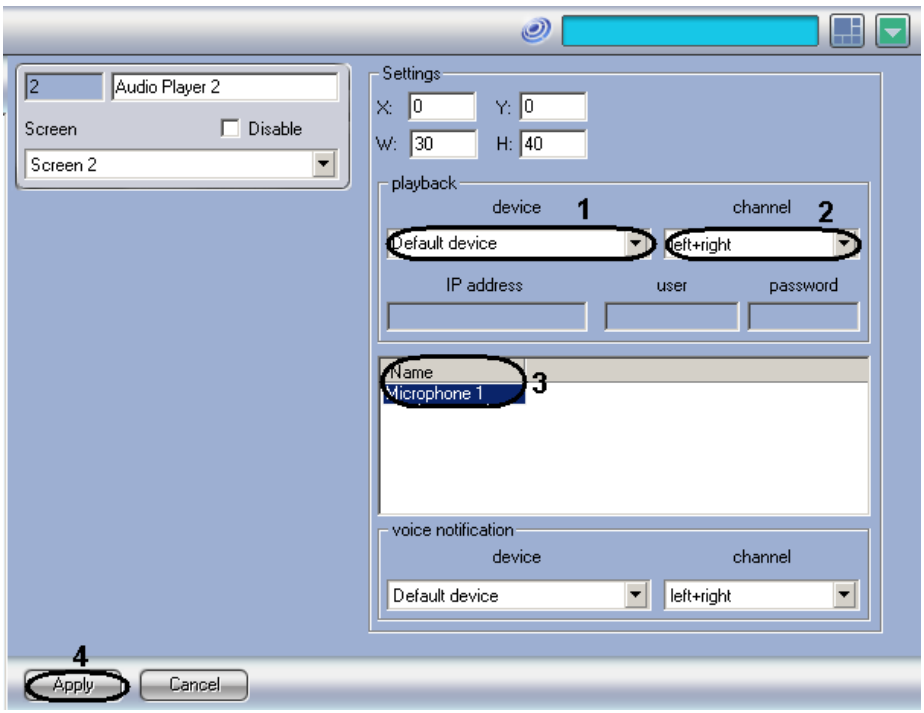


Figure 8.6-13. Setting up the recording and playback of audio signals from the microphones

2. From the dropdown list Device of Playback group select the required device of audio signals backup (Figure 8.6-13, 1).

Note. Standard sound map corresponds to to the value Default device.

3. From the dropdown list Channel of Playback group select the required channel of audio signals backup (Figure 8.6-13, 2).

4. Form the dropdown lit in the column Name select the name of Microphone object, which audio signals are suggested to be recorded/played back (Figure 8.6-13, 3).

5. Repeat step 4 for all the required Microphone objects.

6. Click Apply button to save all the changes (Figure 8.6-13, 4).

Setting up the recording and playback of audio signals from the microphones is completed.

8.6.7.5 *Setting up the voice notification option*

It is possible to transmit voice notification with the registration of alarms by main motion detectors of cameras.Before setting up the Voice notification check if the following.

Conditions are satisfied:

1. On the required computer there is installed a standard sound card (including cards, integrated into motherboard).

2. Devices for audio signals playback (dynamics and arphones) are conncted to the audio outputs of sound card.

To set Voice notification do the following:

1. Go to the settings panel of Audio player object (Figure 8.6-14).

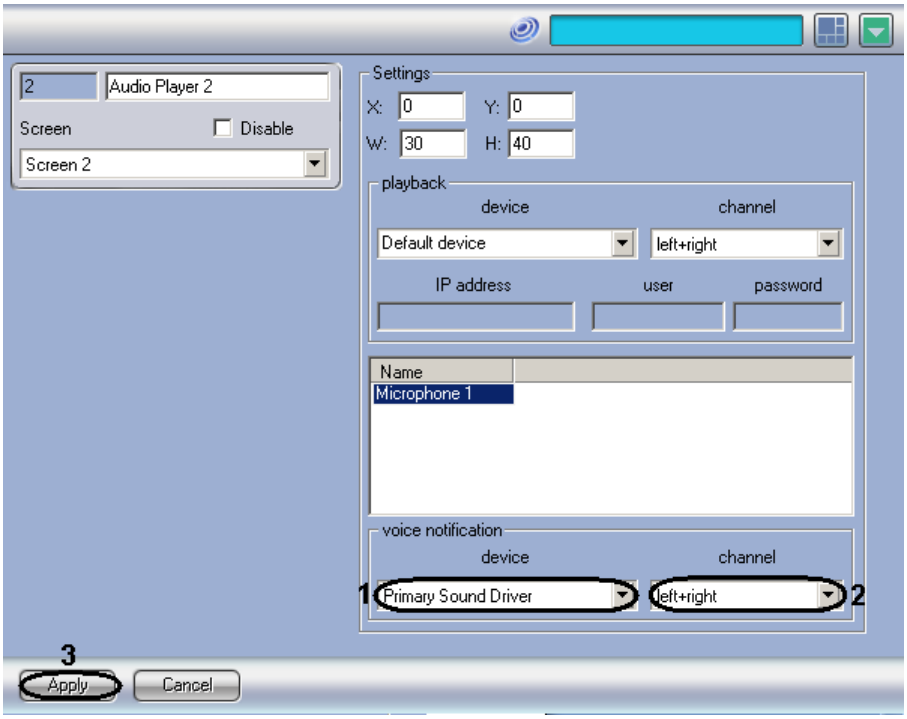


Figure 8.6-14. Setting up the Voice notification

2. From the dropdown list Device of Voice notification group select the required voice notification device. (Figure 8.6-14, 1).

Note.Standard sound card corresponds to the value Default device.To disable the Voice notification select the value Disable.

3. From the dropdown list channel of voice notification group select the required channel of voice notification (Figure 8.6-14, 2).

4. Click Apply button to save all the changes (Figure 8.6-14, 3).

Setting up the Voice notification is completed.

8.6.8 Using the FS-5 video capture cards for audio signals digitization and processing

8.6.8.1 *General information on the FS-5 video capture card*

FS-5 video capture cards are multi-channel PCI cards for video and audio signal hardware processing, used in video surveillance systems with a low capacity.

The cards provide 1 “real time” channel processing and digitization (25 frames per second in PAL format and 30 frames per second in NTSC format) and concurrent processing of 16 multiplexed channels in PAL and NTSC formats. Video capture cards process and digitize video signals in parallel with audio signals digitization. FS-5 cards have 2 linear audio signal inputs.

Note A. FS-5 cards have no audio signal outputs for microphones and headphones. For monitoring audio signals and audio recordings use standard sound cards.

The FS-5 cards provide parallel digitization of 2 audio channels. Up to 4 FS-5 cards can be installed on a single videoserver; this allows to process audio signals from 8 microphones simultaneously.

FS-5 cards digitize video signals with 8, 16 and 32 kHz sampling rates.

For more information on the specifications of video capture cards compatible with INTELLECT™ software, see Appendix 3.

8.6.8.2 *FS-5 video capture card resources and their representation in INTELLECT™ software*

When video capture cards are used to digitize an audio signal, a hardware video capture card is registered in the INTELLECT™ software as an "Audio card" object; each object corresponds to the single video signal ADC (audio signal ADC), installed on this card. The FS-5 card has a single ADC, so one FS-5 card is represented by one "Audio card" object.

The FS-5 card ADC is designed to process 2 audio signals from different microphones (equal to the number of available audio channels on a single hardware FS-5 card). Resources allocation of ADC, represented by the "Audio card" objects in the INTELLECT™ software among connected microphones, is achieved by placing the "Microphone" object on the base of the "Audio card" object.

The number of audio signals, processed by the ADC, is equal to the number of "Microphone" objects, created on the base of the Audio Card" object, related to the given ADC. Up to 2 "Microphone" objects may be placed on the base of the "Audio card" object.

Figure 8.6-15 shows the graphical chart of resources allocation of the FS-5 Video capture card with 2 microphones connected to it.

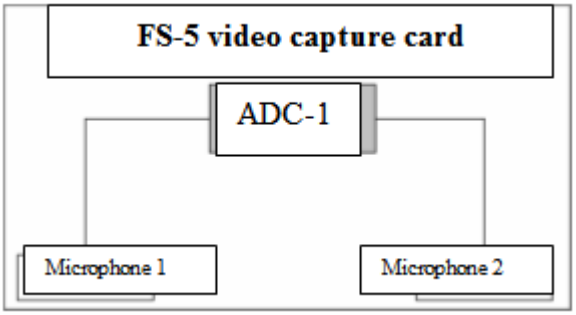
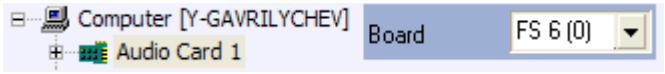


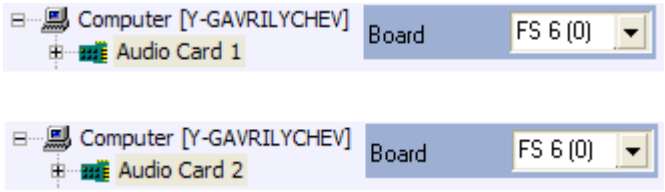
Figure 8.6-15. Resources allocation diagram of the FS-5 video capture card with 2 microphones

8.6.8.3 *Aspects of the FS-5 video capture cards setup*

The FS-5 video capture card has one ADC, which digitizes no more than 2 audio signals. Every FS-5 video capture card is registered in the INTELLECT™ software by creating and setting up the "Audio card" object. "Audio card" objects are created on the "Hardware" tab on the base of the "Computer" object. During creation of the "Audio card" object for each FS-5 video capture card, different values in the numbering sequence should be assigned to the "Board" parameter: for the first "Audio card" object the "00" value should be selected, for the second one - "01" and so on (Figure 8.6-16).



A. at single FS-5 video capture card registration



B. at registration of two FS-5 video capture cards

Figure 8.6-16. Allocation of PCI channel numbers at the FS-5 video capture cards registration

To register the microphones, connected to the FS-5 card input audio channels, create “Microphone” objects on the base of the “Audio card” object. Up to 2 “Microphone” objects may be placed on the base of a single “Audio card” object. The relevant hardware tree segment during registration of the FS-5 video capture card and 2 microphones is shown in Figure 8.6-17.



Figure 8.6-17. The hardware tree segment at registration of a single FS-5 video capture card and 16 cameras

After the registration in the INTELLECT™ system, the values should be assigned to the “Channel” settings of the “Microphone” objects according to the channel (RCA-F plug) numbers for the microphones connections to the FS-5 card. The channel numbering layout and examples of “Microphone” object settings, with one and two FS-5 video capture cards, registered in the INTELLECT™ system, are shown in Figure 8.6-18 and Figure 8.6-16 correspondingly.

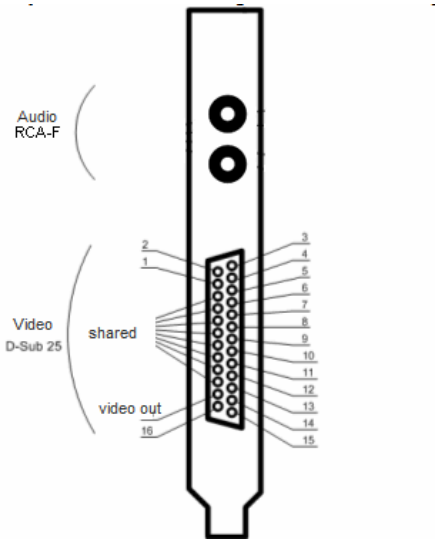
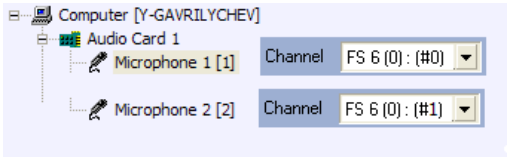
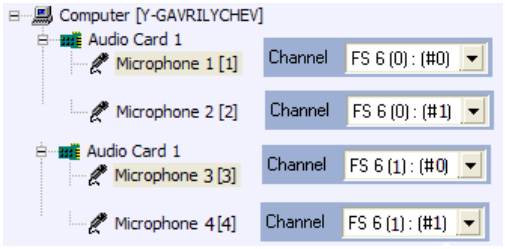


Figure 8.6-18. Audio channel numbering for a FS-5 card



a) with a single FS-5 video capture card



a) with two FS-5 video capture cards

Figure 8.6-19. Examples of "Microphone" objects settings

8.6.9 Using FS-6, FS-16, WS-6 video capture cards for audio signals digitization and processing

8.6.9.1 *General information on FS-6, FS-16 and WS-6 video capture cards*

FS-6, FS-16 and WS-6 video capture cards are used in digital video surveillance systems based on Intellect™ software.

The FS-6 board is a PCI multi-channel card for video and audio signal hardware processing. The FS-16 card is a multi-channel PCI-X card for video signal hardware processing, which provides high-rate transmission of digital video and audio signals by PCI-X bus.

The cards provide 4 "real time" channel processing and digitization (25 frames per second in PAL format and 30 frames per second in NTSC format) and concurrent processing of 16 multiplexed channels in PAL and NTSC formats. Video capture cards process and digitize video signals in parallel with audio signals.

The WS-6 board is a PCI multi-channel board for video and audio signal hardware processing. The WS-6 boards provide 4 channel "real time" video signal processing and digitization (25 frames per second in PAL format and 30 frames per second in NTSC format). Up to 6 WS-6 cards can be installed on a single videoserver; this allows to process video signals from 24 cameras simultaneously.

FS-6, FS-16 and WS-6 boards have 8 dedicated linear audio signal inputs.

Warning. FS-6, FS-16 and WS-6 boards have no audio signal outputs for microphones and headphones. For monitoring audio signals and recordings, use standard sound cards.

These boards provide 8 audio channel parallel digitization. Four FS-6 or FS-16 boards or six WS-6 boards can be installed on a single server; this allows to process audio signals from 32 microphones with FS-6 or FS-16 boards and from 48 microphones with WS-6 boards.

FS-6 cards digitize audio signals with 8, 16 and 32 kHz sampling rates. WS-6 cards have an 8 kHz sampling rate.

For more information on the specifications of video capture cards compatible with INTELLECT™ software, see Appendix 4.

8.6.9.2 *FS-6, FS-16 and WS-6 video capture card resources and their representation in the INTELLECT™ software*

When video capture cards are used to digitize audio signals, the board is registered in the INTELLECT™ software as an "Audio card" object; each object corresponds to the single ADC (audio signal ADC), installed on this card. Each FS-6, FS-16 and WS-6 board has 4 ADC's, so one FS-5 , FS-16 or WS-6 board, installed on the videoserver, is represented by 4 "Audio card" objects. The maximum number of "Audio Card" objects, created in the objects tree, is defined by the key file configuration.

Any ADC is designed to process 2 audio signals from different microphones (equal to the number of available audio channels on a single hardware FS-6, FS-16 or WS-6 board). Resources allocation of ADC, represented by the "Audio card" objects in the INTELLECT™ software, among connected microphones, is achieved by placing "Microphone" objects on the base of the "Audio card" object. The total number of "Microphone" objects, created in the objects tree, is defined by the key file configuration.

The number of audio signals, processed by the ADC, is equal to the number of "Microphone" objects, created on the base of the "Audio Card" object, related to the given ADC. Up to 2 "Microphone" objects may be placed on the base of a single "Audio card" object.

Figure 8.6-20 shows the graphical chart of resources allocation of a FS-6, FS-16 or WS-6 video capture card with 8 microphones, connected to it.

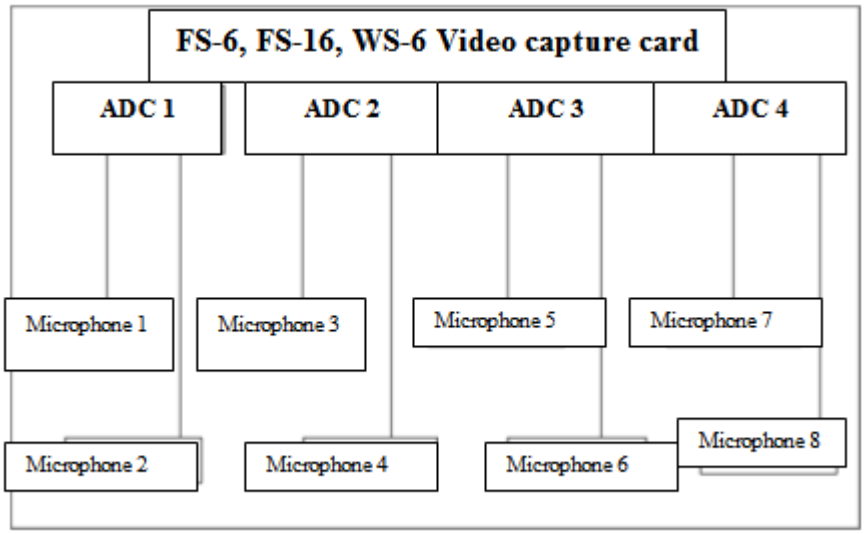


Figure 8.6-20. Graphical chart of resources allocation of an FS-6, FS-16 or WS-6 video capture card with 8 microphones, connected to it

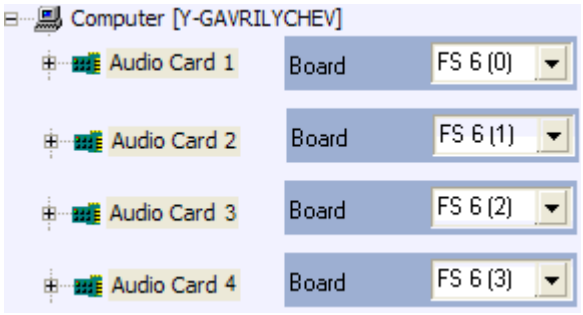
8.6.9.3 *Features of FS-6, FS-16 and WS-6 video capture cards setup*

Each FS-6, FS-16 or WS-6 video capture card has 4 ADC's. Each ADC digitizes no more than 2 audio signals. So, each FS-6, FS-16 or WS-6 video capture card digitizes up to 8 audio signals.

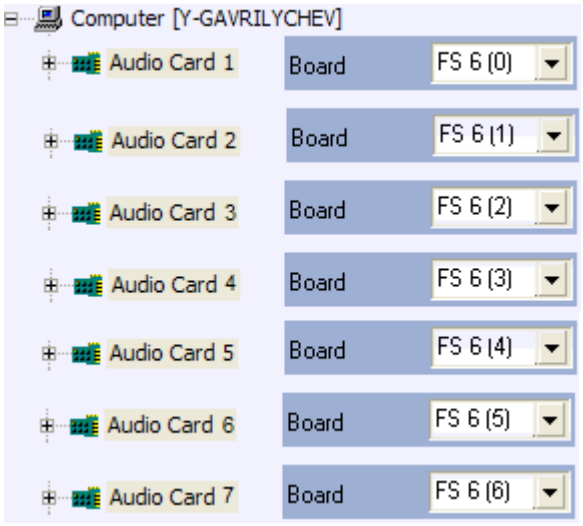
Every FS-6, FS-16 or WS-6 video capture card is registered in the INTELLECT™ software by creating or setting up "Audio card" objects. The maximum number of "Audio Card" objects, registered for a single FS-6, FS-16 or WS-6 video capture card, is defined by the number of ADC, installed on the card. So, an

FS-6, FS-16 or WS-6 video capture card is registered in the INTELLECT™ software by creating and setting up 1 - 4 “Audio card” objects.

“Audio card” objects are created on the “Hardware” tab on the base of the “Computer” object. During creation of the “Audio card” object for each FS-6, FS-16 or WS-6 video capture card, the different values in the numbering sequence should be assigned to the “Board” parameter: For the first FS-6, FS-16 or WS-6 video capture card, installed on the server, the following values are set for the “Board” on the “Audio card” objects: for the first “Audio card” object the “FS 6 (0)” value should be selected, for the second one - “FS 6 (1)”, for the third one - “FS 6 (2)”, for the fourth - “FS 6 (3)”. For the second FS-6, FS-16 or WS-6 video capture card, installed on the server, the “Board” settings of the “Audio card” objects are the following: for the first “Audio card” object - “FS 6 (4)” value should be selected, for the second one - “FS 6 (5)” and so on (Figure 8.6-21).



A. at registration of 4 ADC’s of a single FS-6, FS-16 or WS-6 video capture card



B. at registration of 8 ADC’s of two FS-6, FS-16 or WS-6 video capture cards

Figure 8.6-21. PCI channel numbering at the FS-5 video capture cards registration

To register the microphones, connected to the FS-6, FS-16 or WS-6 card input audio channels, create “Microphone” objects on the base of the “Audio card” object. Up to 2 “Microphone” objects may be placed on the base of an “Audio card” object. The relevant hardware tree segment during the registration of WS-6, WS-16 or WS-6 video capture cards and 8 microphones is shown in Figure 8.6-22.

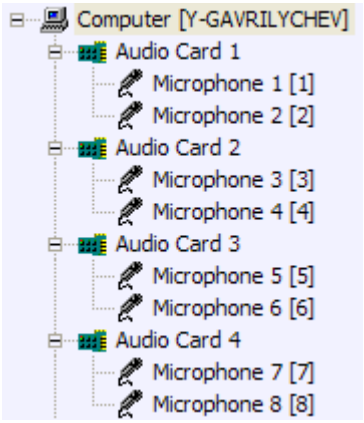


Figure 8.6-22. Hardware tree segment during the registration of an WS-6, WS-16 or WS-6 video capture card and 8 microphones

After registration in the INTELLECT™ system, the values should be assigned to the “Channel” settings of the “Microphone” objects according to the channel (RCA-F plug) numbers of the microphone connections to the FS-5 videograbber.

The channel numbering layout for FS-6, FS-16 or WS-6 and examples of “Microphone” object settings with one and two FS-5 video capture cards, registered in the INTELLECT™ system, are shown in Figure 8.6-23 and Figure 8.6-21 correspondingly.

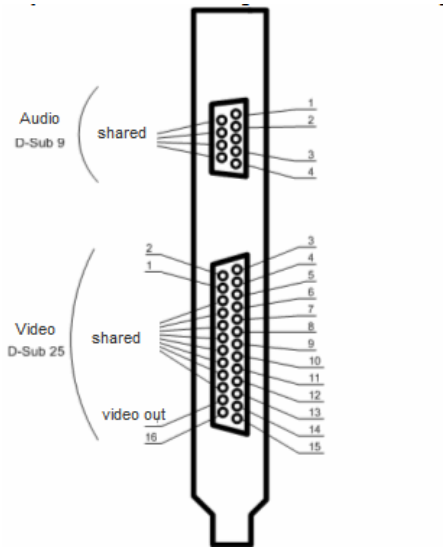
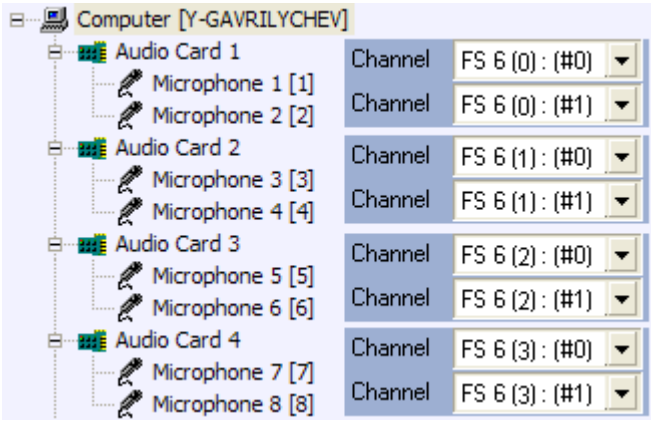
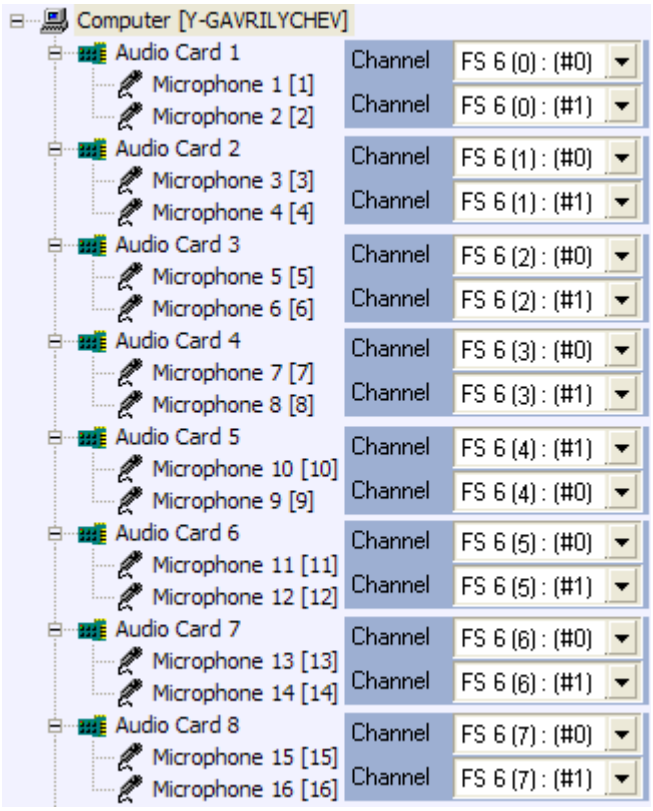


Figure 8.6-23. Audio input channel numbering layout for FS-6, FS-16 and WS-6 cards



A. a single FS-6, FS-16 or WS-6 video capture card



a) two FS-6, FS-16 or WS-6 video capture cards

Figure 8.6-24. Examples of “Microphone” objects settings

8.6.10 Using FS-8 video capture cards for audio signals digitization and processing

8.6.10.1 *General information on the FS-8 video capture card*

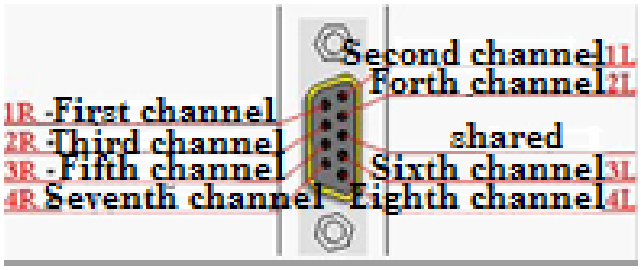
FS-8 video capture cards are multi-channel PCI cards for video and audio signal hardware processing, used in industrial video surveillance systems.

The cards provide 8 channel “real time” processing and digitization (25 frames per second in PAL format and 30 frames per second in NTSC format) and concurrent processing of 16 multiplexed video signal channels in PAL and NTSC formats. Video capture cards process and digitize video signals in parallel with audio signals digitization.

FS-8 cards have 16 dedicated linear audio signal inputs. Up to 4 FS-8 cards can be installed on a single video server; this allows to process audio signals from 64 microphones simultaneously.

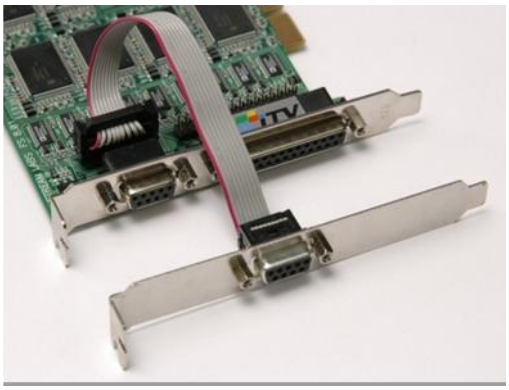
Note. FS-8 cards have no audio signal outputs for microphones and headphones. For monitoring audio signals and recordings, use the 3rd party sound cards, for example, the «SoundBlaster» type.

FS-8 cards digitize video signal with 8, 16 and 32 kHz sampling rates. Eight right(#1) channels are used while connecting to external pin DB9-M.

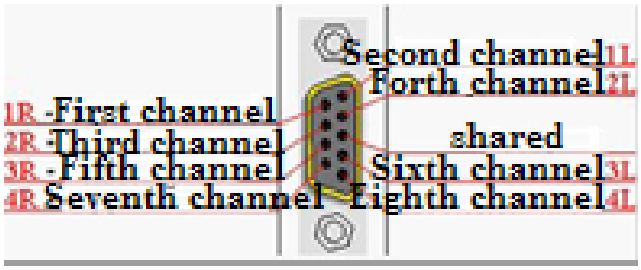


8.6-25 Sound port pin of FS8 card

Eight left(#0) – while connecting to internal six-channel pin (8.6-26) with the help of eight-channel audio ribbon cable (8.6-27).



8.6-26 FS 8 card with audio ribbon cable



8.6-27 Sound port pin of audio ribbon cable

Connector of DB9-M pin (port of sound input on the card «ITV FS8») for 8 pins RCA-F, making easier the connection of sound sources is attached optionally to the card.

Note! Inscriptions on the pins of audio cable do not correspond to card's channels numbers. On the pin of DB9 card there are realized right channels (see. Table 8.6-1*), and on the pin of DB9 ribbon cable there are realized left channels (see.*Table 8.6-2*).*

Table 8.6-1

Inscription on the pin of audio cable	Card's channel number
1R	1R
2R	3R
3R	5R
4R	7R
1L	2R
2L	4R
3L	6R
4L	8R

Table 8.6-2

Inscription on the pin of audio cable	Card's channel number
1R	1L
2R	3L
3R	5L
4R	7L
1L	2L
2L	4L
3L	6L
4L	8L

For more information on the specifications of video capture cards compatible with INTELLECT™ software, see Appendix 3.

8.6.10.2 *FS-8 video capture card resources and their representation in the INTELLECT™ software*

When video capture cards are used to digitize audio signals, the board is registered in the INTELLECT™ software as an "Audio card" object; each object corresponds to the single ADC (audio signal ADC), installed on this card.

The FS-8 board has 8 ADC's, so one FS-8 board, installed on a video server, may be represented by 8 "Audio card" objects. The maximum number of "Audio Card" objects, created in the objects tree, is defined by the license key file configuration.

Each ADC digitizes no more than 2 audio signals from different microphones. ADC resources allocation, represented by the "Audio card" objects in the INTELLECT™ software, among connected microphones, is achieved by placing "Microphone" objects on the base of the "Audio card" object. The total number of "Microphone" objects, created in the objects tree, is defined by the license key file configuration.

The number of audio signals, processed by the ADC, is equal to the number of "Microphone" objects, created on the base of the "Audio Card" object, related to the given ADC. Up to 2 "Microphone" objects may be placed on the base of a single "Audio card" object (Figure 8.6-28).

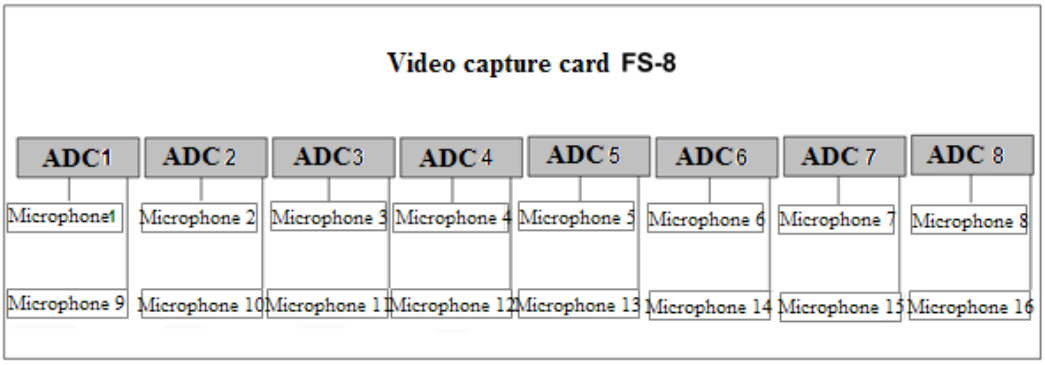


Figure 8.6-28. Resources allocation diagram of an FS-8 video capture card with 16 microphones

8.6.10.3 *Setting up FS-8 video capture cards*

The FS-8 video capture card has 8 ADC's. Each ADC digitizes no more than 2 audio signals. So, each FS-6, FS-16 or WS-6 video capture card digitizes up to 16 audio signals.

Every FS-8 video capture card is registered in the INTELLECT™ software by creating and setting up "Audio card" objects. The maximum number of "Audio Card" objects, registered for a single FS-8 video capture card, is defined by the number of ADC, installed on the card. So, an FS-8 video capture card is registered in the INTELLECT™ software by creating and setting up 1 - 8 "Audio card" objects.

"Audio card" objects are created on the "Hardware" tab on the base of the "Computer" object. During creation of the "Audio card" object for each FS-8 video capture card, the different values in the numbering sequence should be assigned to the "Board" parameter: For the first FS-8 video capture card, installed on the server, the following values are set for the "Board" settings of the "Audio card" objects: for the first "Audio card" object the "FS 6 (0)" value should be selected, for the second one - "FS 6 (1)", for the third one - "FS 6 (2)" and so on, for the eighth - "FS 6 (7)". For the second FS-8 video capture card, installed on the server, the following values are set for the "Board" parameter of the "Audio card" objects: for the first "Audio card" object - "FS 6 (8)" value should be selected, for the second one - "FS 6 (9)" and so on (Figure 8.6-29).

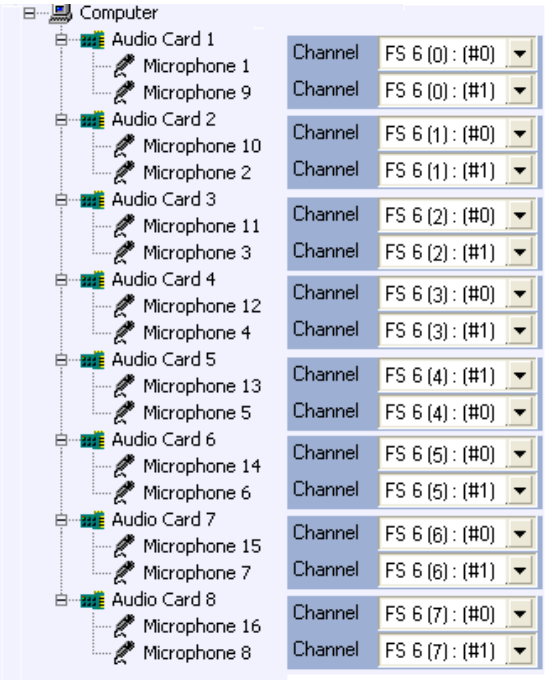


Figure 8.6-29. Allocation of PCI channel numbers at the FS-8 video capture cards registration

To register the microphones, connected to the FS-6, FS-16 or WS-6 card input audio channels, create “Microphone” objects on the base of the “Audio card” object. Up to 2 “Microphone” objects may be placed on the base of a single “Audio card” object. The relevant hardware tree segment during the registration of an FS-8 video capture card and 16 microphones is shown in Figure 8.6-30.

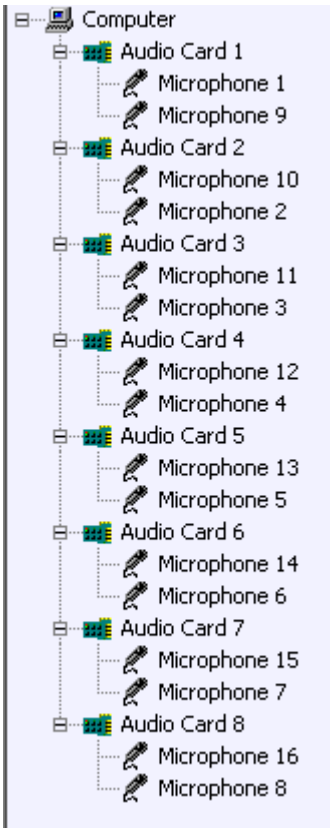


Figure 8.6-30. The hardware tree segment at registration of a single FS-8 video capture card and 16 microphones

After registration in the INTELLECT™ system, the values should be assigned to the “Channel” settings of the “Microphone” objects according to the channel (RCA-F plug) numbers of the microphone connections to the FS-8 card. The channel numbering layout and examples of “Microphone” object settings with one and two FS-8 video capture cards, registered in the INTELLECT™ system, are shown in Figure 8.6-31 and Figure 8.6-29 correspondingly.

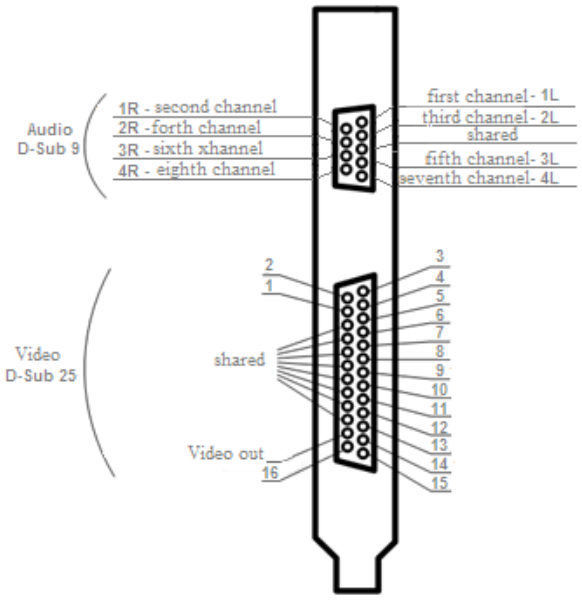


Figure 8.6-31. Channel numbering layout for FS-8 audio card

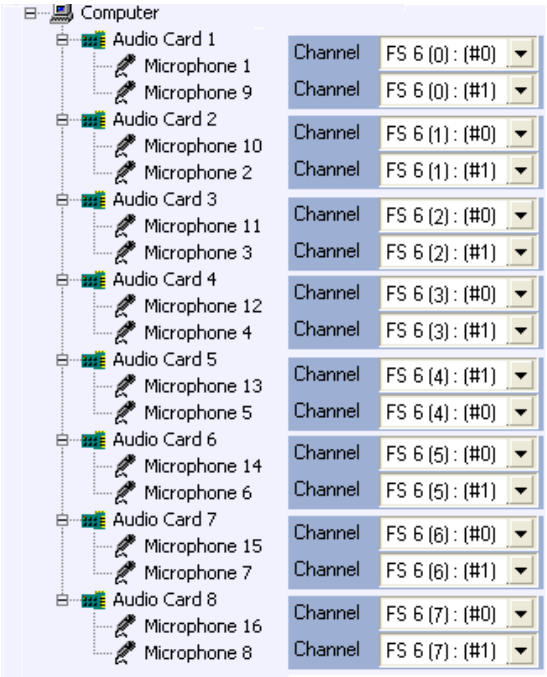


Figure 8.6-32. Examples of “Microphone” object settings for a single FS-8 card

8.6.11 Features of standard sound card use

8.6.11.1 *General information on standard sound cards*

Standard sound cards are PCI cards or motherboard integrated modules, and are used to play back digital audio signals (2, 4, 6 or 8 sound channels) and/or to digitize analog video signals.

Usually standard sound cards have 1 output for connecting loudspeakers or headphones (modifications exist with 2 and 3 outputs for multi-channel sound realization and some others) and 1 input for connection of microphones.

Note. Sound cards have one plug for 2 channels to connect microphones to. To connect 2 microphones, resolder the connector or use the mini jack 2xRCA adapter.

Standard sound cards perform sound playback and audio signals digitization in parallel.

The audio signal sampling rate range depends on the audio card type. The INTELLECT™ software system sampling rate range, available to the installed card, is bounded by the 48 kHz maximum value.

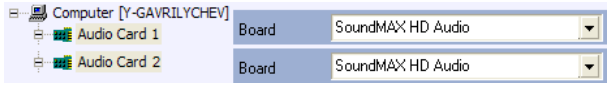
8.6.11.2 *Features of standard sound card setup*

As a rule a standard sound card digitizes no more than 2 audio signals.

Each standard sound card is registered in the INTELLECT™ software by creating and setting up “Audio card” objects. “Audio card” objects are created on the “Hardware” tab on the base of the “Computer” object. During creation of the “Audio card” object for each standard sound card, the different values in the numbering sequence should be assigned to the “Board” parameter: for the first “Audio card” object the “FS 6 (0)” value should be selected, for the second one - “FS 6 (1)” and so on (Figure 8.6-33).



A.at single standard sound card registration



B. at registration of two standard sound cards of the same type

Figure 8.6-33. Example of “Board” settings for Realtek standard sound cards

To register the microphones, connected to the standard sound card input audio channels, create “Microphone” objects on the base of the “Audio card” object. Up to 2 “Microphone” objects may be placedn the base of a single “Audio card” object. The relevant hardware tree segment during the registration of the standard sound card and 2 microphones is shown in Figure 8.6-34.



Figure 8.6-34. The hardware tree segment at registration of a standard sound card and 2 microphones

After the sound card registration in the INTELLECT™ system, the values should be assigned to the “Channel” settings of the “Microphone” objects, according to the channel numbers of the microphone connections to a standard sound card.

To connect more than one microphone to a standard sound card, the mini jack 2xRCA adapter is used. The mini jack 2xRCA adapter numbering layout is shown in Figure 8.6-34. Examples of “Microphone” object settings with one and two FS-5 video capture cards, registered in the INTELLECT™ system, are shown in Figure 8.6-35 and Figure 8.6-33 correspondingly.

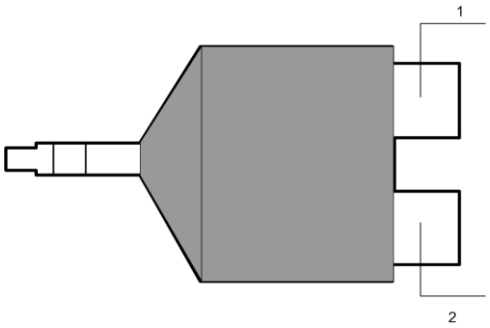
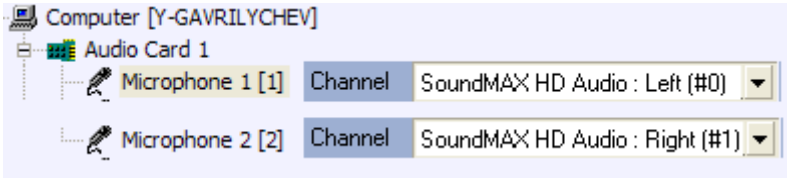
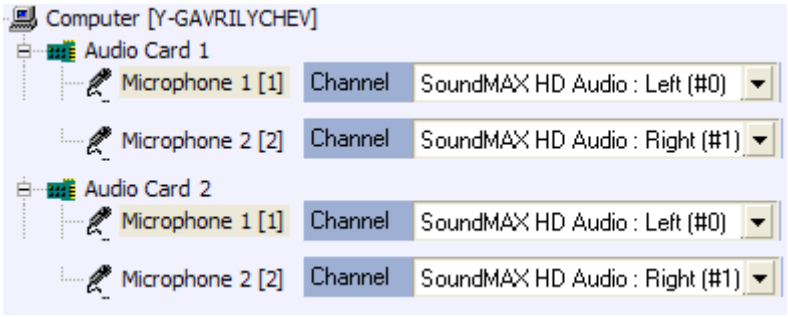


Figure 8.6-35. Mini jack 2xRCA adapter numbering layout



A.for a single standard sound card



B. for two standard sound cards

Figure 8.6-36. Examples of “Microphone” object settings

8.6.12 Using multi-channel audio capture devices

8.6.12.1 *General information on multi-channel audio capture devices*

Multi-channel audio capture devices are PCI cards (for example, MidiMan Delta, Comart Hera, Ольха 9P) or external hardware and software modules (for example, Эхолот USB-32), used for digitization and processing of 2 or more audio signals. For the list and features of INTELLECT™ software compatible multi-channel audio capture devices, see the “Integration” section on the ITV company site: http://www.itv.ru/products/integration/.

Multi-channel audio capture devices reproduce sound and digitize audio signals in parallel, or sound is reproduced by the standard sound cards. The audio signal sampling rate range depends on the audio capture device type. The INTELLECT™ software system sampling rate range, available to the installed card, is limited to the 48 kHz maximum value.

8.6.12.2 *Setting up multi-channel audio capture devices*

Usually multi-channel audio capture devices digitize 2 or more audio signals, de on the device type.

Each multi-channel audio capture device is registered in the INTELLECT™ software by creating and setting up “Audio card” objects. “Audio card” objects are created on the “Hardware” tab on the base of the “Computer” object. During creation of the “Audio card” object for each multi-channel audio capture device the value, corresponding to its name, should be assigned to the “Board” parameter (Figure 8.6-37).

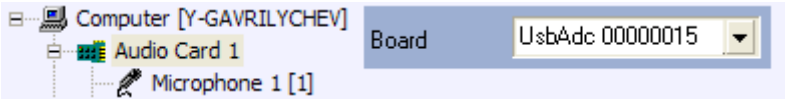


Figure 8.6-37. Example of the “Board” settings at Эхолот USB-32 multi-channel audio capture device registration

To register the microphones, connected to the multi-channel audio capture device input audio channels, create “Microphone” objects on the base of the “Audio card” object. The number of “Microphone” objects, allocated on the base of a single “Audio card” object, is defined by the number of audio input channels and restricted by the License key file. The relevant hardware tree segment during the registration of the standard sound card and 8 microphones is shown in Figure 8.6-38.

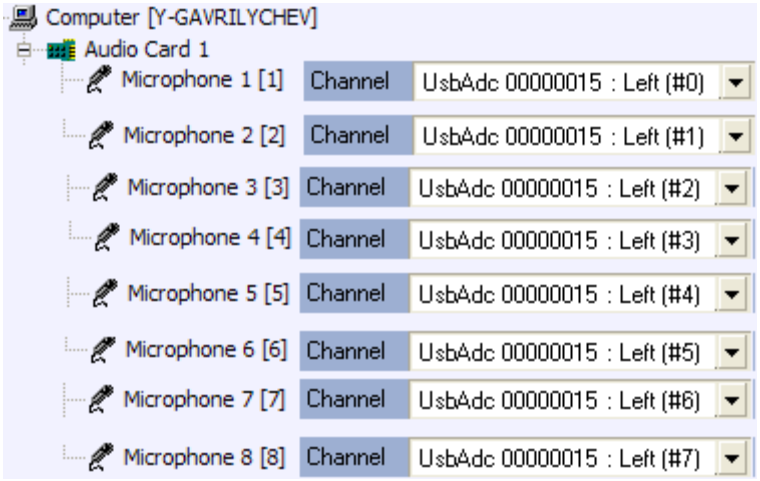


Figure 8.6-38. The hardware tree segment at registration of a Eholot USB-32 multi-channel audio capture device and 8 microphones

After registration in the INTELLECT™ system, the values should be assigned to the “Channel” settings of the “Microphone” objects according to the channel numbers of the microphone connections to the audio capture device. An example of “Microphone” object settings is shown in Figure 8.6-38.

8.6.13 Using IP-devices

8.6.13.1 *General information on IP-devices*

INTELLECT™ software system supports audio signals reception, digitization, processing and playback options, using audio capture IP-devices. IP-cameras and IP-servers built-in microphones or the external analog microphones, connected to IP-devices, may be used for audio signals receipt, digitization and processing. External IP-loudspeakers or headphones, connected to IP-servers may be used for audio signals playback. For the list of INTELLECT™ software compatible IP-devices for audio signal reception, digitization, processing and playback, see the “Integration” section on the ITV company site: http://www.itv.ru/products/integration/.

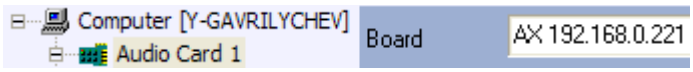
The audio signal sampling rate range depends on the IP-device type, used as an audio capture device. The INTELLECT™ software system sampling rate range, available for the installed card, is limited to the 48 kHz maximum value.

8.6.13.2 *Setup of reception and processing of audio signals from IP-devices*

NOTE. Be sure before setting up the IP-device that the processing and digitization settings of the IP-devices (especially codecs), set via the web-server, are supported by INTELLECT™ software. For updated information on IP-device compatibility, see the "Integration" section on the ITV company site: http://www.itv.ru/products/integration/.

Usually IP-devices digitize 1 or more audio signals, de on the device type.

Each IP-device, used to input an audio signal, is registered in the INTELLECT™ software by creating and setting up an "Audio card" object. "Audio card" objects are created on the "Hardware" tab on the base of the "Computer" object. During creation of the "Audio card" object for each IP-device the value, corresponding to its name, should be assigned to the "Board" parameter. After that, enter and delimit with spaces the IP-device address, user name and password for device access (if they were set) at the end of the "Board" row. Example of "Board" settings for the Axis camera is shown in Figure 8.6-39.



A. with no user name and password



B. with user name and password

Figure 8.6-39. Examples of "Card"parameter settings with the use of Axis IP-cameras

After "Audio card" objects have been set up, restart INTELLECT™ software. Otherwise audio subsystem (microphones especially) setup cannot be continued.

To register the microphones, built in IP-devices or connected to them, create "Microphone" objects on the base of the "Audio card" object. The number of "Microphone" objects, allocated on the base of a single "Audio card" object, is defined by the number of audio input channels of the IP-device and restrictions, imposed by the License key file. The relevant hardware tree segment during the registration of the IP-device and 1 microphone is shown in Figure 8.6-40.



Figure 8.6-40. Segment of hardware tree at registration of the IP-device and a microphone

8.6.13.3 *Setup of video signals transmission to IP-devices*

INTELLECT™ software has the facility to transmit audio signals from microphones to IP-devices and to play them back with loudspeakers or headphones, connected to IP-devices.

Audio signal transmission to IP-devices can be performed in two ways:

1. with the help of interface object the Audio player;

2. with the help of system object the voice notification service.

The object Audio player is used to transmit audio signals from the selected microphones on the supported IP-devices.

To set up the transmition of audio signals with the help of the Audio player object do the following:

1. Go to the tab of setting up interface object“Audio Player” (Figure 8.6-41).

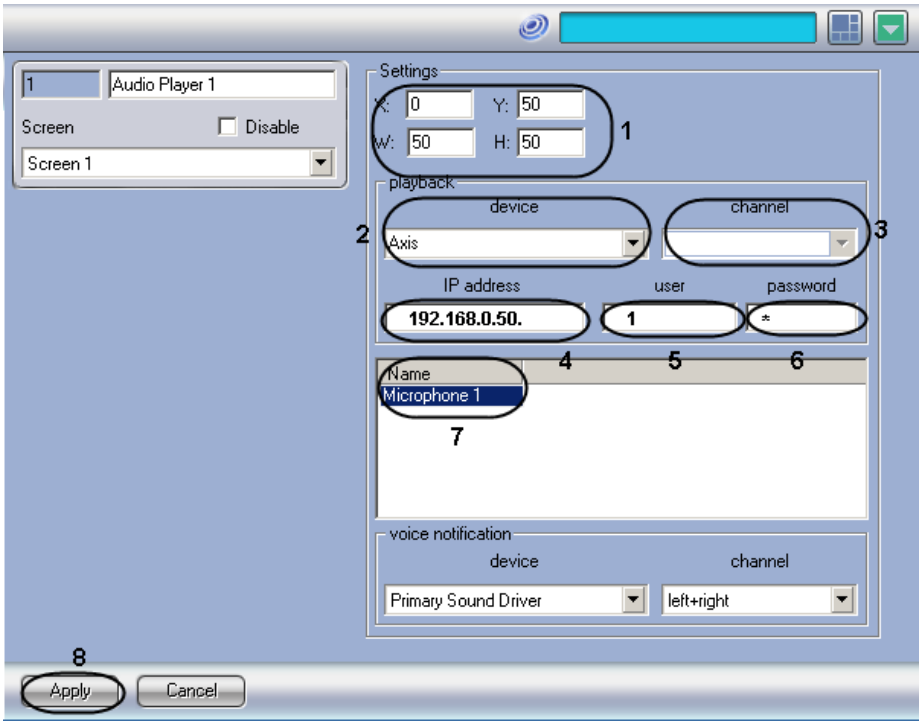


Figure 8.6-41. Setup example of audio signals’ playback with the help of Audio Player

1. Enter the settings of interface window the Audio Player (Figure 8.6-41, 1).
2. Select the required IP-device from the dropdown list Device (Figure 8.6-41, 2).

Note. Select the value Virtual Cable to transmit audio signals to IP-device Bosch (See. Setting up the audio signal transmition to IP-device Bosch)

3. From the dropdown list Channel, select the required audio signals’playback channel (Figure 8.6-41, 3).
4. In the field IP address enter the IP address of the selected IP-device (Figure 8.6-41, 4).
5. If necessary enter user name and password in the fields User and Password to connect to the selected IP-camera (Figure 8.6-41, 5-6).
6. From the dropdown list in the colomn Name select the object’s name Microphone, from which audio signal has to be transmitted to the selected IP-device (Figure 8.6-41, 7).
7. Repeat step 7 for each selected microphone object.
8. Click the “Apply” button to save all the changes. (Figure 8.6-41,8).

Setup of the audio signal's transmition with the help of Audio player object is completed.

Note. To activate audio signals'transmition from the microphone to the IP-device click the button  *(«Interception from microphone») in the interface window Audio Player.*

«Voice notification» object is used to transmit files of WAV format to the supported IP-devices. Set up order of the object «Voice notification service»is described in the Setiing up the voice notification service.

Note. With joint use of the Audio player and voice notification service, bear in mind, that the sampling rate of audio signals, fed from microphones via the Audio player ("Sample rate" setting of "Audio card" object) and that of the audio files, transmitted with the voice notification service, must be the same.

8.6.13.4 *Setting up the transmission of audio signals to IP-device Bosch*

Transmission of audio signals to IP-device Bosch is performed with the use of Virtual Audio Cable driver.

Note. Information about program «Virtual Audio Cable» one can find in official reference manual of this program.

To set up the transmission of audio signals to IP-device Bosch do the following:

1. Install Virtual Audio Cable driver and set it in accordance with Figure 8.6-42, Table 8.6-3.

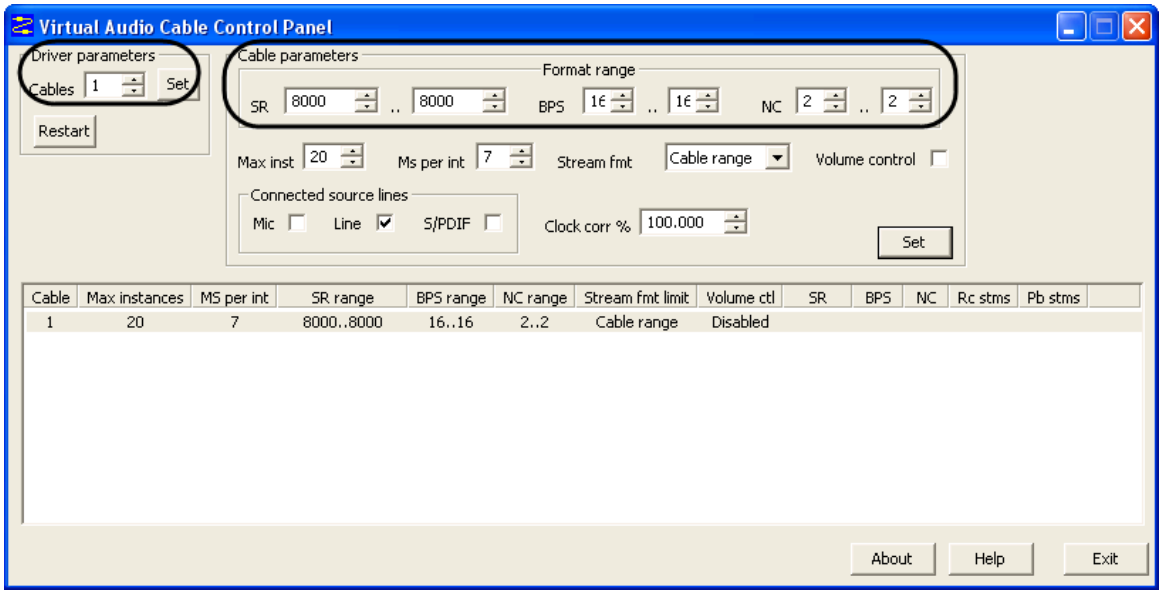


Figure 8.6-42. Example of setting up the Virtual Audio Cable for transmitting the audio signals to IP-device Bosch

Table 8.6-3

Driver set up utility	Group	Parameter	Description of parameter	Range of parameter's value
«Start» ⇨ «All programs» ⇨ «Virtual Audio Cable» ⇨ «Control Panel»	Driver parameters	Cable	Number of virtual audio cables	1
	Cable parameters ⇨ Format range	SR	Sampling rate of audio signals	8000..8000
		BPS	Depth of audio signals sampling	16..16
		NC	Number of channels of virtual audio cable	2..2

2. Start Intellect program complex.

3. Go to the settings panel of system object Audio card (Figure 322, Registration of audio input device and microphones in Intellect program complex).

4. From the dropdown list Board select the required IP-device Bosch(Figure 8.6-43, 1)

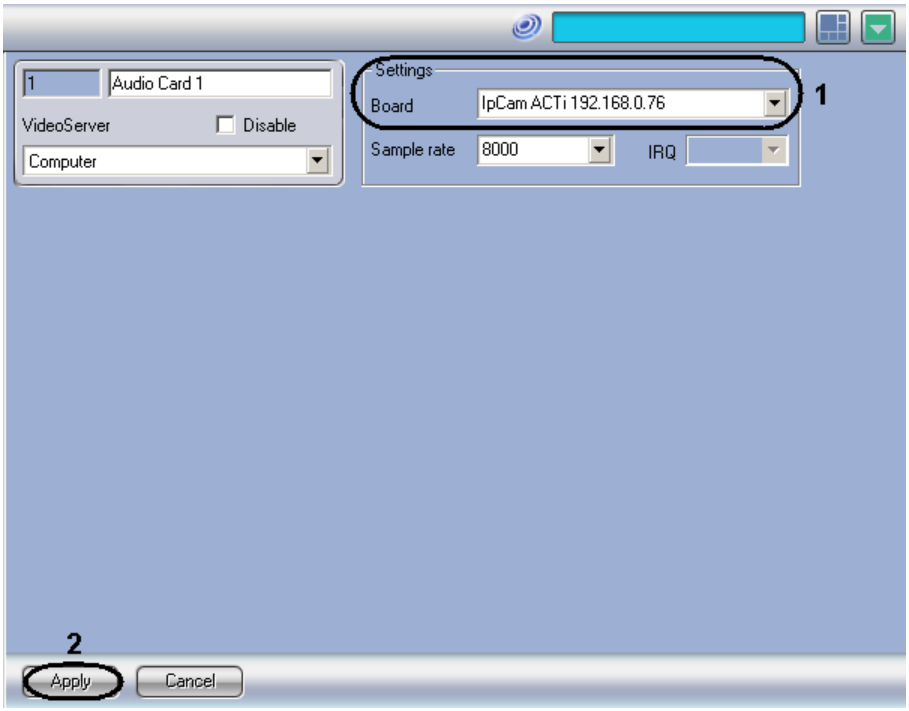


Figure 8.6-43. Setting up sound card Bosch

5. To save the changes click Apply button (Figure 8.6-43, 2).

6. Create Microphone object on the base of this object and go to its settings panel (Figure 8.6-44, Registration of audio input device and microphones in the Intellect program complex).

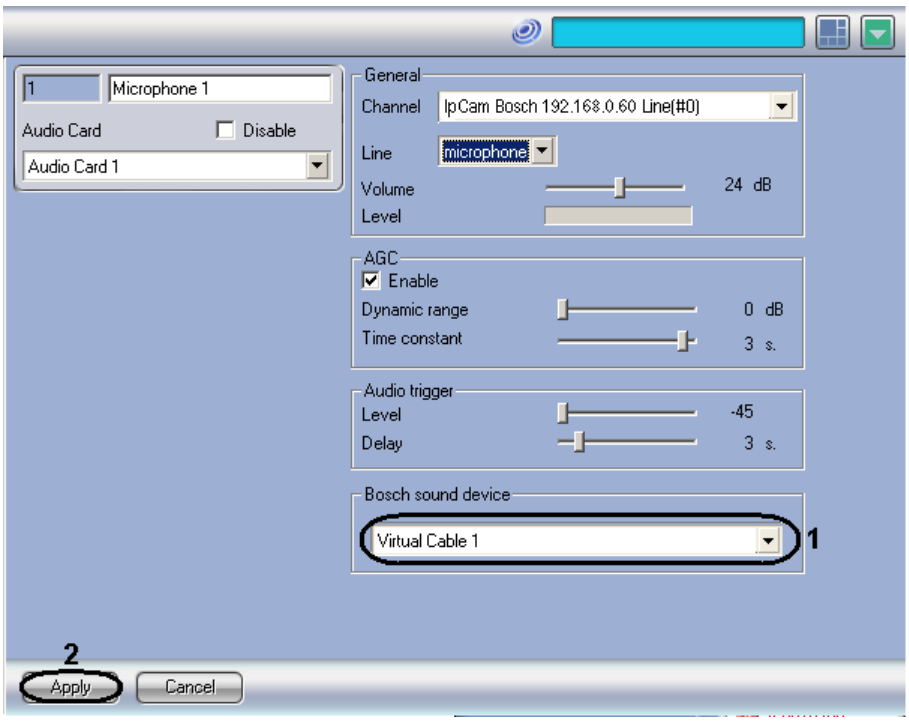


Figure 8.6-44. Selection of Bosh sound device

7. From the dropdown list Bosh sound device select the value Virtual Cable (Figure 8.6-44, 1).

8. To save the changes click Apply button (Figure 8.6-44, 2).

9. Go to the settings panel of the Audio player interface object(Figure 8.6-45, Setting up the audio signals playback with the use of Audio player).

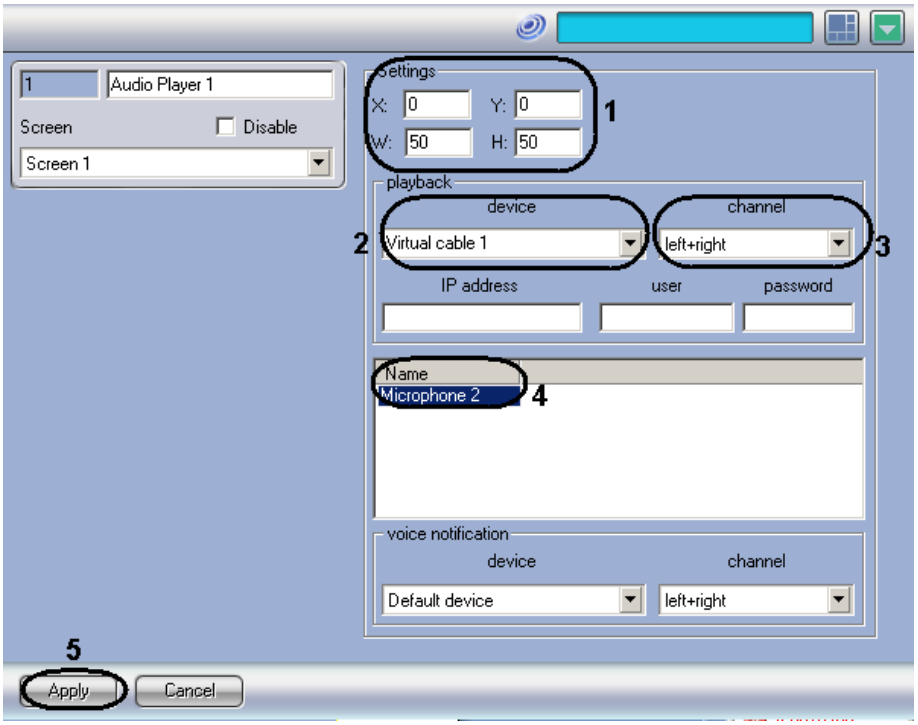


Figure 8.6-45. Setting up Audio player object for transmitting audio signal to IP-device Bosch

10. Set the coordinates and size of Audio player interface window (Figure 8.6-45, 1).

11. From the dropdown list Device select the value Virtual Cable (Figure 8.6-45, 2).
12. From the dropdown list Channel select the required chanal of audio signals playback (Figure 8.6-45, 3).
13. From the dropdown list in the column Name select the name of Microphone object which audio signal has to be transmitted to IP-device Bosch (Figure 8.6-45, 4).
14. Repeat step for all the required Microphone objects.
15. To save the changes click Apply button (Figure 8.6-45, 5).
16. Restart Intellect program complex.
17. Setting up the transmission of audio signals to IP-device Bosch is completed.

Note. To enable the transmission of audio signals from the microphone to IP-device Bosh click the button  *(«Interception from microphone») in the interface window Audio player.*

8.6.13.5 Setting up and transmission of duplex audio signals to IP-devices

Setting up the synchronous audio and video recording is performed by matching the registered in the Intellect microphones to cameras. Each camera may be set to synchronous recording only with one microphone. Every microphone can be set to synchronous recording with several cameras.

Note. Setting up the sound transmission mechanism to the device is available for some IP-cameras Axis and JVC.

To set up the duplex audio signal transmission to IP-device do the following:

1. Select the required Computer object on the Hardware tab of the System settings dialog window.
2. Create the Video capture card object by clicking upon the selected Computer object by right mouse and select the item «Create object»=> « Video capture card » in the appeared contextual menu (Fig. 8.6.13-1).

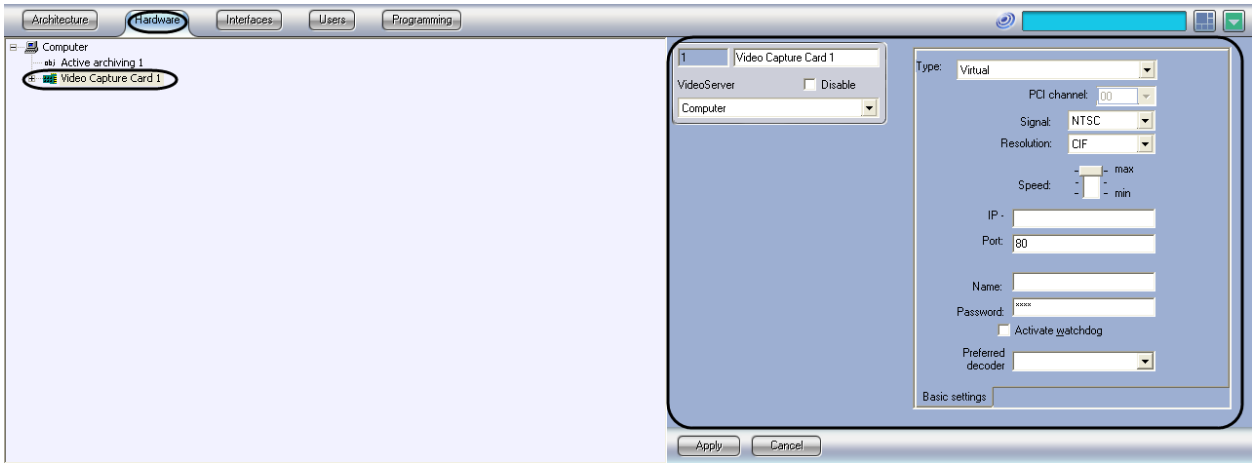


Fig. 8.6.13-1 Creating the Video capture card object

3. Setting up the Video capture card is done in the following way:

3.1. From the dropdown list type select the video capture card's type (Fig. 8.6.13-2, 1).

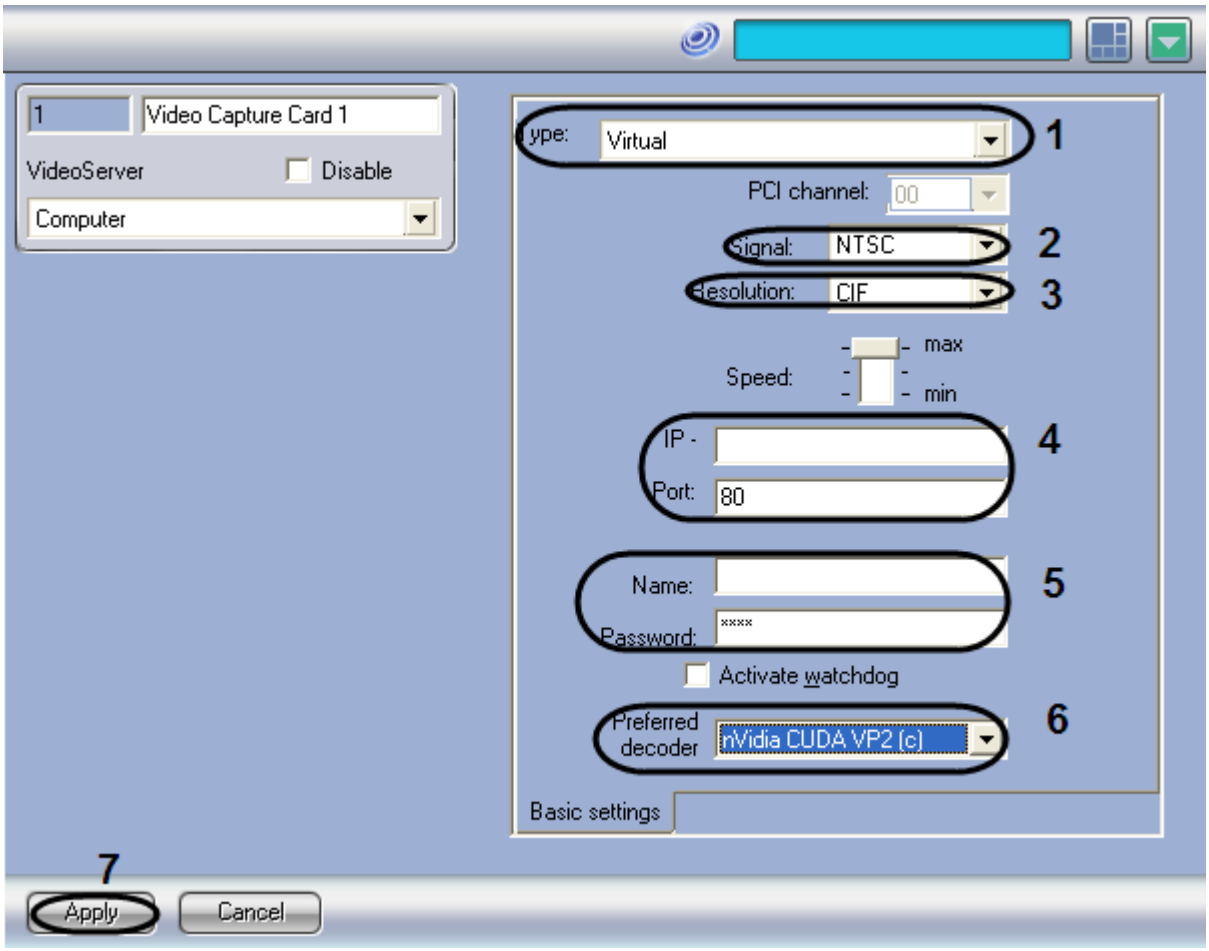


Fig. 8.6.13-2 Setting up the Video capture card to IP-camera

3.2. Select the value «PAL» from the dropdown list Signal (Fig. 8.6.13-2, 2).

3.3. Set the Standard resolution in the dropdown list Resolution (Fig. 8.6.13-2, 3).

3.4. Set the IP-address of the required IP-camera and the port through which it is connected in the fields «IP-address: » and «Port: » (Fig. 8.6.13-2, 4).

3.5. If necessary set the login and password in the fields «Name: » and «password: » (Fig. 8.6.13-2, 5).

3.6. Select the preferred decoder for the selected type of video capture card from the list Preferred decoder (Fig. 8.6.13-2 , 6), containing the following variants: nVidia CUDA VP2(c), Stretch (c), ffMPEG lib, Intel IPP (c).

3.7. To save the changes click Apply button (Fig. 8.6.13-2, 7).

4. Create and set the Camera object on the Video capture card object basis.

4.1. On the Camera object settings panel select from the Sound recording list the name, given to the object that is being set to the synchronous recording to the microphone

while its registration in the Intellect program (see. Setting up the synchronous video and audio recording).

4.2. Click Apply button.

5. Create the Video capture card on the Computer object basis.

5.1. Go to the settings panel of Video capture card system object

5.2. Select the required IP-device from the dropdown list Card.

5.3. Click Apply button to save the changes.

6. Create Microphone object and go to its settings panel on the Sound card object basis (Fig. 8.6.13-3).

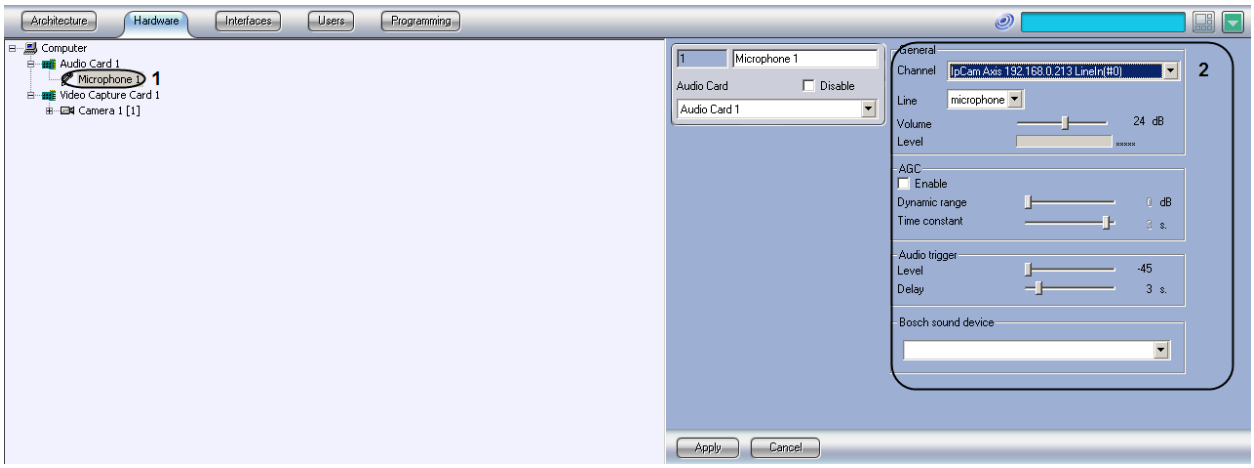


Fig. 8.6.13-3 Creating the Microphone object

6.1. From the dropdown list Channel select the channel, relating to the selected IP-camera, «IpCam…LineOut(#1)» (Fig. 8.6.13-4, 1).

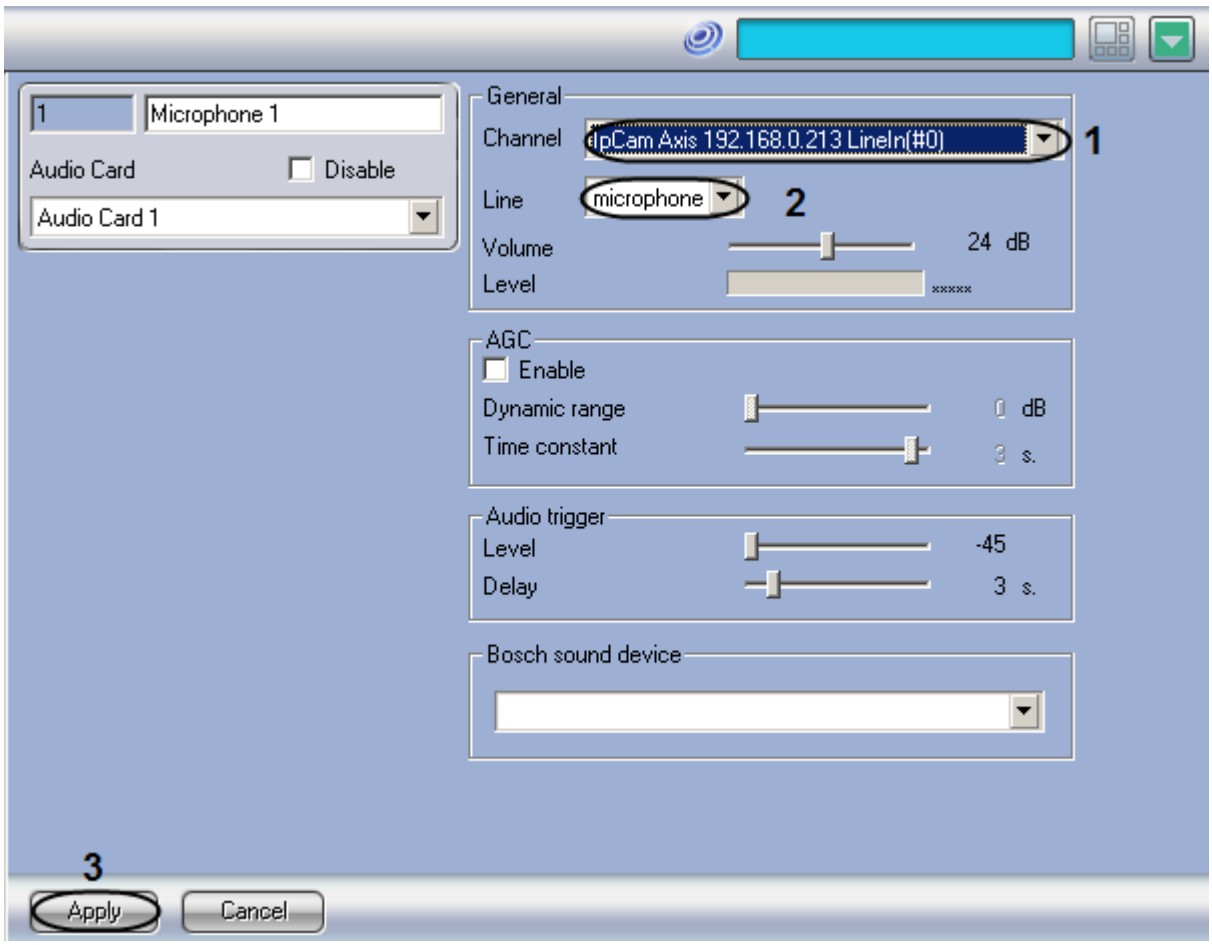


Fig. 8.6.13-4 Setting up the Microphone to IP-camera

6.2. Select the microphone value from the Line dropdown list (Fig. 8.6.13-4, 2).

6.3. Click Apply button to save the changes (Fig. 8.6.13-4, 3).

7. Create Camera's speaker object on the basis of camera object (Fig. 8.6.13-5)

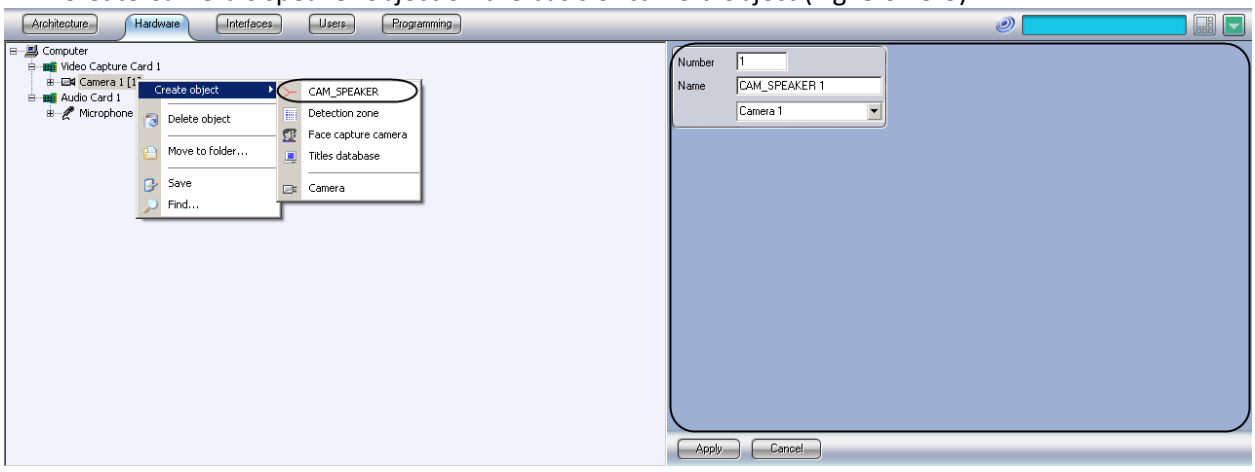


Fig. 8.6.13-5 Creating the Camera's speaker object

8. Go to Camera's speaker settings panel (Fig. 8.6.13-6).

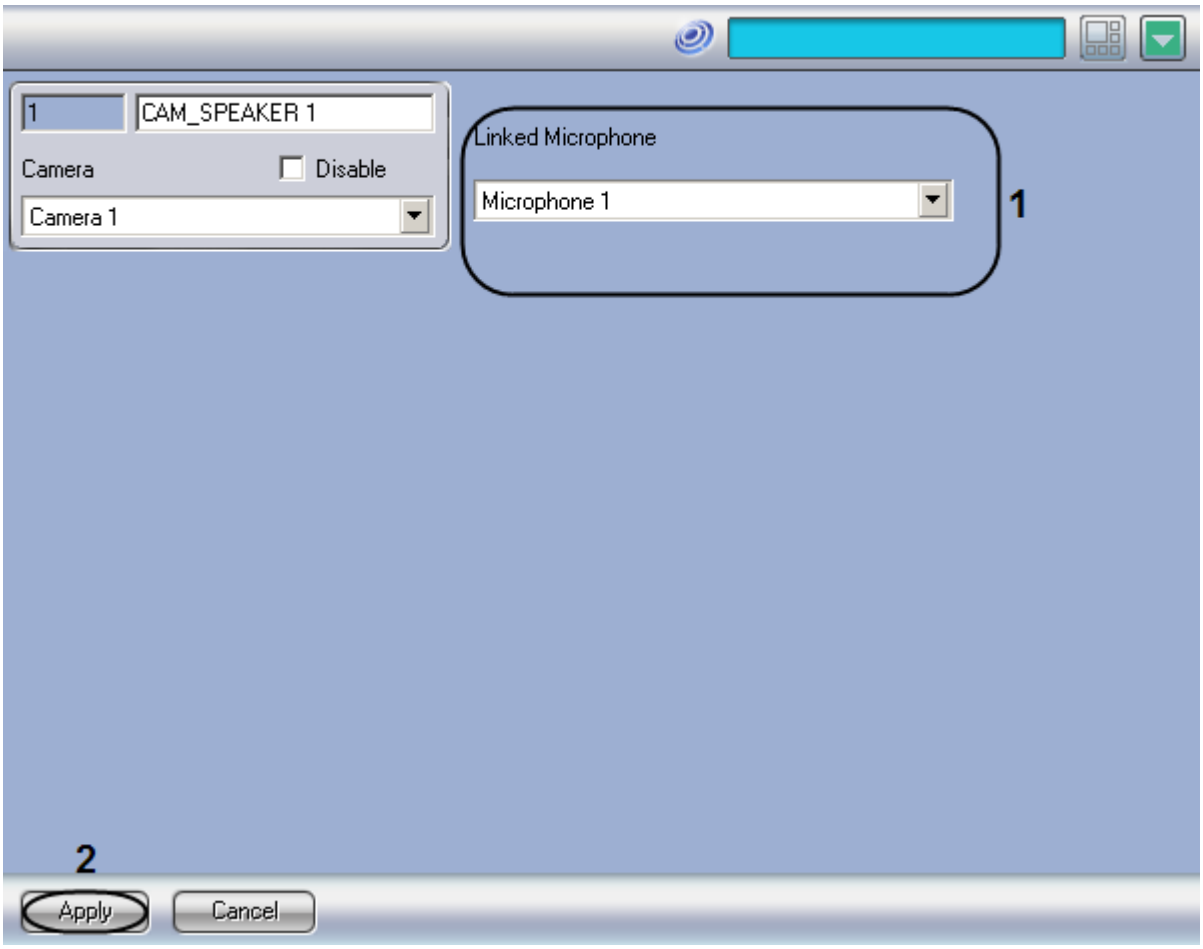


Fig. 8.6.13-6 Setting up the Camera's speaker object

8.1. Select the microphone, to which the channel value «LineOut(#1)»in the item 7.1 has been set from the dropdown list «Linked Microphone» (Fig. 8.6.13-6, 1).

8.2. Click Apply button to save the changes (Fig. 8.6.13-6, 2).

9. Create Audio card 2 on the basis of Computer object and set it up according to items 6.1. – 6.3.

10. Create Microphone 2 object on the basis of object Audio capture card 2 and set it up according to items 7.1. – 7.3.

11. Create Olxa_Speaker object on the basis of object Microphone 2 (Fig. 8.6.13-7).

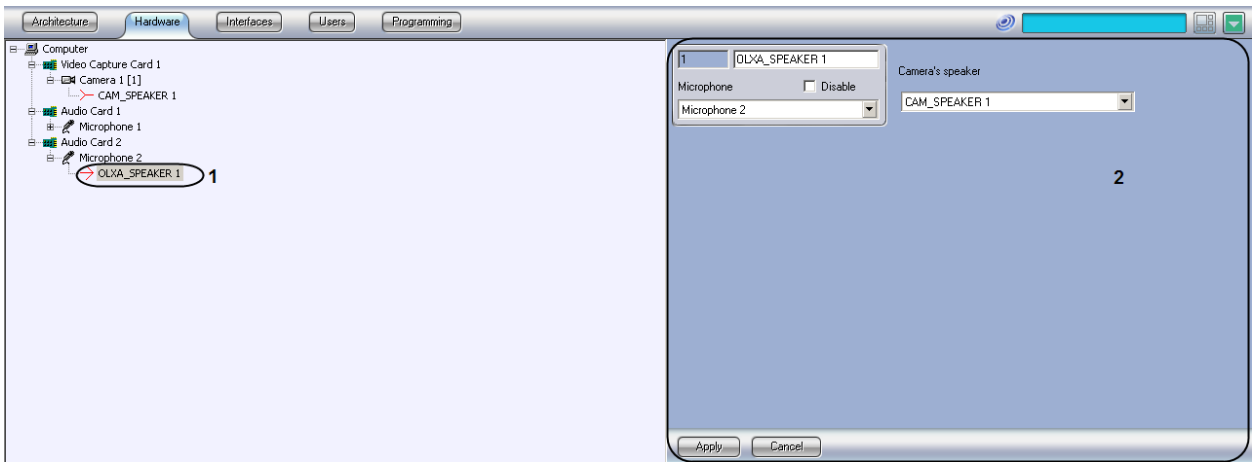


Fig. 8.6.13-7 Creating the object Olxa_Speaker

12. Go to the settings panel of Olxa_Speaker object (Fig. 8.6.13-8):

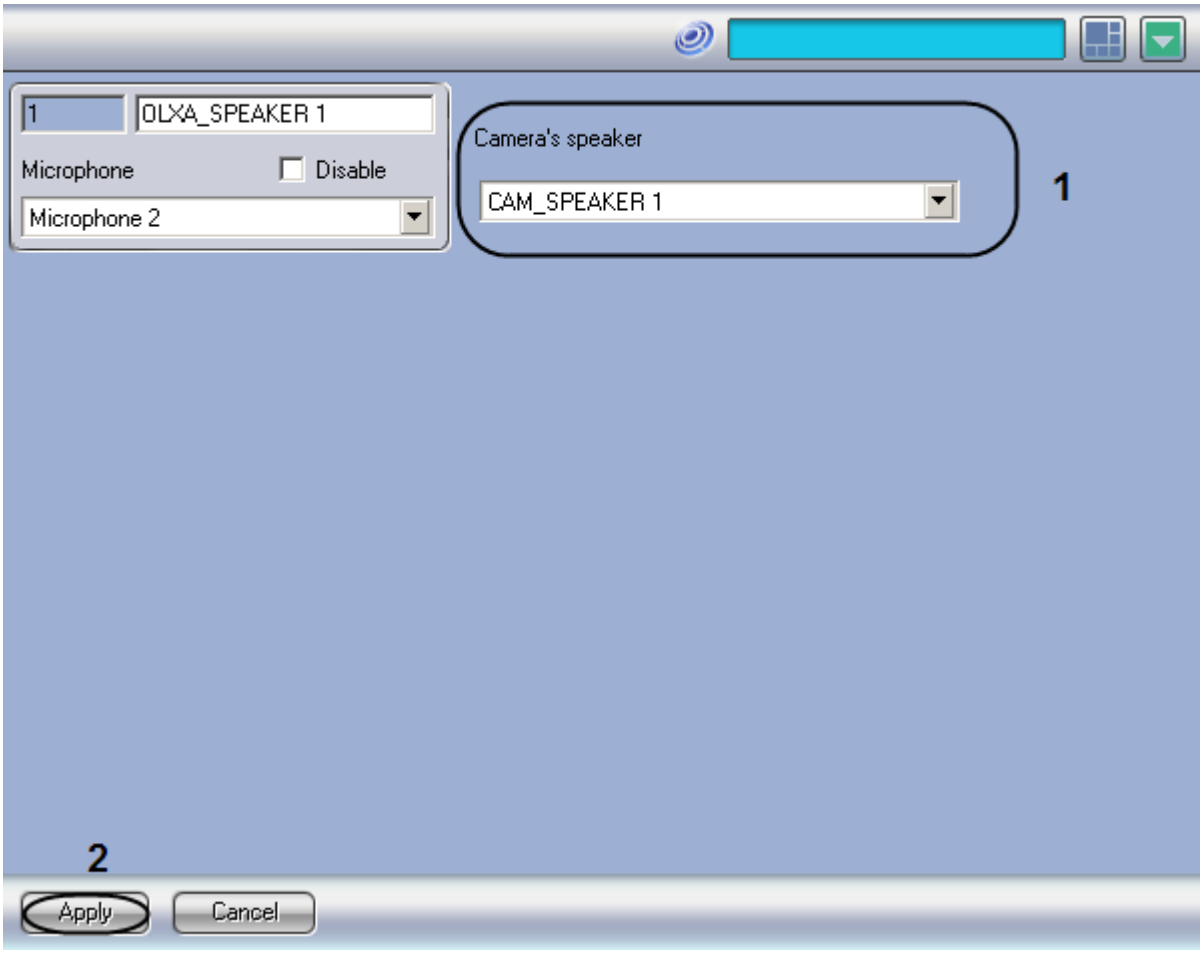


Fig. 8.6.13-8 Setting up the object Olxa_speaker

12.1. Select the previously created camera'speaker from the dropdown list Camera's speaker (Fig. 8.6.13-8,1).

12.2. Click Apply button to save the changes (Fig. 8.6.13-8,2).

13. Go to the Programming tab of System setting dialog window.

14. Create Macros object to the connection in Programming tab's objects tree (Fig. 8.6.13-9, 1).

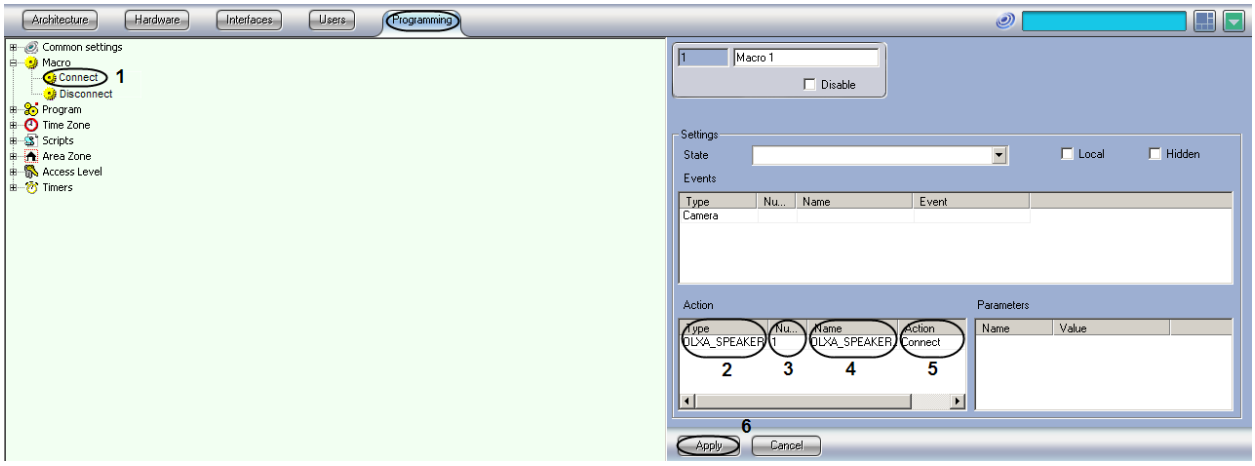


Fig. 8.6.13-9 Creating and setting up the Macros

14.1. Select the object Olxa_Speaker from the list in the Type column (Fig. 8.6.13-9, 2).

14.2. Select the object number Olxa_Speaker that will be connected on command (Fig. 8.6.13-9, 3).

14.3. Select the object name (Fig. 8.6.13-9, 4).

14.4. Select the Connection action (Fig. 8.6.13-9, 5).

14.5. Click Apply button to save the changes (Fig. 8.6.13-9, 6).

15. Create Macros object to disconnection in Programming tab's objects tree

15.1. Select Olxa_Speaker object from the list in the column Type (Fig. 8.6.13-9, 2).

15.2. Select the object number Olxa_Speaker that will be connected on command.

15.3. Select the object name Olxa_Speaker.

15.4. Select Disconnect action.

15.5. Click Apply button to save the Macro's object settings.

16. Restart the Intellect PC.

In result the sound on IP-camera will be heard while calling for Connection macros.

8.7 Setup of the «Watchdog» hardware performance tester

The «Watchdog» hardware control is designed to auto restart Windows OS when the operating system or basic modules of INTELLECT™ software are not responding.

INTELLECT™ software supports «Watchdog» hardware control of Watchdog performance for FS-5, FS-6, FS-16 and FS-8 video capture cards.

Setting up hardware control of Watchdog performance on the Server with installed video capture cards is done in three stages:

1. Make sure that hardware control of Watchdog performance is correctly connected (see. Connecting the hardware control of Watchdog Servers).

2. Activate function of Watchdog hardware control on the Video capture card settings panel.

Note. Activation of hardware control of Watchdog performance is done on the settings panel of only one of the video capture card's ADC to which Watchdog is connected.

3. Check the hardware control of Watchdog.

To activate and check hardware control of Watchdog performances carry out the following steps:

1. Go to the settings panel of Video capture card system object on the Hardware tab of System settings dialog window (Figure 8.7-1).

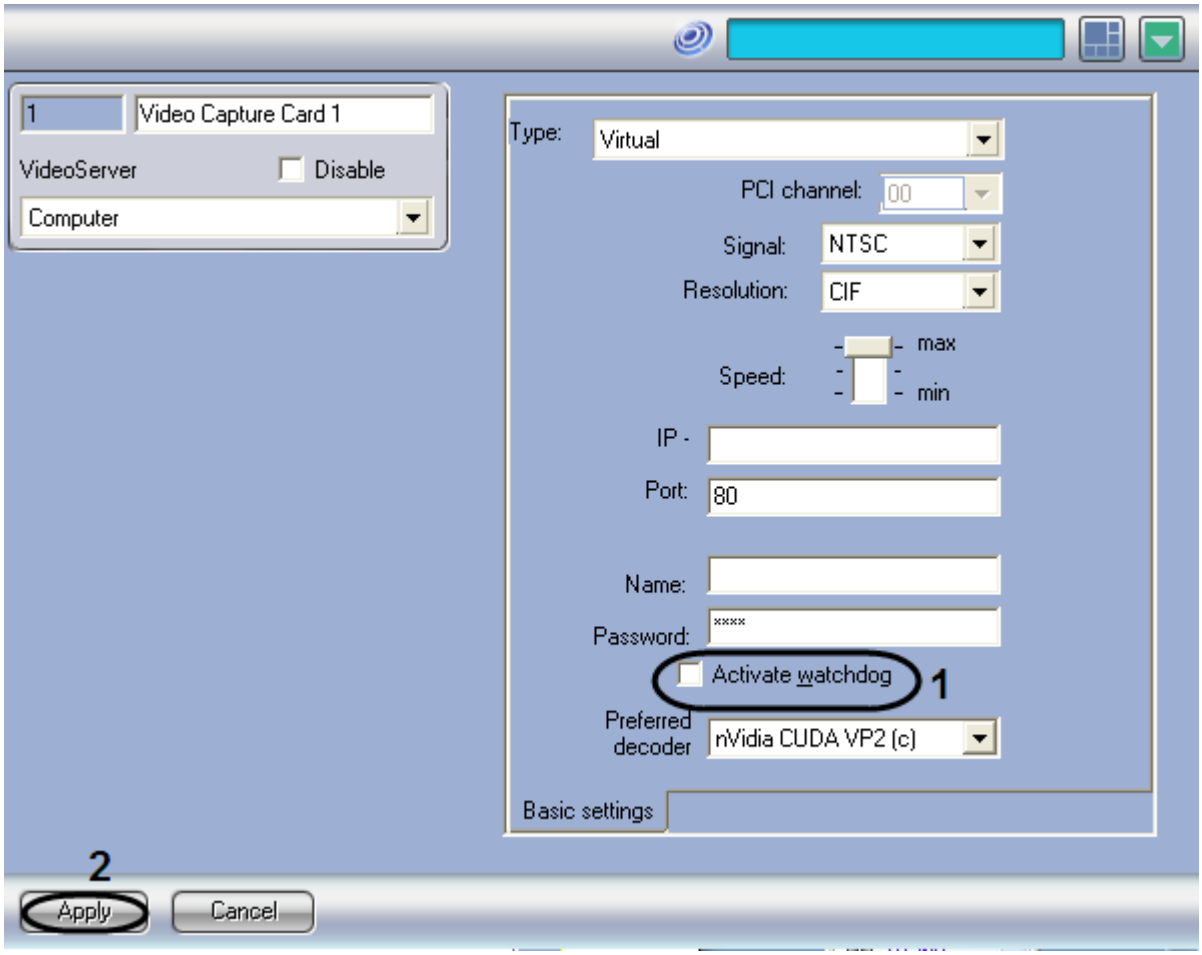


Figure 8.7-1. Activating the functions of «Watchdog» hardware performance control on the Servers with installed video capture cards

2. Set the checkbox Activate watchdog (Figure 8.7-1, 1).

Note.For correct work of Watchdog performance tester on the video capture card FS8, it is necessary to select the number of PCI-channel «07» for one of the objects Video capture card, fitting ADC of the card.

3. Click Apply button to save the changes (Figure 8.7-1, 2).

4. With the help of Task Manager of OS Windows close «video.run» process (Figure 8.7-2).

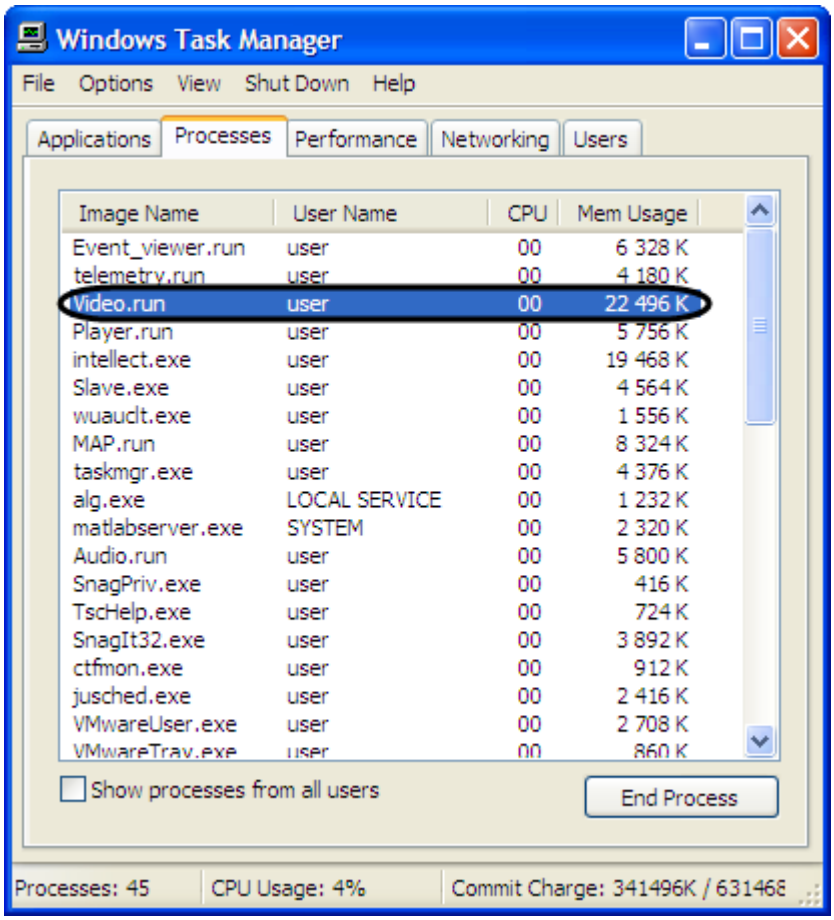


Figure 8.7-2. Ending the “video.exe” process via Windows OS Task Manager

5. In case when «Watchdog» is connected and set up correctly, OS Windows will be restarted.

Note. OS will be restarted in several minutes after the completion of video. run process on SC video capture cards.

Activation and checking the hardware control of Watchdog performance is completed.

8.8 Analog video output setup

8.8.1 Installing the expansion cards for analog video signal output

For viewing video sequences from surveillance cameras with the analog monitors special option – analog video output - is used. To activate this option with FS-5, FS-6 and FS-16 video capture cards, the auxilliary board is used – analog video output board.

Note. The FS-8 video capture card has an integrated analog output so, no analog video output board needs to be installed.

Note. WS-6 cards with hardware compression do not support the analog video output option.

Analog video output cards are used for video signal output from one of the cameras, connected to the videoserver, directly, with no digitization, to an analog monitor.

An analog video output card has three connectors, which are compatible with FS-5, FS-6 and FS-16 video capture cards (Figure 8.8-1).

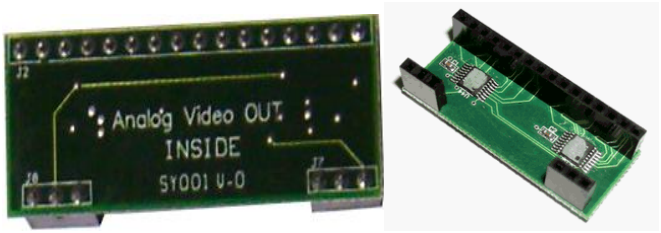


Figure 8.8-1. Analog video output card (front and rear views)

To install an analog video output board, follow the sequence:

1. Make sure that the video capture card power supply is switched off (that is the computer, on which the video capture card is installed, has its power switched off, or the video capture card is not installed in it).
2. Install the analog video output board on the video capture card, using special connectors on the video capture card (Figure 8.8-2 and Figure 8.8-3).

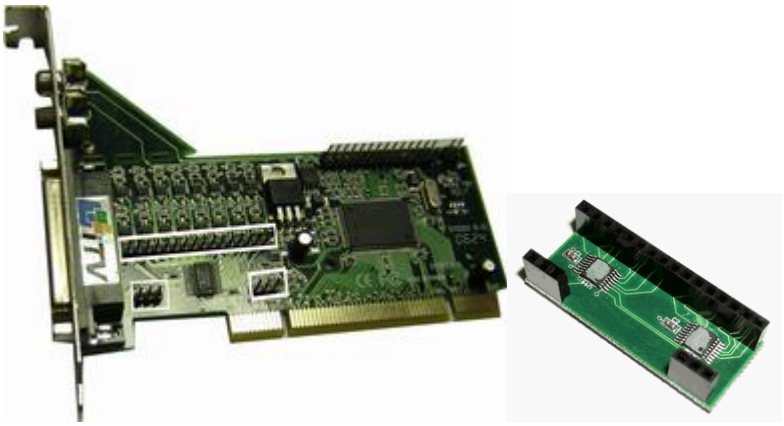


Figure 8.8-2. Fitted analog video output board connectors and video capture card connectors

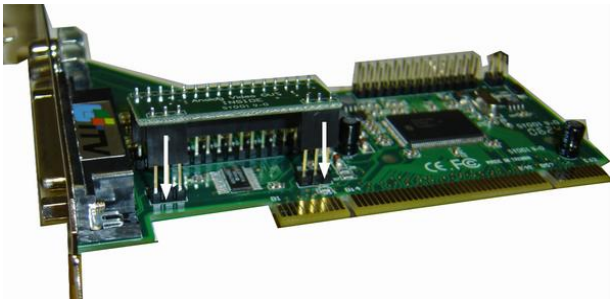


Figure 8.8-3. Connecting the analog video output board to the fitted connectors on the video capture card

3. Connect the interface cable of the analog monitor to the red BNC connector of the video capture cable, connected to the video capture card (Figure 8.8-4).

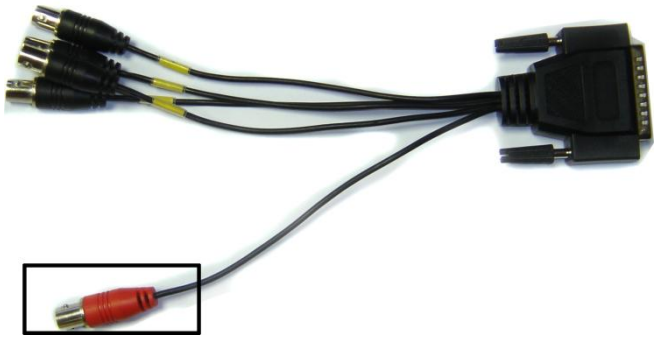


Figure 8.8-4. Analog video output connector

8.8.2 Analog video signal output

If optional video output expansion cards are installed on the system video grabber(s), INTELLECT™ software will support uncompressed video signal output through a dedicated TV out BNC connector.

8.8.3 Analog monitor setup

INTELLECT™ software has the facility to output video signal from a selected camera to an analog monitor. Video signal is transmitted to the analog monitor directly from the video capture card from one of the cameras, connected to the videoserver, with no digitization.

Note. The analog video image can be fed to the monitor from the single camera only.

For transmitting output video signal to an analog monitor, the video capture card should have an analog video output. The FS-8 video capture card has an integrated analog output. For FS-5, FS-6 and FS-16 video capture cards, the auxilliary board should be installed – analog video output board. WS-6 cards with hardware compression do not support video signal transmission from connected cameras to the analog monitor.

Video signal from any videoserver camera can be transmitted to an analog monitor. By default, a video signal can be transmitted to an analog monitor only from a camera, connected to the same video capture card, as the monitor. To transmit output video signal to an analog monitor from any camera, connected to any video capture card, analog video outputs of all cards, installed on the videoserver, should be soldered together.

INTELLECT™ software has the facility to output video signals from cameras to analog video inputs of the cards, to which these cameras are connected. This mode setup is performed with the “Monitor” object settings panel (Figure 8.8-5).

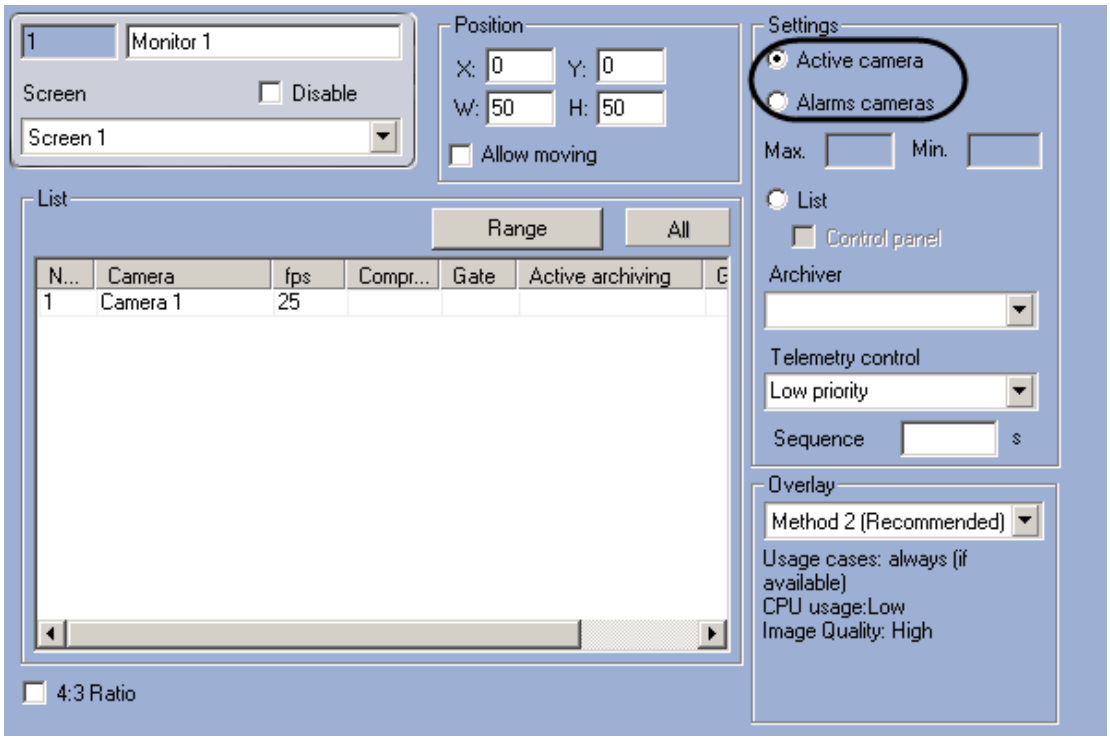


Figure 8.8-5. Settings of video signals fed to the analog video output

Note. When an analog video output card is connected to a video capture card, and an analog monitor is connected to the relevant BNC plug of a video capture card, the facility to feed an analog video signal to an analog monitor is activated automatically.

"Monitor" object setup for feeding an analog video signal to an analog monitor is performed by choosing the "Active camera" or "Alarms cameras" switch in the "Settings" panel.

If "Active camera" is selected, the video image from the camera, which is active on the monitor at the moment, is fed to the analog monitor.

If "Alarms cameras" is selected, the video image from an active alarm camera is fed to the analog monitor. (If several cameras are alarmed at the moment, the analog monitor will get a video signal from the camera with the latest alarm event).

To transmit output video signals from all cameras installed on the videoserver, to a single analog monitor (it is possible, if analog video outputs of all the installed video capture cards on the videoserver are soldered together), it is necessary to change the Windows OS registry settings.

Change the following registry settings manually:

Registry section HKEY_LOCAL_MACHINE\SOFTWARE\ITV\Intellect\Video NT\CurrentVersion\Winlogon.

String settings: name – «onevideoout», value – «1» (by default, «0»).

By default, when video signals are fed to the analog monitor, their switching is performed only among the cameras, connected to the same video capture card. Changing this key allows to activate the auxilliary software procedure of switching the video signals from all videoserver cameras, connected to different video capture cards.

8.9 Setup and connection of the special keyboard

The “Special keyboard” device is used for efficient control of the main functions of interface objects in the INTELLECT™ software. The “Special keyboard” allows to control the following system’s main functions:

1. Video surveillance
2. Audio control
3. Telemetry
4. Events protocol
5. Macros
6. DI/DO

Setting up the interaction of the “Special keyboard” device is performed with several stages:

- Connect the “Special keyboard” to the Workplace
- Setting up the keyboard layout(programming)
- Creation and set up of the “Special keyboard” object in the Intellect program complex
- Setting the keyboard layout’s rules of interpretation by Intellect program complex in the ini-file.

Note. When ini-file is used, that is delivered in the PC Intellect distributive, possibility of control of 16 cameras on one monitor is realized. To get ini-file, that solves more difficult tasks of interface objects control(e.g. on two or more monitors), one should apply to technical support service of ITV group company.

INTELLECT™ software supports the following models of the Special keyboard” device:

1. PROMAG KB-840. Is delivered beginning from version 4.7.5 of PC Intellect as a substitute of PROMAG KB-950A model
2. PROMAG KB-950A. Out of production.

Note. Information about connection and setting up the PROMAG KB-950A model is described in detailes in the documentation for versions 4.7.4 - 4.7.6 of Intellect program complex-see. http://www.itv.ru/support/documentation/.

8.9.1 Connecting the special keyboard to the Workstations

To connect the “Special keyboard” to a workstation, follow the sequence:

1. Connection of the special keyboard to the computer PS/2 port.

2. One by one connection of other special keyboard devices to the special keyboard device (optionally)

3. Connection of standard keyboard to the special keyboard device

Note. When PC Intellect is used , up to ten special keyboard devices may be connected to one computer.

Standard safety regulations should be sticked to when the special keyboard device is being connected to the computer.

To connect the special keyboard device to the computer, do the following:

1. Switch off the computer power supply

2. Disconnect the standard keyboard from the computer system unit.

3. Connect the special keyboard to the computer PS/2 port with the help of interface cable(Figure 8.9-1) .



Figure 8.9-1. The special keyboard device

Note. Before connecting the "Special keyboard" device, make sure that your hands are free of static electricity. To prevent damage to the system unit, it is recommended to use special protectors from static electricity (for example, an anti-static strap).

4. If necessary, connect interface cable of other special keyboard device to PS/2 pin of the connected device (Figure 8.9-2)

5. Repeat step 4 for all the required devices of special keyboard

6. Connect interface cable of standard keyboard to to PS/2 pin of the last connected special keyboard device (Figure 8.9-2).



Figure 8.9-2. Connecting the standard keyboard to the “Special keyboard” device

7. Switch off the power of computer

Connecting the Special keyboard device to a workstation is completed.

8.9.2 Setting up the layout of the special keyboard device

The special keyboard, delivered with the INTELLECT™ system, has already been programmed: for every key there is set a special set of characters, that are correctly recognized in the system. On default the device layout corresponds to the object special keyboard with 0 identification number. Interpretation rules of special keyboard layout are set in the configuration file «<Intellect installation directory>\Modules\keyb_0.ini».

It is possible to reprogram the Special keyboard device for the Special keyboard object with 1 and over identification number.

Setting up the Special keyboard device (programming)is done in two stages:

1. Installation of software for programming the Special keyboard device
2. Programming the Special keyboard device

8.9.2.1 *Installation of the software for programming of the “Special keyboard” device*

Programming the keys of the Special keyboard device is performed with the help of software, that is included in the delivery set of the Special keyboard device.

Special keyboard «KB840» is programmed with the help of «Visual KeyMaker» program.

Installing «Visual KeyMaker» program is done in the following way:

1. Insert the CD from the delivery set of the “Special keyboard” device into CD-ROM driver.

2. The auto explorer of the CD will be run. The given explorer contains a list of items, available for installation and exploring.

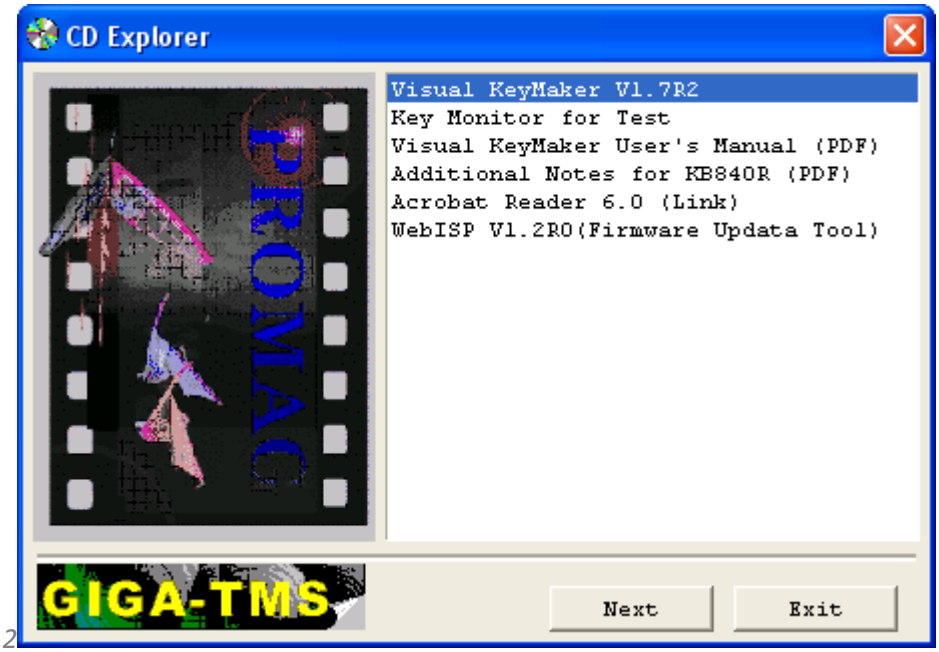


Figure 8.9-3. CD Explorer

3. Select the value «Visual KeyMaker» from the list of available items and then click «Next» (Figure 8.9-3).

4. Preperation window for running «InstallShield Wizard» will open in result (Figure 8.9-4).

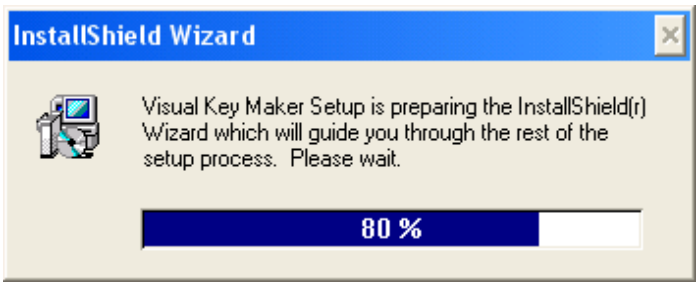


Figure 8.9-4. Preparation to run InstallShield Wizard

5. When the preparation to run «InstallShield Wizard» is over, a welcome message dialog window of the installation will be displayed. (Figure 8.9-5). Click «Next» to continue, click «Cancel» to cancel installation.



Figure 8.9-5. Welcome dialog window

6. Set the directory of program installation «Visual KeyMaker» (Figure 8.9-6). To change the directory, given on default, click «Browse». In the opened dialog window «Choose Directory» select the required folder and then click «OK».

7. Click «Next» to continue, click «Cancel» to cancel installation (Figure 8.9-6).

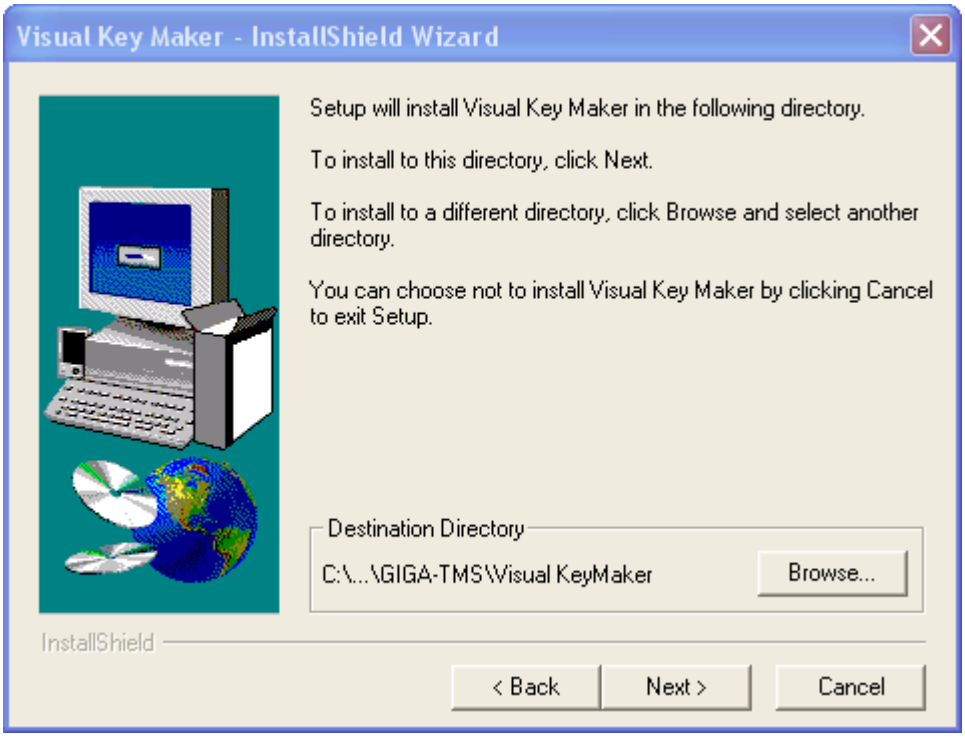


Figure 8.9-6. «Visual KeyMaker» installation directory

8. Enter the name of a program folder, created in Windows OS “Start” menu (displayed by selecting “Start” -> “All programs”), where the launching commands for this program will be displayed (Figure 8.9-7).

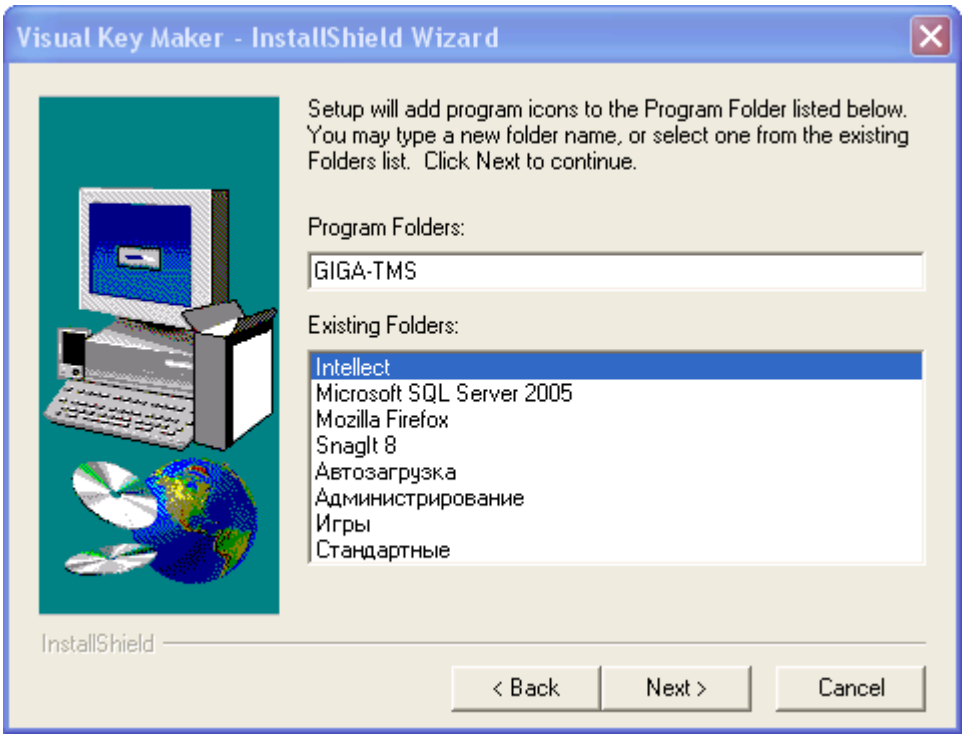


Figure 8.9-7. Name of folder, created in Windows OS Start menu

9. Check installation parameters, set during step 6.To change installation parameters click «Back». To run installation process, click «Next». To exit from installation program click «Cancel» (Figure 8.9-8).

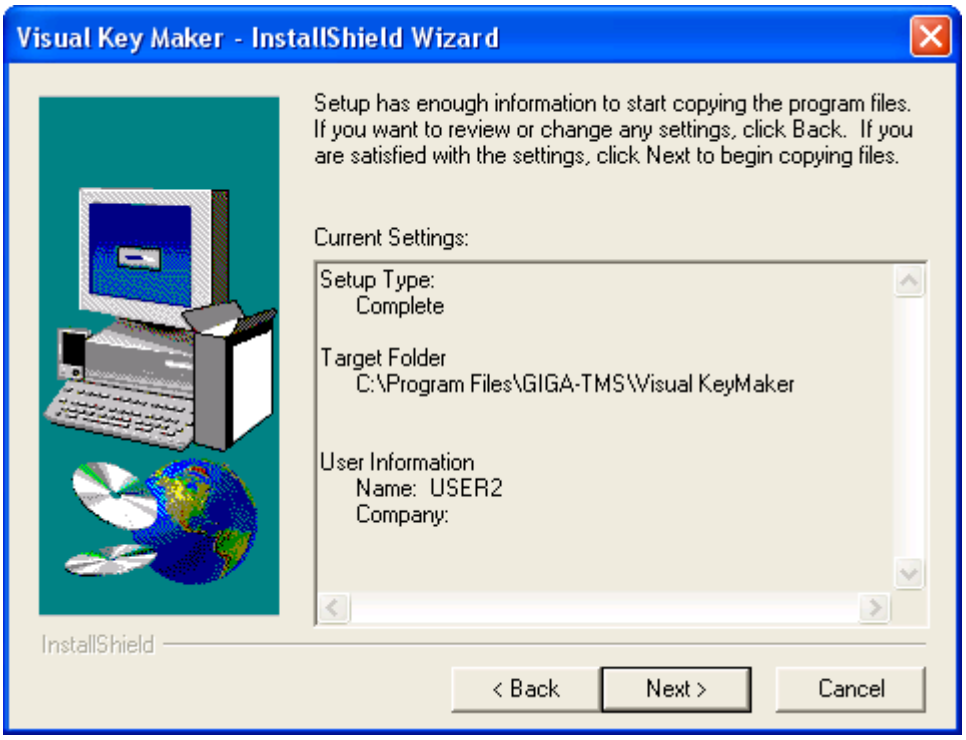


Figure 8.9-8. Checking installation parameters

10. After copying the files, the folder, created in OS Windows Start menu and ending the installation dialog window will open (Figure 8.9-9,Figure 8.9-10).

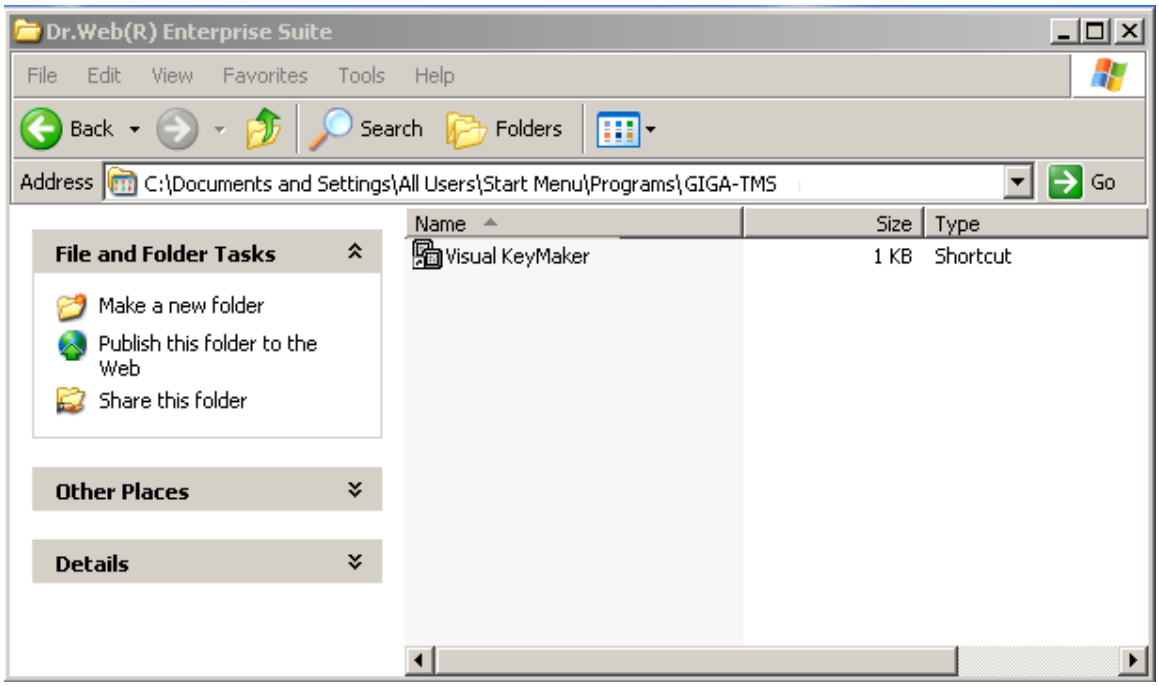


Figure 8.9-9. Folder in OS Windows Start menu

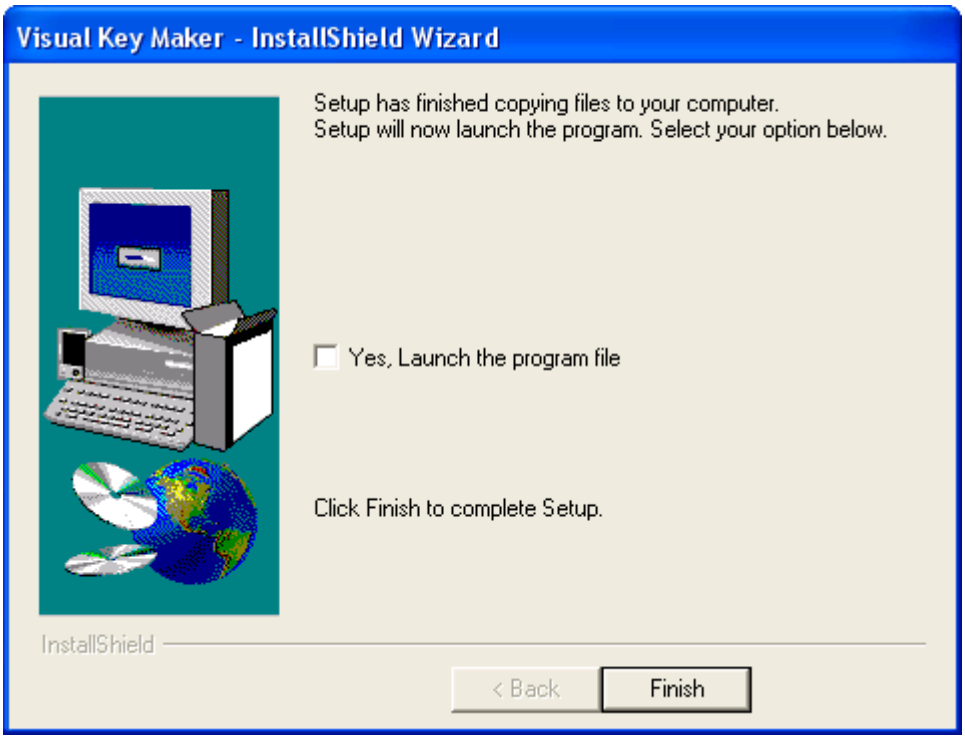


Figure 8.9-10. Ending the installation

11. To launch «Visual KeyMaker» program after ending the installation, set «Yes, Launch the program file» checkbox (Figure 8.9-10).

12. Click «Finish» to finish installation(Figure 8.9-10).

Installation of «Visual KeyMaker» is completed.

8.9.2.2 *Programming the "Special keyboard" device in Windows OS*

Note. Detailed information about programming the Special keyboard is given in official manual «Visual KeyMaker».

To program the Special keyboard device do the following:

- Connect the Special keyboard device to computer's COM-port with the help of connection plug RS-232,that is included in the delivery package (Figure 8.9-11).

Note. Connection of the Special keyboard device to serial port should be performed, when the power of the computer is disconnected. Otherwise the device may be damaged.



Figure 8.9-11. Connecion of the Special keyboard device to computer's COM-port

- Run «Visual KeyMaker» on the computer with connected Special keyboard device. It is launched from the Windows start menu: «Start» ⇨ «Programs» ⇨ «GIGA-TMS» ⇨ «Visual KeyMaker».

Note. «Visual KeyMaker» program may be also launched by the Windows "Run" command, which is displayed from the "Start" menu: «Start»⇨«Run». Enter the full path to the file, which launches the VKeyMaker.exe application, in the "Open" field.

- In result «Visual KeyMaker» interface window will open. In case when Special keyboard device is correctly connected to computer's COM-port , COM value will be displayed in the bottom part of the interface window (Figure 8.9-12).

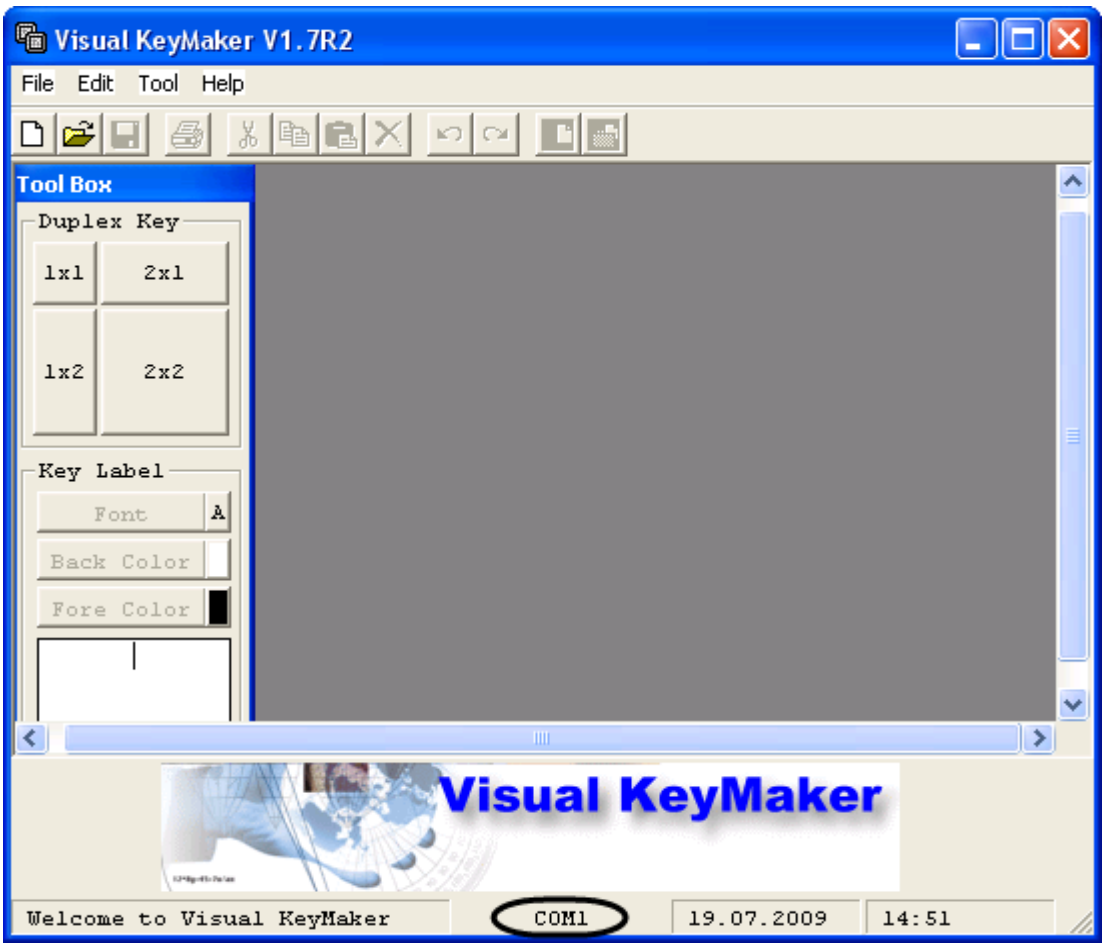


Figure 8.9-12. «Visual KeyMaker»program interface

- Open file with settings for the Special keyboard device programming. For this run the main menu's command «File» ⇨ «Open», in the standard dialog window «Open» select the required file and click Open (Figure 8.9-13).

Note. To get the file with settings for the Special keyboard device programming apply to Technical support service of ITV group company.

File with settings for PROMAG KB-840 model programming has tab. extension. File name corresponds to the suggested identification number of the Special keyboard object in Intellect PC and a form «kb840-0n», where n – object number from 0 to 9. In case, when one Special keyboard device is used, it is recommended to use «kb840-00.tab» settings file.

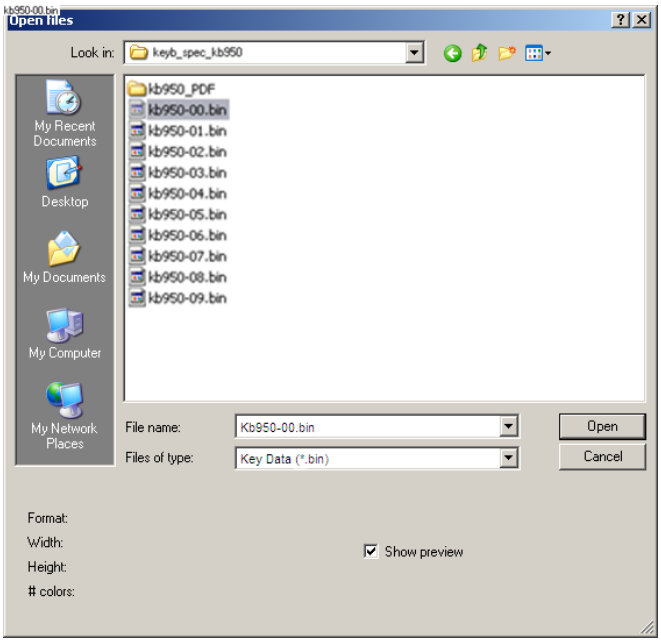


Figure 8.9-13 Selection of settings file for programming

- In result settings for programming the Special keyboard device will be displayed in the interface window «Visual KeyMaker» (Figure 8.9-14).

Note. Every key in the layout has a set of symbols of the kind (<'>, <n>,<xx>) – see.Figure 8.9-14.Symbols have the following value:

1. *<'> - symbol, that let Intellect PC recognize, that command has come from the Special keyboard device*
2. *<n> - single-valued identification number of the Special keyboard object, corresponding to the connected device*
3. *<xx> - two-digit key number (numeration is performed from the left to the right, top-to-bottom).*

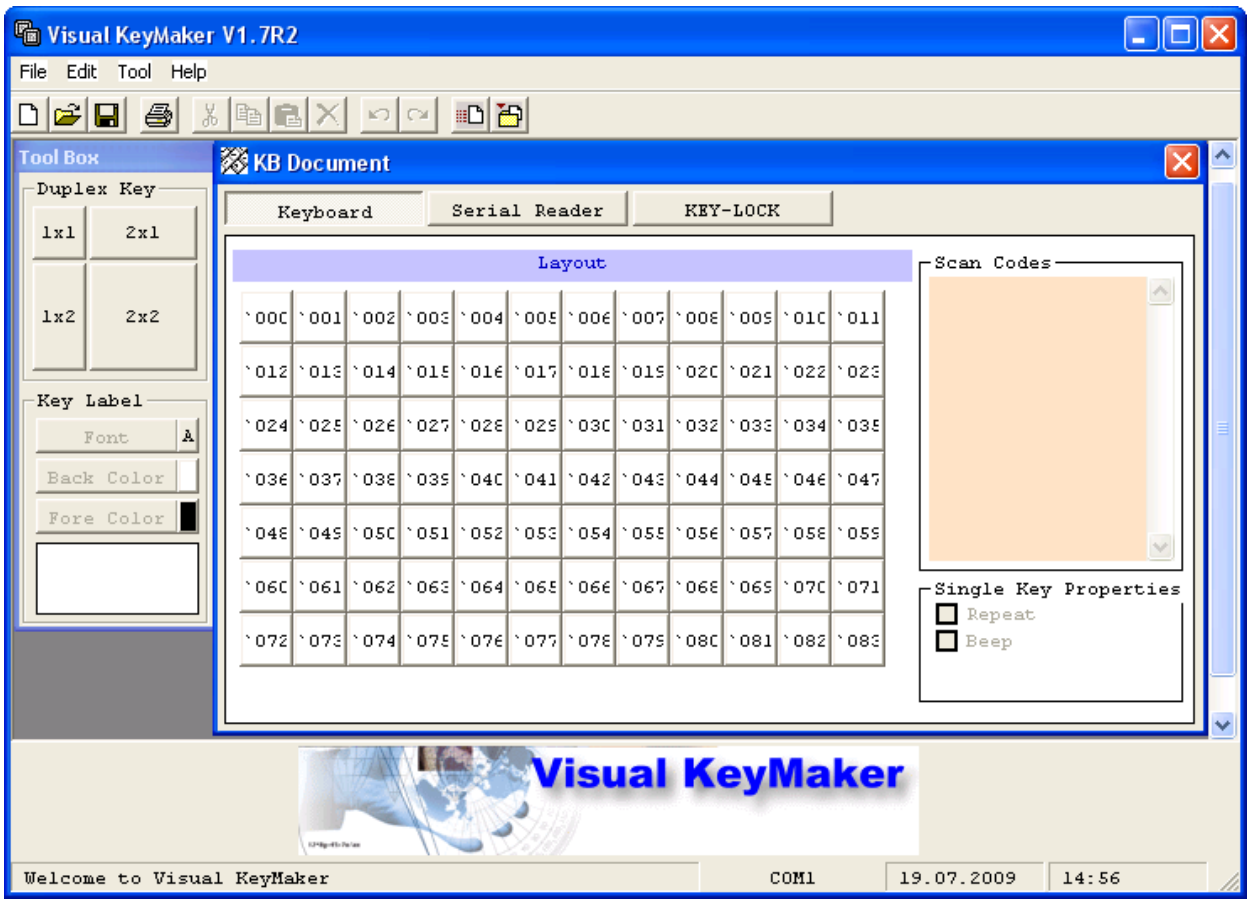


Figure 8.9-14. Settings for programming

- To apply settings for programming the Special keyboard device run the command for the main menu: «Tool» -> «Download to KB».
- Indicator of command's execution will be displayed in the window «Progress Bar» (Figure 8.9-15).

Note. Slowdown of all processes in OS Windows is possible during programming operation.

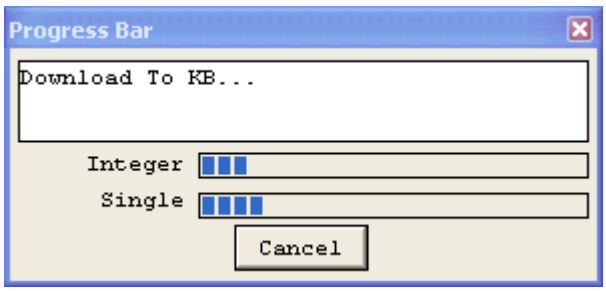


Figure 8.9-15. Indicator of command's execution

- After successful operation «Download Reader Settings to KB OK» will open. Click «OK» to close the window.

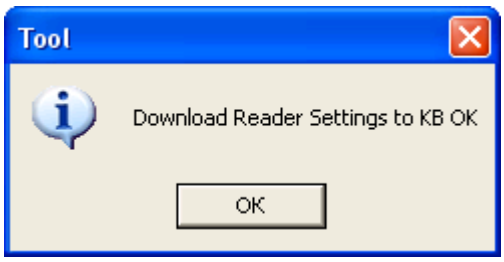


Figure 8.9-16. Closing the programming

- Run the command of the main menu :«File» ⇨ «Exit».
- In result dialog window prompting to save the file with the Special keyboard device layout will open. Click No to exit without saving the layout (Figure 8.9-17).

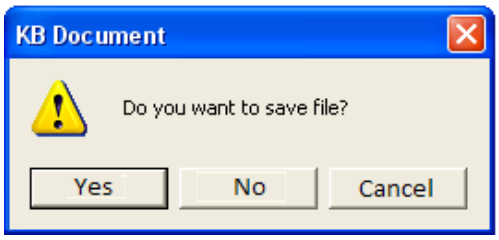


Figure 8.9-17. Exit without saving the layout

- Connect the power of computer and then disconnect the Special keyboard device from COM-port

Programming the Special keyboard device is completed.

Note. After programming the Special keyboard device it is recommended to sign on the opposite side of the device its number (n) based on the used number for programming kb840-0n.tab file.

8.9.2.3 *"Special keyboard" device setup in INTELLECT™ software*

To create and set up the "Special keyboard" system object in INTELLECT™ software, follow the sequence:

1. Open the "Hardware" tab in the System Settings dialog box (Figure 8.9-18).

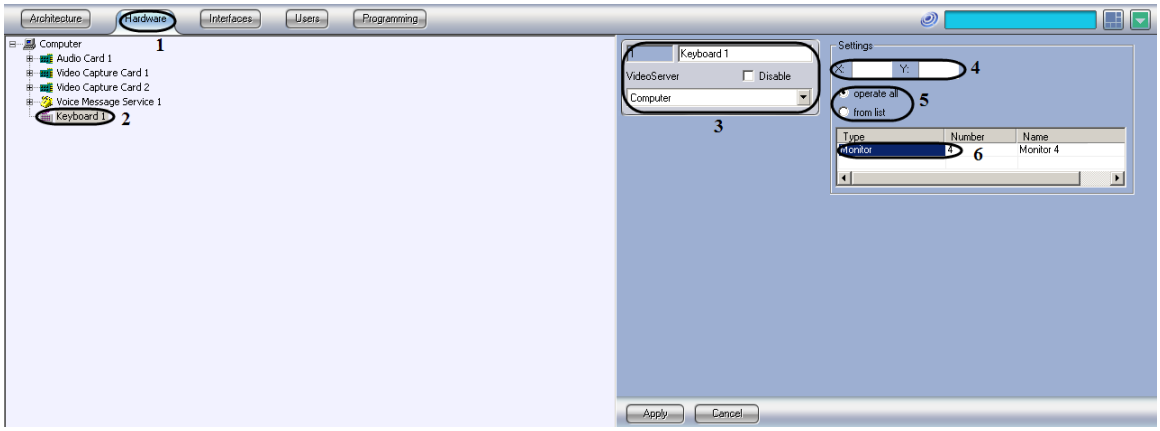


Figure 8.9-18 Settings panel of Special keyboard system object

2. Create the “Special keyboard” system object on the base of the “Computer” object or select the relevant object in the objects tree on the “Hardware” tab of Intellect settings panel.

3. Enter the IDnumber of the created object,its name and select the “Computer” system object to be the parent one for the“Special keyboard” object.

Note. The object ID should be the same as the file number, used for programming the device (see the “Programming the “Special keyboard” device in Windows OS” section), and should be within the range from 0 to 9.

The “Computer” system object should match the computer, to which the “Special keyboard” device is connected.

4. Enter the coordinates of the interface window(coordinates of the left upper corner), used to enter the object’s number, which should be controlled by the Special keyboard device. Coordinates are given in percentage in accordance with horizontal and vertical screen sizes correspondingly.

5. It is necessary to define what interface objects of the distributed video surveillance system will be controlled by the “Special keyboard” device. The “Control all” item is selected, Operator can control all the interface objects, that corresponds to the installation of configuration file. The “From the list” item allows to control interface objects, denoted in the list.

6. It is necessary to define what interface objects of the distributed video surveillance system will be controlled by the “Special keyboard” device . In the columns Type and Number it is necessary to select interface object, that is controlled by “Special keyboard” device, in the column Name the name of the selected interface object is automatically displayed.

8.9.3 Settings the interpretation rules of “Special keyboard” layout by Intellect program complex

Pressing of any button on the “Special keyboard” device corresponds to certain option activation in INTELLECT™ software. The buttons and options lookup table is described in the files with an ini extention. The name of the file with an .ini extension should like : keyb_n, where n is the “Special keyboard” device identification number (from 0 to 9) in the system.

In case, when one “Special keyboard” device should be connected to a workstation, standard keyb_0.ini file, that is included in the delivery package, is recommended to be used. After installation this file is located in the folder «<Intellect installation directory>\Modules».

In case, when more than one “Special keyboard” device should be connected to a workstation, a set of files keyb_n.ini should be used. These files should be is located in the folder «<Intellect installation directory>\Modules».

8.9.3.1 *The use of standard ini-file*

The following functions of Intellect PC may be realized with the use of ini-file:

a. Hide/display the video surveillance monitor.

b. Change the number of video surveillance windows on the Monitor.

c. Layout of video surveillance windows.

d. Listing of video surveillance windows.

e. Enabling the surveillance window.

f. Scaling of images in video surveillance window.

g. Arming and disarming the cameras.

h. Events' recording in accordance with the command.

i. Playback of video recordings.

j. Archive navigation.

Standard ini-file allows to manage 16 cameras on one video surveillance Monitor.The given functional is realized by the Special keyboard object with 0 identification number.

Preparation to use the functionality , provided by standard ini-file, is done in the following way:

1. Open keyb_0.ini file, located in the catalogue «<Intellcect Installation directory>\Modules».

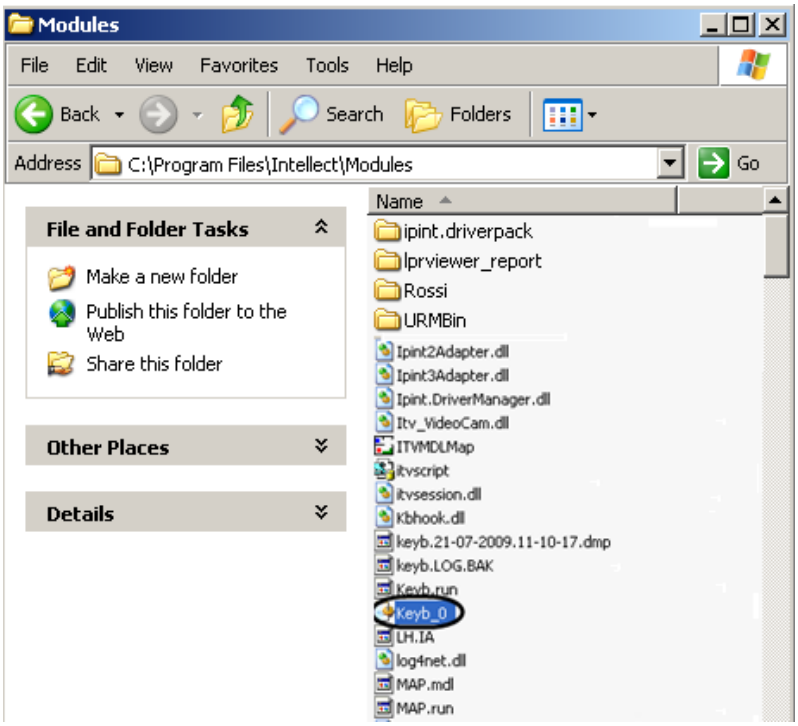


Figure 8.9-19. Location of keyb_0.ini file

2. Make sure, that value of «targets» parameter corresponds to Monitor object's identification number, which control should be performed with the use of Special keyboard device. Otherwise Monitor object's number should be changed to the required value in the line «targets». After changing the value of «targets» parameter save the changes in keyb_0.ini file.

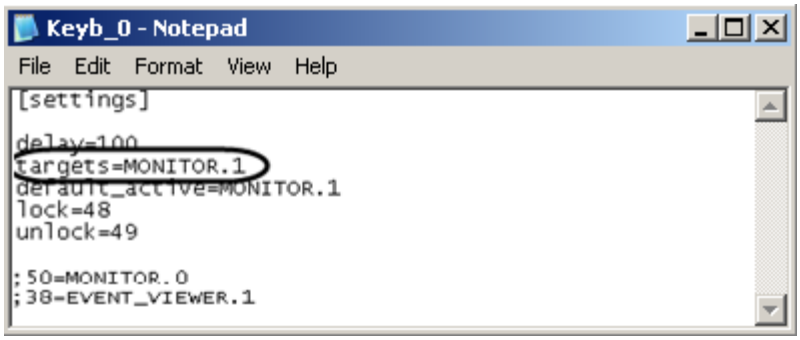


Figure 8.9-20. The content of «keyb_0.ini» file

3. Close keyb_0.ini file.

4. Visual form of Special keyboard device layout is given in Figure 8.9-21.

Note. To get layout file it is necessary to apply to Technical support service of ITV group. The given layout should be printed, cut the symbols and put them to the keys of the Special keyboard device.

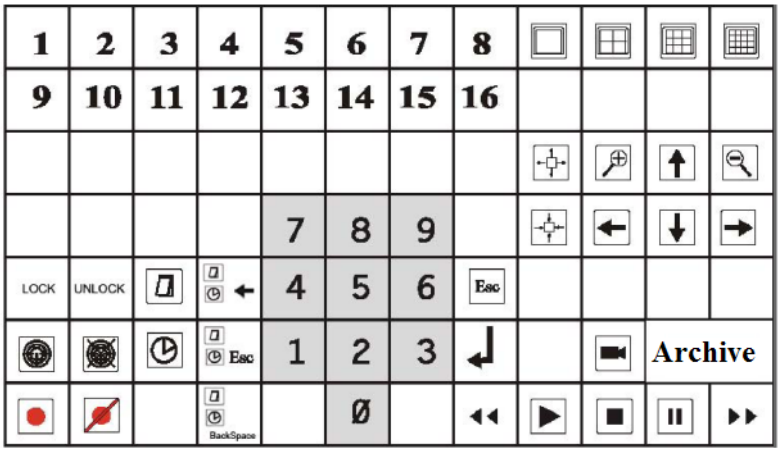


Figure 8.9-21. Special keyboard device layout with the use of standard ini-file

5. Check the interaction of Special keyboard device and Intellect PC in the following way:

    a. launch the INTELLECT™ software.

    b. display the video monitor, controlled by the “Special keyboard” device.

    c. click the “Special keyboard” buttons in turn.

6. In case, when actions are not carried out when keys of Special keyboard device are pressed, check the following issues:

1. Special keyboard” connection to a workstation.

2. Special keyboard device layout setup.

3. Special keyboard device setup in INTELLECT™ software.

4. Setting the PC Intellect interpretation rules for special keyboard device layout.

Preparation to use the functionality, provided by standard ini-file, is completed. The special keyboard device is ready for work.

Note. To set the interpretation rules for additional keys of special keyboard device standard ini-file has to be modified(see. Editing of standard ini-file(optionally)).

8.9.3.2 *Setting up Intellect program software with the use of several Special keyboard devices*

It is possible to connect several Special keyboard devices simultaneously to a workstation and control the necessary interface objects with the help of it.

Note. On default one Special keyboard device is provided for controlling 16 cameras on one video surveillance Monitor.

Preparation to use several Special keyboard devices in Intellect PC is done in the following way:

1. Prepare to use functionality, provided by standard ini-file, in accordance with step by step instruction the Use of standard ini-file.The given functional is realized by the Special keyboard object with 0 identification number

2. Copy ini-files to catalogue«<Intellect installation directory>\ Modules» to use additional devices the Special keyboard. keyb_n.ini file corresponds to every additional Special keyboard device , , where n is the “Special keyboard” device number (from 0 to 9) in the Intellect PC.



Figure 8.9-22. Location of ini-files to use several Special keyboard devices simultaneously

The number of copied files corresponds to the number of connected additional Special keyboard devices.

To get ini-files one should apply to Technical support service of ITV group company.

3. Get ready to use functionality, provided by copied ini-files, in accordance with step by step instruction the Use of standard ini-file. The given functional is realized by the Special keyboard objects with ID from 1 and above.

Preparation to use several Special keyboard devices in Intellect PC is completed. Special keyboard devices are ready to work.

8.9.3.3 *Editing the standard ini-file(optionally)*

It is possible to edit standard ini-file to change interpretation rules of the Special keyboard device layout.

Editing ini-file is done in the following way:

1) Open the required configuration file keyb_n.ini, where n – identification number of the corresponding Special keyboard object.

2) Find parameter– two digits number of the required key(is set during programming-see. Programming the Special keyboard device)

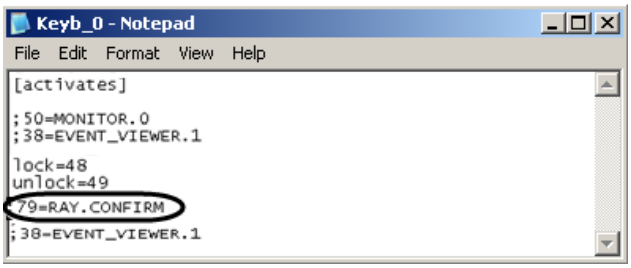


Figure 8.9-23. Editing ini-file

3) When there is commentary symbol «;» in the line with parameter and/or in the headline of parent section delete it.

4) Set the value of the parameter-PC Intellect command, that has to be carried out pressing the button.

Note. Description of Intellect PC commands is given in the document Intellect program complex: Programming guide.

5) In case, when the parameter is met in the file not by once, enter the commentary symbol before its name in all the lines, that are not used.

6) Repeat steps 2-5 for all the required keys of the Special keyboard device.

7) Save the changes and then close configuration file.

Editing the ini-file is completed.

8.10 Voice notification service

8.10.1 Setting up the Alarm Message window

8.10.1.1 *General description and usage details of the Alarm Message window*

The Alarm Message window notifies the operator about alarms and opens above all other windows in case of an alarm event on a set device.

8.10.1.2 *Creating and setting up the Alarm Message Window object*

To set up the Alarm Message window, do the following:

1. Go to the Hardware tab of the System Settings window (Figure 8.10-1).

2. Create the Alarm Message Window object in the Computer node in the object tree. The object appears in the object tree, and the settings panel for this object opens on the right side of the System Setting window.

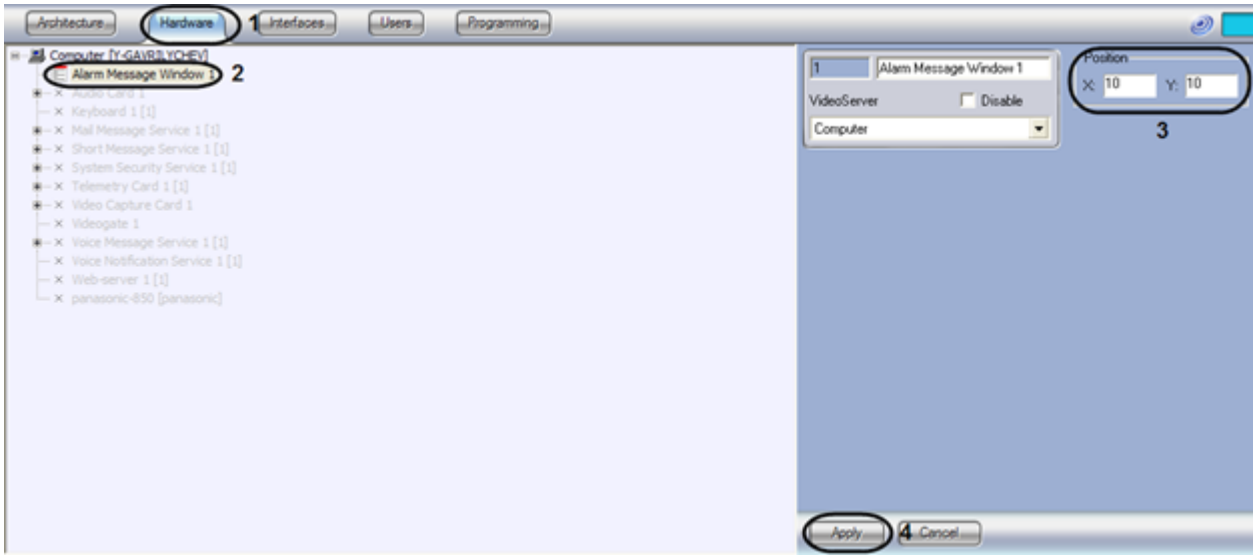


Figure 8.10-1. Creating and setting up the Alarm Message object

3. Set the coordinates (X, Y), in percent, for the position of the Alarm Message window.

Note. By default, X and Y coordinates are 0, thus, if they are not changed, the window opens in the upper left corner of the screen.

4. Press the Apply button to save the settings for the Alarm Message object.

Figure 8.10-2 shows a general view of the Alarm Message: this window will open above all other windows at a set position (60, 60) upon receiving an alarm event from Camera 3.

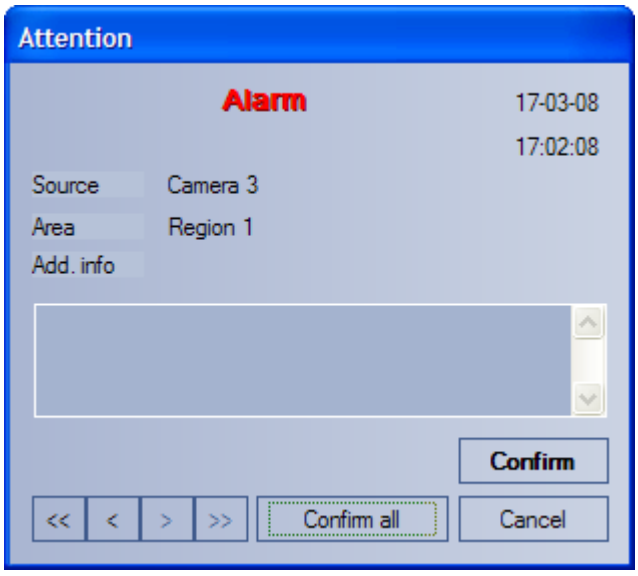


Figure 8.10-2. General view of the Alarm Message window

Note. To disable opening the Alarm Message window, check the Disable checkbox in the settings panel of the Alarm Message Window object.

8.10.2 Setting up the Short Message Service (SMS)

8.10.2.1 *General description and usage details of the Short Message Service*

The Short Message Service (SMS) is used for sending short messages to mobile phones about alarm events registered by Intellect software. A short message is sent automatically upon registration of any of the events specified in the corresponding macro.

The short messages are transferred using the services of the GSM mobile providers. To send the short messages, dedicated devices are used: GSM modems, GSM adapters and mobile phones.

Note A. When using Intellect software SMS service a certain fee should usually be paid to the mobile providers.

Note B.To be able to send the short messages, a GSM modem, a GSM adapter or a mobile phone supporting ETSI GSM 07.07 or ETSI GSM 07.05 should be installed on the computer.

Note CThe following modem models are currently integrated into Intellect PC:

A. *3G -modem Huawei E160, is identified as HUAWEI Mobile Connect -3G Modem in OS Windows. Modem coltrol program is not required to be run to work with this device.*
B. *3G-modem ZTE MF626 is identified as ZTE Proprietary HS-USB Modem in OS Windows.To use his device it is necessary to install the hardware, which installation will be run automatically after the modem is connected.*

To create and send a short message:

1. Create and set up the Short Message Service object.
2. Create and set up the Short Message object.
3. Create a macro for sending the short message.

8.10.2.2 *Creating and setting up the Short Message Service object*

To set up the Short Message Service object, do the following:

1. Go to the Hardware tab of the System Settings window (Figure 8.10-3).
2. Create the Short Message Service object in the Computer node in the object tree. The object appears in the object tree, and the settings panel for this object opens on the right side of the System Setting window.

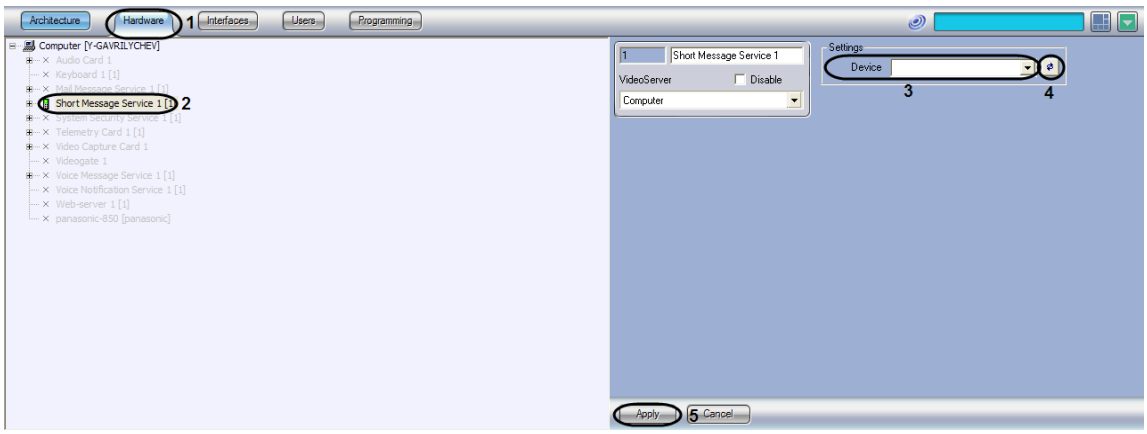


Figure 8.10-3. Creating and setting up the Short Message Service object.

3. Select the GSM-device to be used for sending SMS, in the Device drop-down list.

4. Press the refresh button for the system to update the list if the device was not listed.

5. Press the Apply button to save the settings for the Short Messages Service object.

8.10.2.3 *Creating and setting up the short messages*

To set up the Short Message object, do the following:

1. Go to the Hardware tab of the System Settings window (Figure 8.10-4).

2. Create the Short Message object in the Short Message Service node in the object tree. The object appears in the object tree, and the settings panel for this object opens on the right side of the System Setting window.

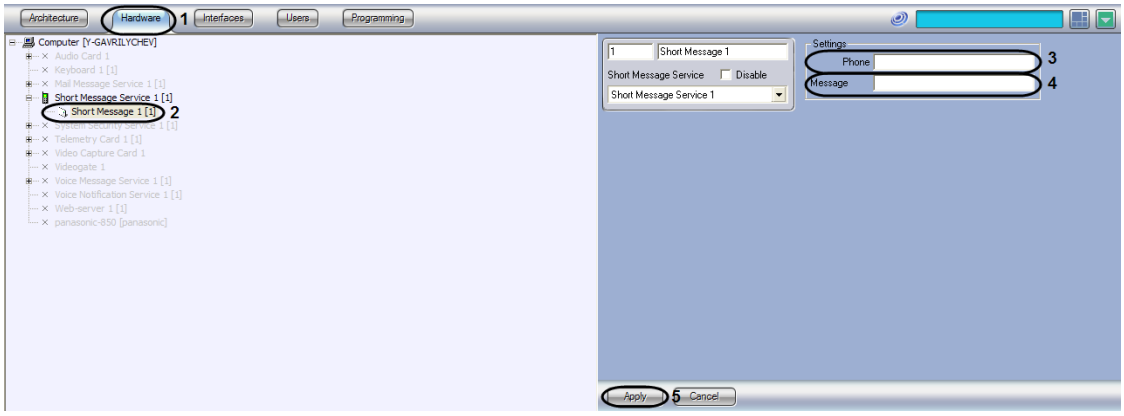


Figure 8.10-4. Creating and setting up the Short Message object

3. Enter the telephone number into the Phone field in the following format: [prefix “+”] [country code] [city/provider code] [phone number] with no spaces or other delimiters.

4. Enter the message text into the Message field.

Press the Apply button to save the settings for the Short Message object.

8.10.2.4 *Creating and setting up the macro for sending the short message*

The message is sent upon execution of a macro. The macro is executed immediately after a set event occurs. To create the macro for sending the short message:

1. Go to the Programming tab of the System Settings window (Figure 8.10-5).
2. Create a Macro object in the object tree of the Programming tab.

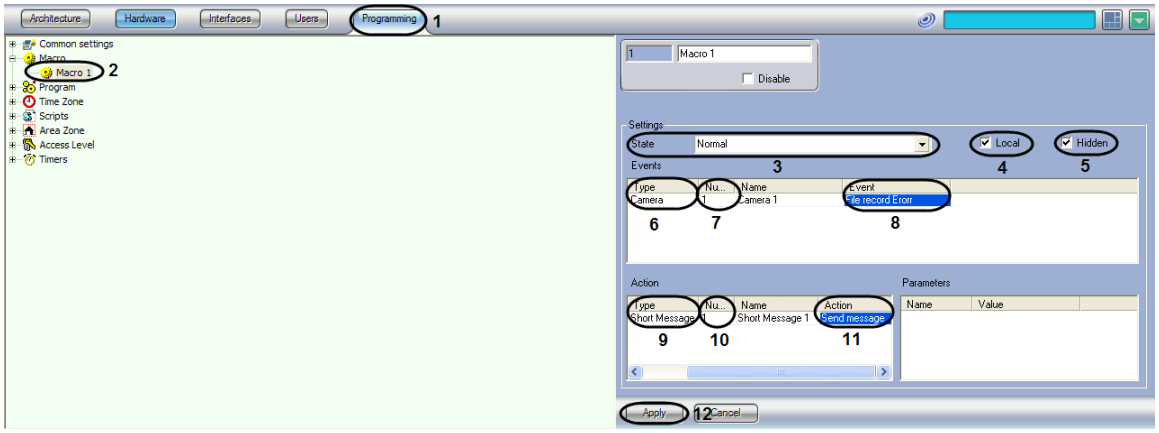


Figure 8.10-5. Creating and setting up the macro for sending the short message

3. Set the State parameter.
4. Check the Local checkbox to send the message from a local computer only.
5. Choose the event object type for the SMS macro to be related to.
6. Choose the event object number for the SMS macro to be related to.
7. Choose the event name which will trigger the sending of the short message.
8. Choose the Short Message object in the Type column.
9. Choose the number of the Short Message object to be sent by the macro.
10. Choose Send Message in the Action column.

Press the Apply button to save the settings for the Macro object.

8.10.3 Setting up the Mail Message Service (E-mail)

8.10.3.1 *General description and usage details of the Mail Message Service*

The Mail Message Service (E-Mail) is used for sending e-mail messages about the alarm events registered by Intellect software, to remote system users. Sending e-mail messages is triggered automatically upon registration of any of the events set in the macro.

To be able to send e-mail messages, the computer should be connected to the internet via a local area network or remote TCP/IP connection.

The e-mail messages are sent by the Mail Message Service. To send e-mail messages in Intellect, you should first register a mailbox in the Mail Message Service.

Note. When registering your mailbox in the Mail Message Service, note the following:

1. *Intellect's Mail Message Service does not support SMTP servers with Secure Password Authorization (SPA).*
2. *Intellect's Mail Message Service supports only the following authorization algorithms on SMTP servers: LOGIN, CRAM-MD5, PLAIN.*

To create and send an e-mail message:

1. Create and set up the Mail Message Service object.
2. Create and set up the Mail Message object.
3. Create a macro for sending the e-mail message.

8.10.3.2 *Creating and setting up the Mail Message Service*

To set up the Mail Message Service object, do the following:

1. Go to the Hardware tab of the System Settings window (Figure 8.10-6).
2. Create the Mail Message Service object in the Computer node in the object tree. The object appears in the object tree, and the settings panel for this object opens on the right side of the System Settings window.

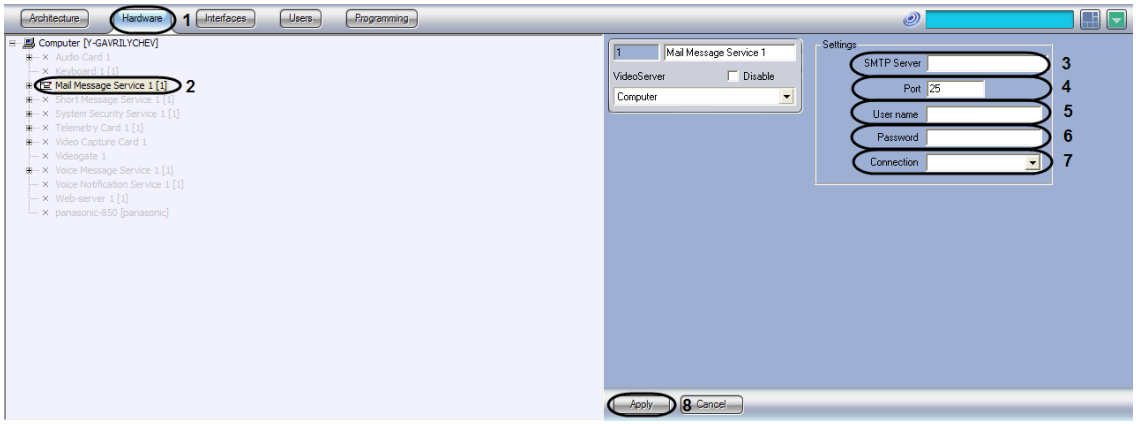


Figure 8.10-6. Creating and setting up the Mail Message Service object

3. Enter the URL address of the SMTP server.
4. Enter the port number for outgoing messages.
5. Enter the username for authorization on the SMTP-server.
6. Enter the password for authorization on the SMTP-server.
7. Choose the internet connection type.

Press the Apply button to save the settings for the Mail Messages Service object.

8.10.3.3 *Creation of e-mail messages*

To set up the Mail Message object, do the following:

1. Go to the Hardware tab of the System Settings window (Figure 8.10-7).

2. Create the Mail Message object in the Mail Message Service node in the object tree. The object appears in the object tree, and the settings panel for this object opens on the right side of the System Setting window.

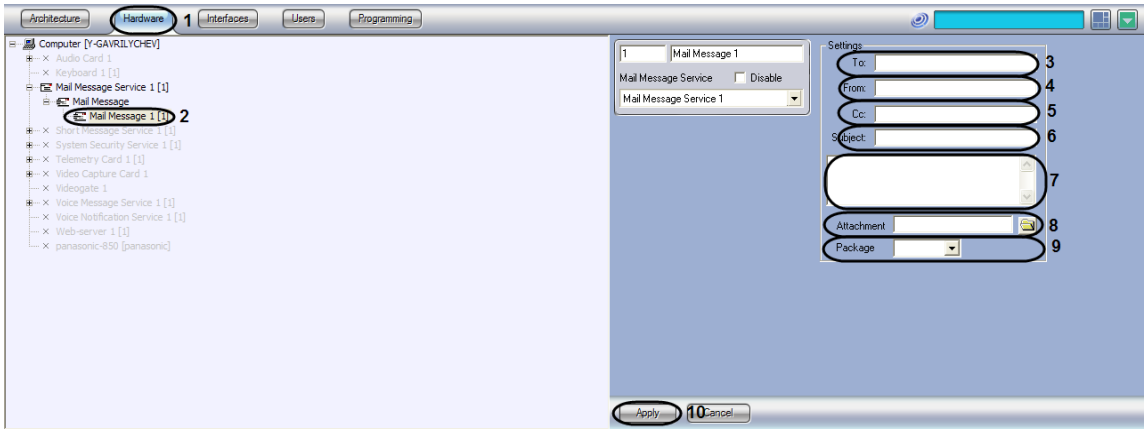


Figure 8.10-7. Setting up the Mail Message object

3. Enter the e-mail address of the recipient.

4. Enter the e-mail address of the sender.

5. Enter additional addresses (Cc:) to send this message to, if necessary.

6. Enter the subject of the message.

7. Enter the text of the message to be sent to the specified addresses.

8. Attach a file to the alarm message (report, audio, image), if necessary.

9. Specify if the attachment should be packaged (archived).

Press the Apply button to save the settings for the Mail Message object.

8.10.3.4 *Creating and setting up a macro for sending the e-mail message*

The message is sent upon execution of a macro. The macro executes immediately after the registration of the event it is set for. To create the macro for sending the e-mail message:

1. Go to the Programming tab of the System Settings window (Figure 8.10-8).

2. Create a Macro object in the object tree of the Programming tab.

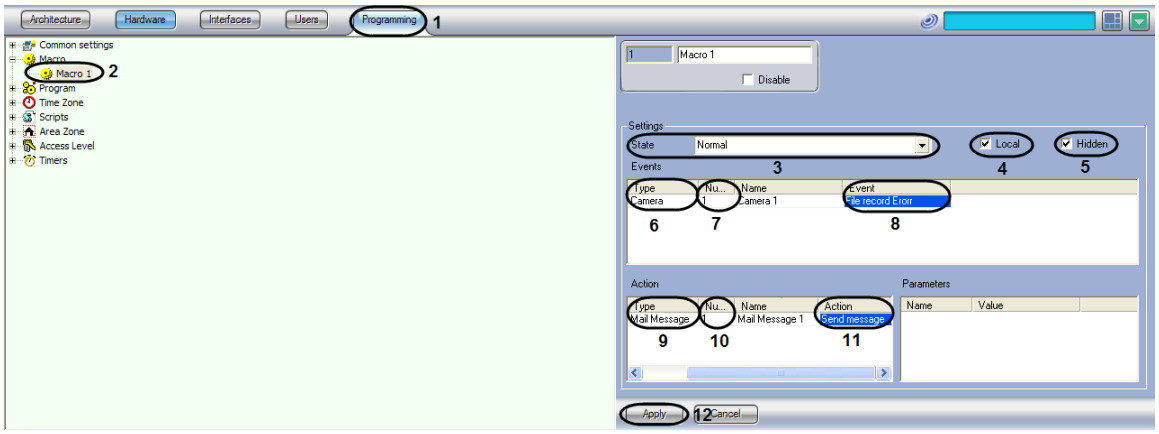


Figure 8.10-8. Creating and setting up the macro for sending the e-mail message

3. Set the State parameter.
4. Check the Local checkbox to send the messages from a local computer only.
5. If the manual start of macros from the main control panel of PC Intellect should be forbidden, set the Hidden checkbox.
6. Choose the event object type for the e-mail macro to be related to.
7. Choose the event object number for the e-mail macro to be related to.
8. Choose the name of the event to trigger the sending of an e-mail message.
9. Choose the Mail Message object in the Type column.
10. Choose the number of the Mail Message object to be sent by the macro.
11. Choose Send Message in the Action column.

Press the Apply button to save the settings for the Macro object.

8.10.4 Setting up the Voice Message Service (V-dial)

8.10.4.1 *General information and usage details of the Voice Message Service*

The Voice Message Service is used to transmit voice messages over telephone lines. The Service automatically dials up the specified phone numbers and plays the audio files. The following dialing options are available: “until connection”, “until answer”, “until digital acknowledgement of message reception”. To be able to send a voice message, a voice modem (V-Dial) should be installed on the computer.

To create and send a voice message:

1. Create and set up the Voice Message Service object.
2. Create and set up the Voice Message object.
3. Create a macro for sending the voice message.

8.10.4.2 *Creating and setting up the Voice Message Service object*

To set up the Voice Message Service object, do the following:

1. Go to the Hardware tab of the System Settings window (Figure 8.10-9).
2. Create the Voice Message Service object in the Computer node in the object tree. The object appears in the object tree, and the settings panel for this object opens on the right side of the System Setting window.

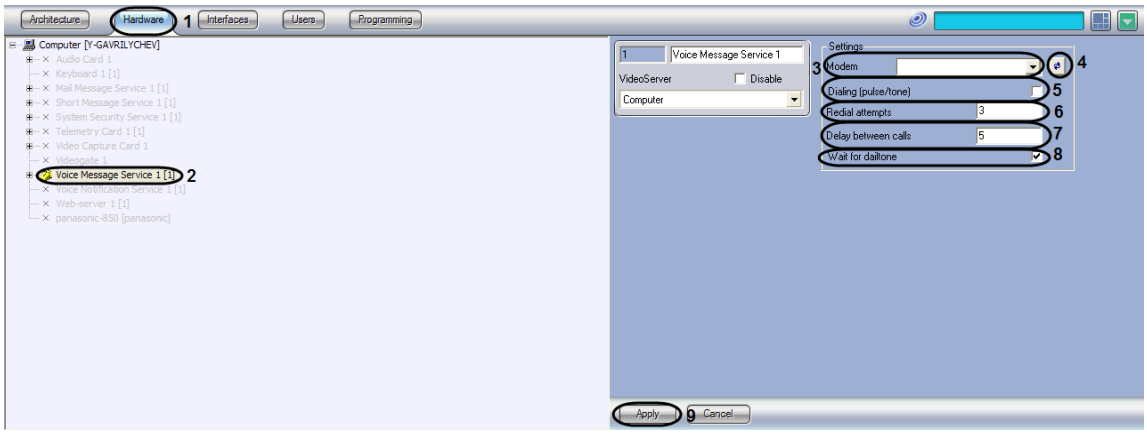


Figure 8.10-9. Setting up the Voice Message Service object

3. Choose a modem in the list of all modems available in the system.
4. If the modem is not in the list or there are no modems in the list, press the modem search button.
5. Check/uncheck the checkbox to choose the dialing mode.
6. Enter the number of dialing attempts.
7. Enter the delay between dialing attempts, in seconds.
8. Check the checkbox to wait for dialtone.

Press the Apply button to save the settings for the Voice Messages Service object.

8.10.4.3 *Creating voice messages*

To set up the Voice Message object, do the following:

1. Go to the Hardware tab of the System Settings window (Figure 8.10-10).
2. Create the Voice Message object in the Voice Message Service node in the object tree. The object appears in the object tree, and the settings panel for this object opens on the right side of the System Setting window.

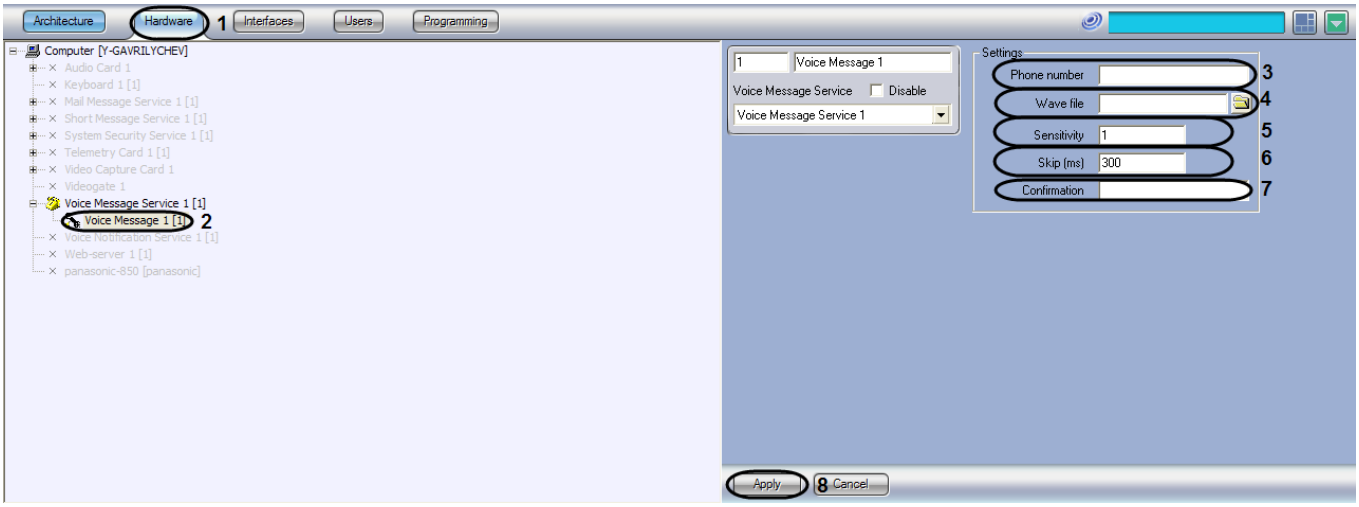


Figure 8.10-10. Setting up the Voice Message object

3. Enter the telephone number into the Phone field in the following format: [prefix "+"] [country code] [city/provider code] [phone number] with no spaces or other delimiters.

4. Load the wave file to be sent as a voice message.

5. Specify the sensitivity level, which will eliminate noise on the telephone line, ensuring correct message transmission. Values from 1 to 10 are acceptable.

6. Specify the delay between the recipient answering and the beginning of the message. Set in milliseconds (1000 ms = 1 sec).

7. Enter the code for the recipient to confirm receipt of the message. This is a digital code set in the system which the recipient dials in tone mode to confirm receipt of the message.

8. Press the Apply button to save the settings for the Voice Message object.

8.10.4.4 *Creating and setting up the macro for sending the voice message*

The message is sent upon execution of the macro. The macro executes immediately after the registration of the event it is set for. To create the macro for sending the voice message:

1. Go to the Programming tab of the System Settings window (Figure 8.10-11).

2. Create a Macro object in the object tree of the Programming tab.

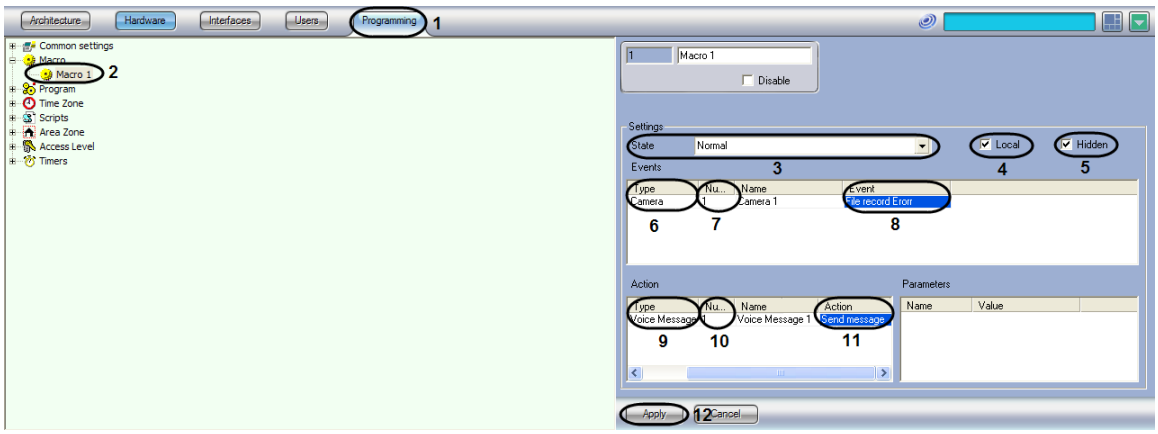


Figure 8.10-11. Creating and setting up the macro for sending the voice message

3. Specify the State parameter.
4. Check the Local checkbox to send the voice messages from a local computer only.
5. If the manual start of macros from the main control panel of PC Intellect should be forbidden, set the Hidden checkbox.
6. Choose the event object type for the voice message macro to be related to.
7. Choose the event object number for the voice message macro to be related to.
8. Choose the name of the event to trigger the sending of the voice message.
9. Choose the Voice Message object in the Type column.
10. Choose the number of the Voice Message object to be sent by the macro.
11. Choose Send Message in the Action column.

Press the Apply button to save the settings for the Macro object.

8.10.5 Setting up the Voice Notification Service

8.10.5.1 *General description and usage details of the Voice Notification Service (VNS)*

The voice notification service is used for audio notification of Intellect Operators about the alarm event registered by the system. This service allows voice notification of the remote workstations using the following devices: headphones (speakers) connected to the workstation's sound card, IP camera (Axis) or LinuxHub. The service provides automatic transmission of the voice notification to the specified device IP address and audio file playback.

To create and send the voice notification:

1. Create and set up the Voice Notification Service object.
2. Create a macro for sending the voice notification.

8.10.5.2 *Creating and setting up the Voice Notification Service object*

To set up the Voice Notification Service object, do the following:

a. Go to the Hardware tab of the System Settings window (Figure 8.10-12).

b. Create the Voice Notification Service object in the Computer node in the object tree. The object appears in the object tree, and the settings panel for this object opens on the right side of the System Setting window.

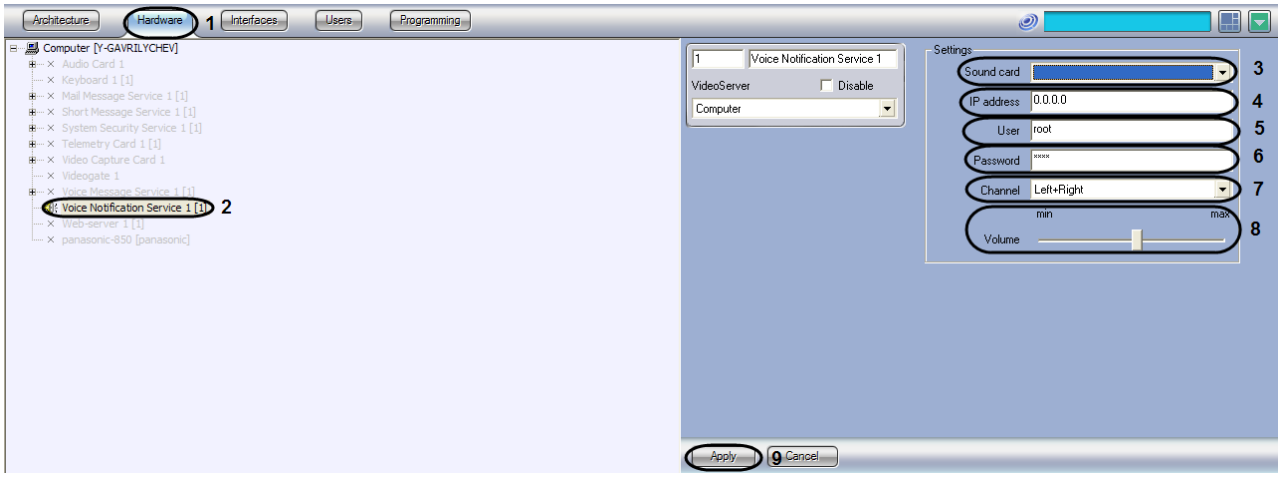


Figure 8.10-12. Setting up the Voice Notification Service object

c. Choose the device in the Sound card list to send the notification to.

d. Specify the IP address of the network device (sound card, IP camera or Linux Hub), used to access this device over the network. If the sound card of the local computer is selected, this field is disabled.

e. Specify the username of the network device (sound card, IP camera or Linux Hub), used to access this device over the network. If the sound card of the local computer is selected, this field is disabled.

f. Specify the password of the network device (sound card, IP camera or Linux Hub), used to access this device over the network. If the sound card of the local computer is selected, this field is disabled.

g. Choose the headphones (speakers) playback option in the Channel drop-down list.

1. If the soundcard has two outputs (left/right), the list contains the following options: a) Left, b) Left + Right, c) Right.

2. If the sound card has N outputs, the list contains the numbered outputs from 0 to N-1.

h. Specify the volume level using the slider.

i. Press the Apply button to save the settings for the Voice Notification Service object.

8.10.5.3 *Creating and setting up the macro for sending the voice notification*

The voice notification is sent upon execution of the macro. The macro executes immediately after the registration of the event it is set for. To create the macro for sending the voice notification:

1. Go to the Programming tab of the System Settings window (Figure 8.10-13).

2. Create a Macro object in the object tree of the Programming tab.

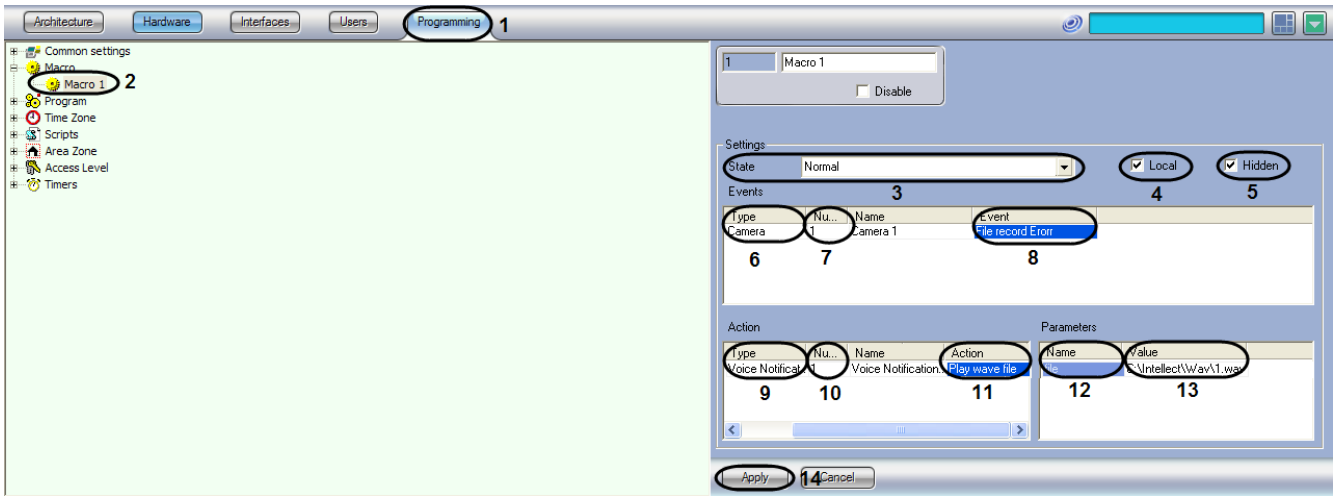


Figure 8.10-13. Creating and setting up the macro for sending the voice notification

3. Specify the State parameter.

4. Check the Local checkbox to send the voice notifications from a local computer only.

5. If the manual start of macros from the main control panel of PC Intellect should be forbidden, set the Hidden checkbox.

6. Choose the event object type for the voice notification macro to be related to.

7. Choose the event object number for the voice notification macro to be related to.

8. Choose the name of the event to trigger the sending of the voice notification.

9. Choose the Voice Notification object in the Type column.

10. Choose the number of the Voice Notification object.

11. Choose Play wave file action.

12. Click the Name field in the Parameters table. The Value field becomes available to specify the audio file.

13. Specify the full pathname of the wave file to be sent as the voice notification.

Press the Apply button to save the settings for the Macro object.

8.11 Setting up the SNMP-service

8.11.1 SNMP-service setting order

It is possible to create SNMP-service for resending messages about the registered events to SNMP-agent. This opportunity is realized with the use of «SNMP trap» system object.

Note. Data concerning SNMP-agent is given in the official SNMP protocol reference manual.

SNMP-service carries out the following functions:

1. Receipt of messages concerning the event, registered in the system;
2. Message conversion concerning the event to SNMP format;
3. Message transfer in SNMP format (trap) to SNMP-agent with the use of TCP/IP net protocol.

Setting the SNMP-service is done in the following order:

1. Create «SNMP trap» object on the basis of «Objects SNMP» system objects.
2. Select the events, which messages should be transferred to SNMP-agent.
3. Set the message conversion to SNMP format.
4. Se the trap with SNMP-message.

8.11.2 Creating the SNMP trap object

Creating the «SNMP trap» object is done in the following way:

1. Select Computer object on the tab Hardware of System settings dialog window (Figure 8.11-1).

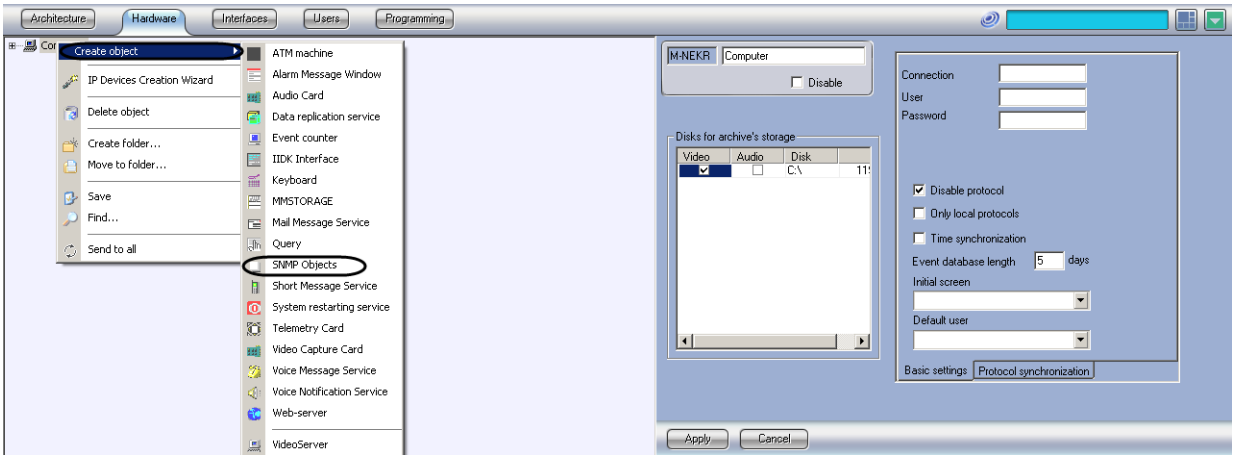


Figure 8.11-1. Creating the SNMP object

2. Make a right mouse click upon the selected Computer object and select «Create object» ⇨ «SNMP objects» in the contextual window (Figure 8.11-1).
3. Set the number and name of the object «SNMP objects» and then click Apply (Figure 8.11-2).

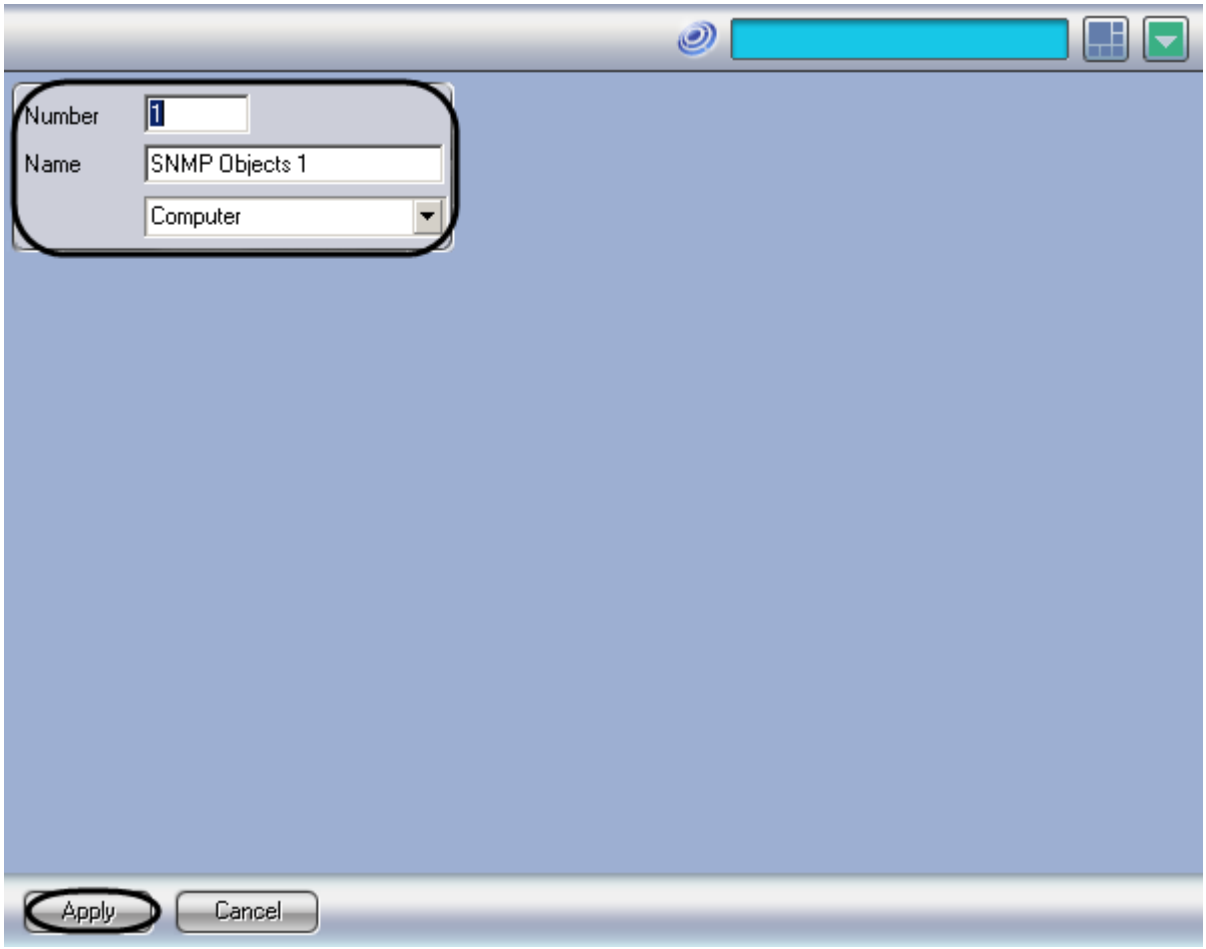


Figure 8.11-2. Setting the number and name of «SNMP objects» object

4. Select the created object «SNMP objects» on the tab Hardware of System settings dialog window (Figure 8.11-3).

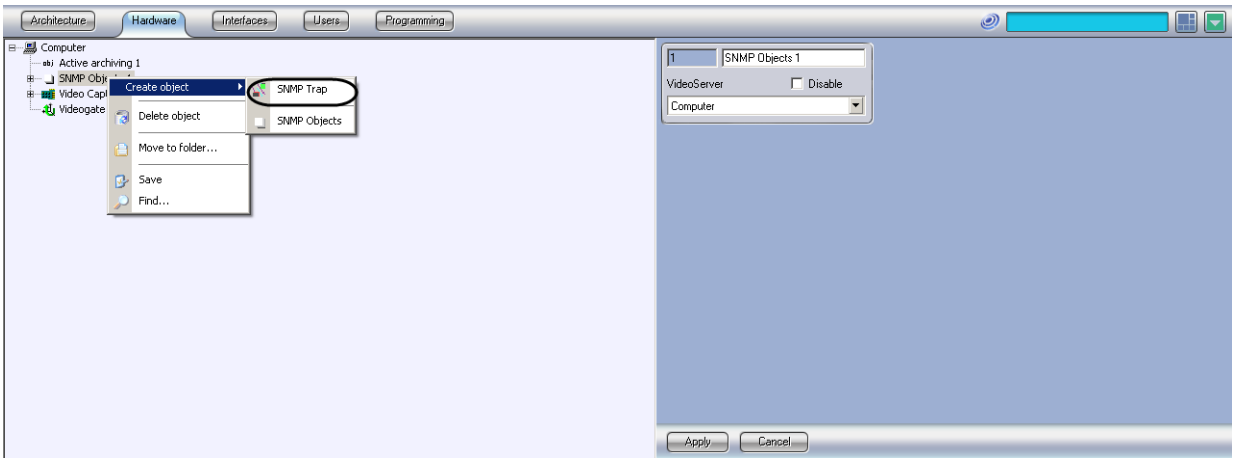


Figure 8.11-3. Creating the SNMP trap object

5. Make a right mouse click upon the selected object «SNMP objects» and select the point «Create object» ⇨ «SNMP trap» in the contextual window (Figure 8.11-3).

6. Set the number and name of SNMP trap object in the appeared window and then click Apply button (Figure 8.11-4).

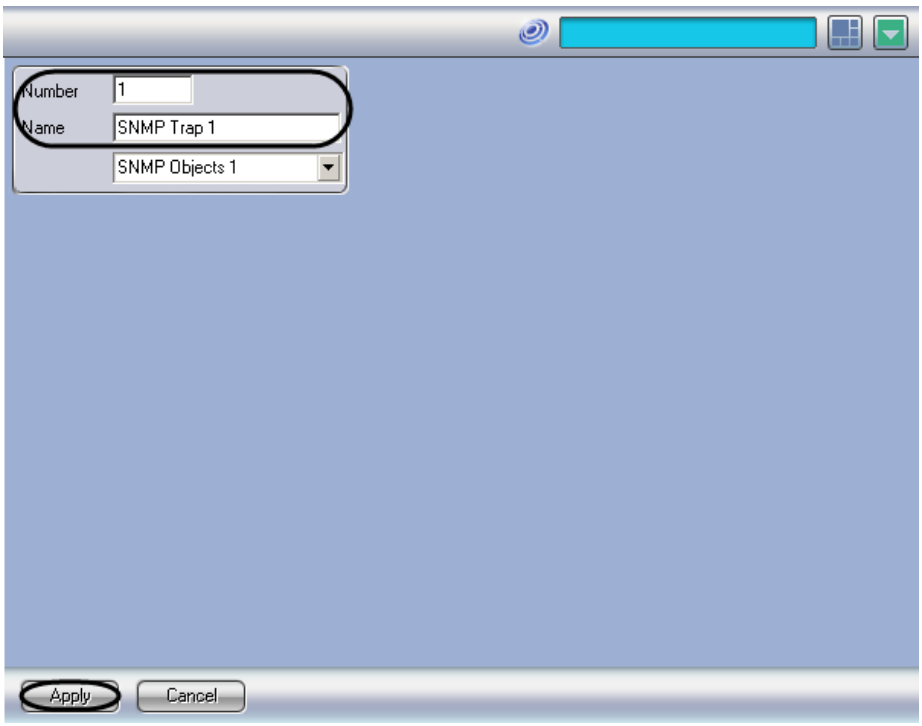


Figure 8.11-4. Setting the number and name of SNMP trap object

Note. Settings panel of SNMP trap object will appear in result.

Creating the SNMP trap object is over.

8.11.3 Events selection for transmitting to SNMP agent

Selection of events for transmitting to SNMP-agent is done in the following way:

1. Go to the settings panel of SNMP trap object (Figure 8.11-5).

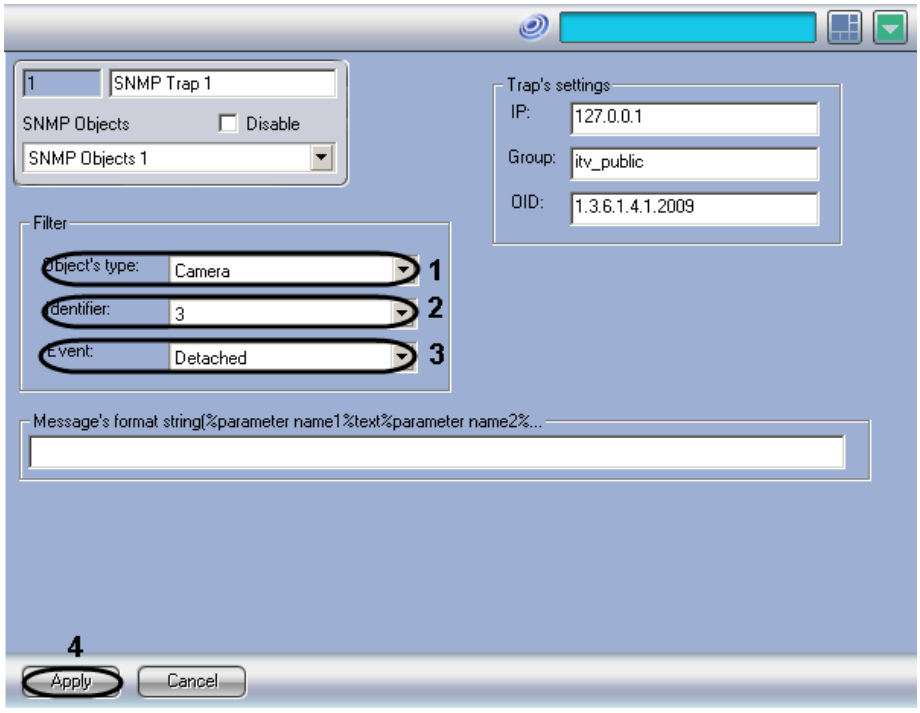


Figure 8.11-5. Setting up the events filter for transmitting to SNMP-agent

2. From the dropdown list Object's type of filter group select the object's type for which the required event may be registered (Figure 8.11-5, 1). If no object's type is selected, all the events concerning all the system objects will be transferred to SNMP-agent.

3. From the dropdown list Identifier of filter group select the object's identification number, which type has been entered during the second step(Figure 8.11-5, 2).If the field is not fulfilled, all the events concerning objects of the given type will be transferred to SNMP-agent.

4. From the dropdown list Event of filter group select the required object for the set during steps 2-3 object (Figure 8.11-5, 3). If the field is not fulfilled, all the events registered for the given event will be transferred to SNMP-agent.

5. Click Apply button to save the changes (Figure 8.11-5, 4).

Selection of events for transmitting to SNMP-agent is completed.

8.11.4 Setting up the message conversion into SNMP format

SNMP-service implements message conversion into SNMP format. SNMP-message is a sequence of parameters, describing the event. Parameter's name is changed by the value of this parameter in the pattern of SNMP-message with the event registration. Changing the SNMP-message is done in the following way:

1. Go to the settings panel of SNMP trap object (Figure 8.11-6).

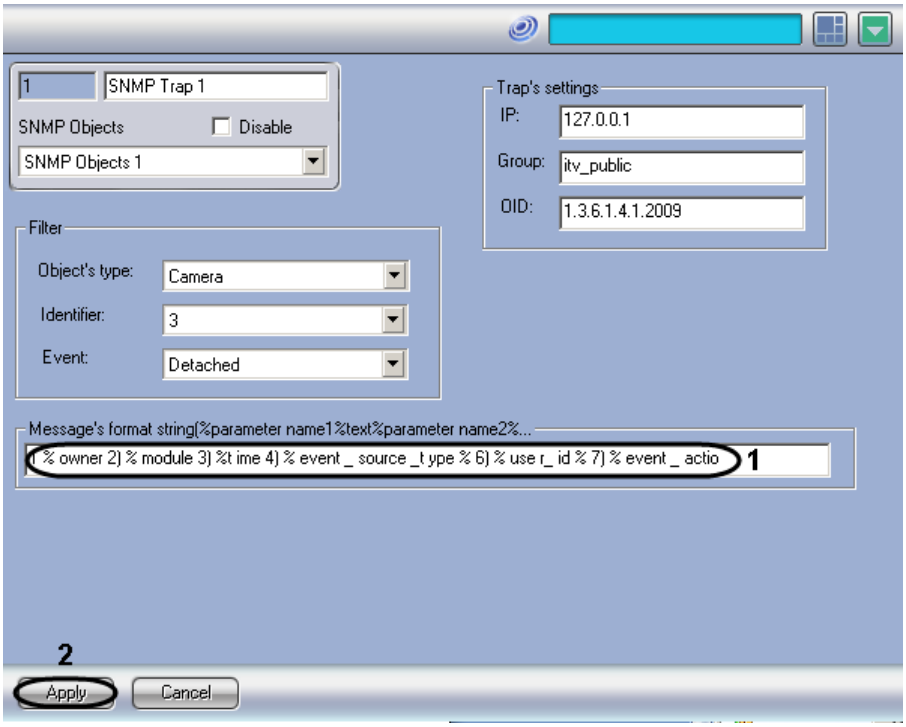


Figure 8.11-6. Setting up the message conversion into SNMP format

2. Enter in the field «Message's format string (%parameter's name1%text% parameter's name2%...» paarameters'names in the required sequence(Figure 383-1). Description of event's main parameters is given in the Table 8.11-1.

Table 8.11-1

Parameter's name	Description of parameter	Availability in the message
%event_action%	Event, registered in the system	Is determined by object's type, for which the event may be registered
%event_source_id%	Object's identification number, for which the event has been registered	
%event_source_type%	Object's type, for which the event has been registered	
%owner%	Computer name, from which the message has been received	Obligatory message's parameters
% time %	Time of event's creation	
%user_id%	Computer's user identification number, from which the message has been received	Optional message's parameters
%module%	Module's name, for which the event has been registered	

Note. In case when message's format string is not set, SNMP message is formed in accordance with the pattern %event_action%,%event_source_id%,%event_source_type%, %owner%,%user_id%,%module%.

3. To save the changes click Apply button (Figure 8.11-7).

Changing the pattern of SNMP-message is completed.

Example of SNMP-message, formed in accordance with the pattern 1)%owner% 2)%module% 3)%time% 4)% event_source_id % 5)% event_source_type % 6)% user_id % 7)% event_action % is exemplified in Figure 8.11-7.

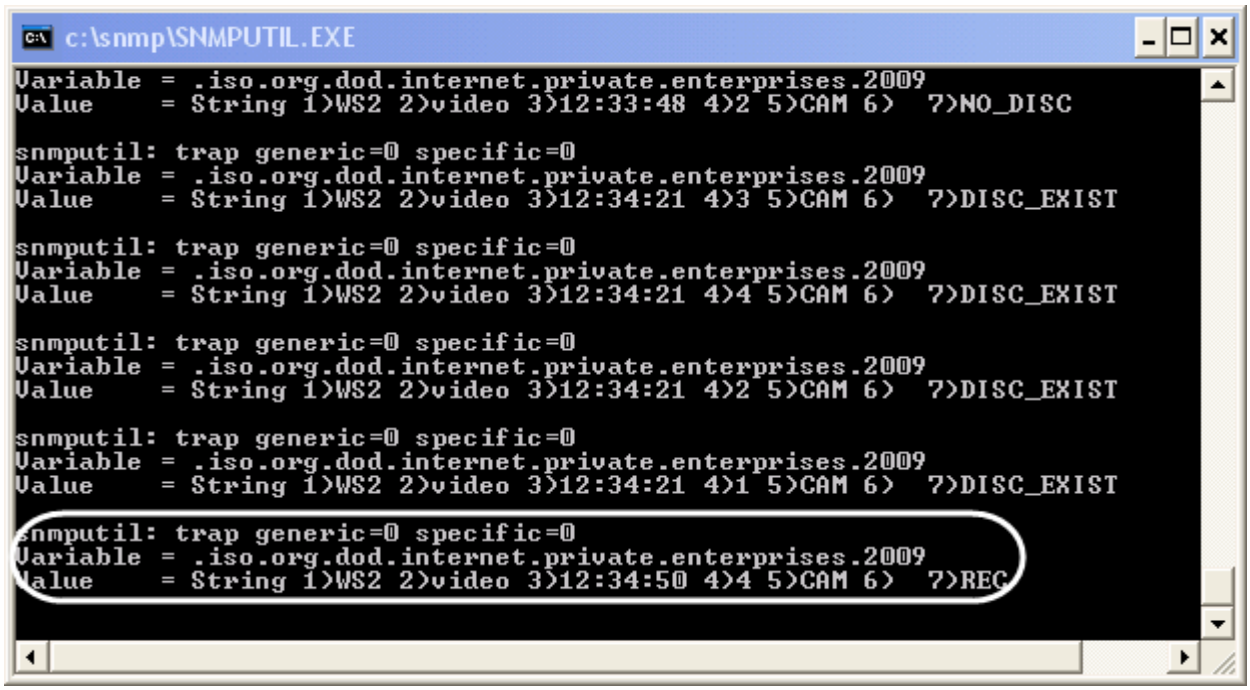


Figure 8.11-7. Example of SNMP-message

8.11.5 Setting up the trap with SNMP-message

Setting the trap with SNMP-message is done in the following way:

1. Go to the settings panel of «SNMP trap» system object (Figure 8.11-8).

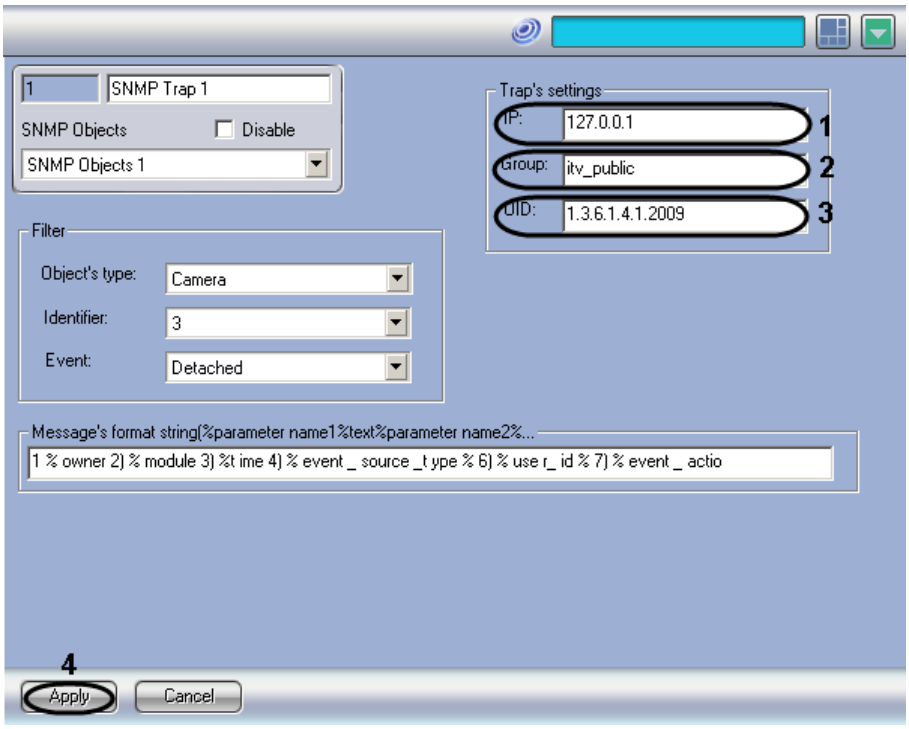


Figure 8.11-8. Setting up the trap with SNMP- message

2. In the «ip» field enter IP-address from SNMP-agent, that will receive SNMP-traps with messages concerning the events(Figure 8.11-8, 1).

3. In the field Group enter the community name for SNMP-trap authentication on the computer with installed SNMP-agent (Figure 8.11-8, 2).

Note. Safety model on the basis of communities is realized in Intellect program complex.

4. In the field«OID» enter the unique trap's number in the tree of SNMP-objects (Figure 8.11-8, 3).

5. To save the changes click Apply button (Figure 8.11-8, 4).

Setting up the trap with SNMP - message is completed.

8.12 Setting up the «System restarting service»

«System restarting object » is a child-object of the system object «Computer» and is used for modules control of «Intellect» program complex and also its restarting or the absence of response on the expiry of the time frame.

Creation and setting of the system object «System restarting service» is made on the tab «Hardware» of the System settings dialog window (Figure 8.12-1).

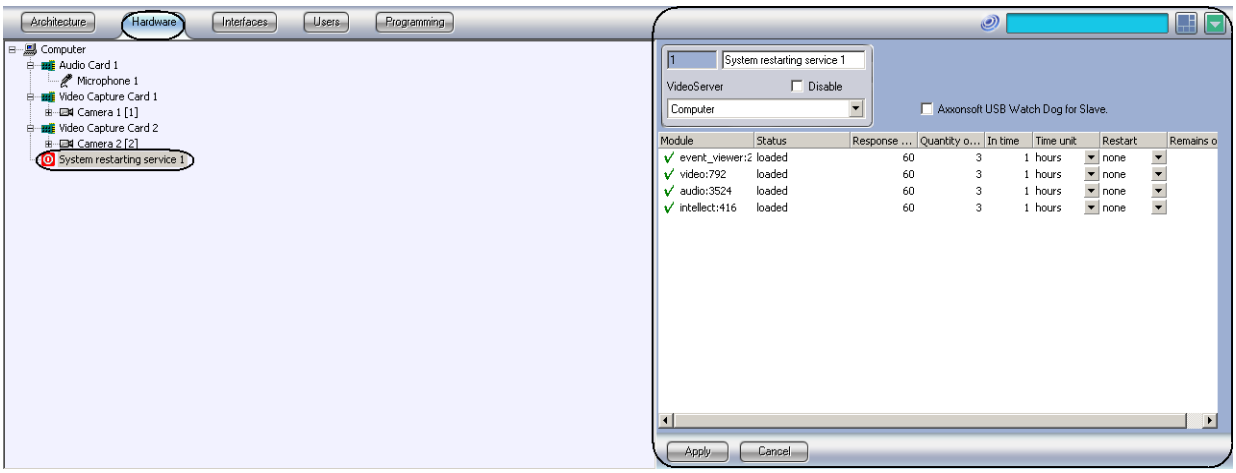


Figure 8.12-1. Setting up the object «System restarting service»

Note. Object «System restarting service» cannot be edited remotely. The object is created and set separately on each selected component of distributed system as needed.

To set «System restarting service» do the following:

1. Check the «ITV USB Watch Dog for Slave.exe» checkbox when it is necessary to activate system of automatic computer's restarting with the absence of slave.exe process (Figure 8.12-2, 1).

Note. Activation of computer's automatic restarting system requires additional connection to ITV USB Watch Dog (see. Connection of automatic check of servers «USB Watchdog»'s operation).

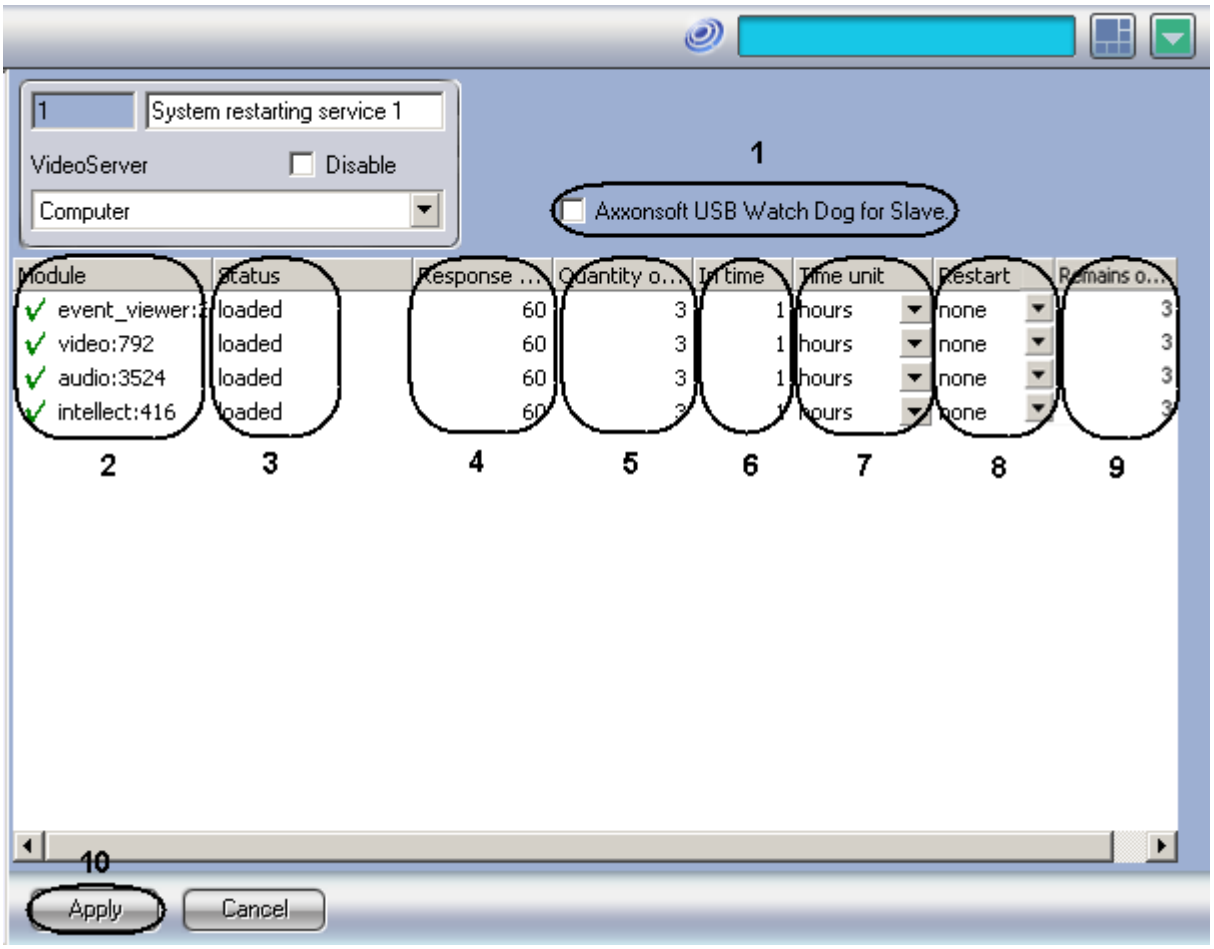


Figure 8.12-2. Setting of modules' operation control

2. List of activated at the computer modules is automatically displayed in the column «Module» (Figure 8.12-2, 2).

Note. Modules, which state is determined as «Loaded», are marked by the sign«✓». Modules, which state is determined as «Out of operation» (red field) or «Unloaded», are marked by the sign«!».

3. Current state of the modules is automatically displayed in the column «Status» (Figure 8.12-2, 3)

4. In case, when value of module's response time interval should be changed, new value must be entered in the field «Response time, sec.» (Figure 8.12-2, 4).

Note. Waiting time interval is measured in seconds. With the absence of module's response on the expiry of the waiting time interval the system may be restarted.

In case, when value of maximal quantity of system's restarts should be changed, new value must be entered in the field «Quantity of restarts» (Figure 8.12-2, 5).

5. In case, when the value of time period, during which maximal quantity of restarts can be performed, sould be changed, new value must be entered in the field «In time» and select from the dropdown list required time unit (Figure 8.12-2, 6-7).

6. In case, when type of system restart should be changed, name of required type must be selected from the dropdown list «Restart» (Figure 8.12-2, 8).

7. The rest quantity of restarts for a current time period is automatically displayed in the column «Remains of restarts» (Figure 8.12-2, 9)

Note. If for a current time period the quantity of performed restarts exceeds maximal quantity, module will be in the state «Unloaded».

8. Press the Apply button to save all the changes (Figure 8.12-2, 10)

Setting up the system object «System restarting service» is over.

8.13 Setting up the Videogate module

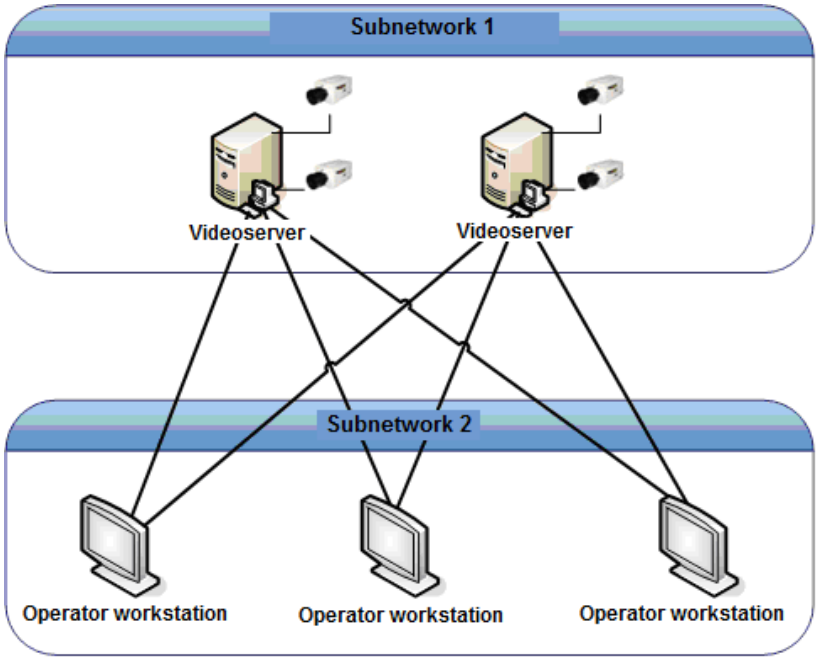
8.13.1 General information

Videogate is used in large distributed video surveillance systems for routing the video signals among servers and clients (or administrator workstations used as operator workstations) located in different subnetworks. Servers and remote workstations are grouped into different subnetworks due to the following reasons:

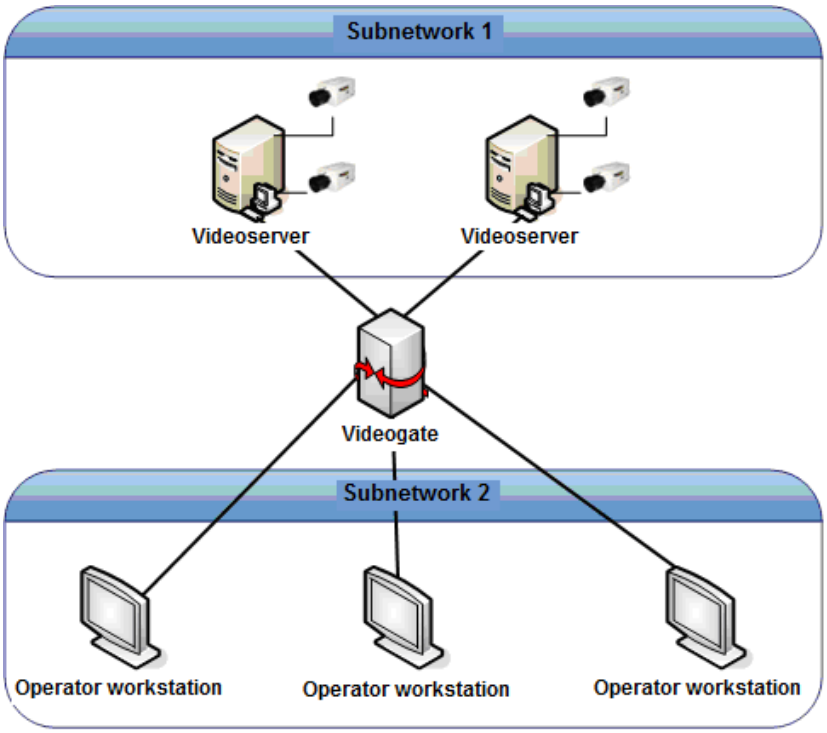
1. Technical limitations leading to the servers being connected by low band channels and the clients using a high band connection. For example, the servers may be distributed over a large area, while the clients are located in one room of the monitoring center.

2. Security requirements. For example, to eliminate unauthorized access to administrative functions, the servers and clients are isolated into a different subnetwork from the operator workstations. When the subsystem interface uses the videogate, the clients(or rather administration workstations used as operator workstations) do not have access to the administrative functions of the servers and administration workstations of another subnetwork, but receive video signals from the servers.

Figure 8.13-1 A and B show the schemes of construction of the video surveillance systems directly to the Videoservers with and via the videogate.



A. without the videogate



B. with the videogate

Figure 8.13-1. Schemes of interaction among the servers and the operator workstations via the videogate and without it

8.13.2 Order of setting up the Videogate object

To set the Videogate object do the following:

1. Create the Videogate object on the basis of the Computer system object.
2. Select and set cameras for transmitting the video signals through the Videogate.
3. When necessary select the disks for storing archive of Videogate module.

8.13.3 Creation of Videogate object

To create the Videogate object do the following:

1. Select the required Computer object on the tab Hardware of System settings dialog window (Figure 8.13-2).

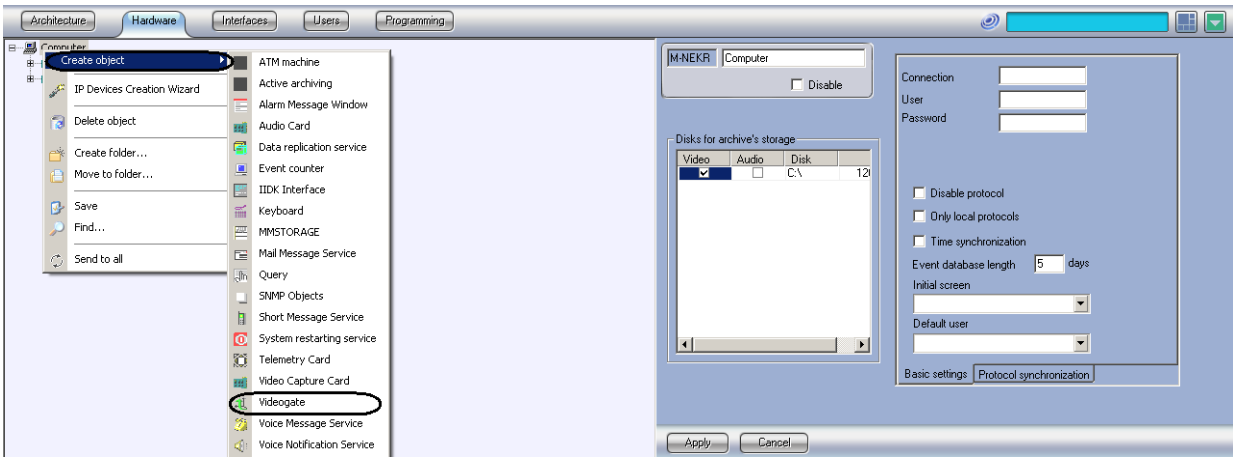


Figure 8.13-2. Setting up the Videogate module

2. Right mouse click upon the selected Computer object and select Create object> Video gate in the contextual menu that will open (Figure 8.13-3).

3. In the window, that will open, set the name and the number of Videogate object and the click Apply button (Figure 8.13-3).

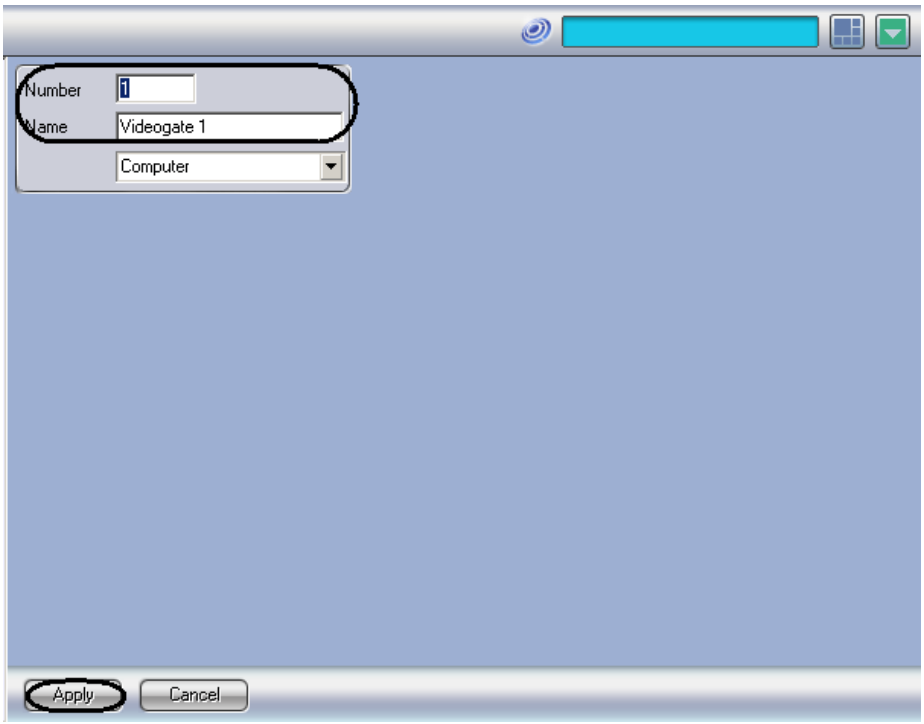


Figure 8.13-3. Setting the number and name of Videogate object

Note. In result settings panel of Videogate object will open.

4. Repeat steps 1-3 for all the required Computer and Videogate objects.

Creation of the Videogate object is completed.

8.13.4 Selection and setting up the cameras

One can set and select cameras for transmitting the video signals through Videogate in two ways:

1. Separately. Use the settings panel of Videogate object.

2. Complex. Use the dialog window Add/edit cameras.

Note. Order of complex selection of video cameras for transmitting video signals through the Videogate is described in Complex selection of video cameras.

To select cameras on the settings panel of Videogate object do the following:

1. Go to the settings panel of Videogate system object (Figure 8.13-4).

2. From the dropdown list in the column Number select the number of the required video camera (Figure 8.13-4, 1).

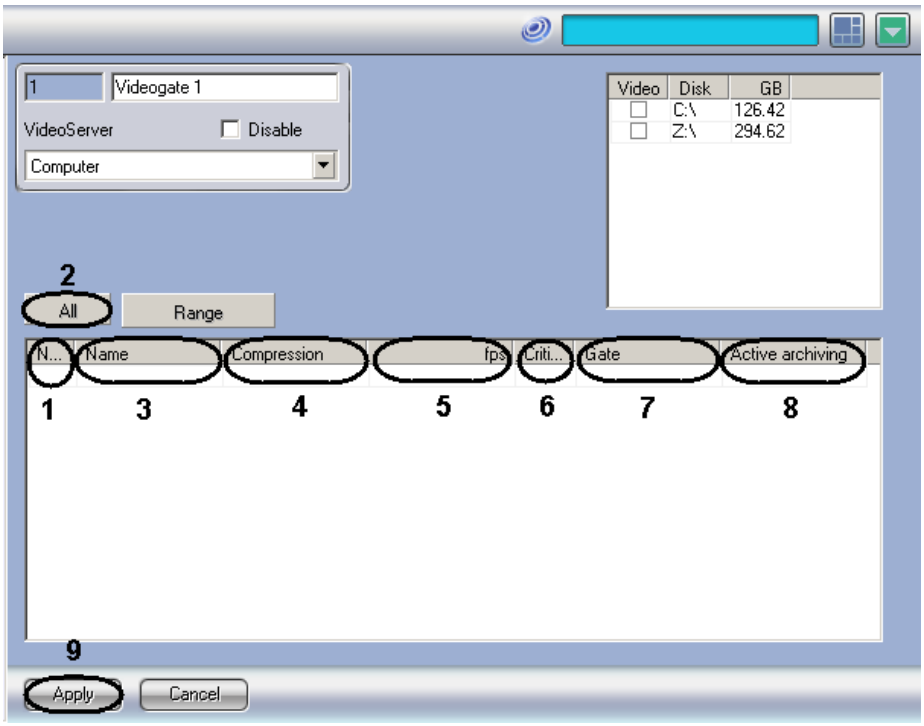


Figure 8.13-4. Selection of video cameras

Note. To select all cameras, registered in the system, click ALL button (Figure 8.13-4, 2).

3. In result in the column Name the name of the selected camera will be displayed (Figure 8.13-4, 3).

4. In case, when compression level of the video signal for transmitting through the Videogate, select from the dropdown list in the column Compression the required compression level of video signal (Figure 8.13-4, 4). Compression level of the video signal rises from «0» (compression is absent) to «5» (maximum compression).

Note. In case of setting the compression level video signal on the Server has to be preliminary decompressed, that leads to great load on CP of the Server.

5. In case, when video signal has to be thinned out for its transmitting through the Videogate, enter in the field in the column «fps» the required frame rate of the video signal (Figure 8.13-4, 5).

Note. The given «fps» value must be less than the frame rate of video signal's digitizing by video input device. Otherwise frame rate of video signal will be equal to the frame rate of digitizing.

6. In case, when transmission of video signals through the local net or from the Server to the Videogate has to be controlled, enter in the field in the column Critical rate minimal available value of frame rate of video signals, transmitted to the Videogate (Figure 8.13-4, 6).

Note. The given value Critical rate should not be more than the frame rate of video signal, transmitted to the Videogate.

The setting of critical rate on the Videogate must be combined with the settings of Alarm messages window system object (see. Setting up alarm messages window). In this case with the reduction of rate of inputting signals below the given value Alarm messages window will be displayed with the message "Reduced input rate".

7. In case, when video signal from the selected video camera has to be transmitted from the other Videogate object, select the name of this object from the dropdown list in the column Gate (Figure 8.13-4, 7).

8. In case, when the video signal from the selected camera has to be transmitted from the Active archiving object, select the name of this object from the dropdown list in the Active archive (Figure 8.13-4, 8).

9. Repeat steps 2-8 for all the required cameras.

10. To save all the changes click Apply button (Figure 8.13-4, 9).

Selection of cameras on the settings panel of Videogate object is completed.

8.13.5 Complex selection of video cameras

There is opportunity of complex selection and editing parameters of video cameras for transmitting video signal through Videogate. Complex selection of cameras is performed in the following way:

1. Go to the settings panel of Videogate system object and then click Range button (Figure 8.13-5, 1).

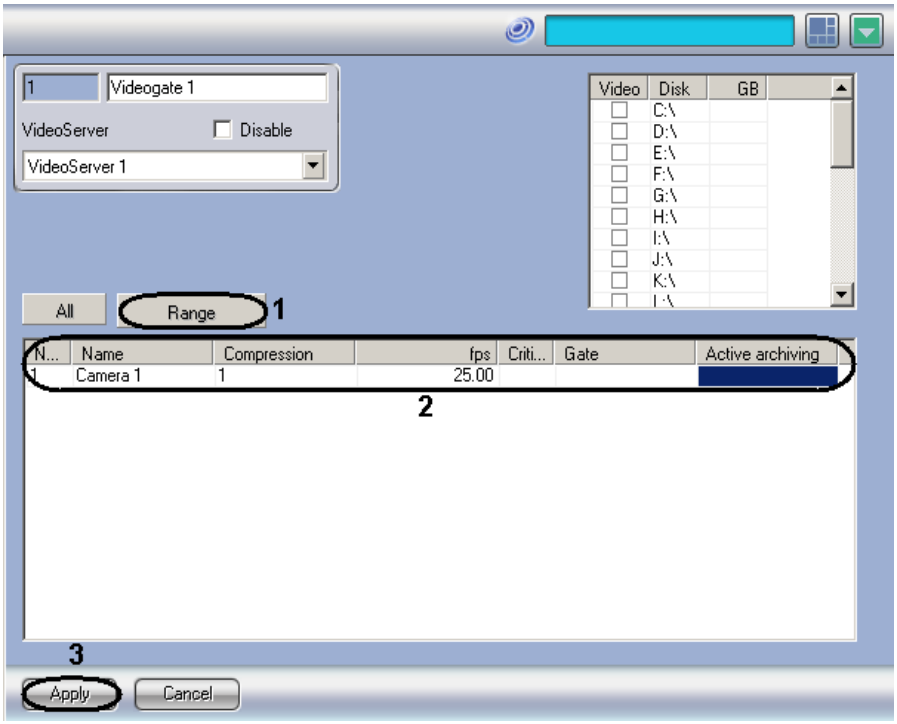


Figure 8.13-5. Range button

2. In result a dialog window Add/edit cameras will open (Figure 8.13-6).

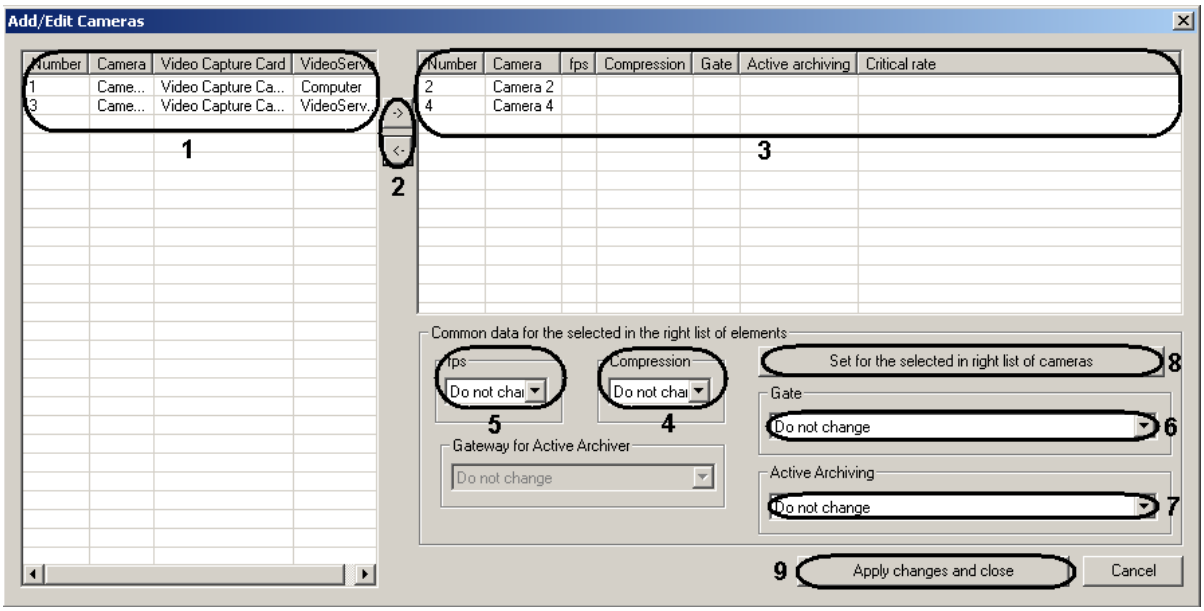


Figure 8.13-6. Add/edit cameras dialog window

3. Select the required objects in the left list of Add/edit cameras window (Figure 8.13-6, 1).

4. Remove the selected cameras to the right list, clicking the «  » button (Figure 8.13-6, 2).

Note. Right list contains a list of cameras, selected for transmitting the video signals through the Videogate.

Button «  » is used for back action, for removing the selected cameras from the right list to the left (Figure 8.13-6, 2).

5. In result the selected video cameras will be displayed in the right list of Add/edit cameras window (Figure 8.13-6, 3).

6. When necessary select in the right list the names of the required cameras for complex editing of parameters (Figure 8.13-6, 3).

Note. For all the selected cameras the same value of parameters will be set.

Note. There is no possibility to edit Critical rate parameter with the help of Add/edit cameras.

7. In case, when compression level of video signal has to be changed for transmitting through the Videogate, select from the Compression dropdown list the required compression level (Figure 8.13-6, 4).Compression level rises from «0» (no compression) till «5» (maximum compression).

Note. In case of setting the compression level video signal must be preliminary decompressed on the Server that leads to great loading on the CP of the Server.

Settings «Compression», «fps», «Gate», «Active archive» belong to the group «Set for the selected in right list of cameras »(Figure 8.13-6, 6).

8. In case, when video signal has to be thinned out for transmitting through Videogate select from the «fps» dropdown list the required frame rate of video signals (Figure 8.13-6, 5).

Note. The given «fps» value must be less the frame rate of video signal's digitizing by video capture device. Otherwise frame rate of video signal will be equal to the frame rate of digitizing.

9. In case, if video signal form the selected cameras has to be transmitted from the other Videogate object, select the name of this objet from the Gate dropdown list (Figure 8.13-6, 6).

10. In case when video signal has to be transmitted from the selected cameras from the Active archive object, select from the Active archive dropdown list the name of this object (Figure 8.13-6, 7).

11. To save the set parameters click Set for the selected in right list of cameras button (Figure 8.13-6, 8).

12. In result the set parameters will be displayed in the right list of Add/edit cameras window (Figure 8.13-6, 3).

13. Repeat steps 6-11 for complex editing of all the required cameras.

14. To save all the changes and close Add/edit cameras window click Apply changes and close button (Figure 8.13-6, 9).

15. The given settings will be displayed on the settings panel of Videogate object (Figure 8.13-5, 2).

16. To save the given changes click Apply button (Figure 8.13-5, 3).

Complex selection of cameras is completed.

8.13.6 Selection of disks for storing the archive of Videogate module

To enable video signals archiving, going through the Videogate, it is necessary to select the disks for archive storing.

To select the disks do the following:

1. Go to the settings panel of Videogate system object (Figure 8.13-7).

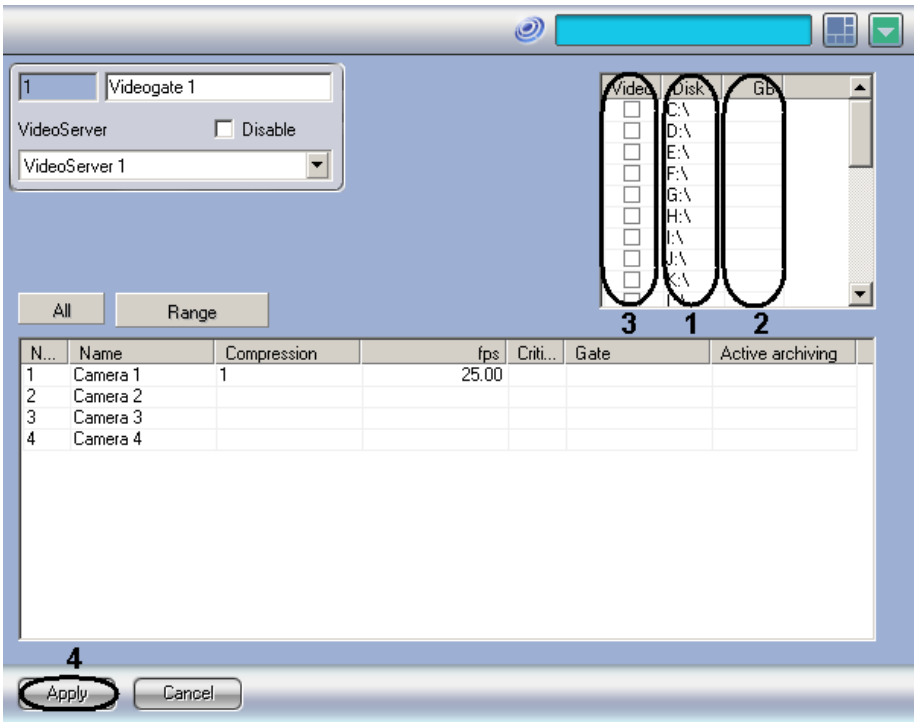


Figure 8.13-7. Selection of diskd for for storing the archive of Videogate module

2. Names of local (net, USB) disks, accessible for archive of Videogate module are given in the column Disk (Figure 8.13-7, 1).

3. In the column «GB» there is a size of free space on disk in GB (Figure 8.13-7, 2).

4. In the column Video put the check mark for disks, selected for storing archive of Videogate module (Figure 8.13-7, 3).

5. To save the set changes click Apply button (Figure 8.13-7, 4).

Note. For storing the archive of Videogate module one should select disks that are not used for storing video archive from cameras (are selected in the settings panel of computer object). Otherwise after saving the given changes there will appear Error in the process of saving the Videogate object window (Figure 8.13-8).

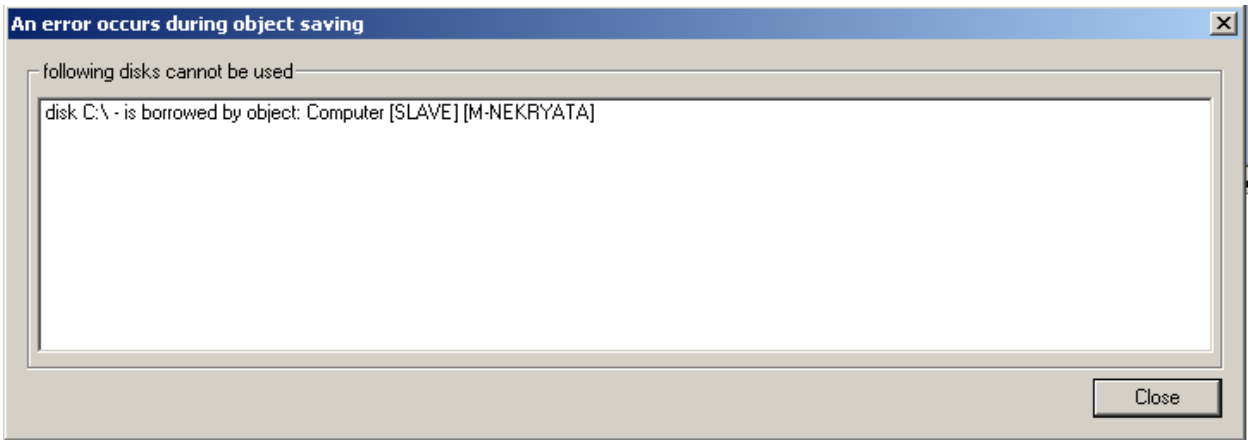


Figure 8.13-8. Error window

Note. In case, when no one disk is selected for storing video recordings, there is no recording of video signals to the archive of Videogate module.

Selection of disks for storing the archive of Videogate module is completed.

8.14 Setting up backup archiving

8.14.1 Purpose and implementation of backup archiving in the Intellect software

The Intellect software allows creating the backup copies of video and audio recordings. The Active Archiving module is used for creation of video and audio archives. When making a backup copy, the Intellect software copies video and audio recordings from the main archive of the videoserver to different storage devices.

The Active Archiving module copies the video archives received from the specified cameras to any of the available local or network hard drives.

The Active Archiving module supports the following functions:

1. Copying the video archive to local or network hard drives, or USB storage.
2. Changing the frame rate of the signal at the time of saving it to active archive.
3. Changing the rate of data transfer via a local network.
4. Setting up the periodicity of backup archiving.
5. Cyclic copying of the data to the connected storage devices.
6. Viewing the video archive from Active Archiving on the video surveillance monitor.
7. Monitoring the storage usage.

Note. The Active Archiving module makes backup copies of video archives only. Audio archives are not copied.

A folder named VIDEO which holds the backup video archive is created on the specified storage devices when setting up the corresponding objects.

The backup copying module can be controlled:

1. Manually using special interface objects.
2. Automatically using the built-in programming capabilities of Intellect software – macros and scripts.

8.14.2 Setting up the Active Archiving module

The Active Archiving module is used to make backup copies of the video archive from the videoserver. The Active Archiving module copies the video archives received from the specified cameras to the specified storage device.

Note. Remote workstation, where the active archiving is installed, is to have data concerning servers archive so that the video archive to be copied evenly from the indicated cameras. Thereto the remote workstation gets data concerning archive indexes from the server once in 30 seconds. After system restarting, data change is stopped until the Active archiving is started.

Setting up the Active Archiving module is performed by the Active Archiving system object.

8.14.2.1 *Set up order of the Active Archiving*

To set up the Active Archiving object do the following:

1. Create the Active Archiving object on the basis of Computer system object.
2. Select and set cameras to copy the video archive to the Active Archiving.
3. Set the parameter of video file's transmission through a local net.
4. Select disks to store the Active Archiving module.
5. Set the video archive interlacing when it is copied to the Active Archiving.
6. Se the timetable of video archive's copying to the Active Archiving.

Set the Active Archiving panel interface object.

8.14.2.2 *Creating the Active Archiving object*

To create the Active Archiving object do the following:

1. Select the required computer object on the tab Hardware of system settings dialog window (Figure 8.14-1).

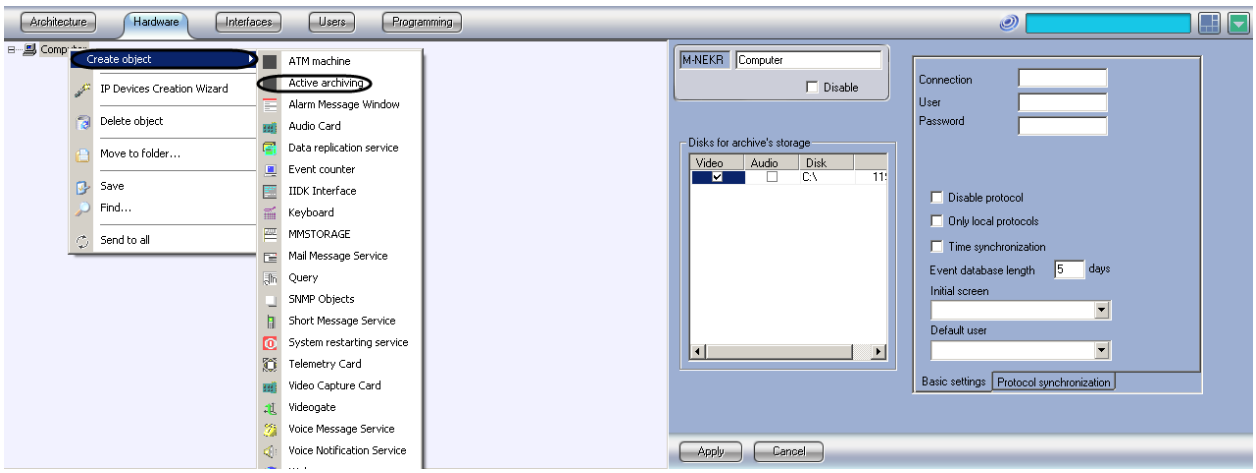


Figure 8.14-1. Creating the Active Archiving object

1. Make a right mouse click upon the selected Computer object and select «Create object» ⇨ « Active Archiving» in the contextual window (Figure 8.14-1).

2. In the appeared window set the number and name of the Active Archiving object and then click the Apply button (Figure 8.14-2).

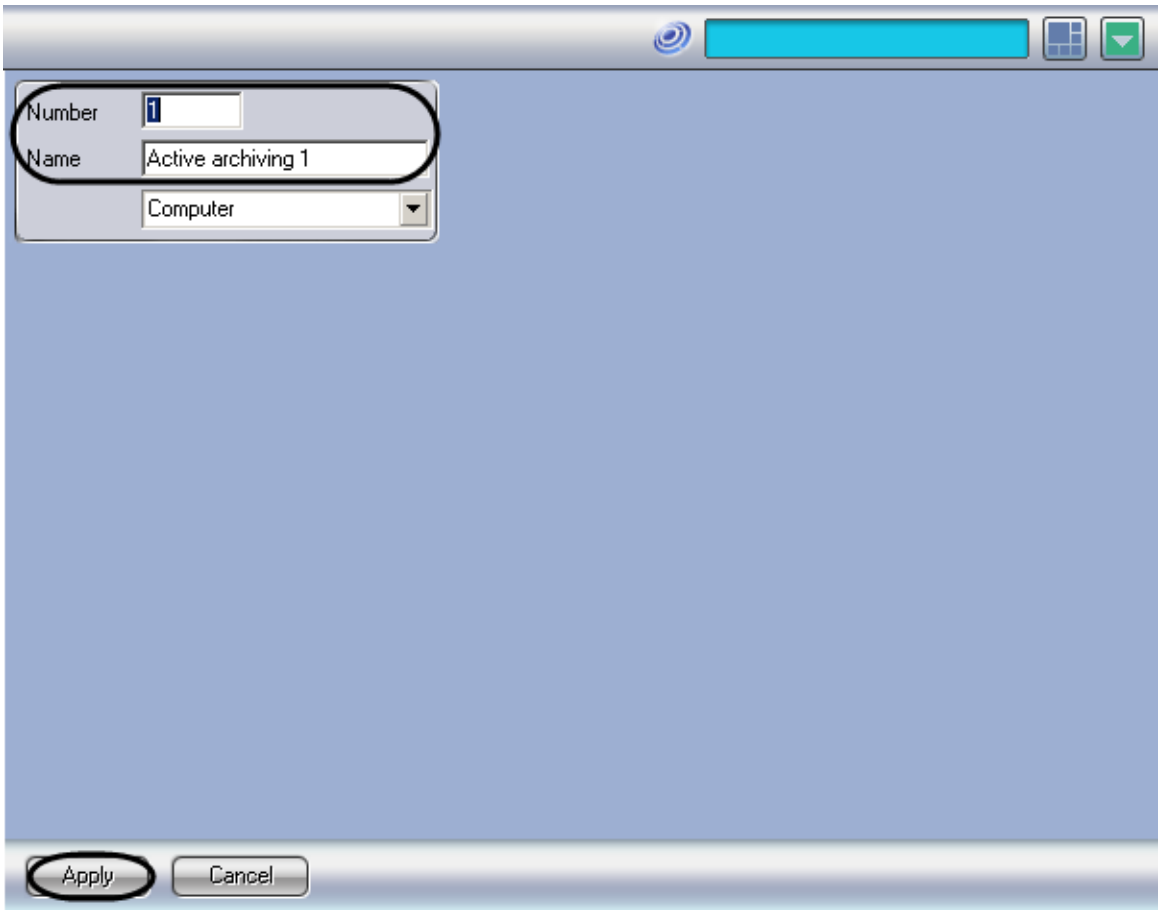


Figure 8.14-2. Setting the number and name of the Active Archiving object

Note. Settings panel of the Active Archiving object will be displayed in result.

3. Repeat steps 1-3 for all the required computer object and the Active Archiving object.

Creating the Active Archiving object is completed.

8.14.2.3 *Choosing and setting up the cameras*

It is possible to set and select cameras for copying the video archive to the Active Archiving in two ways:

1. Separately. The Active Archiving settings panel is used.
2. In a complex way. «Add/Edit cameras» dialog window is used.

Note. The order of cameras' complex selection for copying the video archive to the Active Archiving is described in Complex selection of cameras.

Cameras selection on the settings panel of the Active Archiving object is done in the following way:

1. Go to the settings panel of the Active Archiving system object (Figure 8.14-3).
2. Select the name of the required video camera from the dropdown list in the column Number of Camera group (Figure 8.14-3, 1).

Note. To select all the cameras registered in the system click All button (Figure 8.14-3, 2).

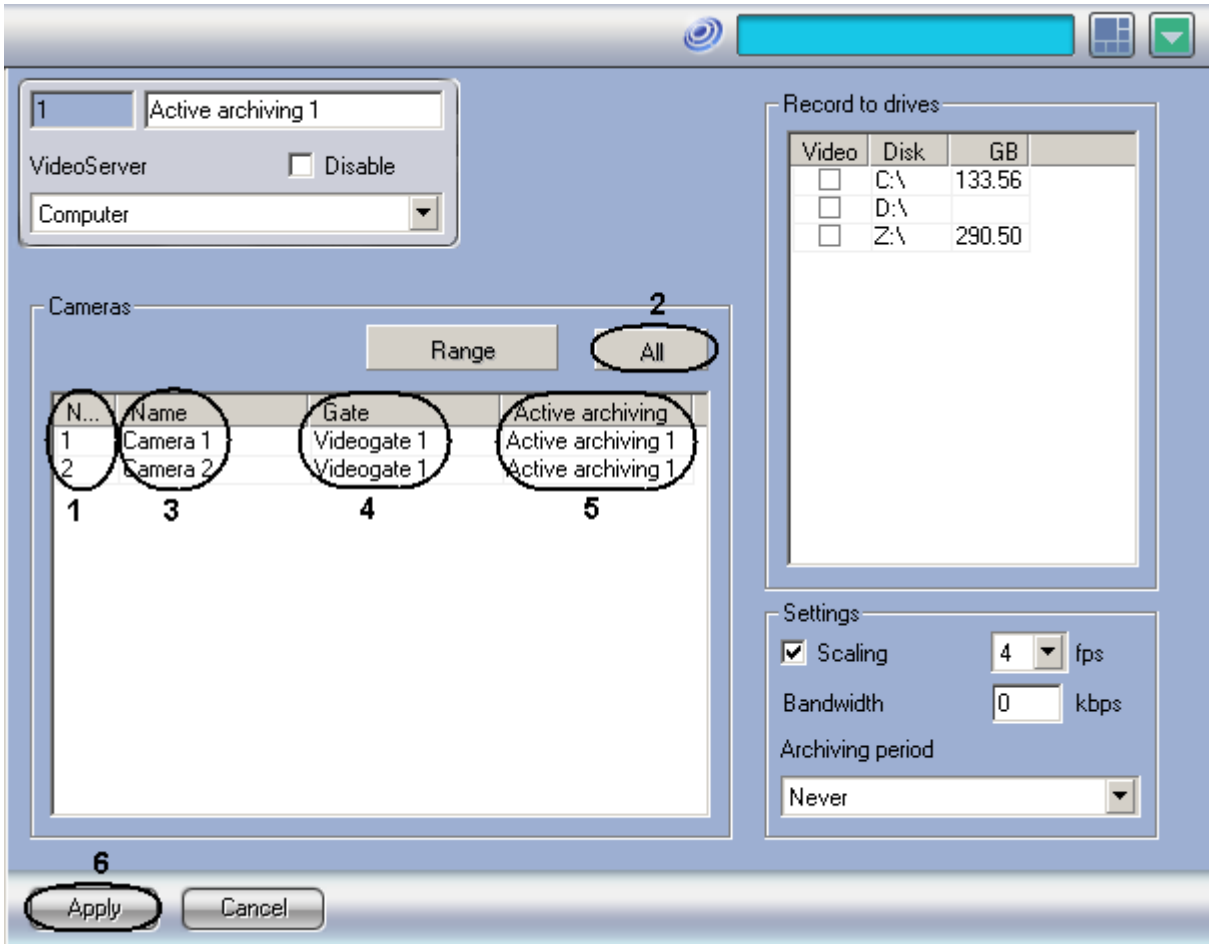


Figure 8.14-3. Choosing the cameras

3. In result of operation in the Name column of the Camera group the name of the selected camera will be automatically displayed (Figure 8.14-3, 3).

4. In case, when video archive should be transmitted from the selected camera through Videogate, select the name of this object from the dropdown list Videogate (Figure 8.14-3, 4).

5. In case, when video archive should be transmitted from the selected camera through Active archiving, select the name of this object from the dropdown list Active archiving (Figure 8.14-3,5).

6. Repeat steps 2-5 for all the selected cameras as necessary.

7. Press the Apply button to save all the changes (Figure 8.14-3, 6)

Choosing cameras on the settings panel of the Active Archiving is over.

8.14.2.4 *Complex selection of cameras*

There is an opportunity of complex selection and editing of cameras' parameters for copying the video archive to the Active Archiving.

Complex selection can be performed in the following way:

1. Go to the settings panel of the Active Archiving system object, then click in the Cameras group button Range (Figure 8.14-4, 1).

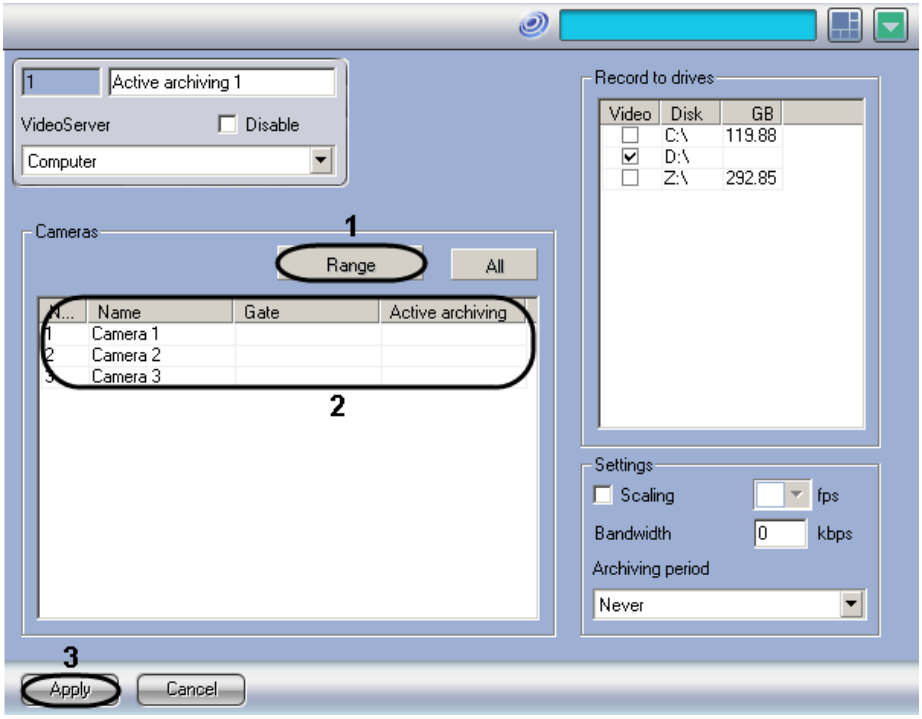


Figure 8.14-4. Range button

2. In result dialog window Add/Edit cameras will open (Figure 8.14-4, 2).

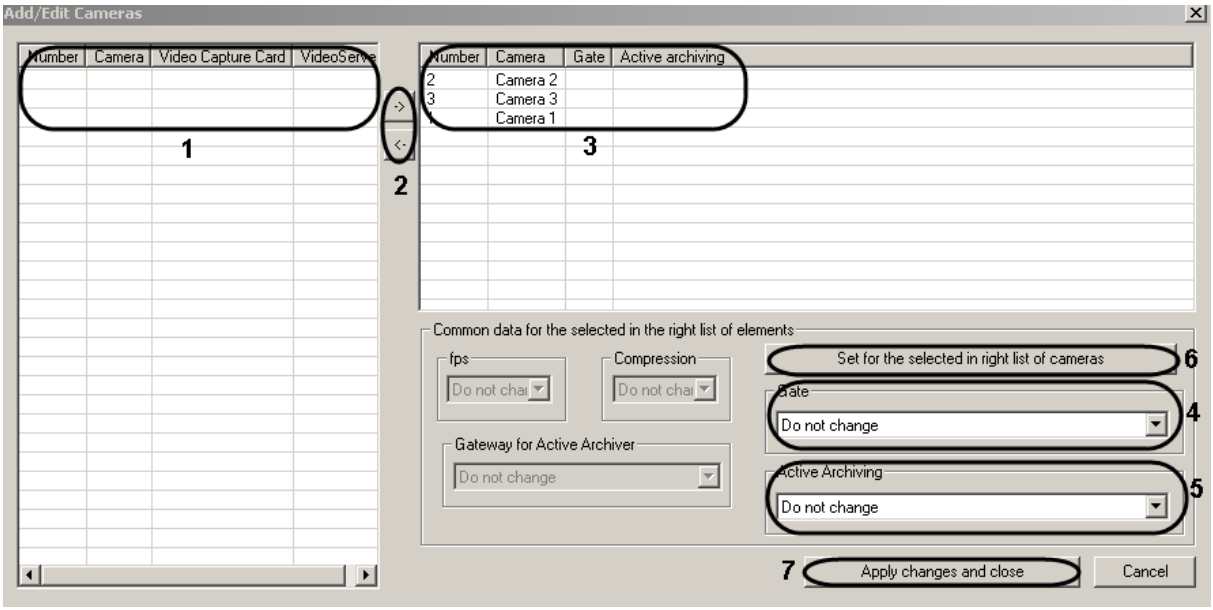


Figure 8.14-5. Add/Edit cameras dialog window

3. Select the required cameras in the left list of the Add/edit cameras window (Figure 8.14-5, 1).

4. Move the selected cameras to the right list, clicking the button «  » (Figure 8.14-5, 2).

Note.The right list is enumeration of cameras, selected for copying the video archive to the Active Archiving.

Button «  » is used for back action, that is for moving the selected video cameras from the right list to the left one (Figure 8.14-5, 2).

5. In result the selected cameras will be displayed in the right list of the window Add/Edit cameras.

6. If it is necessary select in the right list the names of required cameras for complex editing the parameters (Figure 8.14-5, 3).

Note. For all the selected cameras the same values of parameters will be set.

7. In case, when video archive has to be transmitted through the Videogate object, select from the dropdown list the name of this object (Figure 8.14-5, 4).

Note. Videogate setting, Active archiving belong to the group Common data for the elements selected in the right list (Figure 8.14-5, 5).

Note.

1. *In case, when video archive has to be transmitted from the other Active Archiving object Videogate object, select from the dropdown list Active Archiving the name of this object (Figure 8.14-5, 5).*

2. *Click button Save for the selected in the right list of cameras to save save the set parameters (Figure 8.14-5, 6).*

3. *In result the set parameters will be shown in the right list of the window Add/ edit cameras (Figure 8.14-5, 3).*

4. *Repeat steps 6-9for complex editing of all the required cameras.*

5. *Click button Apply changes and close to save all the canges and close the window Add/edit cameras click (Figure 8.14-5, 7).*

6. *Set camera settings will be shown in the table Cameras on the object settings panel Active Archiving (Figure 8.14-4, 2).*

7. *To save all the changes click the "Apply" button (Figure 8.14-4, 3).*

Complex selection of video cameras is over.

8.14.2.5 *Setting the parameters of video archive transmission over a local network*

If a network drive is selected for backup, you can set up the network transmission parameter. This parameter limits the overall transmission rate on each server.

By default, the transmission rate is not set. This means the data is transferred so that the local networks, or the videoserver resources, are loaded to the maximum.

Setting the parameters of video archive transmission over a local network is done in the following way:

1. Go to the settings panel of the Active Archiving system object.

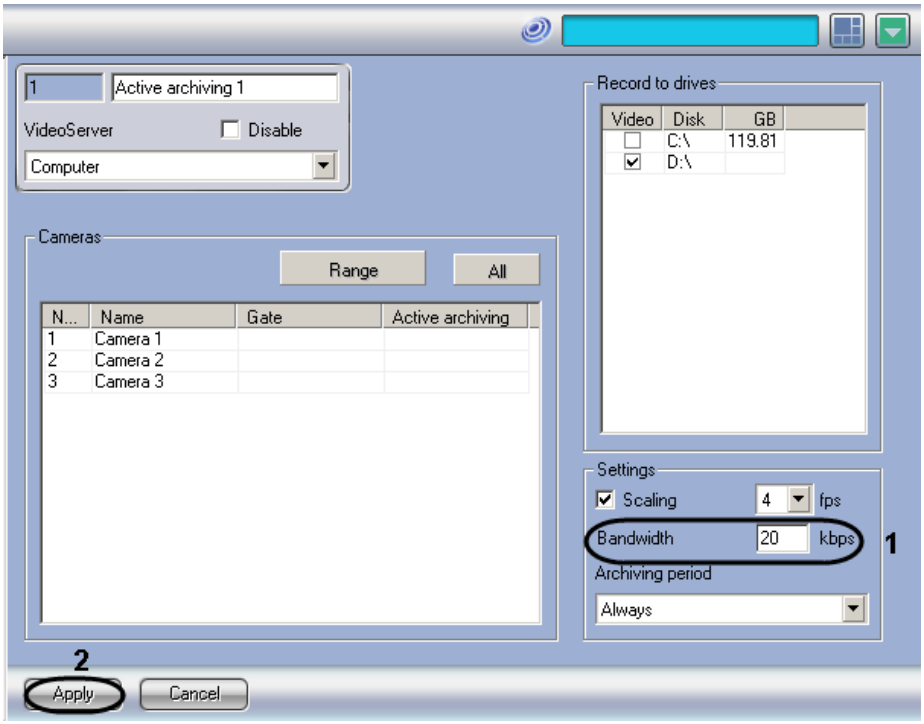


Figure 8.14-6. Setting the parameters of video archive transmission over a local network

2. In the field Bandwidth enter the value kbps of maximum speed of video archive's transmission over a local network (Figure 8.14-6).

3. Click Apply button to save the changes (Figure 8.14-6).

Setting the parameters of video archive transmission over a local network is completed.

8.14.2.6 *Choosing the drives to hold the archive of the Active Archiving module*

The Intellect Active Archiving module saves the backup copy of the video archive to local disks, connected network drives and USB storage. Backup files are stored in the VIDEO folders on these drives.

By default, backup archiving is disabled.

Selection of drivers for storing archive of Active Archiving module is done in the following way:

1. Got to the settings panel of the Active Archiving system object (Figure 8.14-7).

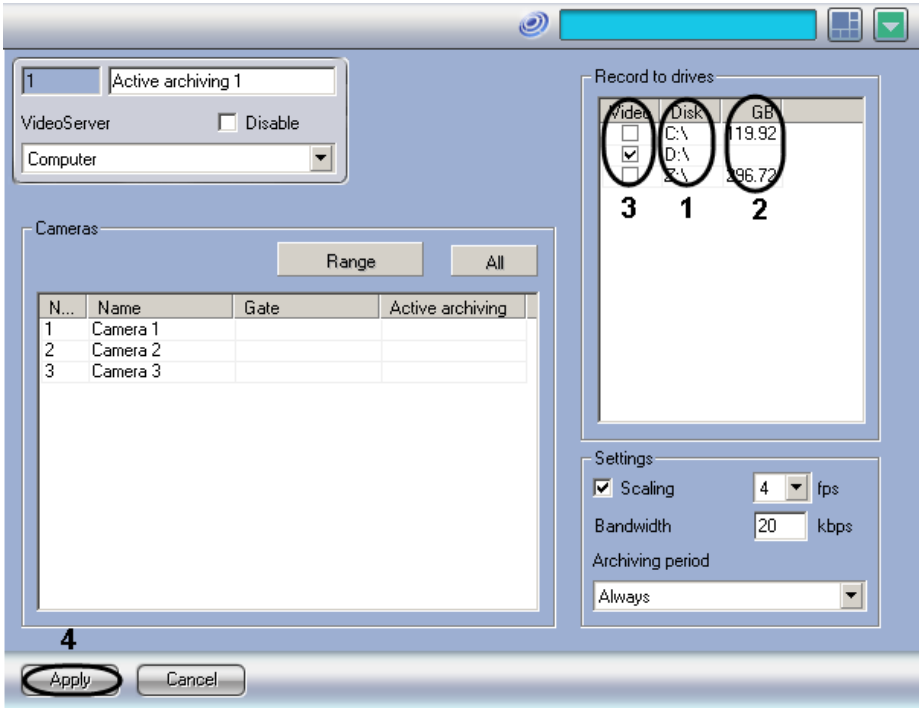


Figure 8.14-7. Selection of disks for storing archive of Active Archiving module

2. Names of local (net, USB) drivers, available for storing the archive module the Active Archiving, are given in the column Disk of Record to drivers table (Figure 8.14-7, 1).
3. In the column «GB» there is stated the free space on drivers in Gb (Figure 8.14-7, 2).
4. In the column Video set the checkboxes for drivers, selected for storing the archive module the Active Archiving (Figure 8.14-7, 3).
5. Click Apply button to save the changes (Figure 8.14-7, 4).

Selection of drivers for storing the Active Archiving module is completed.

Note. If no drives have been chosen, the Active Archiving backup will be disabled.

8.14.2.7 *Setting up the scaling of the video archive*

The video signal can be scaled before it is copied to an active archive.

Note 1. Scaling is performed only with the use of Motion Wavelet codec in the active archive, fragment size is shrinkingin the process. With the use of other codecs the scaling is performed incorrectly.

Note2. Scaling in the video gate may be performed with such codecs as MJPEG, Motion Wavelet, MPEG, H264, MxPeg.

If the scaling rate is set to 25 fps, the videois processed at a lower rate for the first minute (~12 fps).

For codecs H264 and MxPeg the maximum allowable scaling rate is 12 fps.

By default, the signal is copied from the server to the active archive with no scaling.

To set up the scaling of video archive's frames while copying them to the Active Archiving do the following:

1. Go to the settings panel of the Active Archiving system object (Figure 8.14-8).

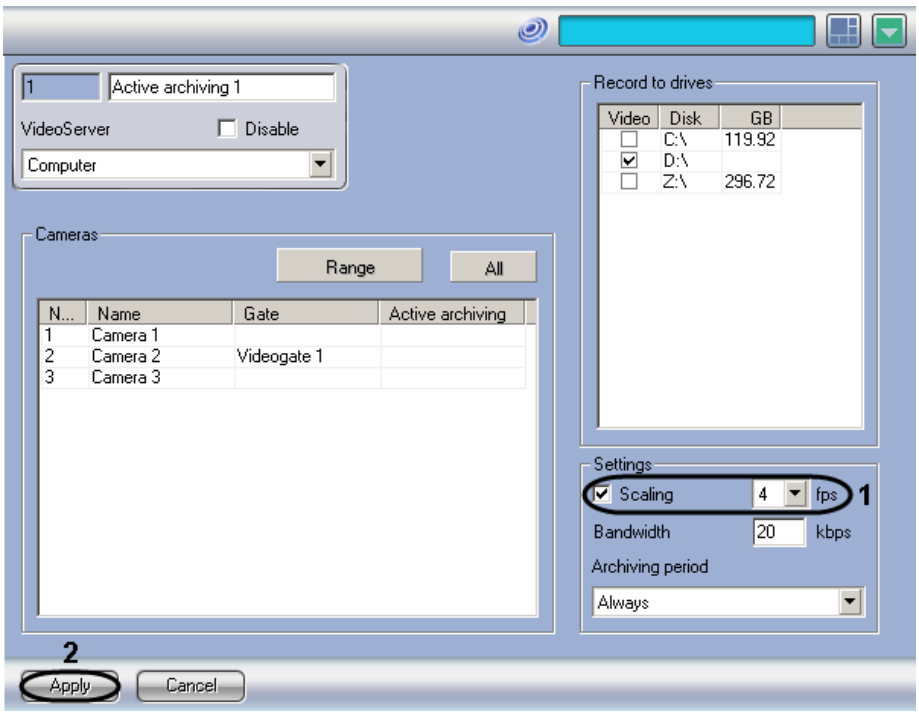


Figure 8.14-8. Setting up the scaling of video archive while copying to the Active Archiving

2. Set the checkbox Scaling in the group Settings to enable the function of video archive scaling (Figure 8.14-8, 1).

3. From the dropdown list Scaling select the required frame rate of video archive for transmitting to the Active Archiving (Figure 8.14-8, 1).

Note1. The selected value Scaling must be less than frame rate of video signal digitized by video capture device. Otherwise the frame rate of a video signal will be equal to the frame rate of digitizing.

Note2. The selected framerate value of the video archive that is to be transferred to the Active archiving is an average value. Actual framerate value may be different from that one, indicated in the dropdown list Scaling.

4. Click Apply button to save the changes (Figure 8.14-8, 2).

This completes the setting up of video signal scaling before copying it to the active archive.

8.14.2.8 *Setting up the timetable of the video archive copying*

Active Archiving module may be run in two ways:

1. Automatically. Due to the timetable of copying in the settings panel of Active Archiving system object.

2. Manually. With the help of interface object the Active Archiving panel.

The process of video archive's automatic copying is implemented beginning from the latest recordings of video fragments. On default automatic copying of video archive is not set.

Setting up the timetable of video archive's copying to the Active Archiving is done in the following way:

1. Go to the settings panel of the Active Archiving system object (Figure 8.14-9).

2. From the dropdown list Archiving period select the required time zone (time period) of the Active Archiving module's running (Figure 8.14-9, 1).

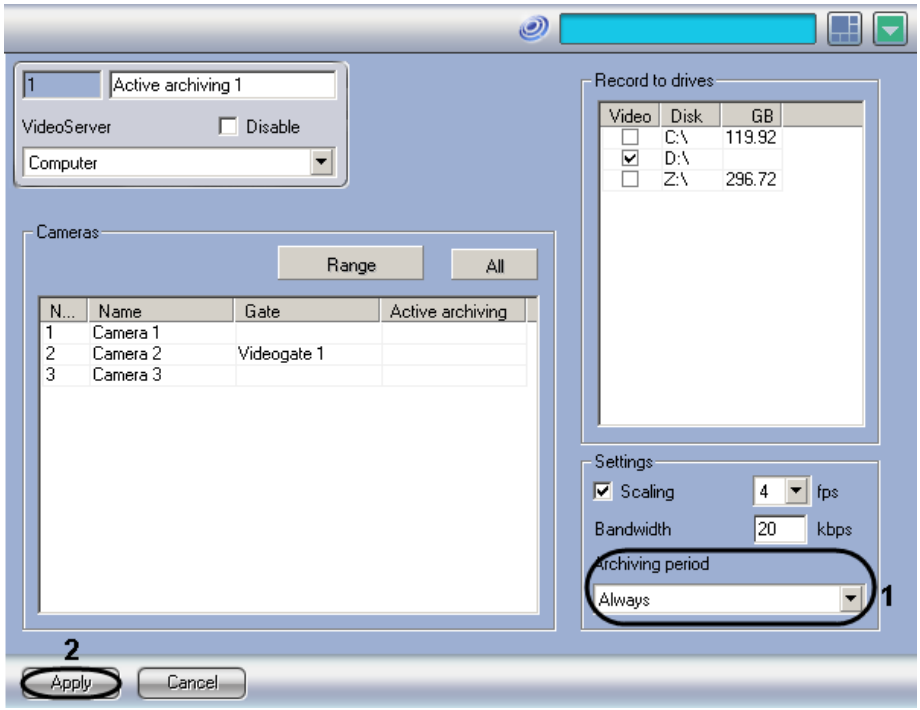


Figure 8.14-9. Setting up the timetable of video archive's copying to the Active Archiving

3. Click Apply button to save the changes (Figure 8.14-9, 2).

Setting up the timetable of video archive's copying to the Active Archiving is completed.

To start the backup manually, set the beginning and the ending dates of the archive to be copied and press the Start button (Figure 8.14-10).

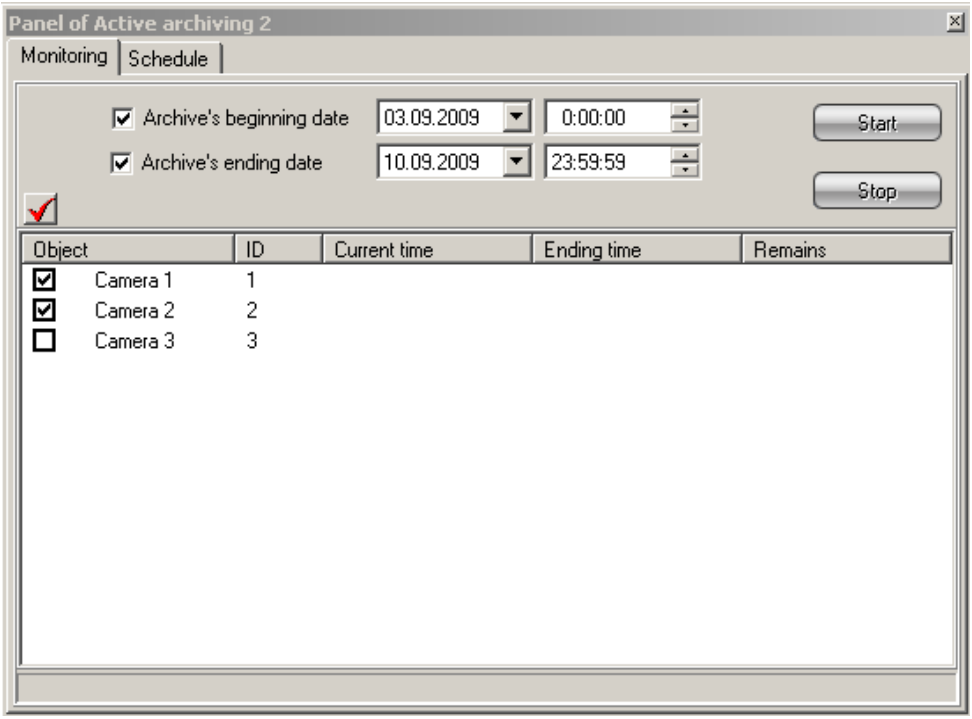


Figure 8.14-10. Running the Active Archiving module with the help of the Active Archiving panel object

8.14.2.9 *Setting up the Panel of Active Archiving*

The interface object Active Archiving Panel allows setting up the parameters of the Panel of Active Archiving window, which is used for starting the backup archiving, changing its parameters and monitoring the backup process.

To set up the main parameters in the Panel of Active Archiving panel, do the following:

1. Open the Interfaces tab in the System Settings window(Figure 8.14-11, 1)
2. Choose the Panel of Active Archiving object in the object tree in the Interfaces tab (Figure 8.14-11, 2). The settings panel for this object opens at the right side of the Interfaces tab.

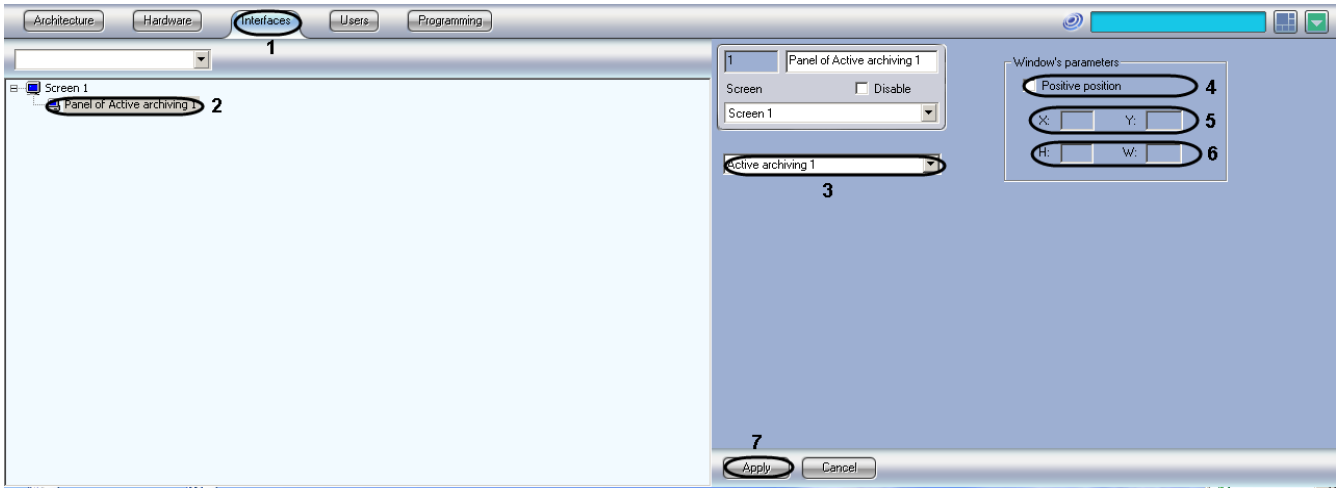


Figure 8.14-11. The settings panel of the Active Archiving Panel object

3. Choose from the list the Active Archiving object to create the Panel for (Figure 8.14-11, 3).

4. Set the Fixed mode checkbox to set the exact position of the Panel of Active Archiving window on the screen (Figure 8.14-11, 4).

5. In result the fields «X», «Y», «W», «H» will be available for editing.

6. Set the coordinates X and Y of the upper left corner of the window, in percent to the corresponding screen dimensions (Figure 8.14-11, 5).

7. Specify the width (W) and height (H) of the window, in percent to the corresponding dimensions of the screen (Figure 8.14-11, 6).

8. Press the Apply button (Figure 8.14-11, 7).

Setting up the Panel of Active Archiving interface object is over.

8.15 Setting up the Web-server module

8.15.1 General description of the Web-server module

The Web-server module is used for viewing the video surveillance information in a web browser using the TCP/IP communication protocol.

Web-server provides some of the functions of an HTTP server, video transfer gate and HTTP control commands.

Web-server provides the following HTTP server functionality:

1. Access control through authorization.

2. Working as a gate for transferring video data using HTTP protocol.

3. Video monitoring and camera control through the web browser using the TCP/IP environment.

4. Control of camera movement through the web browser using the TCP/IP environment.

5. Setting the layout of the video frames on the screen: 1, 4, 6, 9 windows per screen.

6. Viewing the archives stored on the videoserver for each camera through the video surveillance window.

7. Limiting access rights for viewing the video feed from the cameras, controlling the camera movement, and viewing recordings from the videoserver.

8. Displaying the video signal parameters (frame rate (fps) and frame size (kB) in the surveillance window.

Additionally, the Web-server acts as a Mobile-server providing video surveillance capabilities through PocketPCs and SmartPhones.

The Web-server interface looks like a video surveillance monitor and is built as an HTML page. This page is called the Web-server's home page. The surveillance monitor and control elements for the camera movement devices are driven by the Java applet.

Intellect software can be set up to require user authorization on entering the Web-server. Access to viewing and controlling the movement of the cameras through the Web-server is defined by the module settings.

8.15.2 System requirements

The Web-server module requires Java Runtime Environment version 1.1 or higher. This software is available free of charge.

8.15.3 Installation of Java Runtime Environment

The Web-server module working on videoservers and workstations of the Intellect-based surveillance system requires Java Runtime Environment. This software is available free of charge.

The option for Java Runtime Environment installation is included in the Intellect software installation procedure.

Java Runtime Environment should be manually installed on the remote workstations. The Java installation package is available for downloading from www.java.com. If the Web-server home page is accessed from a computer with no Java installed, the home page will contain a direct link to the Java Runtime Environment installation package ready for downloading.

Note. It is necessary to install Java Runtime Environment not in quiet» mode. Otherwise the Intellect may not respond displaying two possible messages:

1. *«Error applying transforms. Verify that the specified transform paths are valid». - alternate route s of this error are detailed on the site «http://www.java.com/ru/download/help/error_applying_transforms.xml ».*
2. *«Revocation information for the security certificate for this site is not available. Do you want to proceed? » - certificate installation query.*

8.15.4 Authorization on the Web-server home page

Access to the Web-server home page is restricted by an HTTP user authorization algorithm.

A user can be authorized by any of the passwords registered for the Intellect users. No additional authorization setup for Web-server HTTP server is required.

Access to viewing the video feed from the cameras and controlling the cameras, sensors and motion devices is restricted according to the Web-server-related settings of the videoserver.

8.15.5 Starting and setting up the Web-server module

Depending on its operative requirements, the Web-server module can be set up in the following optional stages:

1. Open the Hardware tab and select the Web-server object in the object tree.
2. Check if the Web-server is on. This can be checked in the notification area of the Windows taskbar (Figure 8.15-1). By default, the Web-server is on. If the Web-server is off, turn it on before starting the setup procedure.



Figure 8.15-1. Web-server icon in the notification area of the Windows taskbar

3. Set up the interface for the video surveillance monitor of the Web-server by changing the Java applet parameters shown on the Web-server home page.

4. Set up the display of the data for traffic estimation on the Web-server video surveillance monitor by changing the Java applet parameters shown on the Web-server home page.

Set up the Web-server to act as a gate on another HTTP-server by changing the Java applet parameters shown on the Web-server home page.

8.15.6 Setting up the videoserver for connection of the operator workstations via the Web-server module

The videoserver is set up for connection of the operator Clients via the Web-server in the System Settings window. In most cases, the default videoserver settings can be used for correct Web-server operation.

To set the Web-server module do the following:

1. Create Web-server module on the basis of Computer system object.

2. Select and set cameras for displaying on the Web-server home page.

3. Set the parameters of Clients connection to the Web-server.

8.15.6.1 *Creation of the Web-server object*

To create the Web-server object do the following:

1. Select the required Computer object on the tab Hardware of the System Settings dialog window (Figure 8.15-2).

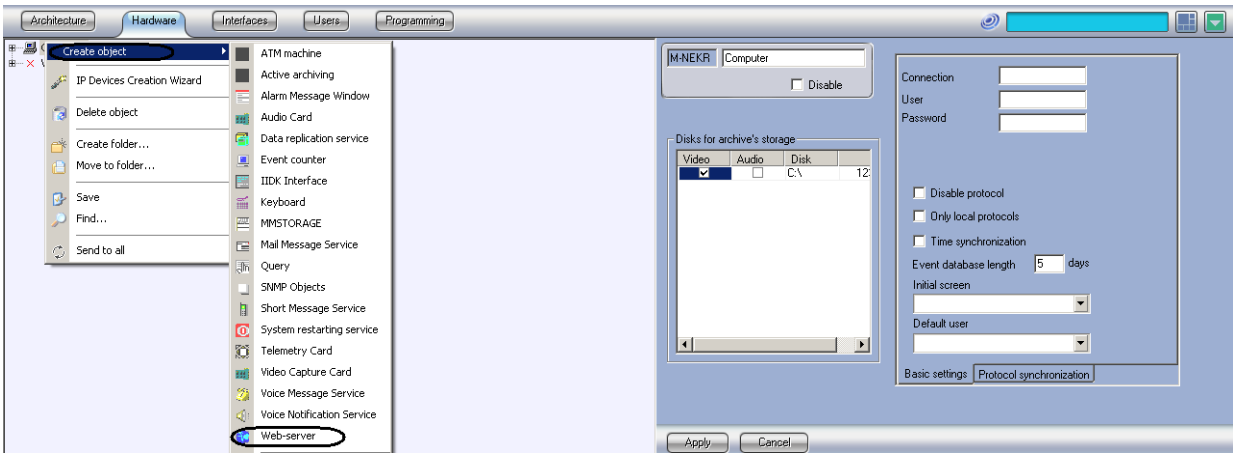


Figure 8.15-2. Creation of the Web-server object

2. Make a right mouse click upon the selected Computer object and select «Create object» ⇨ «Web-server» in the contextual menu (Figure 8.15-2, 1).

3. Set the number and name of Web-server object and then click Apply button (Figure 8.15-3).

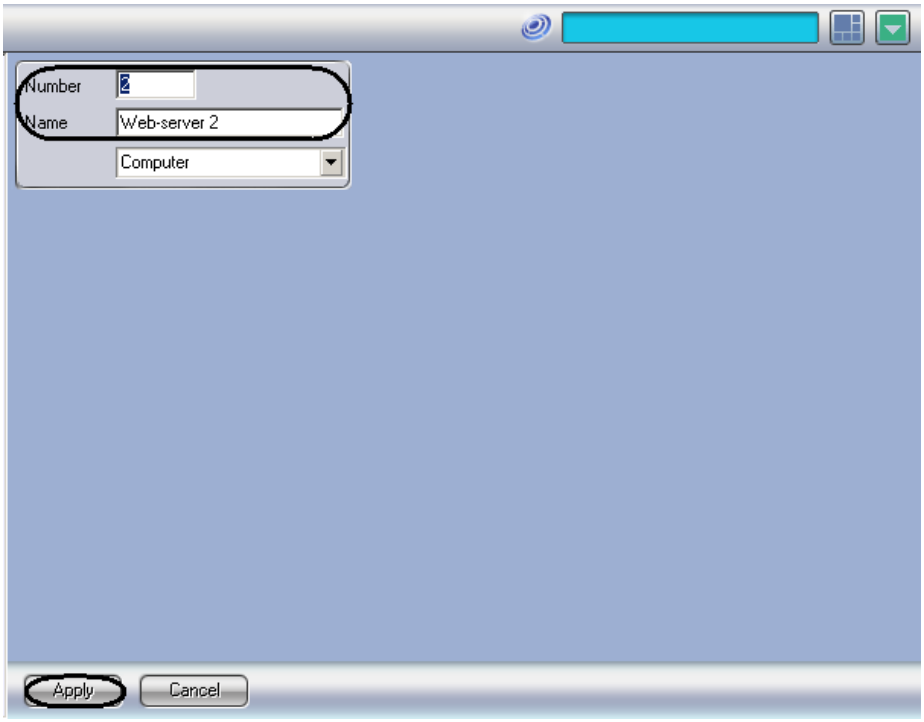


Figure 8.15-3. Setting up the name and number of the Web-server object

Note. In result the settings panel of Web-server object will open.

4. Repeat steps for all the required Computer and Web-server objects.

5. Click Apply button to save changes.

Creation of Web-server object is completed.

8.15.6.2 *Selection and set up of cameras*

To select cameras for displaying on the Web-server home page do the following:

1. Go to the Web-server settings panel (Figure 8.15-4, 3).

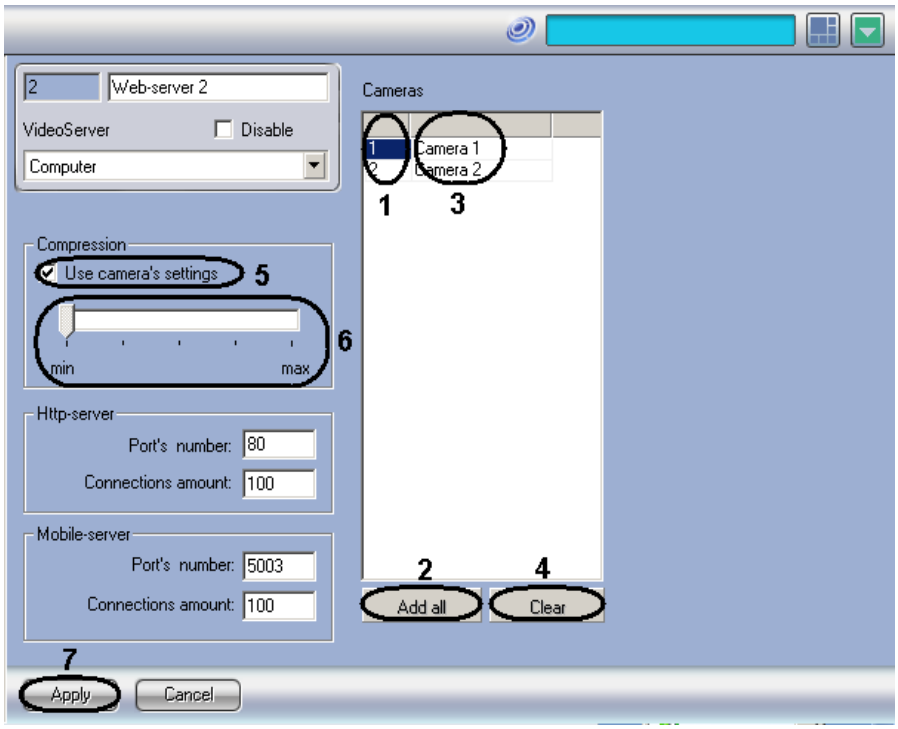


Figure 8.15-4. Selection and set up of cameras for displaying on the Web-server home page

1. Select the number of the required camera from the dropdown list in the Camera table (Figure 8.15-4, 1).

Note. To select all the cameras, registered in the system click Add all button (Figure 8.15-4, 2).

2. The name of the selected camera will be automatically displayed in the table Cameras (Figure 8.15-4, 3).

3. Repeat steps 2-3 for all the required cameras

Note. To clear Cameras table click Clear button (Figure 8.15-4, 4).

4. By default, the compression level of the signal sent to the Web-server surveillance monitor is the same as it was before the signal was recorded to disk and transferred over the network(the checkbox Use camera's settings is set). To decrease the network traffic, the compression level can be raised before sending it to the remote workstations (Figure 8.15-4, 5).

5. To change the compression level of video signal it is necessary to uncheck the checkbox Use camera's settings and then set the checkbox Compression to the position , corresponding to the required Compression level (Figure 8.15-4, 6).The position of the slider Min corresponds to minimal compression level of video signal, position Max- to maximum.

NOTE. The compression level parameter for the signal transmission to remote workstations via the Web-server is inverse to the Quality parameter of the Camera object.

Increase of video signal's compression level decreases the network traffic during Client's connection to the Web-server. But video signal on the Server has to be recompressed in case of setting the compression level that results in greater load on Server's central processor.

6. Click Apply button to save changes (Figure 8.15-4, 7).

Selection of cameras for displaying on the Web-server home page is completed. Setting the parameters of clients' connection to the Web-server

To set the parameters of clients' connection to the Web-server do the following:

1. Enter the number of the port in the field Port's number of Http-server for connection to Http-server (Figure 8.15-5, 1).

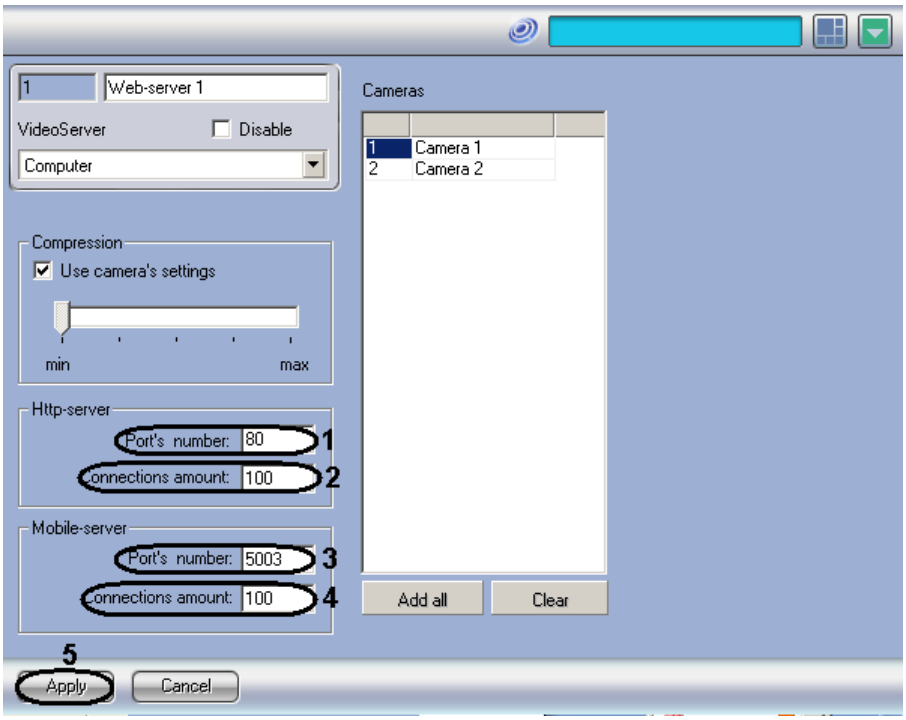


Figure 8.15-5. Setting the parameters of clients' connection to the Web-server

1. Enter the maximum permissible amount of simultaneous connections to Http-server in the field Connections amount (Figure 8.15-5, 2).

Note. Every demand for receiving the signal from every camera and demand for controlling all the accessible PTZ units independently on its number. For example, if the user has displayed 9 cameras, three of which have PTZ units, on the Monitor of Web-server module, it is considered that the user has created 10 connections to the Server.

2. Enter the port number for connection to the Mobile-server in the field Port's number (Figure 8.15-5, 3).

3. In the field Connections amount of Mobile-server group enter the maximum permissible amount of simultaneous connections to Mobile-server (Figure 8.15-5, 4).

4. To save all the changes press Apply button.

Setting the parameters of clients' connection to the Web-server is completed.

8.15.7 Web-server home page template and Java applet settings

The template for the Web-server home page is stored in the index.htm file located in the program folder of Intellect software, in the …\Modules\webroot subfolder. For example: C:\Program Files\Intellect\Modules\webroot.

The home page template holds the parameters of the page and of the Java applet displaying the surveillance windows.

By changing the Java applet parameters in the home page HTML-code, you can set the parameters of the video and control signal transmission through the gate (in case of using another HTTP-server), add or remove interface elements of the Web-server surveillance monitor, and enable showing the current frame size and frame rate for traffic estimation.

Each applet parameter description takes a separate line and consists of <param name=, followed by the quoted name of the parameter, and value=, followed by the quoted parameter value. The line ends with the > symbol.

The full line has the following format:

<param name=”Parameter name” value=”Parameter value”>.

Note. If a parameter is not specified in the index.htm template, the default value is used.

Table 8.15-1 shows the available Java applet parameters.

Table 8.15-1

Parameter name	Possible values	Default value	Description
General data			
Version	-	-	HTML file version (must be the same as the client version)
Gate transmission parameters for video signals and controls			
port	number	80	Port number for the applet to receive the video feed and send the controls. The parameter is enabled if the “port.from” parameter has the value "html".
port.from	html|	url by default, this line is not included in index.htm	Specifies the source of the video feed port number for the applet to use: html – “port” parameter of the index.html file; url – URL by which the user accesses the index.html page.
path.from	html|	url by default, this line is not included in index.htm	Specifies the source of the path to the index.html page: html – URL, specified in index.html; url – URL by which the user accesses the index.html page.
path	string	-	The path to index.html on the HTTP server, in case of a

Parameter name	Possible values	Default value	Description
		by default, this line is not included in index.htm	different HTTP server. The parameter is enabled if the “port.from” parameter has the value "html".
User interface display parameters			
layout.available	true|false	true	Enables (true) or disables (false) the windows layout panel on the surveillance monitor.
top.visible	true|false	true	Enables (true) or disables (false) the tools panel on the surveillance monitor.
layout.default	0|1|2|3	0	Specifies the default layout of surveillance windows when the Web-server home page opens. Possible values: 0 – one window 1 – four windows 2 – six windows 3 – nine windows
cam.default.id	number	1	The id of the camera whose window is displayed when the Web-server home page opens. This parameter is enabled, if the “layout.default” parameter has a value of 0.
messages	Text interface elements Visible text	see index.html file	The list of visible text elements of the interface: menu items, information strings in the surveillance window, etc. Only the visible text can be edited. IMPORTANT! The names of text elements are reserved. Editing them will result in their misinterpretation.
Parameters for displaying the data used in traffic estimation			
fs.fps	true|false	false by default, this line is not included in index.htm	Enables (true) or disables (false) the frame rate indication on the surveillance monitor.
fs.size	true|false	false by default, this line is not included in index.htm	Enables (true) or disables (false) the frame size indication on the surveillance monitor.

8.15.8 Setting up the surveillance monitor interface of the Web-server module

The interface of the surveillance monitor of the Web-server may be customized: removing the tools panel, choosing the default layout of the surveillance windows, changing the visible text on the menu item and service messages, etc.

Usually, the default interface settings provide quite a comfortable working environment. In case they need to be changed, do the following:

1. Using the text editor, for example Notebook, open the index.html file from the Intellect software program folder ...\Modules\webroot, for example, C:\Program Files\Intellect\Modules\webroot.

2. To remove the tool panel from the surveillance monitor, set the “top.visible” parameter to "false”: <param name="top.visible" value="false">.

3. To remove the layout selection panel from the surveillance monitor, set the “layout.available” parameter to "false”: <param name="layout.available" value="false">.

To make the tools panel visible at the same time, set the "top.visible" parameter to "true":

<param name="top.visible" value="true">.

4. By default, only one surveillance window is displayed when you open the Web-server home page. To open 4, 6, or 9 windows, set the “layout.default” parameter to 1, 2, or 3, respectively. For example, to display 9 windows:

<param name="layout.default" value="3">.

5. By default, the surveillance window from camera 1 is displayed when you open the Web-server home page. To display the window from another camera, set the “cam.default.id” parameter to the number of the required camera. For example, to display the window from camera 9:

<param name="cam.default.id" value="9">.

To use this setting, the parameter “layout.default” must be set to 0 (default):

<param name="layout.default" value="0">.

6. To change the visible text of the menu items in the surveillance windows or the texts of service messages, look in the “message” parameter for the text to be replaced and replace it with the required text.

For example, to replace the message text “Cable detached from the camera…” with the text “No connection to the camera”, make the following changes to the “messages” parameter:

replace

<param name="messages" value="name=ITV WebServer client*detach=Cable detached from the camera…*disable=Camera is off…* …….>

with

<param name="messages" value="name=ITV WebServer client*detach=No connection with the camera*disable=Camera is off…* …….>

When changing the texts in menu items and messages, do not use the following symbols: ‘ * ’, ‘ = ’, ‘ “ ‘.

7. Save changes to the index.htm file.

8.15.9 Setting up the display of the data for traffic estimation in the Web-server

Web-server operation uses network traffic. It’s important to estimate the traffic, because it must be paid for.

The volume of network traffic when using the Web-server depends on the following factors:

1. the number of cameras displayed on the surveillance monitor;
2. compression level of the video signal;
3. frame size of the video signal;
4. frame rate of the video signal.

The traffic volume can be monitored on the Web-server surveillance window. When set up, the current frame size and frame rate for each camera are shown in the surveillance windows. The traffic is approximately estimated by the following formula:

Traffic = {Viewing time} * {Number of cameras} * {Average frame size} * {Average frame rate}

Formula 4. Traffic estimation

By default, the traffic estimation data is not shown. To set up the Web-server module to display the traffic estimation data, do the following:

1. Using the text editor, for example Notebook, open the index.html file from the Intellect software program folder...Modules\webroot. For example, C:\Program Files\Intellect\Modules\webroot.
2. Add the following lines to the Java applet parameter list:

<param name="fs.size" value="true">

<param name="fs.fps" value="true">

3. Save changes to the index.htm file.

8.15.10 Setting up the Web-server module to act as a gate on a different HTTP-server

By default, the Web-server module is set up to work as an independent HTTP-server. If a different HTTP-server must be used to connect to the remote workstations, the Web-server should act as a gate only for that HTTP-server and additional parameters should be set up.

For example, to use the Web-server for video surveillance, the user must open the page http://www.*****.ru:8080/video/index.htm (asterisks “*****” represent the domain name of the site where the cameras can be accessed). To set up the Web-server to act as a gate, do the following:

1. Using the text editor, for example Notebook, open the index.html file from the Intellect software program folder...\Modules\webroot. For example, C:\Program Files\Intellect\Modules\webroot.

2. By default, Java applet receives the video signal from http://www.*****.ru address.

3. For Java applet to receive the signal from http://www.*****.ru:222/reverse/proxy/, add the following lines to the index.htm file:

<param name="port.from" value="html"> /add

<param name="path.from" value="html">

<param name="path" value="/reverse/proxy/">.

Set the “port” parameter to 222:

<param name="port" value="222">.

4. For Java applet to receive the signal from http://www.*****.ru:222, add the following line to the index.htm file:

<param name="port.from" value="html">.

Set the “port” parameter to 222:

<param name="port" value="222">.

5. For Java applet to receive the signal from http://www.*****.ru/reverse/proxy/, add the following lines to the index.htm file:

<param name="path.from" value="html">

<param name="path" value="/reverse/proxy/">.

6. Save changes to the index.htm file.

8.16 Counting the system events

8.16.1 General Information

The Events Counter system object is designed for counting the specified types of events on the specified objects. Unlike other objects in the Hardware tab, this object is not a hardware component, and fulfils auxiliary functions in programming the Intellect system. It is most commonly used together with other system components, since it does not have a separate interface window for data input/output.

The counter notifies the system about the collected statistical data using the “Data Collected (SIGNAL_POINT)" message. Two notification modes are available: for a specified period of time and for a specified number of events. In the first case, the notification is issued upon expiration of a set time period after the start of counting. In the second case, the notification is issued when a certain amount of events has been counted.

An option for conditional count reset is available. Two reset modes are available: for a specified period of time and for a specified number of events. In the first case, the counter is reset upon expiration of a set time period after the start of counting. In the second case, the counter is reset when a certain amount of events has been counted. After resetting the statistic, the counter issues the “Counters have been reset (COUNTERS_FLUSHED)” message.

The start time for counting can be set manually, or automatically according to the last change of the Events Counter settings.

Besides, one Events Counter object allows setting a separate counter for each event.

8.16.2 Events Counter setup

The Events Counter is set up in the following steps.

Creating the Events Counter

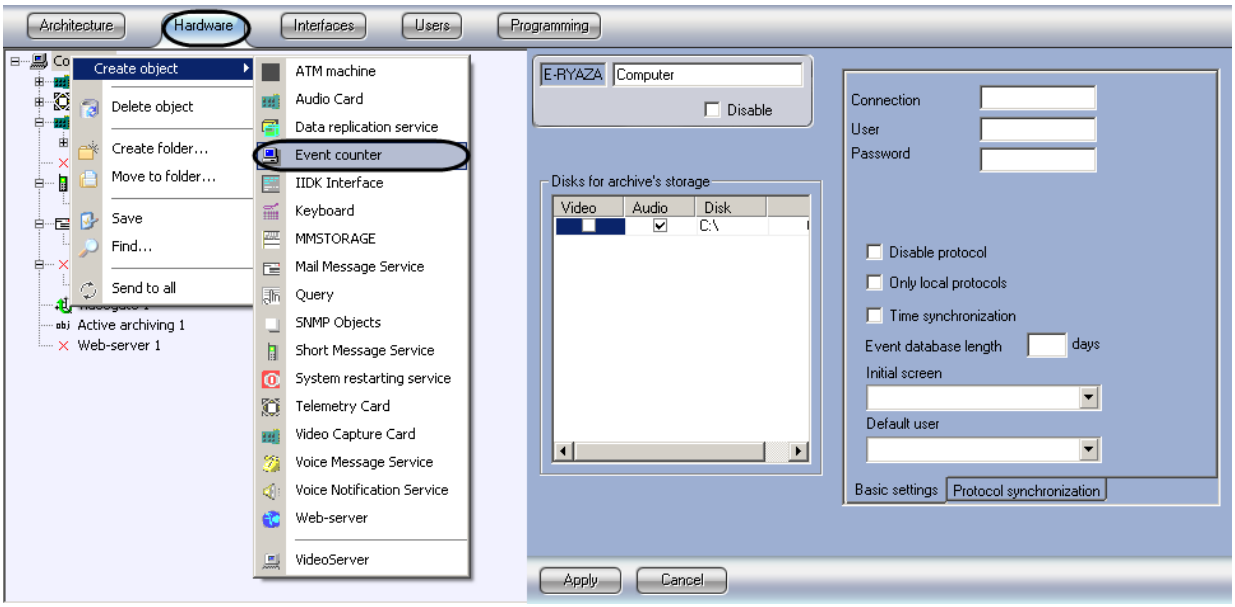


Figure 8.16-1. The Events Counter creation

In the Hardware tab, right-click the computer where the counter is to be created. In the drop-down menu, select Create Objects, then Events Counter. Enter the number and name of the counter and click Apply.

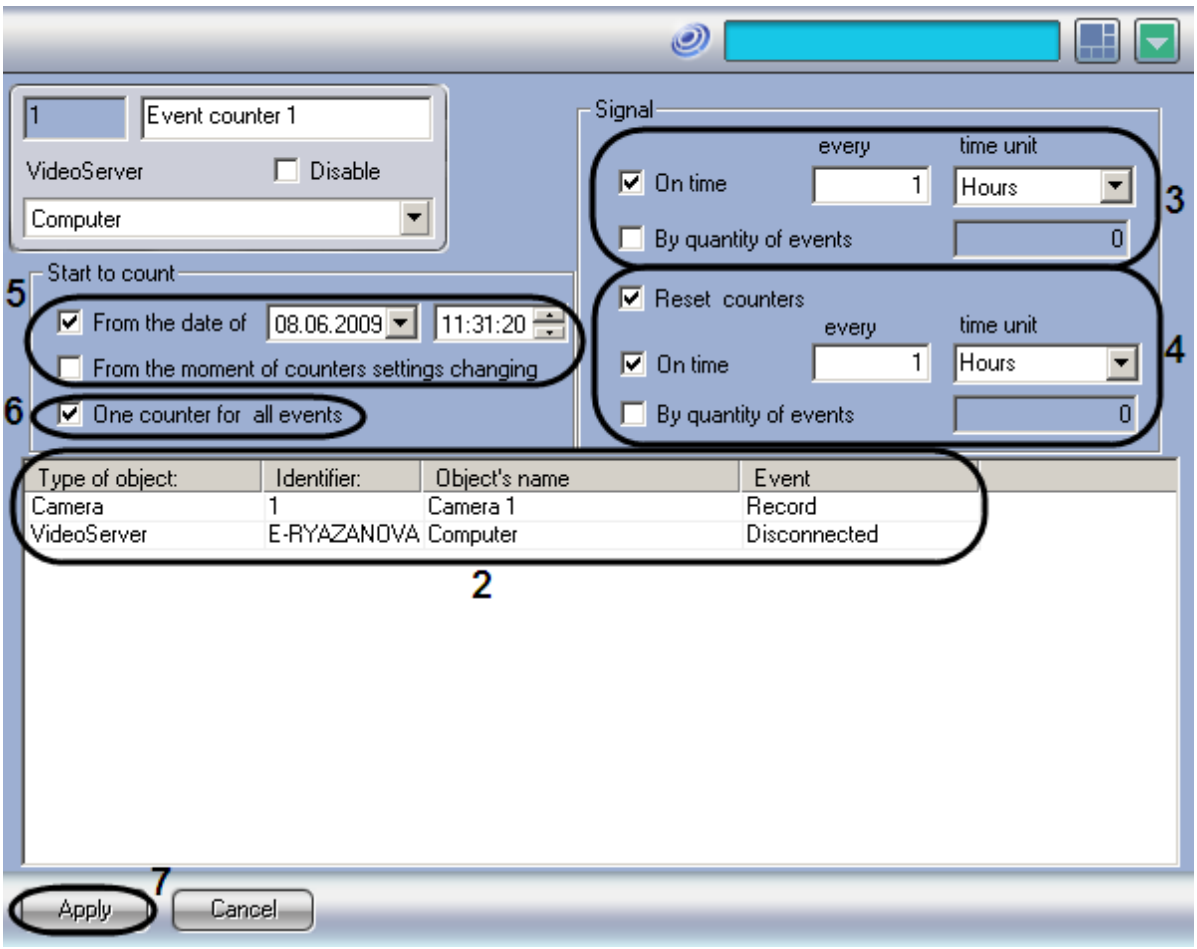


Figure 8.16-2. The Events Counter setup

Objects and events selection

Select an object type in the Object Type column, and an ID in the ID column (Figure 395-2). Then, select an event in the Event column for the created object. Repeat these steps for all required objects and events.

Notification setup

Select the notification mode and set the notification parameters.

Reset setup

Enable the counter reset option, if necessary. Select the reset mode and set the reset parameters.

Start time setup

Select the time setting mode and enter the date and time, if necessary.

Setting up the individual counters for events

Check or uncheck the option for individual events counting, if necessary.

Saving the settings

Click Apply to save the settings.

The Events counter has been set up.

8.16.3 Data output and counter control

The Events Counter object has no separate interface object for data input/output, thus it is used together with other objects. Usually, macros are used to control the counters.

Figure 8.16-3 shows an example of using a counter in a macro.

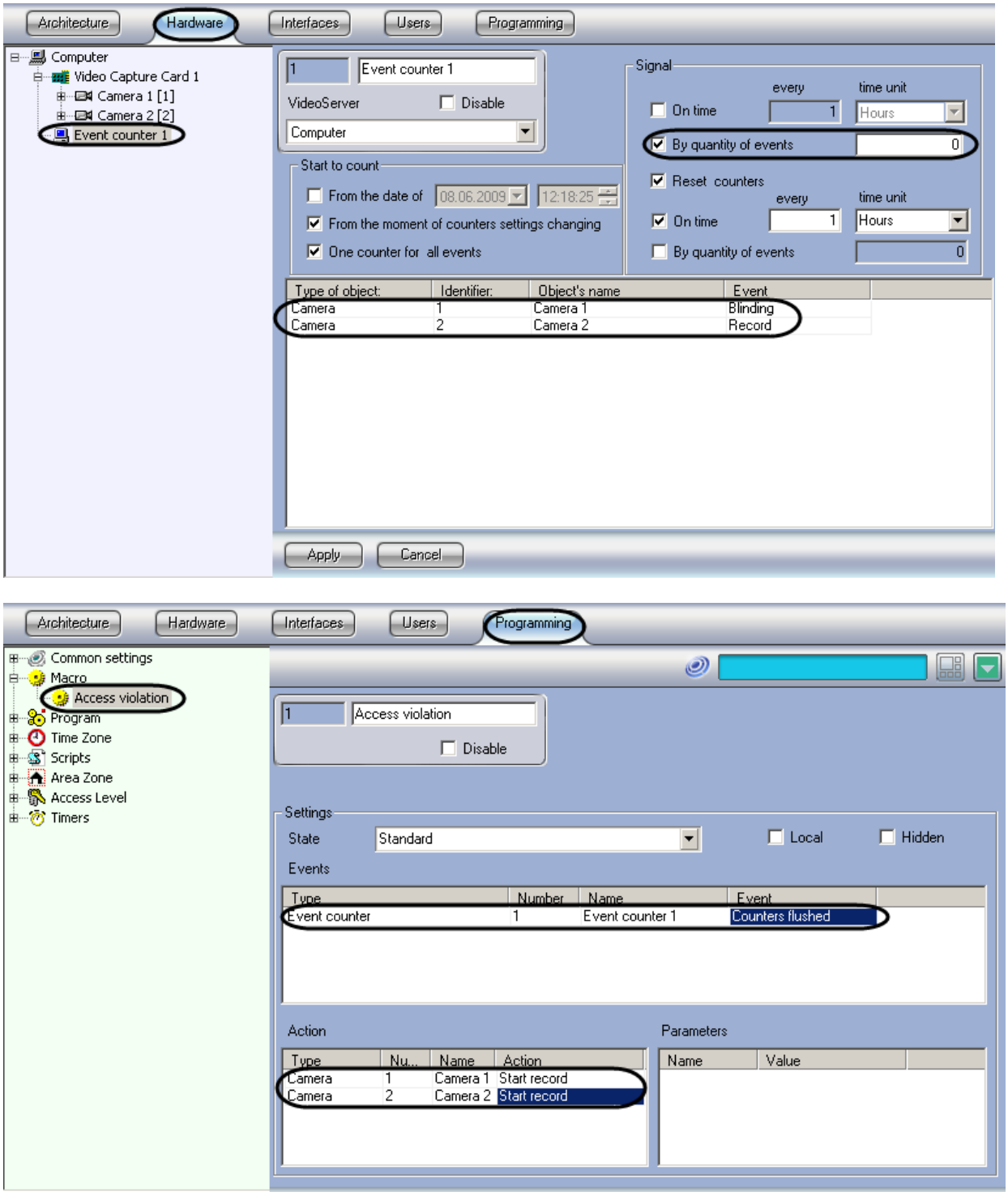


Figure 8.16-3. An example of the counter usage

The counter issues a notification (sends a “SIGNAL_POINT (Data collected)” message in any of the following cases: camera 1 blocked, camera 2 blocked, camera 1 connection lost, unauthorized access attempt, the number of access attempts exceeded the limit. If the Access Abuse Control macro is active at the moment of the counter notification, video recording automatically starts on cameras 1 and 2.

Note. The macros are described in detail in the Creating and Using Macros section.

8.17 Setting up the Event Viewer

8.17.1 Setting up the interface object «Events viewer»

8.17.1.1 *Order of setting up the interface object «Event viewer»*

The «Events viewer» object is a child-object of interface object «Screen» and is used for displaying information about registered events in the interface window. Events may be registered both locally and on the computers in the distributed system.

Note. Events transmission among computers is set on the «Architecture» tab in the Systems Settings dialog window (See Setting of distributed system’s components interaction).

Creation and setting of interface object «Event viewer» is performed on the «Interface» tab in the System Settings dialog window (Figure 8.17-1).

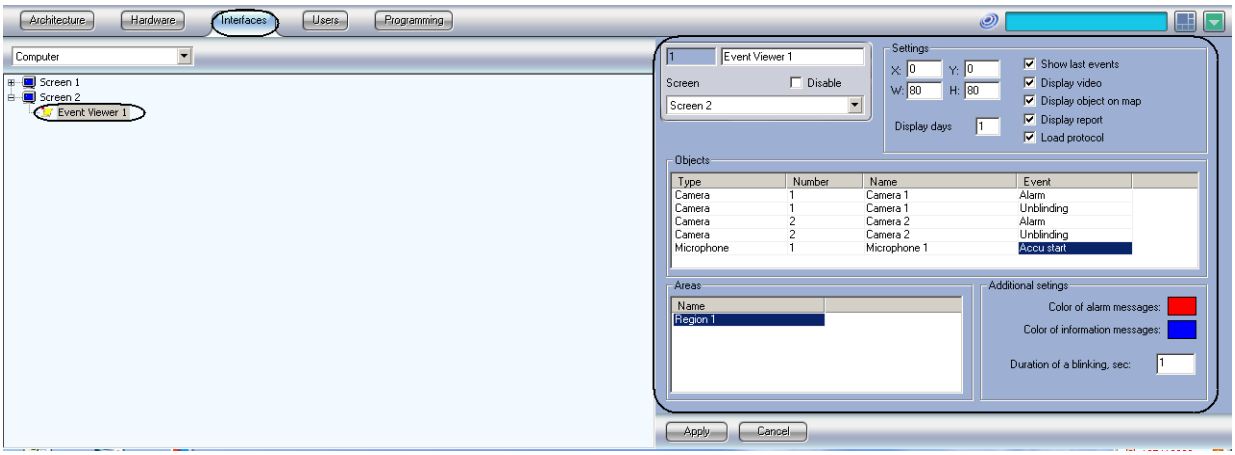


Figure 8.17-1. Setting up the Event Viewer object

To set interface object «Event viewer» do the following:

1. Choose the events, which information should be logged to the interface object «Events viewer» in case of its registration in the system.
2. Set the parameters of the event viewer.
3. Set the displaying of interface window «Events viewer».

8.17.1.2 *Events selection*

To select the events, that should be logged in the interface object «Events viewer», do the following:

1. From the dropdown list in the «Type» column of the tab «Objects» choose the object type, for which required event may be logged (Figure 396-2, 1). If the field is empty, the «Events viewer» displays all the events for all the objects in the system.

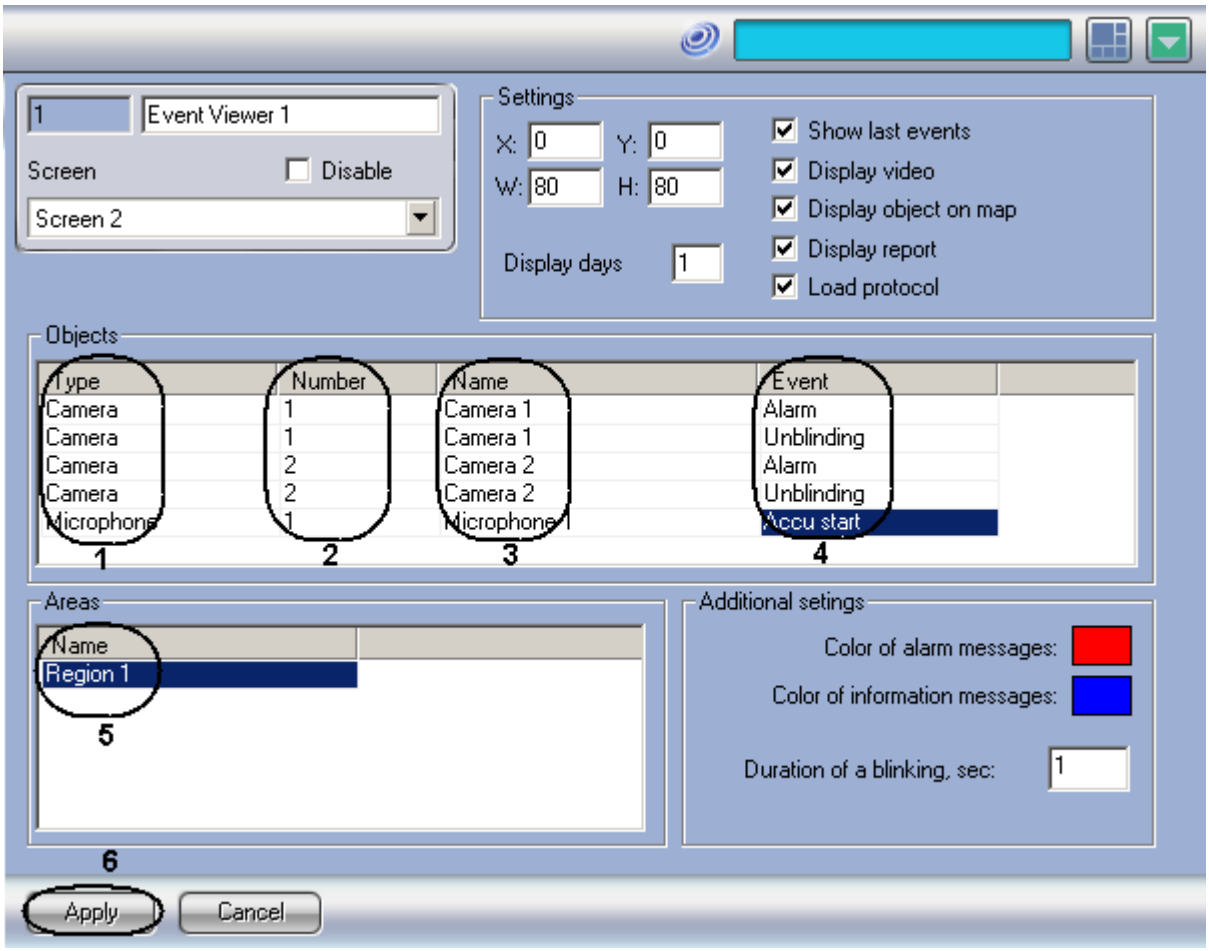


Figure 8.17-2. Event selection for logging in the Events viewer

Note. Activation of the dropdown list in the tab «Objects» and in the list «Areas» is made by LMC upon the corresponding cell. Detailed description of actions with tabs and lists is in the Objects setting tab.

1. From the down drop list in the column «Number» of the tab «Objects» specify the id for an object of the type selected in step 1(Figure 8.17-2, 2). If the field is empty, the interface «Events viewer» will log all the events of the specified type.

2. Object name is set automatically on the basis of the values, selected in step 1-2 and displayed in the column «Name» of the tab «Objects» (Figure 8.17-2, 3). Column«Name» is inaccessible for editing.

3. From the down drop list in the column «Event» of the tab «Objects» specify the required event for the selected object in step 1-2 (Figure 8.17-2, 4).If the field is empty, the interface object «Objects viewer» will log all the events, registered for the specified object.

4. From the down drop list in the list «Areas» select the region, which events will be logged in the interface object «Objects viewer» (Figure 8.17-2, 5). When region is empty, events of all the regions, registered in the system will be logged. Repeat steps 1-5 for all the required objects and regions.

5. Press the «Apply» button to save all changes made to the settings (Figure 8.17-2, 6).

Events selection for logging in the interface object «Events viewer» is over.

8.17.1.3 *Setting up the events viewer's parameters*

To set parameters of the events viewer do the following:

1. Set in the field «Display days» the number of days to keep the event record in the interface window «Events viewer» (Figure 8.17-3, 1).

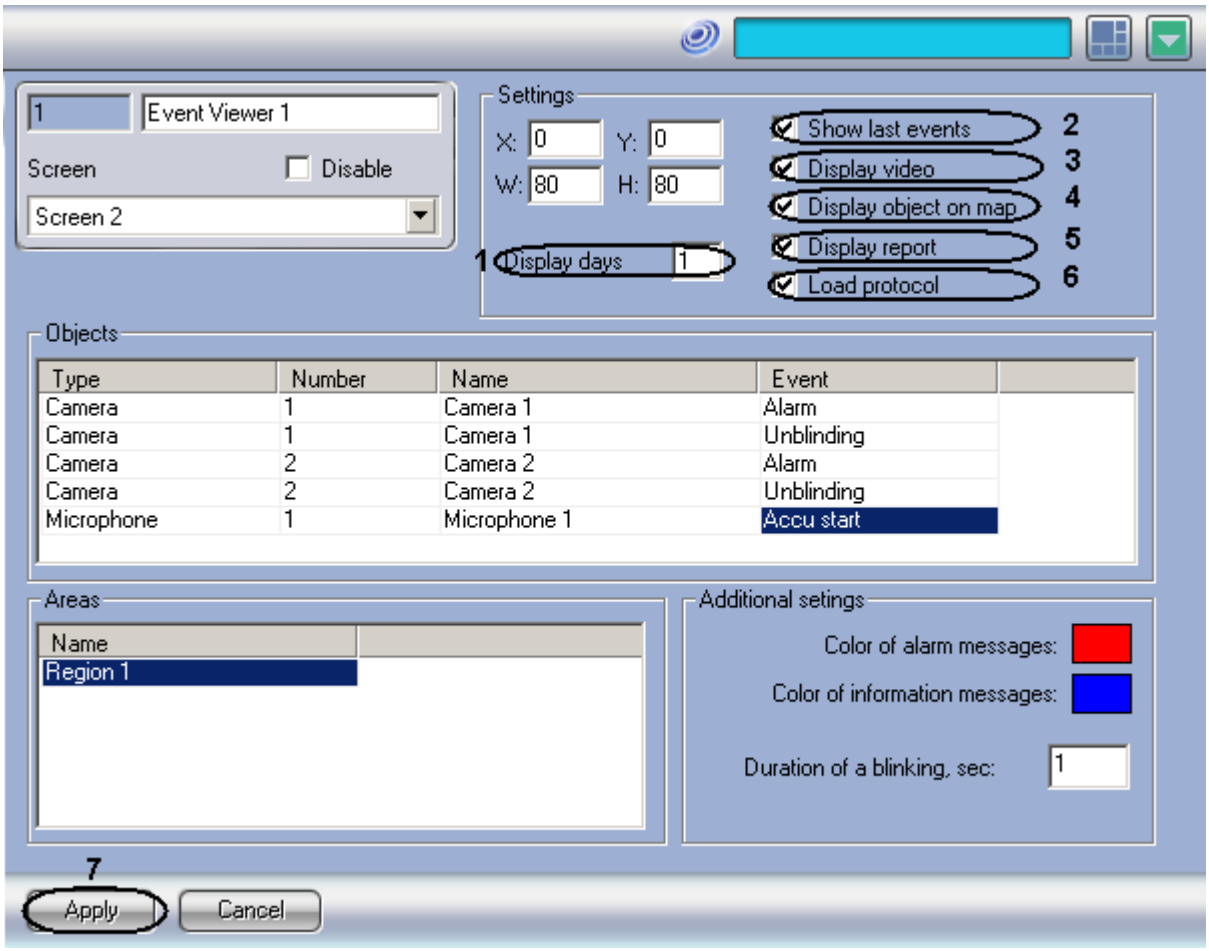


Figure 8.17-3. Setting of the events viewer's parameters

2. Check the Show Last Events checkbox to display only the last events registered by the system (Figure 8.17-3, 2).

3. Check the Display Video checkbox to enable viewing the video recordings from the interface window «Events viewer» (Figure 8.17-3, 3). Only viewing of the Record to Disk type events of «Camera» type objects is possible.

4. Check the Display Object on Map checkbox to enable viewing the logged events on the map (Figure 8.17-3, 4).

5. Check the Display Report checkbox to enable creation of a printed report about events in the interface window «Events viewer» for a specified time period (Figure 8.17-3, 5).

6. Check the Load Protocol checkbox to load the last 1000 logged events on Intellect system start-up (Figure 8.17-3, 6).

7. Press the Apply button to save all changes made to the settings (Figure 8.17-3, 7)

Setting of the events viewer's parameters is over.

8.17.1.4 *Parameters of «Events viewer» displaying*

To set up events viewer displaying do the following:

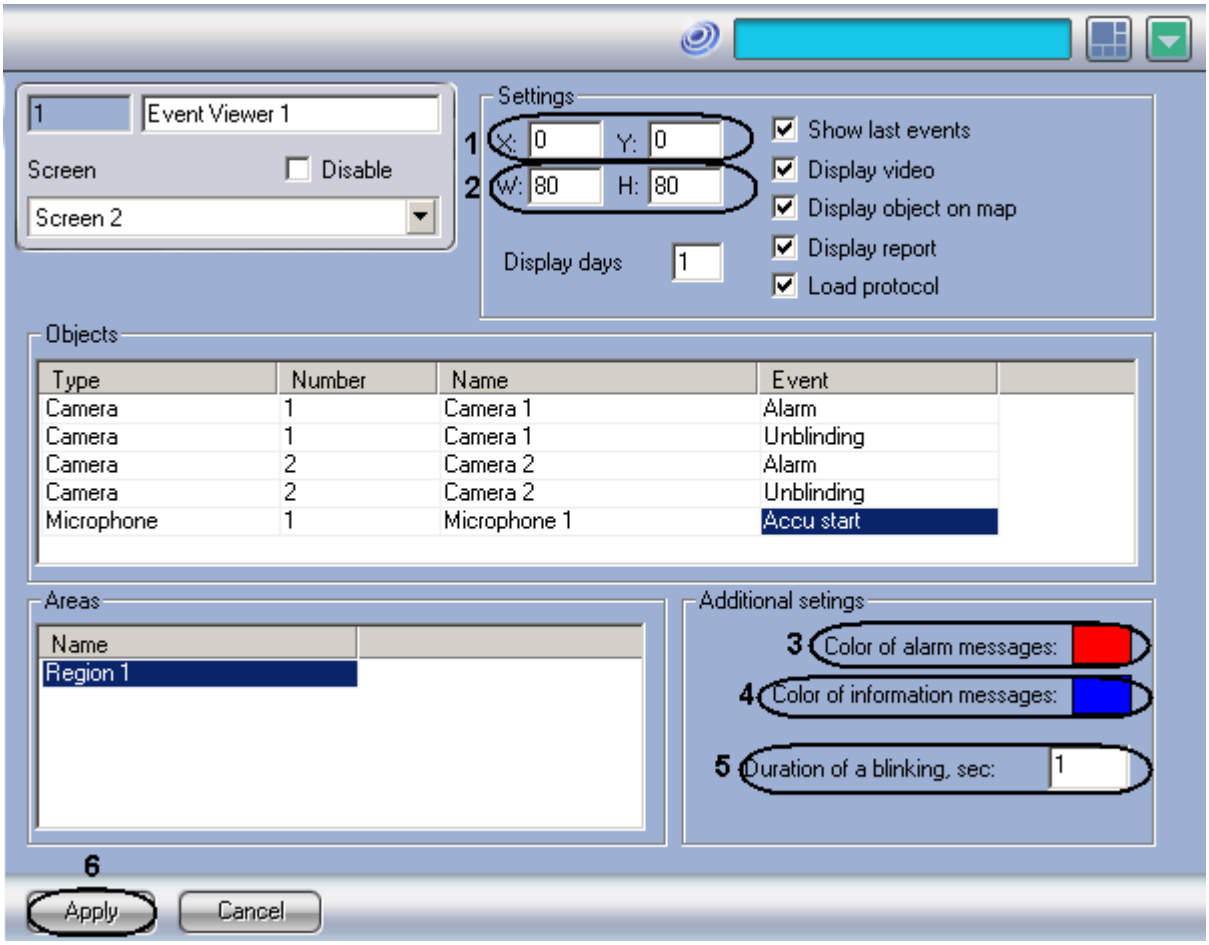


Figure 8.17-4. Parameters of «Events viewer» displaying

1. Set the coordinates X (horizontally indented from screen's left border) and Y (vertically indented from screen's upper border) of the upper left corner of the Event Viewer window (Figure 8.17-4, 1). Coordinates are set as a percentage of the corresponding screen dimensions horizontally and vertically as follows.

2. Set the dimensions of the Event Viewer window: window's width «W» and window's height «H» (Figure 8.17-4, 2). Dimensions are set as a percentage of the corresponding screen dimensions horizontally and vertically as follows.

3. Set the color of the alarm messages in the interface window « Events Viewer» (Figure 8.17-4, 3).

4. For this double mouse click upon the field «Color of alarm messages» is necessary. Standard dialog window Windows will open, select the required color and click «OK».

5. Specify the color of information messages in the interface window « Events Viewer» (Figure 8.17-4, 4). For this double mouse click upon the field «Color of information messages» is necessary. Standard dialog window Windows «Color selection» will open, select the required color and click «OK».

6. Enter the duration of blinking for alarm messages in seconds in the interface window «Events Viewer» (Figure 8.17-4, 5).

7. Press the Apply button to save all changes made to the settings (Figure 8.17-4, 6).

Setting of parameters of the events viewer displaying is over.

8.17.2 Setting up the database «Events viewer»

Database « Event Viewer» is used for data storage about events, registered by the system. Setting up the database «Events viewer» is made by means of the settings panel of system object «Computer». (Figure 8.17-5).

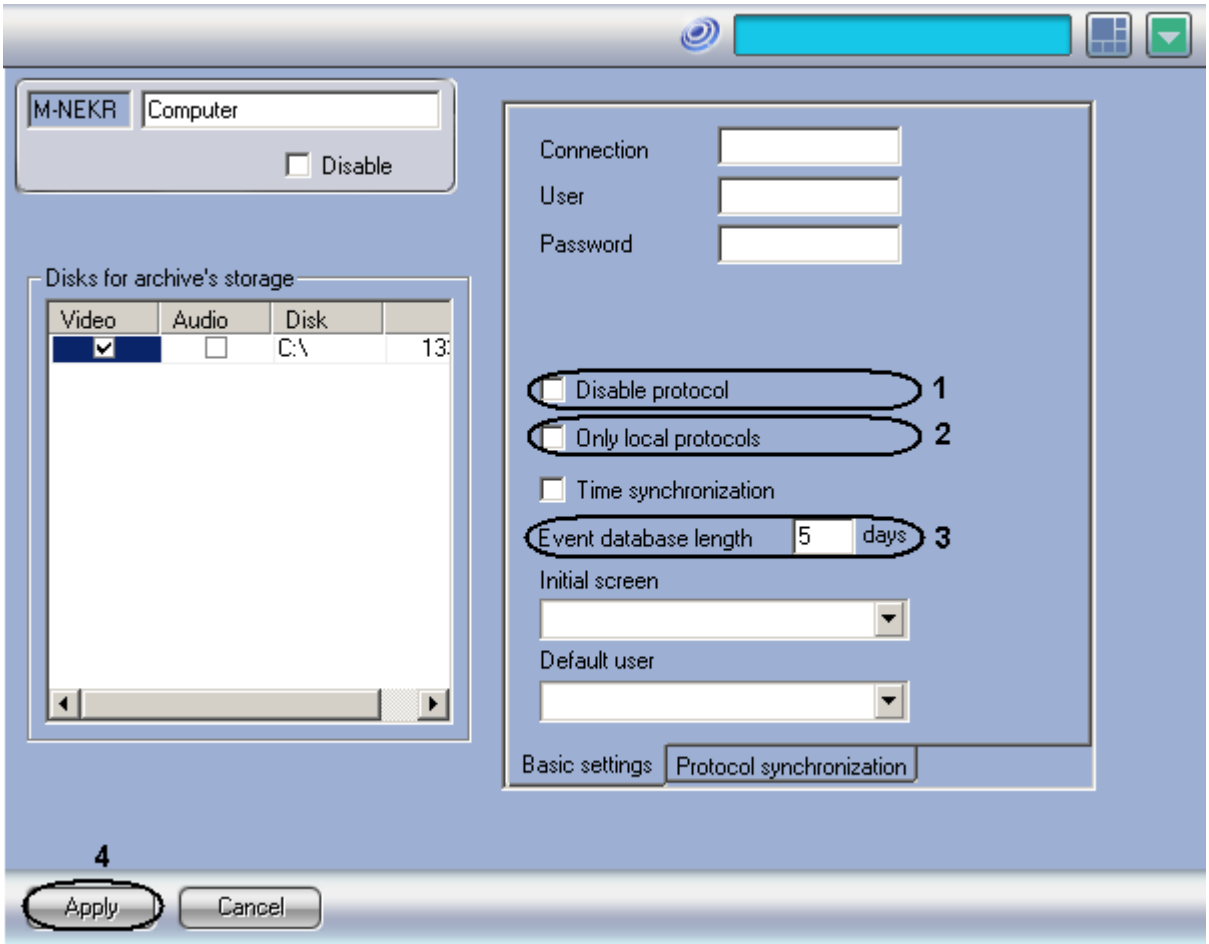


Figure 8.17-5. Setting up the data base «Events viewer»

To set up the database «Events viewer» do the following:

1. To disable events recording to the database «Events viewer» check the «Disable protocol» checkbox (Figure 396-5, 1).

2. Check the «Only local protocols» checkbox in case when only registered in this computer events should be logged to the database (Figure 396-5, 2).

3. Enter in the field «Event database length» time of events' archive storage in days (Figure 396-5, 3).

4. Press the Apply button to save all changes made to the settings (Figure 396-5, 4).

Note. Step 3 is used for events viewing in the system of distributed configuration.

Setting up the database «Events viewer» is over.

Note. For setting up the events viewer tweaki.exe utility can also be used (see. Additional settings of the events viewer).

8.18 Setting up the interactive map for object state indication and controlling the objects

8.18.1 General information on the structure of the interactive map of the guarded location

The interactive map of the Intellect system uses graphical diagrams of the guarded territory to navigate among the surveillance system components. The interactive map allows controlling the objects from the context menus of the graphical symbols on the map showing the states of the corresponding objects.

The interactive map can be comprised of a set of plans (layers) made of photographs, maps, diagrams, drawings in BMP format. The size and resolution of the images is not limited.

Note A. We recommend creating the images in third-party graphical software packages (Microsoft Paint, Adobe Photoshop, etc), as the standard delivery configuration of Intellect software does not include tools for image editing.

Note B. A plan (map layer) may be an image in BMP format.

There are no limitations on the image size and resolution, so a large image may not fit into the screen, or the objects shown on it may look indiscernible.

8.18.2 Setting up the interactive map

8.18.2.1 *Setup procedure*

To set up interactive map do the following:

1. Create and set the interface object Map

2. Create and set objects Layer on the basis of interface object Map

3. Attach required objects to the Layers of interactive map.

4. Place the object symbols of the assigned objects on the map's layers.

Set up the links between the layers, to be used for interactive card navigation.

8.18.2.2 *Setting up the location of the map on the screen*

To register the interactive map in the Intellect system, create the Map interface object.

When setting up the Map object, specify the position of the map on the screen.

To register the map and specify its position on the screen, do the following:

1. Open the Interfaces tab of the System Settings window.
2. Create a Map object under the Screen object in the tree, or choose an existing Map object (Figure 8.18-1).

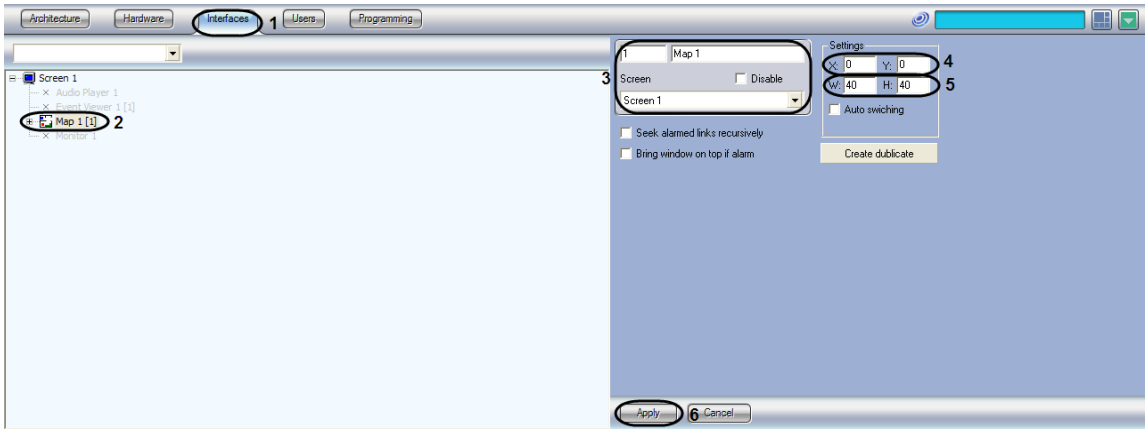


Figure 8.18-1. The Map object settings panel

3. Specify an id and name for the Map object, and choose the Screen object to become the parent of the map.
4. Set the coordinates X and Y of the upper left corner of the Map window, as a percentage of the corresponding screen dimensions.
5. Specify the width (W) and height (H) of the Map window, as a percentage of the corresponding dimensions of the screen.
6. Press the Apply button to save all changes made to the settings.

This completes the setup of the map position on the screen.

8.18.2.3 *Creation of the layers of the interactive map*

Intellect system allows composing the Map object of several graphical plans of the guarded area. Each graphical plan is represented by a Layer object.

To create and set up the Layer object, do the following:

1. Open the Interfaces tab of the System Settings window.
2. Create a Layer object under the Map object in the tree, or choose an existing Layer object (Figure 8.18-2).

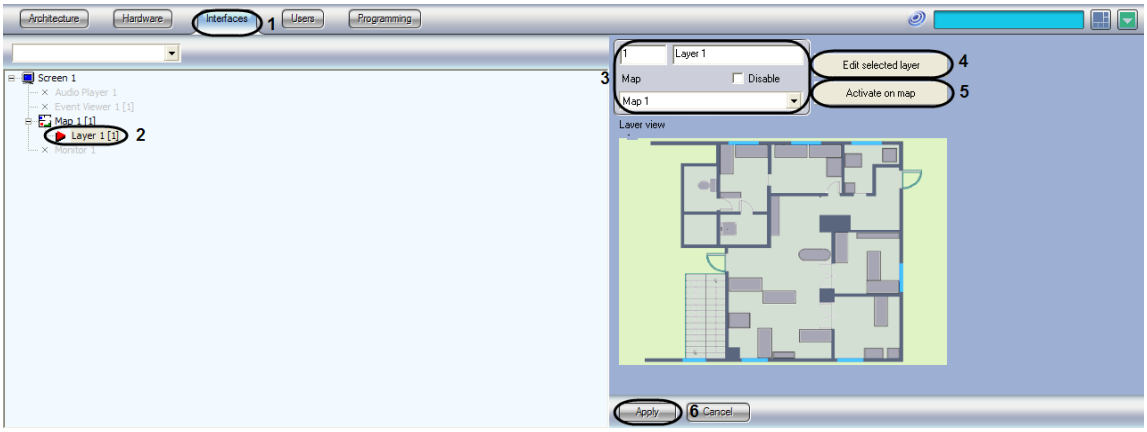


Figure 8.18-2. The Layer object settings panel

3. Specify an id and name for the Layer object, and choose the Map object to become the parent of the map.

4. To edit the image represented by the Layer, click the Edit Selected Layer button. The Map Editor utility will open allowing the graphical image to be edited.

5. To display this layer on top of all other layers, click the Activate on Map button.

6. Press the Apply button to save all changes made to the settings.

After a new layer is created and set up, a graphical image of the area should be attached to it.

Note. The graphical area plan should be saved as a BMP image file.

Note. To display «Map» object on the screen of the remote computer it is necessary to copy files with graphical area plans to this computer.Files shoul be copied with full names.

To attach the image, do the following:

1. Move to the settings panel of the Layer object.

2. Open the Map Editor application.

Note. The Map Editor application allows selecting the guarded area plan, creating the symbols for devices and placing them on the map, as well as other settings.

To open the Map Editor, click the Edit Selected Layer button on the settings panel of the Layer object (Figure 8.18-3).



Figure 8.18-3. Edit Selected Layer button on the settings panel of the Layer object

In the menu Map of the Map Editor, select General Settings (Figure 8.18-4).

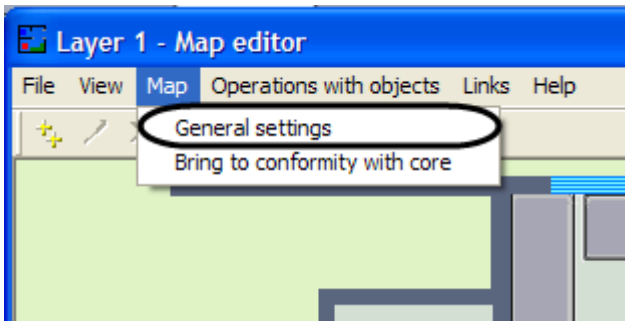


Figure 8.18-4. General Settings menu item in the Map Editor

A dialog box will open allowing to choose the image file for the layer (Figure 8.18-5).

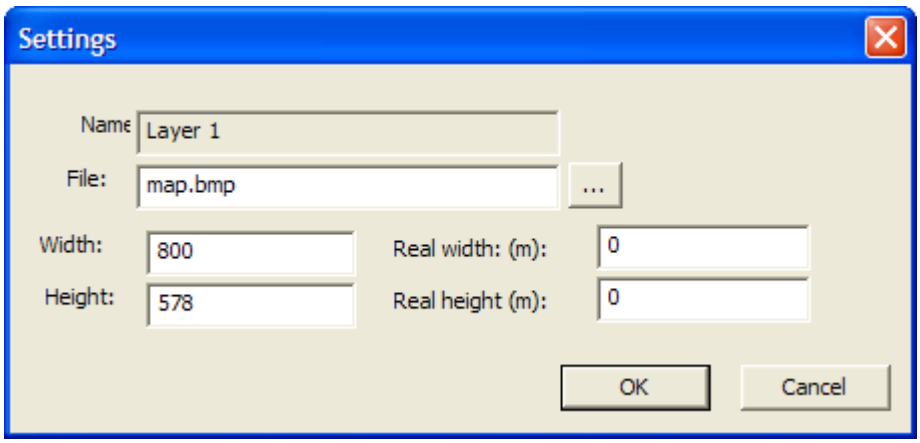


Figure 8.18-5. Settings dialog box for the image being attached to the layer

This dialog box can also be accessed from the Set Background item of the context menu of the map area (Figure 8.18-6).

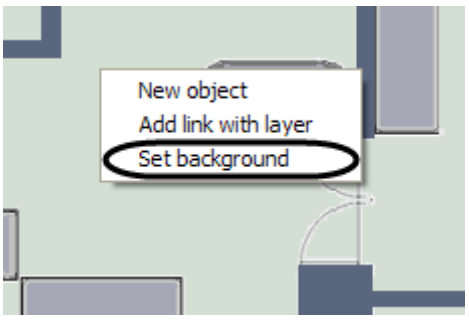


Figure 8.18-6. Selecting the Set Background item

Press the ... button in the Settings dialog box (Figure 8.18-7).

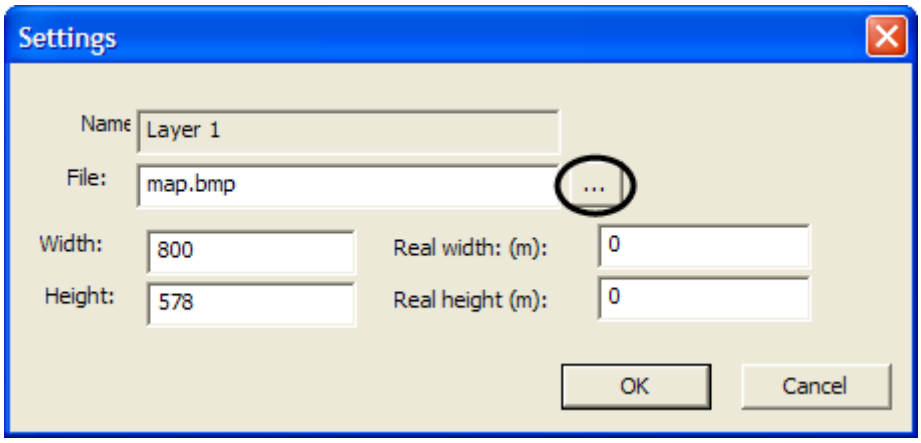


Figure 8.18-7. Browsing for the file to attach

A standard dialog box will open allowing to choose the image file for the layer (Figure 8.18-).

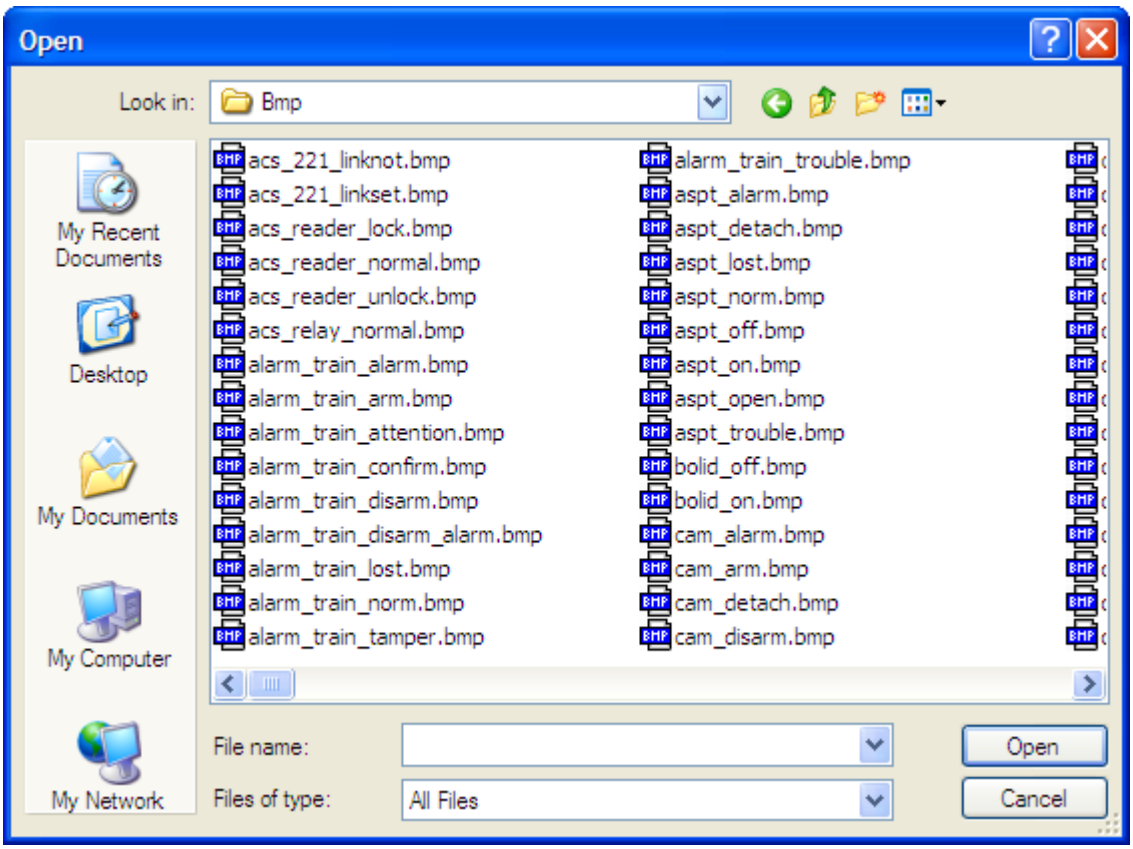


Figure 8.18-8. Standard dialog box allowing to choose the file to be used as a guarded area plan

Open a BMP file and click the Open button.

Specify the size of the image in pixels (Figure 8.18-8).

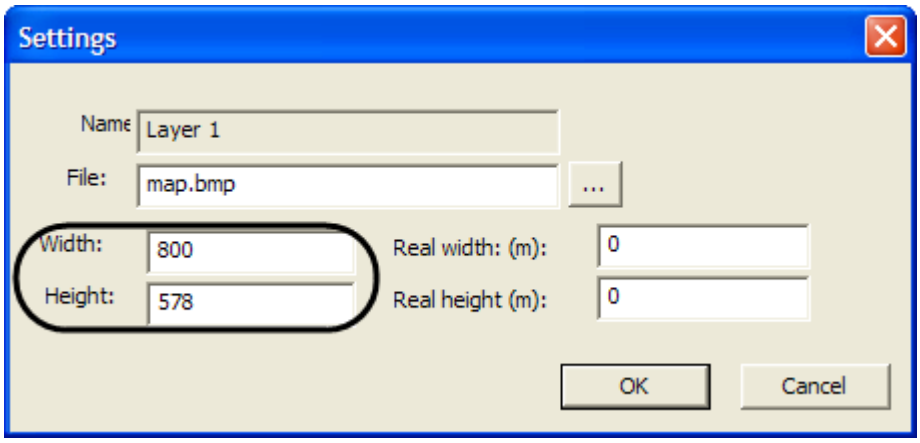


Figure 8.18-8. Image size in pixels

The values entered in the Width and Height fields should match actual resolution of the image file.

1. Specify the dimensions of the real area represented by the image, in meters (Figure 8.18-9).

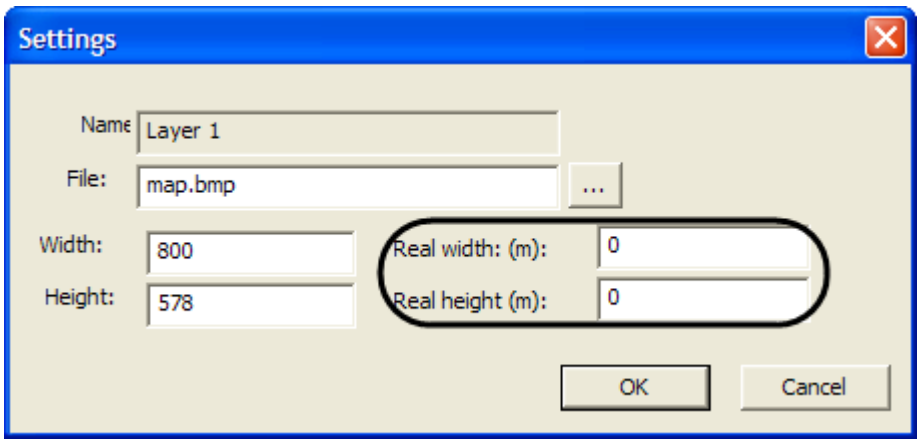


Figure 8.18-9. Area width and height

2. Click the OK button to apply all changes.

The Map Editor will display the new graphical plan of the guarded area.

8.18.2.4 *Attachment of objects to the layers of interactive map*

Attachment of objects to the layers of interactive map is performed with the use of «Map reader» utility (Figure 407.1-1).

Note. To open utility window «Map reader »click Edit layer button in the settings panel of object «Layer» (See. Creating layers of interactive map).

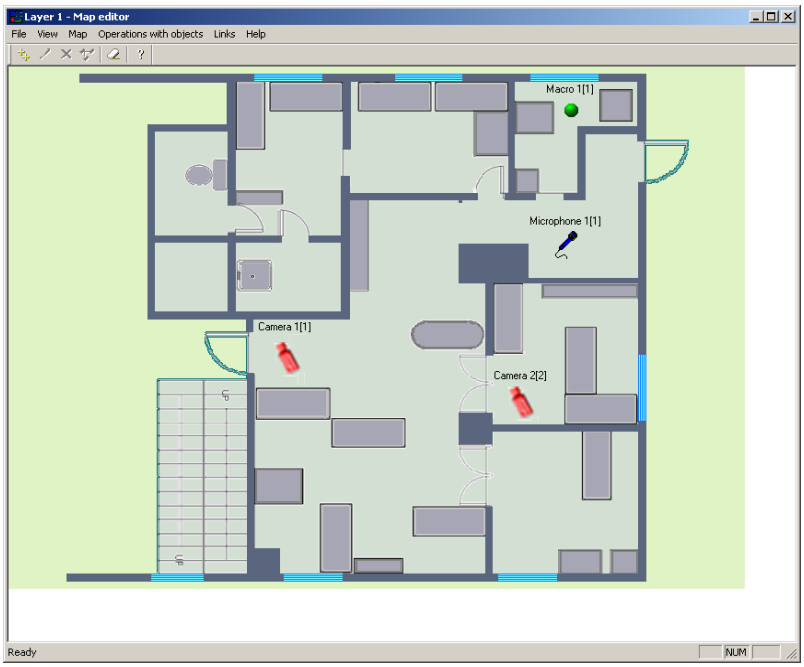


Figure 8.18-10. Map reader

To attach objects to the layers of interactive map do the following:

- Activate dialog window «New object» of Map editor utility with one of the three possible ways (Figure 8.18-10):

1. Execute instruction of the main menu «Objects operations» ⇨ «New object».

2. Click button «  » on the tools panel.

3. Execute instruction of the contextual menu «New object» (is activate with the right mouse click upon any graphical area).

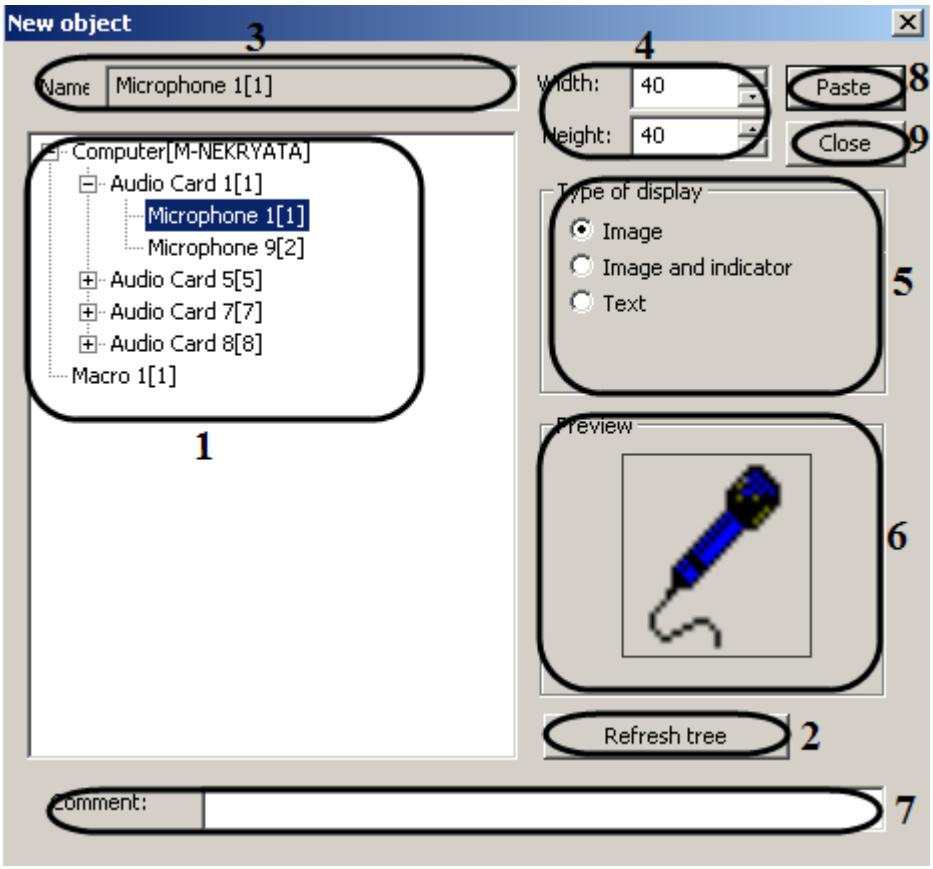


Figure 8.18-11. Adding new object

- . Select the required object in the objects tree of dialog window «New object» (Figure 8.18-11, 1)

Note. In case when objects tree should be refreshed, click «Refresh tree» button (Figure 8.18-11, 2).

- In result of operation in the field «Name», name of the selected object is automatically displayed (Figure 8.18-11, 3).

- Set the dimensions of object's symbol: fields «Width» (symbol's width) and «Height» (symbol's height) – See. Figure 8.18-11, 4. Symbol's dimensions are expressed in pixels.

Note. When value o is set in the fields «Width» and «Height», object's symbol is displayed in its original size.

- Select type of symbol's display with the help of switch «Type of display» (Figure 8.18-11, 5, Table 8.18-1)

Table 8.18-1

Position of switch «Type of display»	Type of object's symbol display	Usage
«Image»	Object's schematic view	Objects of main configuration
«Image and indicator»	Object's schematic view and indicator of object's state	Objects SCADA
«Text»	Object's name	Objects SCADA
«Line»	Objects'images in the form of straight line	SCADA objects

Note. Object's symbol is automatically displayed in the field «Preview» in accordance with selected type of display (Figure 8.18-11, 6)

- Set additional information about the object if necessary in the field «Comment» (Figure 8.18-11, 7).
- Click «Paste» button to attach object to the layer of interactive map (Figure 8.18-11, 8).
- Repeat steps2-7 for all the required objects.
- Click «Close» button to close «New object» dialog window (Figure 8.18-11, 9).

Attachment of objects to the layers of interactive map is over.

8.18.2.5 *Operations with objects in Map editor utility*

Map editor utility enables to carry out the following operations with the objects, added to the layer (Table 8.18-2).

Table 8.18-2

Description of operation	Call for operation			Note
	In the main menu «Operations with objects »	In the contextual menu	On the toolbar	
Deletes the selected object	Delete object	Delete	Button «  »	-
Copies the selected object. The copy is placed above the original	Copy object	Make a copy	Button«  »	-
Edits additional data and type of displaying the sign for the selected object	Edit object	Edit	Button «  »	Is implemented by Edit object dialog window
Set the displaying of the selected objects on the Map only in alarmed state	Hide the selected	Hide	-	-
Cancels the hiding of the selected objects	Show the selected	Unhide	-	-
Edits the font for the selected	Set the font	-	-	Is implemented by Font standard

Description of operation	Call for operation			Note
	In the main menu «Operations with objects »	In the contextual menu	On the toolbar	
object's name				Windows dialog window
Restores the deleted name of the selected object	Restores the title object	-	-	-
Edits the size of the selected object	Objects' sizes	-	-	Is implemented by Object size dialog window
Edits the position of the selected object	Object's position	Object's position	-	Is implemented by Object position dialog window or with the help of the mouse
Selects objects of one group	-	Selects all the identical	-	For example: all the Camera objects are selected
Selects all the identical objects within a group	-	Selects all the identical	-	For example: all the Ray objects of Gerkon type are selected

Edit map utility enables to carry out the operations with a group of objects. For selecting the several objects it is necessary to hold the «Ctrl» key on the keyboard.

Note. Operation Object position with a group of objects is not performed.

Editing the additional data and type of object's displaying is done in the following way:

1. Select an object that is to be edited. Green-pointed frame will appear around the image in result.
2. Call for Edit object dialog window of Edit map utility by one of the three ways (Figure 8.18-12):
   a. Carry out the command of the main menu «Operations with objects » -> «Edit object»;
   b. Click «  » button on the toolbar;
   c. Carry out the Edit command of the contextual menu (is called by clicking the right mouse button over the object's image).

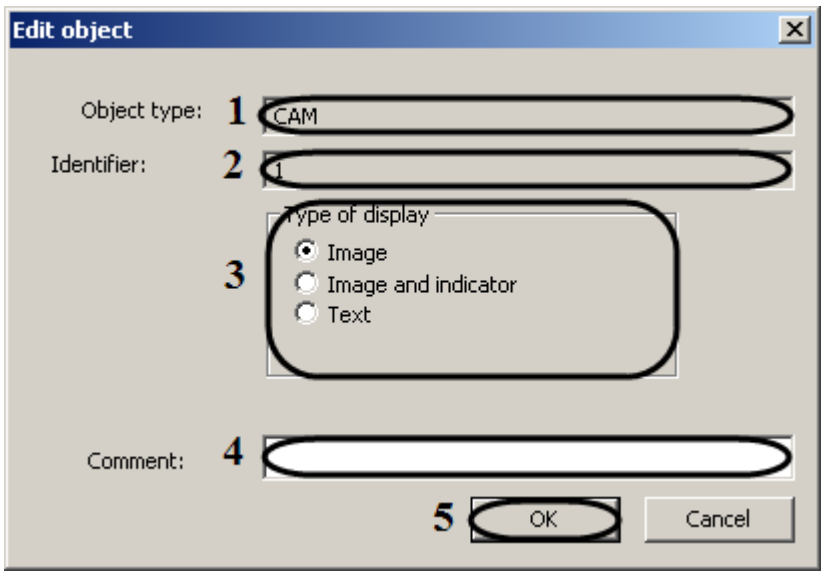


Figure 8.18-12 Edit object dialog window

3. The type of the selected object is automatically displayed in the field «Object's type» (Figure 8.18-12).

4. Identification number of the selected number is automatically displayed in the field «Identifier» (Figure 8.18-12)

5. Change the type of object's displaying with the help of the switch Displaying type when necessary (Figure 8.18-12, Table 8.18-3)

Table 8.18-3

The switch position	Type of object's displaying	Note
«Image»	Schematic object's image	Basic configuration objects
«Image and indicator»	Schematic image and identifier of object's state	Objects SCADA
«Text»	Object's name	objects SCADA
«Line »	Object's image in the form of straight line	objects SCADA

6. Change object's additional data in the field Commentary when necessary(Figure 8.18-13)

7. To save the changes click «OK» (Figure 8.18-13)

Editing the additional data and type of object's displaying is completed.

Editing the font of object's name is done in the following way:

8. Select object's name which font should be edited. Green-pointed frame will appear around the image in result.

9. Call for a standard Windows dialog window «Font» of the «Map edit» utility by main menu command «Operations with objects» > «Set the font»

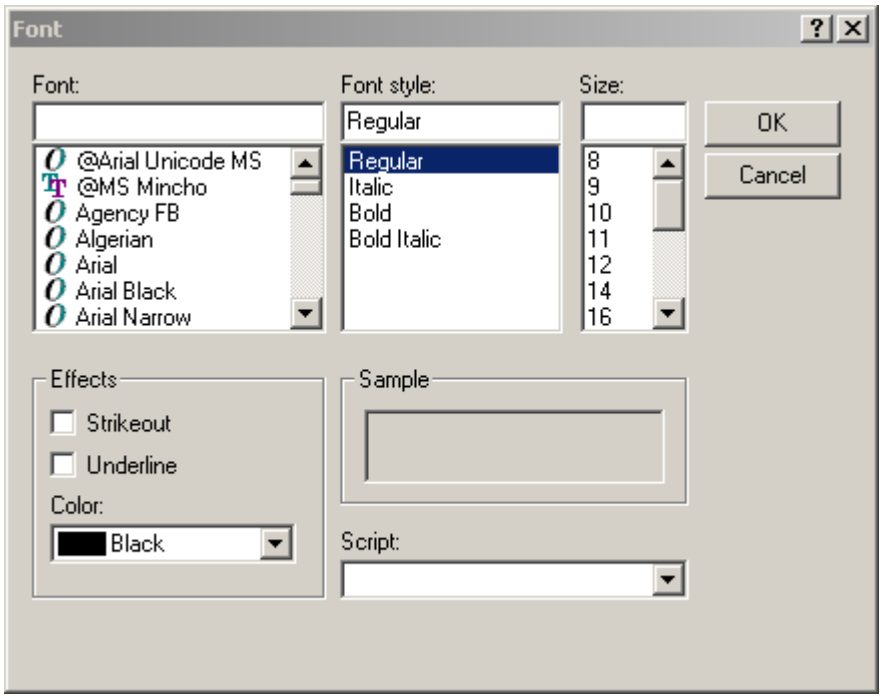


Figure 8.18-13 Font standard dialog window

10. In the opened dialog window set the required font parameters (Figure 8.18-13)
11. Click Ok to save the changes (Figure 8.18-13)

Editing the font is over.

Editing the object's size is done in the following way:

1. Select the object which size should be edited. Green-pointed frame will appear around the image in result.
2. Call for a «Object's size» dialog window of «Edit map» utility by the main menu command «Operations with objects» > «Object's size».
3. Enter the size of the image:fields Width(sign's width) and Height(sign's height)– Figure 8.18-14, 1, 2. Sign's size is expressed in pixels.

Note. If 0 value is entered in the fields Width and Height , object's sign will be displayed in original size.

4. Click Ok to save the changes (Figure 8.18-14, 3)

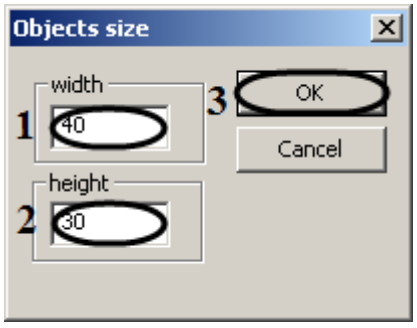


Figure 8.18-14 Objects sizes dialog window

Editing the object's size is completed.

Editing the object's position with the help of Position of object dialog window is done in the following way:

2.1. Select object, which position should be edited.

2.2. Call for a dialog window Position of object Of Map Edit utility by one of the two ways:

1. Carry out the command of the main menu «Operations with objects » > «Object's position »;
2. Carry out the command of the contextual menu « Object's position » (is called by clicking the right mouse over the object's image).

2.3. Enter the coordinates of object's center: fields «X» (horizontal indent from the left border of graphic plan) and «Z» (horizontal indent from the bottom border of graphic plan) – Figure 8.18-15. To set the coordinates in pixels the switch should be set to In pixels position. (Figure 8.18-15), to set the coordinates in meters – the switch should be set to In meters position (Figure 8.18-15).

Note. The switch position In Meters is actual in case, when set the real parameters of the guarded object, to which this layer corresponds. (see. «Layers creation of interactive map).

The switch position In Meters is used when shot module is set up. In this case real coordinates of the pint where the shot has occurred are displayed on the map.

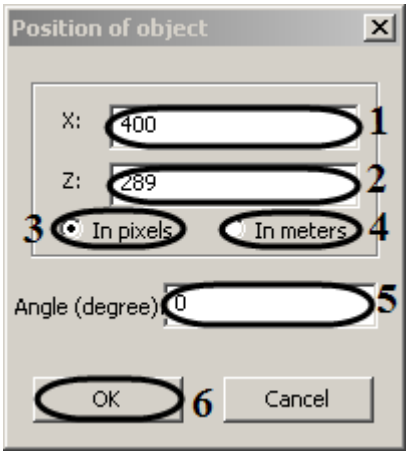


Figure 8.18-15 Object's position dialog window

2.4. Enter the angle in degrees of object's image turn on the Angle (degree) field. The angle is set counterclockwise from contour line (Figure 8.18-15).

2.5. To save the applied changes click OK (Figure 8.18-15)

*Note. In case when at least one coordinate oversteps the bounds of the map, message window will be displayed (*Figure 8.18-16*). Click OK and then repeat step 3.*

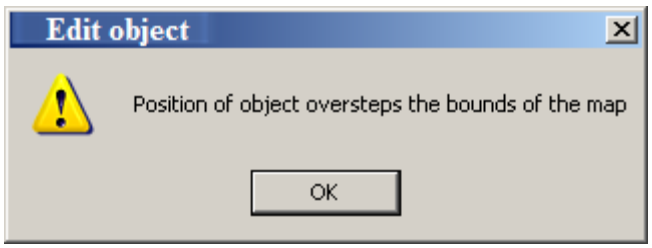


Figure 8.18-16 Message window

Editing the object's position with the help of Object's position dialog window is completed.

Map edit utility also enables to edit the object's position with the help of the mouse.

To set the position of the symbol, click and hold the mouse on the symbol. Then drag the symbol to the desired location (Figure 8.18-17) and release the mouse.

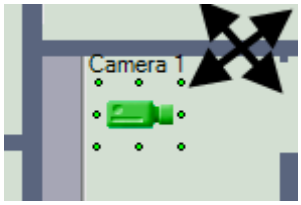


Figure 8.18-17. Dragging the object over the map using the mouse

To rotate the symbol, click and release the mouse on the symbol. The symbol will be enclosed in a frame made of green dots. Click and hold the mouse on one of the corner dots. A bended arrow will appear. Move the mouse in the desired direction to rotate the symbol and release the mouse (Figure 8.18-18).

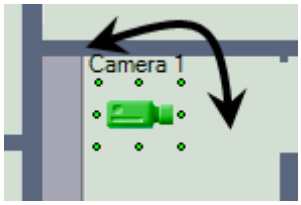


Figure 8.18-18. Rotating the object over the map using the mouse

8.18.2.6 *Linking the layers of the interactive map*

Intellect system allows creating multilevel maps comprised of several layers.

In case of multiple layers, the links should be established between the layers. These links help move to other layers for operative control and viewing of the device objects located on them.

The links are created in the Map Editor. To run the Map Editor, click Edit Selected Layer in the settings panel of the Layer object. When a link is established, a special symbol appears on the map. Clicking on this symbol takes the operator from the current layer to another layer.

Note. The link symbols also notify the operator about alarms coming from devices located on the linked layer.

To create a new link from the current layer to another, do the following:

1. Select Links in the Map Editor main menu, then select Add Link with Layer (Figure 8.18-19).

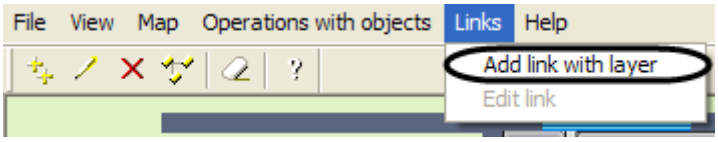


Figure 8.18-19. Menu item for adding a link to another layer

The Link with Layer window opens, allowing to choose the layer to link to.

There is another way of opening the Link with Layer window. In the Map Editor, click anywhere on the layer map. The context menu will open. Select Add Link with Layer from this menu (Figure 8.18-20).

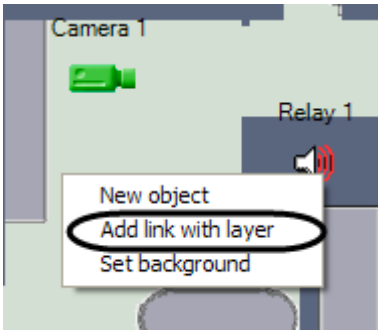


Figure 8.18-20. Opening the Link with Layer window from the map context menu

2. In the Link with Layer window, select the layer to link the current layer to (Figure 8.18-21).

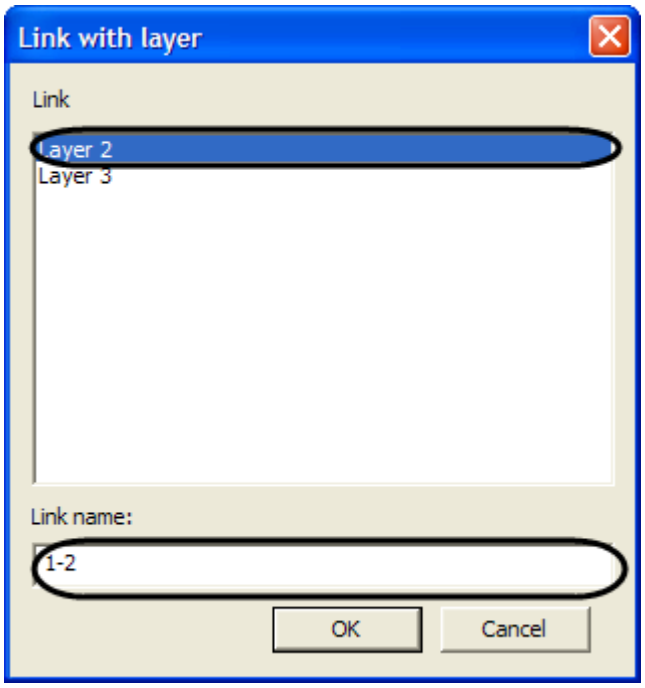


Figure 8.18-21. Link with Layer window

Enter the name for this link in the Link Name field (Figure 8.18-22).

3. Click the OK button to create the link.

A symbol will appear on the map representing the link. This symbol is shown in red color (Figure 8.18-22).

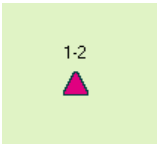


Figure 8.18-22. The link symbol

8.18.3 Setting up the display of the alarm signals on multilevel maps

The rules for transition to the layers with alarmed devices can be set up for multilevel maps.

The following ways of displaying the layer with an alarmed device exist in the system:

1. When an alarm occurs, the Map window opens above all other active windows showing the layer containing the alarmed device.

2. The link symbols recursively lead to the layer containing the alarmed device.

To open the Map window above all other windows, set the Bring Window on Top if Alarm checkbox in the settings panel of the Map object (Figure 8.18-23). The Map window will now open on top of other windows in case of alarm registration.

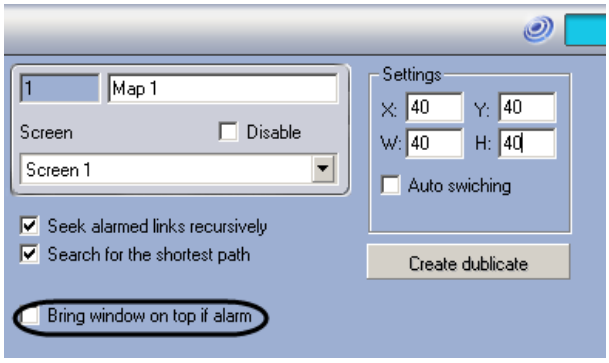


Figure 8.18-23. The Bring Window on Top upon Alarm checkbox

To make it possible to move from the current layer to any other layer, the links should be established in the multilevel maps. If the links recursively connect all layers of the map, they can be used for recursive transition to the alarmed layer. To enable this option, check the Seek Alarmed Links Recursively checkbox in the settings panel of the Map object (Figure 8.18-24).

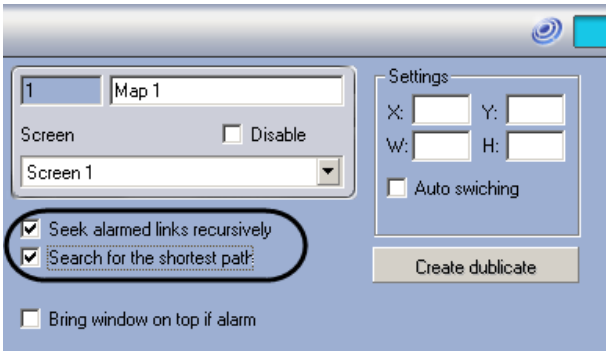


Figure 8.18-24. Setting the Seek Alarmed Links Recursively and the Seek Shortest Path checkboxs

When the recursive search is on, the blinking links on each layer eventually lead the operator to the alarmed layer. If the Seek Shortest Path checkbox is checked, shortest path to the alarmed layer will be chosen.

Example 1: The 1st layer contains the link to the 2nd layer, and the 2nd layer contains the link to the 3rd layer. The 1st layer is currently active. An alarm is triggered on the 3rd layer. If the recursive search is on, the link from the 1st to the 2nd layer will blink, and the link from the 2nd to the 3rd layer will blink. If the recursive search is off, only the link from the 2nd to the 3rd layer will blink, not allowing the operator to see the alarm if the 1st layer is active.

Example 2: The 1st layer contains the links to the 2nd and 3d layer, and the 2nd layer contains the link to the 3d layer (i.e. there are to ways to reach the 3d layer from the 1st layer: directly or via the 2nd layer). Let's the 1st layer is currently active. An alarm comes from the 3d layer. If both checkboxes are checked, only the link to the 3d layer will blink on the 1st layer. If the Seek Shortest Path checkbox is unchecked, both links (to the 2nd and 3d layers) will blink.

8.19 Setting up the user interface

8.19.1 The user interface in the Intellect software

In the course of setting-up the video surveillance/audio monitoring system, the personal user interface is configured and personal (role-dependent) rights are assigned to each Operator for using the system functions and managing the system resources.

The user interface of the Intellect-based video surveillance system is built under the Screen hierarchical object.

The Screen object groups and sets the position of the UI components on the operator workstation monitor.

The Screen object represents the whole visible area of the computer monitor showing all the interface components according to their settings.

The Screen object includes the following interface components:

1. Audio player;
2. Outer window;
3. Map;
4. Surveillance monitor;
5. Telemetry control window;
6. Active Archiving window;
7. Subtitle search;
8. Event Viewer.

The following windows are created under the Computer object and pop up on the Screen:

1. Alarm Message window.

2. Operator Request window.

8.19.2 Creating the screens

Screen creation is an important stage of the surveillance system design since it is the main working instrument of the operator.

The screen is created on the Interfaces tab and includes the following stages:

1. Creation of objects (interface components) under the Screen object in the Interfaces tab (see the General description of the setting up the surveillance system objects section).

2. Placing the interface components on the screen in relation to each other (see the Placing the interface components on the screen section).

8.19.3 Placing the interface components on the screen

To place an interface component on the screen, its position (Figure 8.19-1, 1) and window size (Figure 8.19-1, 2) should be specified. To enable the user to move the screen across the screen, check the Allow Moving checkbox (Figure 8.19-1, 3).

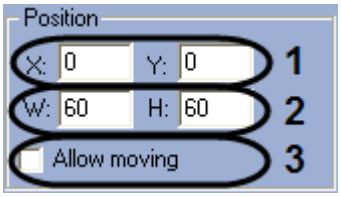


Figure 8.19-1. Main placing parameters

The size of some components (Telemetry Control window) is fixed. In this case the corresponding fields are not shown.

Note. The Telemetry Control window can also be shown semi-transparent (see the Description of the settings panel of the Telemetry Control window section).

Popup windows (Alarm Message and Operator Request) have no placing settings. They open on top of other windows and can be moved to any place on the screen using the mouse.

8.19.4 Assigning the screens to the operator workstations

To set up several operator workstations with the same interface settings, the corresponding screens should be assigned to these workstations.

The screens can be assigned to workstations on the settings panel of the Screen object. Figure 8.19-2 shows the setting up of two objects: Screen 1 and Screen 2. Screen 1 will be available for both workstations, while Screen 2 will be available only for the Y-GAVRILYCH workstation.

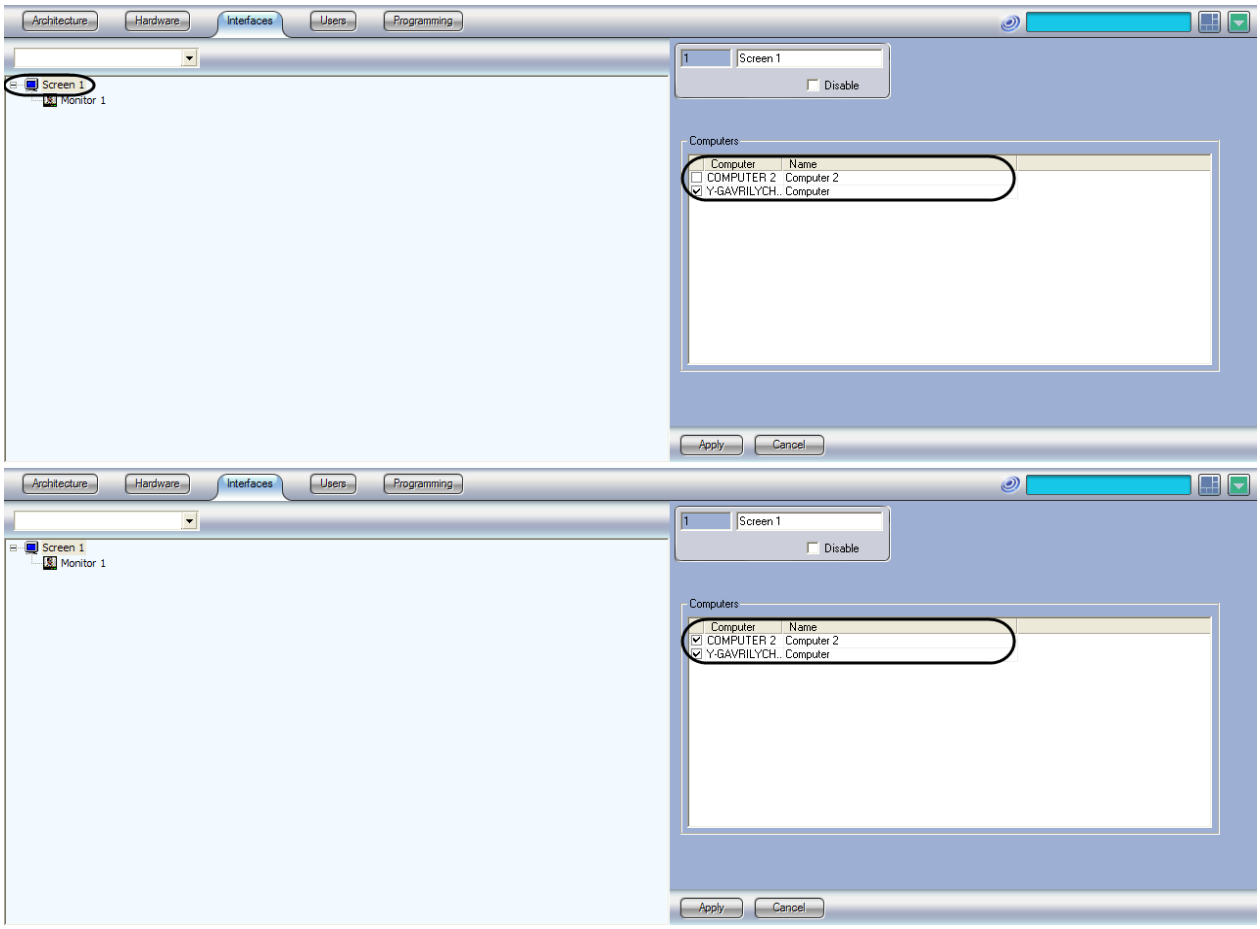


Figure 8.19-2. Assigning the screens to workstations

8.19.5 Examples of the user interface setup

Example 1

Figure 8.19-3 shows an example of the user interface components placed on the screen. Corresponding coordinates are given in the Table 8.19-1.

Table 8.19-1

	Interface component	X, %	Y, %	W, %	H, %
1	Surveillance monitor	0	0	50	50
2	Active Archiving window	54	0	53	51
3	Subtitle search	0	50	35	47
4	Event Viewer	66	50	50	50

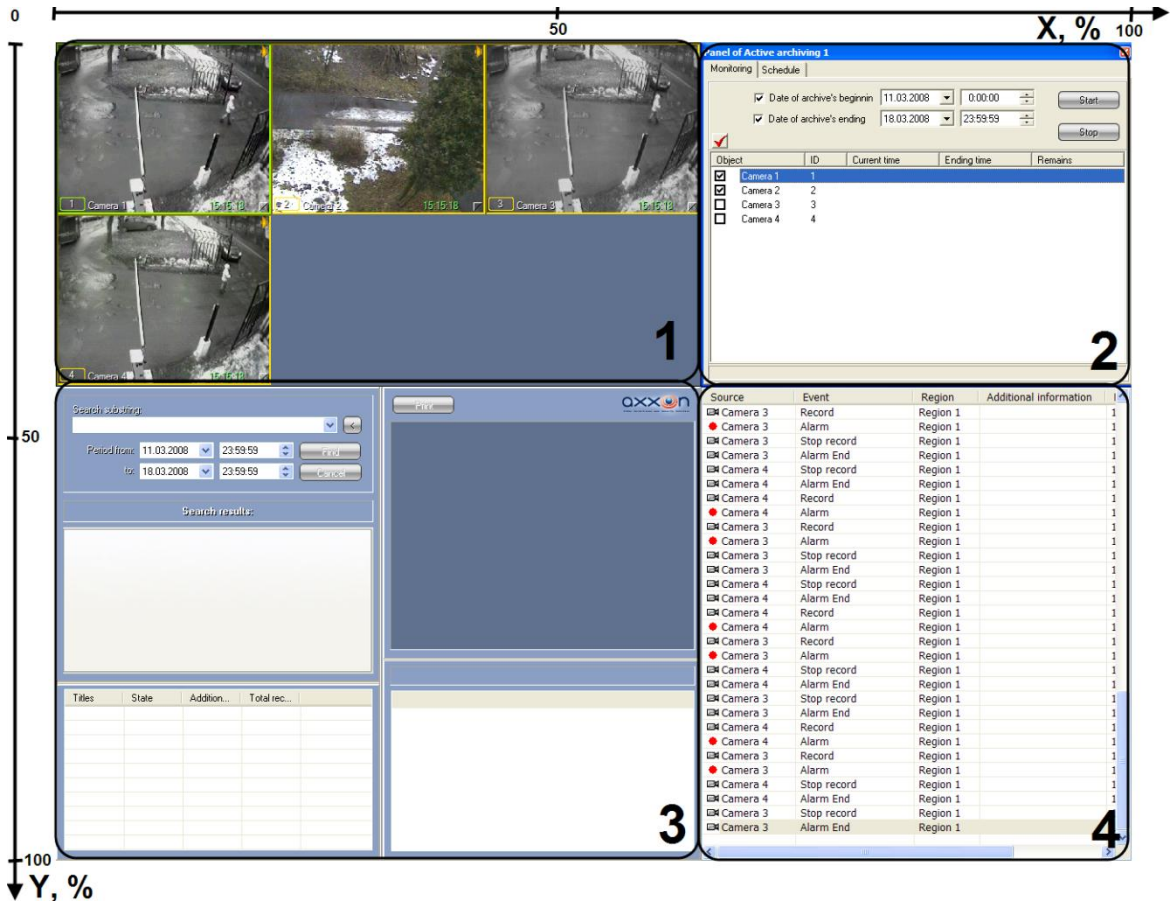


Figure 8.19-3. An example of the interface components setup

8.20 Rights administration

8.20.1 The users‘ rights

The following user categories are available in the surveillance system based on the Intellect software:

1. Administrator.
2. Operator who may optionally be granted some rights for administration, control and viewing.

The administrator has full control over the set up and usage of all components of the system.

Any other registered user of the system is an operator who may optionally be granted the rights for administration, controlling and viewing of particular components of the system.

To register an operator, a user account is created which holds this user’s rights for administration, control and viewing. A password is assigned to each user at the time of registration, used for authorization at system start-up and exit. An operator may be optionally forbidden to shut the system down.

8.20.2 User registration and removal

8.20.2.1 *General information about user registration in Intellect software*

The registration procedure depends on the user category.

To register an administrator, an administrator password should be specified. An administrator password gives access to administrative functions of all system components. Only one administrator password may be registered in the system.

No account is created for the administrator, so the administrator password cannot be used for authorization on system start-up. The administrator password is used to access the System Settings window and the settings panels of system objects, to change the current user and to shut the system down.

To register operators, the corresponding accounts should be created. A Person system object is created for each operator account. Each operator has his (her) own user account which holds all the data about the rights and authorization password.

The account also indicates to which department the operator belongs. A Department system object is created for each department of the company.

The Department and Person objects form a hierarchy of two levels.

8.20.2.2 *User registration*

The following user registration procedure is recommended for setting up the system:

1. Administrator password registration .

Note.You must register the administrator password prior to registering the operators and granting the rights to them. This is a mandatory system requirement.

2. Registering departments by creating the Department objects.

Registering operators by creating the Person objects.

8.20.2.3 *Administrator password registration*

The administrator password gives access to administrative functions of all system components. Only one administrator password can be registered in the system. Registration of the administrator password should be carried out on the administration server after the system configuration is completed.

To register the administrator password, do the following:

1. Open the Programming tab in the System Settings window.
2. Choose the Common Settings object in the object tree in the Programming tab. The settings panel for this object opens at the right side of the System Settings window (Figure 8.20-1).

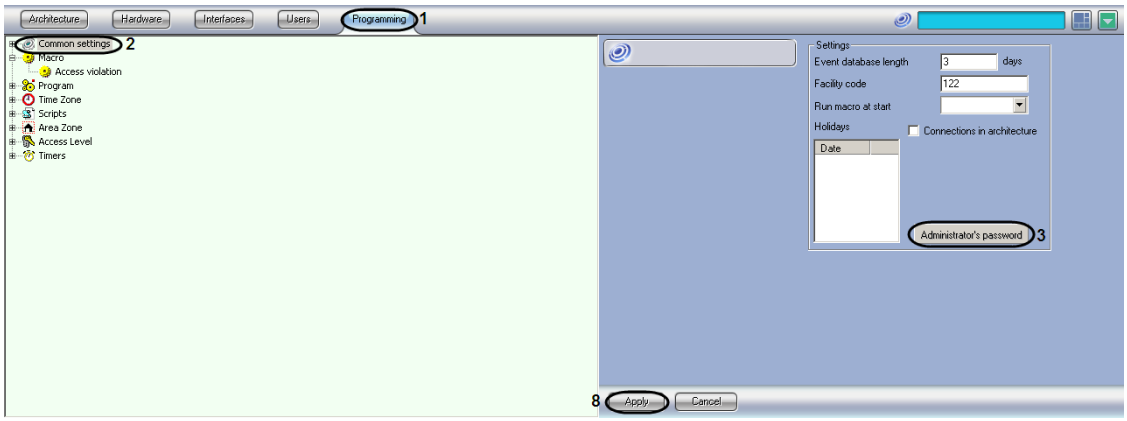


Figure 8.20-1. Common Settings panel

3. Click the Administrator's Password button.

4. The Set Password window will open (Figure 8.20-2).

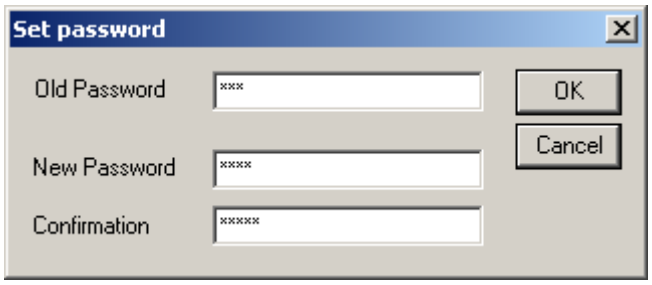


Figure 8.20-2. The Set Password window for setting the administrator password

5. In the field Password enter the current administrator password. If there is no administrator password, this field is left empty.

6. In the field Password enter the sequence of letters and figures, that will be used as administrator password

7. In the Confirmation field reenter administrator password

8. Click the Apply button in the System Settings window.

This completes registration of the administrator password.

8.20.2.4 *Department registration*

To register departments, the Department objects should be created. The Department account consists of the department name and the list of its employees.

A separate account is created for each department. To register a department account, do the following:

1. Open the Users tab in the System Settings window.

2. Create a Department object in the object tree of the Users tab.

The settings panel for this object opens at the right side of the System Settings window (Figure 8.20-3).

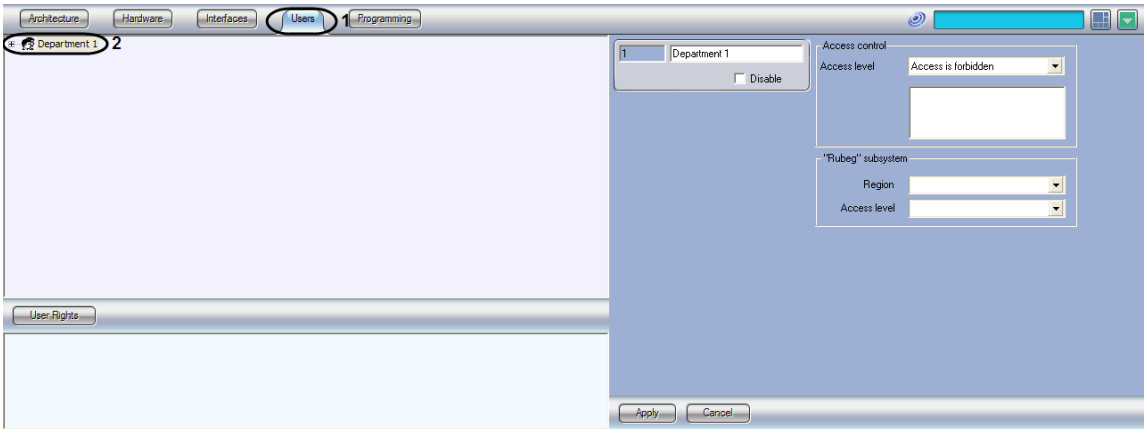


Figure 8.20-3. Department account registration

This completes registration of the department account.

8.20.2.5 *Registration of operator accounts*

To register operator accounts, the Person objects should be created.

A separate account is created for each operator. To register an operator account, do the following:

1. Open the Users tab in the System Settings window.
2. Create a Person object under the Department node in the object tree.

The object appears in the object tree, and the settings panel for this object opens on the right side of the System Setting window.

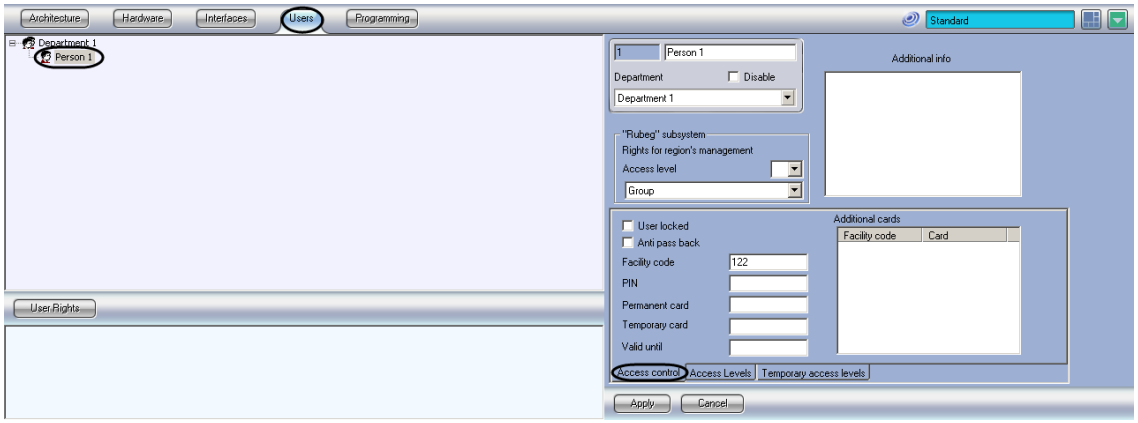


Figure 8.20-4. Registration of operator account

This completes registration of the operator account.

8.20.2.6 *Removing user accounts*

The removal procedure depends on the user category.

To remove operator accounts, delete the corresponding Person objects from the object tree of the Users tab.

To remove the administrator account, remove the administrator password. The administrator password is removed in the same way as it is created. To remove the administrator password, enter in the field Old Password the current Administrator password and then clear the New Password and Confirmation fields in the Set Password window (Figure 8.20-5).



Figure 8.20-5. Removing the administrator password

8.20.3 Registration of users' rights

8.20.3.1 *Registration of operator rights*

To register the rights for an operator account, do the following:

1. Open the Users tab in the System Settings window.
2. Create a User Rights object. If no User Rights objects have been created, click the User Rights button in the lower part of the window to create one (Figure 8.20-6).

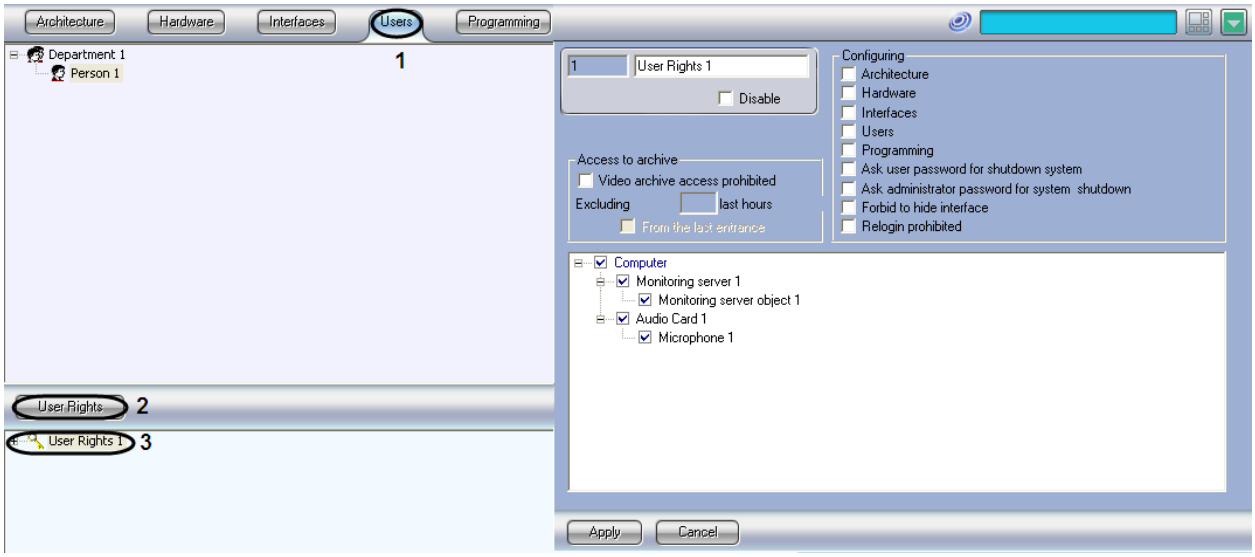


Figure 8.20-6. Registration of operator rights

If at least one registered rights object exists, which is shown in the object tree below the User Rights button, the new rights object can be created from the context menu of the existing object.

3. The object appears in the object tree under the User Rights button, and the settings panel for this object opens on the right side of the System Setting window.

This completes registration of the operator rights.

8.20.3.2 *Limiting access to the administrative functions*

8.20.3.2.1 General information on the limits to the administrative functions

The administrative functions include:

1. Creation or removal of system objects;
2. Editing the settings of the system objects;
3. Moving the system objects across the object tree.

By default, the operator has access to all administrative, control and viewing functions of all system objects. Administration of specific objects and groups of objects can be forbidden for an operator.

When an operator receives administration rights for an object, he (she) also receives the control and viewing rights for that object.

The objects are grouped according to the tabs of the System Settings window.

If an operator has no rights for a System Settings window tab, he (she) cannot open this tab for viewing or editing its objects. The forbidden tabs are greyed out in the System Settings window (Figure 8.20-7).

Figure 8.20-7 shows a tabs panel of the System Settings window where the Architecture, Hardware, Interfaces and Users tabs are allowed for editing by the current operator, while the objects in the Programming tab cannot be edited by the current operator.



Figure 8.20-7. Example of the tabs panel of the System Settings window

If an operator is forbidden to access any of the tabs, he (she) cannot open the System Settings window altogether, and cannot use any of the administrative functions.

Note. Lack of administrative rights for the System Settings tabs does not imply any limitation on control or viewing of the corresponding objects.

8.20.3.2.2 Limiting access to the tabs of the System Settings window

By default, the operator has no access to the administrative functions of the system objects in the System Settings tabs.

An operator can be granted administrative rights to the system objects of one or more tabs. In this case the operator will be able to open the System Settings window.

To allow an operator to administer objects in one or more tabs, do the following:

1. Open the Users tab in the System Settings window.
2. Open the required User Rights object in the object tree under the User Rights button.
3. The settings panel for this object opens at the right side of the System Settings window (Figure 8.20-8).

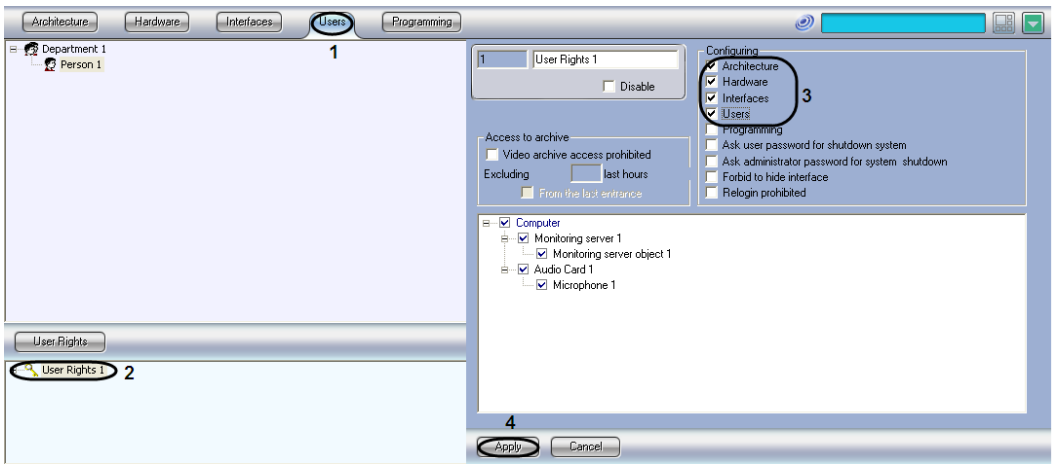


Figure 8.20-8. The settings panel of the User Rights object

The first 5 checkboxes of the Configuring group correspond to the tabs of the System Settings window.

Check the checkboxes for the tabs that the operator will be allowed to access.

4. Press the Apply button.

This completes the setup of the operator access to the System Settings tabs.

8.20.3.2.3 Limiting access to the administration of the system objects, control and viewing functions

By default, an operator is forbidden to administer any objects. If an operator is granted access to one or more tabs of the System Settings window, he (she) automatically receives the rights to administer, control and view all system objects on these tabs.

When the operator has the rights for control functions, he (she) can use the buttons, menu items and other interface elements allowing to control the corresponding objects (cameras, microphones, telemetry, event viewer, etc).

Viewing functions allow the operator to view the interface components (user screens, surveillance monitors, active archiving window, microphone indicators, etc.).

By default, administrator functions may be completely forbidden for an operator, but operator can have a full access to operator and control functions of the objects with the given functions. It is possible to ban the operator to administer one or several objects, limit the list of available functions of object control and also limit monitor opportunities.

To limit operator access to the administration of certain objects of Intellect program software do the following:

1. Open the Users tab in the System Settings window.

2. Open the required User Rights object in the object tree under the User Rights button.

The settings panel for this object opens at the right side of the System Settings window (Figure 8.20-9).

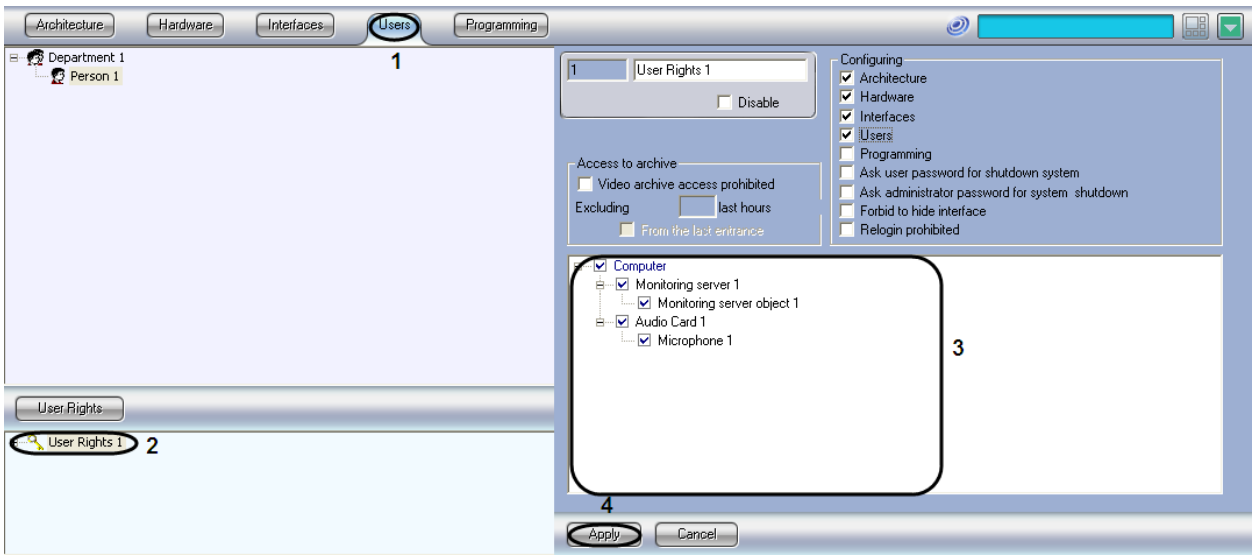


Figure 8.20-9. The settings panel of the User Rights object

The tree in the lower part of the settings panel represent the rights of the current operator. Checkboxes to the left of the objects indicate and allow changing the administrative, control or viewing rights for these objects. The components of the tree represent the system objects which the current user can administer according to his (her) rights' settings. Name of marks corresponds to object names, which administration, control and monitoring may be accessible to Operator with proper rights (Figure 8.20-9, 3).

3. Correspondence of mark type to Operator rights is given in Table 8.20-1.

Table 8.20-1

Type of mark	Right to administer	Right to control the object	Right to monitor the object
A blue mark	Yes	Yes	Yes
A green mark	No	Yes	Yes
An M mark	No	No	Yes
A cross mark	No	No	No

Setting up the administration of the system objects, control and viewing functions is completed.

8.20.3.3 *Limiting access to shutting the system down*

To eliminate unauthorized shutdown of the surveillance system, the shutdown function can be protected by a password. The following options for system shutdown are available:

1. Shutdown by the password of any registered operator.
2. Shutdown by the password of the current authorized user only.
3. Shutdown by the administrator password.
4. An operator cannot shut the system down.

If the operator is forbidden from shutting the system down, the Run menu of the Main Control Panel does not contain the Shut Down option. This menu item appears only after opening the administrator password window and entering the valid administrator password. To shut the system down, the password should be entered once more. Thus, it is recommended to use the option for shutdown by the administrator password, as well.

By default, the system is set for shutdown by any registered operator's password, regardless of the current authorized user.

To change the shutdown option, do the following:

1. Open the Users tab in the System Settings window.

2. Open the required User Rights object in the object tree under the User Rights button.

The settings panel for this object opens at the right side of the System Settings window (Figure 8.20-10).

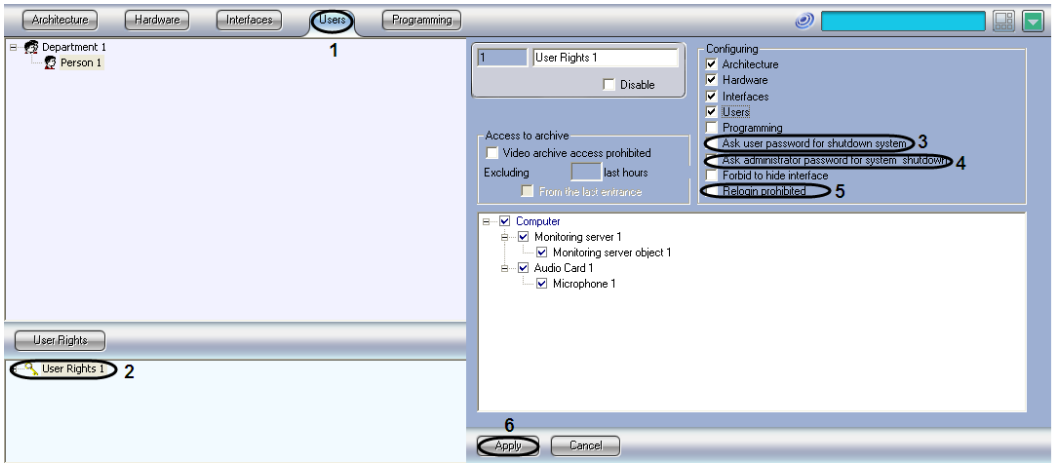


Figure 8.20-10. The settings panel of the User Rights object

3. To enable system shutdown by the current operator's password only, check the Ask User Password for Shutdown System checkbox.

4. To enable system shutdown by the administrator password only, check the Ask Administrator Password for System Shutdown checkbox.

5. To forbid the current operator from shutting the system down, check the Ask Administrator Password for System Shutdown and the Forbid to Relogin checkboxes.

6. To revert to the default shutdown option, deselect all the related checkboxes: Ask User Password for Shutdown System, Ask Administrator Password for System Shutdown, Forbid to Relogin.

7. Press the Apply button.

This completes the setup of the system shutdown options.

8.20.3.4 *Limiting the rights to hide the interface components*

Hiding all interface components can be forbidden. In this case the Hide All button in the Main Control Panel becomes disabled, and at least one Screen object allowed for the current user will stay open.

By default, the operator is allowed to hide all interface components. To forbid the operator to hide all interface components, do the following:

1. Open the Users tab in the System Settings window.

2. Open the required User Rights object in the object tree under the User Rights button.

The settings panel for this object opens at the right side of the System Settings window (Figure 8.20-11).

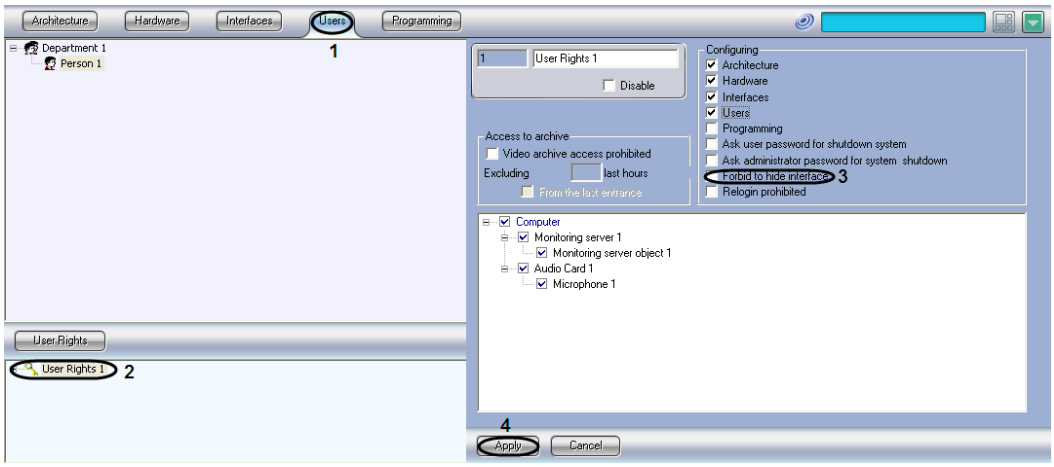


Figure 8.20-11. The settings panel of the User Rights object

3. Check the Forbid to Hide Interface checkbox.

4. Press the Apply button.

This completes the process of forbidding to hide all interface components.

8.20.3.5 *Limiting access to video and audio archives*

The operator can be forbidden to play the video recordings (from the videoserver, active archive or Archiver) in the surveillance monitor.

In this case, the button for entering the archive on the surveillance monitor will not be displayed, and the functions for viewing, exporting and frame printing will be unavailable.

By default, the operators are allowed to play the archives. To forbid the operator to play the video archives, do the following:

1. Open the Users tab in the System Settings window.

2. Open the required User Rights object in the object tree under the User Rights button.

The settings panel for this object opens at the right side of the System Settings window (Figure 8.20-12).

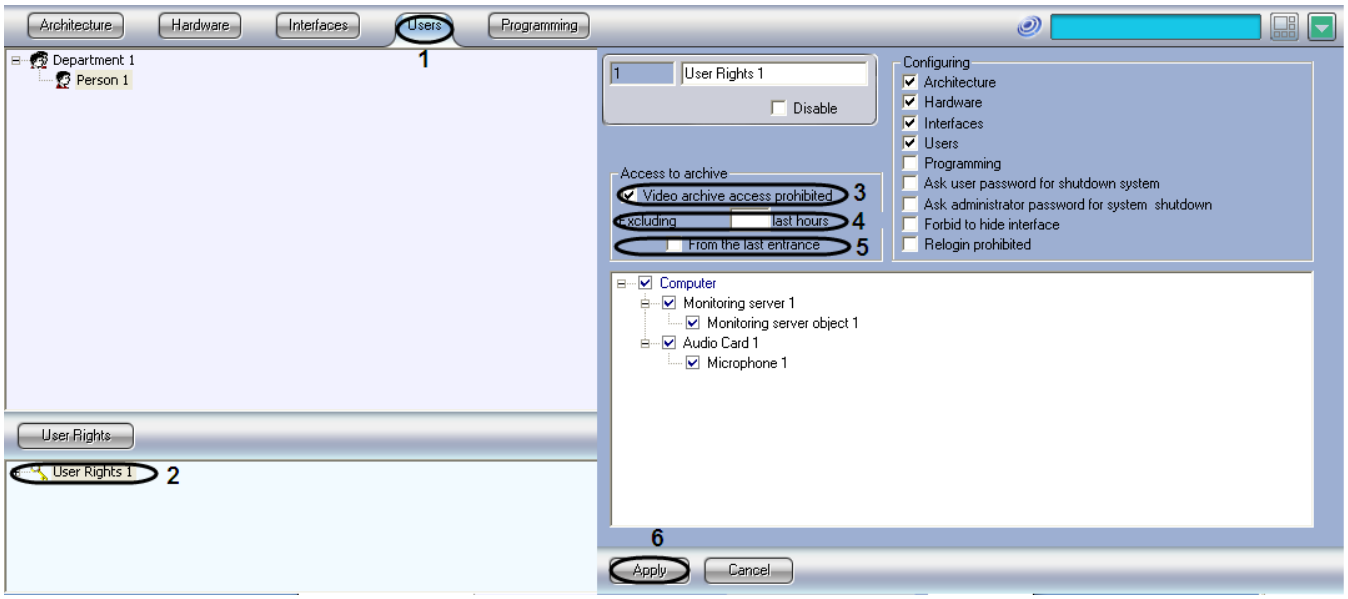


Figure 8.20-12 The settings panel of the User Rights object

3. Check the Video archive access prohibited checkbox (Figure 8.20-12,3).

4. Enter the number of hours, available for viewing in the field «Excluding last hours» (Figure 8.20-12, 4).

Note. The number of video archive last hours, available for viewing should be whole.

5. In case of starting the hours counting from the moment of the last entrance to the system, set the checkbox «From the last entrance» (Figure 8.20-12, 5). If the counting of hours from the current time is to be set– the checkbox « From the last entrance » should not be checked.

Note. In case when the checkbox « From the last entrance » is set and the number of hours, available for viewing is stated, the last hours are counted before the moment of registration.

6. Click Apply button (Figure 8.20-12, 6).

Forbidding the operator from playing the archives is completed.

8.20.4 Assigning rights and passwords to operators

The operator can be forbidden to play the video recordings (from the videoserver, active archive or Archiver) in the surveillance monitor.

In this case, the button for entering the archive on the surveillance monitor will not be displayed, and the functions for viewing, exporting and frame printing will be unavailable.

By default, the operators are allowed to play the archives. To forbid the operator to play the video archives, do the following:

1. Open the Users tab in the System Settings window.

2. Open the required User Rights object in the object tree under the User Rights button.

The settings panel for this object opens at the right side of the System Settings window (Figure 8.20-13).

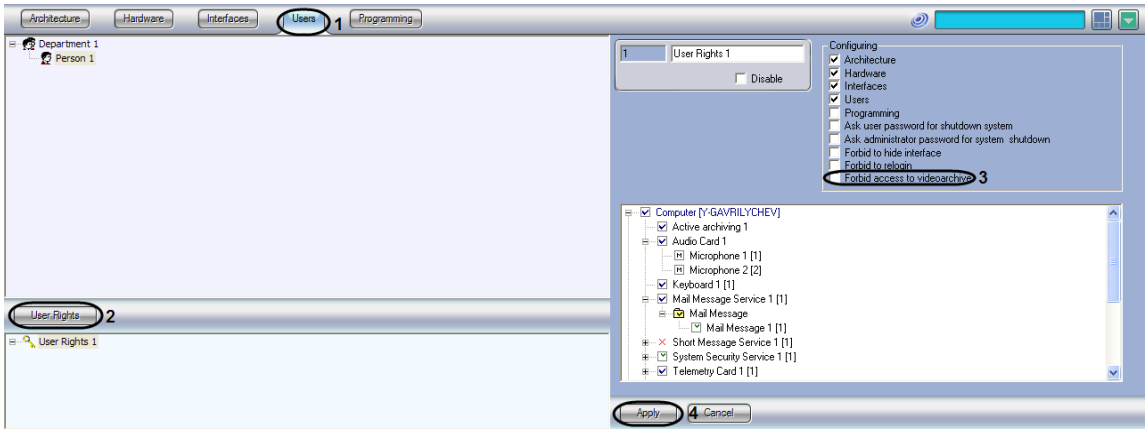


Figure 8.20-13. The settings panel of the User Rights object

3. Check the Forbid Access to Videoarchive checkbox.

4. Press the Apply button.

This completes the process of forbidding the operator from playing the archives.

8.20.5 Setting up the initial user

To allow starting the system without entering the password, an initial user should be set up. The administrative, controlling and viewing functions will then be limited according to the rights of the initial user.

In order for the user to become an initial user, he should be registered in the system beforehand.

To set the initial user, do the following:

1. Open the Hardware tab in the System Settings window.

2. Select the Computer object, representing the workstation the initial user will be assigned to.

The settings panel for this object opens at the right side of the System Settings window (Figure 8.20-14).

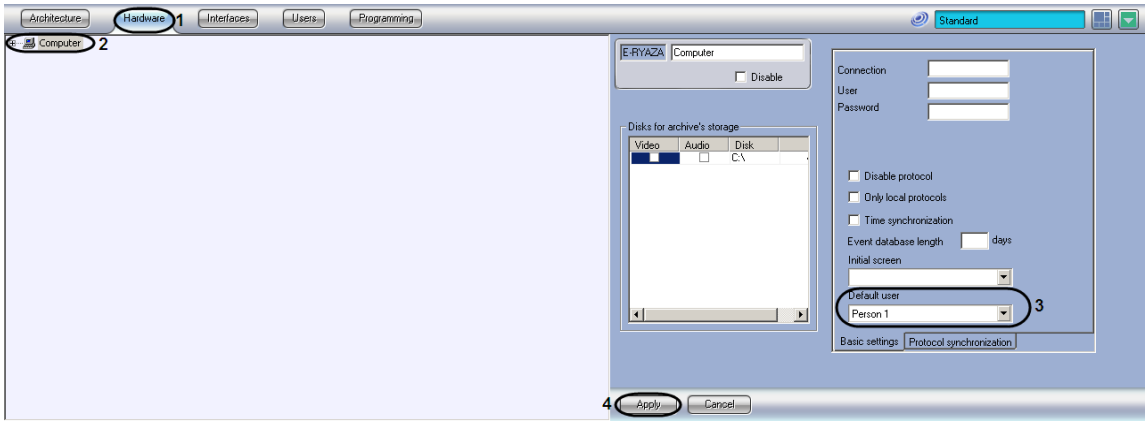


Figure 8.20-14. Setting up the initial user

3. Select a user account in the Initial User list field.

4. Press the Apply button.

The administrative, controlling and viewing functions will then be limited according to the rights of the initial user.

8.21 Creating and using macros

8.21.1 About macros

A macro in the Intellect system is a system object, designed to maintain logic interaction among other system objects. The Macro object settings define the conditions and the corresponding actions. The Macro objects are used for automatic controlling of the surveillance system.

8.21.2 Creating macros

To create a macro, do the following:

a. Create the Macro object.
   a. Choose the Macro object in the object tree of the Programming tab (Figure 8.21-1).
   b. Specify the name of the Macro object.
   c. Press the Apply button.

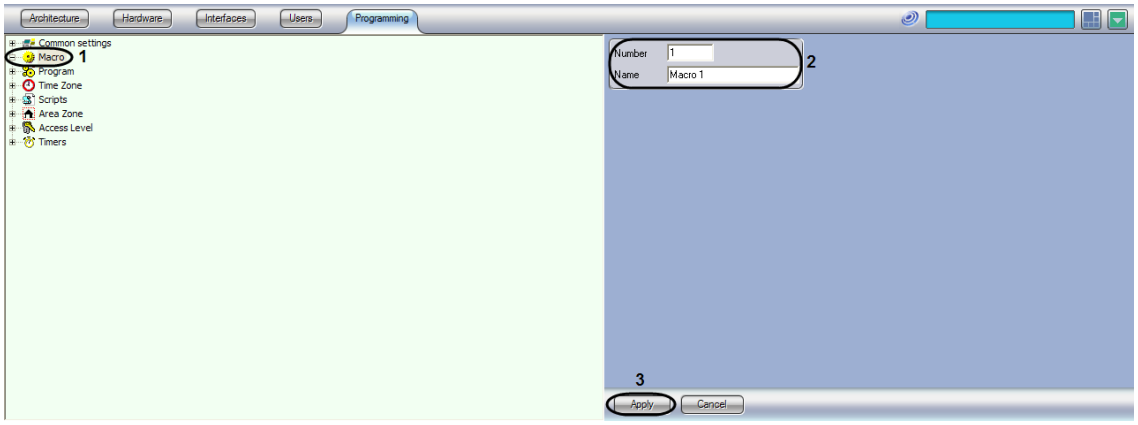


Figure 8.21-1. Creating the Macro object

After the Macro object is created, its settings panel opens (Figure 8.21-2).

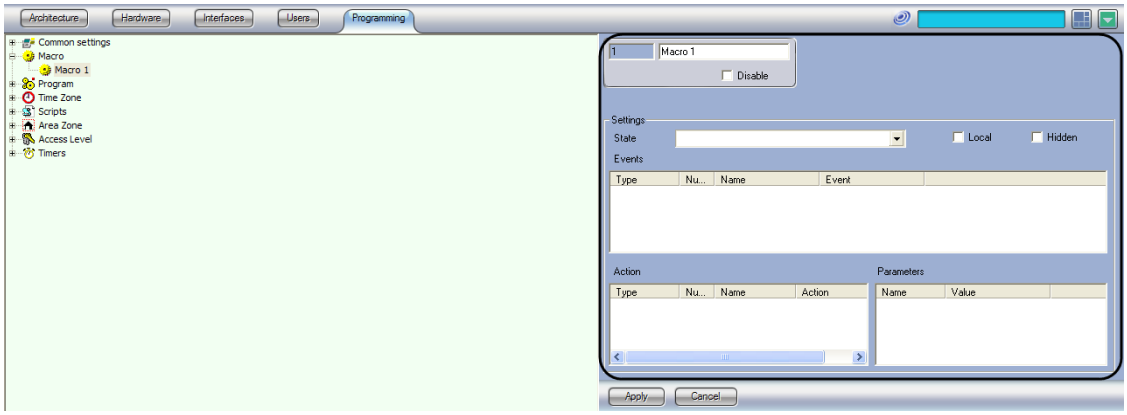


Figure 8.21-2. The Macro object is created

b. Specify the parameter values (Figure 8.21-3). Table 17 gives the description of the parameters.

Table 8.21-1

№	Name	Field type	Description	Format	Default value	Value range
Settings group						
1	State	Select from drop-down list, or type in	The message to display during macro execution. A Standard value is selected, no message is displayed.	-	Empty	A list of available messages plus Standard.
2	Local	Checkbox	If the checkbox is checked, the macro can be executed on the local computer only.	-	No	Checked - local only. Unchecked – any computer.
3	Hidden	Checkbox	If the checkbox is checked, the macro cannot be executed manually.	-	No	Checked – execute. Unchecked – don't execute.
4	Events table					
	Type	Drop-down list	Defines the object to be the source of the event that will trigger this macro.	-	Empty	All active device and module objects
5	Number	Drop-down list	Defines the number of the object to be the source of the event that will trigger this macro.	-	Empty	The numbers of all active device and module objects. If the Computer object is selected in the Type column, enter its name here.
6	Name	Enters automatically on right-click	Information type	-	Empty	Enters automatically according to the Type and Number values
7	Event	Drop-down list	Event type	-	Empty	The list of registered event types
8	Actions table					
	Type	Drop-down list	Defines the object to be the source of the event that will trigger this macro.	-	Empty	All active devices and module objects
9	Number	Drop-down list	Defines the number of the object to be the source of the event that will trigger this macro.	-	Empty	The numbers of all active devices and module objects. If the Computer object is selected in the Type column, enter its name here.

№	Name	Field type	Description	Format	Default value	Value range
10	Name	Automatically	Displays name of the selected object	Name of objects, registered in the system and of specified type	Empty	A line of any characters. The number of characters is from 1 to 60.
Parameters table (is set, when parameter should be set to perform action, selected in Actions table)						
12	Name	Automatically	Displays name of action's parameter	Latin alphabet, digits and characters	Empty	Depends on the action, selected in Actions table
13	Value	Entering of the text into the field	Set the value of action's parameter	Latin alphabet, digits and characters	Empty	A line of any characters. The number of characters is from 1 to 250.

Note. As action's parameter «Play sound file» may be used only files of WAV format. Otherwise action«Play sound file» is not carried out.

Note.Compressed sound in WAV format may be played back incorrectly, that's why it is strongly recommended to play back only PCM WAV files. Maximum values of frequency and depth of files digitization for playing back are determined by technical characteristics of digital to analog converter of the installed video card.

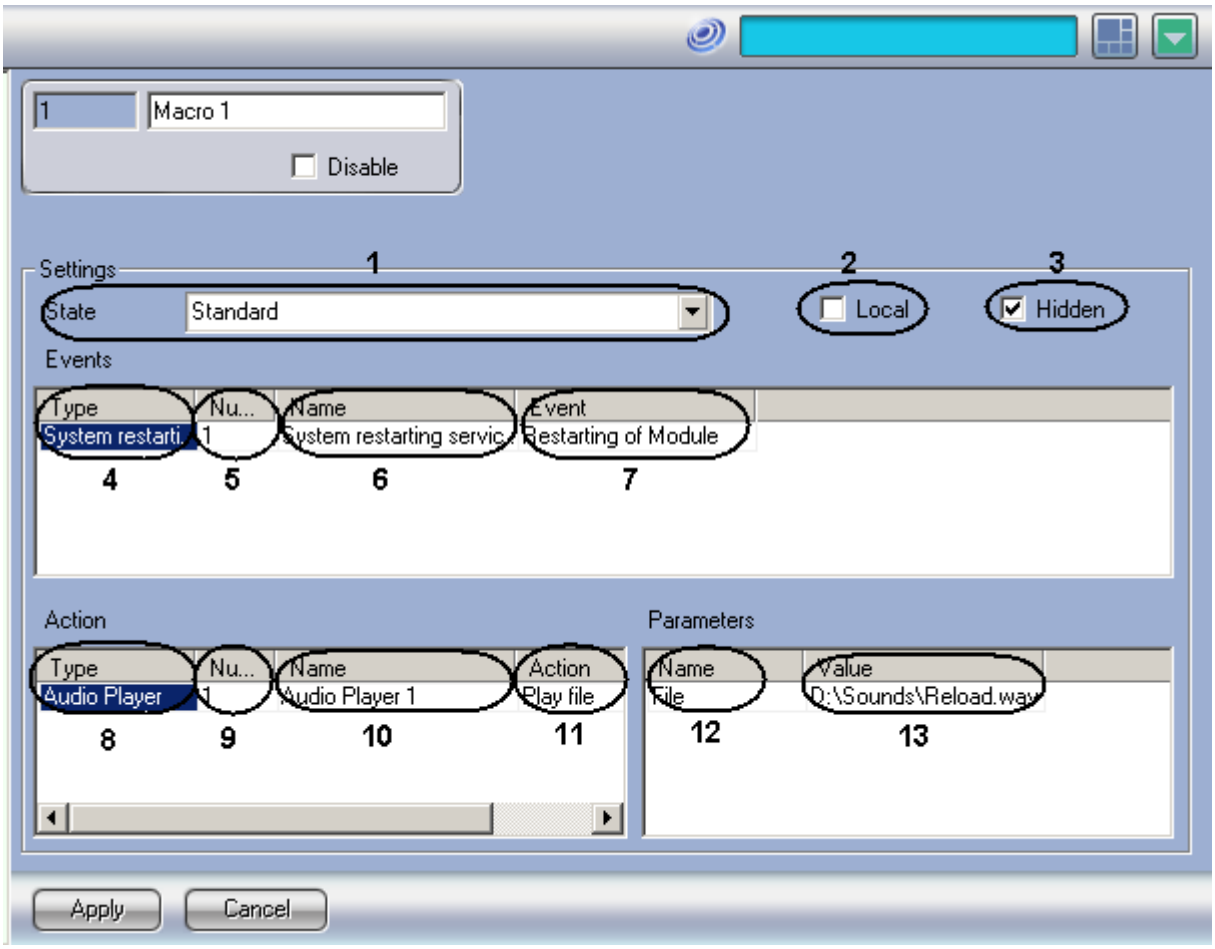


Figure 8.21-3. The Macro object is set up

c. Click the Apply button to save the settings.

8.21.3 Examples of macros

Macros are used to automate the actions of the operator. They inform the operator or administrator about software failures, automate the backup process, etc.

Let's consider the macro that generates the voice message and sends it to the specified telephone number. The message should be sent on a condition – the 'write to disk' error. To create the macro for sending the voice message, do the following:

Create a Macro object in the object tree of the Programming tab (Figure 8.21-4).

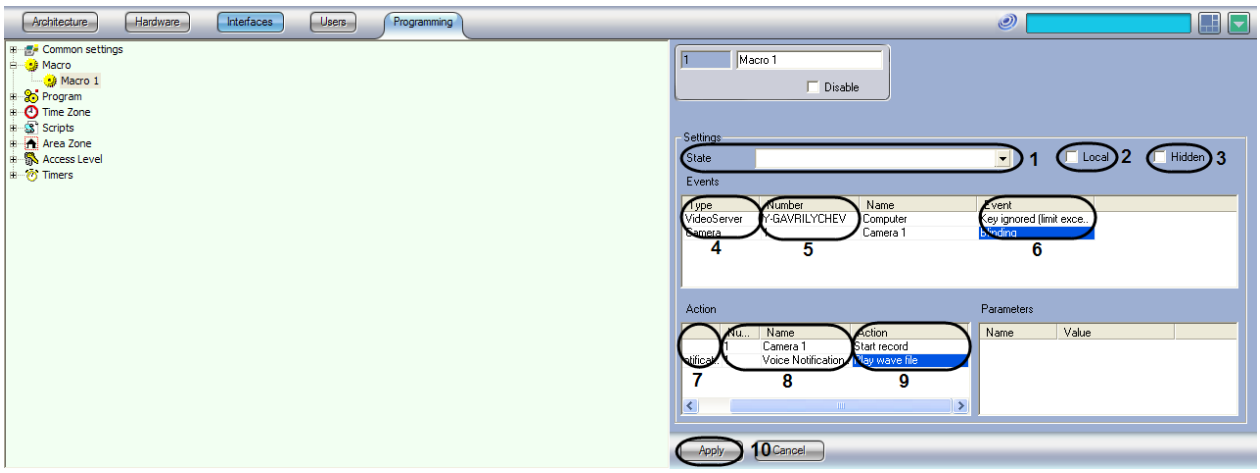


Figure 8.21-4. Setting up the macro

1. Specify the State parameter.
2. Check the Local checkbox if the macro should be sent from the local computer only, if necessary.
3. Check the Hidden checkbox if the macro should be sent automatically, if necessary.
4. If the manual start of macros from the main control panel of PC Intellect should be forbidden, set the Hidden checkbox.
5. Select the number of the object to be the source of the event generating the message.
6. Select the name of the event to activate sending of the message.
7. Choose the Voice Message object in the Type column.
8. Choose the number of the Voice Message object to be sent by the macro.
9. Choose Send Message in the Action column.
10. Press the Apply button.

If the Hidden checkbox is not checked (Figure 8.21-5), the macro will need manual activation, which is done by clicking the Run button in the Main control menu and by selecting the macro in the list.

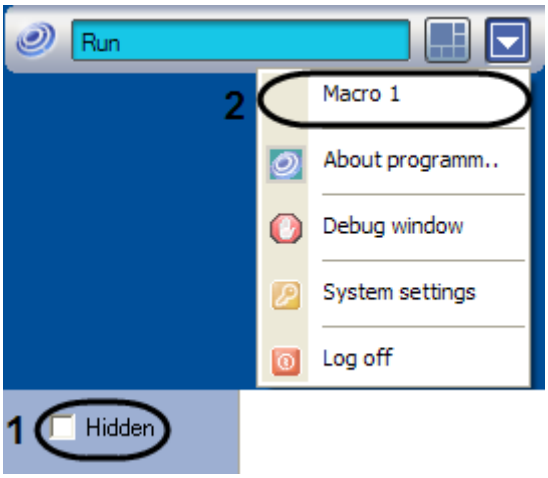


Figure 8.21-5. Manual macro activation

Manual activation of the macro is indicated by the tick next to the macro name in the Run menu (Figure 8.21-6).

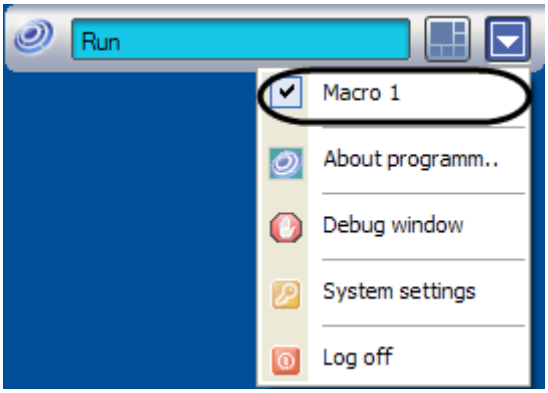


Figure 8.21-6. Manual activation of the macro

8.22 Creating and using time zones

8.22.1 About time zones

A time zone is comprised of a set of any number of time intervals during a day (24 hours) defined for several days (1 to 366), and the time intervals during specific dates.

The Time Zone object is used in conjunction with the Macro object and for setting up other system objects.

8.22.2 Creating and setting up time zones

To create a Time Zone object, do the following:

1. Open the Programming tab (Figure 8.22-1).
2. Create the Time Zone object under the Time Zone node in the object tree.
3. Enter the number and name of the time zone into the corresponding fields of the settings panel.
4. Press the Apply button.

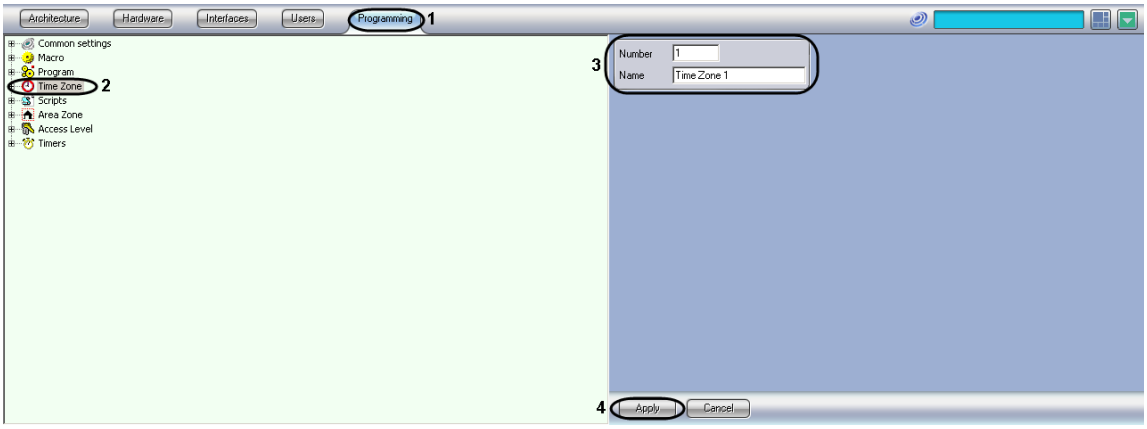


Figure 8.22-1. Creation of the Time Zone object

The Time Zone object will appear in the object tree (Figure 8.22-2).

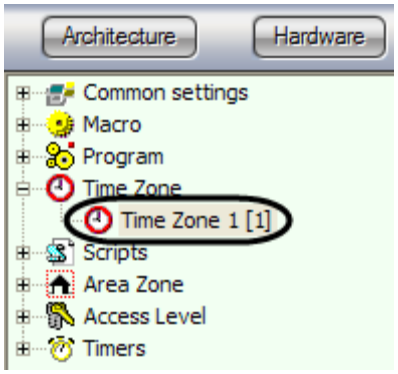


Figure 8.22-2. The Time Zone object is created

To set up the Time Zone object, specify the values of the following parameters (Figure 8.22-3 and Table 8.22-1).

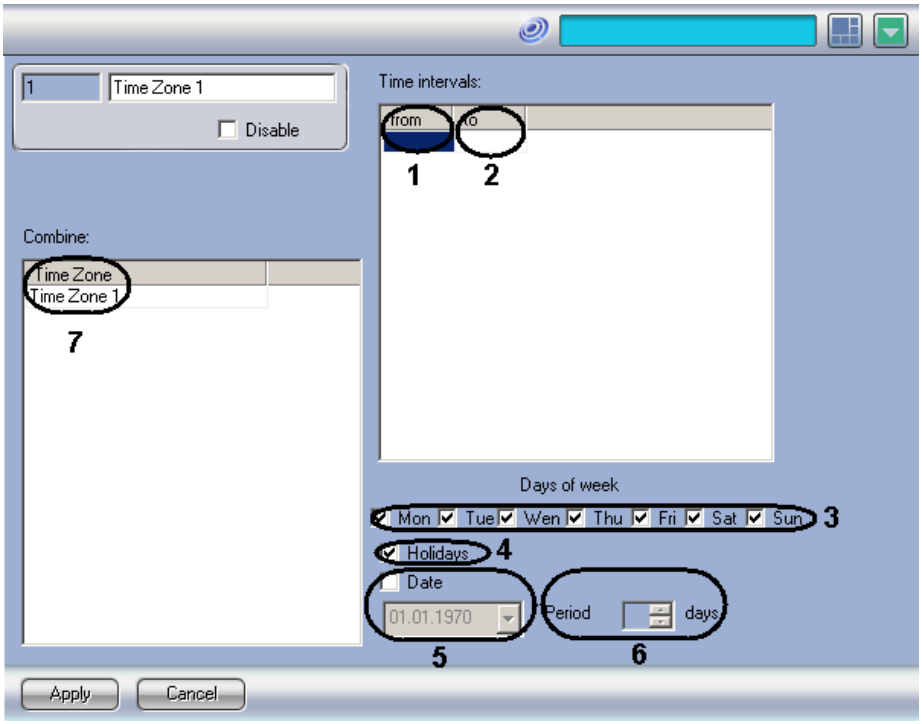


Figure 8.22-3. Setting up the Time Zone object

Table 8.22-1

No	Parameter name	Field type	Description	Format	Default value	Value range
Time Intervals group						
1	From column	Enter the value	Exact time of starting the macro execution	HH:MM:SS	00:00:00	00:00:00 to 23:59:59
2	To column	Enter the value	Exact time of ending the macro execution	HH:MM:SS	00:00:00	00:00:00 to 23:59:59
Days of Week group						
3	Checkboxes: Mon Tue Wed Thu	Checkbox	Adds days to the timetable. The days of the week are added separately for each time interval.	-	No	Checked – the day of the week is included in the timetable. Not checked – the day of the week is

No	Parameter name		Field type	Description	Format	Default value	Value range
	Fri Sat Sun						not included in the timetable.
Holidays checkbox*							
4	Holidays		Checkbox	Adds holidays to the timetable. The holidays are added separately for each time interval.	-	No	Checked – the holidays list is included in the timetable. Not checked – the holidays list is not included in the timetable.
Date group							
5	Date	Check-box	Checkbox	Enables the Period field. If set, the Days of the Week group is disabled. The days are added separately for each time interval.	-	No	Checked – enable the Period field. Not checked – disable the Period field.
		Field	Enter the value	Specifies the exact date. The days are added separately for each time interval.	DD.MM.YYYY	Current date	00.00.0000 to 31.12.1999
6	Period		Enter the value	Set the cyclicity in days, time zone acts from the stated date(that means that time zone responses every n-day)	Number	Disabled	0 to 100. Cyclicity is set apart for every time interval
Table combine with zones							
7	Time zone		Selected from the list	Set the time zone from which the given time zone has to be combined	Names of registered objects Time zone	-	Depends on the number of registered Time zone objects

* Holidays checkbox adds the list of the days specified in the General Settings object in the Programming tab.

Note. Time zone combine can be used for correction of the main time zone into special, for example days before holidays.The date of a special day and time interval, that shoul be added to the interval of the main zone, should be set for this on the settings panel of additional time zone. (см. Figure 8.22-4).

Note. The duaration of additional time zone settings panel usage in days is not set. So, zones combine should be disabled right after its application.

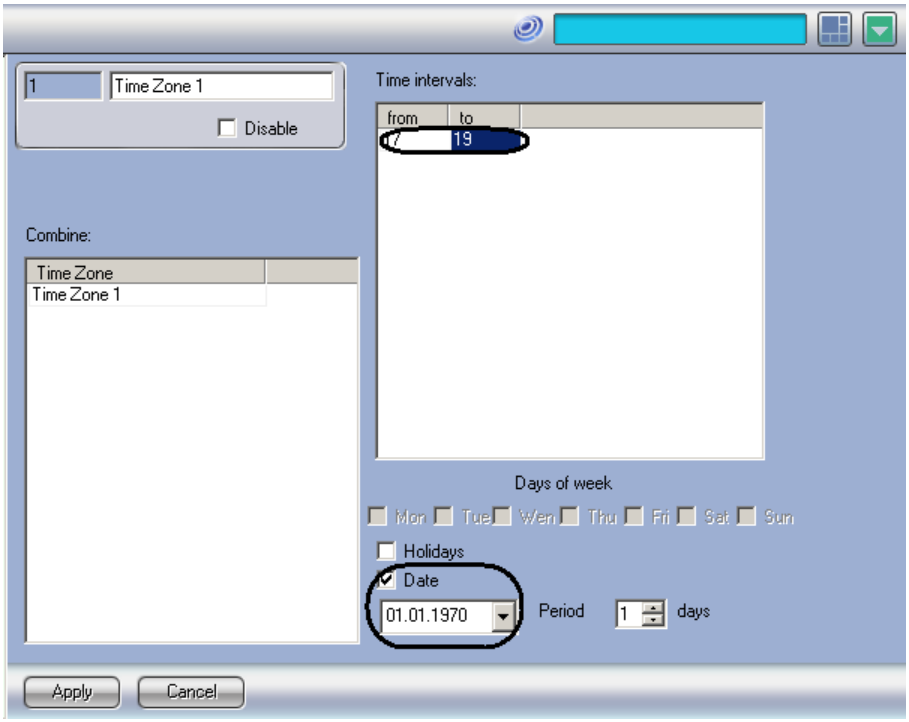


Figure 8.22-4. Additional time zone settings panel

To create the holidays list, do the following:

1. Open the Programming tab (Figure 8.22-5).

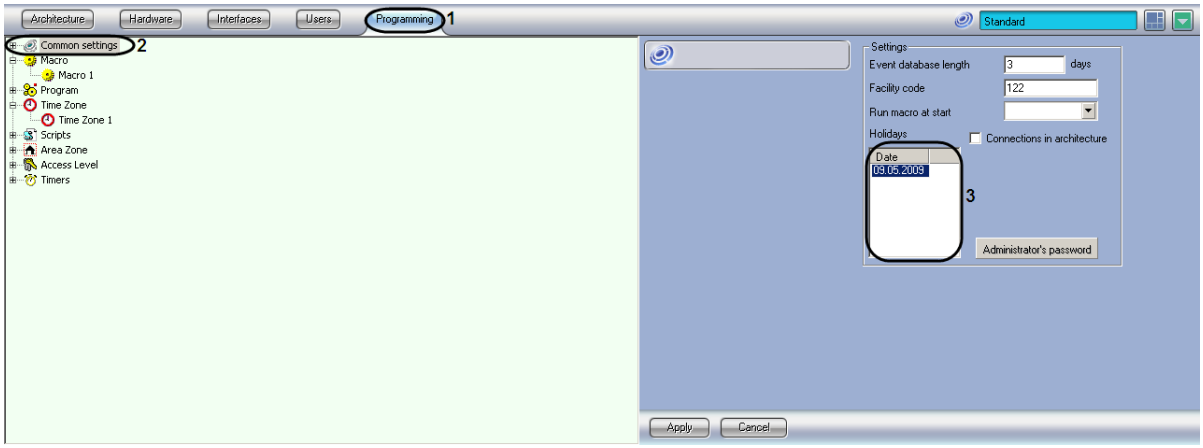


Figure 8.22-5. Creating the Holidays list

2. Select the General Settings object.
3. Enter the holiday date in the following format: DD.MM.YYYY.
4. Press the Apply button.

8.22.3 Examples of time zones usage

Example 1. Consider a time zone for macro activation (Table 8.22-2).

Table 8.22-2

№	Event	Action

1	Time Zone 1 start (Figure 447, 1)	Start recording from Camera 1 (Figure 447, 3)
2	Time Zone 1 end (Figure 447, 2)	End recording from Camera 1 (Figure 447, 4)

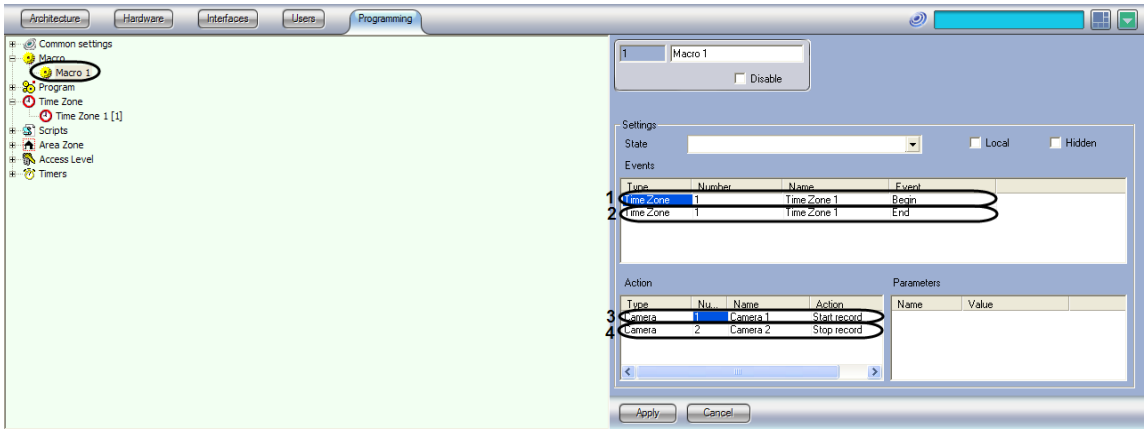


Figure 8.22-6. Example of a macro with a time zone

Example 2. Time zones can be used for active archiving. Consider an example of scheduling the archiving of the video feed from a camera at a specific time.

To set up the Active Archiving object, do the following:

1. Open the Hardware tab (Figure 8.22-7).

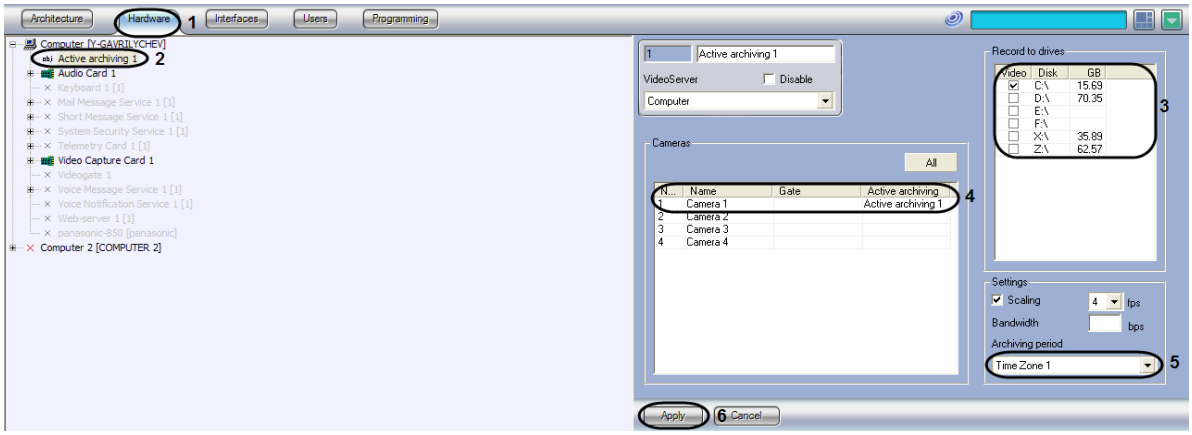


Figure 8.22-7. An example of an Active Archiving object with a time zone

2. Select the Active Archiving object.
3. Select the disk to save the video recording to.
4. Specify the camera to record from.
5. Select Time Zone 1 in the Archiving Interval list.

Press the Apply button.

8.23 The Timer object creation and usage

8.23.1 General Information

The Timer object sets a time point upon reaching which an action (a macro) is executed. Thus, the Timer object is used together with the Macro object and for other objects setup.

8.23.2 The Timer object creation and setup

To create a Timer object, do the following:

1. Open the Programming tab (Figure 8.23-1).
2. Create a Timer object under the Timers object in the objects tree.
3. Enter the number and name for the Timer object in the corresponding field of the settings panel.
4. Click the Apply button.

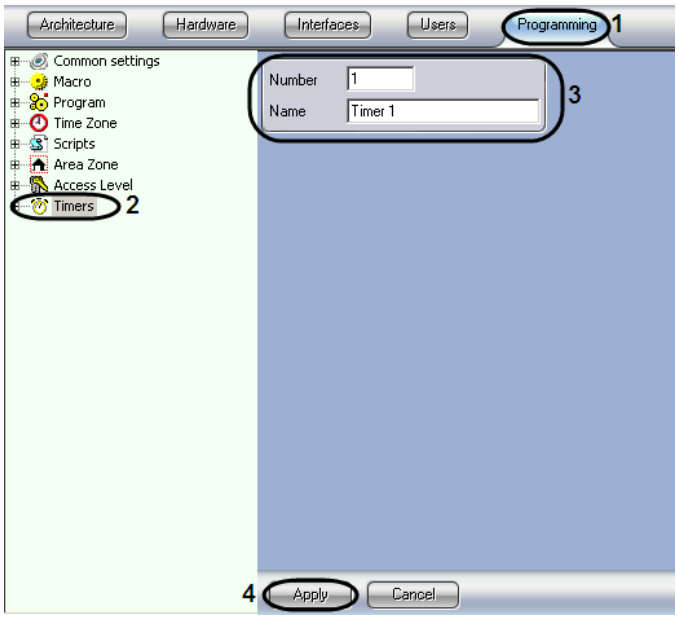


Figure 8.23-1. Creating a Timer object

The Timer object will appear in the object tree (Figure 8.23-2).

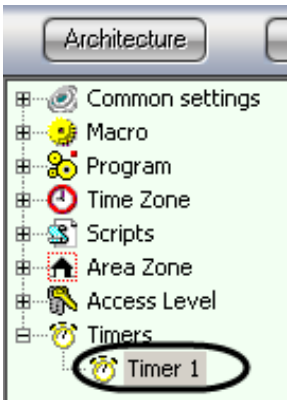


Figure 8.23-2. The Timer object has been created

To set up the Timer object, do the following:

a. Select the Timer object in the object tree (Figure 8.23-3).

b. Set the time point using one of the following methods:

1. select the day of the week from the drop-down list (Figure 8.23-3, 2) and the exact time (hour, minute, second) in the corresponding fields (Figure 8.23-3, 5);

2. select the exact date (year, month, day) from the corresponding fields (Figure 8.23-3, 4) and the exact time (hour, minute, second) in the corresponding fields (Figure 8.23-3, 5).

c. Check the Holidays checkbox to take into account the holidays set in the General Settings (Figure 8.23-3, 3).

d. Click the Apply button.

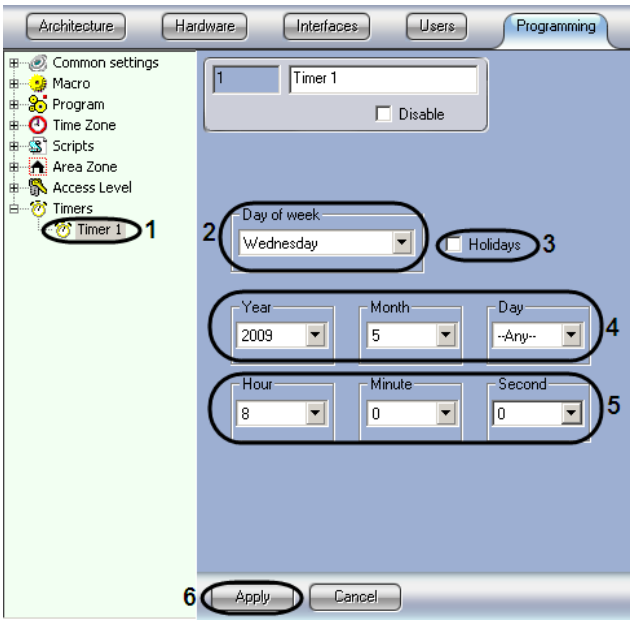


Figure 8.23-3. The Timer object setup

Note. To create the list of holidays, do the following:

1. *Open the Programming tab (Figure 8.23-4).*

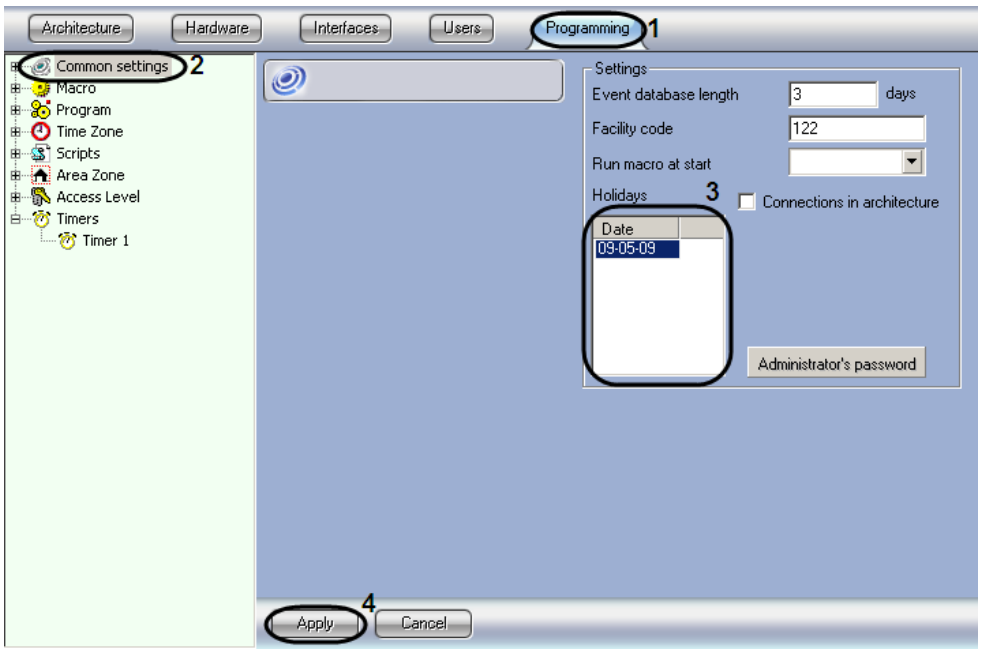


Figure 8.23-4. Creating the Holidays list

2. *Select the General Settings object.*

3. *Enter a holiday date in the DD.MM.YYYY format.*

4. *Click Apply.*

8.23.3 Examples of Timer object usage

Consider a macro executed upon the following conditions:

Table 8.23-1

No	Event	Action
1	The timer has reached the set point (Figure 448-5, 1).	Activate the camera (Figure 448-5, 2)

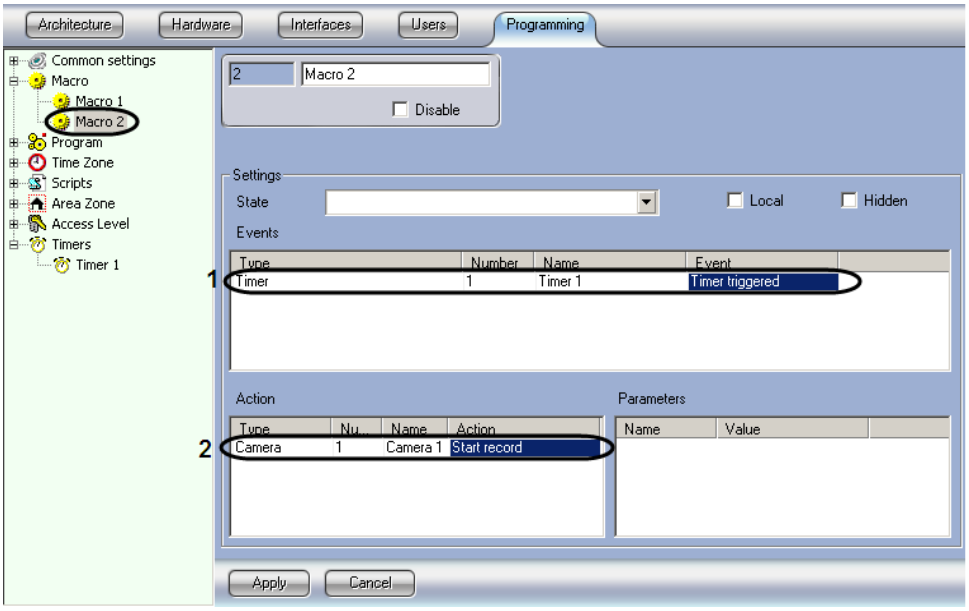


Figure 8.23-5. An example of a macro using the timer

8.24 Subdivision of the guarded location into areas and regions

8.24.1 About areas and regions

If the Intellect system is used to guard the large territory of complex topology (buildings, groups of buildings), we recommend to divide the whole territory into smaller zones. This allows to group relevant devices by location and makes it easier to view and control them, as well as to analyze the reports.

There are two levels of division: area and region. The region is the smallest element. The area is a set of regions grouped by location or by function. For example, a guarded territory can be divided in this way: the building is the whole territory; the floors make the areas, while the rooms become the regions.

We recommend dividing the guarded territory into areas and regions at the time of designing the video surveillance system, before the actual system configuration.

8.24.2 Creating areas

The areas are represented by Area Zone objects created in the Programming tab. The Area Zone object has no parameters of its own and is used to group the Region objects only. Figure 8.24-1 shows the process of creating an Area Zone object. See the detailed description in the General Procedure of the Object Setup section.



Figure 8.24-1. Creating the Area Zone object

8.24.3 Creating regions

To create a region, do the following:

1. Create the Region object and set it up (see Creating the areas and General procedure of the object setup sections).

2. Create the links between the Region object and the device object (camera, sensor, relay, reader) to be included in this region, in the Hardware tab. Set the value of the Region parameter in the settings panel of the selected object.

8.24.4 Examples of using areas and regions

Example 1. The regions created in the system are used to group the system objects, representing the devices by their location on the guarded territory.

To include a device into a region, select an appropriate region in the Region field of the device's settings panel (Figure 8.24-2).

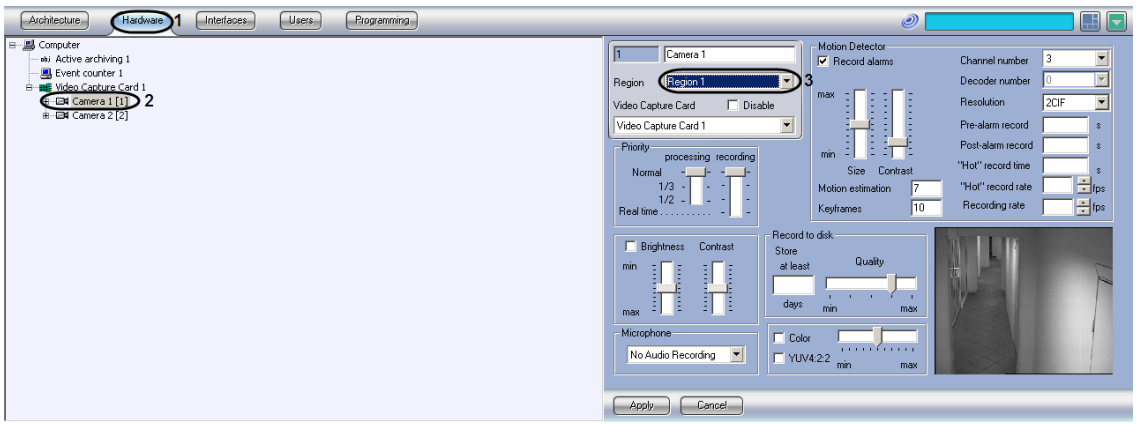


Figure 8.24-2. An example of using the Region object

Example 2. The device reports generated by the Intellect software can be grouped by region. Figure 8.24-3 shows the Event Viewer object set up to generate a report on the Arm event occurring on any of the devices in Region 1.

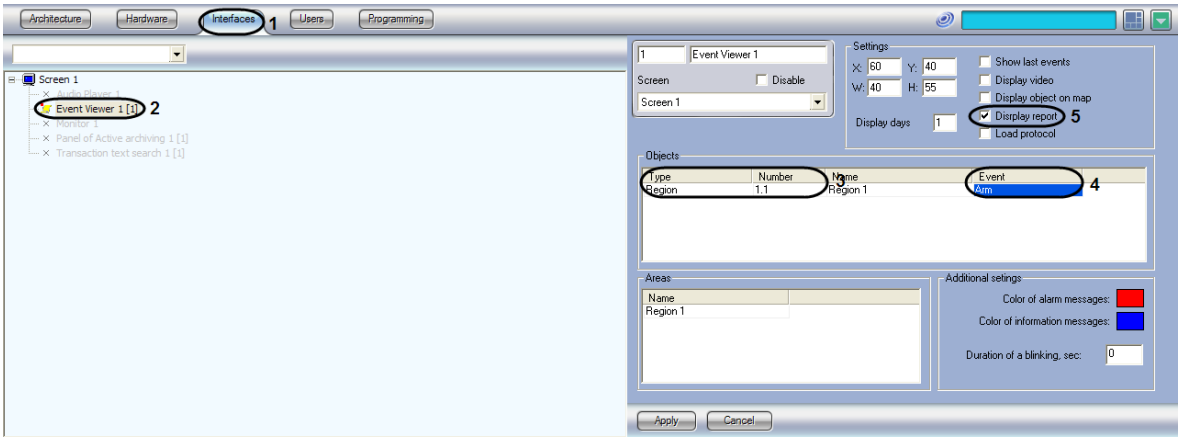


Figure 8.24-3. An example of the Event Viewer object set up for report generation

8.25 Setting up relays

8.25.1 General information on setting up the Intellect system for 4/4 and 16/4 I/O cards usage

Setting up DI/DO on the Intellect server consists in creating and setting relay objects on the basis of system object Video capture card. The maximum number of relay objects is determined by license key file.

If DI/DO cards are connected to the Intellect Server through IP-device, the required IP type of IP –device should be selected on the settings panel of parent object Video capture card an d the set the IP-address, port, name and password for connecting to the camera (see. Setting up the receipt and processing of video signals from IP-devices).

Note. When DI/DO card is connected to the Server through the IP –device Bosh the value «service» should be entered in the Name field (Figure 8.25-1). The functional of the given relay is not realized on the Server with the other value.

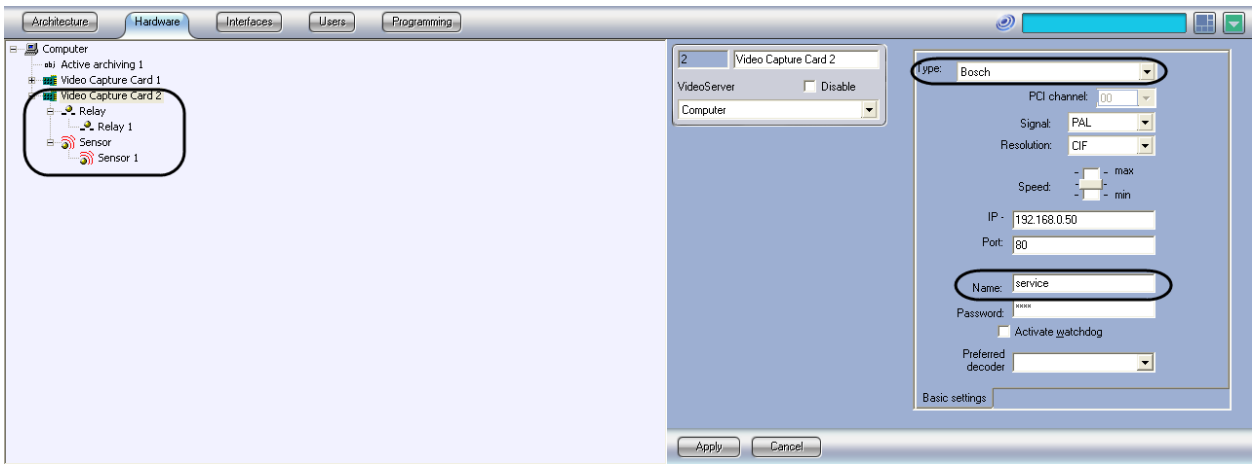


Figure 8.25-1. Setting up the Video capture card object of IP-camera Bosch for connection to DI/DO cards

All Relay objects representing the relays connected to the same I/O card should be created under the Video Capture Card where the I/O card is installed.

In case, when DI/DO card is set on the video capture card FS-5, FS-6, FS-16, «Relay»objects may be created on the basis of any object «Video capture card» within hardware card.

In case, when DI/DO card is set on the video capture card FS-8, «Relay» objects should be created on the basis of object «Video capture card» with number «07» of PCI-channel«07» (Figure 8.25-2).

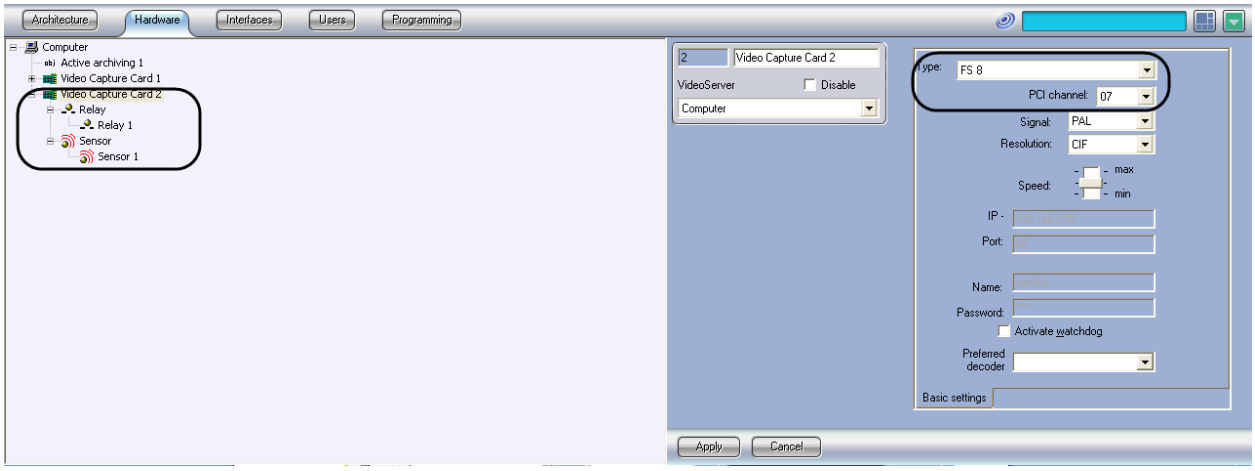


Figure 8.25-2. Relay connection with FS-8 hardware card

It is possible to change the position of the Relay object in the object tree. The Relay objects can be created under any Video Capture Card object, representing any of the digital-analogue converters of the video capture card that the I/O card is installed on.

To change the parent Video Capture Card object of a Relay object, change the value of the Video Capture Card field in the settings panel of this Relay object. The value of this parameter should match the number of the Video Capture Card object in the object tree, where the Relay object should be placed. When the value of the Video Capture Card parameter in the settings panel is changed, the object will be moved to the object tree of the corresponding object «Video capture card».

Note. All Relay objects representing the devices on the same I/O card, should be placed under the same Video Capture Card object for the Intellect system to function properly. The Relay objects cannot be

placed under different Video Capture Card objects, even if these objects represent the same video capture card with the adjustable I/O card connected.

Figure 8.25-3 shows an example of the positions of the Relay objects in the object tree in the case where two FS-6 or FS-16 video capture cards, with 4 relays connected to the I/O card are installed on the 1st video capture card, and 2 relays connected to the I/O card are installed on the 2nd card.

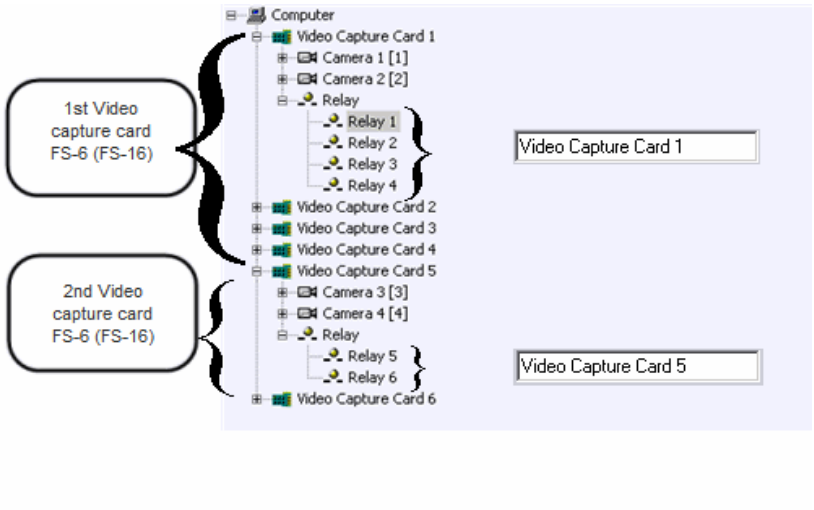


Figure 8.25-3. An example of the Video Capture Card parameters in the case of two FS-6 or FS-16 video capture cards with two 4/4 or 16/4 I/O cards with 6 relays

When setting up the Relay object, the channel numbers connecting the sensor to the I/O card should be specified according to the numbers of the DO pins of the socket connecting the relays to the card.

To change the channel numbers, use the Channel Number list in the settings panel of the Relay object.

The 4/4 and 16/4 I/O cards allow connecting up to 4 relay channels, according to the license key file.

Figure 453 shows an example of the channel numbers configuration of 4 relays connected to one 4/4 I/O card installed on the FS-6 or FS-16 video capture card.

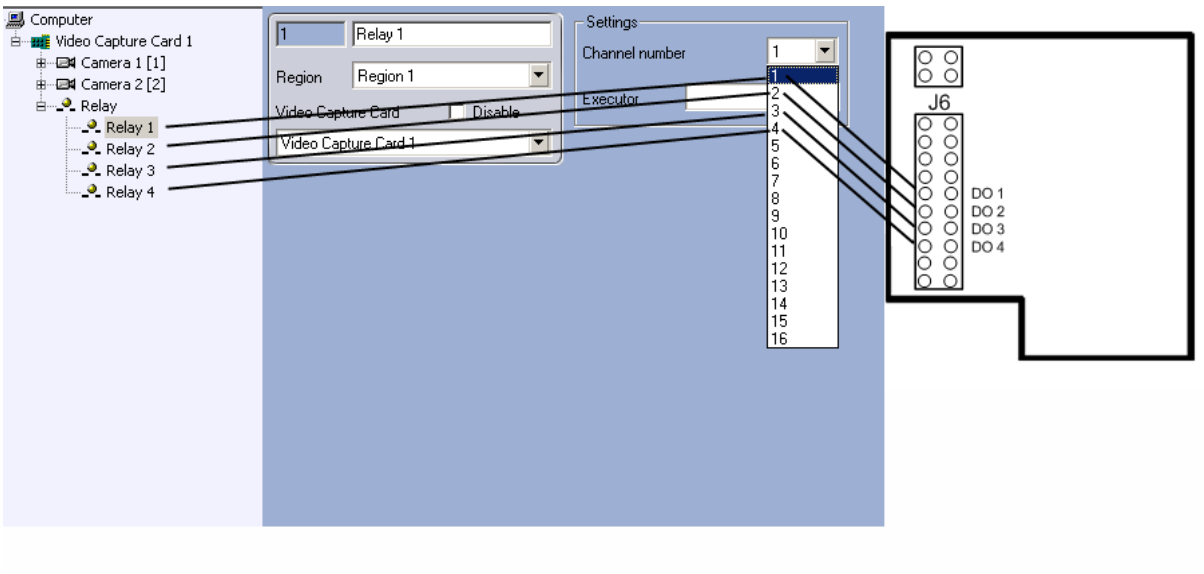


Figure 8.25-4. An example of the channel numbers configuration for the relay connection to the 4/4 I/O card installed on the FS-6 or FS-16 video capture card (4 digital-analogue converters, represented by 4 Relay objects)

The channels of the second (next) 16/4 I/O card are numbered from 1 to 4 according to the DI pins of the socket connecting the relays to the card (Figure 8.25-5).

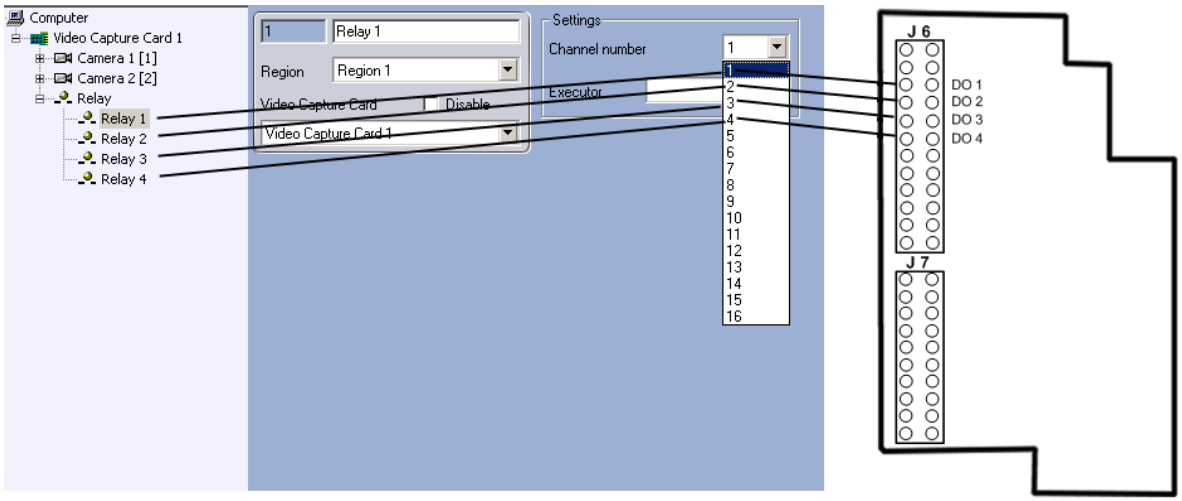


Figure 8.25-5. An example of the channel numbers configuration for the relay connection to the second (next) 16/4 I/O card installed on the FS-6 or FS-16 video capture card (4 digital-analogue converters, represented by 4 Relayobjects)

8.25.2 Creating and setting up the channel for the Relay object connection

The Relay object is created under the Video Capture Card object.

The main parameters of the Relay object are created and set up in the following stages:

1. Open the Hardware tab of the System Settings window.
2. Create a Relay object under the Video Capture Card object in the tree (Figure 8.25-6).

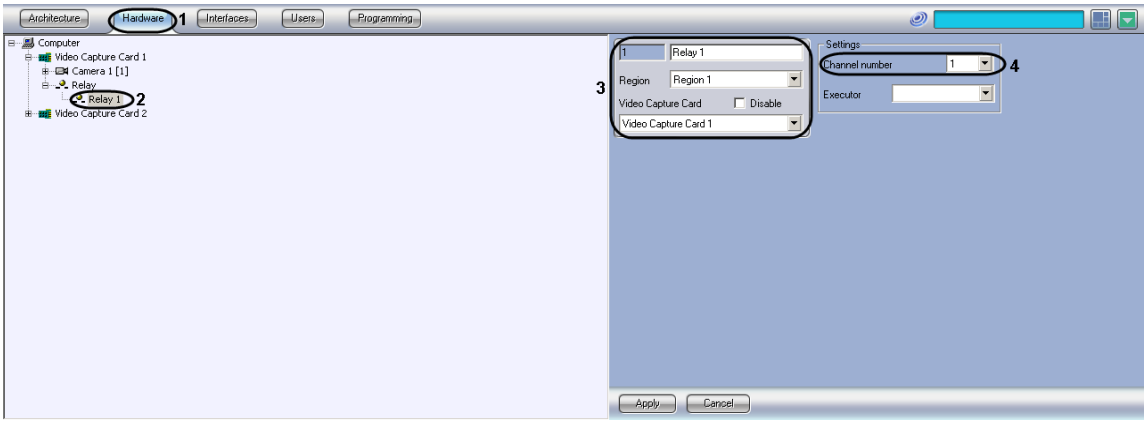


Figure 8.25-6. The Relay object settings panel

1. Specify an id and name for the Relay object, and choose the Video Capture Card object to become the parent of the relay.

Note. When setting up the Relay object, specify the video capture card with the digital-analogue converter, where the I/O card is connected.

2. Select the channel number matching the DO pin number of the I/O card socket, to which the relay is connected.

3. Press the Apply button to save all changes made to the settings.

This completes the creation and setting up of the channel for the Relay object connection

8.25.3 Choosing the executive device for the Relay object and the alarm device type

When setting up the Relay object, the type of the executive device used as a relay can be specified. This is done using the Hardware parameter in the settings panel.

The Hardware parameter specifies the device symbol displayed on the interactive map. This parameter enhances the visual perception of the symbols on the map for the operator and allows the operator to take prompt actions, if necessary.

Each executive device type is represented by a specific symbol on the map.

To choose the executive device for the Relay object, do the following:

1. Open the Hardware tab of the System Settings window.

2. Choose a Relay object under the Video Capture Card object in the tree (Figure 8.25-7).

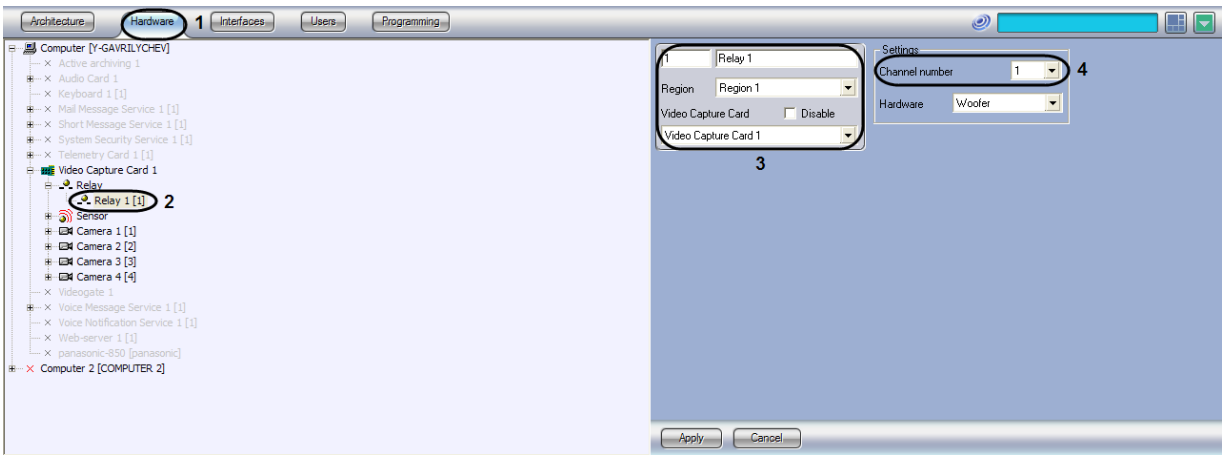


Figure 8.25-7. The Relay object settings panel

3. Select the executive device used as a relay on the controlled object in the Hardware list field.

4. Press the Apply button to save all changes made to the settings.

This completes the setting up of the executive device for the Relay object.

The following symbols of executive device types are available:

1. Light – represents the devices changing the illumination level of the guarded area.

2. Woofer – represents the devices changing the sound level of the guarded area.

3. Bell – represents the devices opening and closing the doors, windows, etc.

8.26 Setting up the sensor lines

Setting up the sensor lines on the Intellect Server consists in creating and setting sensor objects on the basis of Video capture card system object. The maximum number of sensor objects is determined by license key file.

8.26.1 Setting up sensors connection through IP-devices

If sensors are connected to the Intellect Server through IP-device, the required IP type of IP –device should be selected on the settings panel of parent object Video capture card and the set the IP-address, port, name and password for connecting to the camera (see. Setting up the receipt and processing of video signals from IP-devices). When sensors are connected to the Server through the IP –device Bosch the value «service» should be entered in the Name field (Figure 8.26-1). The functional of the given sensors is not realized on the Server with the other value.

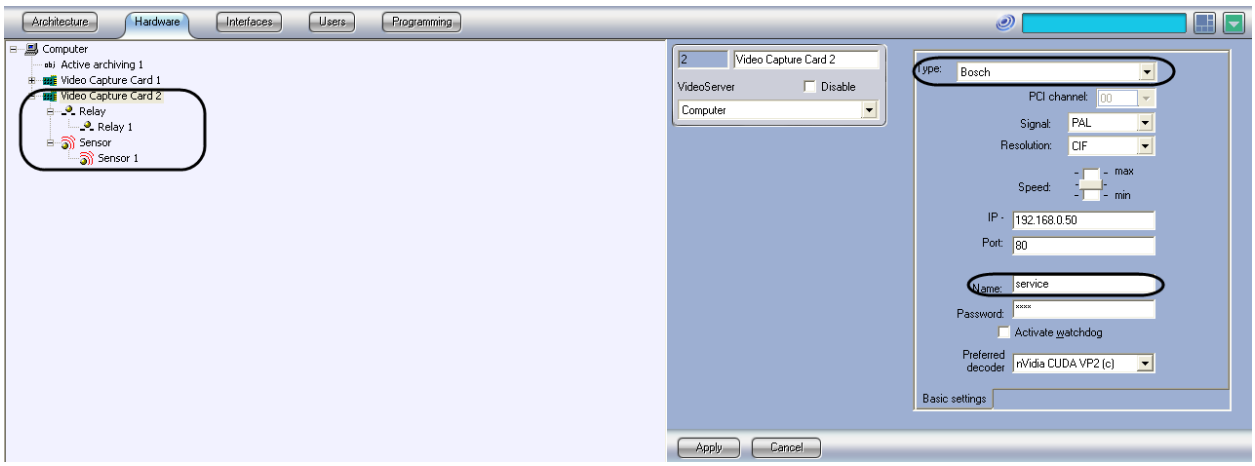


Figure 8.26-1. Setting up the Video capture card object of IP-camera Bosh for connection to sensors

When IP-server Smartec STS-IPT-880 is used, sensors should be connected only to those video channels, for which Camera objects are created. Video channel with N number corresponds to 2 connection channels of sensors with numbers 2N-1 and 2N.

Note. IP-server Smartec STS-IPT-880 supports 8 video channels and 16 sensors (2 sensors in each channel).

Camera object with N channel number and then two Sensor objects with 2N-1 and 2N channel numbers should be created to connect every two sensors. Camera and Sensor objects are created on the basis of common object «Video capture card» of «Smartec» type. In case when sensors are connected with inactive video channel (Camera object is absent), sensors' functionality is not realized on the Intellect server.

To realize sensors' functionality on the Intellect server, connected through IP-server AEBELL BL-E704F, IP-server's «Auto Work Plan» mode should be activated. Atctivating/disactivating of this mode is performed whether through Web-interface of IP-server or in the dialog window of «Network DVR Monitor System» utility. (see. Official reference manual about IP-server).

8.26.2 Setting up the Intellect system for using the 4/4 I/O cards

Up to 4 Sensor objects can be created under the Video Capture Card object, if the 4/4 I/O card is installed.

All Sensor objects representing the ray-relays connected to the same card should be created under the Video Capture Card, where the I/O card is installed.

In case, when DI/DO card is set on the video capture card FS-5, FS-6, FS-16, «Sensor»objects may be created on the basis of any object «Video capture card» within hardware card.

In case, when DI/DO card is set on the video capture card FS-8, Sensor»objects should be created on the basis of object «Video capture card» with number «07» of PCI-channel (Figure 8.26-2).

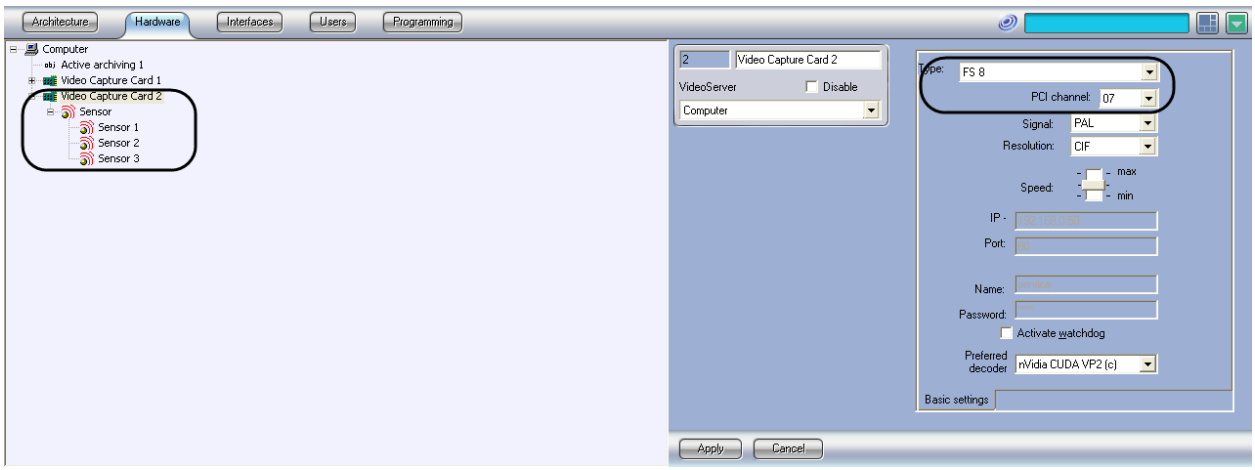


Figure 8.26-2. Connection of sensors with FS8 hardware card

It is possible to change the position of the Sensor object in the object tree. The Sensor objects can be created under any Video Capture Card object, representing any of the digital-analogue converters of the video capture card that the I/O card is installed on.

To change the parent Video Capture Card object for a Sensor object, change the value of the Video Capture Card field in the settings panel of the Sensor object. The value of this parameter should match the number of the Video Capture Card object in the object tree, where the Sensor object should be placed. When the value of the Video Capture Card parameter in the settings panel is changed, the object moves to the corresponding object in the object tree.

NOTE. All Sensor objects representing the devices on the same I/O card, should be placed under the same Video Capture Card object for the Intellect system to work properly. The Sensor objects cannot be placed under different Video Capture Card objects, even if these objects represent the same video capture card with the adjustable I/O card connected.

Figure 8.26-3 shows an example of the positions of the Sensor objects in the object tree in the case where two FS-6 or FS-16 video capture cards with 4 sensors connected to the I/O card are installed on the 1st video capture card and 2 sensors connected to the I/O card are installed on the 2nd card.

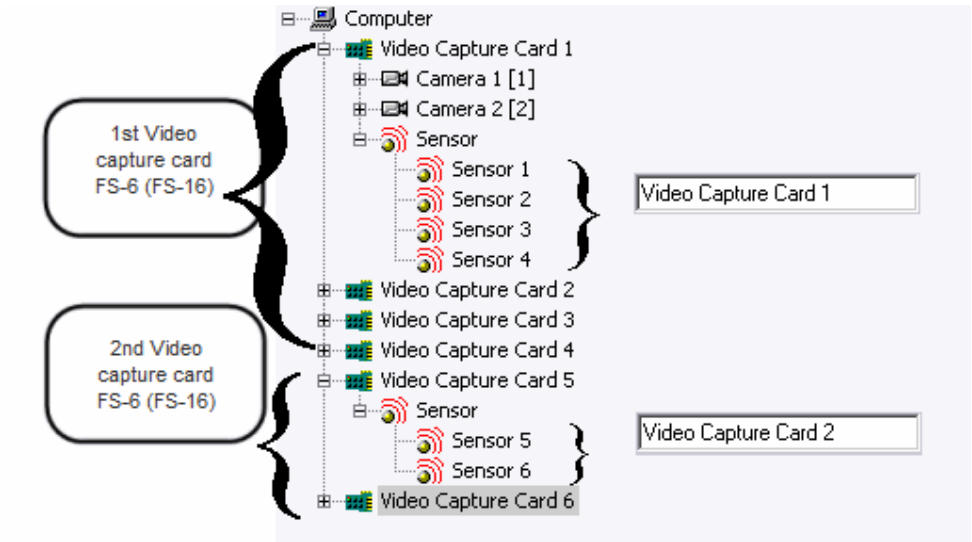


Figure 8.26-3. An example of the Video Capture Card parameters where there are two FS-6 or FS-16 video capture cards with two 4/4 or 6/4 I/O cards with 6 sensors

When setting up the Sensor object, the channel numbers connecting the sensor to the I/O card should be specified, according to the numbers of the DI pins of the socket connecting the sensor-relays to the card.

To change to channel numbers, use the Channel Number list in the settings panel of the Sensor object.

The 4/4 I/O cards allow connecting up to 4 sensor channels, according to the license key file.

Figure 8.26-4 shows an example of the channel numbers configuration of 4 sensors connected to one 4/4 I/O card installed on the FS-6 or FS-16 video capture card.

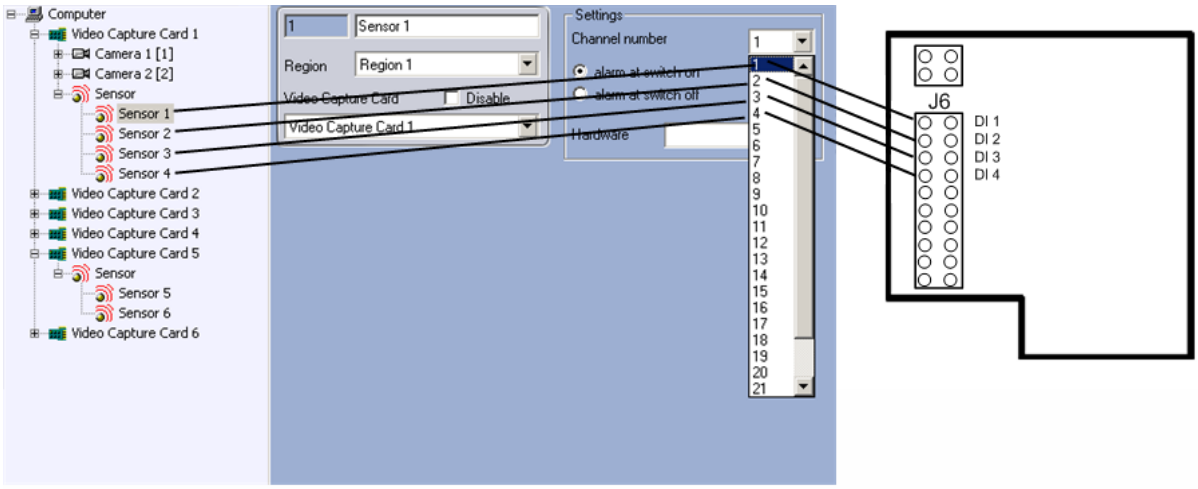


Figure 8.26-4. An example of the channel numbers configuration for the sensor connection to the 4/4 I/O card installed on the FS-6 or FS-16 video capture card (4 digital-analogue converters, represented by 4 Sensor objects)

The channels of the second (next) 4/4 I/O card are numbered from 1 to 4 according to the DI pins of the socket connecting the sensors to the card (Figure 8.26-5).

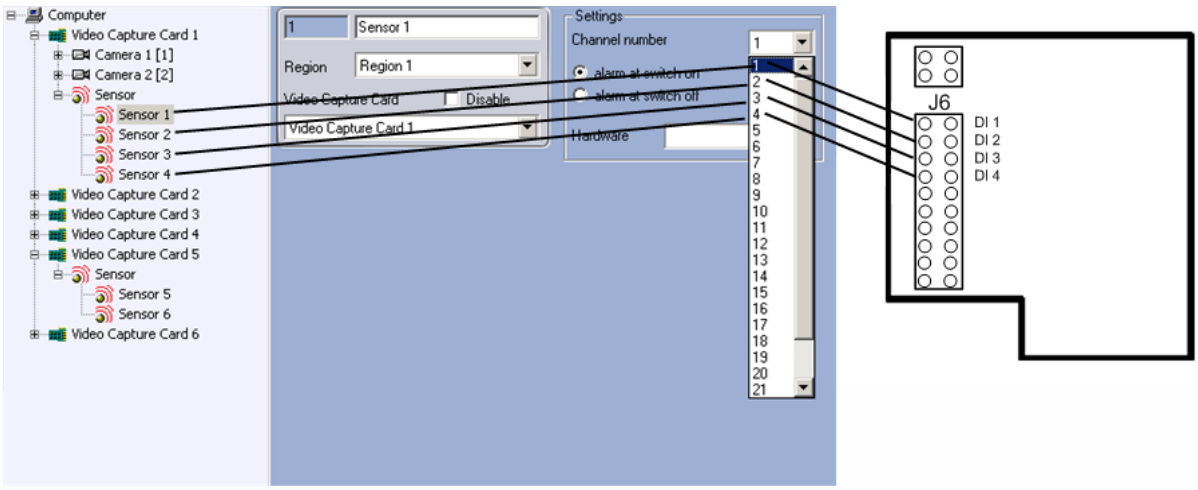


Figure 8.26-5. An example of the channel numbers configuration for the sensor connection to the second (next) 4/4 I/O card installed on the FS-6 or FS-16 video capture card (4 digital-analogue converters, represented by 4 Sensor objects)

8.26.3 Setting up the Intellect system for using the 16/4 I/O card

Up to 16 Sensor objects can be created under the Video Capture Card object, if the 16/4 I/O card is installed.

All Sensor objects representing the ray-relays connected to the same card should be created under the Video Capture Card which the I/O card is installed on.

The position of the Sensor object in the object tree can be changed. The Sensor objects can be created under any Video Capture Card object, representing any of the digital-analogue converters of the video capture card, where the I/O card is installed.

In case, in DI/DO card is installed on FS-8 video capture card, Ray objects should be created on the basis of video capture card object with 07 PCI-channel (Figure 8.26-6).

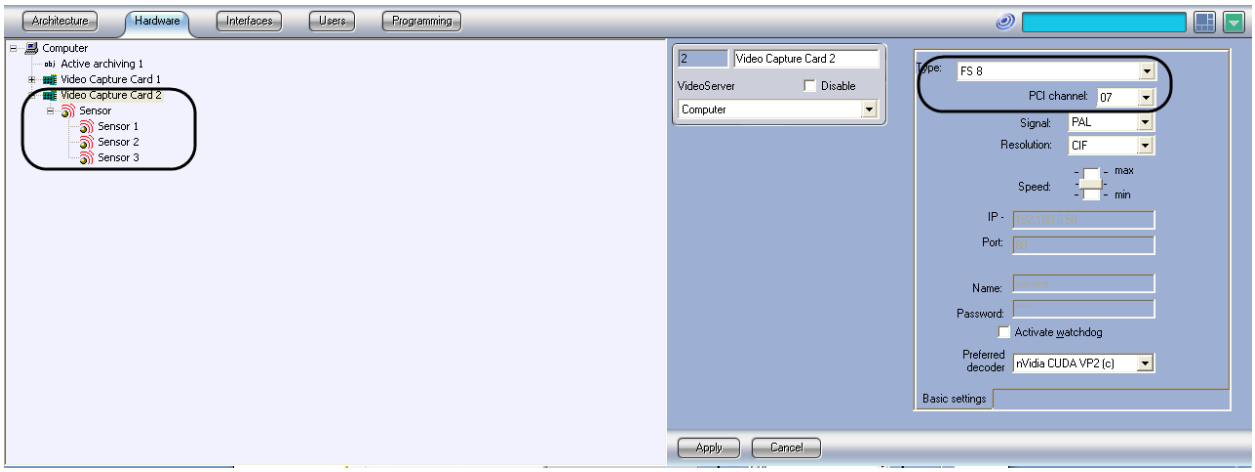


Figure 8.26-6 Connection the rays to FS8

To change the parent Video Capture Card object for a Sensor object, change the value of the Video Capture Card field in the settings panel of the Sensor object. The value of this parameter should match the number of the Video Capture Card object in the object tree, where the Sensor object should be placed. When the value of the Video Capture Card parameter in the settings panel is changed, the object moves to the corresponding object in the object tree.

Figure 8.26-7 shows an example of the positions of the Sensor objects in the object tree in the case where two FS-6 or FS-16 video capture cards, with 16 sensors connected to the I/O card are installed on the 1st video capture card and 2 sensors connected to the I/O card are installed on the 2nd card.

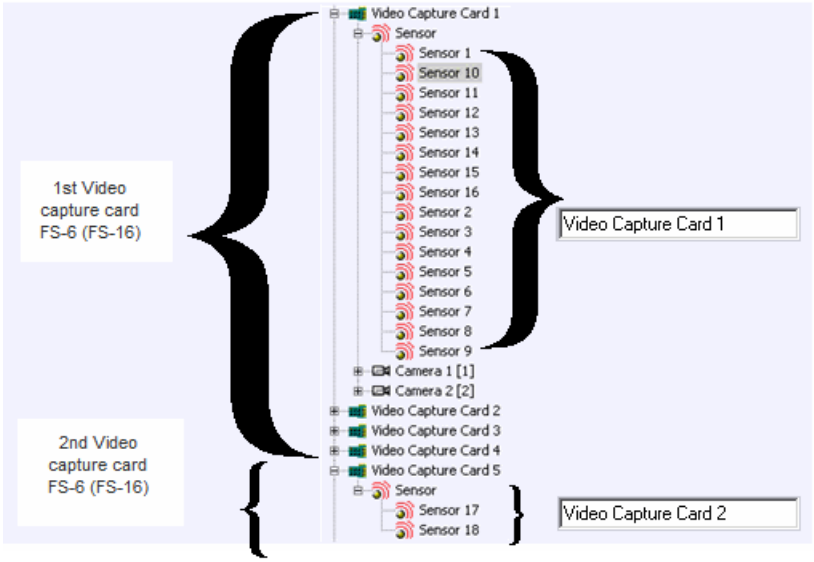


Figure 8.26-7. An example of the Video Capture Card parameters where there are two video capture cards with 16/4 I/O cards with 6 sensors

When setting up the Sensor objects, the channel numbers connecting the sensor to the I/O card should be specified according to the numbers of the DI pins of the socket, connecting the sensors to the card.

To change the channel numbers, use the Channel Number list in the settings panel of the Sensor object.

The 16/4 I/O cards allow connecting up to 16 sensor channels, according to the license key file.

Figure 8.26-8 shows an example of the channel numbers configuration of 16 sensors connected to one 16/4 I/O card, installed on the FS-6 or FS-16 video capture card.

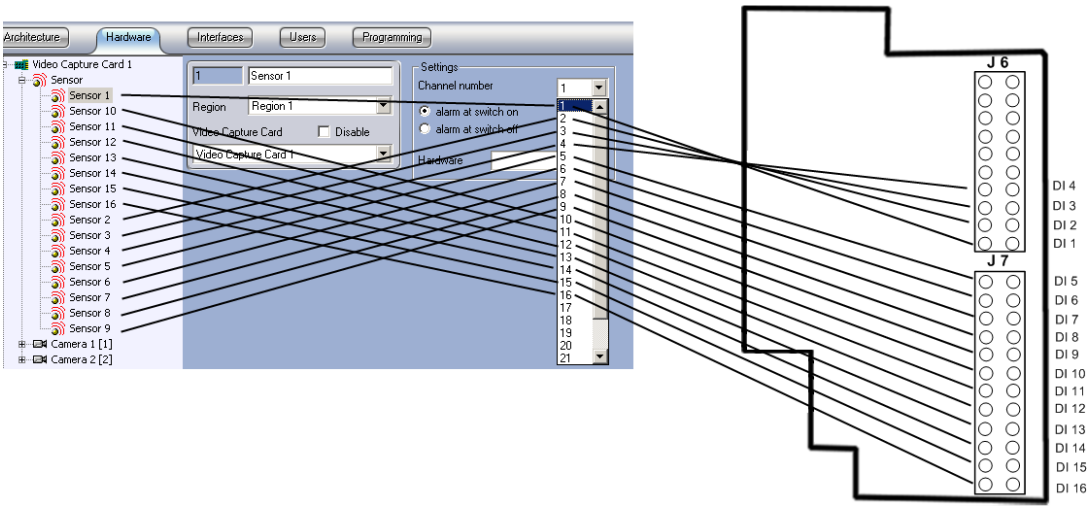


Figure 8.26-8. An example of the channel numbers configuration of the 16/4 I/O card installed on the FS-6 or FS-16 video capture card (4 digital-analogue converters, represented by 4 Sensor objects)

The channels of the second (next) 16/4 I/O card are numbered from 1 to 16 according to the DI pins of the socket, connecting the sensors to the card (Figure 8.26-9).

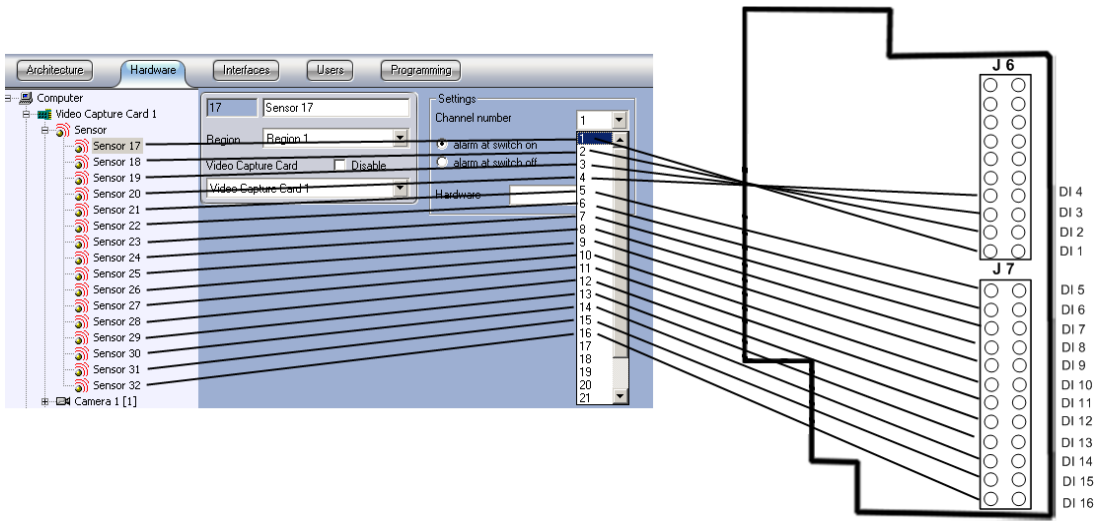


Figure 8.26-9. An example of the channel numbers configuration of the second (next) 16/4 I/O card installed on the FS-6 or FS-16 video capture card (4 digital-analogue converters, represented by 4 Sensor objects)

8.26.4 Creating and setting up the connection channel for the Sensor object

The Sensor object is created under the Video Capture Card object.

The main parameters of the Sensor object are created and set up in the following stages:

1. Open the Hardware tab of the System Settings window.
2. Create or select a Sensor object under the Video Capture Card object in the tree (Figure 8.26-10).

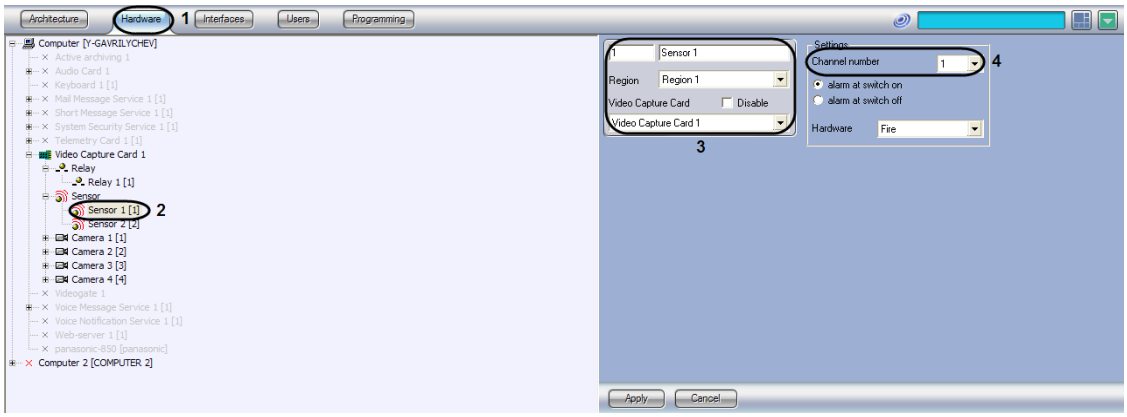


Figure 8.26-10. The Sensor object settings panel

3. Specify an id and name for the Sensor object, and choose the Video Capture Card object to become the parent of the sensor.

Note. When setting up the Sensor object, specify the video capture card with the digital-analogue converter, where the I/O card is connected.

4. Select the channel number matching the DI pin number of the I/O card socket, to which the sensor is connected.
5. Press the Apply button to save all changes made to the settings.

This completes the creation and setting up of the channel for the Sensor object connection.

8.26.5 Selecting the sensor activation mode

When setting up the Sensor object, its activation mode can be selected.

The sensor device represented by the Sensor object can be set up to activate on one of two cases: closing (switch on) or opening (switch off).

Note. Sensors, connected to IP devices Panasonic i-Pro, are activated only for closing.

When Alarm at Switch On mode is selected, the normal state of the sensor is open. When the sensor closes, it activates the sensor line and the corresponding actions are executed.

When Alarm at Switch Off mode is selected, the normal state of the sensor is closed. When the sensor opens, it activates the sensor line and the corresponding actions are executed.

To choose the activation mode for the Sensor object, do the following:

1. Open the Hardware tab of the System Settings window.
2. Choose a Sensor object under the Video Capture Card object in the tree (Figure 8.26-11).

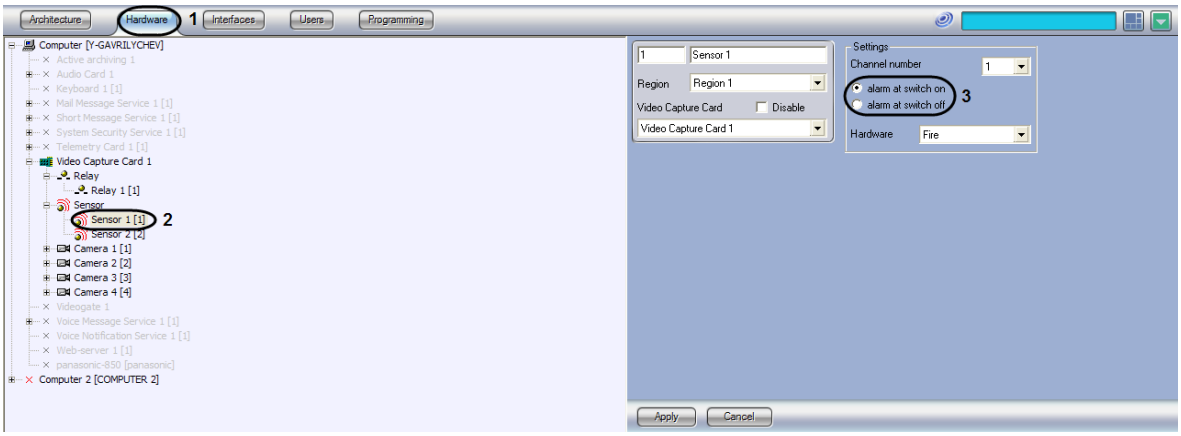


Figure 8.26-11. Selecting the activation mode of the Sensor object

3. Select one of the radio-buttons: Alarm at Switch On or Alarm at Switch Off. By default, Alarm at Switch On is selected.
4. Press the Apply button to save all changes made to the settings.

This completes the selection of the activation mode of the Sensor object

8.26.6 Selecting the sensing device of the Sensor object

When setting up the Sensor object, the type of sensing device used as a sensor can be specified. This is done using the Hardware parameter in the settings panel.

The Hardware parameter specifies the device symbol displayed on the interactive map. This parameter enhances the visual perception of the symbol on the map for the operator and allows the operator to take prompt action, if necessary.

Each type of sensing device is represented by a specific symbol on the map.

To choose the sensing device for the Sensor object, do the following:

1. Open the Hardware tab of the System Settings window.
2. Choose a Sensor object under the Video Capture Card object in the tree (Figure 8.26-12).

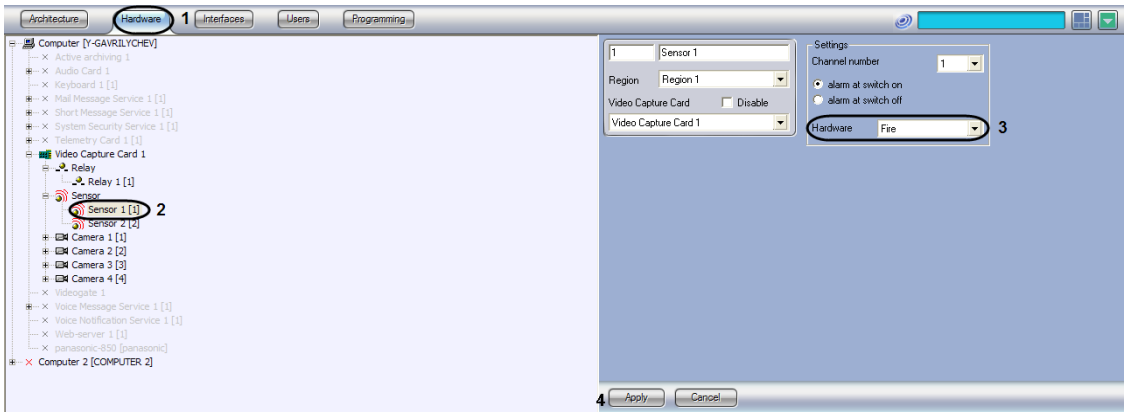


Figure 8.26-12. Selecting the type of sensing device for the Sensor object

3. Select the sensing device to be used as a sensor on the controlled object in the Hardware list field.
4. Press the Apply button to save all changes made to the settings.

This completes the setting up of the sensing device for the Sensor object.

The following types of sensing devices are available:

1. Infrared – motion detector.
2. Ceiling – a sensor mounted on the ceiling.
3. Glass – a sensor mounted on the window glass to detect glass breakage.
4. Heat – a sensor detecting area temperature changes.
5. Window – a sensor installed at a distance from the window to detect window glass breakage.
6. Smoke – a sensor detecting smoke in the area.
7. Contact – a contact sensor detecting opening and closing of doors, windows, etc.

9 The Report System

9.1 General information

The Report system of the Intellect software package is designed for the following purposes:

1. Creating and printing the reports on the events registered in the surveillance system and on the actions taken in response to these events.
2. Viewing the video archive starting from the time of the event registered in the report.

The Report system supports the following functionality:

1. Selecting the objects (or groups of objects) from those available for reporting (objects include hardware and software modules).
2. Selecting the events to be included in the report for each object selected.
3. Creating the report templates.
4. Creating the screen reports.
5. Creating the printed reports.
6. Exporting the printed report to a file.
7. Viewing the video archive from the screen report using the surveillance window or converter.exe utility.
8. Handling the cameras of the ATM-Intellect system (automatic banking machine surveillance system) using the X.25 protocol.

9.1.1 Starting and closing the Report system

9.1.1.1 *Starting the Report system*

The Report system can be started in the following ways:

1. Using the Windows Start button: Click the Start button, then select Programs, then Intellect, then Report system (Figure 9.1-1).

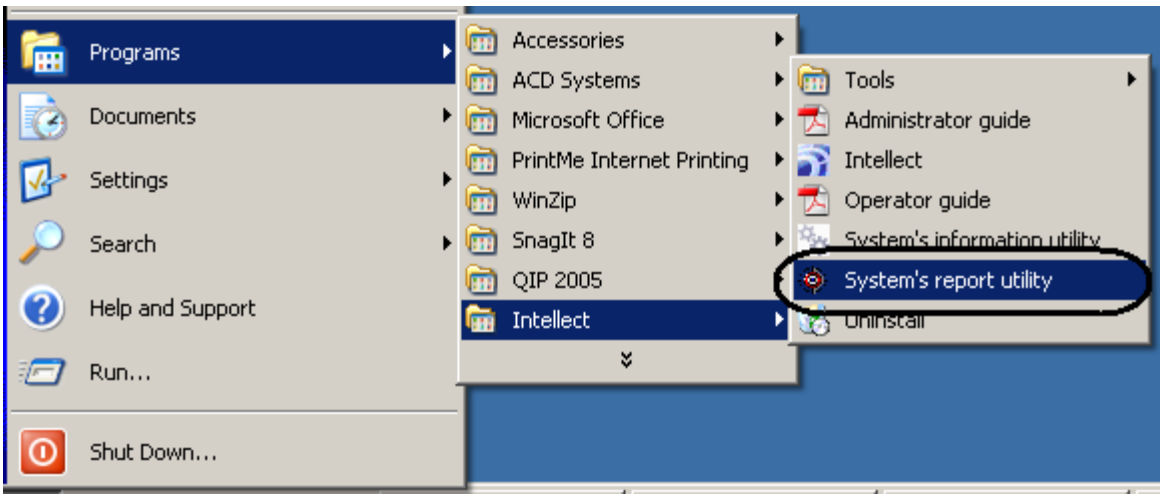


Figure 9.1-1. Starting the Report system using the Start button

2. Using the program folder of the Intellect software: open the Report folder in the program folder of the Intellect system, then double-click the report.exe file (Figure 9.1-2).

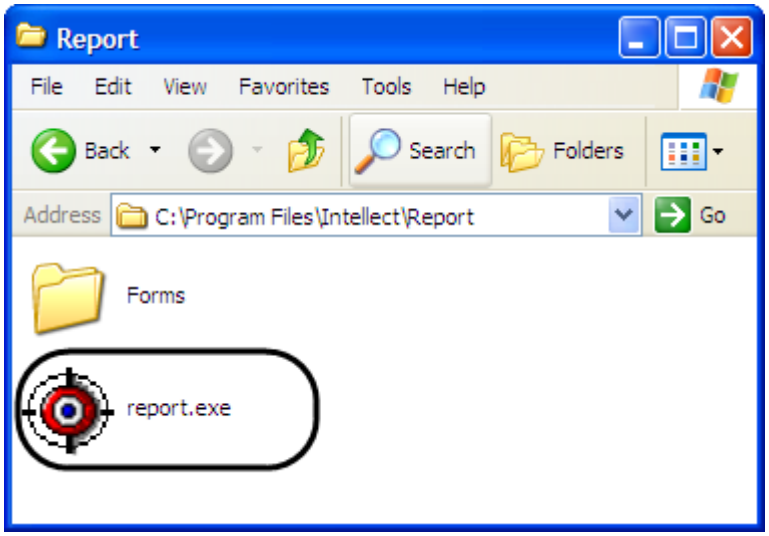


Figure 9.1-2. Starting the Report system from the Intellect program folder

The Report system will start.

The notification window will appear, indicating that the system configuration is being read from the database (Figure 9.1-3).

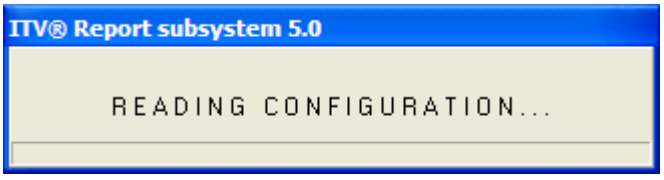


Figure 9.1-3. Starting up of the Report System

9.1.1.2 *Closing the Report system*

The Report system is closed using the standard Windows procedure for closing applications. Click the Close button in the top right corner of the window (Figure 9.1-4).

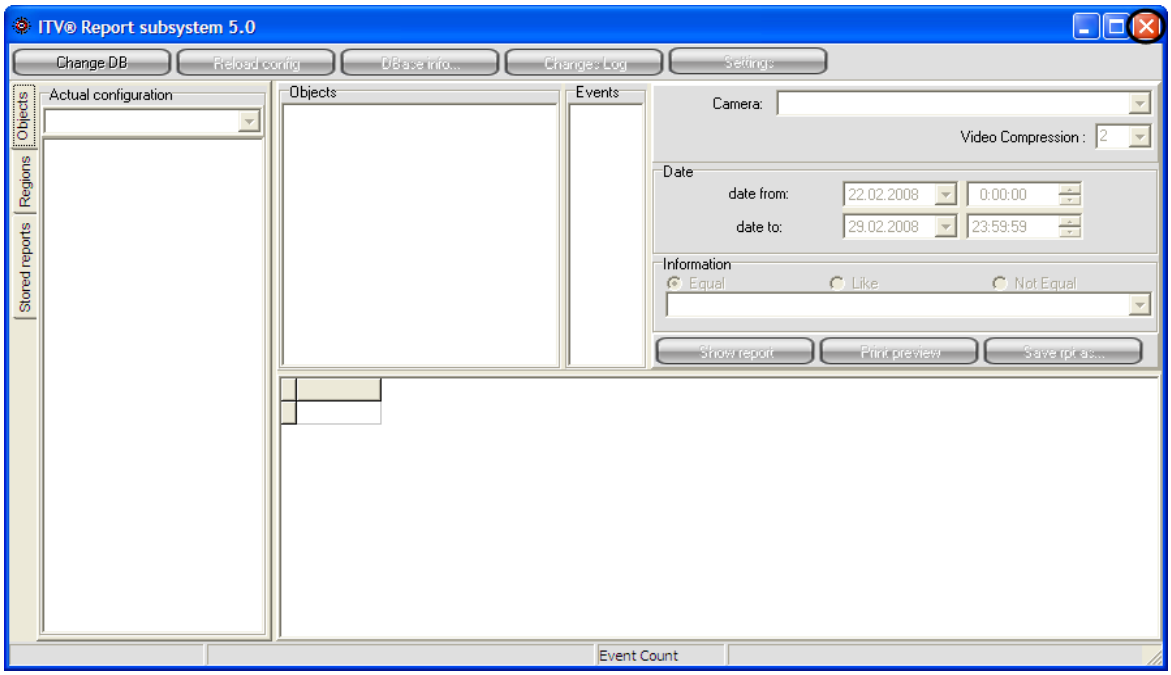


Figure 9.1-4. Closing the Report system

The Report system window will close.

9.1.2 The Report window

The Report system window contains the following sections: the main control panel, the report creation panel, and the report view panel.

Figure 9.1-5 shows an example of the Report window.

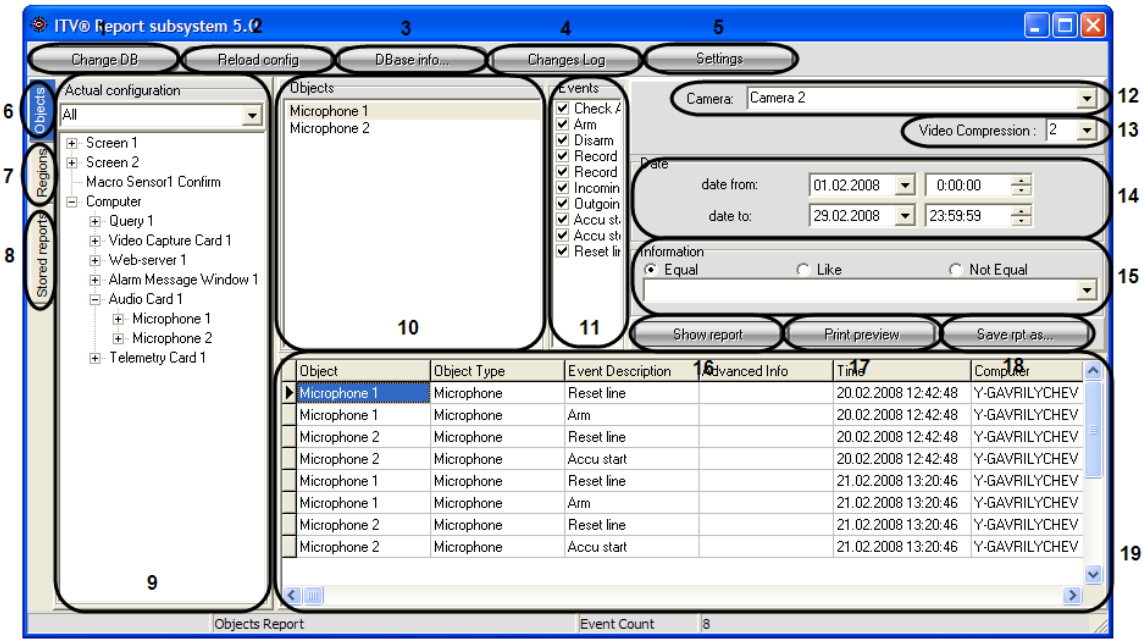


Figure 9.1-5. An example window of the Report system

The Report window includes the following interface elements (numbered according to the screenshot on Figure 9.1-5):

a. The Change DB button allows changing the current configuration database of the Intellect system.

b. The Reload Config button reloads the system configuration and registered events from the current database.

c. The DBase Info button opens the Base Info window containing the following information about the events archive: the dates of the first and last registered event, the archive depth and the total number of events in the database.

d. The Changes Log button allows viewing the information on the changes made to the Intellect configuration.

e. The Settings button opens the OptionsForm window allowing to introduce new Events Log parameter settings.

f. The Object button opens the Actual Configuration tab allowing to select the objects to become the sources of the events to be included in the report.

g. The Regions button opens the Regions tab allowing to select the objects in the chosen region. The reports are then created on these objects.

h. The Shared Reports button opens the tab for selecting the existing report templates. A report template is a list of objects and events to be included in the report.

i. The Actual Configuration tab allows selecting the objects to become the sources of the events to be included in the reports.

This tab opens when the Objects button is clicked (Figure 9.1-6).

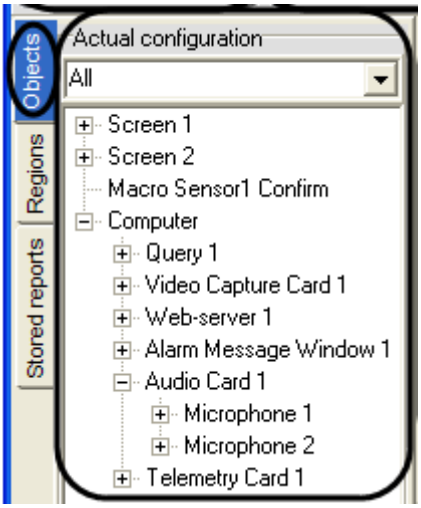


Figure 9.1-6. Actual Configuration tab

The Regions button opens the Regions tab allowing to select the objects in the chosen region. The reports are then created based on these objects (Figure 9.1-7).

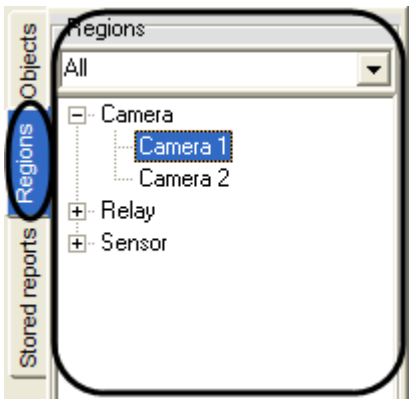


Figure 9.1-7. The Regions tab

The Shared Reports button opens the tab showing the list of all existing report templates. A report template is a list of objects and events to be included in the report (Figure 9.1-8).

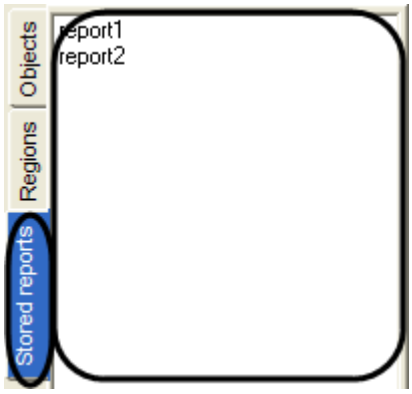


Figure 9.1-8. The list of report templates

j. The list of selected objects to create the reports for.

k. The list of available events for the object selected in step 10. Select the events to be included in the report. By default, all events of the chosen object are selected.

l. The Camera list allows selecting which camera's video recording will play on starting the playback for any event in the report. The list includes all cameras in the surveillance system.

m. The Video Compression list allows setting the compression level of the video played in the Report system.

n. The Date group allows specifying the time interval for the report.

o. The Information group allows setting the string criteria to be searched for in the Advanced Info column of the report (see p. 19). The Information field group contains the following fields:

a. Text field. Enter the character string to be searched for.

b. Equal radio-button. When selected, the system looks for exact case-sensitive matches only.

c. Like radio-button. When selected, the system looks for the rows where the Advanced Info column contains the search string, case-sensitive.

d. Not Equal radio-button. When selected, the system looks for the rows where the Advanced Info column does not match the search string, case-sensitive.

p. The Show Report button. Creates the screen form of the report (see the Creating and using the screen report section).

q. The Print Preview button. Creates the printed report (see the Creating and using the printed report section).

Note. If the screen report has not been created before the printed report is activated, the screen report is automatically created.

r. The Save Rpt As button. Saves the report template, i.e. the list of objects (see p. 10) and corresponding events (see p.11).

s. The screen report panel. Shows the screen report. The panel includes the following columns:

1. Object – the name of the object where the event occurred.
2. Object type – the type of the object where the event occurred.
3. Event Description – the name of the event registered by the system.
4. Advanced Info – additional information on the event.
5. Time – date and time when the event started.
6. Computer - the name of the computer that registered the event.

9.1.2.1 *The OptionsForm window*

The OptionsForm settings window allows specifying additional parameters for the Report system: archive viewing mode, database connection, etc. To open the OptionsForm window, click the Settings button in the Report window (see the Report Window section).

Figure 9.1-9 shows the OptionsForm window.

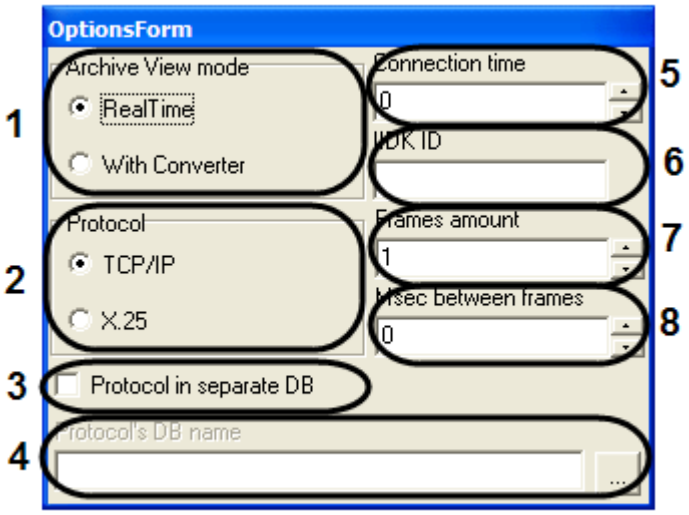


Figure 9.1-9. OptionsForm window

The OptionsForm window includes the following interface elements (numbered according to the screenshot in Figure 9.1-9):

a. Archive View Mode group allows selecting the mode of playing the recordings from the video archive in the Report system:

a. The RealTime radio-button activates the playback via the viewing window of the Intellect system.

Note. This option is available if the Intellect software is currently running on the server where the archive is stored.

b. The With Converter radio-button activates the playback via the Converter.exe program.

b. The Protocol group allows to select the data exchange protocol for the connection with the videoserver:

1. TCP/IP protocol;
2. X.25 protocol .

NOTE. This protocol is used in the ATM-Intellect system (banking machine surveillance system).

c. The Protocol in Separate DB checkbox allows connecting a separate event database.

NOTE. This checkbox should be checked if the table with the registered events (the PROTOCOL table) is stored in a separate database outside of the Intellect system.

d. The Protocol's DB Name field allows to select the name of the database.

To select the database, click the "..." button. The Data Link Properties window will open. Specify the database type, its pathname and access parameters (similar to changing the current database of the Report system).

NOTE. This field is enabled if the Protocol In Separate DB checkbox is checked.

e. The Connection Time field sets the waiting time for the connection with the videoserver.

f. The IIDK_ID field sets the id of the IIDK Interface object in the system settings. This object is used to receive the video feed from surveillance cameras of the ATM-Intellect system via the X.25 protocol.

g. The Frames Amount field sets the total number of frames requested from the videoserver when working via the X.25 protocol.

h. The Msec Between Frames field sets the time delay between the frames received from the banking machine archive. This parameter helps decrease the traffic in the communications channels working via the X.25 protocol.

9.1.3 Connecting to databases

The Report system can be connected to another database of the Intellect system. It can also be connected to the events database, if such database exists.

9.1.3.1 *Connecting to the main database of the Intellect system*

By default, the Report system loads the data from the main database of the Intellect system on the local computer. However, the database used by the Report system can be changed.

To change the main database used in the Report system, click the Change DB button in the Report window (Figure 9.1-10).

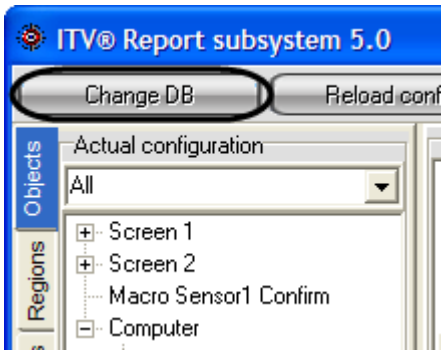


Figure 9.1-10. The Change DB button allowing to connect to the Intellect database

The Data Link Properties window will open allowing to select the name and access parameters of the database to connect to (Figure 9.1-11).

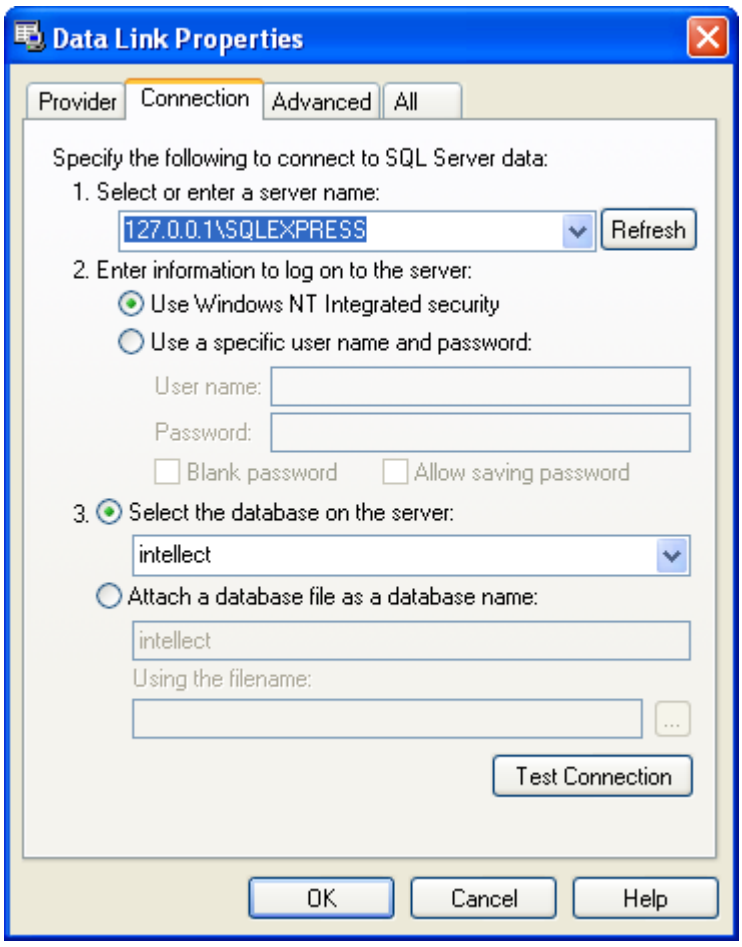


Figure 9.1-11. The Data Link Properties window

The Intellect system uses two types of database: SQL and Access. The connection procedure for each database type is described below.

9.1.3.1.1 Selecting an Access database and setting up the connection

This section describes the connection to an Access database as the main Intellect database.

To connect to an Access database, open the Data Link Properties window. To set the main database in the Access format, do the following:

a. Select the Microsoft Jet 4.0 OLE DB Provider line in the Provider tab and click the Next button or move to the Connection tab (Figure 9.1-12).

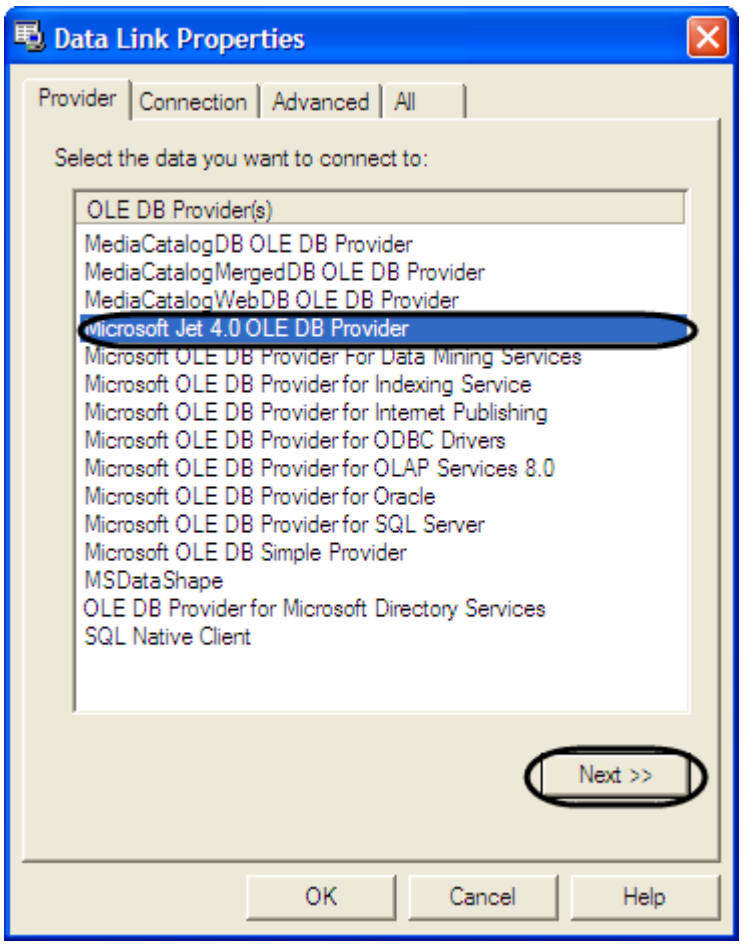


Figure 9.1-12. Selecting the Microsoft Jet 4.0 OLE DB Provider option

b. Select or enter the pathname of the database file in the Select or Enter a Database Name field of the Connection tab. To enter the pathname, do one of the following:

a. manually enter the pathname (Figure 9.1-13);

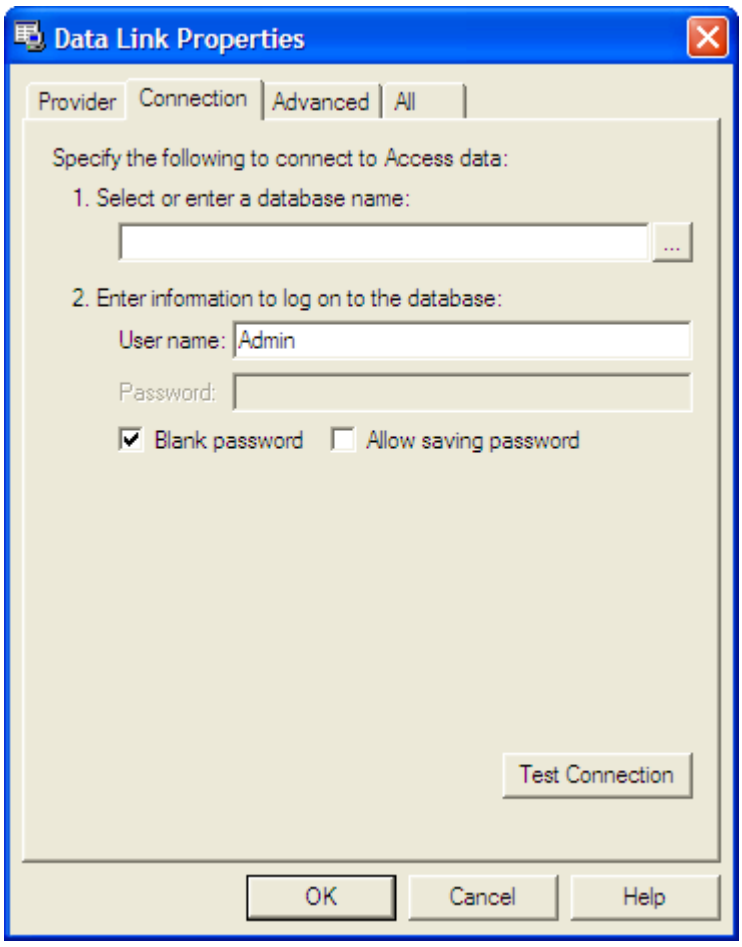


Figure 9.1-13. Selecting the pathname of the main database file

b. Click the "…" button to open the standard dialog box for file selection (Figure 9.1-14).

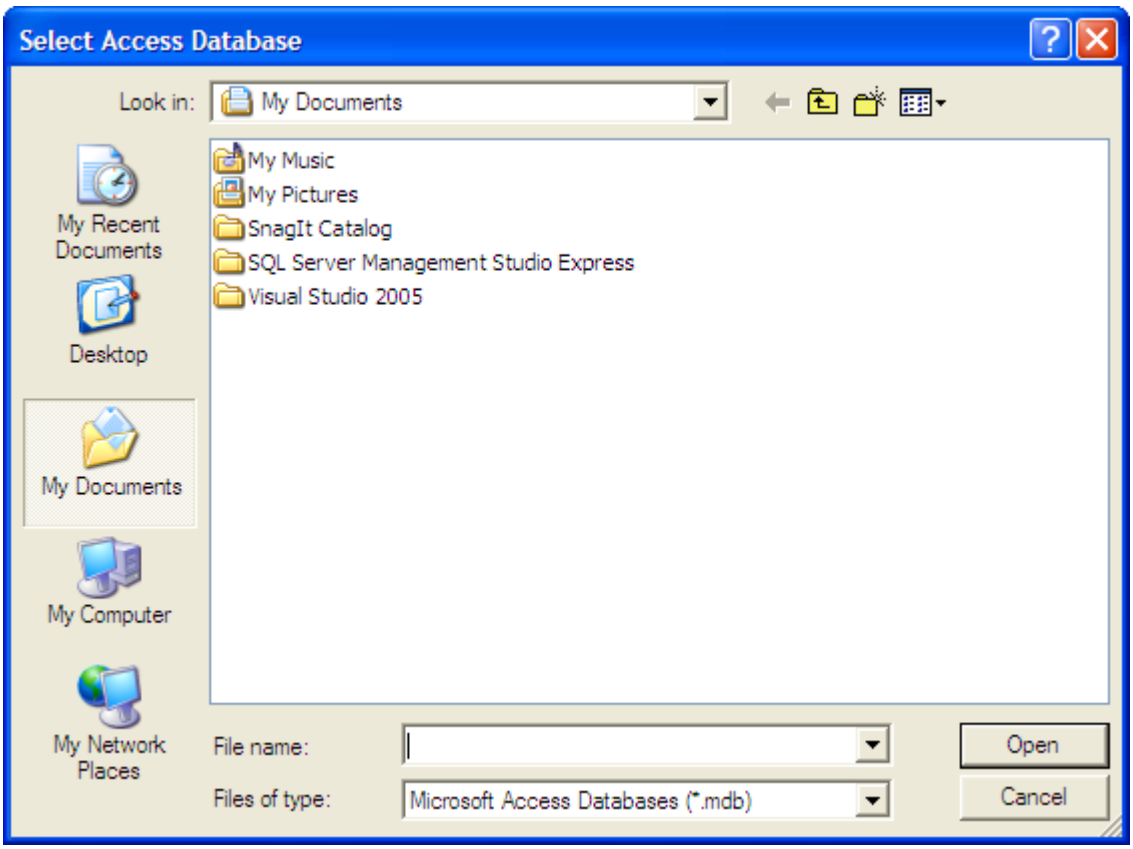


Figure 9.1-14. Selecting the database file in the file selection dialog box

c. To connect to the main Access database located on the remote computer, the pathname should have the following format:

1. \\<IP address (or name) of the computer⇨\\Intellect\Data\intellect.mdb (Figure 9.1-15).

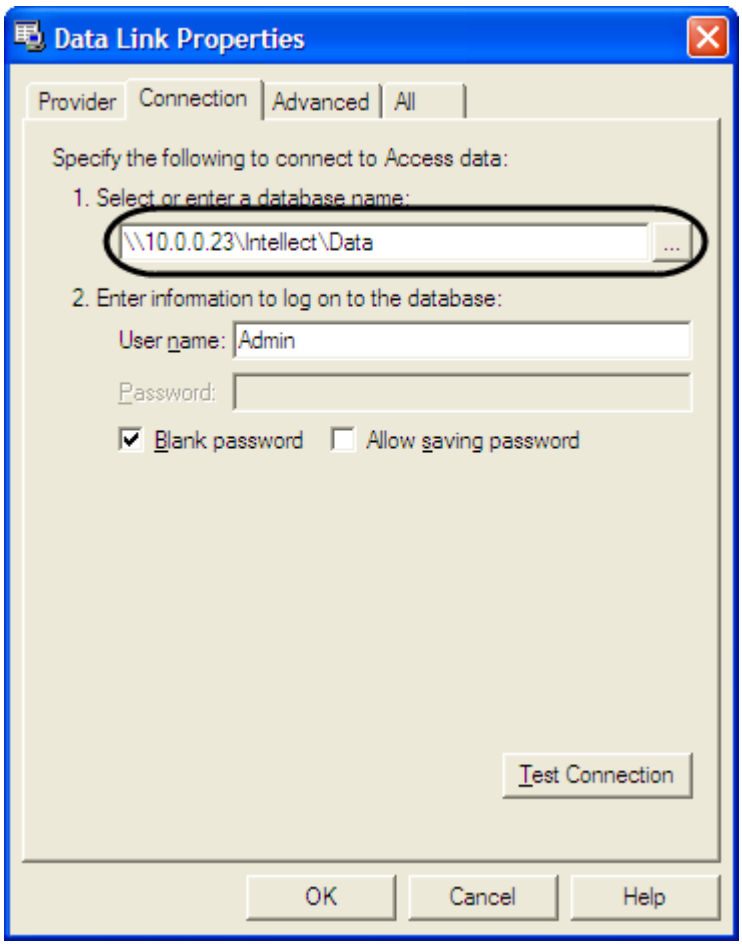


Figure 9.1-15. Connecting to an Access database on a remote computer

d. Test the connection to the database. To do this, click the Test Connection button (Figure 9.1-16).

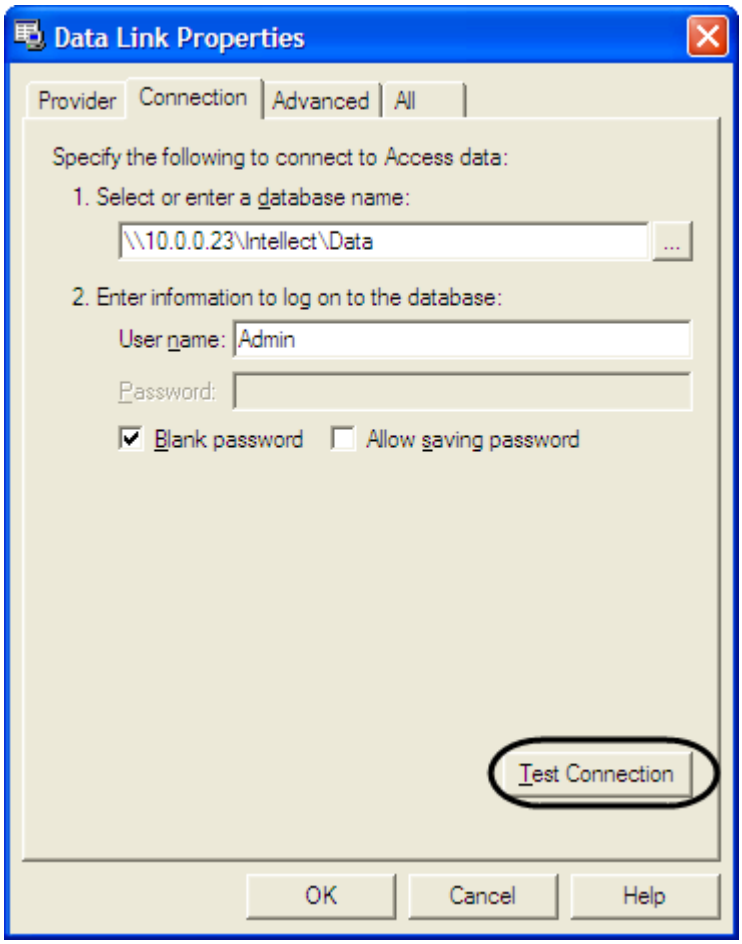


Figure 9.1-16. Testing the connection to the Access database

e. The information box with the text “Test connection succeeded” will appear in case of successful connection (Figure 9.1-17).

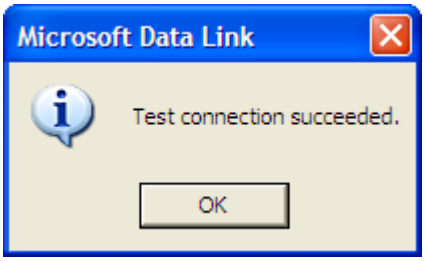


Figure 9.1-17. Test connection succeeded

f. An information box with the error description will appear in case of a connection error.

Example: If an invalid database address has been supplied, the following warning will open:

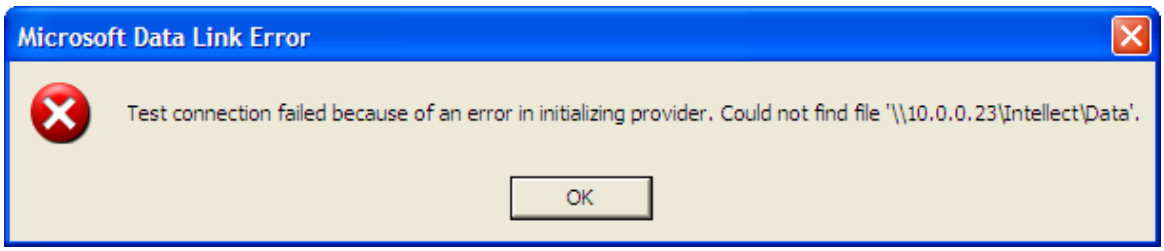


Figure 9.1-18. Database connection error due to invalid address

NOTE. In case of connection error, check the connection parameters in the Provider and Connection tabs.

g. In case of a successful test, confirm the database change by clicking the OK button (Figure 9.1-19).

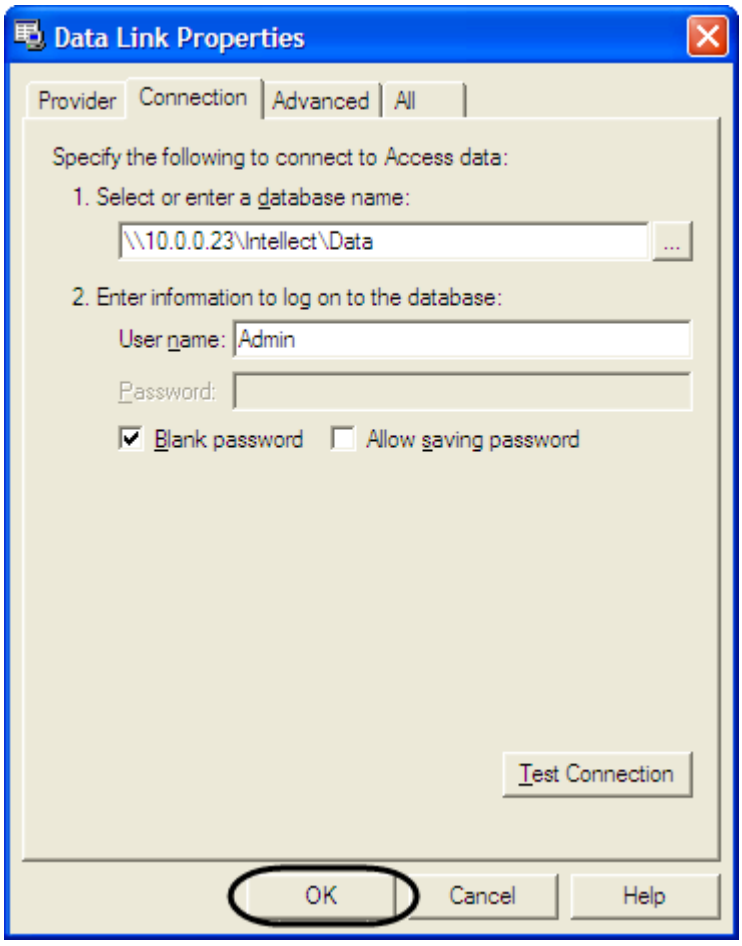


Figure 9.1-19. Confirming the changes

This completes the selection of the main database in Access format. The information from the selected database is now loaded into the Report system.

9.1.3.1.2 Selecting an SQL database and setting up its parameters

This section describes the connection to a Microsoft SQL database as the main Intellect database.

To connect a Microsoft SQL database, open the Data Link Properties window. To set the main database in Microsoft SQL format, do the following:

a. Select the Microsoft OLE DB Provider for SQL Server line in the Provider tab and click the Next button or move to the Connection tab (Figure 9.1-20).

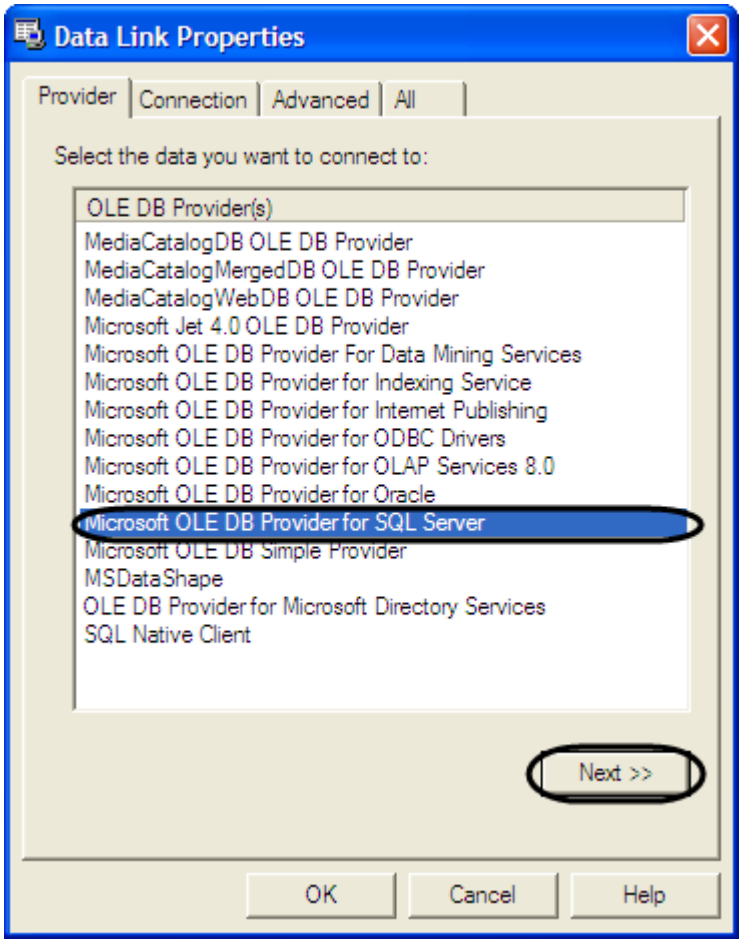


Figure 9.1-20. Selecting the Microsoft OLE DB Provider for SQL Server option

b. Specify the name of the database SQL server in the Connection tab. This can be done using the Select or Enter a Server Name field (Figure 9.1-21).

To enter the SQL server name, do one of the following:

a. manually enter the name of the SQL server of the main Intellect database in the Select or Enter a Server Name field (Figure 9.1-21).

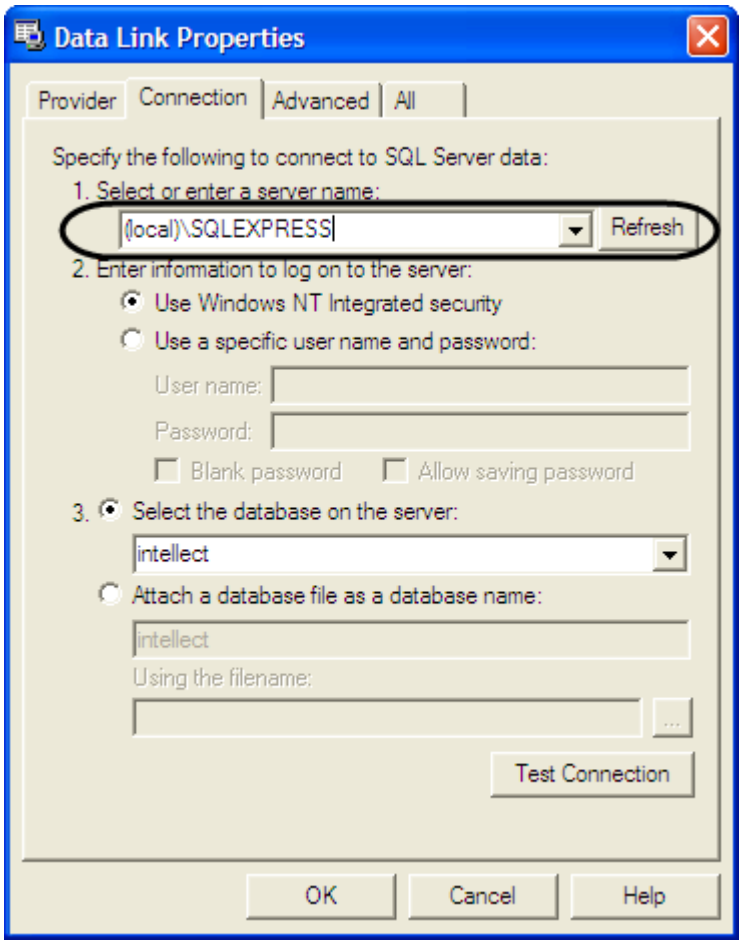


Figure 9.1-21. Entering the name of the SQL server

b. select the SQL server in the drop-down list of all available SQL servers. The list opens by clicking the button (Figure 9.1-22).

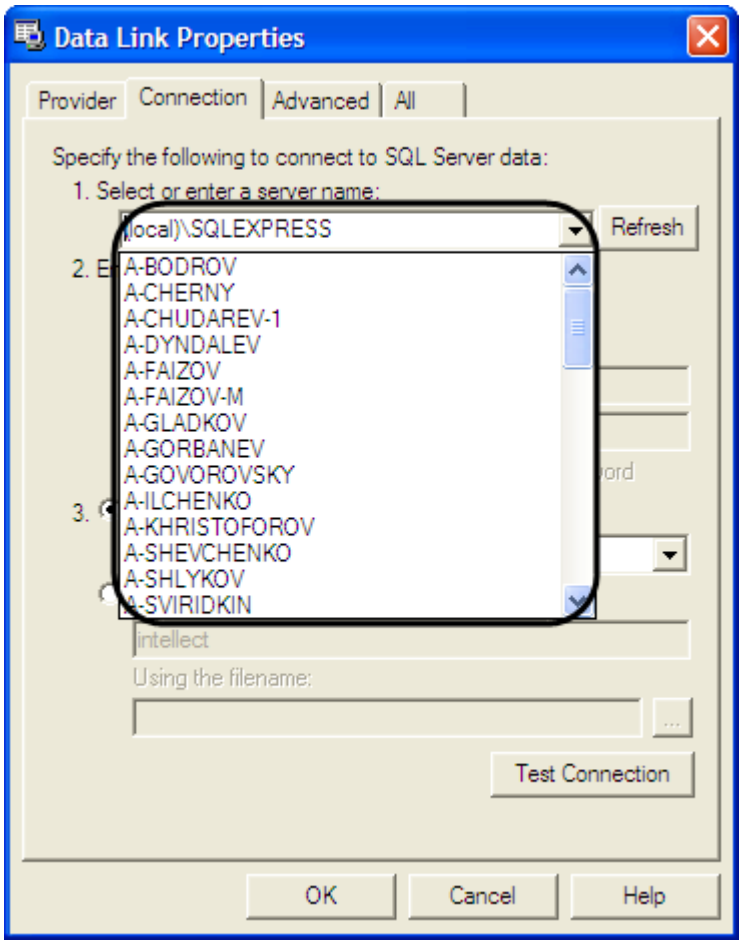


Figure 9.1-22. Selecting the SQL server from the list of available servers

NOTE 1. By default, the local server is selected named <local>\SQLEXPRESS.

NOTE 2. To refresh the list of available servers, click the Refresh button next to the list field.

c. Specify the authorization parameters for logging onto the SQL server. The following options are available (Figure 9.1-23):

The Use Windows NT Integrated Security radio-button. The Windows login information is used for authorization on the SQL server.

NOTE. Used mostly to connect to the local SQL server.

1. The Use Specific User name and Password radio-button. The specific user name and password are used to connect to the SQL server.

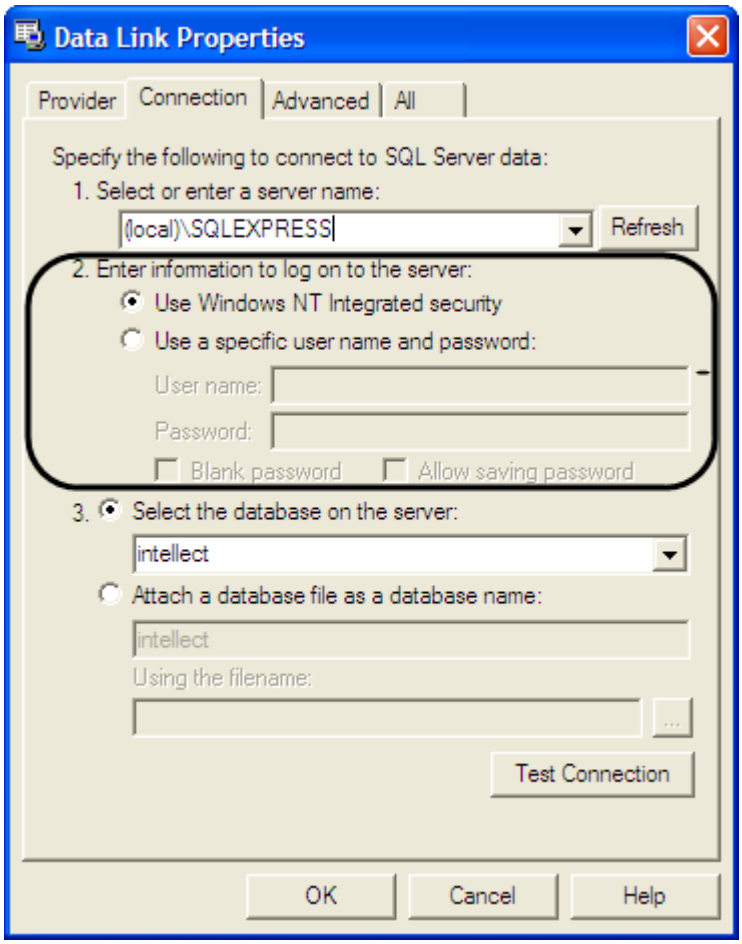


Figure 9.1-23. Selecting the SQL server authorization parameters

2. When the Use Specific User name and Password radio-button is selected, enter the information into the following fields: User Name and Password.

NOTE. By default, the following information is set up during Intellect software installation: user name "sa", password "itv" (see the Intellect Software Installation section).

Note. By default while installing the Intellect complex, the user(login) «sa» and one of the following passwords(see. Installing the Intellect complex) are set for authorization on SQL server

1. *«ITV» - when installed on OS Windows XP;*
2. *Administrator password SQL Server (is registered while installing SQL Server) – when installed on OS Windows Server 2003, Windows Vista, Windows Server 2008.*

When the Use Specific User name and Password radio-button is selected, the Blank Password and Allow Saving Password checkboxes become enabled (Figure 9.1-24).

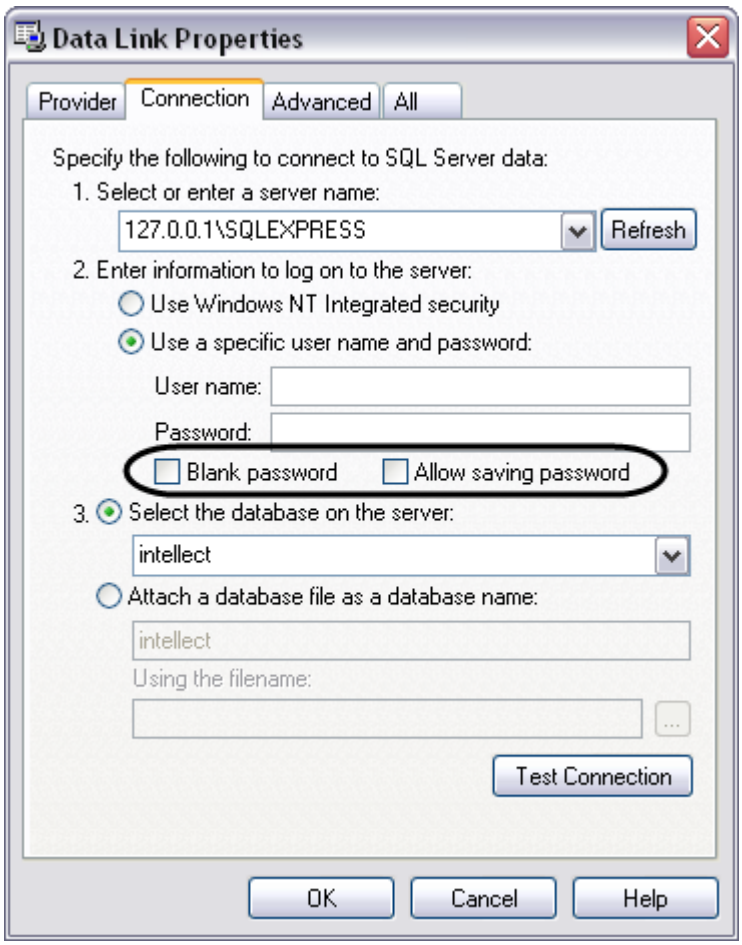


Figure 9.1-24. Selecting the SQL server authorization parameters

The Blank Password checkbox allows to enable connection to the SQL server with no password.

The Allow Saving Password button saves the password for the next connection to the SQL server.

d. Select the database to be used as main in the Select the Database on the Server drop-down list. To open the list of available databases on the SQL server, click the button (Figure 9.1-25).

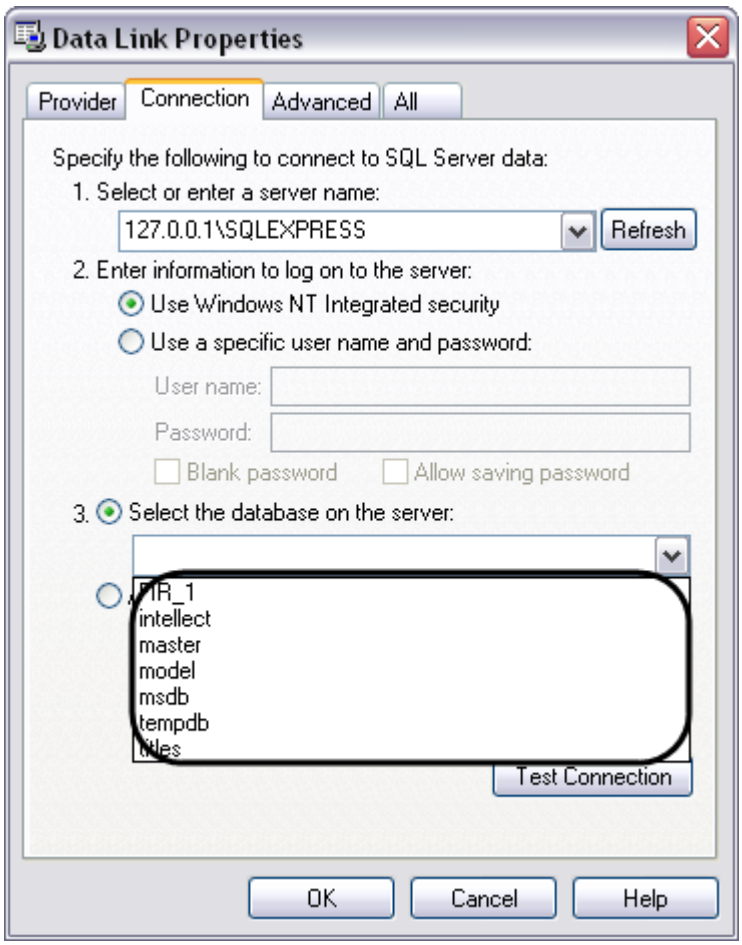


Figure 9.1-25. Selecting the database on the SQL server

NOTE. If necessary, the name of the database to connect to can be entered in the Attach Database File as Database Name field, or in the Using the Filename field (Figure 9.1-26).

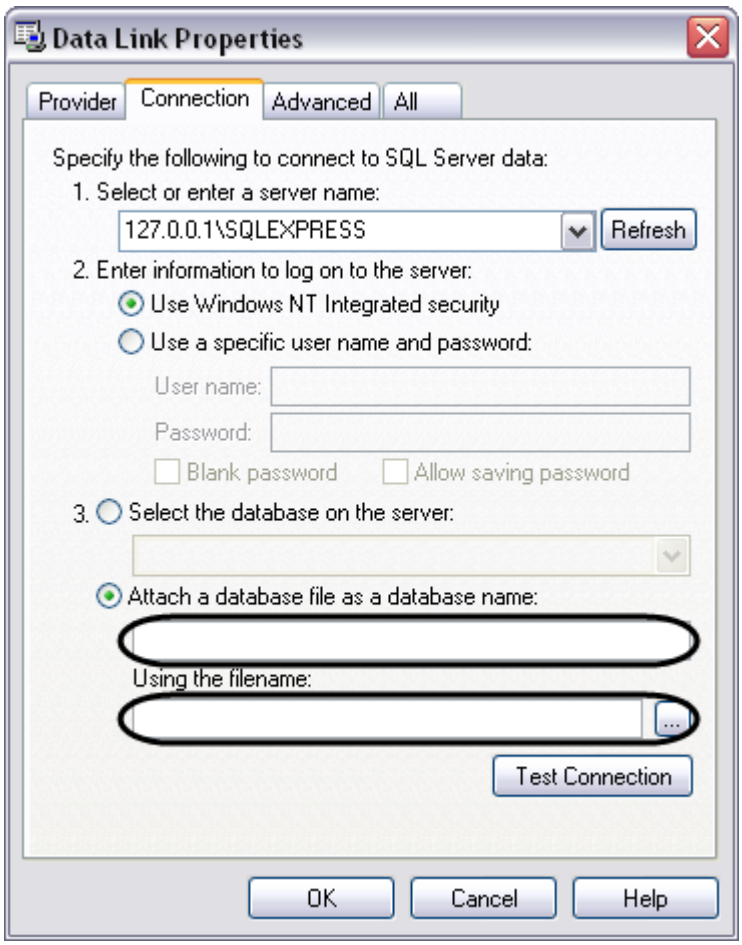


Figure 9.1-26. Additional ways of database selection

e. Test the connection to the SQL server by clicking the Test Connection button (Figure 9.1-27).

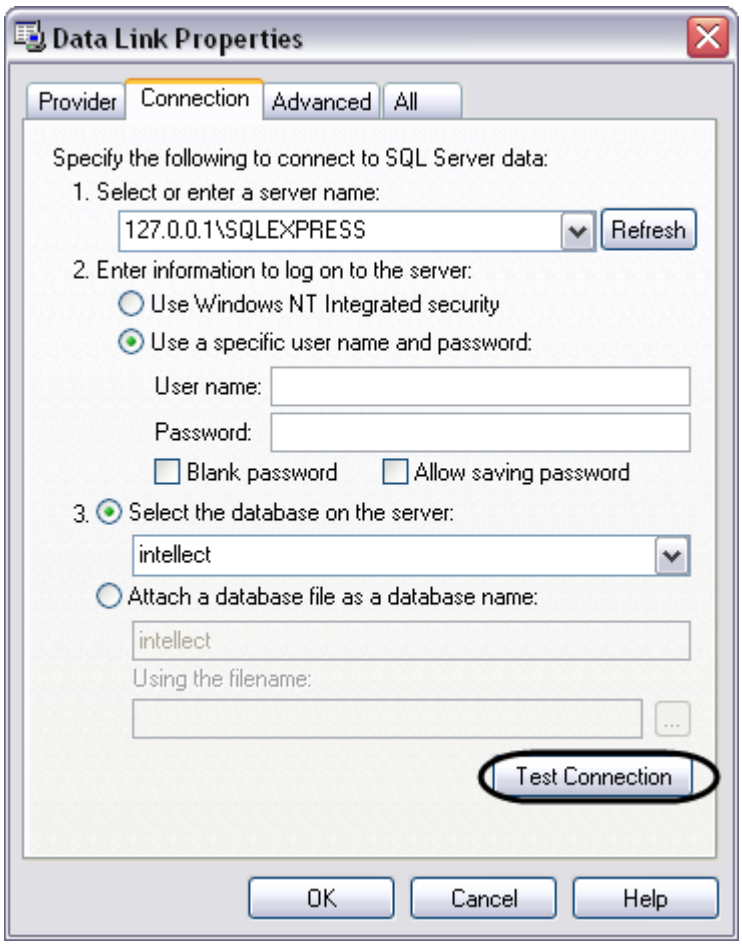


Figure 9.1-27. Testing the connection to the database on the SQL server

The information box showing the message "Test connection succeeded" will appear in case of successful connection (Figure 9.1-28).

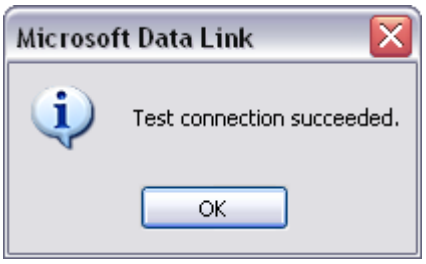


Figure 9.1-28. Test connection succeeded

An information box with the error description will appear in case of connection error.

NOTE. In case of connection errors, check the connection parameters in the Provider and Connection tabs.

f. In case of a successful test, confirm the database change by clicking the OK button (Figure 9.1-29).

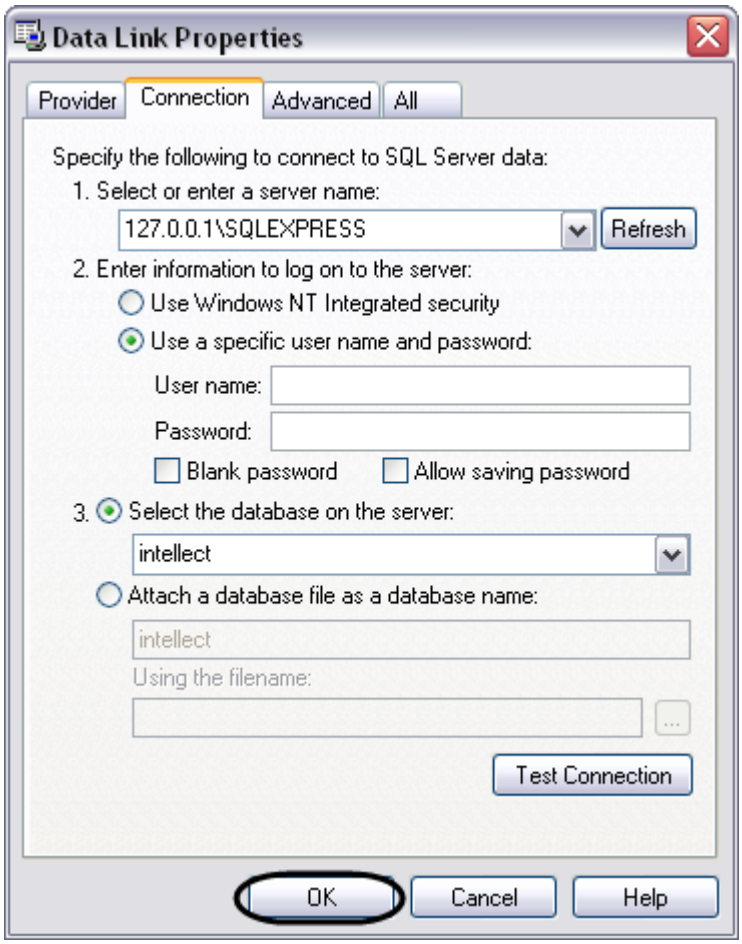


Figure 9.1-29. Confirming the changes

This completes the selection of the main database in Microsoft SQL format. The information from the selected database is now loaded into the Report system.

9.1.3.2 *Connecting to the Events Log (PROTOCOL table)*

By default, the information on registered events is stored in the PROTOCOL table in the main database. However, there is an option to set up the events to be logged into a separate events database, that is, the PROTOCOL table to be separate from the main database. The creation of the separate events database is described in the corresponding sections.

To connect the events database to the Report system, do the following:

1. Click the Settings button in the main Report system window to open the OptionsForm window (Figure 9.1-30).

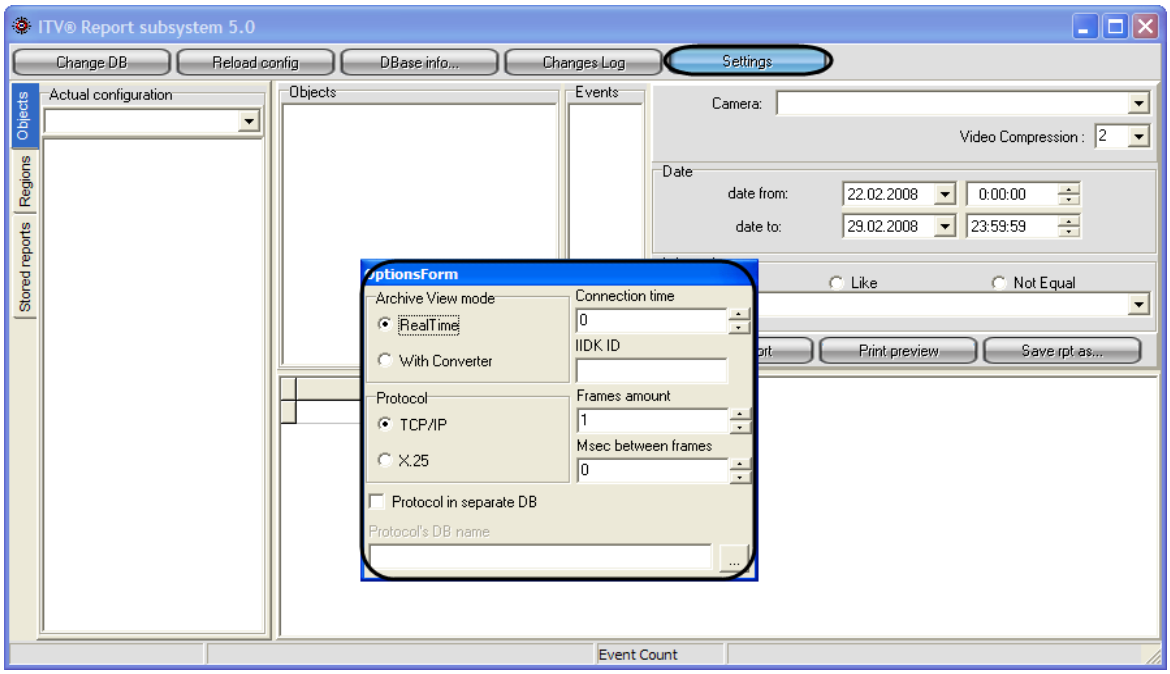


Figure 9.1-30. Opening the OptionsForm window

2. Check the Protocol in Separate DB checkbox to enable connection to a separate event database.

Specify the name of the database in the Protocol's DB Name field.

3. To select the events database, click the ... button (Figure 9.1-31). The Data Link Properties window will open. Specify the type of events database, its pathname and access parameters (similar to changing the main database of the Report system).

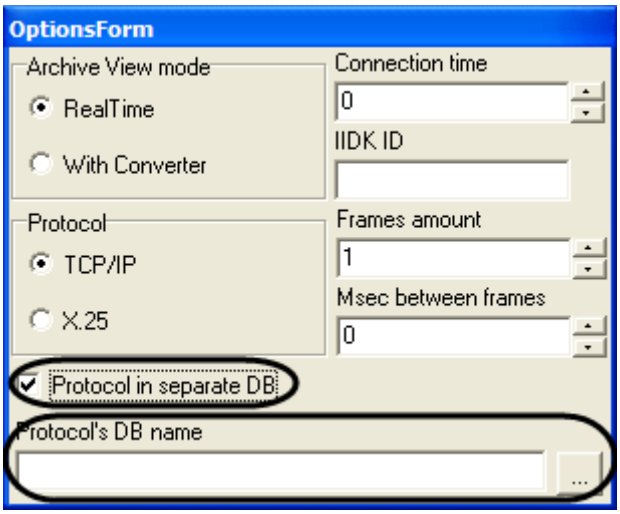


Figure 9.1-31. Selecting the events database

4. Press the Escape key on the keyboard to close the OptionsForm window.

This completes the selection of the events database in the Report system. The information from the selected database is now loaded into the Report system.

9.1.4 Manual loading of the configuration and registered events from the database

The system configuration and registered events are loaded from the database into the Report system in the following cases: Report system start-up, connection to the database, changing the database.

The configuration and events database can be loaded manually, as well. To reload the configuration and events database, click the Reload Config button on the main control panel of the Report window (Figure 9.1-32).

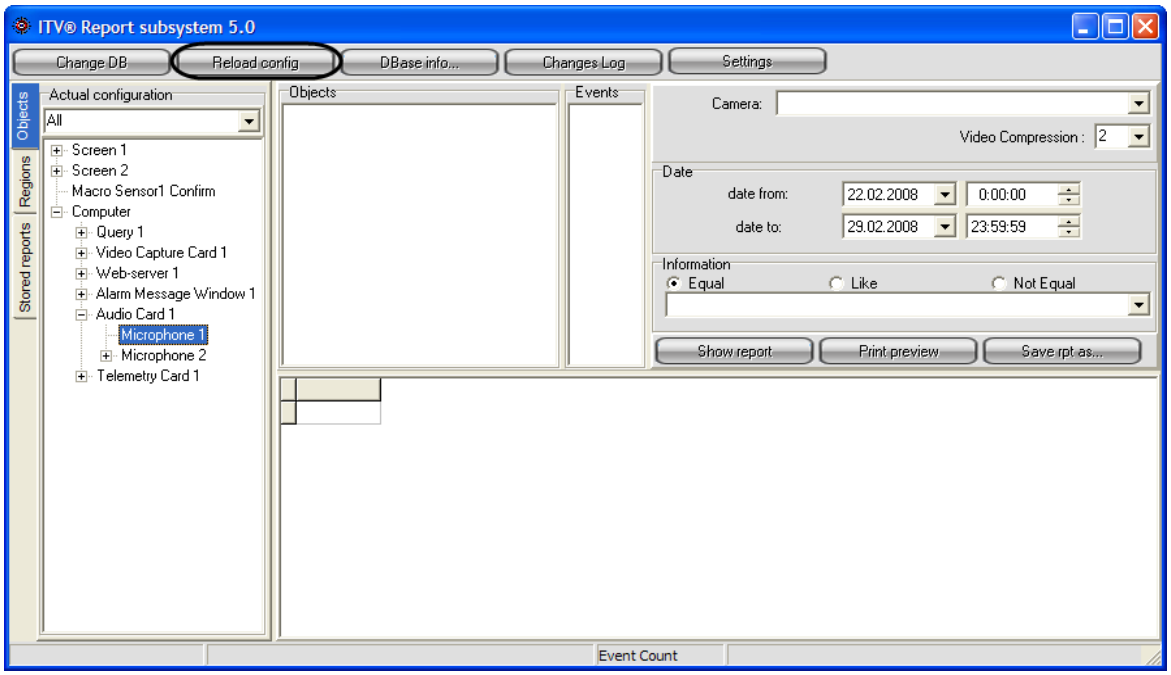


Figure 9.1-32. The Reload Config button reloads the configuration and events data

The object tree, the regions list, the report templates list, and the registered events list will be refreshed according to the new system configuration.

9.1.5 Viewing the general information on the events in the database

To view the general information on the events stored in the current database, click the DBase Info button on the main control panel (Figure 9.1-33).

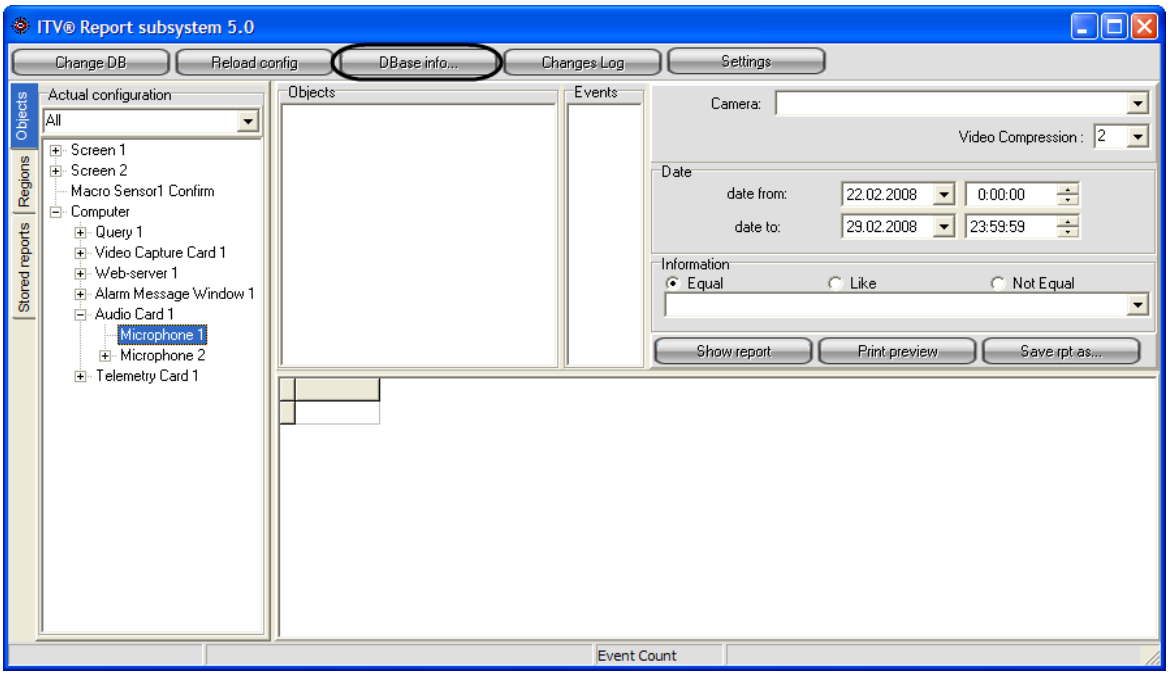


Figure 9.1-33. The DBase Info button

The Base Info information box will open showing the general information about the database (Figure 9.1-34).

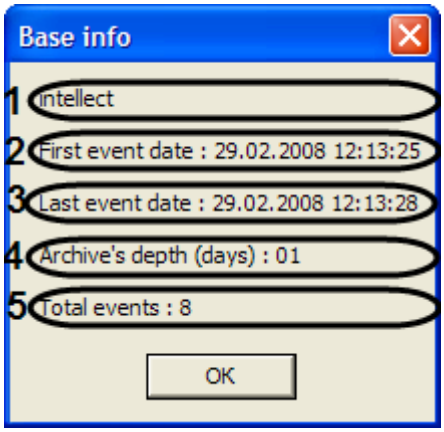


Figure 9.1-34. The Base Info window

The following information is displayed:

a. The name of the current database.

b. The date of the first registered event in the current database.

c. The date of the last registered event in the current database.

d. The number of days between the first and the last event.

e. Total number of events in the database.

9.1.6 Creating the log of changes made to the system configuration

The Report system allows viewing the log of all changes made to the system configuration.

To view the configuration changes, click the Changes Log button in the main control panel (Figure 9.1-35).

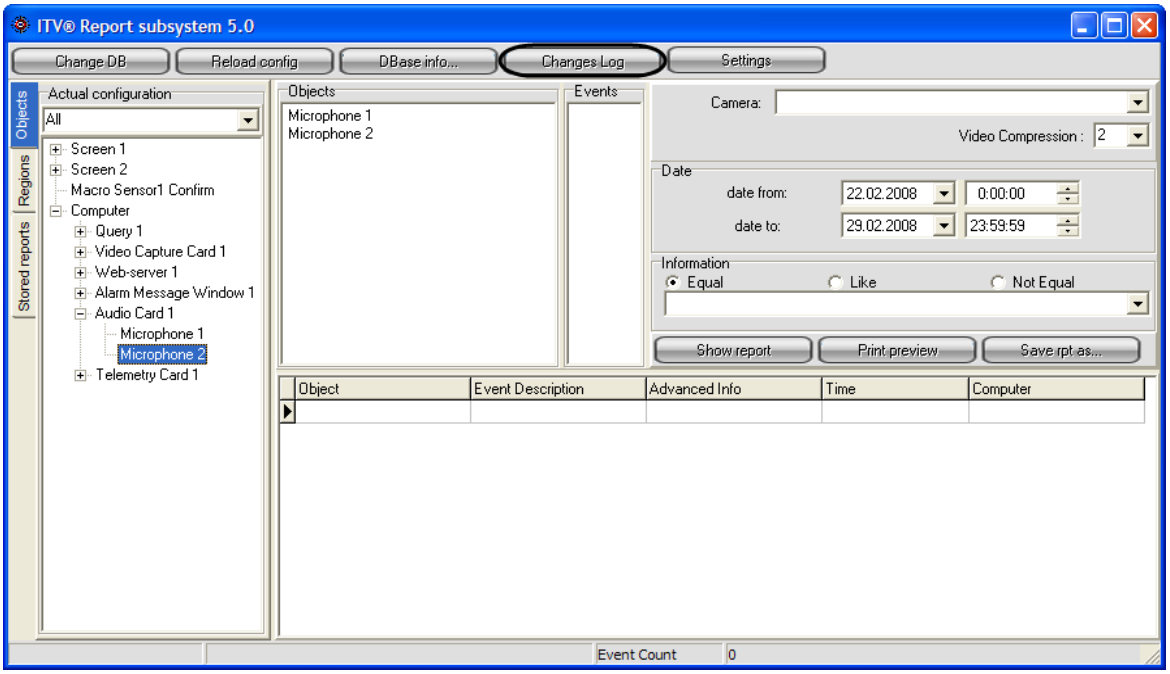


Figure 9.1-35. The Changes Log button

The screen report section of the window will show the list of changes made to the system configuration (Figure 9.1-36).

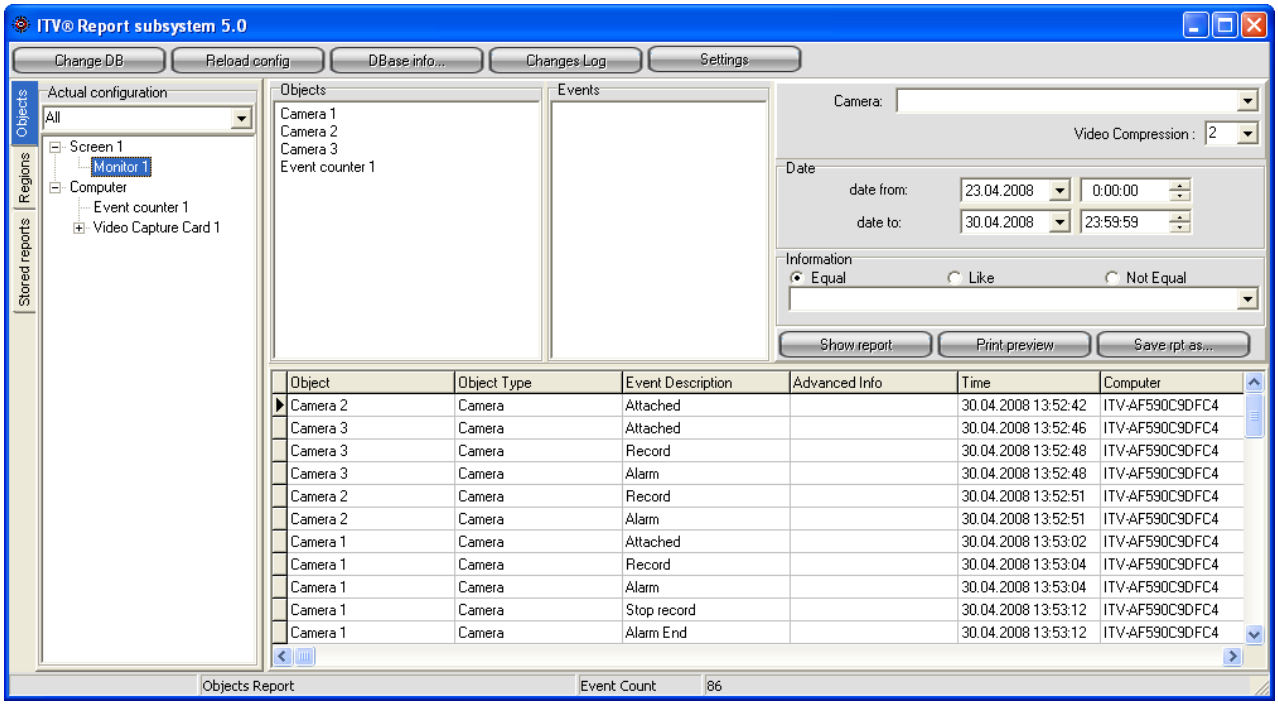


Figure 9.1-36. Viewing the changes log

The changes log includes the following columns:

1. Object – the name of the object that has been changed.
2. Event Description – the type of the change made to the object.
3. Advanced Info – additional information on the change.
4. Time – date and time of change.
5. Computer - the name of the computer where the change was made.

9.1.7 Using the report templates in the Report system

The report templates can be created in the Report system. The templates help automate the process of creating the screen and printed reports for a selected list of objects for particular time periods.

A report template comprises of a list of objects and events related to these objects. When the template is created, the list of objects and events is formed. To create a particular screen or printed report based on this template, only the time interval should be specified.

9.1.7.1 *Recommendations for template creation*

We do not recommend including too many objects in a template. If the template includes too many objects, the request on all events related to these objects, will take a very long time to execute, or will fail.

We recommend creating smaller templates that group the objects according to different regions of the guarded area.

We do not recommend including more than 200 objects in one template.

9.1.7.2 *Creating a report template*

To create a report template, the object list should be formed. This can be done using the Objects and Regions tabs, and the Objects panel. The list of events for each object can be formed using the Events panel.

The Figure 9.1-37 shows the stages of template creation.

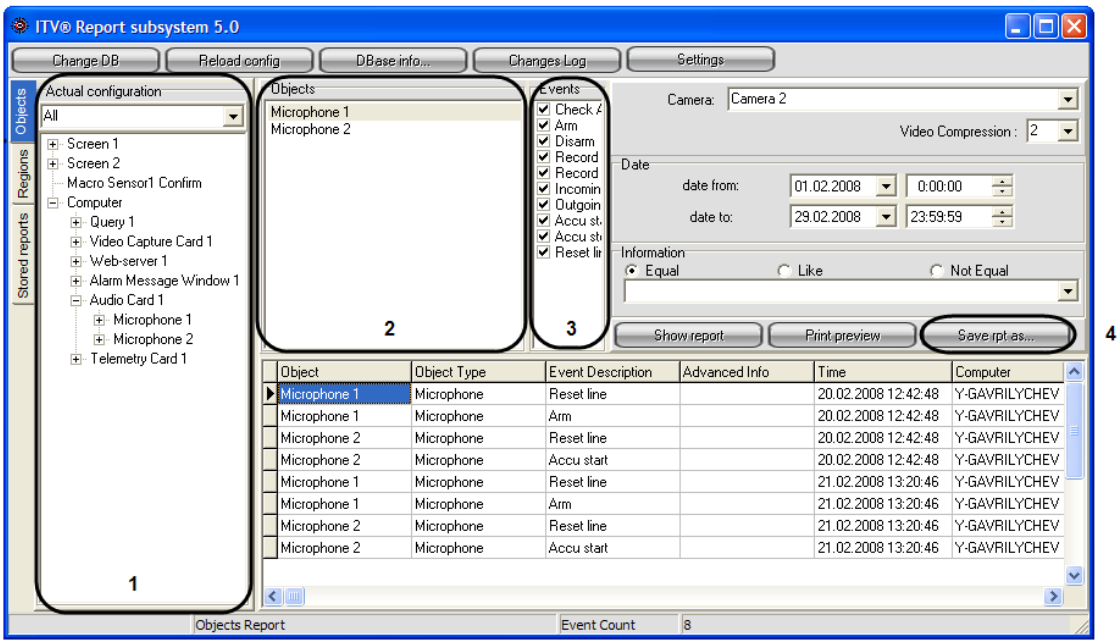


Figure 9.1-37. Creating the report template

To create the template, do the following:

a. Click the Objects tab, then choose the complete object tree or just one object type (ex., Camera) in the Actual Configuration drop-down list.

To select objects in regions, click the Regions tab and choose the required region type in the Regions drop-down list.

b. Place the required objects into the Objects panel. Select an object in the object tree (Actual Configuration panel of the Objects tab or Regions panel of the Regions tab) and do one of the following:

1. double-click the object;
2. select the object and press Enter on the keyboard;
3. drag the object to the Objects panel.

NOTE. Only the objects with their own events can be placed onto the Object panel and thus included in the report. For example, the Sound Card object does not have any events of its own, so it cannot be included in the report template.

To remove the object from the report list, select the object in the Objects panel and press Delete on the keyboard.

c. Select the events in the Events panel, to be included in the report for each object in the Objects panel.

By default, all events for selected objects are included. To remove particular events from the report, select an object in the Object panel and uncheck the checkboxes next to the events in the Events panel, which should not be included in the report template.

To simplify editing of the events list for similar objects, a common list can be created for a group of objects. Select a group of objects in the Objects panel and edit the list of events. This list will relate to each of the selected objects (Figure 9.1-38).

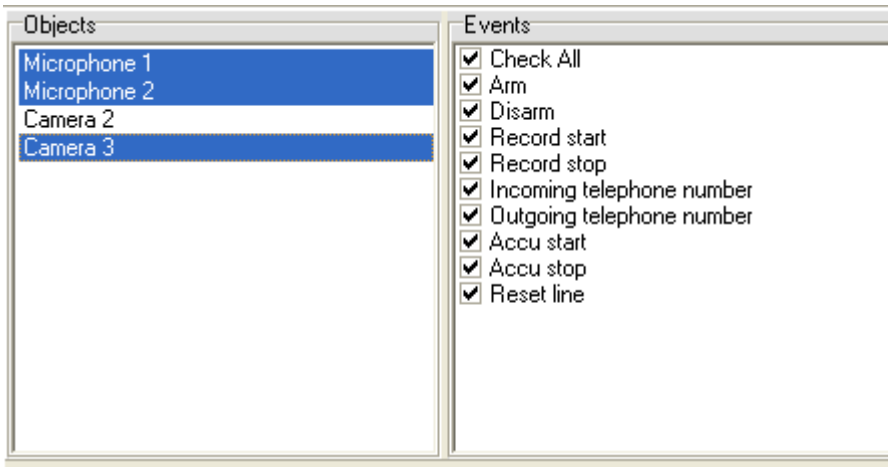


Figure 9.1-38. Common events list for a group of objects

NOTE. If no events are selected in the Events panel for an object, then ALL events for this object will be included in the report.

d. Click the Save Rpt As button. The Please Input Report Name dialog box will appear, allowing to specify the name of the report template (Figure 9.1-39).

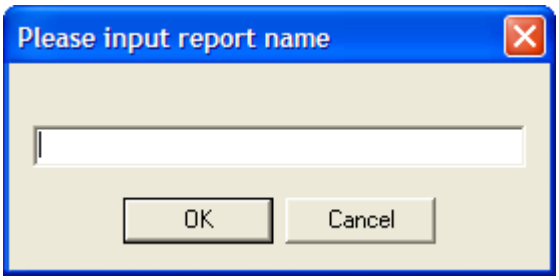


Figure 9.1-39. Report name dialog box

Type in the template name and click OK.

This completes the creation of the report template.

The template will appear in the object tree of the Shared Reports tab. To view the template, use the Objects and Events panels. These panels are populated automatically upon template selection in the Shared Reports object tree. These panels allow editing the events list and removing the objects from the list. The changes will be saved in the template (Figure 9.1-40).

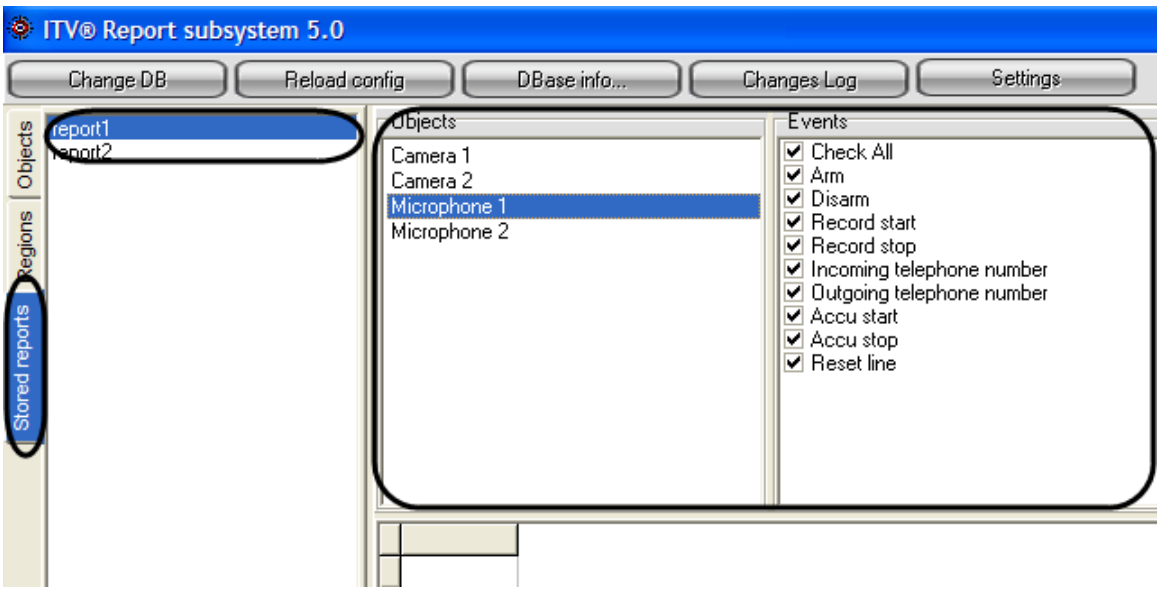


Figure 9.1-40. The Shared Reports tab

9.1.7.3 *Deleting the report templates*

To delete the template, do the following:

1. Open the Shared Reports tab;
2. Select the template to be deleted;
3. Press Ctrl+Delete on the keyboard;
4. Click Yes in the confirmation dialog box (Figure 9.1-41).

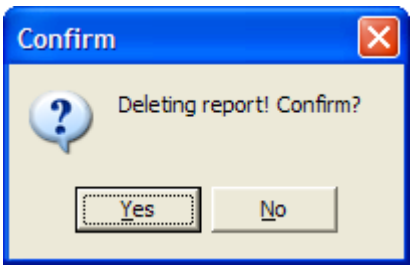


Figure 9.1-41. Template deletion confirmation dialog box

This completes deletion of the report template.

9.1.8 Using screen and printed reports

The screen and printed reports can be created in the Report system.

A screen or printed report is a table showing the dates of the registered events, the videoservers that generated the event, and other relevant information.

The screen report allows viewing the information on the objects and events in the Report window. The screen report allows playing the recordings from the videoserver for each of the records in the report. The video archive can be played from the screen report using the surveillance window or converter.exe utility.

NOTE. The playing of the recording in the surveillance window is possible if the Intellect software is running on the videoserver.

The printed report is used for printing the report or exporting it into one of the common file formats. When the printed report is created, all information about the selected objects and events is displayed in a separate window.

9.1.8.1 *Creating a screen report*

The screen report provides the means for convenient viewing of the registered events and playback of the video recordings from the videoserver archive.

Figure 9.1-42 shows the stages of the screen report creation.

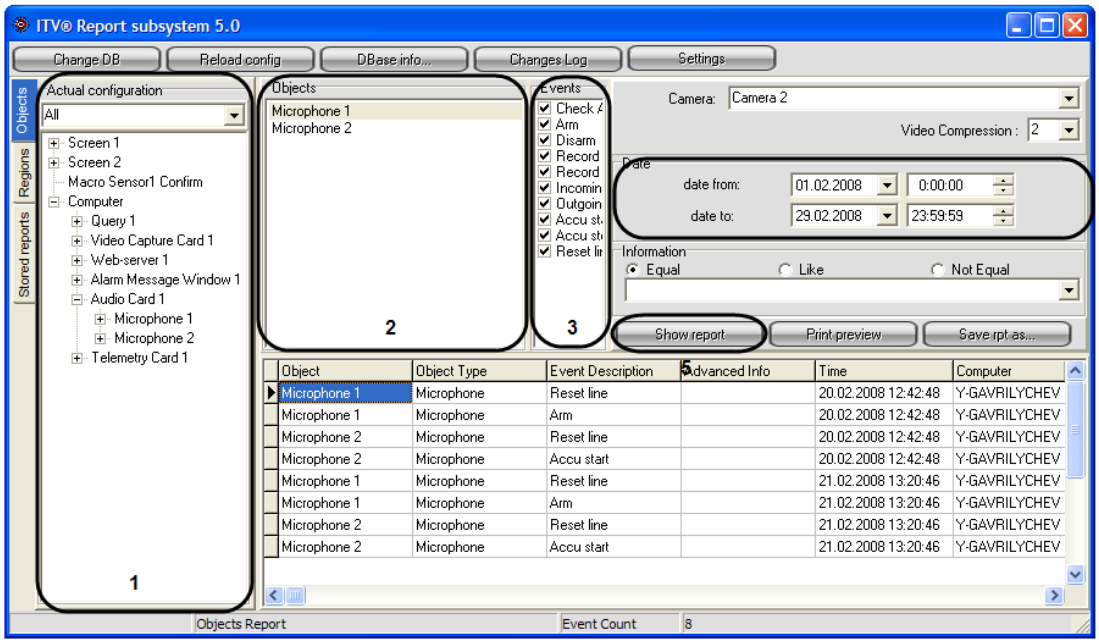


Figure 9.1-42. Creating the screen report

To create the screen report, do the following:

a. Click the Objects tab, then choose the complete object tree or just one object type (ex., Camera) in the Actual Configuration drop-down list.

To select objects in regions, click the Regions tab and choose the required region type in the Regions drop-down list.

b. Place the required objects into the Objects panel. Select an object in the object tree (Actual Configuration panel of the Objects tab or Regions panel of the Regions tab) and do one of the following:

1. double-click the object;
2. select the object and press Enter on the keyboard;
3. drag the object to the Objects panel.

NOTE. Only the objects with their own events can be placed onto the Object panel and thus included in the report. For example, the Sound Card object does not have any events of its own, so it cannot be included in the report template.

To remove the object from the report list, select the object in the Objects panel and press Delete on the keyboard.

c. Select the events in the Events panel, to be included in the report for each object in the Objects panel.

By default, all events for selected objects are included. To remove particular events from the report, select an object in the Object panel and uncheck the checkboxes next to the events in the Events panel, which should not be included in the report template.

To simplify the editing of the events list for similar objects, a common list can be created for a group of objects. Select a group of objects in the Objects panel and edit the list of events. This list will relate to each of the selected objects (Figure 9.1-43).

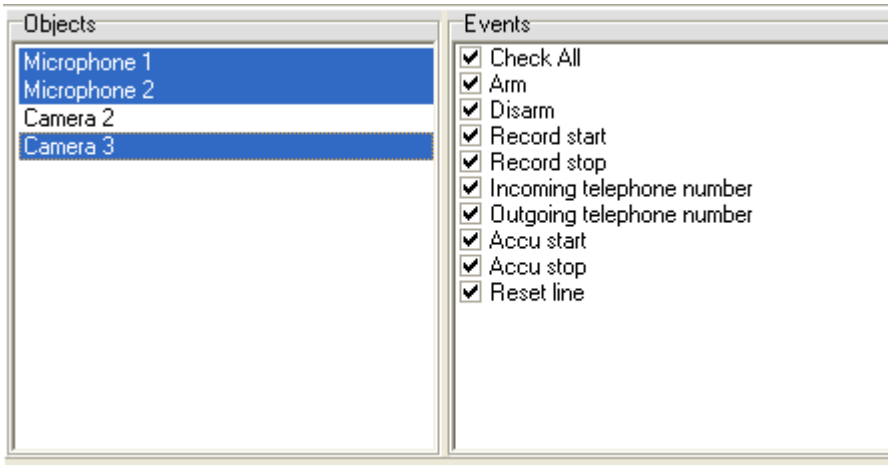


Figure 9.1-43. Common events list for a group of objects

NOTE. If no events are selected in the Events panel for an object, then ALL events for this object will be included in the report.

d. Specify the time period to create the report for, in the Date group of fields.

e. Click the Show Report button to create the screen report.

NOTE. Clicking the Show Report button is equivalent to pressing F5 on the keyboard.

This completes the creation of the screen report. The screen report will be displayed in the lower part of the Report window.

9.1.8.1.1 Creating a screen report from the report template

The report templates can be created in the Report system. The templates help automate the process of creating the screen and printed reports on a selected list of objects for particular time periods.

A report template comprises of a list of objects and events related to these objects. When the template is created, a list of objects and events is formed. To create a particular screen or printed report based on this template, only the time period should be specified.

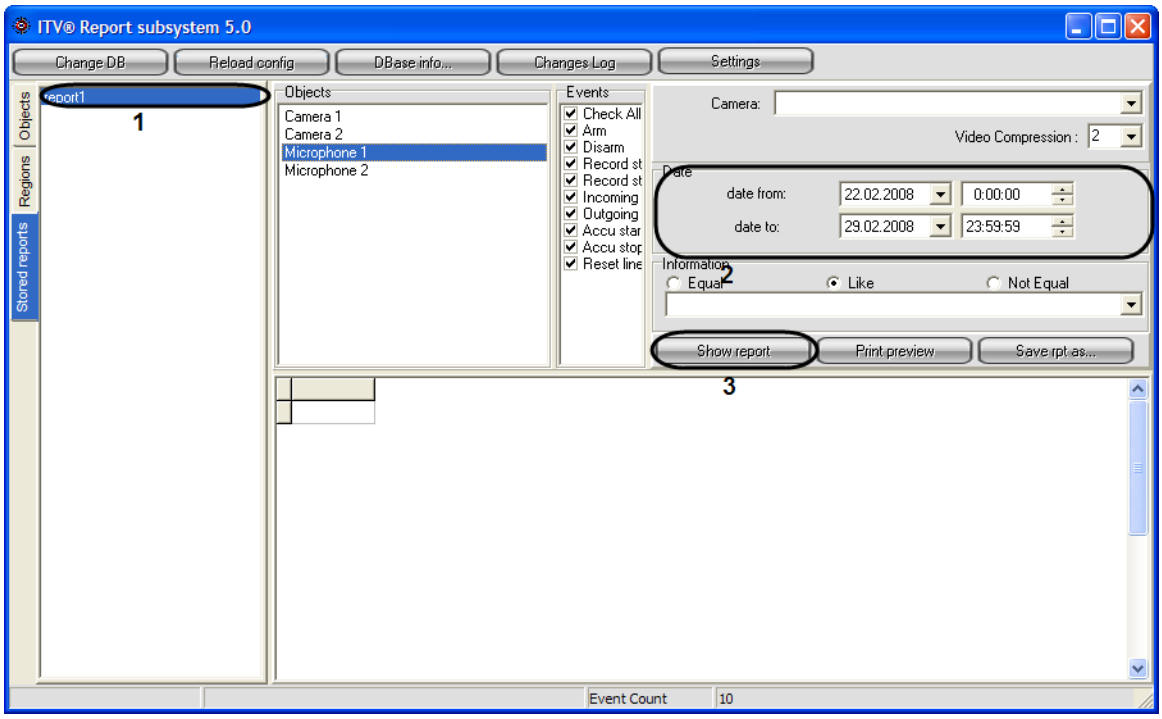


Figure 9.1-44. Creating a screen report from the template

To create a screen report from the template, do the following:

1. Click the Shared Reports tab and select the required report template from the list.
2. Specify the time period to create the report for, in the Date group of fields.
3. Click the Show Report button to create the screen report.

NOTE. Clicking the Show Report button is equivalent to pressing F5 on the keyboard.

This completes the creation of the screen report from the template. The screen report will be displayed in the lower part of the Report window.

9.1.8.2 *Creating a printed report*

The printed report allows convenient viewing of the report in a separate window or printing the report on paper.

Figure 9.1-45 shows the stages of creation of the printed report.

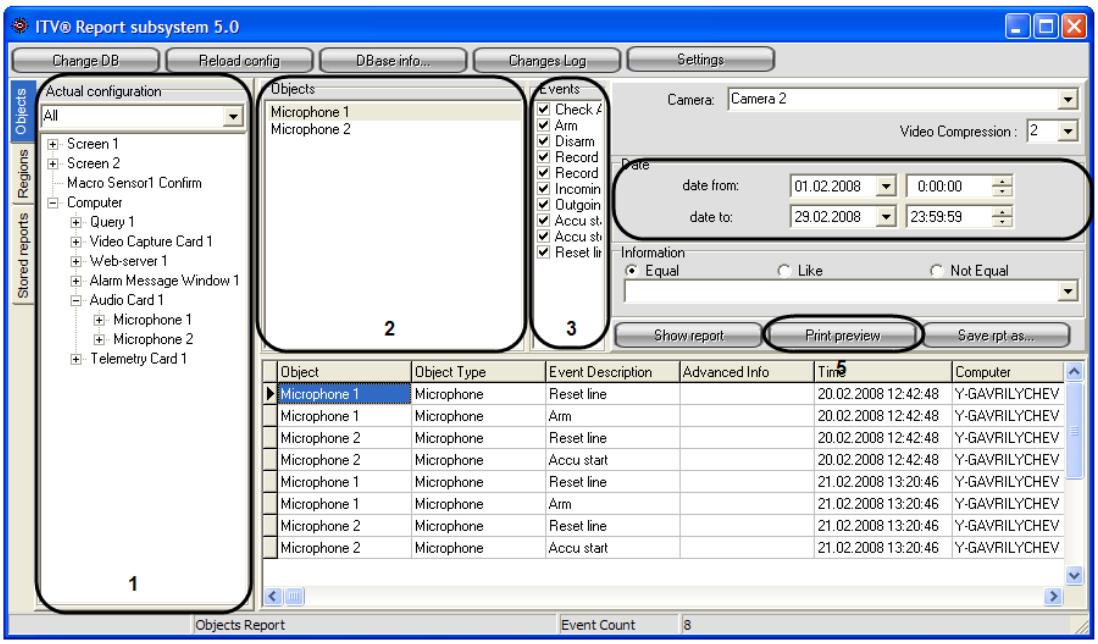


Figure 9.1-45. Creating a printed report

Creating a printed report is similar to the screen report creation procedure in p. 1 to 4 (see sections above).

To create a printed report, click the Print Preview button in p.5.

NOTE. Clicking the Print Preview button is equivalent to pressing F6 on the keyboard.

This completes the creation of the printed report. The report will open in a separate window (Figure 9.1-46).

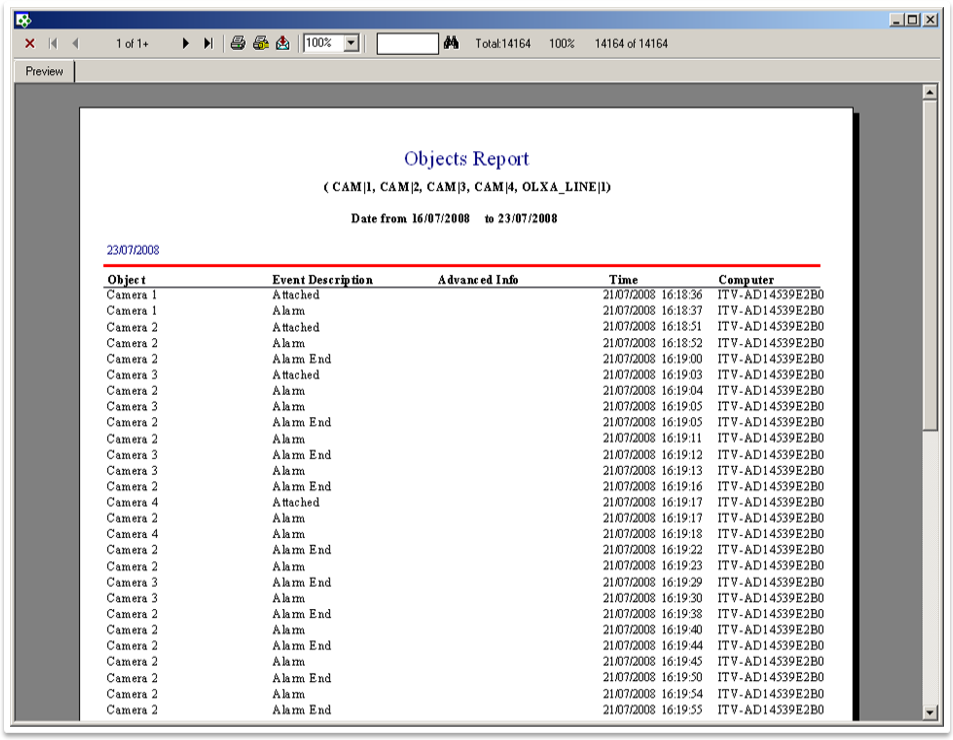


Figure 9.1-46. Printed repor

The report templates can be created in the Report system. The templates help automate the process of creating the screen and printed reports on a selected list of objects for particular time periods.

A report template comprises of a list of objects and events related to these objects. When the template is created, a list of objects and events is formed. To create a particular screen or printed report based on this template, only the time period should be specified.

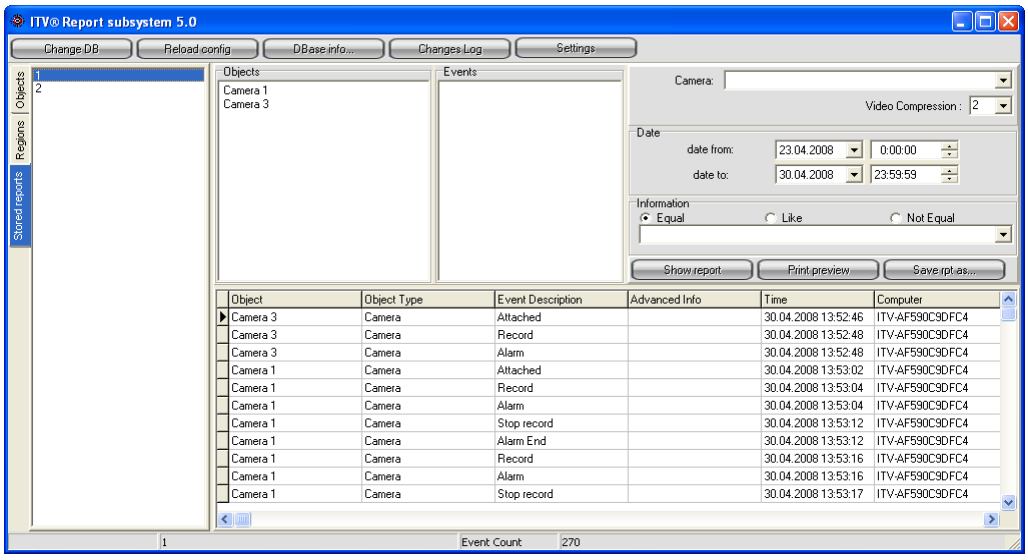


Figure 9.1-47. Creating a printed report from the template

Creating a printed report is similar to the screen report creation procedure in p. 1 to 2 (see the Creating Screen Report from Report Template section above).

To create a printed report from the template, click the Print Preview button in p.3.

NOTE. Clicking the Print Preview button is equivalent to pressing F6 on the keyboard.

This completes the creation of the printed report from the template. The report will open in a separate window.

9.1.8.3 *Printing the report*

The report templates can be created in the Report system. The templates help automate the process of creating the screen and printed reports on a selected list of objects for particular time periods.

A report template comprises of a list of objects and events related to these objects. When the template is created, a list of objects and events is formed. To create a particular screen or printed report based on this template, only the time period should be specified.

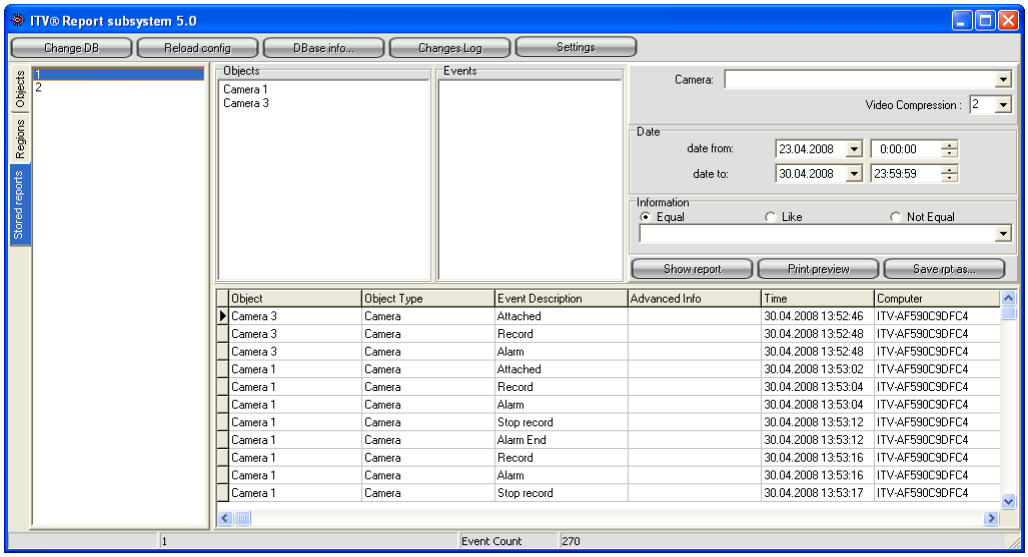


Figure 9.1-48. Creating a printed report from the template

Creating a printed report is similar to the screen report creation procedure in p. 1 to 2 (see the Creating Screen Report from Report Template section above).

To create a printed report from the template, click the Print Preview button in p.3.

NOTE. Clicking the Print Preview button is equivalent to pressing F6 on the keyboard.

This completes the creation of the printed report from the template. The report will open in a separate window.

9.1.8.4 *Exporting the report to a file*

The Report system allows exporting the created report into one of the commonly used file formats.

The report to be exported opens in a separate window (Figure 9.1-49).

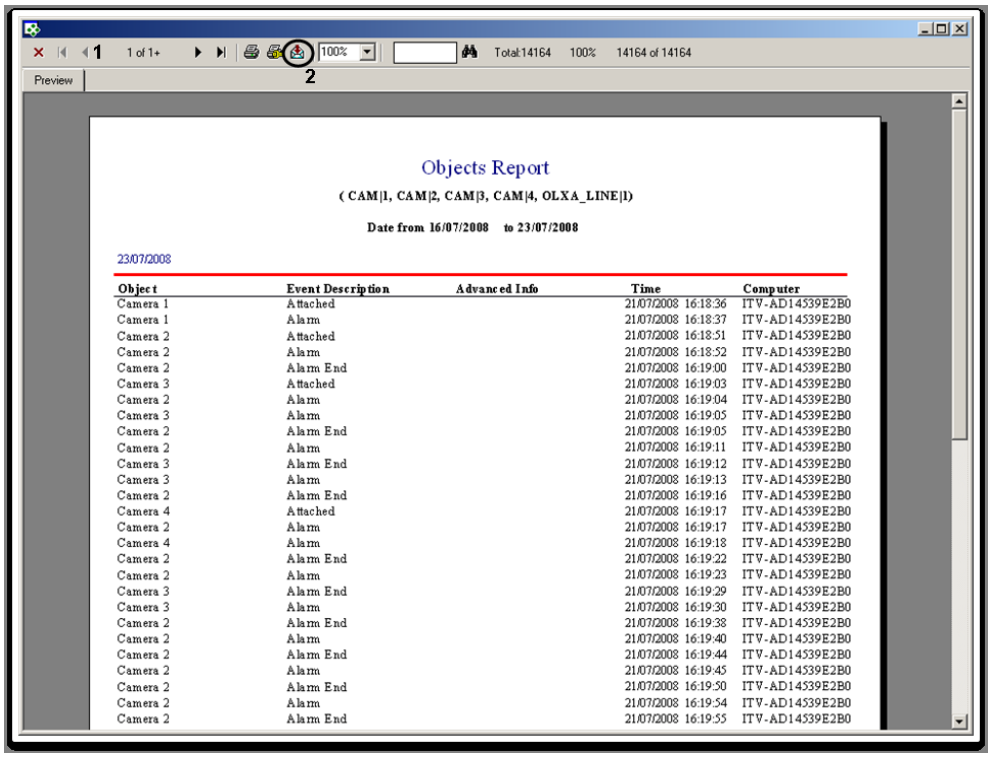


Figure 9.1-49. Exporting the report

The report is exported from the printed report window. To export the report, do the following:

a. Create the printed report (see the Creating the Printed Report section).

b. Click the Export button in the window showing the report.

c. Specify the following in the Export dialog box (Figure 9.1-50):

- in the Format drop-down list, select the format to export the report to

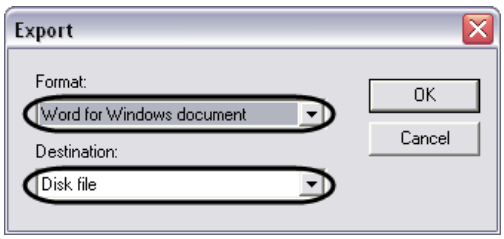


Figure 9.1-50. The Export window

- in the Destination drop-down list, select the action to be taken. The Destination list contains the following options:

1. Application – open the exported file in the corresponding application.
2. Disk File – save the exported file to disk in a specified format.
3. Exchange Folder – send the file to Microsoft Exchange project.
4. Lotus Domino – send the file to Lotus project.

5. Microsoft Mail (MAPI) – send the file via Windows mail client.

NOTE. The Destination list is disabled for some formats.

d. Click the OK button in the Export window.

e. If Disk File is selected in the Destination list, the Choose Export File dialog box will appear. Select the folder and filename to save the report to (Figure 9.1-51).

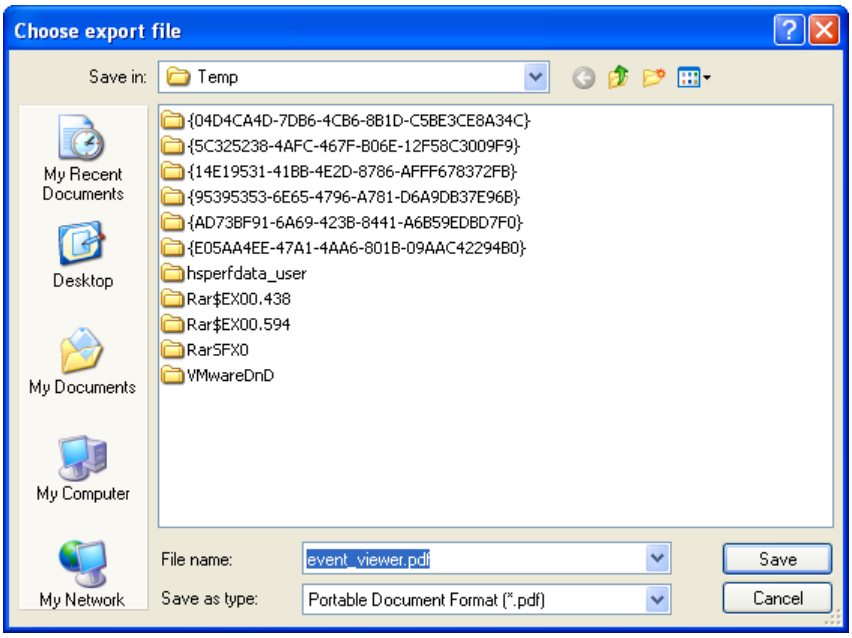


Figure 9.1-51. The Choose Export File window

Specify the filename and folder and click the Save button.

NOTE. The Choose Export File window does not open for some file formats.

This completes the exporting of the report into a file.

9.1.9 Video recording playback from the Report system

The Report system allows playback of the video recordings related to a selected event from the screen report. The video playback starts from the moment the event occurred.

The recordings are played using the Converter.exe utility or the surveillance window of the corresponding camera. The playback option is selected in the Report system settings window (See the OptionsForm Window section).

NOTE. To play the video recordings directly in the surveillance window, start the Intellect software, and create and set up the surveillance window.

9.1.9.1 *Selecting the playback mode of video recordings*

The Report system provides twoways of playing the video recordings: using the Converter.exe utility or the surveillance window of the Intellect system (Figure 9.1-52).

NOTE. To play the video recordings in the surveillance window, the Intellect system should be running on the server where the archive is taken from.

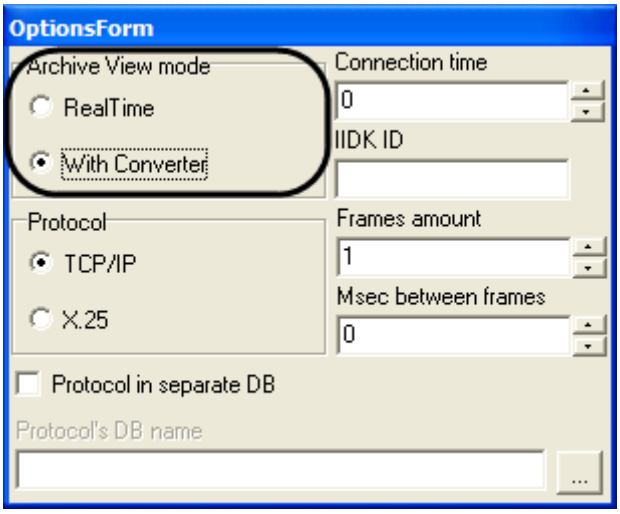


Figure 9.1-52. Choosing the video archive playback option

If the RealTime radio-button is selected, the archive will be played in the surveillance window. If the With Converter radio-button is selected, the archive will be played using the Converter.exe utility.

9.1.9.2 *Playback of the video recordings from the Report system*

To play the video recordings from the Report system, do the following:

1. Create the screen report (see the Creating the Screen Form section) (Figure 9.1-53).

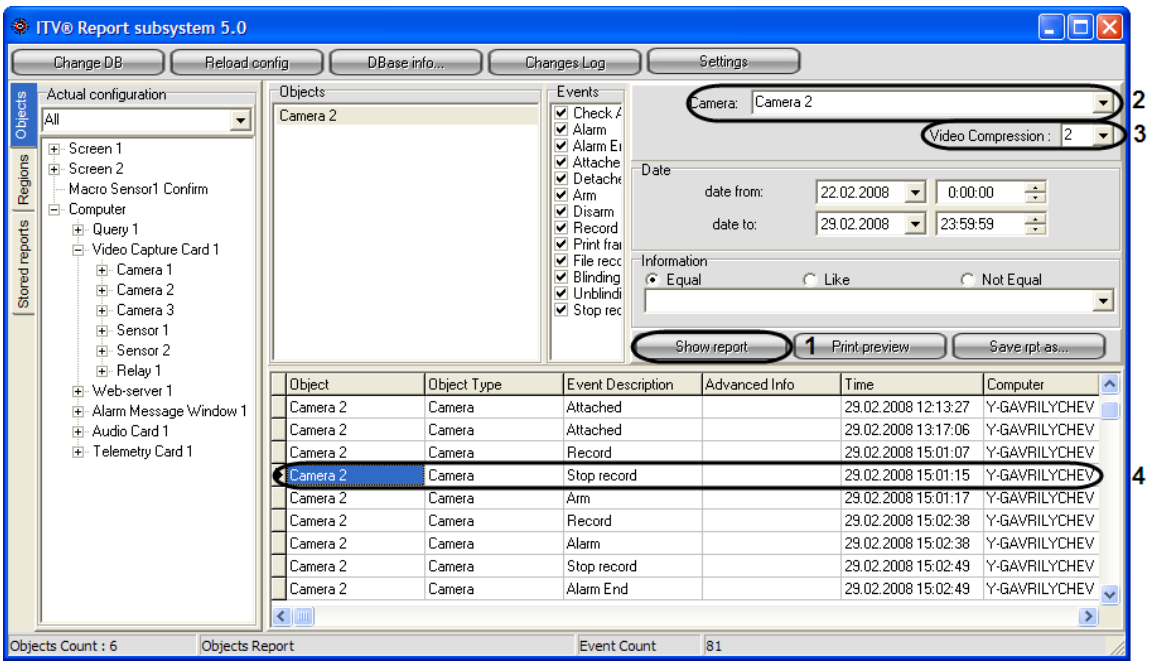


Figure 9.1-53. Playback of the video recordings from the Report system

2. Select the camera from the list of all camera names in the system.

By default, only the recordings from the Camera objects are played from the screen report. The recording from the camera that generated the event shown in the Event Description column, is played. No recording is played for other objects.

The camera whose archive will be played, should be selected in the Camera field.

3. Specify the compression level for the playback.

4. Double-click the event in the screen report.

The converter.exe utility or the surveillance window will open, showing the recording for the time specified in the Data column of the screen report for the selected event (Figure 9.1-54).

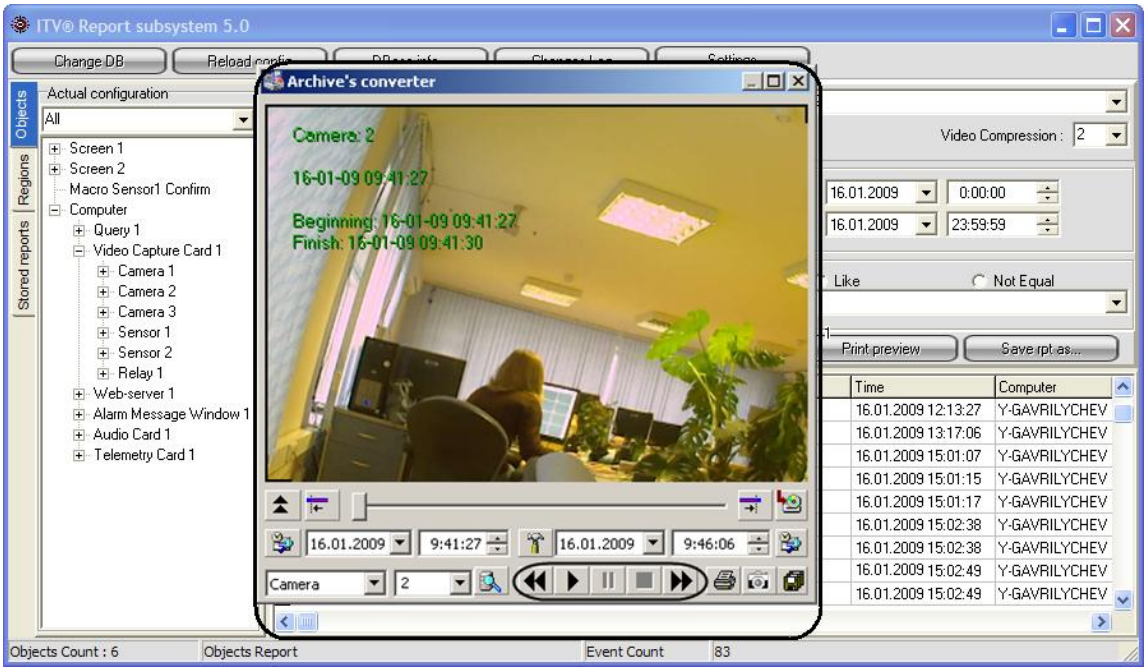


Figure 9.1-54. Playing the video recording from the Report system

9.1.10 Filtering the events in the screen report according to the additional information

The Report system allows to show only the rows of the screen report containing particular additional information.

By default, the screen report contains all events that fit the report settings. To display only the rows that contain particular information, do the following:

NOTE. The list is filtered by the Advanced Info column.

a. Create the screen report (see the Creating the Screen Report section) (Figure 9.1-55).

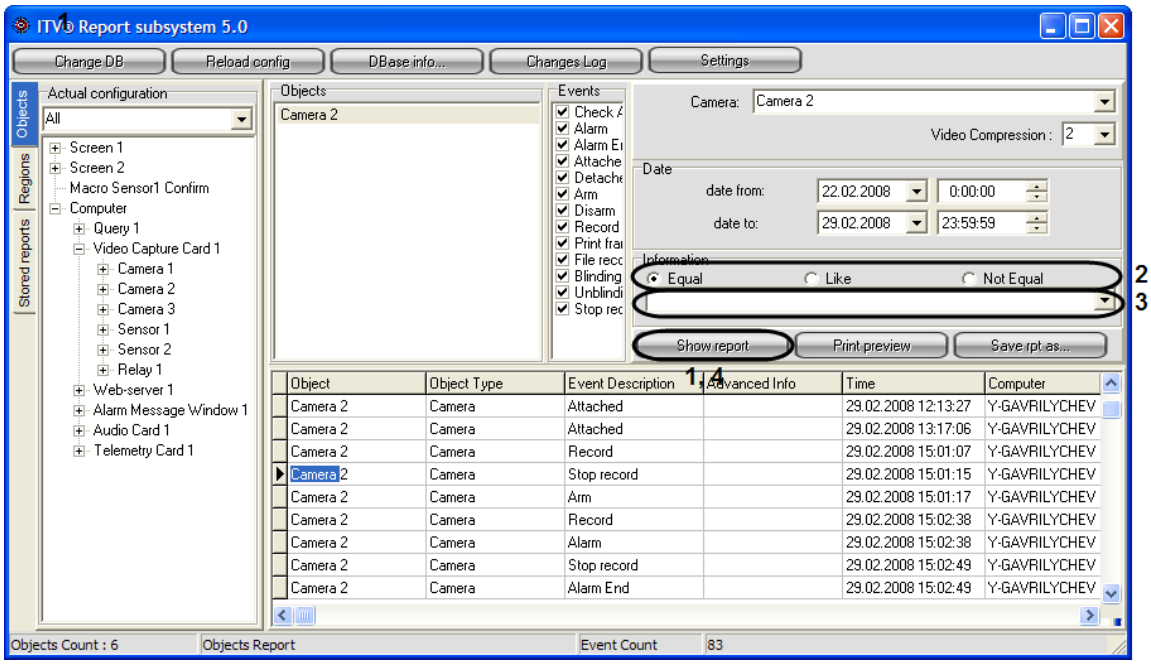


Figure 9.1-55. Filtering the screen report

b. Select the filtering method using the Information radio-buttons.

1. Equal radio-button. When selected, the system looks for exact case-sensitive matches only, between the string in the Information field and the Advanced Info column.

2. Like radio-button. When selected, the system looks for the rows where the Advanced Info column contains the search string, case-sensitive.

3. Not Equal radio-button. When selected, the system looks for the exact case-sensitive matches, only between the string in the Information field and the Advanced Info column.

c. Enter the character string to filter the report by.

d. Click the Show Report button to run the filter.

Only the filtered rows will be displayed in the screen report.

9.1.11 The keyboard shortcuts list

The following keyboard shortcuts are available in the Report system:

a. All panels:

a. F5 – creating the screen report.

b. F6 – creating the printed report.

c. Del – deleting an object from the Objects panel.

d. Ctrl+A – selecting all objects in the list in the Objects panel.

b. Objects panel:

a. Ctrl+F – searching the tree for an object by name or any part of the name.

b. Enter – adding the selected object to the report.

c. The Regions panel:

1. Ctrl+F – searching the tree for an object by name or any part of the name.
2. Enter – adding the selected object to the report.

d. The Shared Reports panel:

Ctrl+Del - deleting the selected report template.

10 Appendix 1. Interface

10.1 Description of the Main Control Panel Interface

The Main control panel as part of the System settings interface window has a fixed position and is located in the upper right corner of the System settings interface window (Figure 10.1-1).



Figure 10.1-1. Main control panel of the System settings interface window

The INTELLECT™ Main control panel has been designed to be small (to save on the usable monitor area) and contains only the information window and two menu buttons to the right of it.

INTELLECT™ Main control panel elements and descriptions thereof are given in Table 10.1-1.

Table 10.1-1

UI element	Comments
	Information windows or help window. This window displays comments (brief information) to the UI elements, and system error information, when pointed at with the mouse.
	The Screens button. The button is designed for control of virtual screens.
	The Execute button. Designed to display the System settings dialog box on the monitor and manual execution of the macro commands and quitting system operation.

10.2 Description of the system settings dialog box

10.2.1 Tabs panel

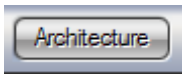
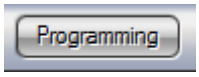
The Tabs panel is displayed in the upper left corner of the System settings dialog box and is designed for shifting between INTELLECT™ software groups of objects. The Tabs panel is shown in Figure 10.2-1.



Figure 10.2-1. Tabs panel of the System settings dialog box

A list and brief description of tabs comprising the System settings dialog box are given in Table 10.2-1.

Table 10.2-1

№	Section (Tab) of the System settings dialog box	Key functionalities of the section (tab)
1		The tab is designed for connection and configuration of hardware and program modules. Also, this tab is used for connection and configuration of customer-tailored components of the Operator UI, i.e., such objects as the Operator search window and notification window.
2		The tab is designed for the creation and configuration of virtual screens and UI components in them, i.e., Video Monitor, audio players and control panels of various devices and modules.
3		The tab is designed for describing the system structure, network settings defining PC links and parameters for data exchange between the PCs of the distributed network.
4		This tab is designed for the creation of macro commands and scripts, as well as for the creation of time zones, shift timetables, delineation of secured object areas, access levels for the access points, which are equipped with readers.
5		The tab is designed for the creation of user accounts (registration) of the digital video surveillance and audio monitoring system, classification of the levels (rights) of their access to the system resources and assigning passwords to the users.

To transfer from one tab to another, use the mouse. For the above purpose, follow the next steps:

1. Drag the mouse cursor to the tab.
2. Click the left mouse button.

10.2.2 Objects tree

The system is based on the tree-like structure of the objects layout (objects tree). The objects tree is arranged as a multi-level list of embedded objects (Figure 10.2-2).

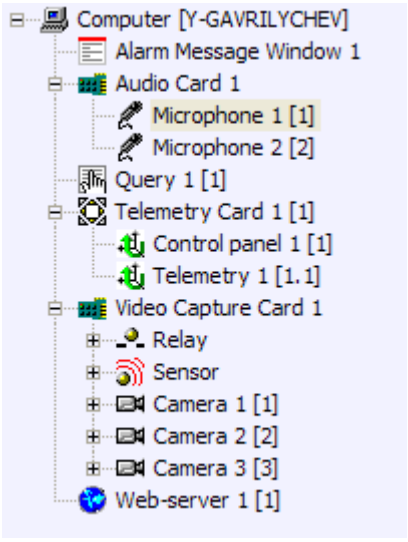


Figure 10.2-2. Objects tree of the Hardware tab

The objects structure is configured as a hierarchy, where low-order (daughter) objects can only be created on the basis of the higher-order (parent) object.

The objects tree can be viewed in expanded form, embedded groups (branches) can be viewed or hidden, if not required to be controlled currently.

To get down the branch of the objects tree, containing daughter objects, click the left mouse button pointing at«-» symbol appearing to the left of the parent object (Figure 10.2-3).

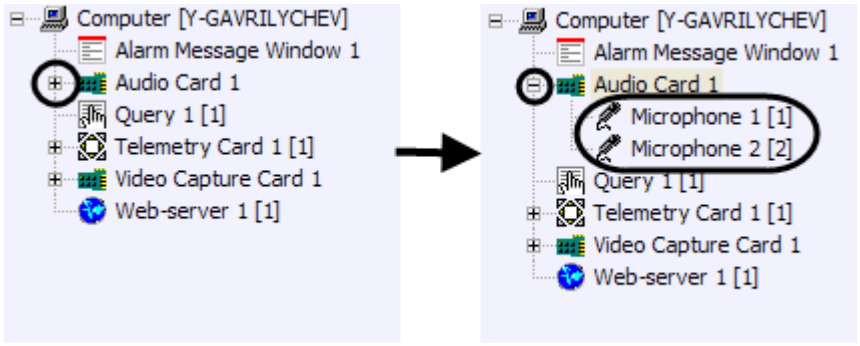


Figure 10.2-3. Displaying the daughter objects of the object tree on the monitor

To collapse the daughter objects, click the left mouse button pointing the cursor at the minus symbol (Figure 10.2-4).

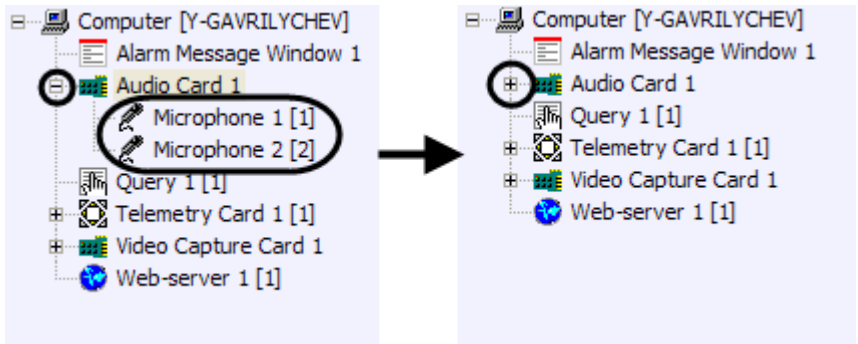


Figure 10.2-4. Collapsing the daughter objects of the object tree

10.2.3 Context menu of the system object

The context menu is displayed within the objects tree. To display the menu on the monitor, click the right mouse button, pointing the cursor at the system object in the objects tree (Figure 10.2-5).

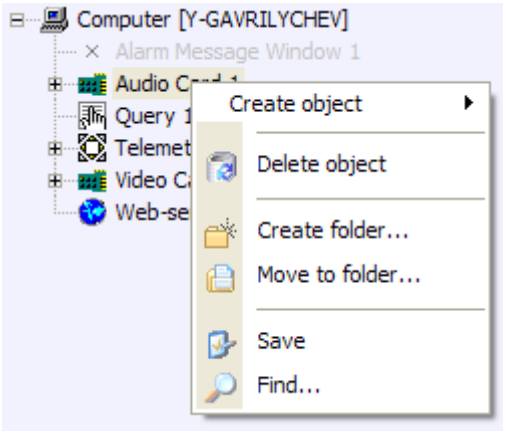


Figure 10.2-5. The context menu of the object in the objects tree

The number of menu lines depends on the video surveillance system configuration and object tasks. The context menu of a system object is described below.

10.2.3.1 *Create object function*

The create object function, which is used to create a new system object in the Hardware objects tree, is selected from the context menu of the parent system object (Figure 10.2-6).

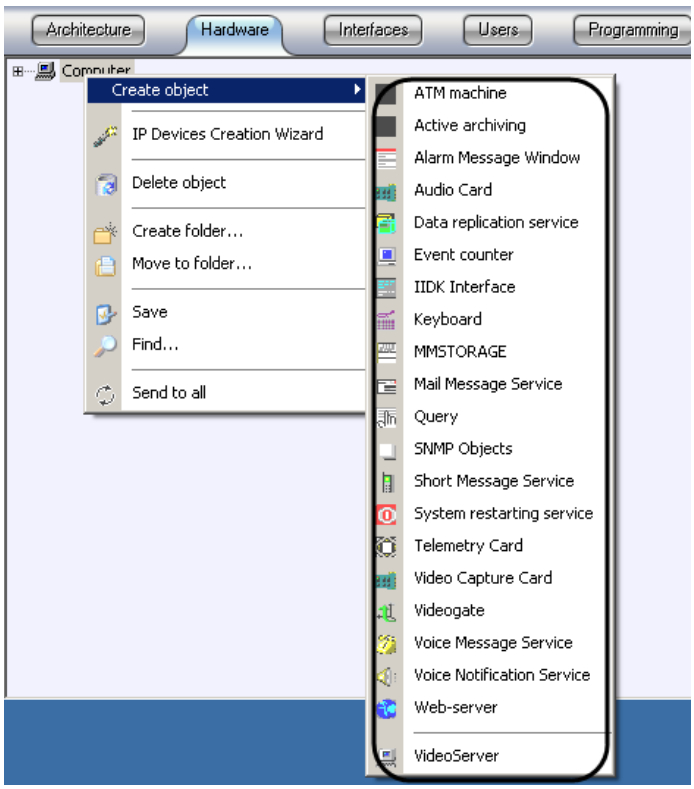


Figure 10.2-6. Using the Create object function

When Create object function is selected, the menu will display a list of embedded objects. Figure 10.2-6 shows an example of a list of objects, which can be created on the basis of a Computer object.

10.2.3.2 *IP devices Creation Wizard*

IP devices creation Wizard function is used for searcing and adding IP devices to the objects tree on the tab Hardware with the help of IP Wizard utility.

1. To edit objects tree do the following:

Select the required object Computer on the tab hardware of Sysytem settings dialog window (Figure 10.2-7).

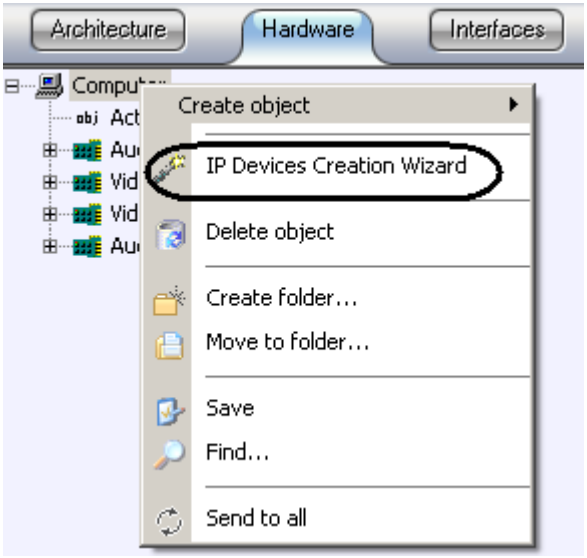


Figure 10.2-7. IP devices creation wizard

2. Click with the right mouse button upon the selected Computer object and select IP Devices creation Wizard in the contextual window (Figure 10.2-7).

3. In result dialog window of IP Wizard utility will open (Figure 10.2-7).

Note. When started IP Wizard utility searces for IP-devices, registered in the PC Intellect. Parameters of the found devices will be accessible for editing in the table IP devices utility (Figure 10.2-8, 6-12).

The utility also automatically indicates connected hardware.The list of the devices, supporting the given function is shown in the **Ошибка! Источник ссылки не найден.**. All integrated IP cameras support manual adding of objects to the tree - http://www.itv.ru/products/intellect/integration.php.

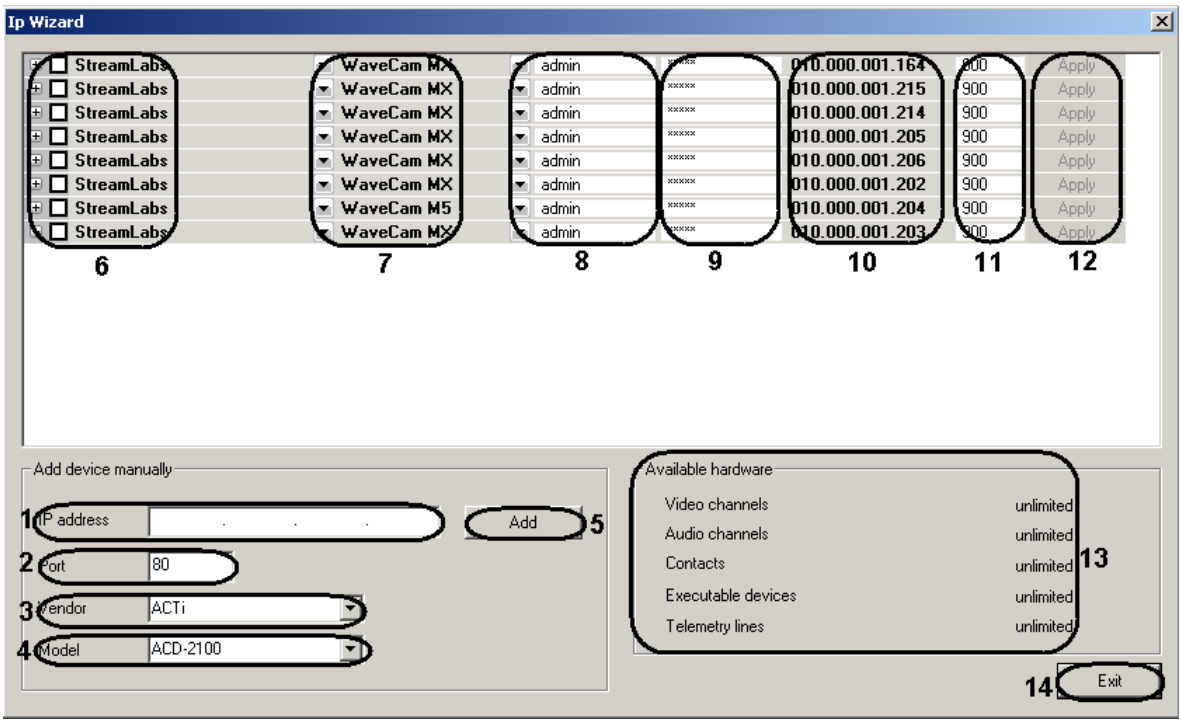


Figure 10.2-8. Dialog window of IP Wizard utility

4. Setting parameters of IP device, that has to be added to the objects tree on the tab Hardware is performed in the group Add device manually.IP address of the required device is set in the fielf IP address (Figure 10.2-8, 1).

5. When necessarychange port of IP device's connection to the server Intellect in the field Port (Figure 10.2-8, 2).

6. Select the brand of IP device from the dropdown list (Figure 10.2-8, 3).

7. Select the name of IP device from the dropdown list Model (Figure 10.2-8, 4).

8. To add IP device to the table IP devices of IP Wizard utility click Add (Figure 10.2-8, 5).

9. In result parameters of the required device will be displayed in the table IP devices (Figure 10.2-8, 6-12).

Note. To delete IP device from the table the following command order of the contectual menu should be performed «Delete camera <IP address> from the list» (is called with wright mouse click upon the corresponding line of the table).

10. In field 6 of the table (Figure 10.2-8, 6) brand of IP device is stated. To display the list of objects, accessible for the following device click«+» on the left of the field.

Note. To hide the list press «-» on the left of the field.

11. To register objects of IP device in the objects tree certain check marks should be set.To delet objects from the objects tree uncheck the mark in the check box (Figure 10.2-8, 6).

Note. To register/delete all the objects it is enough to check/uncheck the mark in the check box opposite the brand of IP device.

Object names in «IP Wizard» correspond to the branch of the objects tree (Table 10.2-2).

Table 10.2-2

Object name in «IP Wizard»	Branch of objects tree PC«Intellect»
Video channel	Object «Video capture card» > Object «Camera»
Audio channel	Object «Sound card» > Object «Microphone»
Contact	Object«Video capture card» > Object «Sensor»
Executive device	Object«Video capture card» > Object«Relay»
PTZ line	Object «PTZ control» > Object «PTZ device»

12. In the field 7 of the table (Figure 10.2-8, 7) state name of the model of IP device.

Note. To change brand and model in the table of IP device dropdown lists should be used(are called with the click of button on the right of the corresponding column).

13. When necessary in the field 8 of Figure 10.2-8 change the user name for connection to IP-device (on default factory name is stated).

14. When necessary in the field 9 of Figure 10.2-8 change the password for connection to IP-device (on default factory name is stated).

Note. To display password set the cursor in any place of the given password.

15. In the field 10 of Figure 10.2-8 device's Ip address is displayed (unaccessible for editing)

16. When necessary in the field 11 of Figure 10.2-8 change the connection ort of IP device to the Intellect Server.

17. To change objects tree according to the given settings click Apply button (Figure 10.2-8, 12)

*Note. Number of objects, accessible for adding to the tab Hardware are automatically displayed in the table Availiable hardware (*Figure 10.2-8*, 13).*

18. In result in the objects tree the required changes will be displayed (Figure 10.2-9).

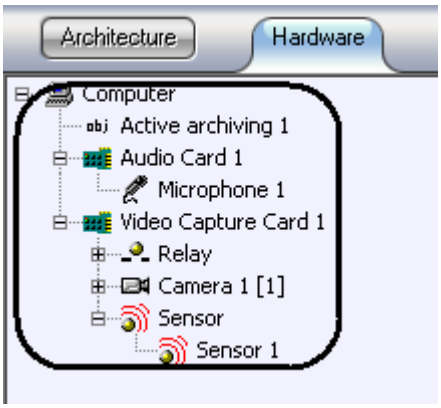


Figure 10.2-9. Adding of objects to the objcts tree(exemplified by IP-device Axis)

19. Repeat step 4-17 to add and edit all the required IP devices.

20. To close the utility processing and «IP Wizard» dialog window click Exit button (Figure 10.2-8, 14).

Editing of objects tree is over.

10.2.3.2.1 Delete object function

To delete an object from the tree, drag the cursor pointer to the object and, with the context menu opened, select the Delete object option. Now the PC monitor will show a dialog box requesting to confirm that the system object be deleted (Figure 10.2-10).

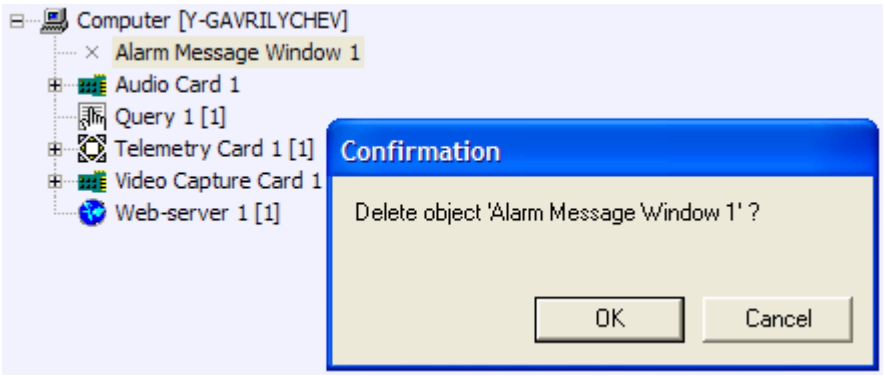


Figure 10.2-10. Confirmation for deletion of the object

To confirm that the object should be deleted, click OK or, if you want to quit the delete function, click Cancel. As soon as deletion is confirmed, the object, as well as its daughter objects, will be removed.

The function Delete system object applies to all objects, including the Computer object, created by default when Intellect™ system is installed.

NOTE. Please be aware, that, a deleted Computer- local computer parent object can hardly be restored. That is why the developer does not recommend deleting objects such as Computer, created by Intellect™ system.

10.2.3.3 *Create folder function*

The create folder function is used to properly arrange the system objects displayed in the objects tree, in cases when there are many types of objects. Objects are grouped into folders at the user's discretion.

To create a folder, display the Computer context menu in the monitor and select the Create folder option (Figure 10.2-11).



Figure 10.2-11. Selecting the Create folder option

Now the PC monitor will show a dialog box requesting to enter a Folder name (Figure 10.2-12). Having entered the folder name in the dialog box, click OK.

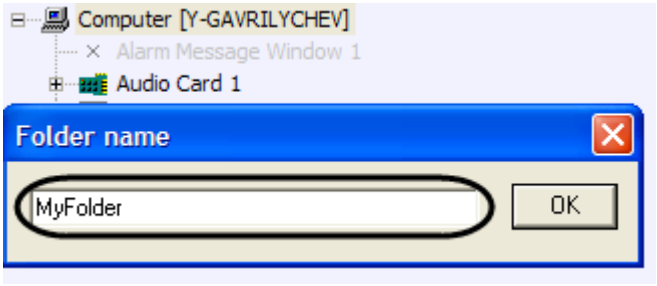


Figure 10.2-12. Folder name dialog box

Now the objects tree will show the folder, which has just been created (Figure 10.2-13).

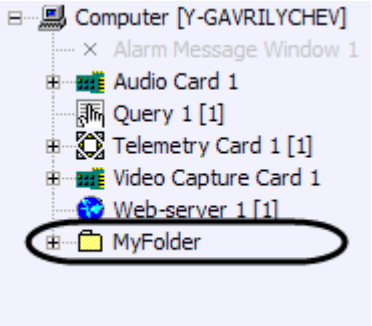


Figure 10.2-13. A new folder included into the objects tree

If a new folder is to be created in the objects tree, display the context menu in a free field of the window showing the objects tree near the object tree branch, where you are going to create a new folder (to create a new folder in the root directory, the context menu should be displayed near the Computer object). The context menu in this case will be displayed as follows:

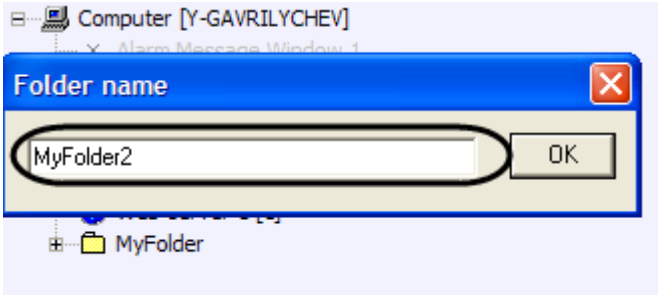


Figure 10.2-14. The context menu of the objects tree field

The following steps are similar to those described above. Now, the new folder will be displayed as follows (Figure 10.2-15):

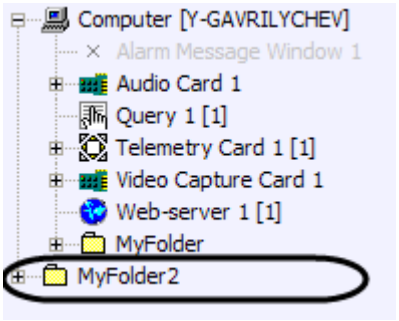


Figure 10.2-15. The folder has been created

10.2.3.4 *Move to folder function*

This function allows moving system objects to the objects tree folder. To move objects to the folder, select the object, which you need to move, display the context menu and select the Move to folder option (Figure 10.2-16).

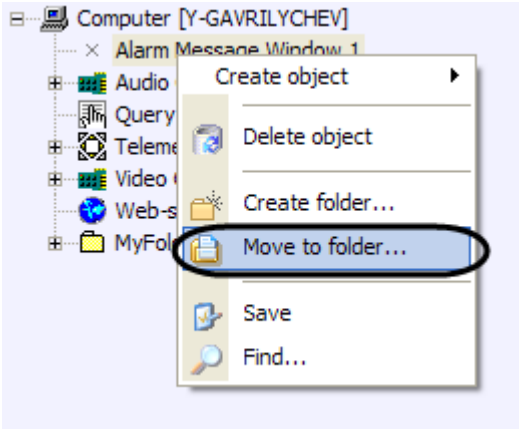


Figure 10.2-16. Selecting the Move to folder option

The monitor will display a window for selecting a folder, where you will move the selected system object (Figure 10.2-17).

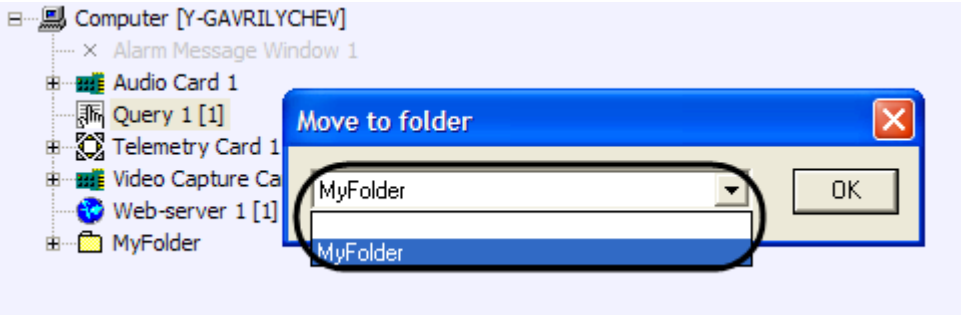


Figure 10.2-17. Selecting a folder

To confirm the selected folder, click OK. The object will be moved to the given folder (Figure 10.2-18).

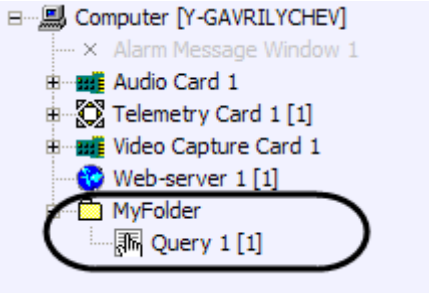


Figure 10.2-18. The folder has been moved to the folder

10.2.3.5 *Save function*

The Intellect™ system allows creating an object based on a template. A template is created using the Save function, which is accessible from the main functional menu.

Below we describe the creation of the Camera object on the basis of a template using the Save function.

First, select an object, which has already been created and configured, for instance, Camera 1 object. Figure 10.2-19 shows a tools panel, showing as highlighted the Camera 1 parameters, which have been modified.

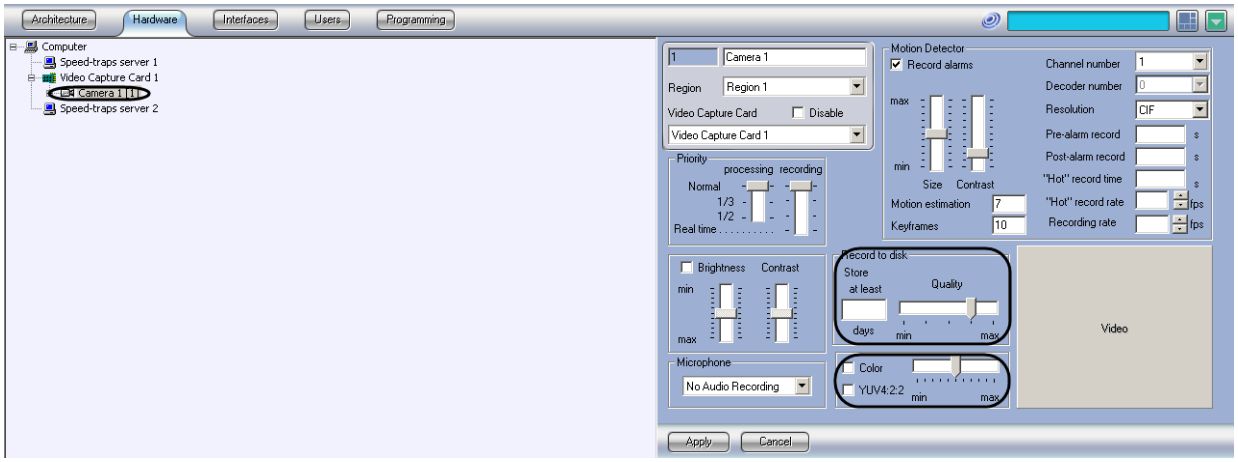


Figure 10.2-19. Example: The Camera object settings

To create a template based on the object, follow the next steps:

1. Display the Camera 1 context menu in the monitor.
2. Select the Save option from the menu (Figure 10.2-20).

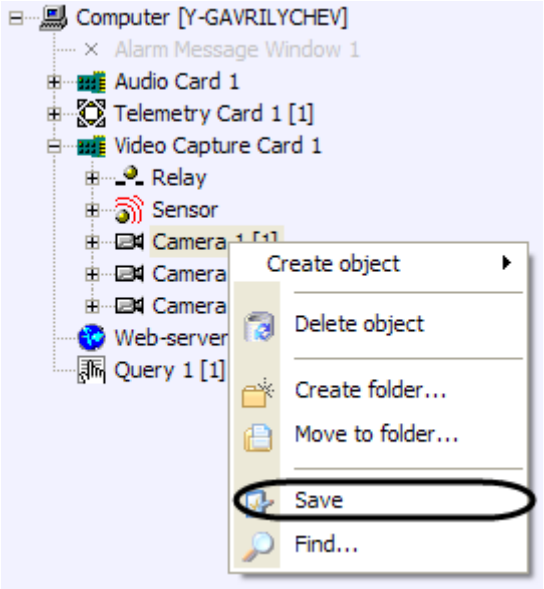


Figure 10.2-20. Selecting the Save option from the menu

Now the Camera object template has been created based on Camera 1 settings.

Now create Camera 6 object based on the Video capture card 1 object (see section Create object function). The new Camera 6 object will by default have the same settings as the Camera 1 object (Figure 10.2-21).

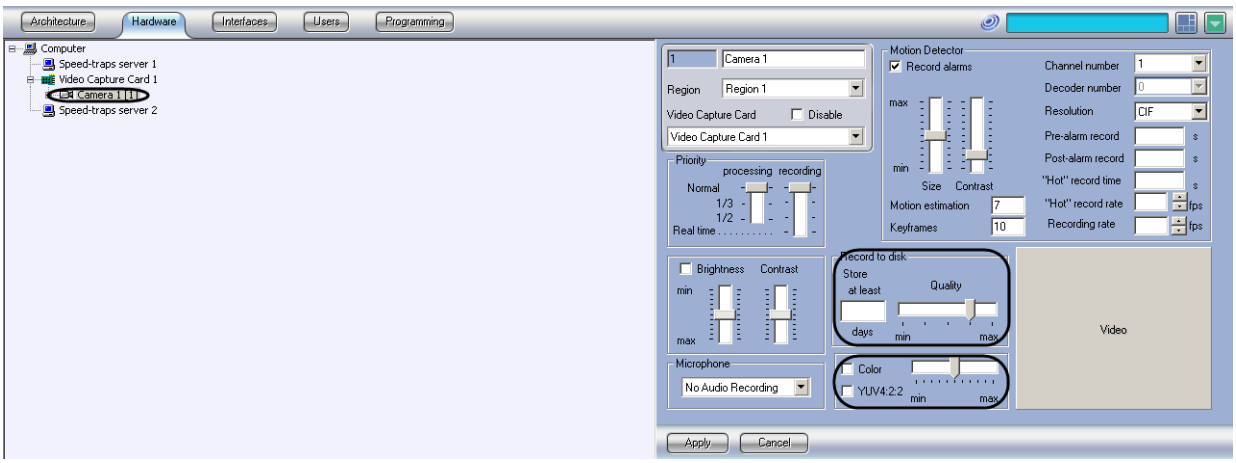


Figure 10.2-21. The object created on the basis of a template

10.2.3.6 *The Find function*

The Find option of the menu is designed to search for an object in a tree. Intellect™ system uses two methods of searching for an object:

a. Searching within a tree. This method is used when only an object name (type) is known. In this case, to find an object, follow the next steps:

   a. display the context menu for the objects tree on the monitor;

   b. select Find in the menu (Figure 10.2-22);

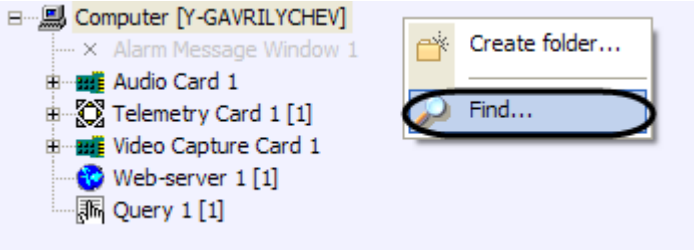


Figure 10.2-22. Selecting the Find function

Now the monitor will display a box to enter the name of the required object.

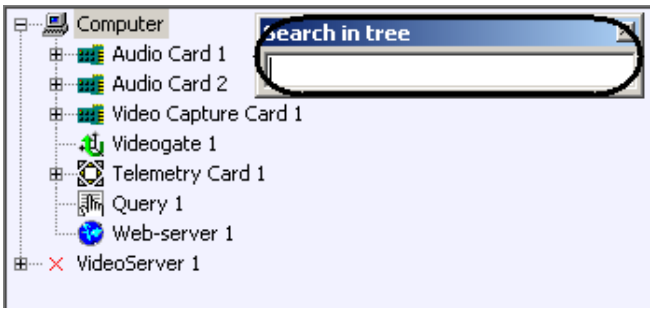


Figure 10.2-23. The box for entering a name of the required object

c. enter the name of the required object (Figure 10.2-24).



Figure 10.2-24. Entering the name of the object

d. press Enter on the keyboard to start searching.

If the object is found, it will be highlighted grey in the objects tree (Figure 10.2-25).



Figure 10.2-25. Example of a positive result of searching for an object

If the system finds no objects, there will be no highlighted objects in the tree (Figure 10.2-26).



Figure 10.2-26. Example of a negative result of searching for an object

To close the window for entering the object name, when the search is complete, click the left mouse button, pointing at the window field displaying the objects tree.

b. Search from a selected object.

To find an object, whose location in the objects tree is approximately known, the next steps can be followed:

a. select an object, located above of the search field.

NOTE. Object search across the tree is more effective, if the required object is a daughter object of the Computer object. Otherwise, the search will go down the branch of the selected object.

b. display the context menu for the objects tree field on the monitor;

c. select Find in the menu (Figure 10.2-27);

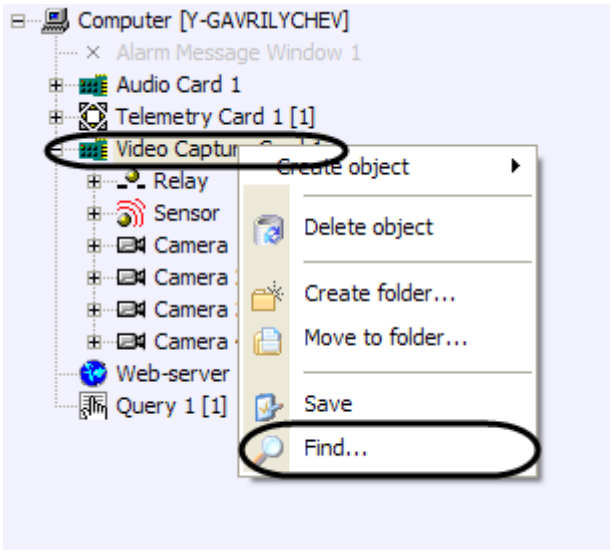


Figure 10.2-27. Selecting the Find function

To proceed further follow method 1 (described above).

10.2.3.7 *The Reconnect function*

This line is displayed on the monitor in cases, when, apart from the base Computer, there is at least one (additional) Computer object, available for connection to the base Computer, communication with which fails, due to unknown reasons.

To install a link between two Computer objects, display the context menu of the additional Computer object, available for connection to the network and select Reconnect from the menu (Figure 10.2-28).

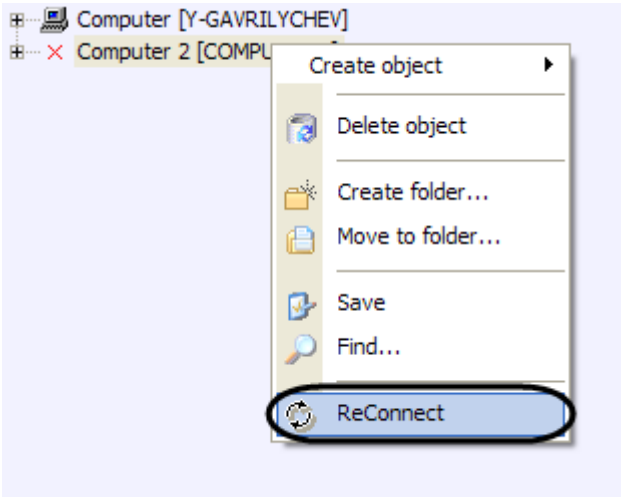


Figure 10.2-28. Selecting the Reconnect option

Now the object of the base and remote computer will be connected to the network (Figure 10.2-29).



Figure 10.2-29. Connection completed

10.2.3.8 *The Send to all function*

This function allows broadcasting intellect.sec, the key file, governing the system configuration, to all PCs which have the distributed digital video surveillance and audio monitoring system. If the system functional has been updated and a new key file was received, it should be updated in all system PCs, using the Send to all function.

This function is accessible only from the context menu of the Computer object, corresponding to the given local computer, which performs administrator functions (Figure 10.2-30).

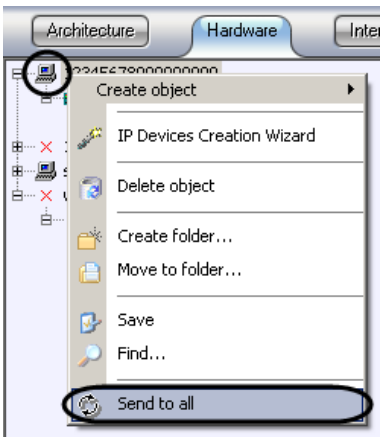


Figure 10.2-30. Selecting the Send to all option

NOTE. If an updated key file is not broadcast in due time to all system computers, the Intellect system will not get started, when the PC is switched on, since the key file data will not match the information contained in the database.

10.2.3.8.1 The Send key function

This function allows updating the key file in the remote computer of the system and can be accessed only from the Main menu of the object, such as Computer, corresponding to the r–mote computer (Figure 10.2-31).

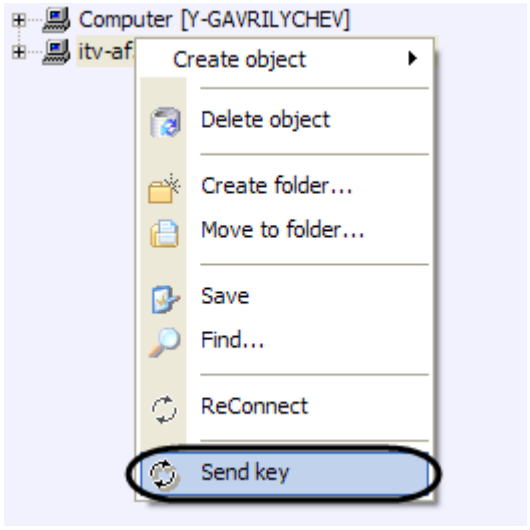


Figure 10.2-31. Selecting the Send key option

NOTE. If an updated key file is not broadcast in due time to the given computer, the Intellect system will not get started, when the PC is switched on, since the key file data will not match the information contained in the database.

10.2.3.9 *Object setting panel*

The setup panel of the system object can be found in the right hand side of the System settings dialog box (Figure 10.2-32) and is designed to displayed and configure the object selected in the tree.

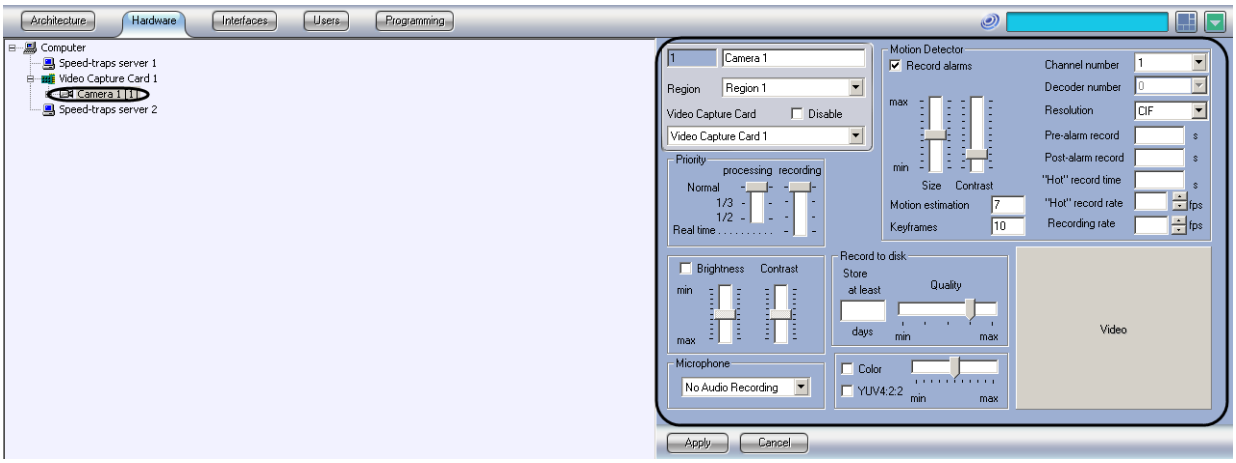
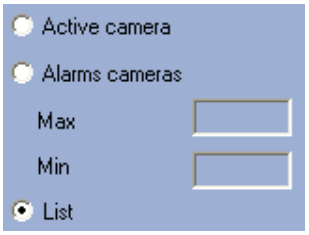


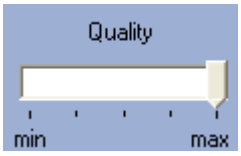
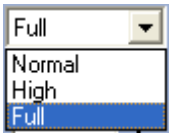
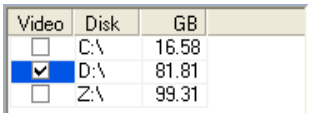
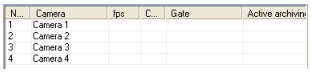
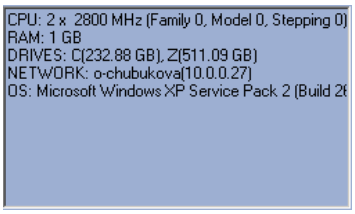
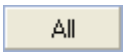
Figure 10.2-32. Settings panel of the Web-server object

Depending on the type of object selected, the settings panel of the given object displays the field for entering certain parameters – the elements of the settings panel.

Elements of the settings panel are given in Table 10.2-3.

Table 10.2-3

Element Image	Element name	Options for using the element
	The field for entering the numerical value of the parameter	Enter the numerical value of the parameter Drag the mouse cursor to the field, click the left button and enter the required number in the keyboard
	The field for entering the line value of the parameter	Enter the line value of the parameter Drag the mouse cursor to the field and enter the required number in the keyboard
	Check mark	Check/un- check the box To check the box, click on it with the left mouse button, to remove the check mark – click it again.
	Selector	Set the selector in the required position To select the required option, click on it with the left mouse button. All other fields in this case get cleared automatically.

Element Image	Element name	Options for using the element
	Slide	Set the slide in the required position. Drag the pointer along the scale with the mouse.
	Dropdown list	Select the required line in the dropdown list. The list drops down as soon as you click the down arrow, which, as a rule, is displayed in the right hand side of the element and is configured as a triangle. To select a line, click on it with the left mouse button.
	Data table	The table displays the fields, which have been automatically filled in previously. To use the table, check the box corresponding to the required line (column). The fields containing text may not be edited. The number of lines may not be edited.
	Table	The data is entered as follows: 1. Drag the cursor to the table cell. 2. Enter/select the required value in the field/from the list in the column lines of the table. As you move to the next cell, the data you have entered is retained in the table. 3. To add new lines in the table, select any field in any filled out line available and press the down arrow on the keyboard. 4. To delete a line from the table, press the Ctrl+Delete key combination.
	Data field	The data field allows displaying various information messages. It cannot be edited.
	Button	The start up function button. To click the button with the mouse, drag the mouse cursor to the button, then click on it with the left mouse

Element Image	Element name	Options for using the element
		button.

10.2.3.10 *The Apply and Cancel buttons*

The Apply and Cancel buttons are displayed at the bottom part of the System settings dialog box and are used to confirm or cancel the entry of values for the object settings (Figure 10.2-33).



Figure 10.2-33. The Apply and Cancel buttons

The Apply button is used to save the assigned object identification and setting parameters. The Cancel button is used to return to the previous object identification and setting parameters.

NOTE. The parameters entered with the Apply button cannot be cancelled with the Cancel button.

10.2.4 System settings dialog box elements

The Apply and Cancel buttons are displayed at the bottom part of the System settings dialog box and are used to confirm or cancel the entry of values for the object settings (Figure 10.2-34).



Figure 10.2-34. The Apply and Cancel buttons

The Apply button is used to save the assigned object identification and setting parameters. The Cancel button is used to return to the previous object identification and setting parameters.

NOTE. The parameters entered with the Apply button cannot be cancelled with the Cancel button.

10.2.5 Architecture tab

The Architecture tab allows creating a distributed video surveillance and audio monitoring system and is used to configure connections and data exchange between various system components.

10.2.5.1 *Connection settings table*

The Connection settings table can be accessed from the Architecture tab. This table is used to configure connections between computers of the distributed system and distribute the information about the events registered by the system. The connection settings table is shown in Figure 10.2-35.

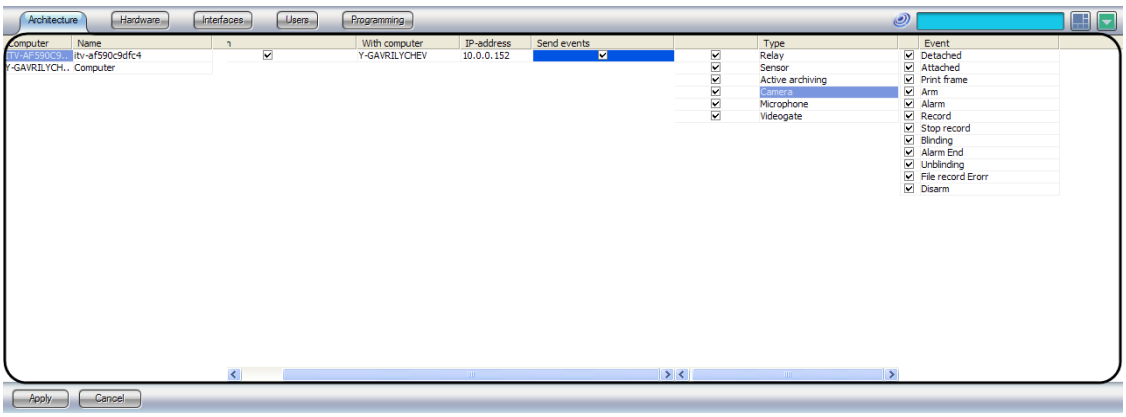


Figure 10.2-35. Connection settings table

Table 10.2-4 describes the elements of the connection settings table.

Table 10.2-4

№	Column	Description	Value
1	Computer	Network name of the computer	Is defined by the OS
2	Name	Computer name in the system	Is defined in the Hardware settings tab
3	Connection	Check mark	If the box is checked, it means that the computer is connected. If the box is not checked, it means that connection was not established.
4	With computer	List of names of the network computers	Is defined by the OS
5	IP-address	IP-address of the computer in the local network	Is either defined by the OS or assigned manually
6	Send messages	Check mark	AA checked box means there is permission for sending the messages to the computer it is connected to. A non-checked box means there is no permission for sending the messages.
7	Type	List of the system objects, from which the events will be broadcast to the selected computers.	Is defined by the list of the registered objects.
8	Event	A check mark in the list across each point of the event list, corresponding to the hardware selected in the Type column.	A checked box means that the given event will be broadcast. A non-checked box means that the given event will not be broadcast.

10.2.6 Hardware tab

The Hardware tab is used to create and configure the system objects corresponding to different hardware types, used as components of the video surveillance and audio monitoring system, which will be created.

10.2.6.1 *Hardware tab components*

The Hardware tab displays the tree of system objects referred to the Hardware group and the settings panel of the object selected in the tree. The settings panels of each object used in the video surveillance and audio monitoring system are described in the following sections.

10.2.6.2 *Computer settings panel*

The face of settings panel of the Computer object is shown in Figure 10.2-36.

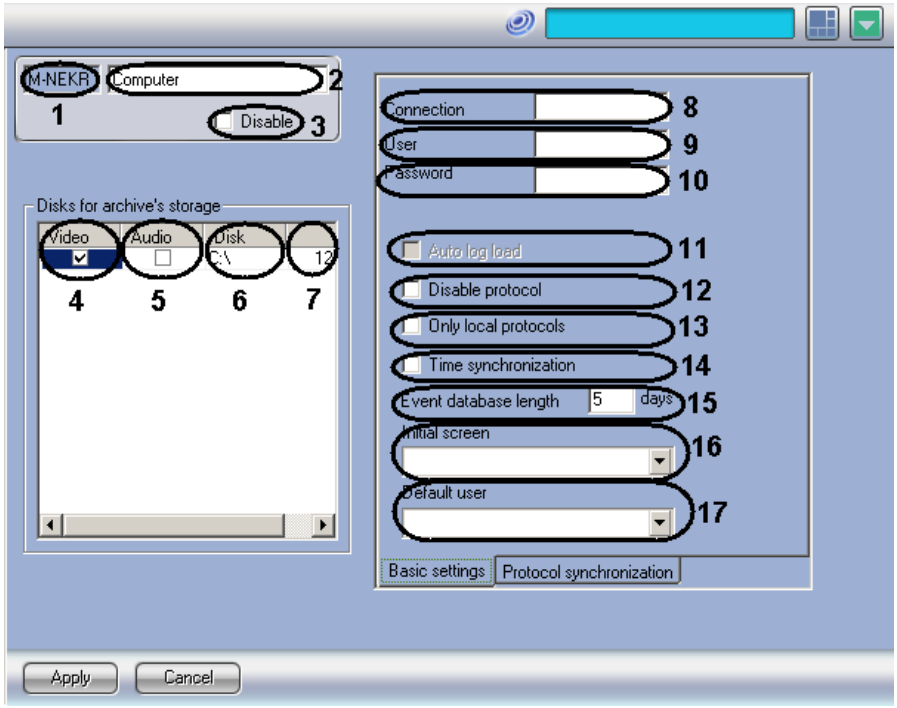


Figure 10.2-36. Computer settings panel.Basic settings tab

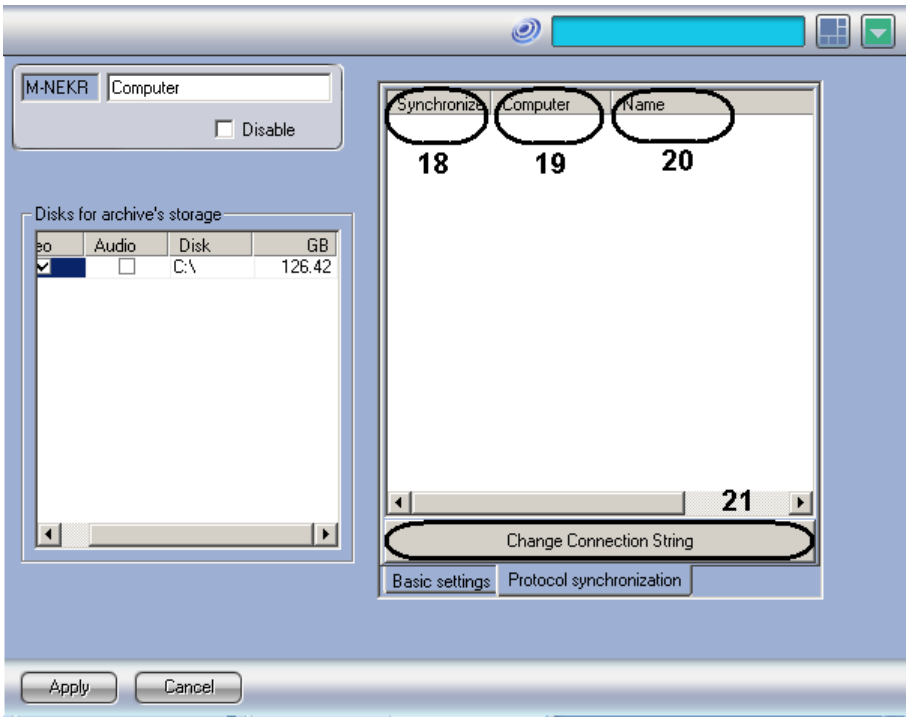


Figure 10.2-37. Computer settings panel.Protocol synchronization tab

Table 10.2-5 describes the parameters of the Computer object settings.

Table 10.2-5

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Network name*	Automatically	Displays the computer name in the local network	Latin and service characters	-	Depends on the number of Computer objects registered in the system
2	Name*	Enter the value in the field	Set the name of the computer object in the system	Latin, Cyrillic and service characters	Comput -er	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
3	Disconnect	Is identified by the check mark	Defines the condition of the Computer object (connected or disconnected) in the system	Boolean type	Not availabl e	Yes – the Computer is disconnected and is not in use No – the Computer

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
						is connected and is in use.
Disks for Archive Storage						
4	Video	Is identified by the check mark	Set the disk for storing video archive from cameras and also audio archive during synchronous audio and video recording	Boolean type	No	Yes – the disk is used for video archive storingt No- the disk is not used for video archive storingt
5	Audio	Is identified by the check mark	Set the disk for storing audio archive from microphones	Boolean type	No.	Yes – the disk is used for video archive storingt No- the disk is not used for video archive storingt
6	Disk	Automatically	Displays the names of local disks , accessible for storing video and audio archive	Names of local disks (Latin characters)	-	Depends on the total number of local disks
7	Gb	Automatically	Contains information about free space on the every accessible disk	Disk space in GB	-	Depends on the total free disk space
Settings Group						
8	Connection	Enter the value in the field	Gives the name to the modem connection used in the Windows OS.	Latin, Cyrillic and service characters	Not defined	A line containing a sequence of any symbols (letters, digits, service characters) Number of symbols

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
						– from 1 to 30.
9	User	Enter the value in the field	Sets the login name for the existing Windows modem connection.	Latin, Cyrillic and service characters	Not defined	A line containing a sequence of any symbols (letters, digits, service characters), case-sensitive. Number of symbols – from 1 to 30.
10	Password	Enter the value in the field	Sets the password for the existing Windows modem connection	Latin, Cyrillic and service characters	Not defined	A line containing a sequence of any symbols (letters, digits, service characters), case-sensitive. Number of symbols – from 1 to 30.
11	Auto log load	Is identified by the check mark	Activates downloading of information about events, registered on the computers of allocated system to the database Events viewer if communication with the given computer fails.	Boolean type	Not availabl e	Yes- download the information about events, registered on the computers of allocated system to the database Events viewer if communication with the given computer fails. No-do not download the information about events, registered on the computers of allocated system to the database Events viewer if communication with the given computer fails.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
12	Disable protocol	Is identified by the check mark	Switches off recording of events recorded to the database the Events viewer.	Boolean type	Not availabl e	Yes - events are not recorded to the database the Events viewer No- events are recorded to the database the Events viewer
13	Only local protocols	Is identified by the check mark	Activates logging to the database the Events viewer only information about events, registered on the given computer	Boolean type	Not availabl e	Yes – only events, registered at this computer are logged to the database the Events viewer No – events, registered at this computer are not logged to the database the Events viewer
14	Time synchronization	Is identified by the check mark	Set time synchronization every day at 00:00 for all computers of the digital allocated video surveillance system with the system time of the given computer.	Boolean type	Not availabl e	Yes - time is synchronized No – time is not synchronized
15	Event database length - days	Enter the value in the field	Set the peiod of time for the events to be stored in the database the Events viewer	Days	-	More than 1
16	Initial screen	Is selected from the list	Set the screen to be displayed on default after downloading of the Intellect digital	Names of the Screen objects registered in	-	Depends on total number of Screen objects registered

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			video surveillance system.	the system		in the system.
17	Default user	Is selected from the list	Defines a default user, i.e., the user, the rights and authorities of which will be used to launch Intellect™ software without a password.	Names of the users registered in the system.	Not defined	List of users registered in the Intellect™ system.
Protocol synchronisation						
18	Synchronise	Is identified by the check mark	Set the syncronisation of database The Events viewer of local and remote computers	Boolean type	-	Yes– database the Events viewer of local and remote computers are synchronised No– database the Events viewer of local and remote computers are not synchronised
19	Computer	Automatically	Displays the netname of remote computer with which database the Events viewer must be synchronised	Latin alphabet and service characters	-	Depends on the number of computers, registered in the system
20	Name	Automatically	Displays the name of remote computer in the net	Latin, Cyrillic and service characters		A line containing a sequence of any symbols (letters, digits, service characters), case-sensitive. Number of symbols – from 1 to 60.
21	Change connection string	Press the button	Access to aettings ian editing the parameters of coonection to the database theEvents	-	-	-

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			viewer of remote computer			

b. The name of the element is not displayed in the settings panel of the given object.

10.2.6.3 *Video capture card settings panel*

The face of video capture card settings panel is shown in Figure 10.2-38.

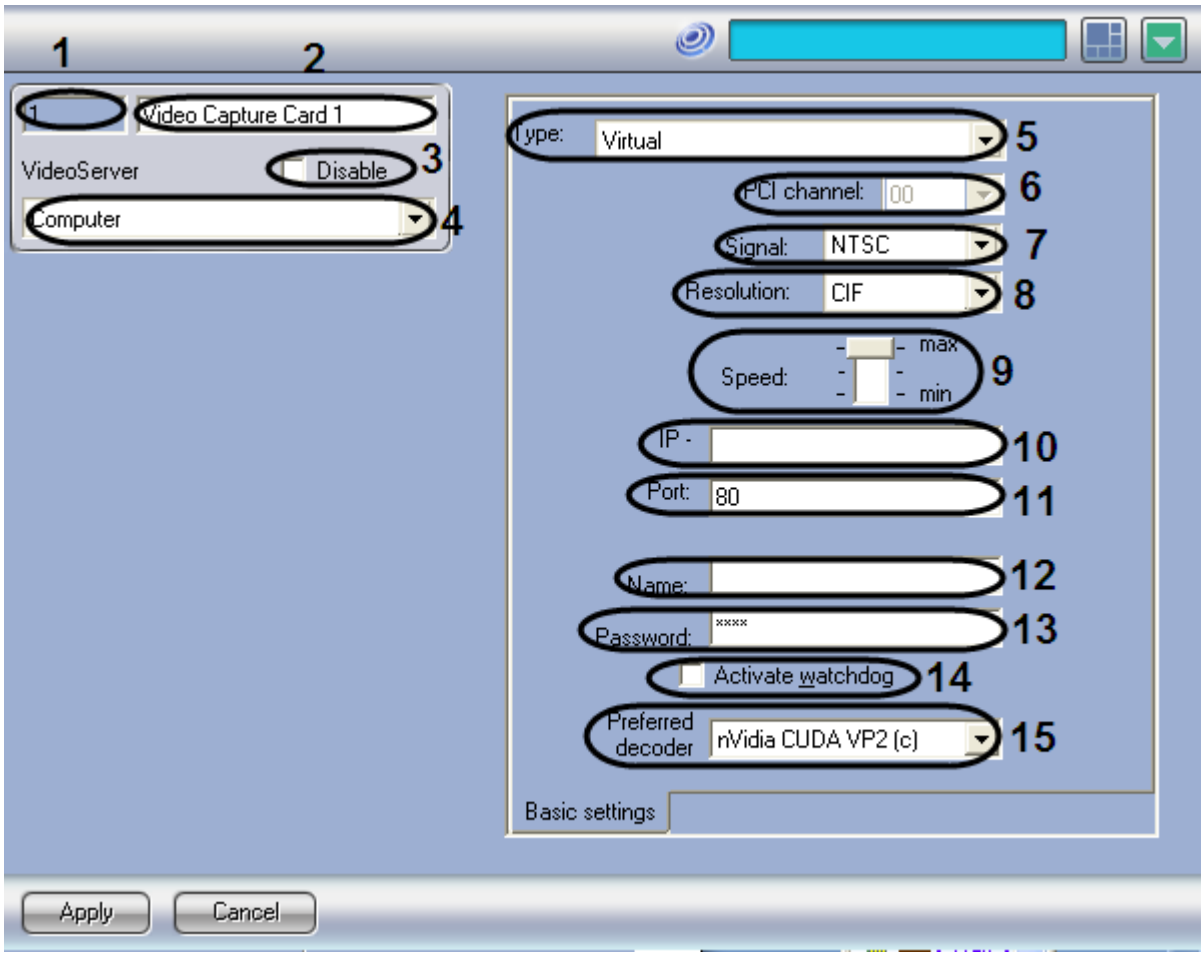


Figure 10.2-38. Video capture card settings panel

Table 10.2-6 describes the parameters of the Video capture card settings panel.

Table 10.2-6

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
1	Identification number*	Automatically	Shows the identification number of the Video capture card object in the system.	Sequence of numbers	-	Depends on the number of Video capture card objects in the system.
2	Name*	Enter the value in the field	Assigns a name to the Video capture card object in the system.	Latin, Cyrillic letters and service characters	Video capture card	A line representing a sequence of any symbols (letters, digits, service characters), not case-sensitive. Number of symbols – from 1 to 60.
3	Disable	Is set with a checkmark	Shows the status (connected or disconnected) of the Video capture card object in the system.	Boolean type	Not available	Yes – the Video capture card object is disabled and is not in use. No – the Video capture card object is connected and is in use.
4	Computer	Is selected from the list	Assigns the parent Computer object for the Video capture card object.	Name of the Computer objects registered in the system.	Name of the parent Computer object	Depends on the number of Computer objects in the system.
Settings Group						
5	Type	Is selected from the list	Set the type of the video capture card	Types of video capture cards	Is not defined	Video capture cards (FS-3, FS-5, FS-6, FS-8, WS–4, WS-6, WS-7/17). Network video hubs (WaveHub, LinuxHub) Network devices (Axis, Panasonic, etc.)

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
6	PCI-channel	Is selected from the list	Assigns the PCI-channel number of the video capture card AD converter.	List of active channe-ls availa b-le for video input.	Is not defined	From 0 to 31, depending on the number of PCI-channels in the video server and the number of installed AD converters.
7	Signal	Is selected from the list	Assigns the format of the incoming video signal.	List of video signal format s	PAL	PAL, NTSC
8	Resolution	Is selected from the list	Assigns resolution of the video image frames.	List of availa b-le video frame resolu t-ions	Normal	PAL Standard- 352x288 pixels. Full - 704x288 pixels. Maximal - 704x576 pixels. NTSC: Standard – 352x240 pixels. Full- 640x240 pixels. Maximal - 640x480 pixels.
9	Rate	Is placed in the required position.	Regulates the total frame rate of the video signals, processed by the video capture card AD converter.	Permit -ted deviati -ons of the total video signal frame rate trans m-	Average	Max – maximum permitted total video signal frame rate. Average – half of the maximum permitted total video signal frame rate.

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
				ission.		Min – one third of the maximum permitted total video signal frame rate.
10	IP-address	Enter the value in the field	Set the IP-address of a network device.	IP-address	Is not defined	A line presented as xxx.xxx.xxx.xxx Contains the values: 0.0.0.0 – 255.255.255.255 Depends on network settings of IP-device registered in the system
11	Port	Enter the value in the field	Set the connection port of IP-device	Non-negativ integer		From 0 to 65535 Depends on net settings of IP-device
12	Name	Enter the value in the field	Set the user's name for connection to the net IP-device	-	-	Depends on net settings of IP-device
13	Password	Enter the value in the field	Assigns a password required for connection to the network device.	-	-	Depends on net settings of IP-device
14	Activate WatchDog	Is set with a checkmark	Activate Windows OS reset, if the main modules of the Intellect video surveillance system hang up	Boole-an type	Not available	Yes – reset of Windows OS is activated No - reset of Windows OS is not activated

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
15	Preferred decoder	Is selected from the list	Sets the decoder by which the video signal will be decoded	A list of available decoders	No	nVidia CUDA VP2(c), Stretch (c), ffMPEG lib, Intel IPP (c) dependent on video capture card

* The element is not shown in the settings panel of the given object.

10.2.6.4 *Camera settings panel*

The face of Camera settings panel is shown in Figure 10.2-39.

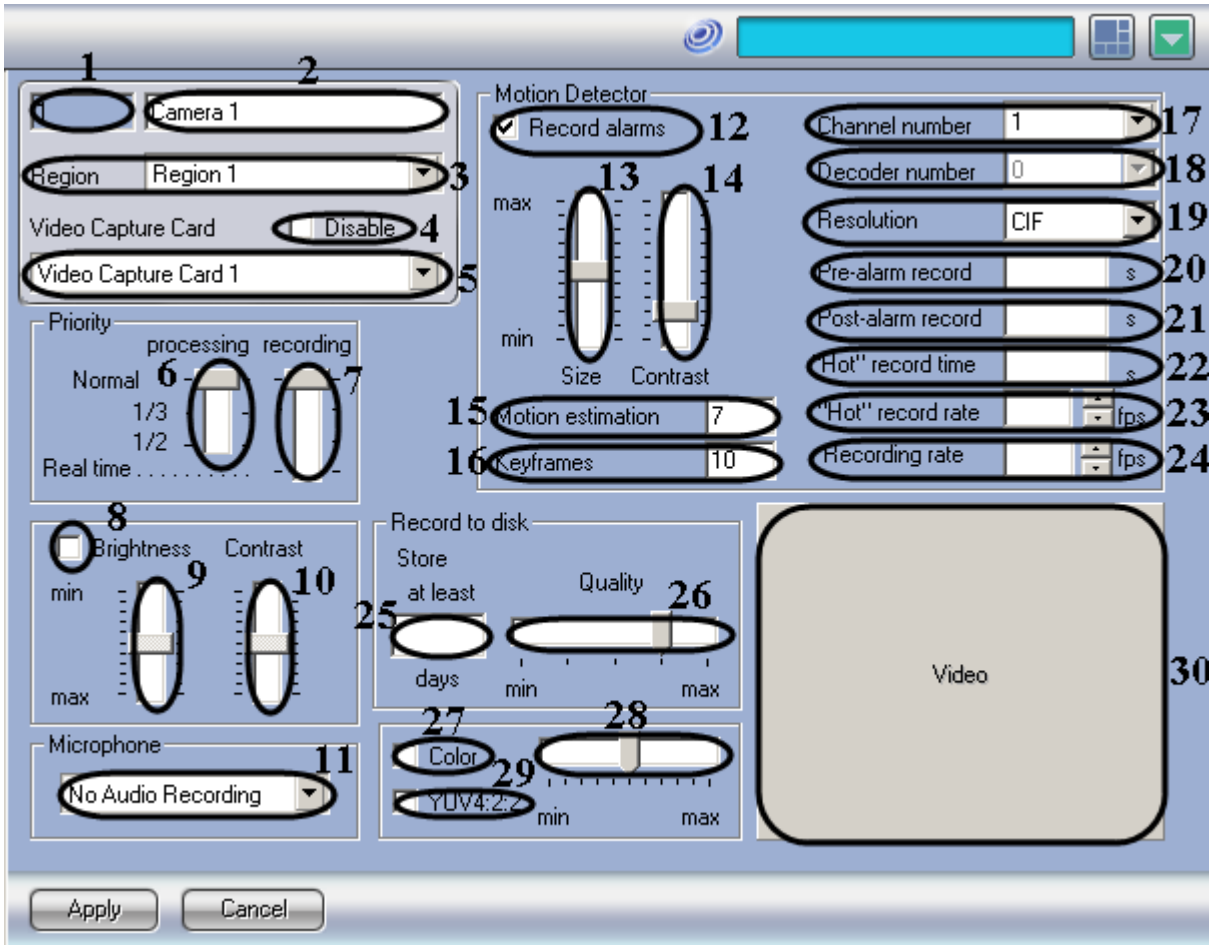


Figure 10.2-39. Camera settings panel

Table 10.2-7 describes the parameters of setting up the Camera object.

Table 10.2-7

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
1	Identification number*	Automatically	Shows the identification number of the Camera system object in the system.	Sequence of numbers	-	Depends on the number of Camera objects in the digital distributed video surveillance system.
2	Name*	Enter the value in the field	Set the name of the Camera object in the system	Latin, Cyrillic letters and service characters	Camera	A line representing a sequence of any symbols (letters, digits, service characters), not case-sensitive. Number of symbols – from 1 to 60.
3	Region	Is selected from the list	Assigns the Section structural element, to which the given Camera object is referred.	Name of the Section objects registered in the system.	Section	Depends on the number of created Section objects registered in the system.
4	Disable	Is set with a checkmark	Set the status (connected or disconnected) of the Camera object in the system.	Boolean type	Not available	Yes – the Camera object is disabled and is not in use. No – the Camera object is connected and is in use.
5	Video capture card	Is selected from the list	Set the parent Video capture card object for the given Camera object.	Name of the Video capture card objects registered in the system.	Name of the parent object Video capture card.	Depends on the number of Video capture card objects in the system.
Priority Group						
6	processing	The slide is placed in the required position.	Set the order of processing the ADC video signals of given	Permitted order of the video	Normal	Normal order of video signals processing

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
			camera	signal processing of the given camera.		1/3 – order 1/3. 1/2 – order 1/2.
7	records	The slide is placed in the required position.	Set the queue of ADC signals processing from the camera in the video recording mode.	Order of the video signal processing in the recording mode.	Normal	Normal – normal order. 1/3 – queue 1/3. 1/2 – queue 1/2. All resources – for recording the video signals from video camera all all the ADC resources are used.
Brightness-contrast group						
8	Brightness- Contrast	Is set with a checkmark	Defines the mode for setting brightness and contrast of the video image.	Types of modes for setting brightness and contrast of the video image.	Automated	Automated ☐ - brightness and contrast are defined automatically. Manual ☑ - brightness and contrast are defined manually. Manual setting with automated optimization ☑ - brightness and contrast are defined manually followed by automated optimization.
9	Image brightness*	The slide is placed in the required position.	Set the image brightness.	From maximum brightness (white image) to minimum brightness	Average	Max – corresponds to the maximum brightness of the image. Min – corresponds to the minimum brightness of

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
				(black image).		the image.
10	Contrast	The slide is placed in the required position.	Set the image contrast	-	Average	Max – corresponds to the maximum contrast of the image. Min – corresponds to the minimum contrast of the image.
Audio Recording Group						
11	Synchro recording*	Is selected from the list	Defines a microphone, whose audio signal will be recorded simultaneously with the video signal from the camera.	Name of the Microphone objects registered in the system.	No recording	Depends on the number of Microphone objects registered in the system. No recording - synchronous audio and video recording is not done
Record to disk group						
12	Record alarms	Is set with a checkmark	Starts automated video signal recording with the alarm from the camera (alarm of the Main activity detector).	Boolean type	Yes	Yes – automated video signal recording with the camera alarm active. No – automated video signal recording with the camera alarm switched off.
13	Size	The slide is placed in the required position.	Defines the minimum object size initiating the main detector.	% in relation to the screen elevation.	Above average	Minimal – 0% of the video surveillance window size. Maximum – 100% of the video surveillance window size
14	Contrast	The slide is placed in the required position.	Set the minimal contrast of the object with which motion detector is activated	-	Less than average	Max – correspond to maximal contrast of the object Min – corresponds to the

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
						minimal contrast of the object
15	Motion estimation	Enter the value in the field	Defines threshold of camera's sensivity to motion depending on the change of object's brightness	Sequence of numbers	7	From 2 to 255.
16	Keyframes	Enter the value in the field	Defines the frequency of including the keyframes in the video sequence compressed with the Motion Wavelet algorithm.	Sequence of numbers	10	From 1 to 100
17	Channel number	Is selected from the list	Defines the number of the channel used to connect a video camera to the video capture card. Corresponds to the BNC-adapter number for the D SUB-25 card.	Sequence of numbers	Not defined	Depends on the type of video capture card. 16 channels at the most.
18	Decoder number	Is selected from the list	Defines the number of channels for connecting a camera to the video capture card. Parameter is active only with the use of outdated video capture cards. Parameter is not active with the use of video capture cards by ITV company	Sequence of numbers	0	From 0 to 3
19	Resolution	Is selected from the list	Set the resolution of the image frame.	List of available resolutions of the image frames.	Normal	PAL: Standard - 352x288 pixels. High - 704x288 pixels. Complete – 704x576 pixels.

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
						NTSC: Standard– 352x240 pixels. High – 640x240 pixels. Complete – 640x480 pixels.
20	Pre-alarm	Enter the value in the field	Defines the time period for pre-event video recording, during which preceding alarm registration.	Time (in sec)	-	Recommended time – from 0 to 20
21	Post alarm	Enter the value in the field	Defines the time period for video recording after alarm registration.	Time (in sec)	-	Recommended time – from 0 to 30
22	Hot recording time	Enter the value in the field	Defines the time period from the alarm registration, during which the frame rate of recording will comply with the value entered in the Hot recording period field.	Time (in sec)	-	Recommended time – from 0 to 30
23	Hot record rate	Enter the value in the field/select from the list	Set the frame rate of alarm's hot recording	fps	-	From 0 to 100. Recommended time – from 0 to 20
24	Recording rate	Enter the value in the field/select from the list	Defines the frame rate for video signal recording.	fps	-	From 0 to 100. Recommended time – from 1 to 25 for PAL From 1 to 30 for NTSC
25	Store at least ____ days	Enter the value in the field	Set the time for storing the video archive from	Day	-	More than 1

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
			the camera and also audio archive(with the synchro records) on the Server			
26	Quality	The slide is placed in the required position.	Defines the quality of the recorded frame. Is a value reciprocal to the level of video signal compression.	-	Above average.	Min – maximum compression level and the lowest video signal quality. Max – the lowest compression level and the highest video signal quality.
Color group						
27	Color	Is set with a checkmark	Defines the incoming video image from the surveillance camera (color or black and white).	Boolean type	Not available	Yes – the camera image will be color. No – the camera image will be black and white.
28	YUV 4:2:2	Is set with a checkmark	Defines the format of the video signal image.	Boolean type	Not available	Yes – the video signal will be displayed in YUV 4:2:2 format. No – the video signal will be displayed in YUV 4:2:0 format.
29	Colors of the image*	The slide is placed in the required position.	Defines the color saturation of the colored video image.	From maximum color saturation to a black and white image.	Average	Max – corresponds to the maximum color saturation of the image. Min – corresponds to the black and white image.
Video group						

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
30	Window of the image	Left mouse click	Displays the image of the camera.	-	-	-

c. Name of the element is not displayed in the settings panel of the given object

10.2.6.5 *Detection zone settings panel*

The Detector object is used to register and configure intelligent video detectors. The Detection zone settings panel is shown in Figure 10.2-40.

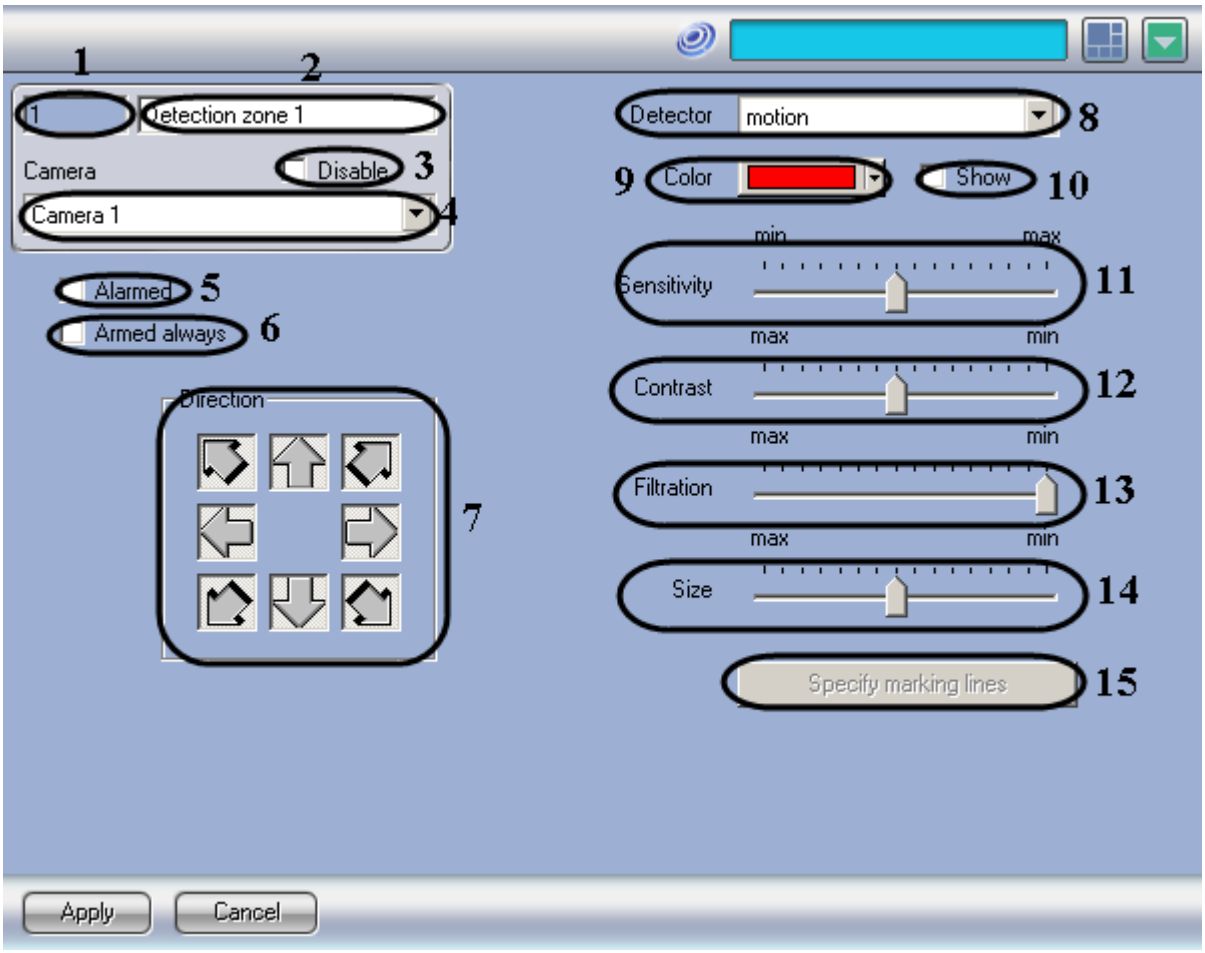


Figure 10.2-40. Detection zone settings panel

Table 10.2-8 describes the parameters of the settings corresponding to the elements of the settings panel of the Camera object.

Table 10.2-8

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Detection zone object in the digital distributed video surveillance system.	Sequence of numbers	-	Depends on the number of Detection zone objects in the digital distributed video surveillance system.
2	Name*	Enter the value in the field	Defines the name of the Detection zone object in the digital distributed video surveillance system.	Latin, Cyrillic letters and service characters	Detection zone	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive. Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Defines the condition of the Detection zone object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Detection zone is disconnected and is not in use No – the Detection zone object is connected and is in use.
4	Camera	Is selected from the list	Defines the parent Camera object of the digital distributed video surveillance system, to which the given Detection zone object refers.	Name of the Camera objects registered in the system	Name of the parent Camera object.	Depends on the number of Camera objects in the digital distributed video surveillance system.
5	Alarmed	Is identified by the check mark	Starts automated recording of the video signal from the camera with the alarm received from the selected detector.	Boolean type	Not available	Yes - automated recording of the video signal with the alarm received from the selected detector is in progress. No - automated recording of the video signal with the alarm received from the selected detector is not in progress.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
6	Always armed	Is identified by the check mark.	Defines the condition of the selected detector as Always armed.	Boolean type	Not available	Yes – the detector should always be armed. No – the operator may disarm the detector.
Direction Group						
7	Direction of search*	Press the arrow buttons.	Defines the direction of search for the motion detector.	8 possible directions to follow an object within the frame.	Pressed: up, down, to the left, to the right Pulled out: up and to the left, up and to the right, down and to the left, down and to the right.	Up, down, to the left, to the right, up and to the left, up and to the right, down and to the left, down and to the right.
Out of the groups						
8	Detector	Is selected from the list	Is used to define the type of the detector in use.	List of the detectors in the system.	Motions	Motions Image sharpening Steadiness Changing the background of: Flash Closing Faces abandoned items; Opposite line Object tracker
9	Color	Is selected either from the list or in the Color settings	Defines the frame border color in the observed	RGB, CMY or HSL.	Red	Corresponds to the standard range of the

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
		panel (is selected using the Color select command).	scene. This parameter is active only with the following detectors selected from the Detector list: motion, face, abandoned items, opposite line, object tracker.			selected color system.
10	Show	Is identified by the check mark	Defines the frame border in the observed scene. This parameter is active only with the following detectors selected from the Detector list: motion, face, abandoned items, opposite line, object tracker.	Boolean type	No – for the motion detector. Yes - for the following detectors: face, abandoned items, opposite line, object tracker.	Yes – the object border is displayed in the observed scene. No – the object border is not displayed in the observed scene.
11	Sensitivity	Set the slide in the required position.	Defines the cognominal parameter of the selected detector settings. Depends on the type of detector selected.	-	Average	-
12	Contrast	Set the slide in the required position.	Defines the cognominal parameter of the selected detector settings. Depends on the type of detector selected. Is not applicable for all detector types.	-	Average	-
13	Filtration	Set the slide in the required position.	Defines the cognominal parameter of the selected detector settings. Depends on the type of detector	-	Minimal	-

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			selected. Is not applicable for all detector types.			
14	Size	Set the slide in the required position.	Defines the cognominal parameter of the selected detector settings. Depends on the type of detector selected. Is not applicable for all detector types.	-	Average	-
15	Set delimitation lines	Is not used	-	-	-	-

d. Name of the element is not displayed in the settings panel of the given object.

10.2.6.6 *Audio card settings panel*

The Audio card object is designed to register and configure audio signal digitization devices installed on the videoserver of the Intellect™ system.

The audio card settings panel is shown in Figure 10.2-41.

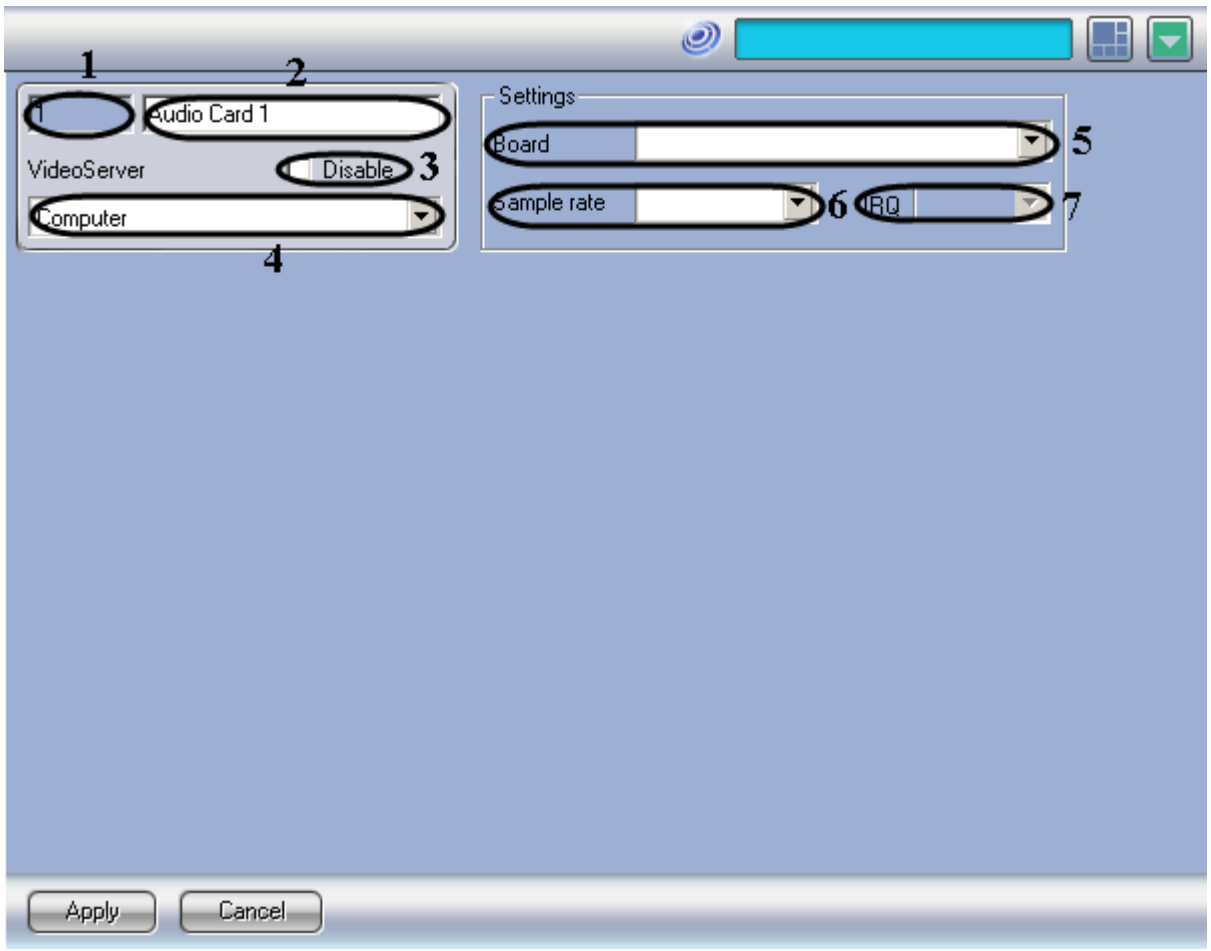


Figure 10.2-41. Audio card settings panel

Table 10.2-9 describes the parameters of the settings corresponding to the elements of the settings panel of the Audio card object.

Table 10.2-9

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Audio card object in the digital distributed video surveillance system.	Sequence of numbers	-	Depends on the number of Audio card objects in the digital distributed video surveillance system
2	Name*	Enter the value in the field	Defines the name of the Audio card object in the digital distributed video surveillance system.	Latin, Cyrillic letters and service characters	Audio card	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive. Number of symbols –

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
						from 1 to 60.
3	Disable	Is identified by the check mark	Defines the condition of the Audio card object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Audio card object is disconnected and is not in use. No – the Audio card object is connected and is in use.
4	Computer	Is selected from the list	Defines the parent Camera object of the digital distributed video surveillance system, to which the given Audio card object refers.	Name of the Computer objects registered in the system	Name of the parent Camera object.	Depends on the number of Computer objects in the digital distributed video surveillance system.
Settings Group						
5	Board	Is selected from the list	Defines the device for sound digitization. Digitization devices include various sound cards, such as SoundBlaster, AD converters of the video capture cards, USB of the audio signal digitization.	List of audio digitization devices.	Not defined	Depends on the number of audio signal digitization devices installed on the videoserver. For SoundBlaster type audio cards - the name of the card For the AD converters of the video capture cards – the name of the video capture card, including the number of the audio channel. For the USB – the name of the video capture card, including the number of the audio channel. For network devices – the type of network device: AX, LH. IpCamAxis

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
6	Digitization frequency	Is selected from the list	Defines the frequency for audio signal digitization.	Hz	For SoundBlaster type audio cards - 8000. For the AD converters of the video capture cards - 8000.	For SoundBlaster type audio cards - the frequency range of the digitization depends on the type of the audio card 48 000 is the maximum value for any card. For the AD converters of the video capture cards - 8000, 16000, 32000. For USB devices – the frequency range of the digitization depends on the type of device used; 48 000 is the maximum value.
7	IRQ	Is not used	-	-	-	-

e. Name of the element is not displayed in the settings panel of the given object.

10.2.6.7 *Microphone settings panel*

The face of the Microphone settings panel is shown in Figure 10.2-42.

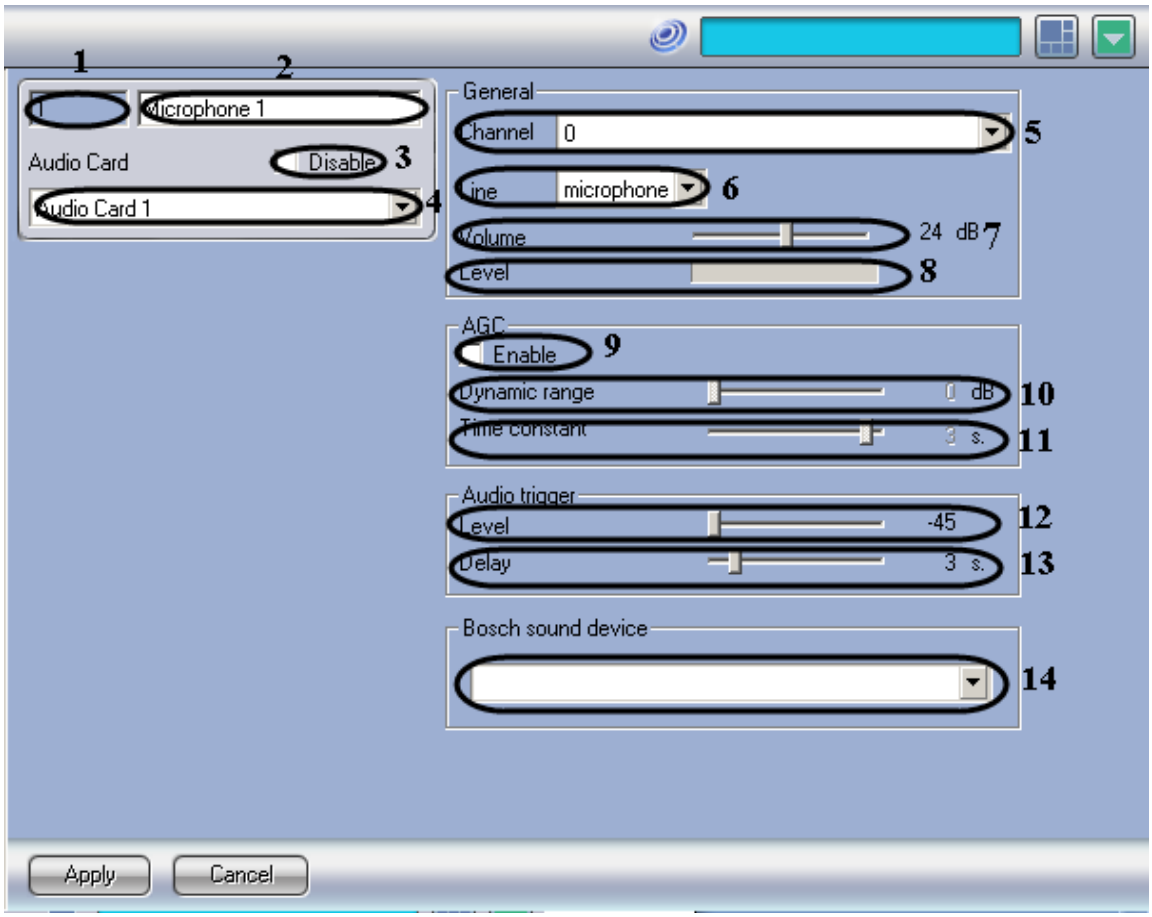


Figure 10.2-42. Microphone settings panel

Table 10.2-10 describes the settings parameters of the Microphone system object.

Table 10.2-10

№	Parameter	Method for entering the parameter	Parameter description	Symbol used	Default value	Value range
1	Identification number	Automatically	Displays the identification number of the Microphone object in the system.	Sequence of numbers	-	Depends on the number of Microphone objects in the system
2	Name	Entering the value in the field	Set the name of the Microphone object in the system	Latin, Cyrillic letters and service characters	Microphone	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive. Number of symbols – from 1 to 60.
3	Disable	Is set by a check box	Defines the condition of the Microphone	Boolean type	No	Yes – the Microphone is disconnected and is not

№	Parameter	Method for entering the parameter	Parameter description	Symbol used	Default value	Value range
			object (connected or disconnected) in the system.			in use. No – the Microphone is connected and is in use.
4	Audio card	Select from the list	Defines the parent Audio card object for the given Microphone object	Name of Sound card objects registered in the system	Name of Sound card parento bject	Depends on the number of Audio cards in the system.
General group						
5	Channel	Select from the list	Defines the number of the channel for the audio signal input in compliance with the RCA-F pin to which the microphone is connected.	Right,left chanel	0	Depends on the type of audio signal digitization card. For ITV AD converters of the audio signal digitization cards and SoundBlaster type audio cards: 0 – Left channel. 1 – Right channel.
6	Line	Select from the list	Set the source of audio signal	Source type of audio signal	Microph one	Microphone – audio signal comes from the microphone. Phone – the audio signal comes from the telephone line.
7	Volume	Is set in the position	Defines the volume of the audio signal	Volume of the sound in Db	24	From 0 to 45
8	Level	Automatically	Displays the volume of the incoming audio signal.	Volume of the sound in Db	-	From 0 to 45
AGC group (is set with the use of Olkha sound cards:«Olkha-9P», «Olkha-10LP», «Olkha-12U», «Olkha-14»)						
9	Enable	Is set by a check box	Enables automatic adjustment of audio signal volume	Boolean type	No	Yes – automatic adjustment of audio signal volume is enable No – automatic adjustment of audio signal volume is disabled

№	Parameter	Method for entering the parameter	Parameter description	Symbol used	Default value	Value range
10	Dynamic range	Is set in the position	Set the level of audio signal volume after the automatic adjustment	Sound volume in Db	0	From 0 to 45
11	Time constant	Is set in the position	Defines the time period, during which audio signal is leveled to the required volume with automatic adjustment	Time in sec	3	From 0,1 to 6
Audio trigger						
12	Level	Is set in the position	Set the volume of the sound, which exeeding leeds to auto recording of audio signal (registration of alarm)	Sound volume in reference units	-45	-45 – audio trigger is on From -44 to 0 –audio trigger is off
13	Delay	Is set in the position	Defines the time period, during which the threshold of audio signal after the end of alarm is being performed	Time in sec	3	From 1 to 16
Bosh sound device group (is set for sound cards IP-cameras Bosch)						
14	Bosh sound device	Select from the list	Set the sound device, audio signals from which shoul be transmitted to loudspeakers of the given IP-camera Bosch	Names of registered sound devices	-	Depends on sound devices, registered in the system

*Name of the element is not displayed in the settings panel of the given object.

10.2.6.8 *Telemetry controller settings panel*

The Telemetry controller object is designed to register and configure serial ports (COM) used for connecting the PTZ units of the Intellect™ system.

The Telemetry controller settings panel is shown in Figure 10.2-43.

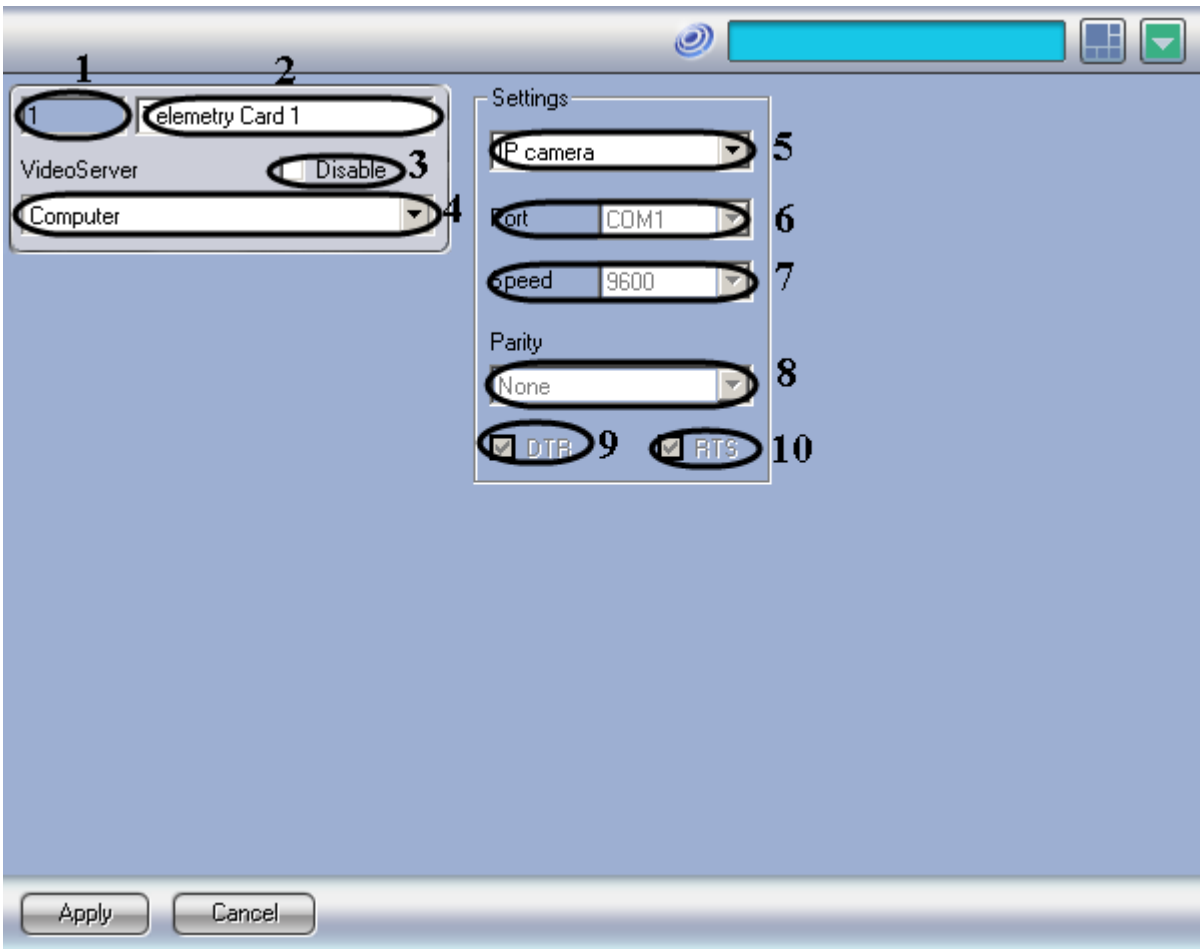


Figure 10.2-43. Telemetry controller settings panel

Table 10.2-11 describes the parameters of the settings corresponding to the elements of the settings panel of the Telemetry controller object.

Table 10.2-11

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Telemetry controller object in the digital distributed video surveillance system.	Sequence of numbers	-	Depends on the number of Telemetry controller objects in the digital distributed video surveillance system
2	Name*	Enter the value in the field	Defines the name of the Telemetry controller object in the digital distributed video surveillance system.	Latin, Cyrillic letters and service characters	Telemetry controller No.	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive. Number of symbols –

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
						from 1 to 60.
3	Disable	Is identified by the check mark	Defines the condition of the Telemetry controller object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Telemetry controller object is disconnected and is not in use No – the Telemetry controller is connected and is in use.
4	Computer	Is selected from the list	Defines the parent Computer object of the digital distributed video surveillance system, to which the given Telemetry controller object refers.	Name of the Computer objects registered in the system	Name of the parent Camera object.	Depends on the number of Computer objects in the digital distributed video surveillance system
Settings Group						
5	Controller type*	Is selected from the list	Defines the data communication protocol with the PTZ unit over the serial port (COM). Data communication protocols are supplied by the PTZ vendors.	Name of the PTZ units integrated in the system.	Videotec	Corresponds to the list of the PTZ units integrated in the system.
6	Port	Is selected from the list	Defines the number of the COM port of the computer, to which PTZ will be connected.	List of COM ports available	COM1	Depends on the number of COM ports in the videoserver or Remote administrator workstation.
7	Speed	Is selected from the list	Defines the data communication rate for the COM port.	Kb/sec	9600	From 300 to 256000.
8	Parity	Is selected from the list	Defines the parity check mode for the data transmission over the COM port.	List of parity check modes.	None	Even, Odd, None, Mark, Space.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
9	DTR	Is identified by the check mark.	Defines the power supply to the PTZ unit via the DTP COM port.	Boolean type	Yes	Yes – the power will be supplied via the DTR port. No – the power will not be supplied via the DTR port.
10	RTS	Is identified by the check mark.	Defines the power supply to the PTZ unit via the RTS COM port.	Boolean type	Yes	Yes – the power will be supplied via the RTS port. No – the power will not be supplied via the RTS port.

6. Name of the element is not displayed in the settings panel of the given object.

10.2.6.9 *PTZ Unit settings panel*

The PTZ unit object is designed to register and configure the PTZ unit in the Intellect™ system.

The PTZ unit settings panel is shown in Figure 10.2-44.

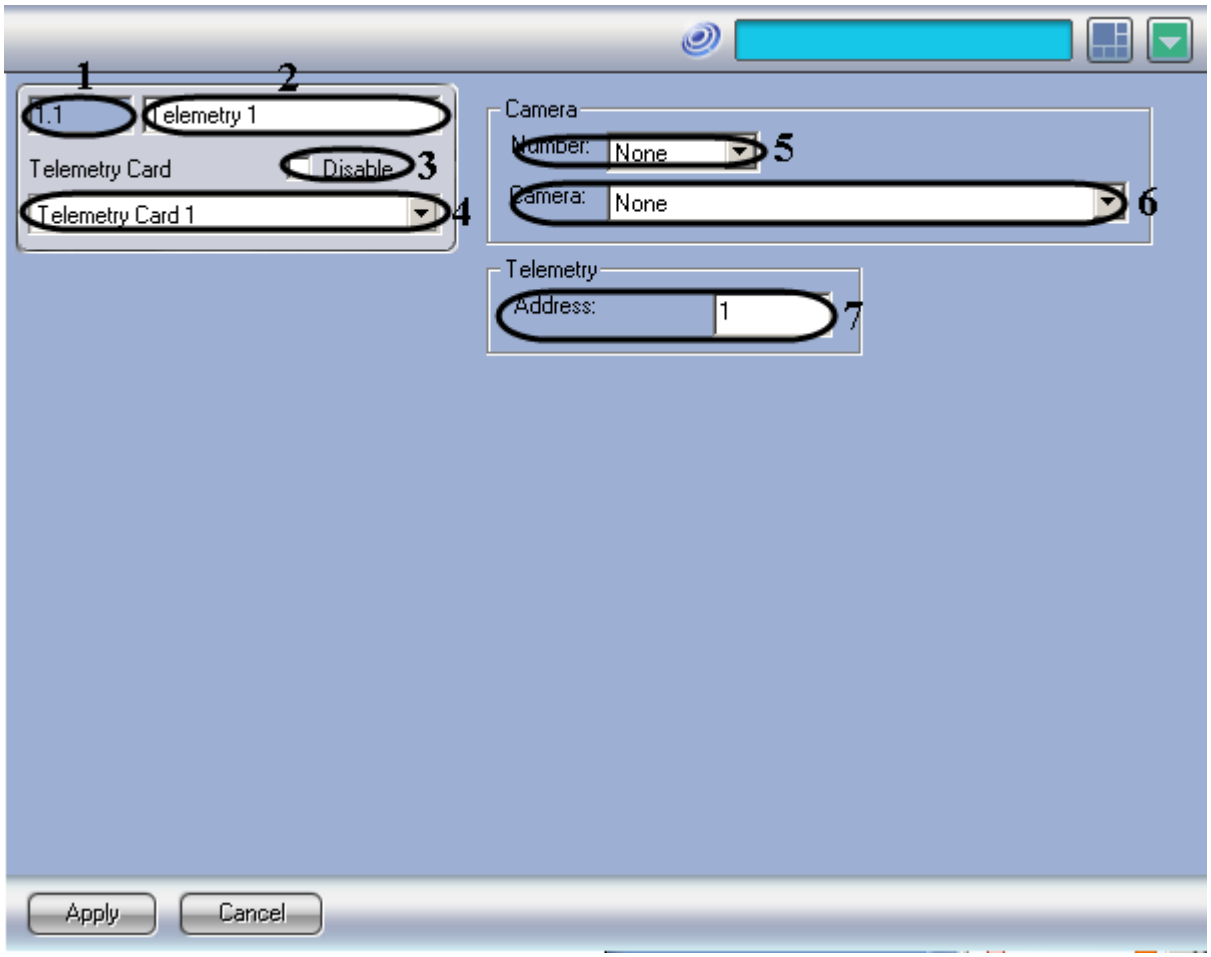


Figure 10.2-44. PTZ Unit settings panel

Table 10.2-12 describes the parameters of the settings corresponding to the elements of the settings panel of the PTZ unit object.

Table 10.2-12

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the PTZ unit object in the digital distributed video surveillance system.	Sequence of numbers	-	Depends on the number of PTZ unit objects in the digital distributed video surveillance system
2	Name*	Enter the value in the field	Defines the name of the PTZ unit object in the digital distributed video surveillance system.	Latin, Cyrillic letters and service characters	PTZ Unit	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive. Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Defines the condition of the PTZ unit object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the PTZ unit is disconnected and is not in use No – the PTZ unit is connected and is in use.
4	Telemetry controller	Is selected from the list	Defines the parent Telemetry controller object of the digital distributed video surveillance system, to which the given PTZ unit object refers.	Name of the PTZ unit objects registered in the system	Name of the parent Telemetry controller object.	Depends on the number of Telemetry controllers in the digital distributed video surveillance system
Camera Group						
5	Number	Is selected from the list	Defines the identification number of the surveillance camera, where the PTZ unit is installed.	Sequence of numbers	Not defined	Depends on the number of surveillance cameras in the digital distributed video surveillance system
6	Camera	Is selected from	Correlates the PTZ unit	Name of the	Not	Depends on the number

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
		the list	to the surveillance camera, where it is installed. The parameter is used by the Video Monitor and telemetry window for the purposes of controlling PTZ units of the surveillance cameras.	Camera objects registered in the system	available	of Camera objects in the digital distributed video surveillance system.
7	Address	Is selected from the list	Defines the PTZ unit address, installed as hardware (with the jumpers on the PTZ unit circuit board) or as software (with the software designed to weave PTZ units).	Sequence of numbers	1	Integral number from 1 to 255. Depends on the PTZ protocol.

7. Name of the element is not displayed in the settings panel of the given object.

10.2.6.10 *Settings panel of the Control panel*

The Control panel object is designed to register and configure a specialized control panel used for PTZ control in the Intellect™ system.

The settings panel of the Control panel object is shown in Figure 10.2-45.

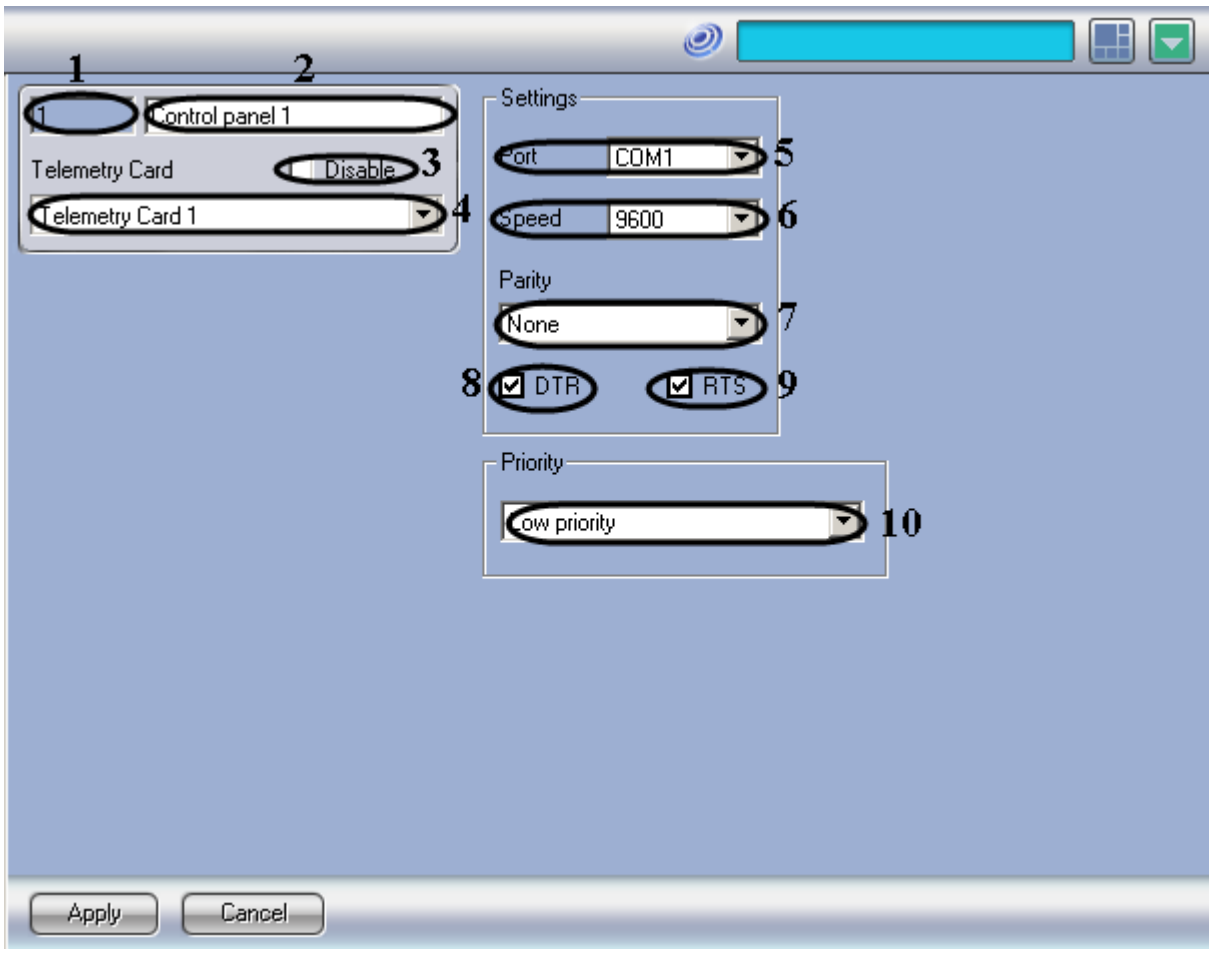


Figure 10.2-45. Settings panel of the Control panel

Table 10.2-13 describes the parameters of the settings corresponding to the elements of the settings panel of the Control panel object.

Table 10.2-13

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Control panel object in the digital distributed video surveillance system.	Sequence of numbers	-	Depends on the number of Control panel objects in the digital distributed video surveillance system
2	Name*	Enter the value in the fieldhe	Defines the name of the Control panel object in the digital distributed video surveillance system.	Latin, Cyrillic and service characters	Control panel	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive. Number of symbols –

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
						from 1 to 60.
3	Disable	Is identified by the check mark	Defines the condition of the Control panel object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Control panel object is disconnected and is not in use No – the Control panel is connected and is in use.
4	Telemetry controller	Is selected from the list	Defines the parent Telemetry controller object of the digital distributed video surveillance system, to which the given Control panel object refers.	Name of the PTZ unit objects registered in the system	Name of the parent Telemetry controller object.	Depends on the number of Telemetry controller objects in the digital distributed video surveillance system
Settings Group						
5	Port	Is selected from the list	Defines the number of the COM port of the computer, to which the Control panel will be connected.	List of COM ports available	COM1	Depends on the number of COM ports in the video server or Remote Administrator Workstation.
6	Speed	Is selected from the list	Defines the data communication rate for the COM port.	Kb/sec	9600	From 300 to 256000.
7	Parity	Is selected from the list	Defines the parity check mode for the data transmission over the COM port.	List of parity check modes.	None	Even, Odd, None, Mark, Space.
8	DTR	Is identified by the check mark.	Defines, whether or not power should be supplied to the control panel via the DTA COM port.	Boolean type	Yes	Yes – the power will be supplied via the DTR port. No – the power will not be supplied via the DTR port.
9	RTS	Is identified by the check mark.	Defines, whether or not power should be	Boolean type	Yes	Yes – the power will be supplied via the RTS port.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			supplied to the control panel via the RTS COM port.			No – the power will not be supplied via RTS port.
10	Priority	Is selected from the list	Defines priorities for control of the PTZ units using the Control panel.	Names of priorities used to control PTZ units.	Low	Control prohibited – the PTZ unit cannot be controlled using the Control panel. Low – the given PTZ can be controlled no sooner than when the PTZ with standard or high priorities has been controlled. Standard – the given PTZ can be controlled no sooner than when the PTZ with high priority has been controlled. High – the PTZ with the given priority will be controlled first.

8. The name of the element is not displayed in the settings panel of the given object.

10.2.6.11 *Active archive settings panel*

The face of Active archive settings panel is shown in Figure 10.2-46.

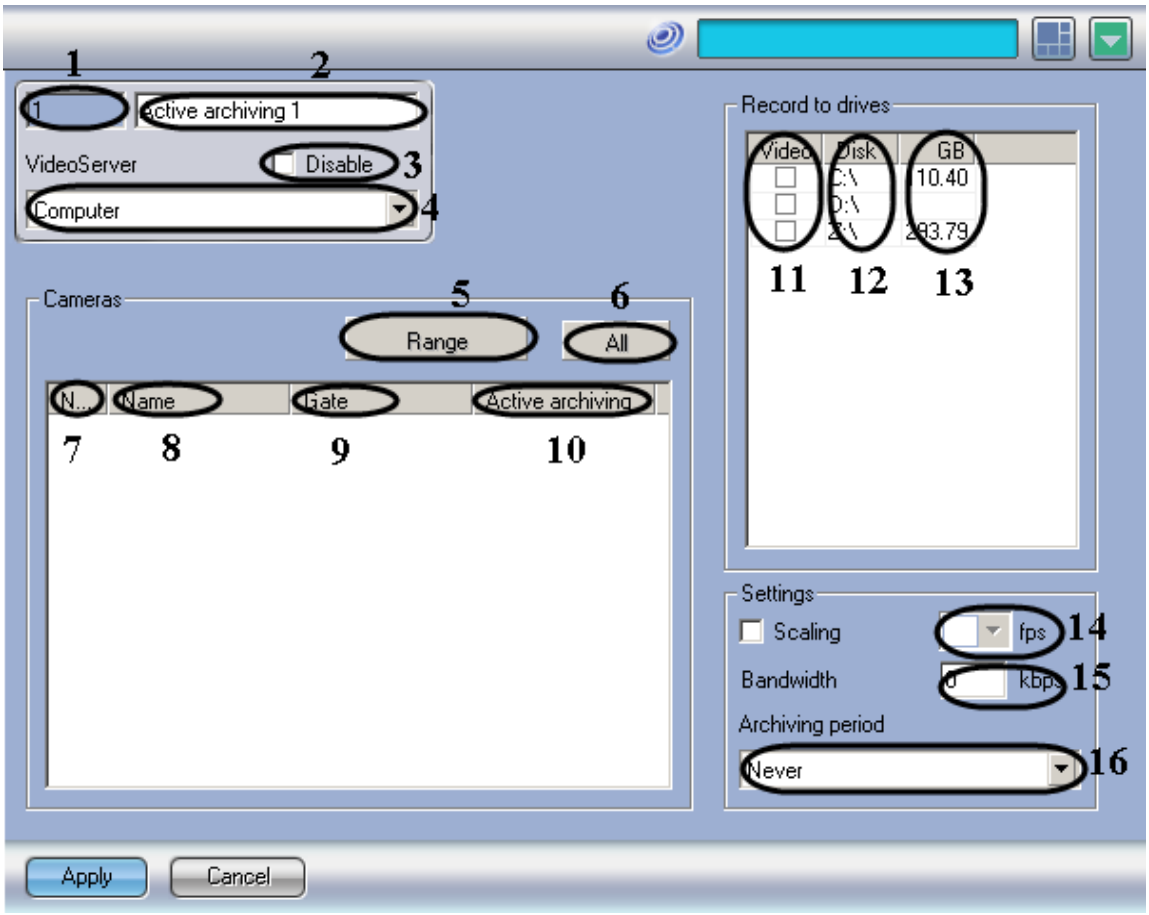


Figure 10.2-46. Active archive settings panel

Table 10.2-14 describes the parameters of the settings corresponding to the elements of the settings panel of the Active archive object.

Table 10.2-14

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Active archive object in the system.	Sequence of numbers	-	Depends on the number of Active archive objects in the system.
2	Name*	Enter the value in the field	Defines the name of the Active archive object in the system.	Latin, Cyrillic and service characters	Active archive	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive. Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Defines the condition of the Active archive object (connected or disconnected) in the	Boolean type	Not available	Yes – the Active archive object is disconnected and is not in use.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			system.			No – the Active archive object is connected and is in use.
4	Computer	Is selected from the list	Defines the parent Computer object of the system for the given Active archive object.	Name of the Computer objects registered in the system	Name of the parent Coputer object.	Depends on the number of Computer objects in the system
Cameras Group						
5	Range	The button is pressed.	Access to the complex selection of video cameras for copying of video archive to Active archive.	-	-	-
6	All	The button is pressed.	Selection of all cameras registered in the system for copying of video archive to Active archive.	-	-	-
7	Number	Is selected from the list	Defines the identification number of the surveillance camera for copying of video archive to Active archive.	Sequence of numbers	-	Depends on the number of cameras registered in the system
8	Camera	Is selected from the list	Set the name of the camera for copying of video archive to Active archive.	Names of cameras registered in the system	-	Depends on the number of cameras registered in the system
9	Gate	Is selected from the list	Set the Video gate object through which video archive from the selected camera has to be transferred to the Active archive.	Name of the Gate objects registered in the system	-	Depends on the number of Gate objects registered in the system
10	Active archive	Is selected from the list	Defines the Active archive, which will supply the data to the given Active archive.	Name of the Active archive objects registered in the system.	Not defined	Depends on the number of Active archive objects registered in the system.
Record to disk group						
11	Video	Is identified by the check mark	Set the disk to store the Active Archive	-	Not available	Yes, the disk to store the Active Archive No, the disk is not used to store the Active

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
						Archive
12	Disk	Automatically	Displays names of local (network, USB) disks, accessible for storage of Active Archive.	Name of accessible disks (Latin characters)	-	Depends on the total number of accessible disks.
13	Gb	Automatically	Diaplays information about free space on the every accessible disk	Disk space in GB	-	Depends on free disk space
Settings Group						
13	Scaling function*	Is identified by the check mark	Includes scaling of video archive for transferrance to the Active Archive	Boolean type	-	Yes – the scaling function is active. No – the scaling function is not active.
14	Scaling	Is selected from the list	Defines the rate of Active archive's video files while scaling.	Frame/sec	Not defined	1,2,3,4,6,8,12,25
15	Bandwidth	Enter the value in the field	Defines the maximum Bandwith of video archive to the Active archive through the local network.	Kbit/sec	0	Depends on the bandwidth of the local network and resources used by the computer. 0-Bandwidth
16	Archiving period	Is selected from the list	Set the timetable of copying of video archive to the Active archive.	Name of objects registered in the system"time zone" Never Always	Never	Never – copying of video archive to the Active archive is not carried on. Always – copying of video archive to the Active archive is constantly carried on Time zone – copying of video archive to the Active archive is carried on according to the defined time zone.

9. The name of the element is not displayed in the settings panel of the given object.

10.2.6.12 *Special keyboard settings panel*

The Special keyboard object is designed to register and configure a special keyboard used for on-line control of major functions of the Intellect™ digital distributed video surveillance system.

The Special keyboard settings panel is shown in Figure 10.2-47.

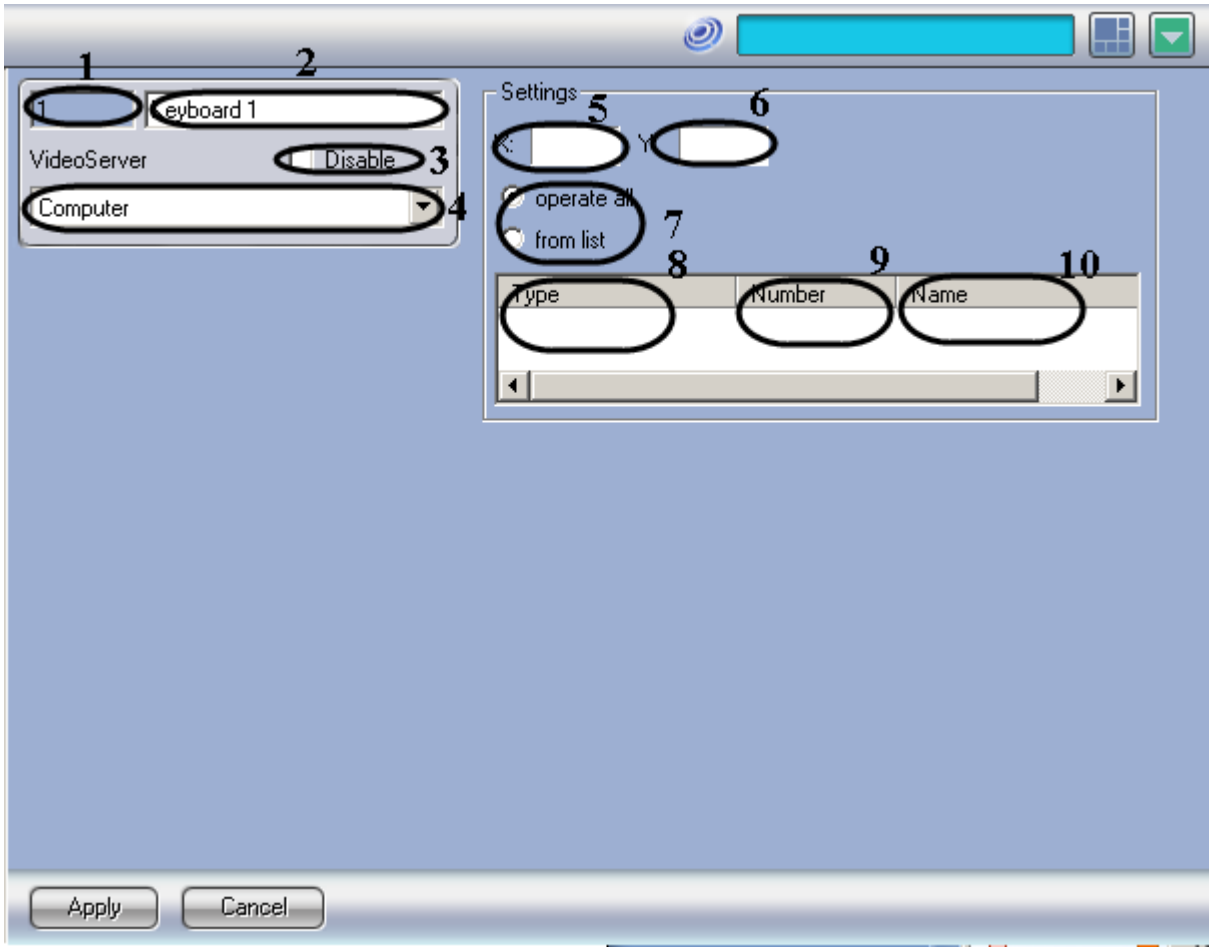


Figure 10.2-47. Special keyboard settings panel

Table 10.2-15 describes the parameters of the settings corresponding to the elements of the settings panel of the Special keyboard object.

Table 10.2-15

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Special keyboard object in the digital distributed video surveillance system.	Sequence of numbers	-	From 1 and above. Depends on the number of Special keyboard objects in the digital distributed video surveillance system
2	Name*	Enter the value in the field	Defines the name of the Special keyboard object in the digital distributed video surveillance system.	Latin, Cyrillic and service characters	Special keyboard	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
3	Disable	Is identified by the check mark	Defines the condition of the Special keyboard object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Special keyboard object is disconnected and is not in use No – the Special keyboard object is connected and is in use.
4	Computer	Is selected from the list	Defines the parent Computer object of the digital distributed video surveillance system, to which the given Special keyboard object refers.	Name of the Computer objects registered in the system	Name of the parent Camera object.	Depends on the number of Computer objects in the digital distributed video surveillance system
Settings Group						
5	X	Entering the value in the field.	Defines the coordinate on the X horizontal axis for the upper left corner of the object selection window, to which the given command refers.	% of the screen width.	Not defined	From 0 to 100.
6	Y	Entering the value in the field.	Defines the coordinate on the Y vertical axis for the upper left corner of the object selection window, to which the given command refers.	% of the screen height.	Not defined	From 0 to 100.
7	Control devices*	Set the selector in the required position	Defines the interface objects, which will be controlled with the special keyboard.	Types of controllable devices	Operate all	Operate all – the Operator may operate all interface objects according to the settings in the Special keyboard configuration. From list – the Operator may operate only those interface objects, which are defined in the list below.
8	Type	Is selected from the list	Defines the type of interface object, which may also be operated using the Special keyboard.	Types of objects registered in the system.	Not defined	Depends on the number of interface objects created in the digital distributed video surveillance system.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
9	Number	Is selected from the list	Defines the identification number of an interface object, which may also be operated using the Special keyboard.	Sequence of numbers	Not defined	Depends on the number of created devices, selected in item 8 of the digital distributed video surveillance system.
10	Parameter	Automatically	Defines the device selected in item 9.	Name of the objects of the same type registered in the system	Not defined	Depends on the number of created devices, selected in item 8 of the digital distributed video surveillance system.

10. The name of the element is not displayed in the settings panel of the given object.

10.2.6.13 *Settings panel of the system object «System restarting service»*

The system object's settings panel «System restarting service» is shown in Figure 10.2-48.

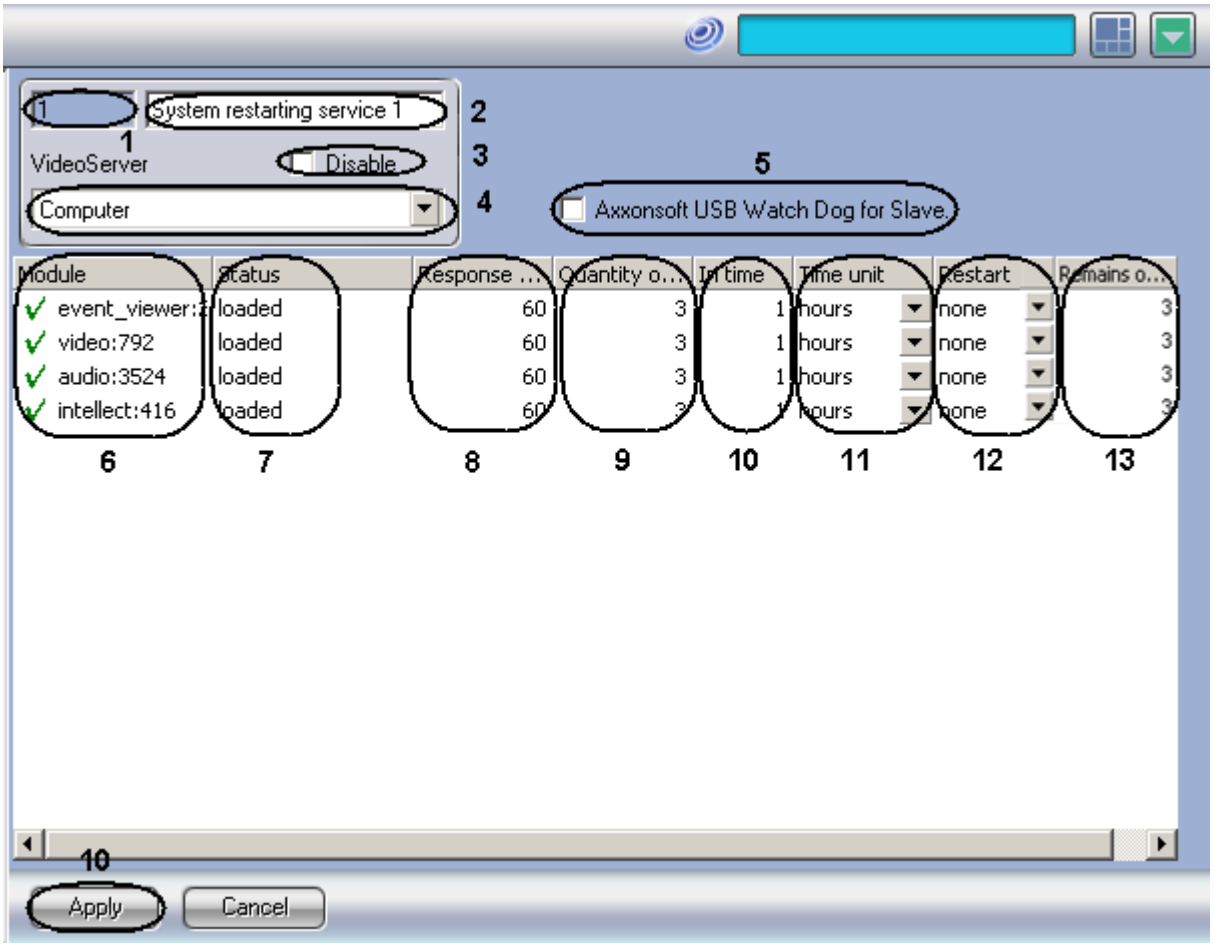


Figure 10.2-48. System object's settings panel «System restarting service»

Table 10.2-16 describes the parameters of the object settings «System restarting service.

Table 10.2-16

№	Name of parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Field «Identification number»	Automatically	Displays the object's identification number «System restarting service» in the system	Sequence of numbers	-	From 1 and above. Depends on the number of objects «System restarting service» in the system
2	Field «Name»	Enter the value in the field	Defines the name of the object «System restarting service» in the system	Latin, Cyrillic and service characters	System restarting service	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive Number of symbols – from 1 to 60.
3	Checkbox «Disable»	Is identified by the check mark	Defines the condition (connected or disconnected) of the «System restarting service» in the system	Boolean type	No	Yes – the System restarting service is disconnected and is not in use No – the System restarting service is connected and is in use.
4	Dropdown list «Computer»	Is selected from the list	Defines the parent Computer object in the system , to which the given object «System restarting service»refers	Name of the Computer objects registered in the system	Name of the parent Computer object.	Name of the parent Computer object(object «System restarting service »must not be edited remotely)
5	Checkbox «ITV USB Watch Dog for Slave.exe»	Is identified by the check mark	Activates computer system of automatic restarting with the albescence of slave.exe. process's activity	Boolean type	No	Yes – system of automatic restarting is activated No – system of automatic restarting is deactivated
Control table of «Intellect» complex 's modules operation						
6	Column «Module»	Automatically	Displays the list of started modules at the computer	Name f started modules	-	Depends on the number of modules, registered in the system
7	Column «Status»	Automatically	Displays current state of modules	Name of current states and modules	-	Loaded–module operates Unloaded (red field) – on the expiry of waiting time interval module's response is abscent Unloaded – module is unloaded
8	Column«Response time, sec»	Entering of text in the field	Set waiting time interval of module's response in seconds. With the absence of response on the	Nonnegative integers	60	From 0 and above

№	Name of parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			expiry of set time interval the system may be restarted.			
9	Column«Quantity of restarts»	Entering of text in the field	Set the maximal quantity of restarts for a period of time, specified in the column «In time » and «Period type »	Nonnegative integers	3	From 0 and above
10	Column «In time»	Entering of text in the field	Set period of time for which maximal quantity restarts of the system may be performed	Nonnegative integers	1	From 0 and above
11	Column«Period type»	Selection of value from the list		Unit s of time measurement	hours	hours –time period is measured in hours days – time period is measured in days
12	Column«Restart»	Selection of value from the list	Set the type of system's restarting	Name of possible types of restarts	Nothing	Nothing – restarting is not being performed Module – module's restarting is being performed Core set – restarting of the «Intellect» core set is being performed
13	Column «Remains of restarts»	Automatically	Displays remains or restarts for a time period, set in the columns «In time» and «Type of period »	Nonnegative integers	-	Depends on the maximal quantity of restarts and on the fact how many restarts have been performed for a current time period

10.2.6.14 *Settings panel of the Voice Notification Service object*

The Voice notification service object is designed for the registration of the program module, which supports voice notification of the surveillance system operation, upon occurrence of certain events.

The Voice notification service settings panel is shown in Figure 10.2-49.

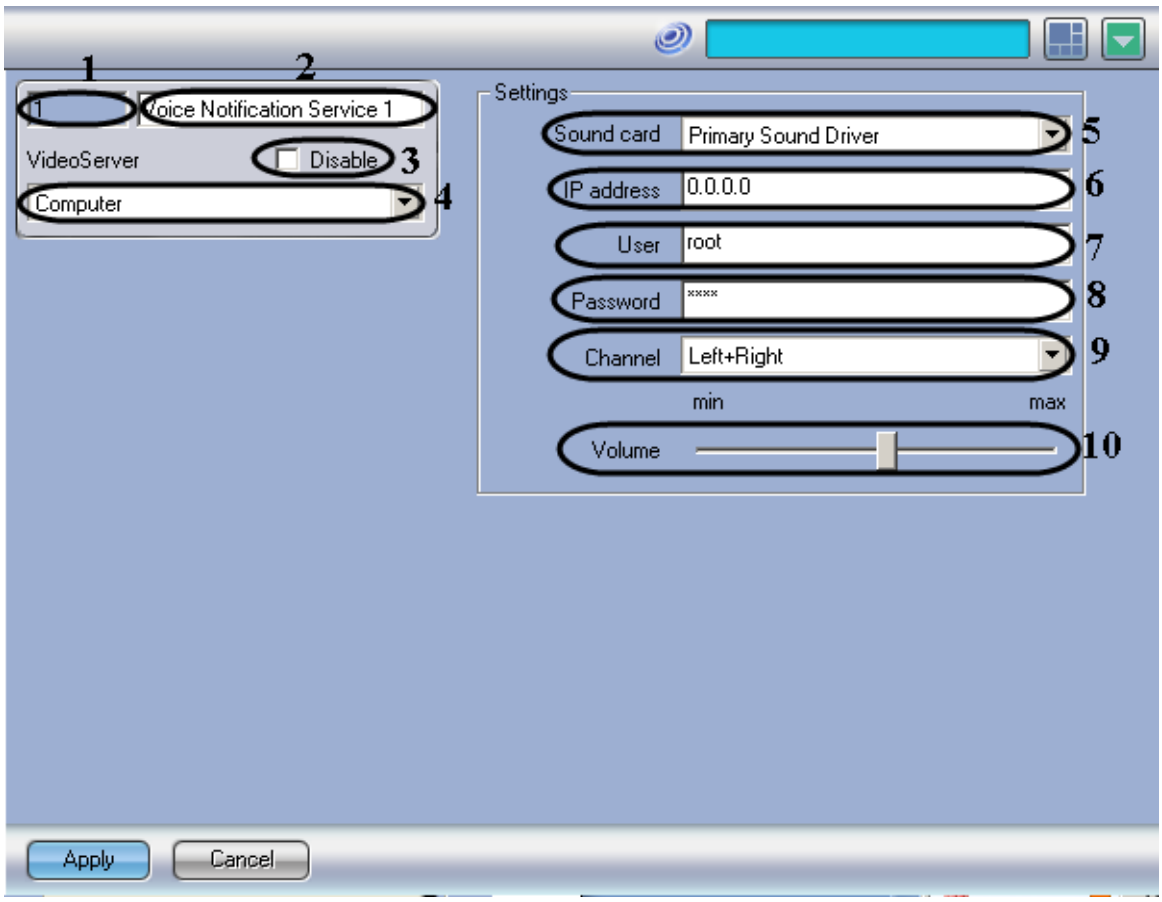


Figure 10.2-49. Settings panel of the Voice Notification Service object

Table 10.2-17 describes the parameters of the settings corresponding to the elements of the settings panel of the Voice notification service object.

Table 10.2-17

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Voice notification service object in the digital distributed video surveillance system.	Sequence of numbers	-	From 1 and above. Depends on the number of Voice notification service objects in the digital distributed video surveillance system
2	Name*	Enter the value in the field	Defines the name to the Voice notification service object in the digital distributed video surveillance system.	Latin, Cyrillic and service characters	Voice notificati -on service	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
3	Disable	Is identified by the check mark	Defines the condition of the Voice notification service object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Voice notification service is disconnected and is not in use No – the Voice notification service is connected and is in use.
4	Computer	Is selected from the list	Defines the parent Computer object of the digital distributed video surveillance system, to which the given Voice notification service object refers.	Name of the Computer objects registered in the system	Name of the parent Camera object.	Depends on the number of Computer objects in the digital distributed video surveillance system
Settings Group						
5	Audio card	Is selected from the list	Defines the device, which will receive an audio signal for voice notification.	Types of audio devices registered in the system.	Name of the audio card installed.	Name of the installed audio card – defines the audio card in the video server of Remote Administrator Workstation, which will process the audio signal of the voice notifications. LinuxHub – defines the LinuxHub type device, which will reproduce the audio signal of the voice notification. Axis – defines the Axis type device, which will reproduce the audio signal of the voice notification.
6	IP-address	Enter the value in the field	Defines the IP-address of LinuxHub and Axis devices. *NOTE. This field is active, if LinuxHub and Axis options are selected in the Audio card menu.*	Sequence of numbers	0.0.0.0	Sequence of symbols like: xxx.xxx.xxx.xxx From 0.0.0.0 to 255.255.255.255 depending on the local network settings.
7	User	Enter the value in the field	Defines the user name used for connection to LinuxHub and Axis	Latin characters, digits and service	root	A line containing a sequence of any symbols (letters, digits,

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			devices. *NOTE. This field is active, if LinuxHub and Axis options are selected in the Audio card menu.*	characters.		service characters), case-sensitive. Number of symbols – from 1 to 60.
8	Password	Enter the value in the field	Defines a password used for connection to LinuxHub and Axis devices. *NOTE. This field is active, if LinuxHub and Axis options are selected in the Audio card menu.*	Latin characters, digits and service characters.	root	A line containing a sequence of any symbols (letters, digits, service characters), case-sensitive. Number of symbols – from 1 to 60.
9	Channel	Is selected from the list	Defines a channel in the audio card of the video server to reproduce the audio signal.	Name of the audio channel, where the sound is transmitted.	Left+Rig-ht	Left+Right – the audio notification signal is transmitted to both channels of the audio card. Left – the audio notification signal is transmitted to the left channel of the audio card. Right – the audio notification signal is transmitted to the right channel of the audio card.
10	Volume	The slide is placed in the required position.	Defines the volume of the audio signal, transmitted to the audio card. *NOTE. The option is active, if the Audio board option is selected in the audio card menu.*	Db	24 Db	Min - 0 Max - 45

11. The name of the element is not displayed in the settings panel of the given object.

10.2.6.15 *Voice messages service settings panel*

The Voice messages service is designed for registration of the program module, which supports transmission of voice messages through telephone lines. This service provides automatic redial of pre-defined telephone numbers and playback of audio files.

The Voice messages service settings panel is shown in Figure 10.2-50.

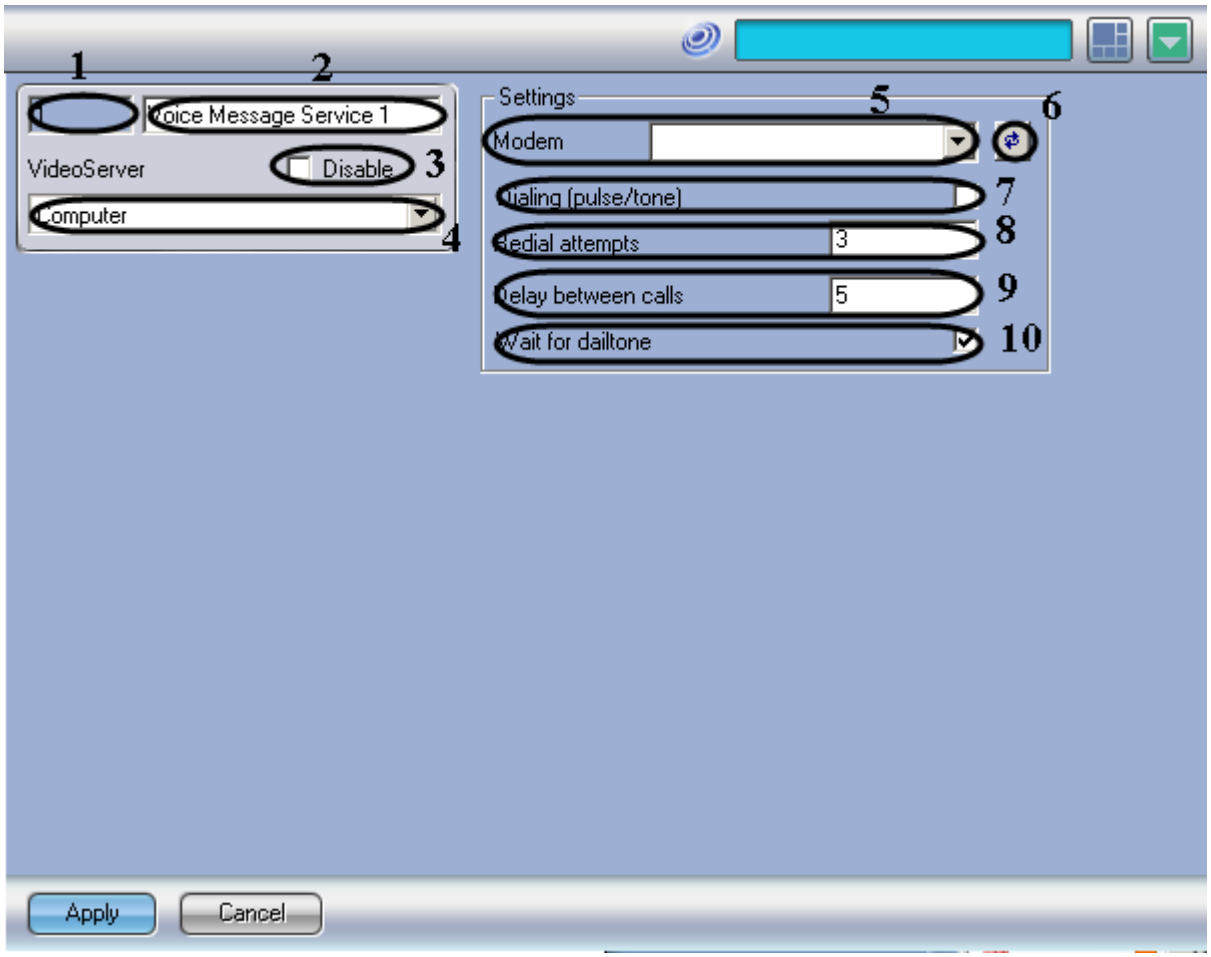


Figure 10.2-50. Voice messages service settings panel

Table 10.2-18 describes the parameters of the settings corresponding to the elements of the settings panel of the Voice messages service object.

Table 10.2-18

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Voice messages service object in the digital distributed video surveillance system.	Sequence of numbers	-	From 1 and above. Depends on the number of Voice message service objects in the digital distributed video surveillance system
2	Name*	Enter the value in the field	Displays the name of the Voice messages service object in the digital distributed video surveillance system.	Latin, Cyrillic and service characters	Voice message s service	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
3	Disable	Is identified by the check mark	Shows the status (connected or disconnected) of the Voice messages service object in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Voice messages service is disconnected and is not in use No – the Voice messages service is connected and is in use.
4	Computer	Is selected from the list	Assigns the parent Computer object of the digital distributed system, to which the given Voice messages service object refers.	Name of the Computer objects registered in the system.	Name of the parent Compute r object	Depends on the number of Computer objects in the digital distributed video surveillance system
Settings Group						
5	Modem	Is selected from the list	Defines the voice modem for transmitting the voice messages.	Name of the voice modem registered by the Windows OS.	Not defined	Depends on the number of connected voice modems.
6	-	Press the button.	All connected modems are scanned to identify voice modems and to make up a list of modems.	-	-	-
7	Dial (pulse/tone)	Is identified by the check mark	Defines number dialling mode: pulse or tone.	Boolean type	Not available	Yes – tone dialling. No – pulse dialling.
8	Redial attempts	Enter the value in the field	Defines the maximum number of redial attempts to establish a connection.	Sequence of numbers	5	From 1 to 10. (recommended – from 1 to 5).
9	Delay between calls	Enter the value in the field	Defines a time period between redial attempts.	from	3	Recommended number from 30 to 120.
10	Wait for dial tone	Is identified by the check mark	Waits for a dial tone before redialling the number.	Boolean type	Yes	Yes - waiting for a dial tone before number redial is required. No - waiting for a dial tone before number redial is not required.

12. The name of the element is not displayed in the settings panel of the given object.

10.2.6.16 *Voice message settings panel*

The Voice message object is designed to create a voice message transmitted to the telephone lines. The Voice message settings panel is shown in Figure 10.2-51.

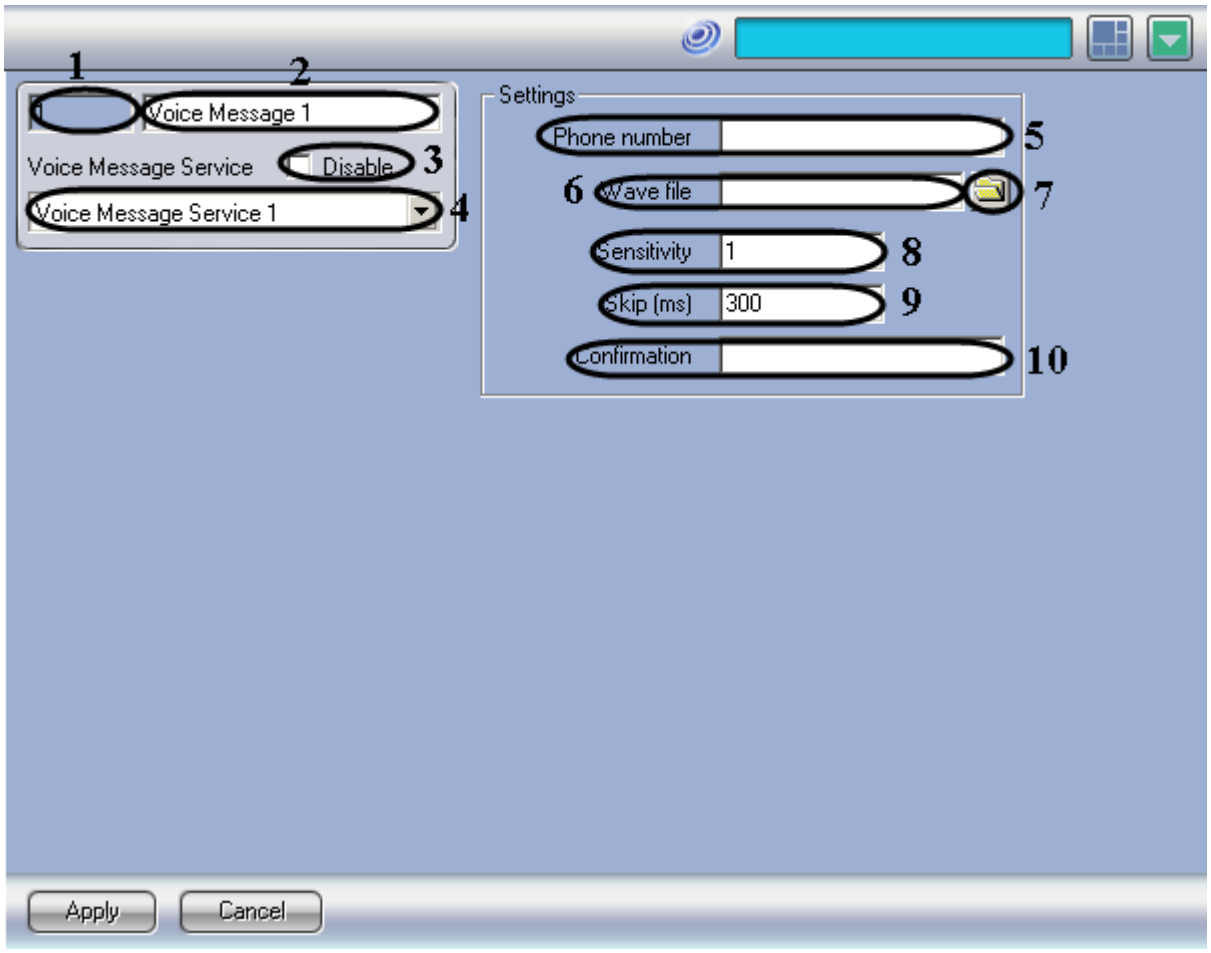


Figure 10.2-51. Voice message settings panel

Table 10.2-19 describes the parameters of the settings corresponding to the elements of the settings panel of the Voice message object.

Table 10.2-19

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Voice message object in the digital distributed video surveillance system.	Sequence of numbers	-	From 1 and above. Depends on the number of Voice message objects in the digital distributed video surveillance system.
2	Name*	Enter the value in the field	Displays the name of the Voice messages object in the digital distributed video surveillance	Latin, Cyrillic and service characters	Voice message	A line containing a sequence of any symbols (letters, digits, service characters), not case-

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			system.			sensitive Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Shows the status (connected or disconnected) of the Voice message object in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Voice messages object is disconnected and is not in use. No – the Voice message object is connected and is in use.
4	Voice messages service	Is selected from the list	Assigns the parent Voice messages service object of the digital distributed system, to which the given Voice message object refers.	Name of the Voice messages service objects registered in the system.	Name of the parent Voice messages service object.	Depends on the number of Voice message service objects in the digital distributed video surveillance system
Settings Group						
5	Phone number	Enter the value in the field	Defines the phone number of the voice message recipient.	Sequence of numbers	Not defined	A line, containing a sequence of digits. Depends on the voice modem in use.
6	Audio file	Enter the value in the field	Defines the route to the audio file, which will be played back, when the recipient picks up the phone.	Latin, Cyrillic and service characters.	Not defined	A line containing a sequence of symbols (letters, digits, service characters), not case-sensitive
7	Wave file	Press the button.	Defines the route to the audio file, which will be played back when the recipient picks up the phone, by selecting a file directly from the standard file select menu.	-	-	-
8	Sensitivity	Enter the value in the field	Defines the maximum noise level in the phone set, which prevents false identification of the noise as a reply of the voice message recipient.	Sequence of numbers	1	From 1 to 10.
9	Skip (ms)	Enter the value in the field	Defines a time period between redial attempts.	ms	300	More than 1

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
10	Confirmation	Enter the value in the field	Defines a digital code, which the recipient should enter to confirm voice message receipt.	Sequence of numbers	Not defined	A line, containing a sequence of digits. Number of symbols should be more than 1.

13. The name of the element is not displayed in the settings panel of the given object.

10.2.6.17 *Settings panel of the Short Message Service object*

The Short message service object is designed to register and configure the program module, which supports short message (SMS) transmission to a mobile phone via a cellular network.

The Short message service settings panel is shown in Figure 10.2-52.

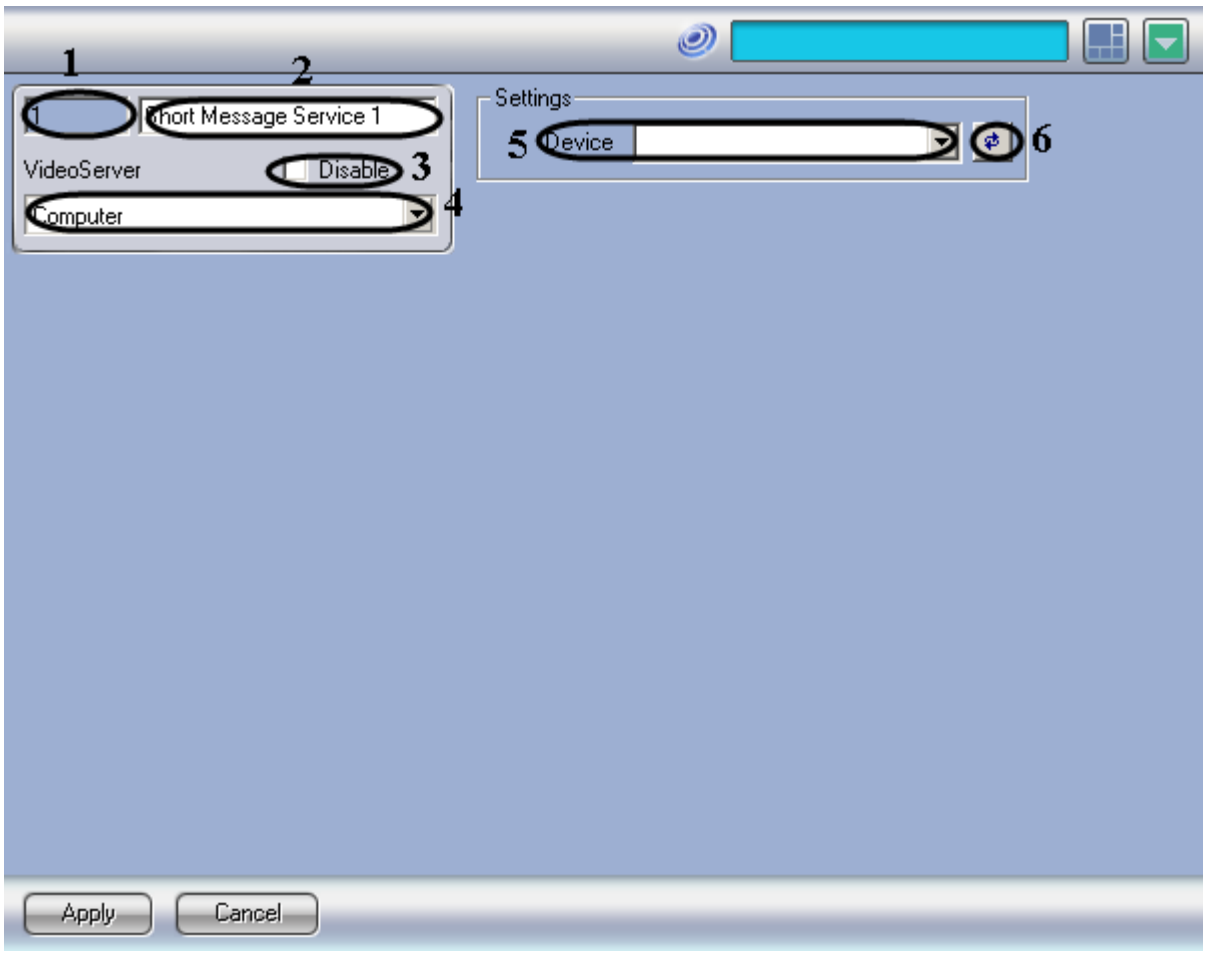


Figure 10.2-52. Settings panel of the Short Message Service object

Table 10.2-20 describes the parameters of the settings corresponding to the elements of the settings panel of the Short message service object.

Table 10.2-20

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Short message service object in the digital distributed video surveillance system.	Sequence of numbers	-	From 1 and above. Depends on the number of Short message service objects in the digital distributed video surveillance system
2	Name*	Enter the value in the field	Defines the name of the Short message service object in the digital distributed video surveillance system.	Latin, Cyrillic and service characters	Short message service	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Defines the condition of the Short message service object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Short message service is disconnected and is not in use No – the Short message service is connected and is in use.
4	Computer	Is selected from the list	Defines the parent Computer object of the digital distributed video surveillance system, to which the given Short message service object refers.	Name of the Computer objects registered in the system	Name of the parent Camera object.	Depends on the number of Computer objects in the digital distributed video surveillance system
Settings Group						
5	Device	Is selected from the list	Defines the GSM device, which will be used to transmit SMS.	Names of the GSM devices registered in the Windows OS.	Not defined	Depends on the number of connected GSM devices.
6	Select device*	The button is pressed.	Scans connected devices to find GSM devices and includes them into the Devices list.	-	-	-

f. The name of the element is not displayed in the settings panel of the given object.

10.2.6.18 *Settings panel of the Short Message object*

The Short message object is designed to create short messages (SMS) for transmission to mobiles phones via a mobile network.

The Short message settings panel is shown in Figure 10.2-53.

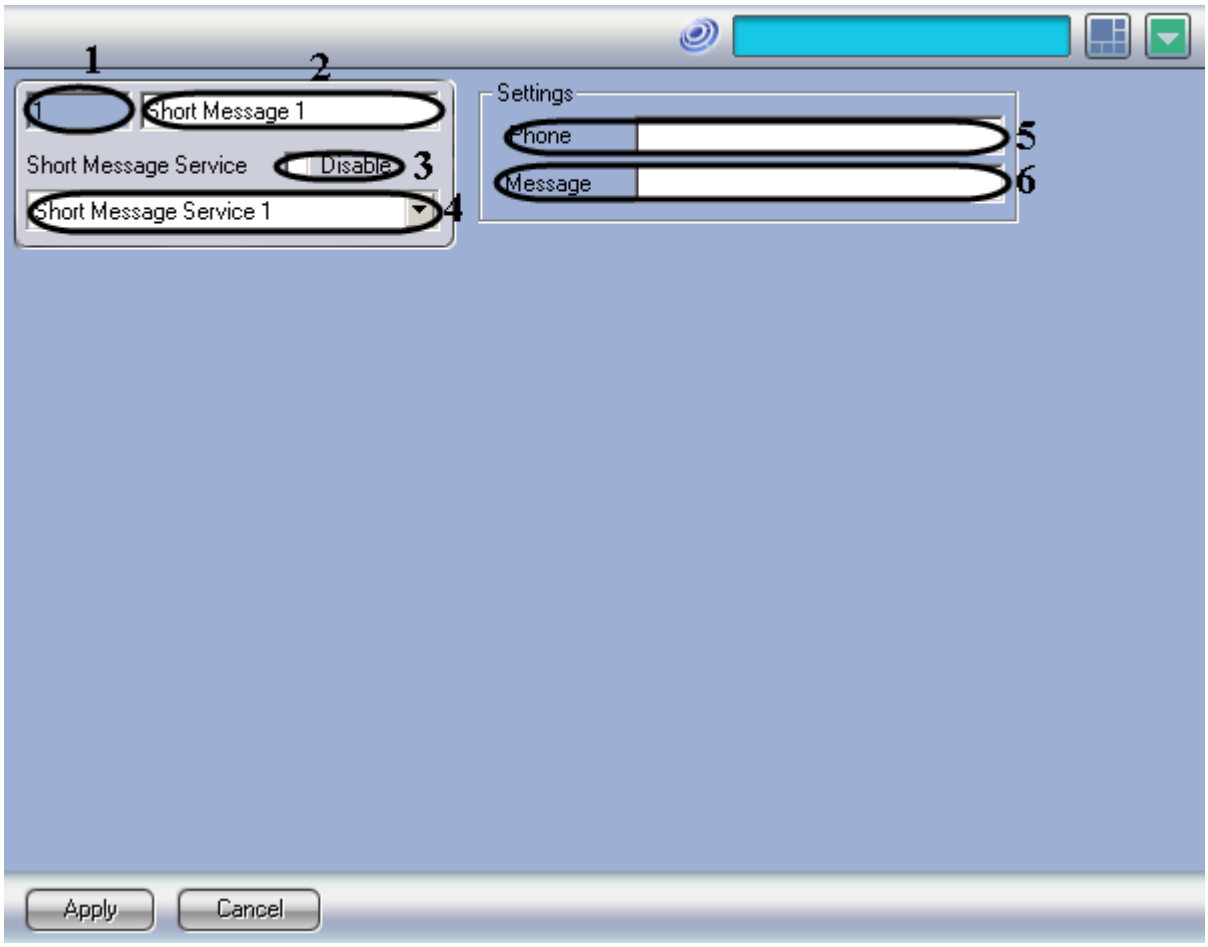


Figure 10.2-53. Settings panel of the Short Message object

Table 10.2-21 describes the parameters of the settings corresponding to the elements of the settings panel of the Short message object.

Table 10.2-21

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Short message object in the digital distributed video surveillance system.	Sequence of numbers	-	From 1 and above. Depends on the number of Short message objects in the digital distributed video surveillance system.
2	Name*	Enter the value in the field	Defines the name of the Short message object in the digital distributed video surveillance system.	Latin, Cyrillic and service characters	Short message	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
3	Disable	Is identified by the check mark	Defines the condition of the Short message object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Short message object is disconnected and is not in use No – the Short message object is connected and is in use.
4	Short message service	Is selected from the list	Defines the parent Short message service object of the digital distributed video surveillance system, to which the given Voice notification object refers.	Name of the Short message service objects registered in the system	Name of the parent Short Message Service object	Depends on the number of Short message service objects in the digital distributed video surveillance system
Settings Group						
5	Phone	Enter the value in the field	Defines a mobile phone number for receiving SMS.	Sequence of numbers	Not defined	Number according to the international dial plan: Example: +79061234567)
6	Message	Enter the value in the field	Defines SMS text, which will be transmitted over the mobile network.	Latin, Cyrillic and service characters	Not defined	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.

g. The name of the element is not displayed in the settings panel of the given object.

10.2.6.19 *Settings panel of the Mail Message Service object*

The Mail message service object is designed to register the program module, which supports mail message transmission to the e-mail boxes of the remote system users. The Mail message service settings panel is shown in Figure 10.2-54.

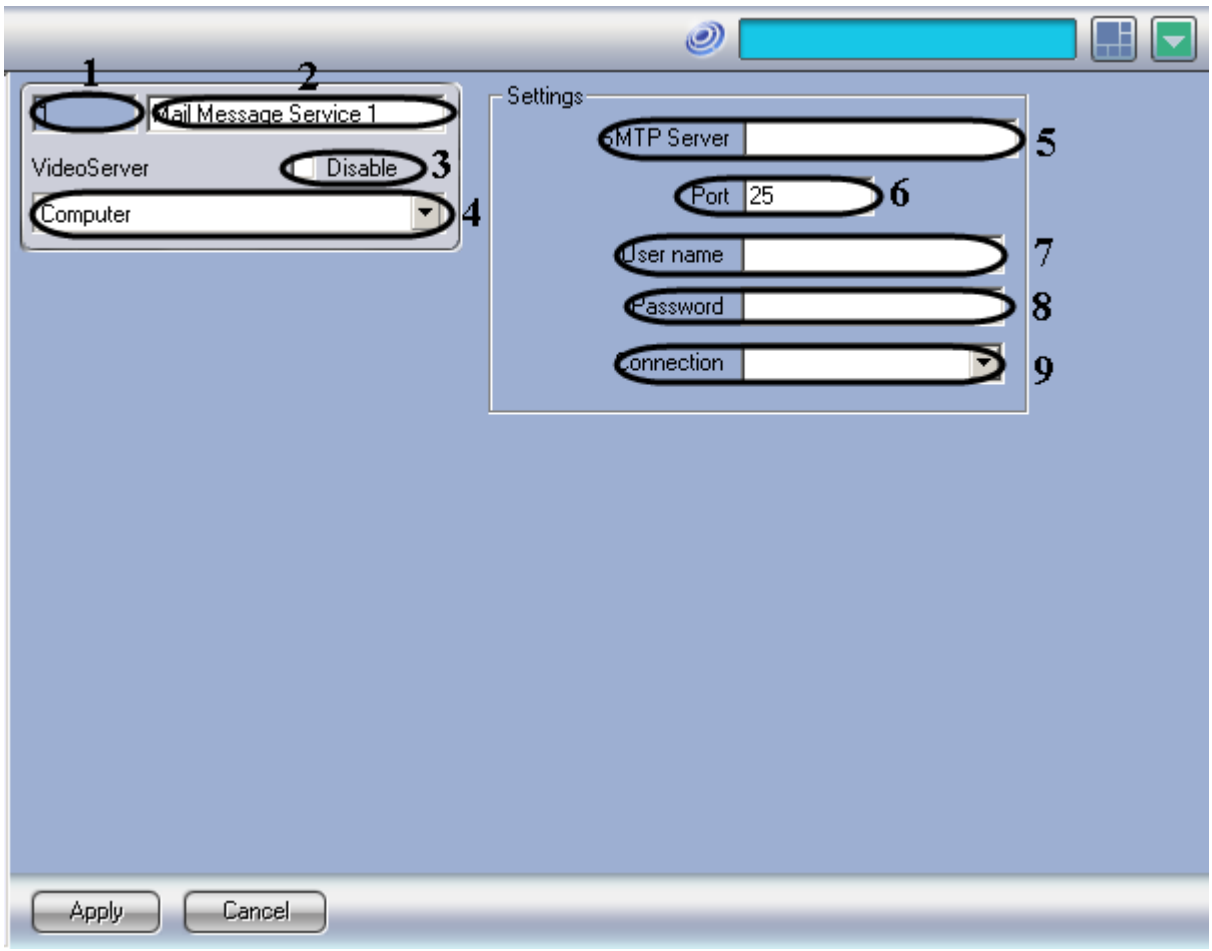


Figure 10.2-54. Settings panel of the Mail Message Service object

Table 10.2-22 describes the parameters of the settings corresponding to the elements of the settings panel of the Mail message service object.

Table 10.2-22

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Mail message service object in the digital distributed video surveillance system.	Sequence of numbers	-	From 1 and above. Depends on the number of Mail message service objects in the digital distributed video surveillance system
2	Name*	Enter the value in the field	Defines the name of the Mail message service object in the digital distributed video surveillance system.	Latin, Cyrillic and service characters	Mail message service	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
3	Disable	Is identified by the check mark	Defines the condition of the Mail message service object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not availa b-le	Yes – the Mail message service is disconnected and is not in use No – the Mail message service is connected and is in use.
4	Computer	Is selected from the list	Defines the parent Computer object of the digital distributed video surveillance system, to which the given Mail message service object refers.	Name of the Compute r objects registere d in the system	Name of the parent Camer a object.	Depends on the number of Computer objects in the digital distributed video surveillance system
Settings Group						
5	SMTP server	Enter the value in the field.	Defines the SMTP server address, which will transmit SMS.	Latin, Cyrillic and service characte rs	Not define d	A line containing a sequence of symbols (letters, digits, service characters), not case-sensitive, number of symbols – from 1 to 60.
6	Port	Enter the value in the field	Defines the number of the SMTP server port, which will transmit SMS.	Sequenc e of numbers	25	To be defined by the system administrator.
7	User name	Enter the value in the field.	Defines the user name (login) for authorization on the SMTP-server. User name matches a unique mail box name in the mail server.	Latin, service characte rs and digits.	Not define d	A line containing a sequence of symbols (letters, digits, service characters), case-sensitive, number of symbols – from 1 to 60.
8	Password	Enter the value in the field.	Defines a password for authorization on the SMTP-server.	Latin, service characte rs and digits.	Not define d	A line containing a sequence of any symbols (letters, digits, service characters), case-sensitive. Number of symbols – from 1 to 60.
9	Connection	Is selected from the list	Defines the connection type with the Internet global network.	Connecti -on types	LAN	LAN – access via a local network. RAS – access via a remote workstation.

14. The name of the element is not displayed in the settings panel of the given object.

10.2.6.20 *Settings panel of the Mail Message object*

The Mail message object is designed to create mail messages (e-mail messages) for transmission to the mail boxes of the remote system users. The Mail message settings panel is shown in Figure 10.2-55.

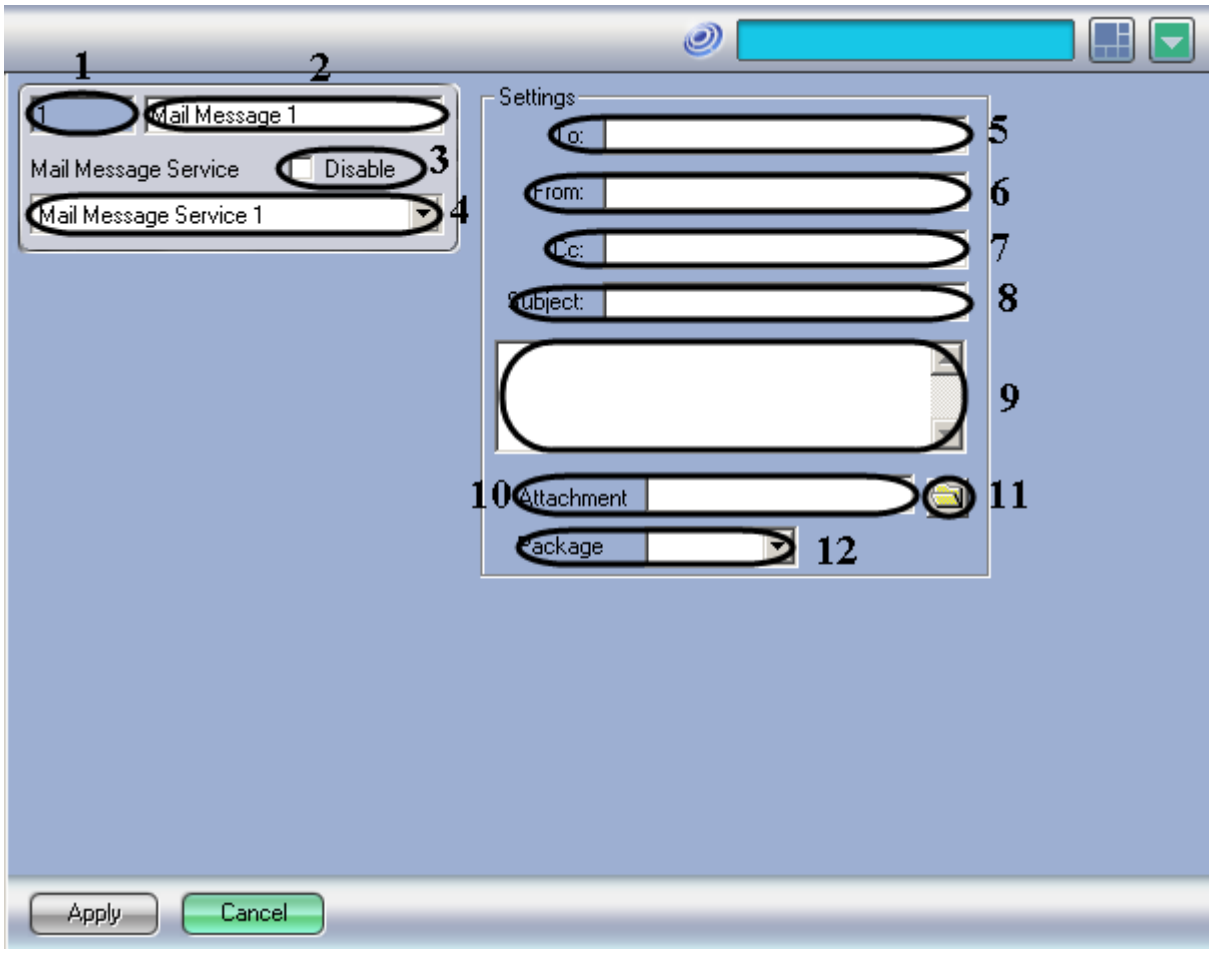


Figure 10.2-55. Settings panel of the Mail Message object

Table 10.2-23 describes the parameters of the settings corresponding to the elements of the settings panel of the Mail message object.

Table 10.2-23

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Mail message object in the digital distributed video surveillance system.	Sequence of numbers	-	From 1 and above. Depends on the number of Mail message objects in the digital distributed video surveillance system.
2	Name*	Enter the value in the field	Defines the name of the Mail message object in the digital distributed video surveillance system.	Latin, Cyrillic and service	Mail message	A line containing a sequence of any symbols (letters, digits, service characters), not case-

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
				characters		sensitive Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Defines the condition of the Mail message object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not availa b-le	Yes – the Mail message object is disconnected and is not in use No – the Mail message object is connected and is in use.
4	Mail message service	Is selected from the list	Defines the parent Mail message object, to which the given Mail message object refers.	Name of the Mail message service objects registered in the system	Name of the parent Mail Messa -ge Service object	Depends on the number of Mail message service objects in the digital distributed video surveillance system
Settings Group						
5	To	Enter the value in the field.	Defines the mail box address of the mail message recipient.	Latin and service characters	Not defined	A line containing a sequence of symbols (letters, digits, service characters), not case-sensitive, number of symbols – from 1 to 30.
6	From	Enter the value in the field.	Defines the mail box address of the mail message sender.	Latin and service characters	Not defined	A line containing a sequence of symbols (letters, digits, service characters), not case-sensitive, number of symbols – from 1 to 30.
7	CC	Enter the value in the field.	Defines the mail box address of the mail message copy recipient.	Latin and service characters	Not defined	A line containing a sequence of symbols (letters, digits, service characters), not case-sensitive, number of symbols – from 1 to 60. If a mail message needs to be copied to a few mail addresses, the said addresses should be entered with a semicolon.

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
8	Subject	Enter the value in the field	Defines the subject of the mail message	Latin, Cyrillic and service characters	Not defined	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
9	Text message*	Enter the value in the field	Defines the text contents of a mail message.	Latin, Cyrillic and service characters	Not defined	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 250.
10	Attachment	Enter the value in the field	Defines a path to the file, which will be attached to the mail message.	Latin, Cyrillic and service characters	Not defined	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 250.
11	Select file*	The button is pressed.	Defines a path to the file, which will be attached to the mail message, through selecting the file directly from the standard file select menu.	-	-	-
12	Package	Is selected from the list	Defines the compression format for archiving the file, which will be attached to the mail message.	Archiving type	Empty field	Empty field – the file attached to the mail message is transmitted without compression. GZIP – a file attached to the mail message will be compressed in the gzip archive before transmission.

15. The name of the element is not displayed in the settings panel of the given object.

10.2.6.21 *Settings panel of the Web-server object*

The Web-server object is used for viewing the video surveillance information with the Internet browser and TCP/IP communication environment. The Web-server object settings panel is shown in Figure 10.2-56.

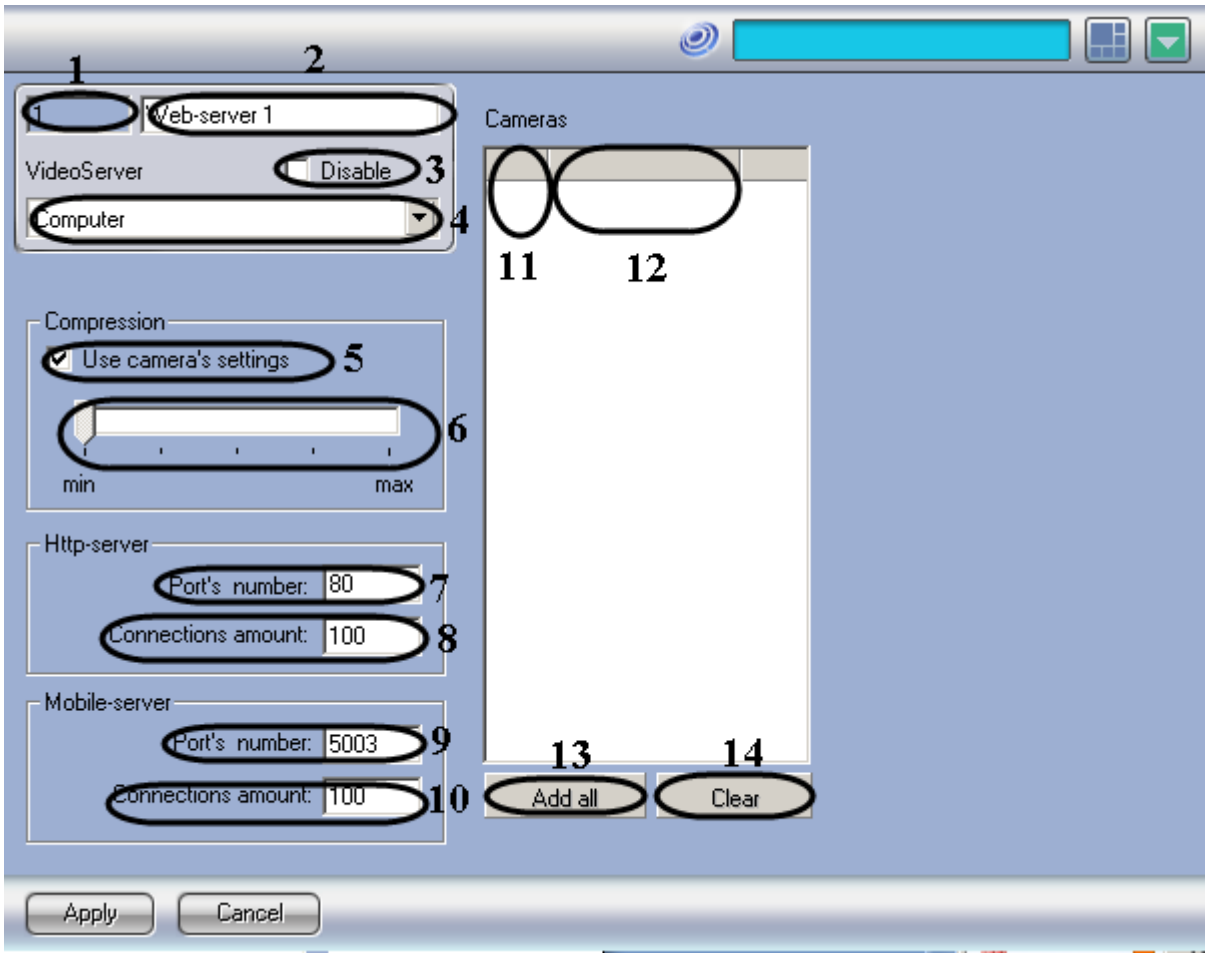


Figure 10.2-56. Settings panel of the Web-server object

Table 10.2-24 describes the parameters of the settings corresponding to the elements of the settings panel of the Web-server object.

Table 10.2-24

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Web-server object in the digital distributed video surveillance system.	Sequence of numbers	-	From 1 and above. Depends on the number of Web-server objects in the digital distributed video surveillance system.
2	Name*	Enter the value in the field	Defines the name of the Web-server object in the digital distributed video surveillance system.	Latin, Cyrillic and service characters	Web-server	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
3	Disable	Is identified by the check mark	Defines the condition of the Web-server object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Web-server object is disconnected and is not in use No – the Web-server object is connected and is in use.
4	Computer	Is selected from the list	Defines the parent Computer object of the digital distributed video surveillance system, to which the given Web-server object refers.	Name of the Computer objects registered in the system	Name of the parent Compute r object.	Depends on the number of Computer objects in the digital distributed video surveillance system
Cameras Group						
5	The same as the camera's settings	Is identified by the check mark.	Using the Web-server module, it defines whether the video signal should be transmitted to the Remote Workstations with the compression level, set for recorded and transmitted video signals, or with the compression level defined by the slider under the check mark	Boolean type	Yes	Yes – the compression level of the video signal transmitted with the Web- server module should be the same as the compression level of the recorded and transmitted video signal. No – the compression level of the video signal transmitted with the Web- server module should be the same as the one defined by the slider under the checkmark
6	Signal compression *	Set the slider in the required position.	Defines the compression level of the video signal transmitted with the Web-server module to the Remote Workstations. The higher the compression level, the lower the video signal quality. The parameter is active, only if the option: The same as camera's settings is not checked (i.e., the parameter The same as the camera's settings is set to No).		Min	Min – the minimal compression level, at which the video signal is transmitted as a non-compressed video. Max – maximum video signal compression level.
HTTP server Group						

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
7	Port's number	Enter the value in the field.	Defines the number of the port used by the HTTP server (for video surveillance with the Web-browser, including Internet).	Sequence of numbers	80	Any permitted port numbers, which are not in use. The number of the port is defined by the system administrator.
8	Number of users	Enter the value in the field.	Defines the maximum permitted number of connections to the video server via the Web-server module. Each request for viewing the camera feed and each request for camera movement is considered a user connection.	pcs	100	Any integral number. In the case where 0 value is entered, video signals will not be displayed on the Web-server monitor.
Mobile server Group						
9	Port's number	Enter the value in the field.	Defines the port number for Mobile server operations (used for video surveillance with PocketPCs and SmartPhones).	Sequence of numbers	5003	Any permitted port numbers, which are not in use. The number of ports is defined by the system administrator.
10	Number of users	Enter the value in the field.	Defines the maximum permitted number of connections to the video server via the Web-server module. Each request for viewing the camera feed and each request for camera movement is considered a user connection.	pcs	100	Any integral number. In the case where 0 value is entered, video signals will not be displayed in the Web server monitor.
Cameras Group						
11	Number	Is selected from the list	Defines the identification number of the video camera, whose image will be transmitted by the Web-server module to the Remote Workstation.	Sequence of numbers	Not defined	Depends on the number of surveillance cameras in the digital distributed video surveillance system
12	Camera	Is selected from the list	Defines the name of the video camera, whose image will be	Names of the Camera objects	Not defined	Depends on the number of surveillance cameras in the digital distributed

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
			transmitted by the Web-server module to the Remote Workstation.	registered in the system		video surveillance system
13	Add all	The button is pressed.	Includes all video cameras, installed in the digital distributed video surveillance system, into the list of cameras, whose image will be transmitted by the Web-server module to the Remote Workstation.	-	-	-
14	Clear	The button is pressed.	Deletes all video cameras from the list of cameras, whose image will be transmitted by the Web- server module to the Remote Workstation.	-	-	-

h. The name of the element is not displayed in the settings panel of the given object.

10.2.6.22 *Settings panel of the Operator search window*

The Operator search window object is designed to display a separate user window, i.e., the Operator search window, which is used to operate a certain PTZ unit. The Operator search window is furnished with a set of elements enabling operation of the above PTZ units. The Operator search window object settings panel is shown in Figure 10.2-57.

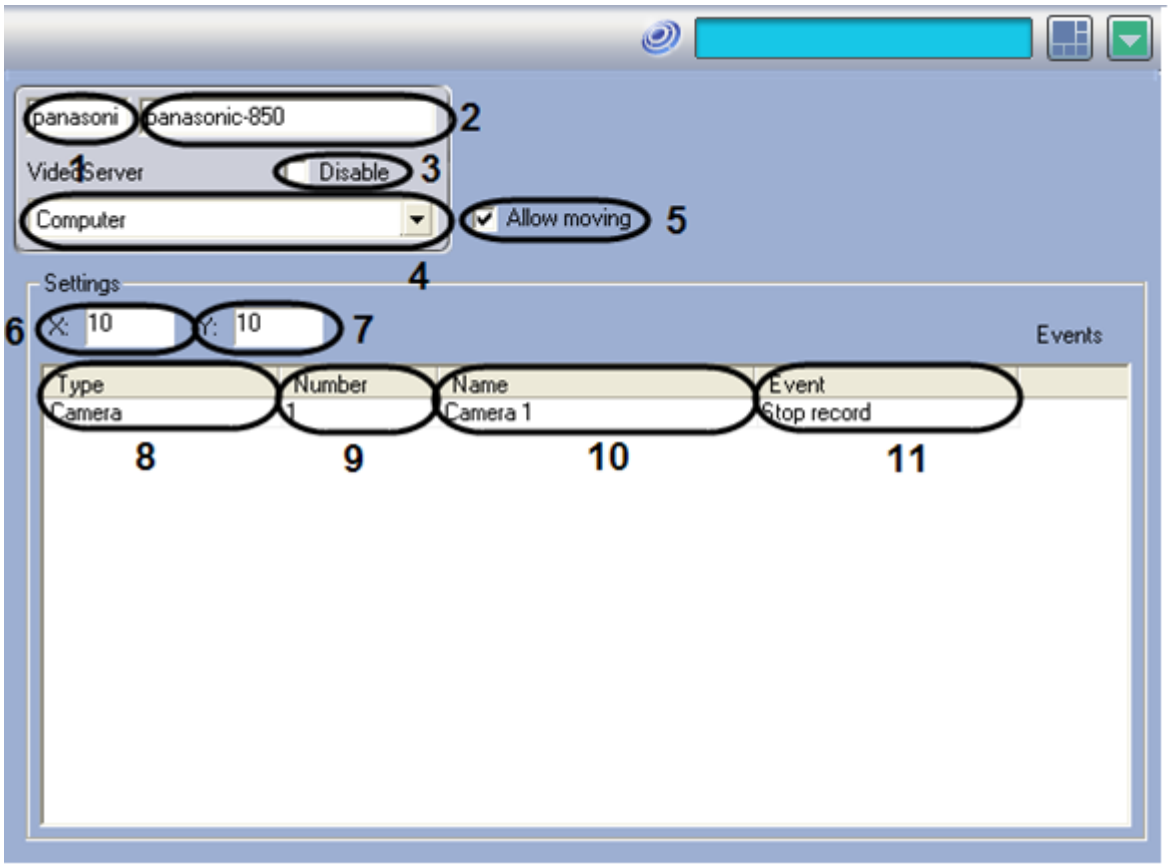


Figure 10.2-57. Settings panel of the Operator search window

Table 10.2-25 describes the parameters of the settings corresponding to the elements of the settings panel of the Operator search window object.

Table 10.2-25

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
1	Identifier*	Enter the value in the field	File name designed for certain PTZ unit control. The filename is usually the same as the name of the PTZ unit.	Sequence of numbers	-	A line containing a sequence of symbols (Latin and service characters, digits), not case-sensitive Number of symbols – from 1 to 60.
2	Name*	Enter the value in the field	Defines the name of the Operator search window object in the digital distributed video surveillance system. To ensure user friendliness, the object name is usually given the same name as the name of the PTZ unit.	Latin, Cyrillic and service characters	Operat-or search window	A line containing a sequence of symbols (Latin and service characters, digits), not case-sensitive Number of symbols – from 1 to 60.

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
3	Disable	Is identified by the check mark	Defines the status of the Operator search window object (connected or disconnected).	Boolean type	Not availa b-le	Yes – the Operator search window object is disconnected and is not in use. No – the Operator search window object is connected and is in use.
4	Computer	Is selected from the list	Defines the parent Computer object of the digital distributed video surveillance system, to which the given Operator search object refers.	Name of the Compute r objects registere d in the system	Name of the parent Comp u-ter object.	Depends on the number of Computer objects in the digital distributed video surveillance system
5	Allow moving	Is identified by the check mark.	Allows moving the Operator search window over the screen using the mouse.	Boolean type	Not availa b-le	Yes – movement is allowed. No – movement is prohibited.
Settings Group						
6	X	Enter the value in the field.	Defines the coordinate in the X horizontal axis for the upper left corner of the Operator search window on the screen.	% of the screen width.	Not define d	From 0 to M*100, where M is the number of surveillance monitors installed.
7	Y	Enter the value in the field.	Defines the coordinate in the Y vertical axis for the upper left corner of the Operator search window on the screen.	% of the screen height.	Not define d	From 0 to M*100, where M is the number of surveillance monitors installed.
8	Type	Is selected from the list	Defines the macro command for displaying the Operator search window.	Names of the Microph- one objects registere d in the system	Not define d	Depends on the number of types of objects created in the digital distributed video surveillance system.
9	Number	Is selected from the list	Defines the number of the macro command for displaying the Operator search window.	Sequenc e of numbers	Not define d	Depends on the number of Macro command objects created in the digital distributed video surveillance system.
10	Name	Automatically	Defines the name of the macro command for displaying the Operator search window.	Names of the Microph- one	Not defin- ed	Depends on the number of types of objects created in the digital distributed video

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
				objects registered in the system		surveillance system.
11	Event	Is selected from the list	Defines the operation, which Intellect™ system performs, when the given program is launched.	Types of events for the given types of devices.	Empty	Empty – no operations in progress. Execute – the Intellect™ system is requested to execute a macro.

i. The name of the element is not displayed in the settings panel of the given object.

10.2.6.23 *Settings panel of the Alarm notification window object*

The Alarm notification window is designed to display an interface box showing the alarm event, which is initiated by the Intellect digital video surveillance system.

The Alarm notification window settings panel is shown in Figure 10.2-58.

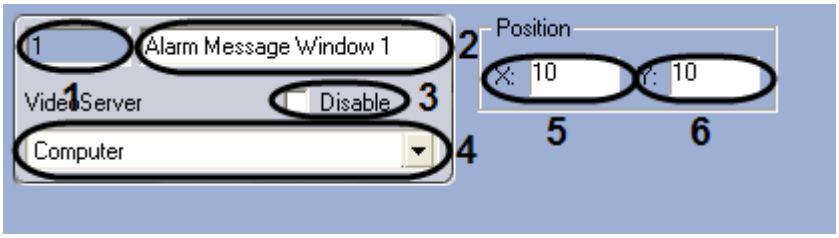


Figure 10.2-58. Settings panel of the Alarm notification window object

Table 10.2-26 describes the parameters of the settings corresponding to the elements of the settings panel of the Alarm notification window object.

Table 10.2-26

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Alarm notification window object in the digital distributed video surveillance system.	Sequence of numbers	-	From 1 and above. Depends on the number of Alarm notification window objects in the digital distributed video surveillance system.
2	Name*	Enter the value in the field	Defines the name of the Alarm notification window object in the digital distributed video surveillance system.	Latin, Cyrillic and service characters	Alarm notification window	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols –

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
						from 1 to 60.
3	Disable	Is identified by the check mark	Defines the condition of the Alarm notification window object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not availa b-le	Yes – the Alarm notification window object is disconnected and is not in use. No – the alarm notification window object is connected and is in use.
4	Computer	Is selected from the list	Defines the parent Computer object of the digital distributed video surveillance system, to which the given Alarm notification window object refers.	Name of the Compute r objects registere d in the system	Name of the parent Comp u-ter object.	Depends on the number of Computer objects in the digital distributed video surveillance system
5	X	Enter the value in the field.	Defines the coordinate in the X horizontal axis for the upper left corner of the Alarm notification window on the screen.	% of the screen width.	Not define d	From 0 to M*100, where M is the number of surveillance monitors installed.
6	Y	Enter the value in the field.	Defines the coordinate in the Y vertical axis for the upper left corner of the Alarm notification window on the screen.	% of the screen height.	Not define d	From 0 to M*100, where M is the number of surveillance monitors installed.

16. The name of the element is not displayed in the settings panel of the given object.

10.2.6.24 *Videogate settings panel*

The face of Videogate settings panel is shown in Figure 10.2-59.

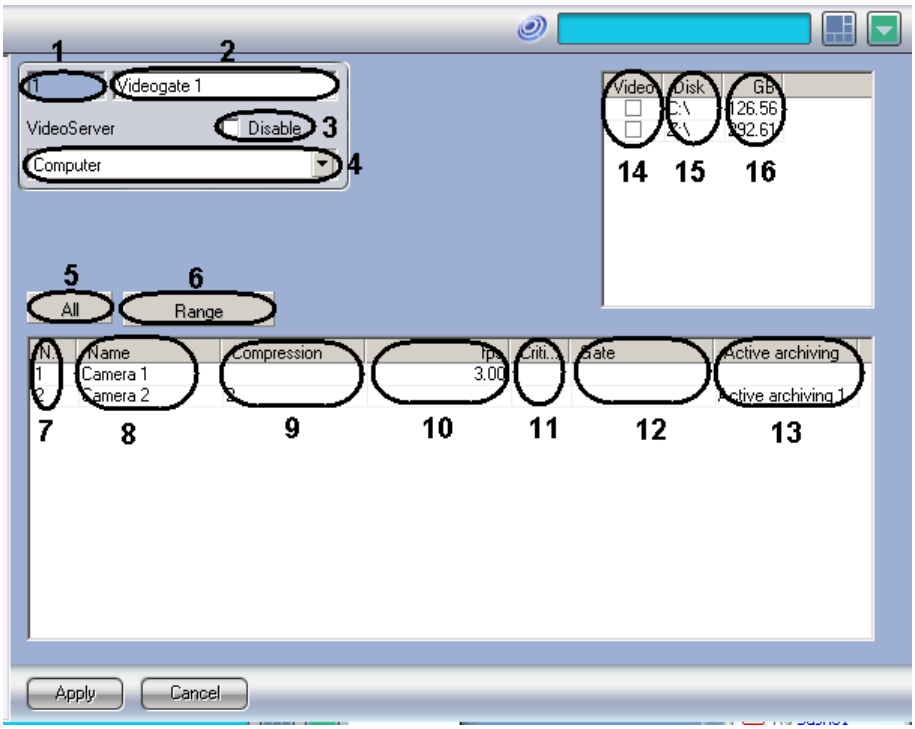


Figure 10.2-59. Settings panel of the Videogate object

Table 10.2-27 describes the parameters of the settings corresponding to the elements of the settings panel of the Videogate object.

Table 10.2-27

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Videogate object in the digital distributed video surveillance system.	Sequence of numbers	-	Depends on the number of Videogate objects in the digital distributed video surveillance system
2	Name*	Enter the value in the field	Defines the name of the Videogate object in the digital distributed video surveillance system.	Latin, Cyrillic and service characters	Archiver.	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Defines the condition of the Videogate object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Videogate is disconnected and is not in use No – the Videogate is connected and is in use.
4	Computer	Is selected	Defines the parent Computer object for the	Name of the Computer	Name of the parent	Depends on the number of Computer objects in the

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
		from the list	given Videogate object	objects registered in the system	Computer object.	digital distributed video surveillance system
5	All	The button is pressed.	Selection of all video cameras registered in the system for transmitting video signals through the video gate	-	-	-
6	Gate	The button is pressed.	Access to the complex selection of video cameras for transmitting video signals through the video gate	-	-	-
7	Number	Is selected from the list	Defines the number of the camera for transmitting video signals through the video gate	Sequence of numbers	-	Depends on the number of surveillance cameras in the digital distributed video surveillance system
8	Name	Is selected from the list	Defines the name of the video surveillance camera for transmitting video signals through the video gate	Name of the Camera objects registered in the system	-	Depends on the number of surveillance cameras in the digital distributed video surveillance system
9	Compression	Is selected from the list	Defines the level of video signal compression for transmitting video signals through the video gate. With the given value there is additional consumption of Server's resources	Sequence of numbers	-	In order of rising compression level 0,1,2,3,4,5 (0 – without compression, 5 – maximum compression).
10	fps	Enter the value in the field	Set the video signal rate for transmitting video signals through the video gate.	Sequence of numbers	-	Not more than digitizing of video signal by video capture card
11	Critical rate	Enter the value in the field	Set the minimum permissible rate of the video signal, when received by the Videogate to control the transmission of video signal through the local net	Sequence of numbers	-	Not more than the frame rate of the video signal, that is transmitted to the Videogate
12	Gate	Is selected from the list	Set the Videogate object from which video signal	Name of the Videogate	Not defined	Depends on the number of Videogate objects,

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
			from the selected camera has to be transmitted to the given Videogate	objects registered in the system		registered in the digital distributed video surveillance system
13	Active archive	Is selected from the list	Set the object Active archive, from which video signal from the selected camera has to be transmitted to the given Videogate	Name of the Active archive objects registered in the system.	Not defined	Depends on the number of Active archive objects registered in the digital distributed video surveillance system.
14	Video	Is identified by the check mark	Set the didsk for storing the archive of video signals, going through ther Videogate.	Boolean type	-	Yes, the disk is used for storing the Videogate module. No - the disk is not used for storing the Video gate module
14	Disk	Automatically	Displays the names of local (net, USB) disks, accessible for storing archive of Videogate module.	Names of available disks(Latin characters)	List of available hard disks	Depends on the total number (both local and network) of accessible disks.
15	GB	Automatically	Contains information about free space on every available disk	Disk space in GB	-	Depends on the free disk space

17. The name of the element is not displayed in the settings panel of the given object.

10.2.6.25 *Event Counter settings panel*

The Event counter object is designed to register and count events of a certain type, occurring at the pre-defined objects and registered by the Intellect system.

The Event counter settings panel is shown in Figure 10.2-60.

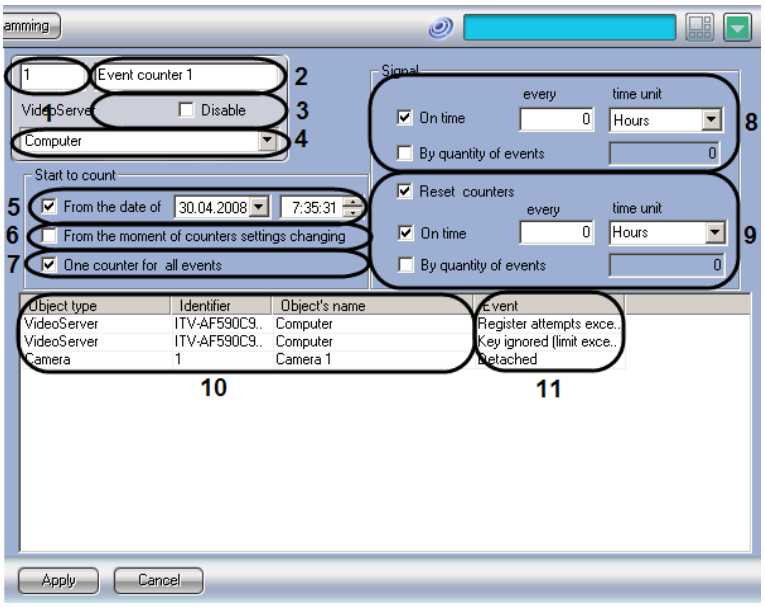


Figure 10.2-60. Event Counter settings panel

Table 10.2-28 describes the parameters of the settings corresponding to the elements of the settings panel of the Event counter object.

Table 10.2-28

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Event counter object in the digital distributed video surveillance system.	Sequence of numbers	-	Depends on the number of Event counter objects in the digital distributed video surveillance system.
2	Name*	Enter the value in the box	Defines the name of the Event counter object in the digital distributed video surveillance system.	Latin, Cyrillic and service characters	Event counter	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Defines the condition of the Event counter object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Event counter object is switched off. No – the Event counter object is switched on.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
4	Computer	Is selected from the list	Defines the parent Computer object of the digital distributed video surveillance system, to which the given Event counter object refers.	Name of the Computer objects registered in the system	Name of the parent Computer object.	Depends on the number of Computer objects in the digital distributed video surveillance system
Start Count Group						
5	From date (activation)	Is identified by the check mark	Allows setting the Start count date and time manually.	Boolean type	Yes	Yes – the Start count date and time are defined manually. No – The Start count date and time are set at the date and time, when the Event counter object was previously modified.
	From date (the date)	Enter the value in the box or select it from the dropdown list.	Defines the Start count date.	DATE:MONTH:YEAR	Current system date	09.1752 – 12.9999
	From date (the time)	Enter the value in the box	Defines the Start count time.	HOURS:MINUTES:SECONDS	Current system time	00:00:0 - 23:59:59
6	From the time when the counter settings were last modified	Is identified by the check mark	Sets the Start count date and time at the date and time, when the Event counter object was last modified.	Boolean type	Not available	Yes – the Start count date and time are set at the date and time, when the Event counter object was previously modified. No – the Start count date and time are defined manually.
7	One counter for all events	Is identified by the check mark	Defines the counter, which will be used for all events referred to Objects and events group of the given Event counter object.	Boolean type	Yes	Yes – Counter No. 1 will be used to count all events. No – the events will be counted by different counters (each event will be counted by a separate

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
						counter).
Counter notification group						
8	Time-based (activation)	Is identified by the check mark	Starts up regular notification in pre-defined periods of time.	Boolean type	Yes	Yes – time-based notification is active. No – time-based notification is not active (notification by the number of events is active).
	Time-based (in each)	Enter the value in the box	Defines a period for notification as a function of the time period.	Sequence of numbers	0	0 - 2147483648
	Time-based (unit of time)	Select the value from the List	Defines a time unit for the given notification.	Line	Hours	Hours Days
	By the number of events (activation)	Is identified by the check mark	Activates regular notification upon occurrence of a pre-defined number of events.	Boolean type	Not available	Yes – notification by the number of events is active. No – notification by the number of events is not active (time-based notification is active).
	By the number of events (number of events)	Enter the value in the box	Defines a period for notification as a function of the number of events.	Sequence of numbers	0	0 - 2147483648
Counter reset group						
9	Time-based (activation)	Is identified by the check mark	Activates regular counter reset performed in a pre-defined period of time.	Boolean type	Yes	Yes – regular reset in a pre-defined period of time is active. No – regular reset in a pre-defined period of

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
						time is not active (regular reset by a pre-defined number of events is active).
	Time-based (in each)	Enter the value in the box	Defines a period for notification as a function of the time period.	Sequence of numbers	0	0 - 2147483648
	Time-based (unit of time)	Select the value from the List	Defines a unit of time to define the counter reset period.	Line	Hours	Hours Days
	By the number of events (activation)	Is identified by the check mark	Activates regular counter reset performed upon occurrence of a pre-defined number of events.	Boolean type	Not available	Yes – regular reset upon occurrence of a pre-defined number of events is active. No – regular reset upon occurrence of a pre-defined number of events is not active (regular reset in a pre-defined period of time is active).
	By the number of events (number of events)	Enter the value in the box	Defines a period for the counter reset as a function of the number of events.	Sequence of numbers	0	0 - 2147483648
Objects and events group						
10	Type of object	Is selected from the list	Defines the type of object, for which the events should be counted.	Types of objects registered in the system.	Not defined	Depends on the number of types of objects registered in the digital distributed video surveillance system.
	Object identifier	Is selected from the list	Defines the identification number of a pre-defined object type, for which the events should be	Sequence of numbers	Not defined	Depends on the number of objects of the given type defined in the digital distributed video

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			counted.			surveillance system.
	Object name	Automatically	Displays the identification number of the selected object.	Latin, Cyrillic and service characters	Not defined	Object name, including a pre-defined identifier.
11	Event	Is selected from the list	Defines an event, which should be counted.	Latin, Cyrillic and service characters	Not defined	Depends on the number of types of objects registered in the digital distributed video surveillance system.

18. The name of the element is not displayed in the settings panel of the given object.

10.2.6.26 *SNMP trap object settings panel*

Face of SNMP trap system object is shown in Figure 10.2-61.

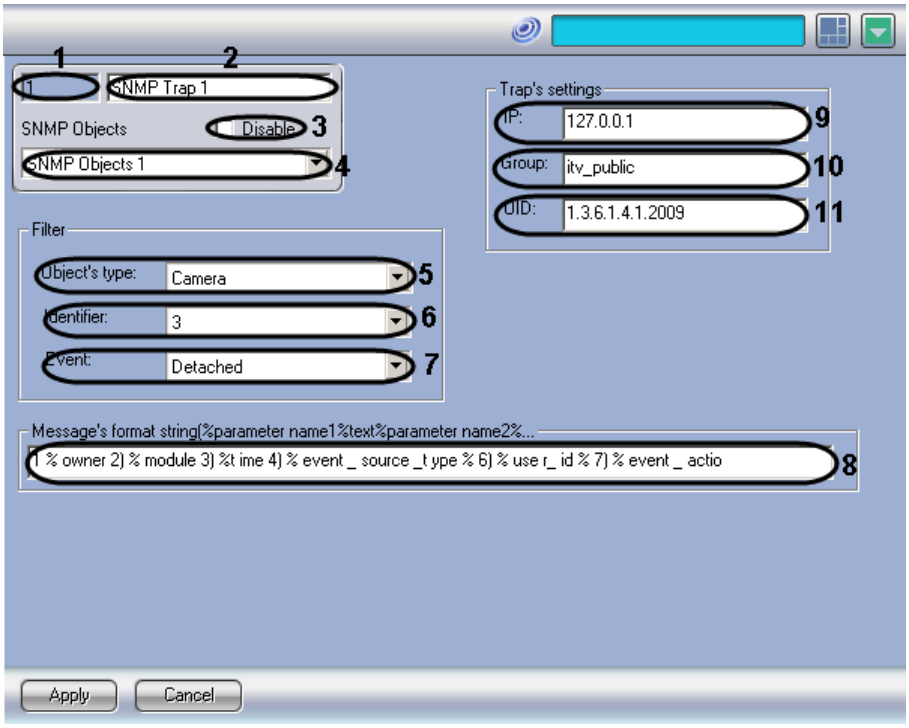


Figure 10.2-61. SNMP trap system object settings panel

Description of SNMP trap object's settings parameters is given in Table 10.2-29.

Table 10.2-29

№	Parameter's name	Means of setting the parameter	Parameter's description	Is represented by	Value on default	Range of value
1	Identification number	Automatically	Displays identification number of SNMP trap system object in the system	Sequence of numbers	-	Depends on the number of «SNMP trap» objects in the system
2	Name	Enter the value in the field	Set the object's name «SNMP trap» in the system	Latin, Cyrillic and service characters	SNMP trap	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
3	Disable	Is set by a checkbox	Set the state (enabled or disabled)of SNMP trap object in the system	Boolean type	No	Yes –SNMP trap object is disabled and is not in use No–SNMP trap is enabled and in use.
4	SNMP objects	Select from the list	Set the parent object SNMP objects for the given object SNMP trap	Name of SNMP objects registered in the system	Name of parent object SNMO objects	Depends on the number of SNMP objects in the system
Filter group						
5	Object's type	Select from the list	Set the type of the object, from which the events should be transferred to SNMP-agent	Object's type registered in the system	-	Depends on number of objects' types registered in the system. If the value is not set, SNMP-agent will receive all the events concerning all the objects in the system
6	Identifier	Select from the list	Set the identification number of the object, from which the events should be transmitted	Number of the registered in the system object of the	-	Depends on the number of registered objects of the given type. If the value is not set, SNMP-agent will receive all the

№	Parameter's name	Means of setting the parameter	Parameter's description	Is represented by	Value on default	Range of value
			to SNMP-agent	given type		events concerning the objects of the given type.
7	Event	Select from the list	Set the event, that should be transmitted to SNMP-agent in case of its registration in the system	Event that can be registered for the object of the given type.	-	Depends on the given object's type. If the value is not set, SNMP-agent will receive all the events for the given object.
Message's format string group						
8	Message's format string group (%parameter's name1%text% parameter's name2%...»	Enter the value in the field	Set the pattern of SNMP-message in the form of sequence of parameters, describing the event	A sequence of parameters' names	-	Depends on number of parameters of the registered event.If the value is not set, SNMP-message is formed in accordance with the pattern %,%event_source_id%,% event_source_type%, %owner%,%user_id%,% module%
Trap's settings group						
9	Ip	Enter the value in the field	Set the IP-address of SNMP- agent	IP-address	-	Depends on computer's net settings with installed SNMP-agent
10	Group	Enter the value in the field	Set the community name for SNMP-trap authentification on the computer with installed SNMP-agent	-	itv_public	Depends on SNMP protocol's safety settings
11	OID	Enter the value in the field	Set the unique trap's umber in the SNMP objects tree	Non-negative integers, separated by points	1.3.6.1.4.1.2009	Depends on configuration of names' space OID SNMP

10.2.7 Interface Tab

The Interfaces tab is designed to create and configure a user interface of the video surveillance and audio monitoring system.

10.2.7.1 *Interfaces tab components*

The Interface tab shows a tree of the system objects, corresponding to the user interface components, and a tools panel, which is used to configure the system object selected in the tree. The settings panels of the system objects used in the video surveillance and audio monitoring system are described in the following sections.

10.2.7.2 *Screen settings panel*

The Screen object is designed to register virtual screens in the system, which are used as a basis for interface components created in the Intellect system. The Screen settings panel is shown in Figure 10.2-62.

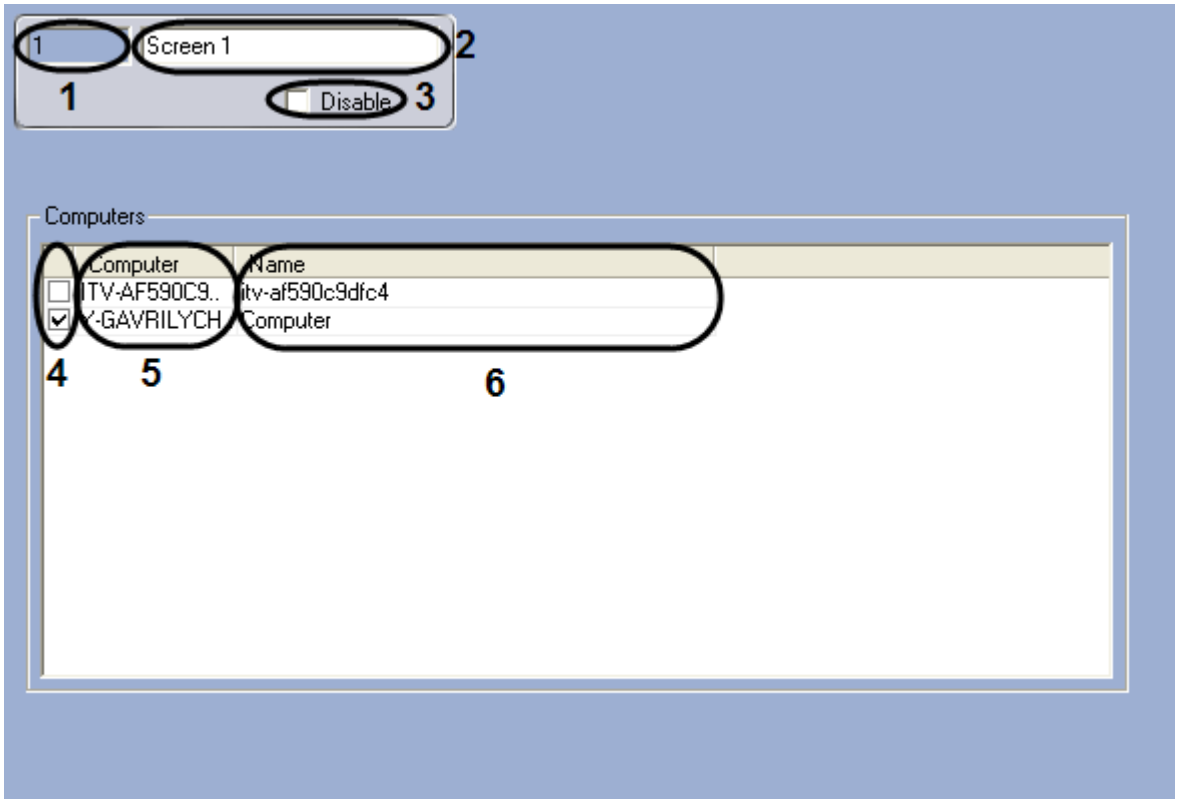


Figure 10.2-62. Screen settings panel

Table 10.2-30 describes the parameters of the settings corresponding to the elements of the settings panel of the Screen object.

Table 10.2-30

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
1	Identification number*	Automatically	Displays the identification number of the Screen object in the digital distributed video	Sequen-ce of numbers	-	Depends on the number of Screen objects in the digital distributed video

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			surveillance system.			surveillance system.
2	Name*	Enter the value in the box	Defines the name of the Screen object in the digital distributed video surveillance system.	Latin, Cyrillic and service characte r-s	Screen	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Defines the condition of the Screen object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not avail-able	Yes – the Screen object is disconnected and is not in use No – the Screen object is connected and is in use.
Computer Group						
4	Select an element*	Is identified by the check mark	Contains a list of computers (videoserver, Remote Administrator Workstation, Remote Workstation) connected to the given videoserver (Remote Administrator Workstation). The check marks referred to the computers define whether or not the computers should display the Monitor objects based on the given Screen object.	Boolean type	Not avail-able	Yes – the computer will display the Monitor object, created on the basis of the given Screen object. No – the computer will not display the Monitor object, created on the basis of the given Screen object.
5	Computer	Automatically	Defines the computer name in the local network.	Comput-er name in the local network.	Com-puter name in the local netwo -rk.	Depends on the number of objects in the local network. A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
6	Name	Automatically	Gives the name to the computer used in the digital distributed video surveillance system	Name of the Comput-er object register-ed in the	Name of the Com-puter object regist-	Depends on the number of objects in the digital distributed video surveillance system. A line containing a

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
				system	ered in the syste m	sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.

19. The name of the element is not displayed in the settings panel of the given object.

10.2.7.3 *Monitor settings panel*

The face of Monitor settings panel is shown in Figure 10.2-63.

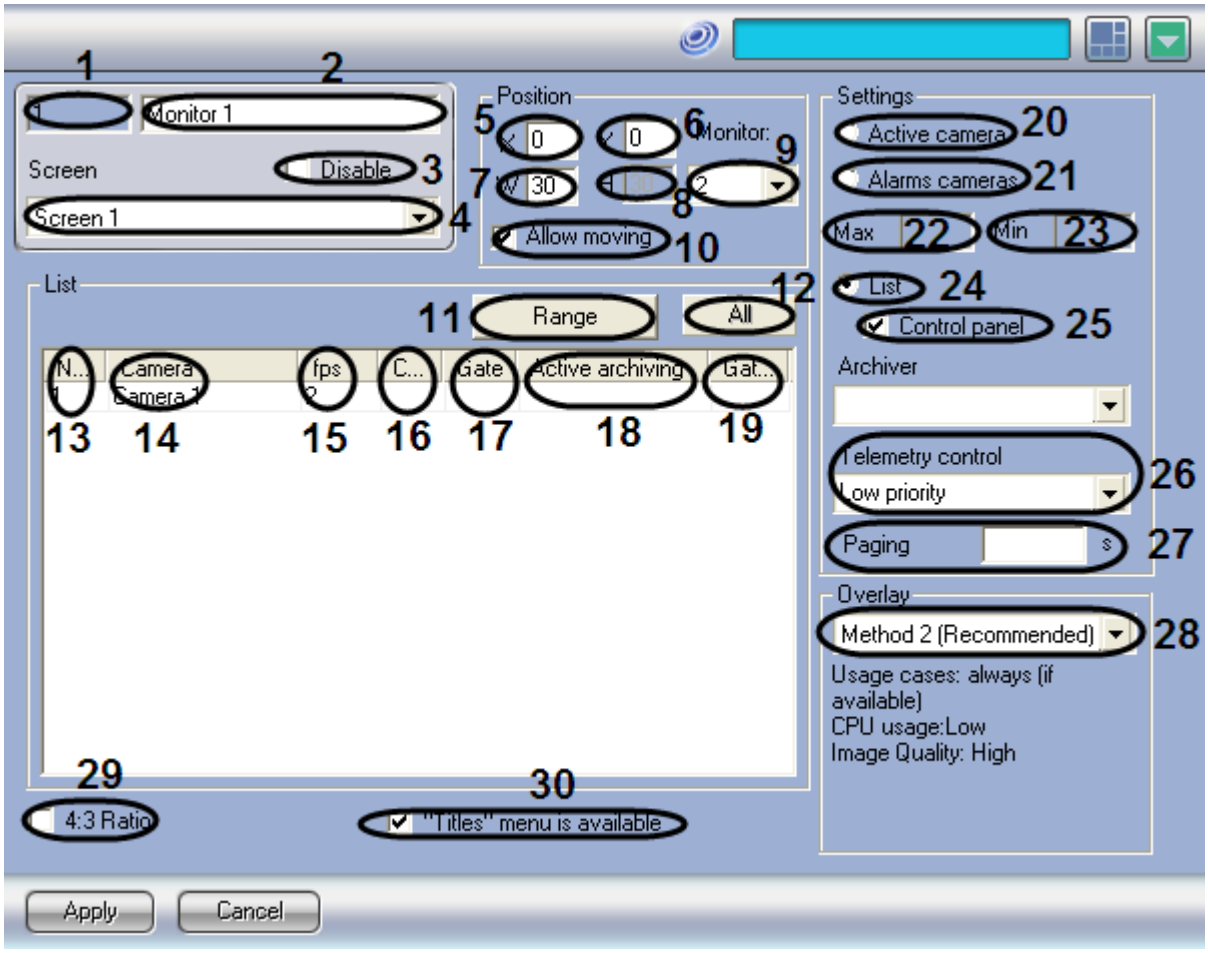


Figure 10.2-63. Monitor settings panel

Table 10.2-31 describes the parameters of the settings corresponding to the elements of the settings panel of the Monitor object.

Table 10.2-31

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
1	Identification number*	Automatically	Displays the identification number of the interface Monitor object in the system.	Sequen-ce of numbers	-	Depends on the number of Monitor objects in the system.
2	Name*	Enter the value in the field	Defines the name of the Monitor object in the system.	Latin, Cyrillic and service characte r-s	Moni-tor	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Defines the status of the Monitor object (on or off) in the system.	Boolean type	Not avail-able	Yes – the Monitor object is disconnected and is not in use. No – the Screen object is connected and is in use.
4	Screen	Is selected from the list	Defines the parent Screen object for the given Monitor object.	Names of the Screen objects register-ed in the system	Name of the parent Screen object.	Depends on the number of Screen objects in the system.
Position Group						
5	X	Enter the value in the box.	Defines the coordinate in the X horizontal axis for the upper left corner of the interface window Monitor	% of the screen width.	-	From 0 to M*100, where M is the number of the monitors installed.
6	Y	Enter the value in the box.	Defines the coordinate in the Y vertical axis for the upper left corner of the interface window Monitor	% of the screen height.	-	From 0 to M*100, where M is the number of the monitors installed.
7	W	Enter the value in the box.	Defines the interface window Monitor width.	% of the screen width.	-	From 0 to M*100, where M is the number of the monitors installed.
8	H	Enter the value in the box.	Defines the Video Monitor height.	% of the screen width.	-	From 0 to M*100, where M is the number of the monitors installed.
9	Monitor	Is selected from the list	Sets the monitor number, that is assigned the coordinates	Sequen-ce of numbers	1	From 1 to 9
10	Allow moving	Is identified by	Allows Monitor manual movement over the Screen,	Boolean	Not avail-	Yes – manual Monitor

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
		the check mark.	when toolsbar is active	type	able	movement is allowed. No – manual Monitor movement is prohibited.
List Group						
11	Range	The button is pressed	Access to complex selection and editing of cameras'parameters for displaying on the Monitor	-	-	-
12	All	The button is pressed.	Includes all cameras of the digital distributed video surveillance system into the list of cameras, displayed on the Video monitor interface object.	-	-	-
13	Number	Is selected from the list	Defines the number of the Video camera to be displayed on the Video monitor interface object.	Sequen-ce of numbers	-	Depends on the number of surveillance cameras in the digital distributed video surveillance system
14	Camera	Is selected from the list	Defines the name of the Video camera to be displayed on the Video monitor interface object	Name of the Camera objects register-ed in the system	-	Depends on the number of surveillance cameras registered in the system
15	Fps	Is selected from the list	Defines the frame rate for transmitting the video signal from the Video cameras to the Video monitor.	Sequenc e of numbers	Not defin-ed	1,2,3,4,6,8,12,16,20,25,30
16	Compression	Is selected from the list	Defines the compression level of the video signal transmitted to the monitor.The given value leads to additional consumption of Server's resources.	Sequenc e of numbers	-	In the range of rising compression level 0,1,2,3,4,5 0 – the video signal is not compressed. 5 – maximum compression of the video signal.
17	Gate	Is selected from the list	Defines the Videogate for transmitting the video archive from the selected camera to the Monitor.	Name of the Gateway objects register-ed in the	-	Depends on the number of Videogate objects registered in the system.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
				system		
18	Active archive	Is selected from the list	Defines the Active archive for transmitting the video archive from the selected camera to the Monitor.	Name of the Active archive objects register-ed in the system.	-	Depends on the number of Active archive objects registered in the system.
19	Gateway for active archive	Is selected from the list	Defines the Active archive object for transmitting the video archive from the selected Active Archive to the Monitor.	Name of the Gateway objects register-ed in the system	Not defin-ed	Depends on the number of Gateway objects registered in the system
Settings Group						
20	Active camera	Set the selector in the required position	Defines the mode for displaying only active window of video camera.	Boolean type	-	Yes-Active camera mode is on and is being used. No- Active camera mode is off and is not being used.
21	Alarms cameras	Set the selector in the required position	Defines the mode for displaying windows of alarms cameras.	Boolean type	-	Yes-Alarms cameras mode is on and is being used. No- Alarms cameras mode is off and is not being used.
22	Maximum	Enter the value in the box	Defines the maximum number of video cameras, which windows will be displayed on the video monitor in Alarms cameras mode	Sequenc e of numbers	-	From 1 to 64. Depends on the number of cameras registered in the system.
23	Minimum	Enter the value in the box	Defines the minimum number of video cameras, which windows will be displayed on the video monitor even without alarm in Alarms cameras mode	Sequenc e of numbers	-	From 1 to 64. Depends on the number of cameras registered in the system. 0 – without alarm cameras'windows are not displayed in the Monitor window.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
24	List	Set the selector in the required position	Set the mode of cameras'displaying according to the selected lay out.	Boolean type	Availia ble	Yes-List mode is on and is being used. No- List mode is off and is not being used.
25	Control panel	Is identified by the check mark	Activates in the mode List displaying toolosbar on the monitor	Boolean type	-	Yes-Toolsbar is on and is being used. No- Toolsbar is off and is not being used.
26	PTZ control	Is selected from the list	Defines priorities for the PTZ control.	Names of priorities used to control PTZ units.	Low priori-ty	Prohibited – function of the PTZ control with the help of the Monitor object. Low – low priority of control. Standard – medium priority of control. High – high priority of control.
27	Sequence	Enter the value in the box	Set the value of sequence of camera's windows automatic listing with the active toolsbar.	time (sec)	-	Integers from 1 and above
Overlay group						
28	Overlay (Type I) Overlay (Type II)	Is identified by the check marks.	Defines the Overlay mode for processing of video signals from cameras	Name of overlay mode	Overl-ay II (is recom mend ed)	Overlay (Type I) –video signals are processed as a single video stream Overlay (Type II, is recommended) – video signals are processed independantly The overlay is not selected – video signals are not processed by video card
Ratio 4:3 group						
29	Ratio 4:3	Is identified by the check marks	Set the proportion of height and width of the monitor 4:3	Boolean type	-	Yes- proportion of height and width of the monitor

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
						4:3 No-proportion can be random.
30	Titles menu is available	Is identified by the check marks	Sets the titles displaying option for cameras of Monitor interface window	Boolean type	Yes	Yes – titles submenu is available in the contextual menu of Monitor interface window No – titles submenu is unavailable in the contextual menu of Monitor interface window

20. The name of the element is not displayed in the settings panel of the given object.

10.2.7.4 *Audio player settings panel*

The Audio player settings panel is shown in Figure 10.2-64.

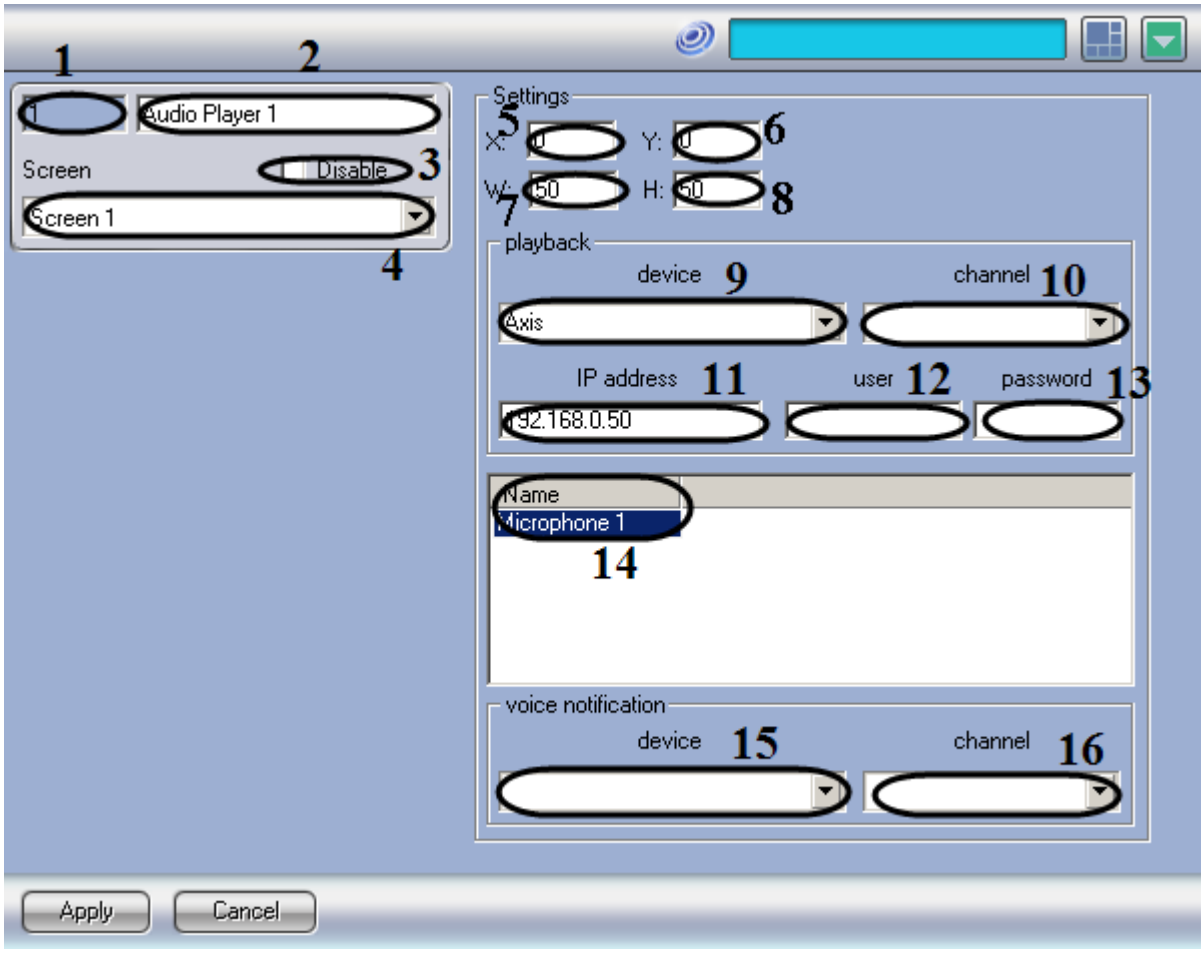


Figure 10.2-64. Audio player settings panel

Table 10.2-32 describes the parameters of the settings corresponding to the elements of the settings panel of the Audio player object.

Table 10.2-32

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
1	Identification number	Automatically	Displays the identification number of the Audio player object in the system.	Sequenc e of numbers	-	Depends on the number of Audio player objects in the system.
2	Name	Enter the value in the box	Defines the name of the Audio player object in the system.	Latin, Cyrillic and service characte r-s	Audio player	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
3	Check box Disable	Is identified by the check mark	Defines the status(on or off) of the Audio player object in the system.	Boolean type	Not avail-able	Yes – the Audio player object is disconnected and is not in use No – the Audio player object is connected and is in use.
4	Dropdown list Screen	Is selected from the list	Defines the parent Screen object for the given Audio player object.	Names of the Screen objects register-ed in the system	Name of the parent Screen object.	Depends on the number of Screen objects in the system.
Settings Group						
5	X	Enter the value in the field.	Defines the coordinate in the X horizontal axis for the upper left corner of the Audio player on the screen.	% of the screen width.	-	From 0 to M*100, where M is the number of surveillance monitors installed.
6	Y	Enter the value in the box.	Defines the coordinate in the Y vertical axis for the upper left corner of the Audio player on the screen.	% of the screen height.		From 0 to M*100, where M is the number of surveillance monitors installed.
7	W	Enter the value in the box.	Defines the Audio player window width.	% of the screen width.	-	From 40 to M*100, where M is the number of surveillance monitors installed.
8	H	Enter the value in the box.	Defines the Audio player window height.	% of the screen	Not defin-	From 40 to M*100, where M is the number of surveillance monitors

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
				width.	ed	installed.
9	Dropdown list Device	Is selected from the list	Defines sound device for which audio signals shoul be transmited to playback.	Nemes of audio devices,registered in the system	Device on default	Depends on the number of devices in the system.Device on default- is standard sound map
10	Channel	Is selected from the list	Defines the chanal of audio signals' playback	Left+right, left,right	Left+right	Left+right audio signal is transmitted to left and right channels of sound device. Left – audio signal is transmitted to the left channel of the sound device. Right– audio signal is transmitted to the right channel of the sound device
11	IP address(is set for audio IP-device)	Enter the value in the field.	Set the IP-adress of the sound device	IP-adress	-	Depends on settings registered in the system of IP-devices
12	User(is set for audio IP-device)	Enter the value in the field.	Set the user name to connect to the sound device	-	-	Depends on settings of IP-device
13	Password(is set for audio IP-device)	Enter the value in the field.	Set user's password for connection to the sound device	-	-	Depends on settings of IP-device
«Name» table						
14	Dropdown list Name	Select the value from the list	Set the microphone, which audio signals should be recorded and/or played	Names of «Microphone»objects,registered in the system	-	Depends on number of Microphone objects in the system
15	Dropdown list device	Select the value from the list	Set the voice notification device when alarms are registered by cameras	Names of voice detection devices, registered in the	Device on default	Depends on voice notification devices, registered in the system. Device n default-standard sound map.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
				system		
16	Dropdown list Channel	Select the value from the list	Set the channel of voice notification when alarms are registered by cameras	Left+right, left,right	Left+right	Left+right- audio signal is transferred to the left and right channels of the voice notification device.Left- audio signal is transferred to the left channel of the voice notification device.Right- audio signal is transferred to the right channel of the voice notification device

10.2.7.5 *Settings panel of the Telemetry control panel*

The Audio player settings panel is shown in Figure 10.2-65.

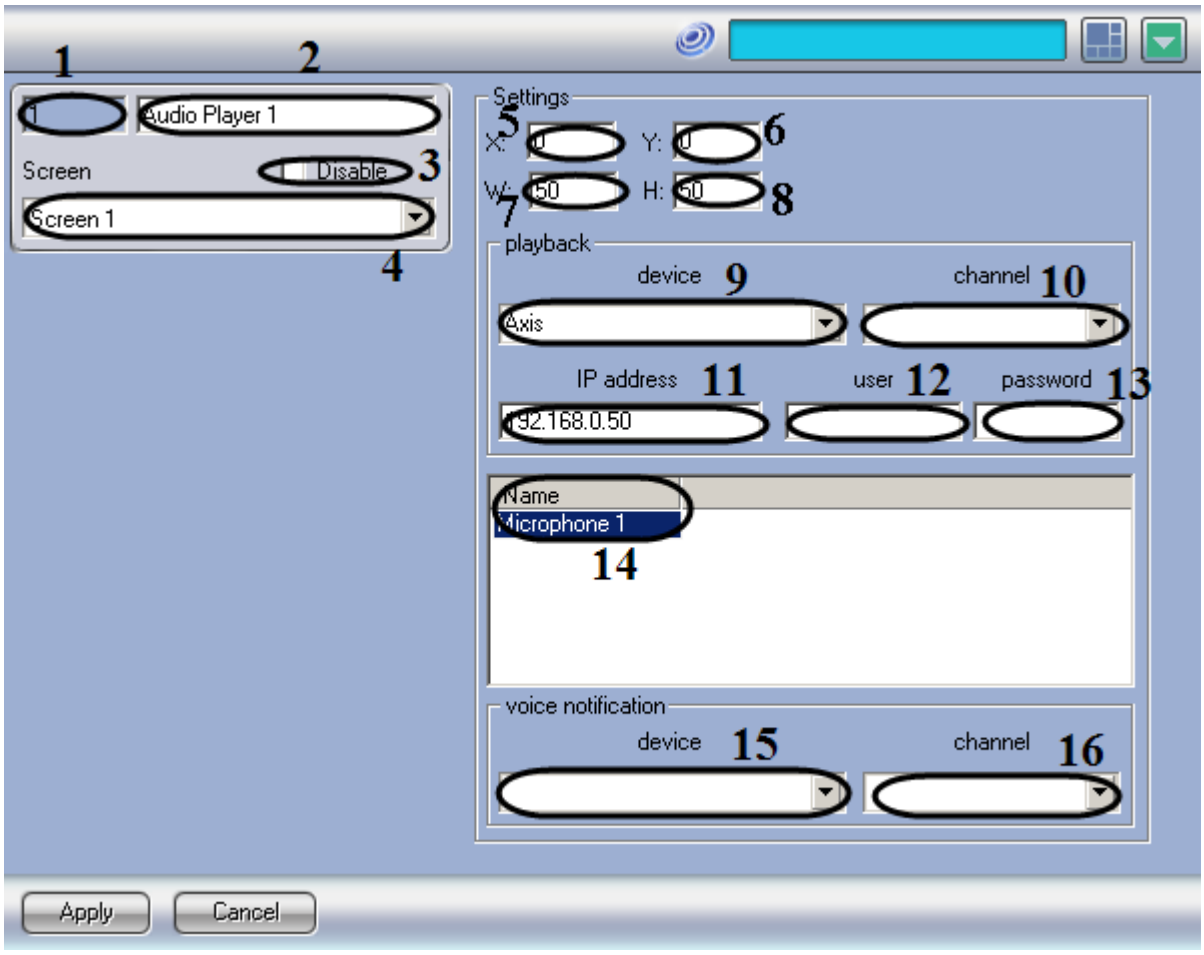


Figure 10.2-65. Audio player settings panel

Table 10.2-33 describes the parameters of the settings corresponding to the elements of the settings panel of the Audio player object.

Table 10.2-33

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
1	Identification number	Automatically	Displays the identification number of the Audio player object in the system.	Sequenc e of numbers	-	Depends on the number of Audio player objects in the system.
2	Name	Enter the value in the box	Defines the name of the Audio player object in the system.	Latin, Cyrillic and service characte r-s	Audio player	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
3	Check box Disable	Is identified by the check mark	Defines the status(on or off) of the Audio player object in the system.	Boolean type	Not avail-able	Yes – the Audio player object is disconnected and is not in use No – the Audio player object is connected and is in use.
4	Dropdown list Screen	Is selected from the list	Defines the parent Screen object for the given Audio player object.	Names of the Screen objects register-ed in the system	Name of the parent Screen object.	Depends on the number of Screen objects in the system.
Settings Group						
5	X	Enter the value in the field.	Defines the coordinate in the X horizontal axis for the upper left corner of the Audio player on the screen.	% of the screen width.	-	From 0 to M*100, where M is the number of surveillance monitors installed.
6	Y	Enter the value in the box.	Defines the coordinate in the Y vertical axis for the upper left corner of the Audio player on the screen.	% of the screen height.		From 0 to M*100, where M is the number of surveillance monitors installed.
7	W	Enter the value in the box.	Defines the Audio player window width.	% of the screen width.	-	From 40 to M*100, where M is the number of surveillance monitors installed.
8	H	Enter the value in the box.	Defines the Audio player window height.	% of the screen	Not defin-	From 40 to M*100, where M is the number of surveillance monitors

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
				width.	ed	installed.
9	Dropdown list Device	Is selected from the list	Defines sound device for which audio signals shoul be transmited to playback.	Nemes of audio devices,registered in the system	Device on defaul t	Depends on the number of devices in the system.Device on default- is standard sound map
10	Channel	Is selected from the list	Defines the chanal of audio signals' playback	Left+right, left,right	Left+right	Left+right audio signal is transmitted to left and right channels of sound device. Left – audio signal is transmitted to the left channel of the sound device. Right– audio signal is transmitted to the right channel of the sound device
11	IP address(is set for audio IP-device)	Enter the value in the field.	Set the IP-adress of the sound device	IP-adress	-	Depends on settings registered in the system of IP-devices
12	User(is set for audio IP-device)	Enter the value in the field.	Set the user name to connect to the sound device	-	-	Depends on settings of IP-device
13	Password(is set for audio IP-device)	Enter the value in the field.	Set user's password for connection to the sound device	-	-	Depends on settings of IP-device
«Name» table						
14	Dropdown list Name	Select the value from the list	Set the microphone, which audio signals should be recorded and/or played	Names of «Microp hone»ob jects,regi stered in the system	-	Depends on number of Microphone objects in the system
15	Dropdown list device	Select the value from the list	Set the voice notification device when alarms are registered by cameras	Names of voice detectio n devices, registere d in the	Device on defaul t	Depends on voice notification devices, registered in the system. Device n default-standard sound map.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
				system		
16	Dropdown list Channel	Select the value from the list	Set the channel of voice notification when alarms are registered by cameras	Left+right, left,right	Left+right	Left+right- audio signal is transferred to the left and right channels of the voice notification device.Left- audio signal is transferred to the left channel of the voice notification device.Right- audio signal is transferred to the right channel of the voice notification device

10.2.7.6 *Settings of the Active Archiving panel*

The Active Archiving panel object is designed to register and configure the Active Archiving panel interface object in the Intellect system, which allows the Operator to configure video data archiving.

The Active Archiving Settings panel is shown in Figure 10.2-66.

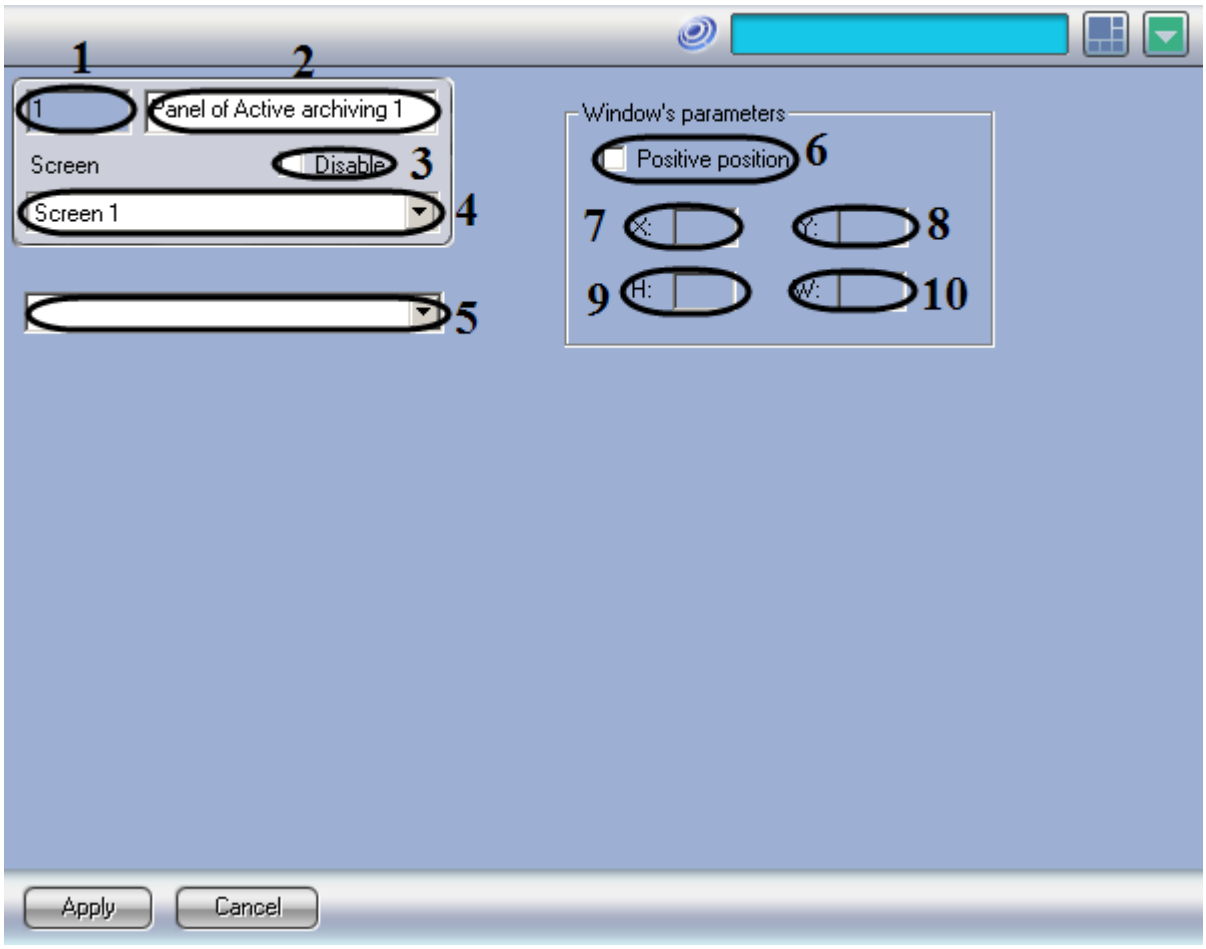


Figure 10.2-66. Settings of the Active Archiving panel object

Table 10.2-34 describes the parameters of the settings corresponding to the elements of the settings panel of the Active Archiving panel object.

Table 10.2-34

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Active Archiving panel.	Sequence of numbers	-	From 1 and above. Depends on the number of Active Archiving panel objects in the digital distributed video surveillance system
2	Name*	Enter the value in the box	Defines the name of the Active Archiving panel object.	Latin, Cyrillic and service characters	Active Archiving panel	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
3	Disable	Is identified by the check mark	Defines the status of the Active Archiving panel object.	Boolean type	Not avail-able	Yes – the Active Archiving panel is disconnected and is not in use No – the Active Archiving panel is connected and is in use.
4	Screen	Is selected from the list	Defines the parent Screen object of the digital distributed system, to which the given Active Archiving panel object refers.	Names of the Screen objects registered in the system.	Name of the parent Com-puter object.	Depends on the number of Computer objects in the digital distributed video surveillance system
5	Active archive*	Is selected from the list	Defines an Active Archive, which the Operator will control with the Active Archiving panel interface object.	Name of the Active archive objects registered in the system.	Active archi-ve	Depends on the number of Active archive objects in the digital distributed video surveillance system.
6	Fixed position	Is set with a check mark	Defines, if the user can drag the Active Archiving panel over the screen with the mouse.	Boolean type	Not avail-able	Yes – the Active Archiving panel may not be dragged. No – the Active Archiving panel may be dragged.
7	X	Enter the value in the box (Automatically, if the Fixed position option is checked).	Defines a coordinate in the X horizontal axis for the upper left corner of the Active Archiving panel on the screen.	% of the screen width.	Not defin-ed	From 0 to M*100, where M is the number of video monitors installed.
8	Y	Enter the value in the box (Automatically, if the Fixed position option is checked).	Defines a coordinate in the Y vertical axis for the upper left corner of the Active Archiving panel on the screen.	% of the screen height.	Not defin-ed	From 0 to M*100, where M is the number of video monitors installed.
9	W	Enter the value in the box (Automatically, if the Fixed position option is	Defines the width of the Active Archiving panel.	% of the screen width.	Not defin-ed	From 0 to M*100, where M is the number of video monitors installed.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
		checked).				
10	H	Enter the value in the box (Automatically, if the Fixed position option is checked).	Defines the height of the Active Archiving panel.	% of the screen width.	Not defin-ed	From 0 to M*100, where M is the number of video monitors installed.

21. The name of the element is not displayed in the settings panel of the given object.

10.2.7.7 *Map settings panel*

The Map object is designed to register and configure the Map interface object in the Intellect system, which allows creating and mapping the symbols of the installed devices in the controlled territory and to use the symbols to operate the devices. The Map settings panel is shown in Figure 10.2-67.

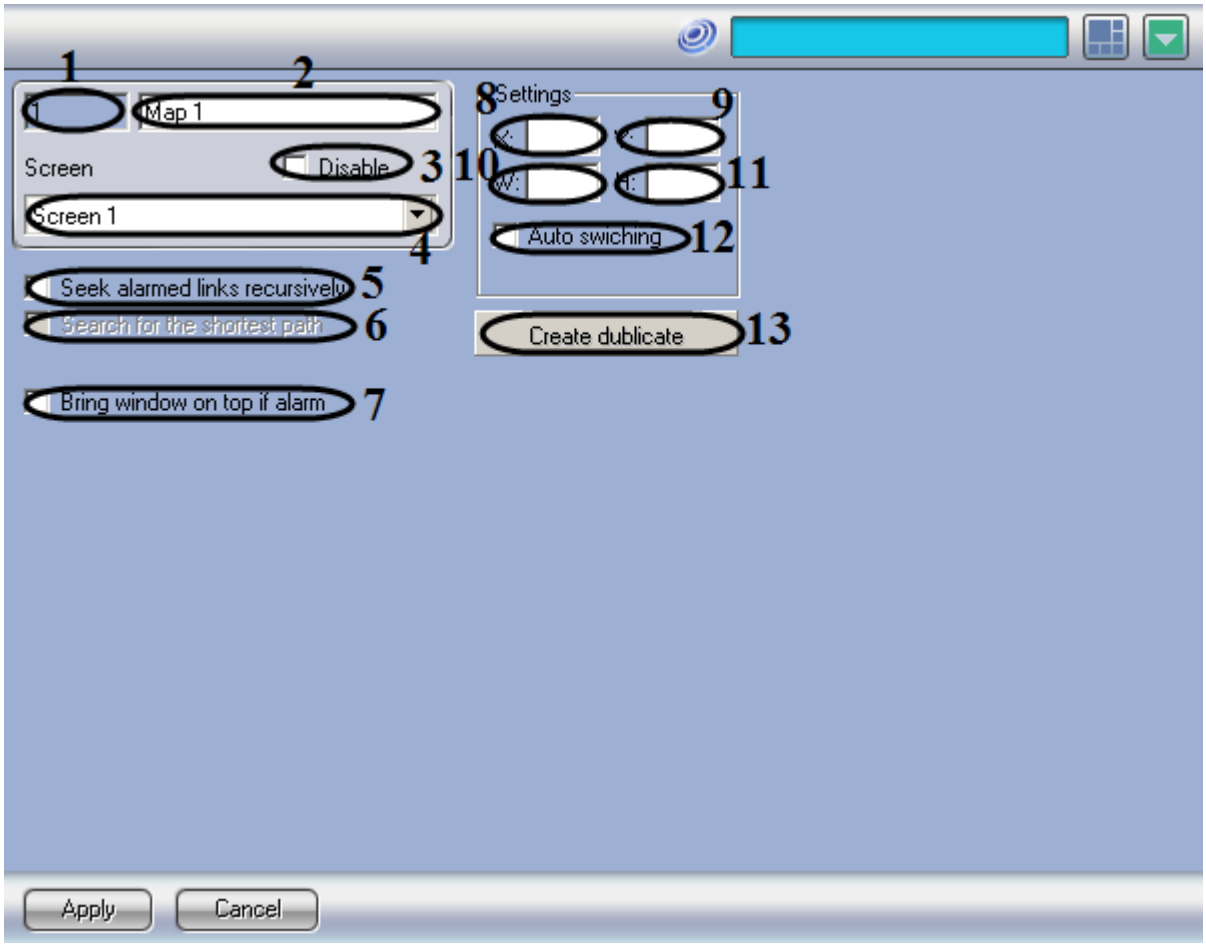


Figure 10.2-67. Map object settings panel

Table 10.2-35 describes the parameters of the settings corresponding to the elements of the settings panel of the Map object.

Table 10.2-35

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
1	Identification number*	Automatically	Displays the identification number of the Map object in the digital distributed video surveillance system.	Sequen-ce of numbers	-	From 1 and above. Depends on the number of Map objects in the digital distributed video surveillance system
2	Name*	Enter the value in the box	Displays the name of the Map object in the digital distributed video surveillance system.	Latin, Cyrillic and service characte r-s	Map	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Displays the status of the Map object in the digital distributed video surveillance system.	Boolean type	Not avail-able	Yes – the Map object is disconnected and is not in use No – the Map object is connected and is in use.
4	Screen	Is selected from the list	Defines the parent Screen object of the digital distributed system, to which the given Map object refers.	Names of the Screen objects register-ed in the system.	Name of the parent Com-puter object.	Depends on the number of Computer objects in the digital distributed video surveillance system
5	Seek alarm links recursively	Is identified by the check mark	Defines, if recursive search for the objects in the levels is possible. The recursive search means a search, where the transfer from one level, containing an object, to another level, containing a symbol, follows a gradual pattern of moving to the neighboring levels, using consecutive references.	Boolean type	Not avail-able	Yes – a recursive search for objects is switched on. No – a recursive search for objects is switched off.
6	Seek shortest path	Is identified by the check mark	Enables the search of the sortest path to the alarmed layer, if several paths from the active layer are available. The path is calculated automatically. Only the Link to Layer with the shortest path will blink in the active layer.			

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
			Can be enabled only together with the Seek Alarm Links Recursively checkbox.			
7	Bring window on top if alarm sounds	Is identified by the check mark	Defines, if the window of the Map interface object can be displayed above all active applications in case of an alarm from any object of the Map interface object.	Boolean type	Not avail-able	Yes - the window of the Map interface object will be displayed above all active applications in case of an alarm from any object of the Map interface object. No - the window of the Map interface object will not be displayed above all active applications in case of an alarm from any object of the Map interface object.
Settings Group						
8	X	Enter the value in the box	Defines a coordinate in the X horizontal axis for the upper left corner of the window of the Map interface object on the screen.	% of the screen width.	Not defin-ed	From 0 to M*100, where M is the number of video monitors installed.
9	Y	Enter the value in the box	Defines a coordinate in the Y vertical axis for the upper left corner of the window of the Map interface object on the screen.	% of the screen height.	Not defin-ed	From 0 to M*100, where M is the number of video monitors installed.
10	W	Enter the value in the box	Defines the width of the window of the Map interface object.	% of the screen width.	Not defin-ed	From 0 to M*100, where M is the number of video monitors installed.
11	H	Enter the value in the box	Defines the height of the window of the Map interface object.	% of the screen width.	Not defin-ed	From 0 to M*100, where M is the number of video monitors installed.
12	Auto switching	Is identified by the check mark	Activates an auto switch to the Alarm source level in the Map interface object.	Boolean type	Not avail-able	Yes – in case of an alarm from an object, the system will switch to the source level, where the object is located. No – in case of an alarm from an object, the system will not switch to the source level, where

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
						the object is located.
13	Duplicate	Press the button.	Creates another Map object with all parameters identical to the given object.	-	-	-

j. The name of the element is not displayed in the settings panel of the given object.

10.2.7.8 *Layer settings panel*

The Layer object is designed to create and configure the Map layers with the controlled objects in the Intellect system.

The Layer settings panel is shown in Figure 10.2-68.

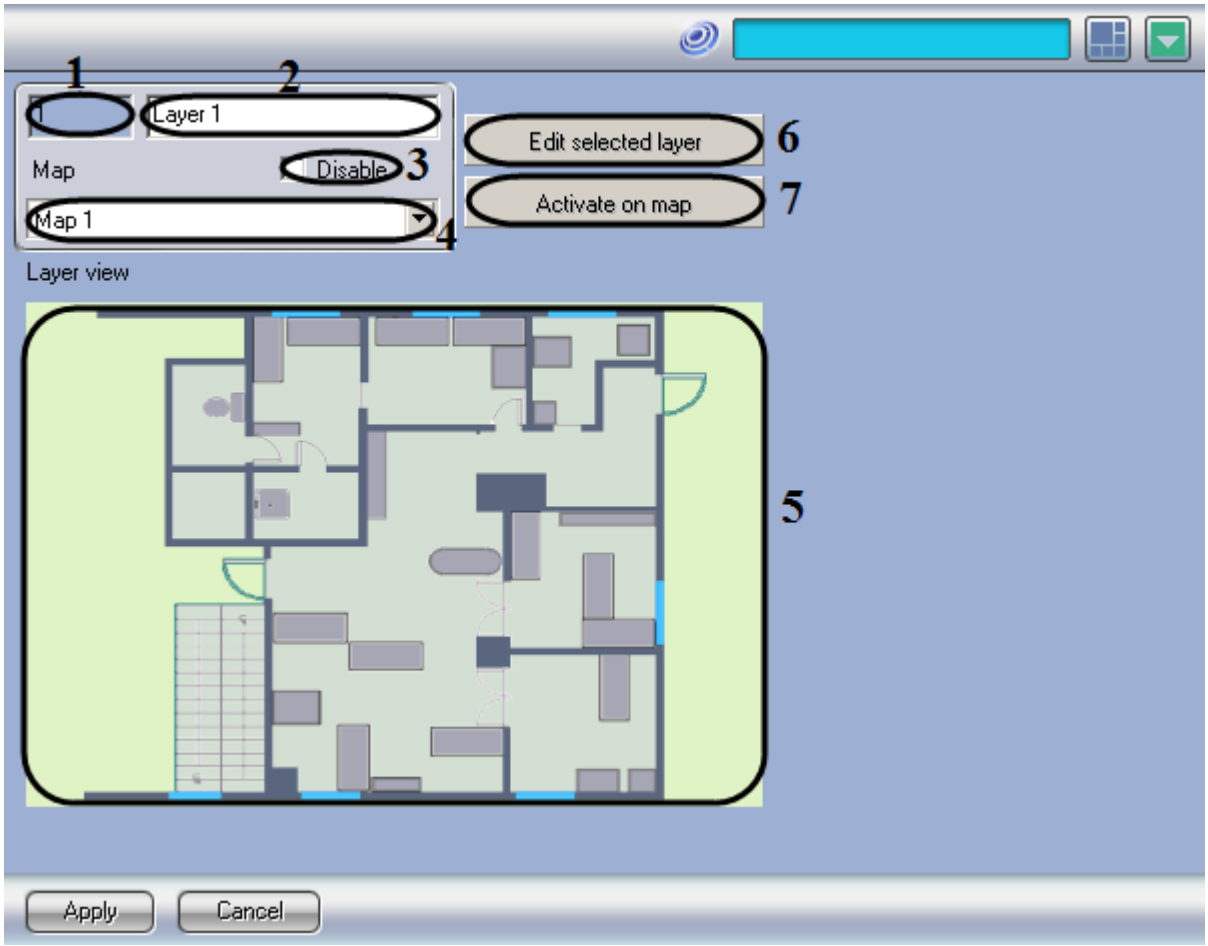


Figure 10.2-68. Layer object settings panel

Table 10.2-36 describes the parameters of the settings corresponding to the elements of the settings panel of the Layer object.

Table 10.2-36

№	Parameter	Method for enter the parameter	Parameter description	Symbols used	Default value	Value range

№	Parameter	Method for enter the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Layer object in the digital distributed video surveillance system.	Sequence of numbers	-	From 1 and above. Depends on the number of Layer objects in the digital distributed video surveillance system
2	Name*	Enter the value in the box	Displays the name of the Layer object in the digital distributed video surveillance system.	Latin, Cyrillic and service characters	Layer	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Shows the status (connected or disconnected) of the Layer object in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Layer object is disconnected and is not in use No – the Layer object is connected and is in use.
4	Map	Is selected from the list	Defines the parent Map object of the digital distributed system, to which the given Layer object refers.	Name of the Map objects registered in the system.	Name of the parent Map object	Depends on the number of Map objects in the digital distributed video surveillance system
5	Layer view	-	Shows the layout of the controlled territory.	-	-	-
6	Edit selected layer	Press the button.	Displays the panel, which allows to add/remove and configure the symbols of the devices installed in the controlled territory, using the territory layout.	-	-	-
7	Activate on map	Press the button.	Brings forward to the given layer over all other layers in the Map interface object.	-	-	-

k. The name of the element is not displayed in the settings panel of the given object.

10.2.7.9 *Event Viewer settings panel*

The Event Viewer object represents an interface window showing textual information about the events initiated by the distributed surveillance system.

The Event viewer settings panel is shown in Figure 10.2-69.

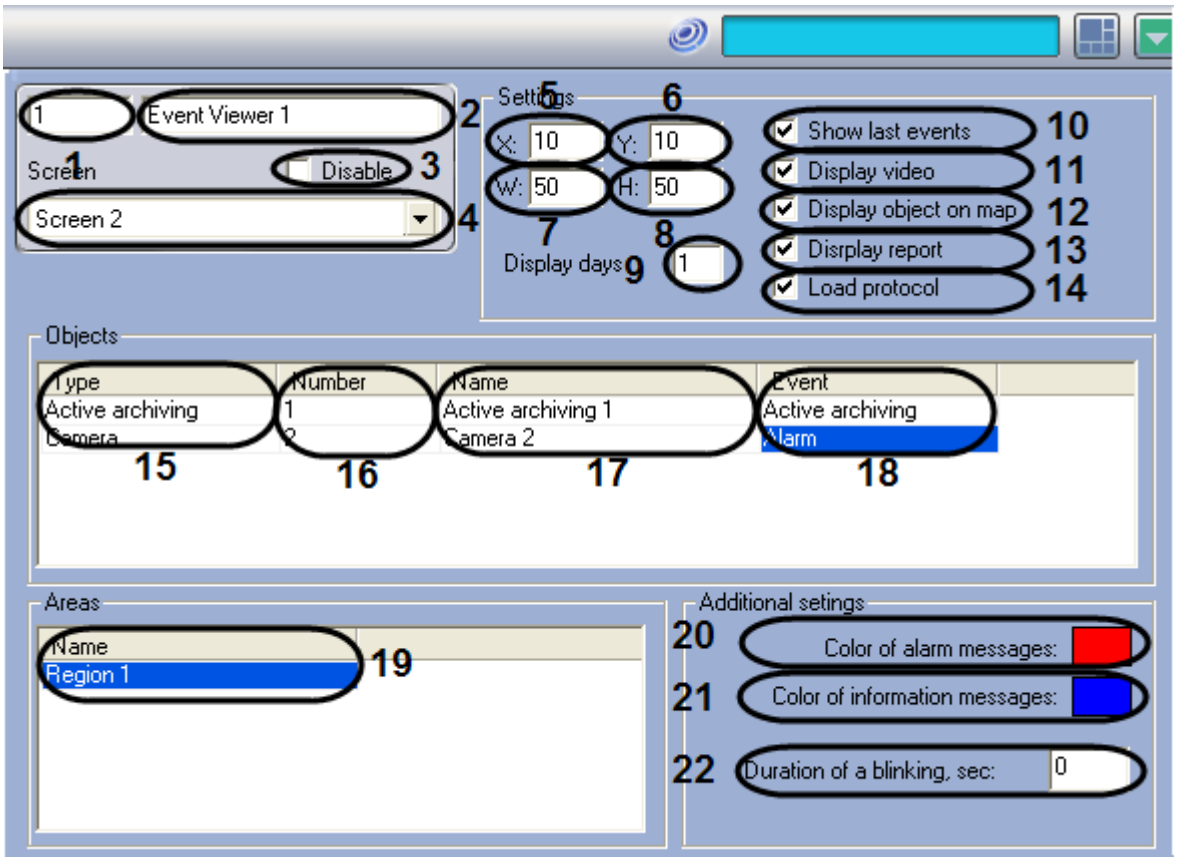


Figure 10.2-69. Event Viewer object settings panel

Table 10.2-37 describes the parameters of the settings corresponding to the elements of the settings panel of the Event viewer object.

Table 10.2-37

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
1	Identification number*	Automatically	Displays the identification number of the Event viewer object in the digital distributed video surveillance system.	Sequen-ce of numbers	-	From 1 and above. Depends on the number of Event viewer objects in the digital distributed video surveillance system.
2	Name*	Enter the value in the field	Defines the name of the Event viewer object in the digital distributed video surveillance system.	Latin, Cyrillic and service characte r-s	Event View-er	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Defines the status of the Event viewer object (connected or disconnected) in the digital	Boolean type	Not avail-	Yes – the Event viewer is disconnected and is not

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
			distributed video surveillance system.		able	in use. No – the Event viewer is connected and is in use.
4	Screen	Is selected from the list	Defines the parent Screen object of the digital distributed video surveillance system, to which the given Event viewer object refers.	Names of the Screen objects register-ed in the system	Name of the parent Screen object.	Depends on the number of Screen objects in the digital distributed video surveillance system.
Settings Group						
5	X	Enter the value in the field.	Defines the coordinate in the X horizontal axis for the upper left corner of the window of the Event viewer interface object on the screen.	% of the screen width.	Not defin-ed	From 0 to M*100, where M is the number of surveillance monitors installed.
6	Y	Enter the value in the field.	Defines the coordinate in the Y vertical axis for the upper left corner of the window of the Event viewer interface object on the screen.	% of the screen height.	Not defin-ed	From 0 to M*100, where M is the number of surveillance monitors installed.
7	W	Enter the value in the field.	Defines the window width of the Event viewer interface object.	% of the screen width.	Not defin-ed	From 0 to M*100, where M is the number of surveillance monitors installed.
8	H	Enter the value in the field.	Defines the window height of the Event viewer interface object.	% of the screen width.	Not defin-ed	From 0 to M*100, where M is the number of surveillance monitors installed.
9	Display, days	Enter the value in the field.	Defines the number of days to keep the event recording archive in the Intellect database.	Days	Not defin-ed	More than 0
10	Show last events	Is identified by the check mark	Defines the events for displaying in the window of the Event viewer. Either all or only the latest.	Boolean type	Not avail-able	Yes – the Event viewer protocol should display only the latest event for all of each object .
11	Display video	Is identified by the check mark	Defines, whether or not the Operator can view archive footage of the events, initiated by the event viewer as Copy to disk using the event viewer window.	Boolean type	Not avail-able	Yes – the Operator may view the archive footage using the Event Viewer window. No – the Operator may not view the archive footage using the Event

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
						Viewer window.
12	Display object on map	Is identified by the check mark	Defines, whether or not the Operator can view on the map the objects, displayed in the Event viewer window.	Boolean type	Not avail-able	Yes - the Operator can view on the map the objects, displayed in the Event viewer window. No - the Operator cannot view on the map the objects, displayed in the Event viewer window.
13	Display report	Is identified by the check mark	Defines, whether or not the Operator may create a printed form for the report and print out the information about all events registered by the Event viewer within the pre-defined period of time.	Boolean type	Not avail-able	Yes - the Operator may create a printed form for the report and print out the information about all events registered by the Event viewer within the pre-defined period of time. No - the Operator may not create a printed form for the report and print out the information about all events registered by the Event viewer within the pre-defined period of time.
14	Load protocol	Is identified by the check mark	Defines, whether or not the latest 1000 events registered by the Event viewer with the latest system launch, should be downloaded with the launch of Intellect™ software.	Boolean type	Not avail-able	Yes - the latest 1000 events registered by the Event viewer with the latest system launch, should be downloaded with the launch of Intellect™ software. No - the latest 1000 events registered by the Event viewer with the latest system launch, should not be downloaded with the launch of Intellect™ software.
Objects Group						
15	Type	Is selected from the list	Choose the types of objects to be logged in the Event Viewer. *NOTE. If the field is empty, the Event Viewer displays all events*	Types of objects register-ed in the	Not defin-ed	Depends on the number of types of objects created in the digital distributed video

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
			for all objects in the system.	system.		surveillance system.
16	Number	Is selected from the list	Defines the identification number of the device. *NOTE. If the field is empty, the Event Viewer displays all events for all objects of the type selected in step 15.*	Sequen-ce of numbers	Not defin-ed	Depends on the number of created devices, selected in p. 15 of the digital distributed video surveillance system.
17	Name	Automatically	Defines the device selected in item 16.	Name of the objects of the selected type register-ed in the system	Name of the pre-defin-ed syste m object.	Depends on the number of devices of the selected type in the digital distributed video surveillance system.
18	Event	Is selected from the list	Defines which event coming from an object selected in steps 15, 16, 17, should be logged. *NOTE. If the field is empty, the Event Viewer displays all events for the object selected in steps 15, 16, 17.*	Types of events for the given types of devices.	Not defin-ed	Depends on the options selected in steps 15, 16 and 17.
Areas Group						
19	Name	Is selected from the list	Defines the area where the objects to log the events from are located.	Name of the region register-ed by the system.	Not defin-ed	Depends on the number of Region objects created in the digital distributed video surveillance system.
Settings Group						
20	Color of alarm messages	Is selected from the list or in the Select color panel.	Defines the color of the alarm messages in the Event Viewer.	RGB, CMY or HSL.	Red	Corresponds to the standard range of the selected color system.
21	Color of information messages	Is selected from the list or in the Select color panel.	Defines the color of the information messages in the Event Viewer.	RGB, CMY or HSL.	Blue	Corresponds to the standard range of the selected color system.
22	Duration of blinking, sec:	Enter the value in the field	Defines the duration of blinking for an alarm message in the Event	C	Not defin-	More than 0

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
			Viewer.		ed	

l. The name of the element is not displayed in the settings panel of the given object.

10.2.7.10 *External window settings panel*

The External window object displays in the dialog box showing various applications in the pre-defined screen area. Applications in this context shall mean both applications of ITV and other manufacturers.

The External window settings panel is shown in Figure 10.2-70.

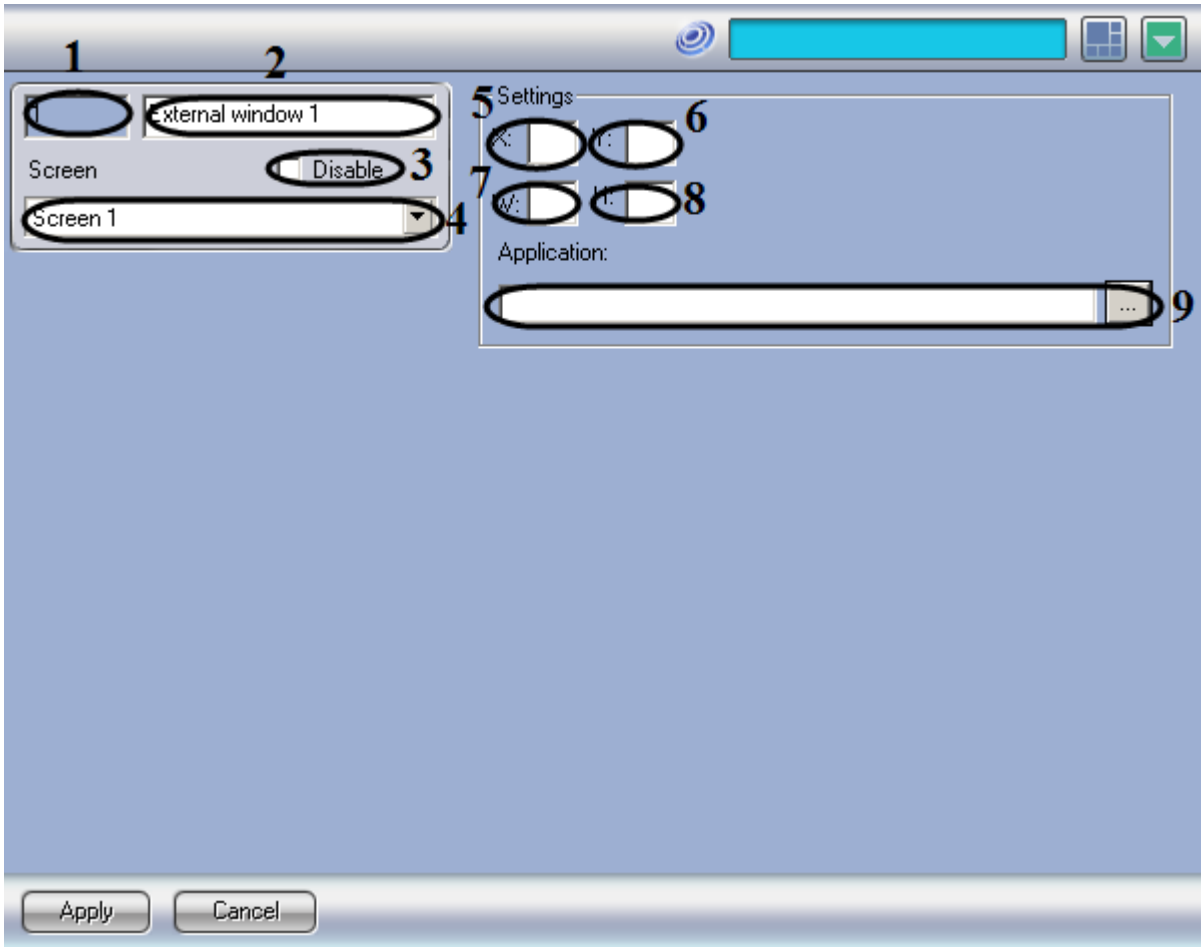


Figure 10.2-70. External window settings panel

Table 10.2-38 describes the parameters of the settings corresponding to the elements of the settings panel of the External window object.

Table 10.2-38

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification	Automatically	Displays the identification number of the External window	Sequence of	-	From 1 and above.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
	number*		object.	numbers		Depends on the number of External window objects.
2	Name*	Enter the value in the field	Defines the name of the External window object.	Latin, Cyrillic and service characte r-s	Exter-nal wind-ow	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive. Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Defines the status of the External window object (connected or disconnected).	Boolean type	Not avail-able	Yes – the External window object is disconnected and is not in use. No – the External window object is connected and is in use.
4	Screen	Is selected from the list	Defines the parent Screen object, to which the given External window object refers.	Names of the Screen objects register-ed in the system	Name of the parent Screen object.	Depends on the number of Screen objects available.
Settings Group						
5	X	Enter the value in the field.	Defines the coordinate in the X horizontal axis for the upper left corner of the window of the External window interface object on the screen.	% of the screen width.	Not defin-ed	From 0 to M*100, where M is the number of surveillance monitors installed.
6	Y	Enter the value in the field.	Defines the coordinate in the Y vertical axis for the upper left corner of the window of the External window interface object on the screen.	% of the screen height.	Not defin-ed	From 0 to M*100, where M is the number of surveillance monitors installed.
7	W	Enter the value in the field.	Defines the window width of the External window interface object.	% of the screen width.	Not defin-ed	From 0 to M*100, where M is the number of surveillance monitors installed.
8	H	Enter the value in the field.	Defines the window height of the External window interface object.	% of the screen width.	Not defin-ed	From 0 to M*100, where M is the number of surveillance monitors installed.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
9	Application	Enter the value in the field	Defines the path to the application, which should be launched.	Latin, Cyrillic and service characte r-s.	Is not defin-ed.	A line containing a sequence of symbols (Latin and service characters, digits) not case-sensitive. Number of symbols – from 1 to 250.

22. Name of the element is not shown in the given object settings panel.

10.2.8 Programming tab

10.2.8.1 *Common settings panel*

The Common settings panel is designed to define the common settings of the Intellect™ system. Table 58 describes the elements of the settings of the Common settings object. The settings panel of the Common settings object is shown in Figure 10.2-71.

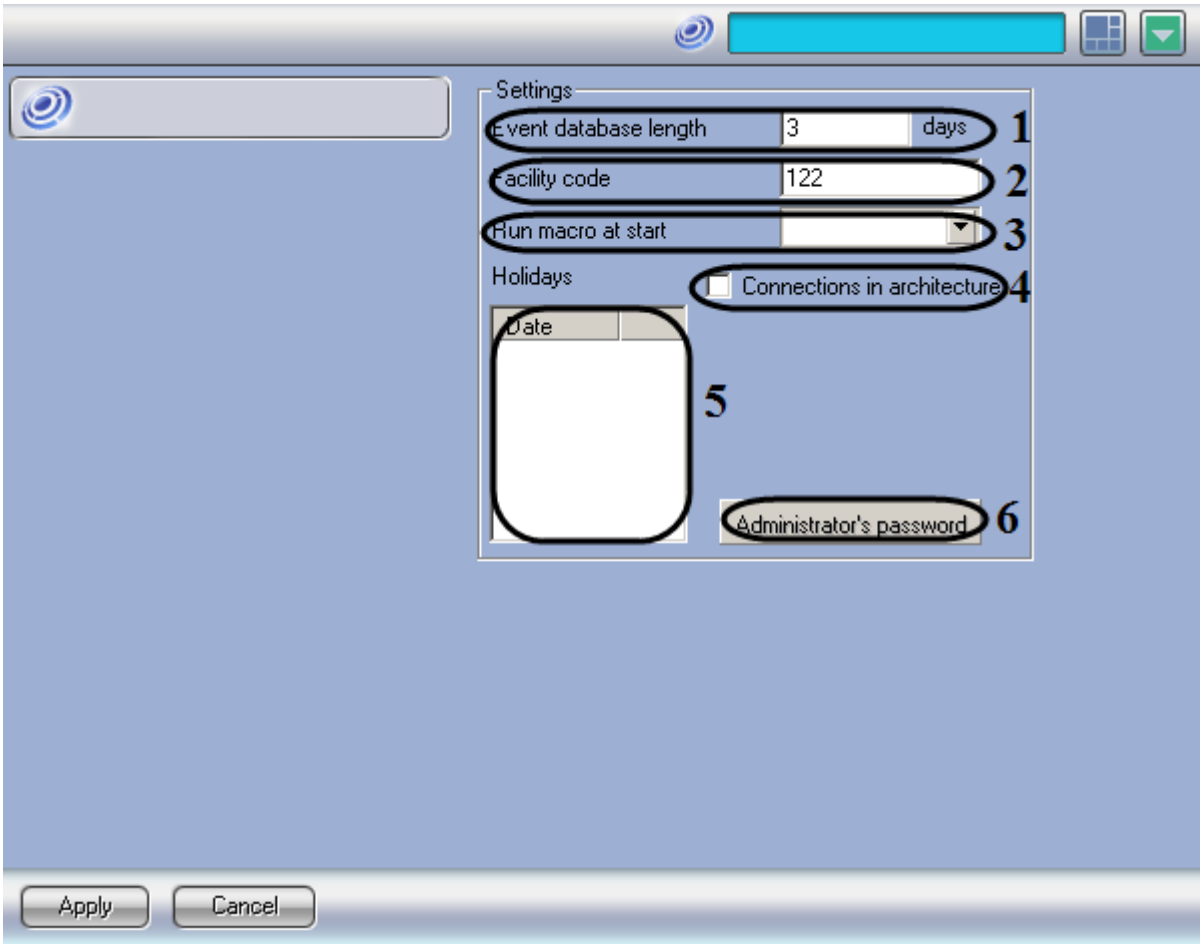


Figure 10.2-71 Common settings object panel

Table 10.2-39 describes the parameters of the settings corresponding to the elements of the settings panel of the Common settings object.

Table 10.2-39

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
Settings Group						
1	Event database length	Enter the value in the field	Defines the number of days for keeping the information about the events registered by the Intellect™ system and recorded in the Event log.	Days	3	More than 1
2	Facility code	Enter the value in the field	Defines the number of the access control card, which is automatically displayed in the User settings panel, when the object is being created in the Facility code field.	Sequence of numbers	Not defined	More than 1
3	Run macro at startup	Is selected from the list	Defines the macro command, which will be automatically launched with the Intellect™ system startup.	Names of the Macro command objects registered in the system	Not defined	Depends on the number of Macro command objects created in the digital distributed video surveillance system.
4	Connections in the architecture	Is identified by the check mark	Defines the computers for displaying the Computer object, which will be created, either on all computers of the digital distributed video surveillance system, or only on the Computer object, used as a base to create the given object.	Boolean type	Not available	Yes – the object, which will be created, will be shown in the architecture of all computers of the digital distributed video surveillance system. No – the object, which will be created, will be shown only in the architecture of the Computer object used as a base to create the given object.
Holidays group						
5	Date	Enter the value in the field	Defines the calendar days, which the Intellect™ system will identify as holidays.	Sequence of numbers	Not defined	Data entry format: DD.MM.YY DD – from 1 to 30. MM – from 1 to 12. YY – from 00 to 99.

6	Administrato-r's password	The button is pressed.	Gives a command to open a dialog box for assigning the Administrator's password.	-	-	-

m. The name of the element is not displayed in the settings panel of the given object.

10.2.8.2 *Macro command settings panel*

The Macro command object is designed to support automatic execution of a pre-defined sequence of commands upon occurrence of certain events, registered by the Intellect™ system. The Macro command object settings panel is shown in Figure 10.2-72.

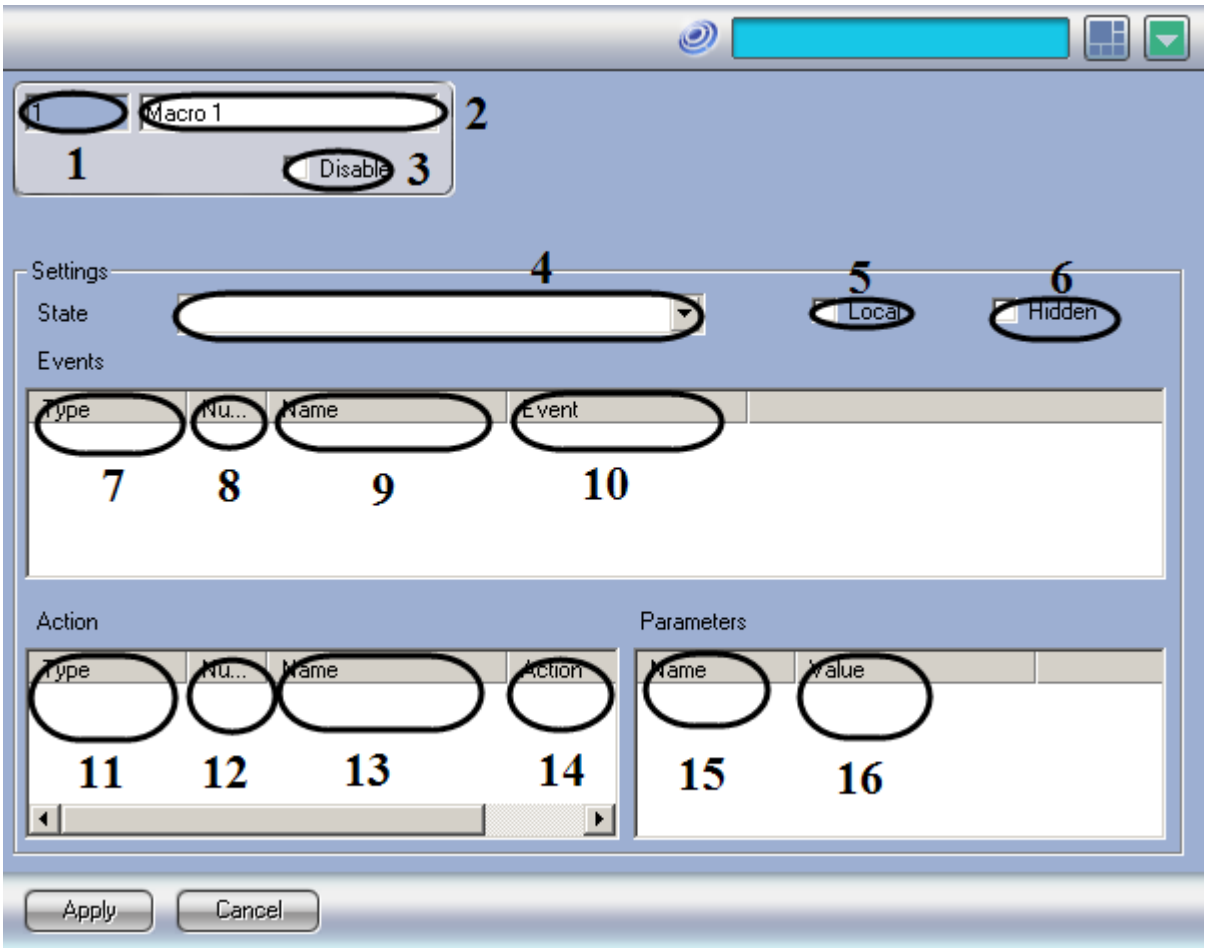


Figure 10.2-72. Macro command object settings panel

Table 10.2-40 describes the parameters of the settings corresponding to the elements of the settings panel of the Macro command object.

Table 10.2-40

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range

1	Identification number*	Automatically	Displays the identification number of the Macro command object in the video surveillance system.	Sequence of numbers	-	Depends on the number of Macro command objects in the digital distributed video surveillance system.
2	Name*	Enter the value in the field	Defines the Macro command object name.	Latin, Cyrillic and service characters	Macro comma-nd	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive. Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Defines the Macro command object status (connected or disconnected).	Boolean type	Not available	Yes – the Macro command object is disconnected and is not in use No – the macro command object is connected and is in use.
Settings Group						
4	State	Enter the value in the field	Defines the message displayed in the information board of the main menu of the Intellect system, when the given macro command is running.	Latin, Cyrillic and service characters	Not defined	1. Standard – no message will be displayed in the information board of the main menu of the Intellect system. 2. A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive. Number of symbols – from 1 to 60.
5	Local	Is identified by the check mark	Defines the computers, which will execute the given macro command (all computers of the digital distributed video surveillance system or only the given computer).	Boolean type	Not available	Yes – the given macro command will be executed by all computers of the digital distributed video surveillance system. No – the macro command will be executed only by the given computer.

6	Hidden	Is identified by the check mark	Defines, whether or not this macro command will be displayed in the main control panel of the Intellect system to be launched manually.	Boolean type	Not available	Yes – no macro command will be displayed in the main control panel of the Intellect system. No – the macro command will be displayed in the main control panel of the Intellect system.
Events Subgroup						
7	Type	Is selected from the list	Defines the type of objects in the digital distributed video surveillance system, in which registration of events initiates macro command execution.	Types of objects registered in the system.	Empty field	Depends on the total number of types of objects created in the digital distributed video surveillance system.
8	Number	Is selected from the list	Defines the identification number of the object in the digital distributed video surveillance system, in which registration of events initiates macro command execution.	Sequence of numbers	Empty field	Depends on the total number of the given types of objects created in the digital distributed video surveillance system.
9	Name	Automatically	Displays the name of the selected object in the digital distributed video surveillance system.	Name of the objects of the same type registered in the system	Empty field	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive. Number of symbols – from 1 to 60.
10	Event	Is selected from the list	Defines the event, which, when registered for the pre-defined object, initiated macro command execution.	Events registered for the given type of objects.	Empty field	List of events is created separately for each type of object.
Action Subgroup						
11	Type	Is selected from the list	Defines the type of objects in the digital distributed video surveillance system, to which the command is forwarded, when the conditions defined in the Events subgroup for macro command initiation are met.	Types of objects registered in the system.	Empty field	Depends on the total number of types of objects created in the digital distributed video surveillance system.

12	Number	Is selected from the list	Defines the identification number of the object in the digital distributed video surveillance system, to which the command is forwarded, when the conditions defined in the Events subgroup for macro command initiation are met.	Sequence of numbers	Empty field	Depends on the total number of the given types of objects created in the digital distributed video surveillance system.
13	Name	Automatically	Displays the name of the selected object in the digital distributed video surveillance system.	Name of the objects of the same type registered in the system	Empty field	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive. Number of symbols – from 1 to 60.
14	Action	Is selected from the list	Defines the action, which the given device performs, when the conditions for the given macro command initiation are met.	Actions, registered by the system for the given type of objects.	Empty field	List of events is created separately for each type of object.
Parameters Subgroup *NOTE. The given subgroup is not active for all types of objects.*						
15	Name	Automatically	Defines an additional parameter for the selected type of object in the Actions subgroup.	Latin, service characters and digits.	Not defined	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive. Number of symbols – from 1 to 60.
16	Value	Enter the value in the field	Defines the value for the parameter of the Name column.	Latin, service characters and digits.	Empty field	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive. Number of symbols – from 1 to 250.

n. The name of the element is not displayed in the User's rights settings panel object.

10.2.8.3 *Program settings panel*

The Program object creates specialized programs in the embedded environment of the INTELLECT™ software. The Program settings panel is shown in Figure 10.2-73.

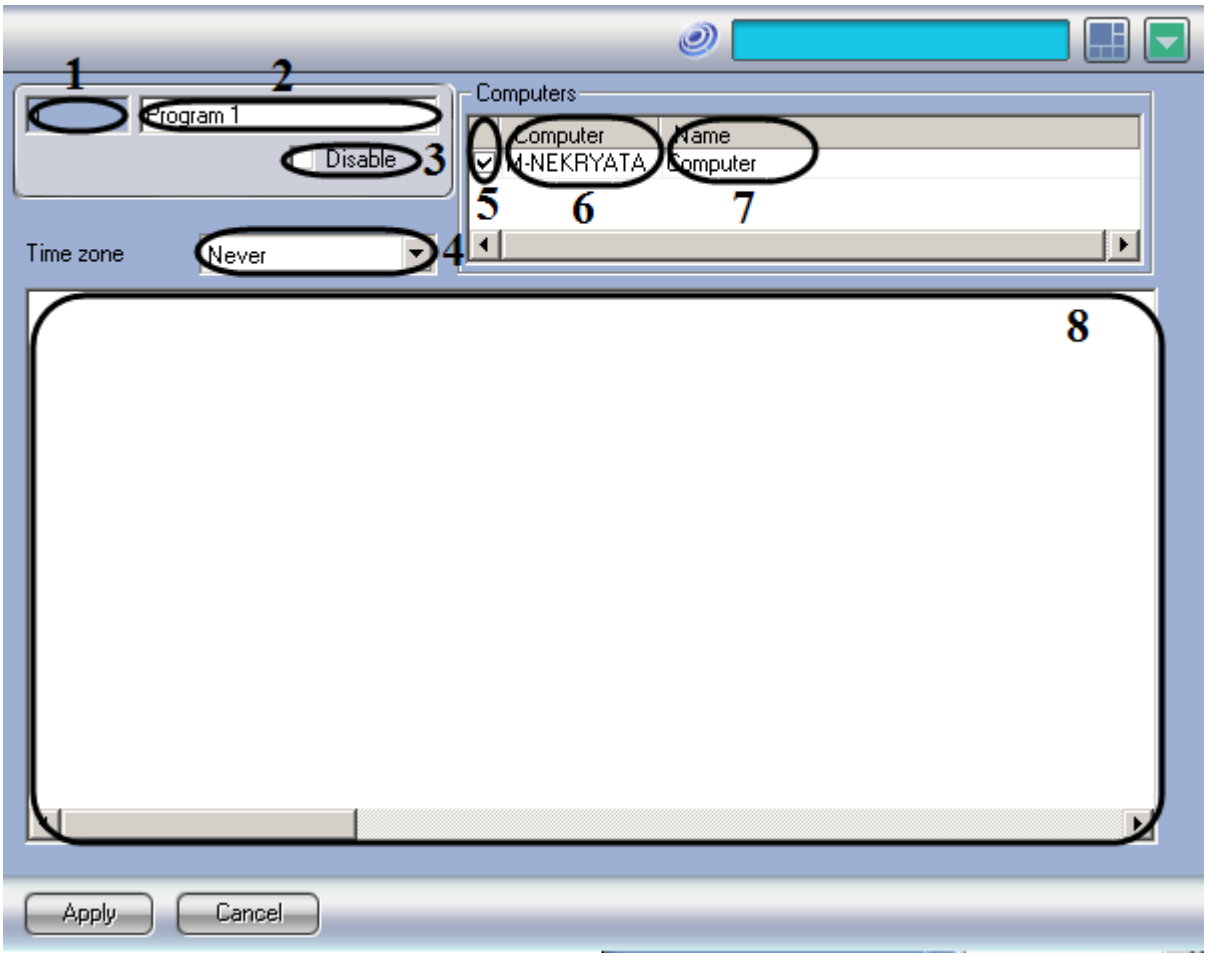


Figure 10.2-73. Program object settings panel

Table 10.2-41 describes the parameters of the settings corresponding to the elements of the settings panel of the Program object.

Table 10.2-41

№	Parameter	Method for entering the parameter	Parameter description	Sym-bols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Program object in the video surveillance system.	Sequence of numb-ers	-	Depends on the number of Program objects in the digital distributed video surveillance system.
2	Name*	Enter the value in the field	Defines the Program object name.	Latin, Cyrill-ic and servi-ce chara-cters	Program	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive. Number of symbols – from 1 to 60.

3	Disable	Is identified by the check mark	Defines the status of the Program object (connected or disconnected).	Boolean type	Not available	Yes – the Program object is disconnected and is not in use No – the Program object is connected and is in use.
4	Time zone	Is selected from the list	Defines the time period during which the given program will operate.	Time zone registered by the system	Never	Never – this program will never be executed. Always – this program is always in the state of execution. List of created time zones – the program will be executed within a pre-defined time period.
Computers Group						
5	Select an element*	Is identified by the check mark	Defines the computer for the execution of the given program.	Boolean type	Not available	Yes – the program will be executed by the pre-defined computer. No – the program will not be executed by the computer.
6	Computer	Automatically	Defines the computer name in the local network.	Computer name in the local network.	Computer name in the local network.	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive. Number of symbols - 60.
7	Name	Automatically	Defines the computer name	Name of the Computer object registered in the system	Name of the Computer object registered in the system	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive. Number of symbols - 60.
Out of the groups						

8	Text editor*	Enter the value in the field	Is used to enter the text of the executed program.	Latin, Cyrill-ic, servi-ce chara-cters and digits.	Not defined	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive. Unlimited number of symbols.

23. The name of the element is not displayed in the User's rights settings panel object.

10.2.8.4 *Time zone settings panel*

The Time zone object defines the time parameters in the Intellect™ system for any actions, which should be initiated within certain periods of time. The Time zone settings panel is shown in Figure 10.2-74.

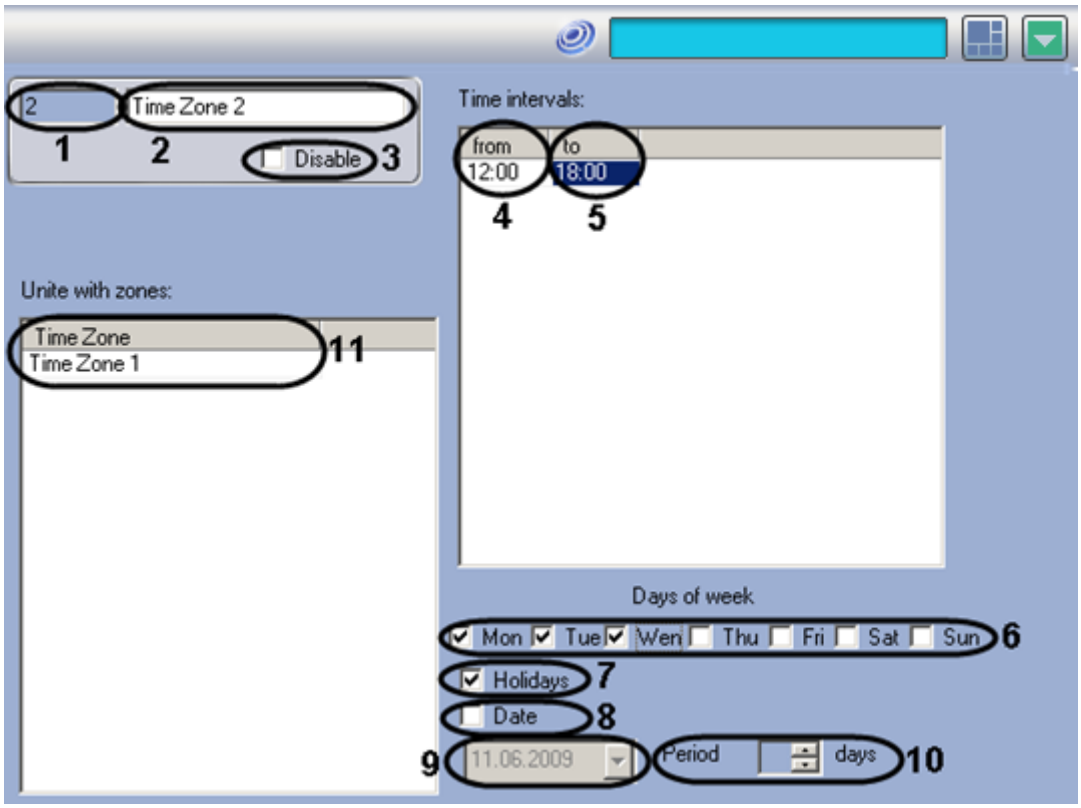


Figure 10.2-74 Time zone object settings panel

Table 10.2-42 describes the parameters of the settings corresponding to the elements of the settings panel of the Time zone object.

Table 10.2-42

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range

1	Identification number*	Automatically	Displays the identification number of the Time zone object.	Sequen-ce of numbers	-	Depends on the number of Time zone objects in the digital distributed video surveillance system
2	Name*	Enter the value in the field	Defines the Time zone object name.	Latin, Cyrillic and service characte r-s	Time zone	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive. Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Defines the condition of the Time zone object (connected or disconnected) in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Time zone object is disconnected and is not in use. No – the Time zone object is connected and is in use.
Settings Group						
Time intervals subgroup						
4	From	Enter the value in the field	Defines the initial point of the time interval.	Sequen-ce of numbers	Not defined	Time interval entry format: HH:MM
5	To	Enter the value in the field	Defines the end point of the time interval.	Sequenc e of numbers	Not defined	Time interval entry format: HH:MM
Out of the subgroup						
6	Days of the week	Is identified by the check marks. *NOTE. Is not active, if the Days field is checked (point 8)*.	Defines the days of the week, when the given time zone is active.	Boolean type	Not available	Yes – the time zone is active on the selected day. No – the time zone is not active on the selected day.
7	Holidays	Is identified by the check mark *NOTE. Is not active, if the Days field is checked.*	Gives a command to use the given time zone on holidays.	Boolean type	Not available	Yes – the given time zone should be used on holidays. No – the given time zone should not be used on holidays.

8	Days*	Is identified by the check mark	Defines, whether the given time zone should be used permanently or only within a pre-defined period of time.	Boolean type	Not available	Yes – the given time zone should be used within a pre-defined period of time. No – the given time zone should always be used.
9	Date	Enter the value in the field	Defines the initial point, from which the use of the given time zone should start.	Sequence of numbers	Not activated	Data entry format: DD:MM:YY
10	Periods …days	Is selected from the list	Defines the period of usage of the given time zone.	Sequence of numbers	Empty field	From 0 to 100.

24. The name of the element is not displayed in the settings panel of the User's rights object.

10.2.8.5 *Script settings panel*

The Script object is designed to create specialized programs in javascript language. The Script settings panel is shown in Figure 10.2-75.



Figure 10.2-75. Script object settings panel

Table 10.2-43 describes the parameters of the settings corresponding to the elements of the settings panel of the Script object.

Table 10.2-43

№	Parameter	Method for entering the parameter	Parameter description	Sym-bols used	Default value	Value range
1	Identification number*	Automatically	Shows the identification number of the Script object in the digital video surveillance system.	Sequ-ence of numb-ers	-	Depends on the number of Script objects in the digital distributed video surveillance system
2	Name*	Enter the value in the field	Assigns the name to the Script object.	Latin, Cyrill-ic and servi-ce chara-cters	Script	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive Number of symbols – from 1 to 60.
3	Disable	Is identified by the check mark	Shows the status (connected or disconnected) of the Script object in the digital distributed video surveillance system.	Bool-ean type	Not available	Yes – the Script object is disconnected and is not in use No – the Script object is connected and is in use.
4	Time zone	Is selected from the list	Defines the time period for the operation of the given program.	Time zone name regist-ered by the syste m.	Never	Never – the program will never be executed. Always – the program is executed always. List of created time zones – the programs are executed during the time period as defined by the time zone.
Computers Group						
5	Select element*	Is identified by the check mark	Defines the computer for the execution of the given script.	Bool-ean type	Not available	Yes – the script is executed by the pre-defined computer. No – the script is not executed by the computer.
6	Computer	Automatically	Defines the computer name in the local network	Com-puter name in the local netwo -rk.	Comput-er name in the local network.	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive Number of symbols - 60.

7	Name	Automatically	Defines the name to the computer used in the digital distributed video surveillance system.	Name of the Com-puter object-s regist-ered in the syste m.	Name of the Comput-er objects register-ed in the system.	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive Number of symbols - 60.
Out of the groups						
8	Text editor*	Enter the value in the field	Defines the text of the executed script.	Latin, Cyrill-ic and servi-ce chara-cters	Not defined	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive Unlimited number of symbols.
9	Editor - Debugger	Press the button.	Gives a command to open a debugging window of the script.	-	-	-

o. The name of the element is not displayed in the settings panel of the User's rights object.

The Region object is designed to create zones, which break down secured areas into structural elements. The Region objects allow:

1. group hardware based on the attributes of a certain region;
2. execute certain operations concurrently with all objects of the same type belonging to the same region.

The Region settings panel is shown in Figure 10.2-76.

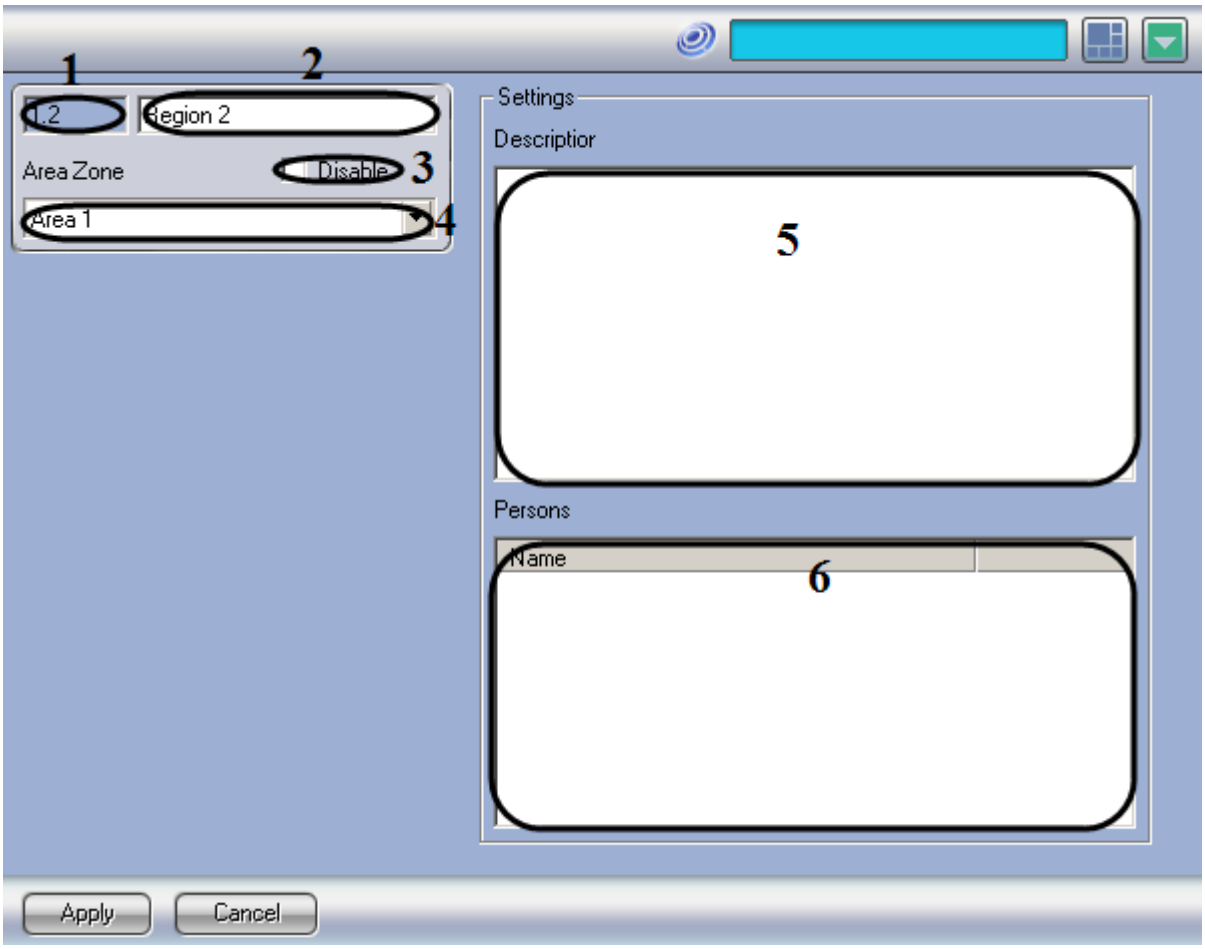


Figure 10.2-76. Region object settings panel

Table 10.2-44 describes the parameters of the settings corresponding to the elements of the settings panel of the Region object.

Table 10.2-44

№	Parameter	Method for entering the parameter	Parameter description	Sym-bols used	Default value	Value range
1	Identification number*	Automatically	Shows the identification number of the Region object in the digital video surveillance system.	Sequ-ence of numb-ers	-	Depends on the number of Region objects in the digital distributed video surveillance system
2	Name*	Enter the value in the field	Assigns the name to the Region object.	Latin, Cyrill-ic and servi-ce chara-cters	Region	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive Number of symbols – from 1 to 60.

3	Disable	Is identified by the check mark	Shows the status (connected or disconnected) of the Region object in the digital distributed video surveillance system.	Boolean type	Not available	Yes – the Region object is disabled and is not in use. No – the Region object is connected and is in use.
4	Area	Is selected from the list	Assigns the parent Area object, to which the given Region object refers.	Name of the Area object-s registered in the system.	Name of the parent Area object	Depends on the number of Area objects in the digital system.
Settings Group						
5	Description	Enter the value in the field	Defines the description of the given region.	Latin, Cyrillic and service characters	Not defined	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive Number of symbols – from 1 to 60.
6	Description	Is selected from the list	Defines the users registered by the system, responsible for the given region.	Latin, Cyrillic and service characters	Not defined	Depends on the number of users registered by the system.

p. The name of the element is not displayed in the settings panel of the given object.

11 Appendix 2. The Utilities

11.1 The utility for reading video capture card code and the electronic hardware protection key

11.1.1 The purpose of the CodeReader.exe utility

The CodeReader.exe utility is designed for reading the dallas code of the cryptochip (chip) of the video capture card, which determines the card type, and reads the key number of the Guardant hardware protection.

11.1.2 Starting and closing the utility

To start the CodeReader.exe utility, do one of the following:

a. Start the utility from the Windows taskbar. Click Start, then Programs, then Intellect, then Utilities, then The Reading of the Hardware Keys (Figure 11.1-1).

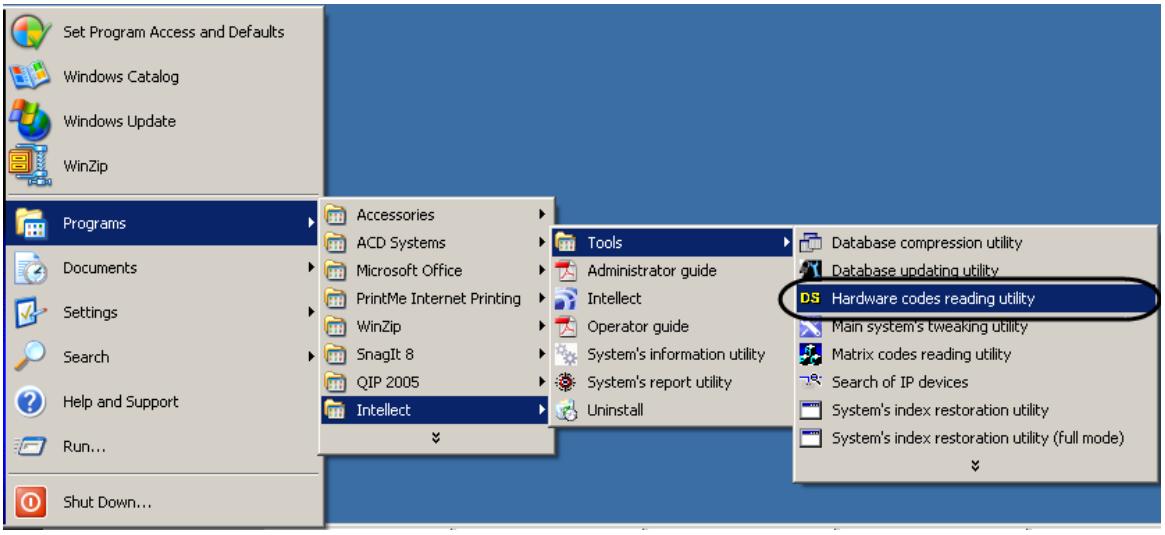


Figure 11.1-1. Starting the utility from the Windows taskbar

b. Start the utility from the Tools folder of the Intellect program folder. Example: C:\Intellect\Tools\CodeReader.exe.

c. The Code Reader dialog box will open (Figure 11.1-2).

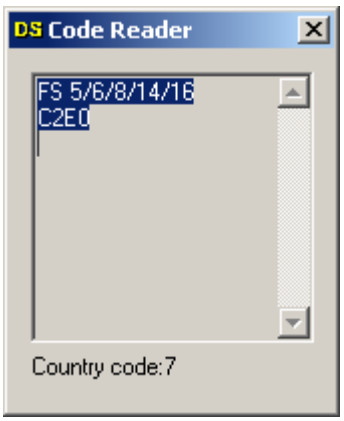


Figure 11.1-2. Code Reader dialog box

To close the CodeReader.exe utility, click the Close button ( ).

11.1.3 Using the CodeReader.exe utility

The CodeReader.exe utility allows determining the type of installed video capture card by its dallas code(s), as well as the key number of the Guardant hardware protection. To read this information, start the utility (see the Starting the CodeReader.exe Utility section). The type of video capture card, its dallas code(s) and the key number of the Guardant hardware protection will be displayed in the Code Reader dialog box (Figure 11.1-3).

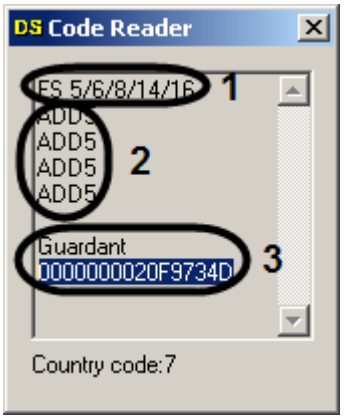


Figure 11.1-3. Information displayed in the Code Reader dialog box

The number of dallas codes depends on the number of chips on the video capture card. Figure 595 indicates that the FS6 card is being used, and contains 4 chips.

11.2 Converter.exe utility for converting video and audio archives

11.2.1 The purpose of the Converter.exe utility

The Conveter.exe utility is designed to play video and audio archives, and to convert them to standard formats: MPEG, DivX, MP3, etc.

Besides video and audio playback, Converter.exe utility is used for:

1. converting audio and video files;
2. copying the files from the archive to another folder with no data loss.

NOTE. If video and audio were synchronized at the time of recording, the converted video file will contain sound track.

The utility can be started from the Tools folder of the Intellect program folder or from the Start menu: Start ⇒ Programs ⇒ Intellect ⇒ Utilities ⇒ Playback and Conversion.

The utility dialog box is shown in Figure 11.2-1.



Figure 11.2-1. Archive Converter dialog box

11.2.2 Starting and ending the utility

To start the Converter.exe utility, do one of the following:

1. Start the utility from the Windows taskbar. Click Start, then Programs, then Intellect, then Utilities, then Playback and Conversion (Figure 11.2-2).

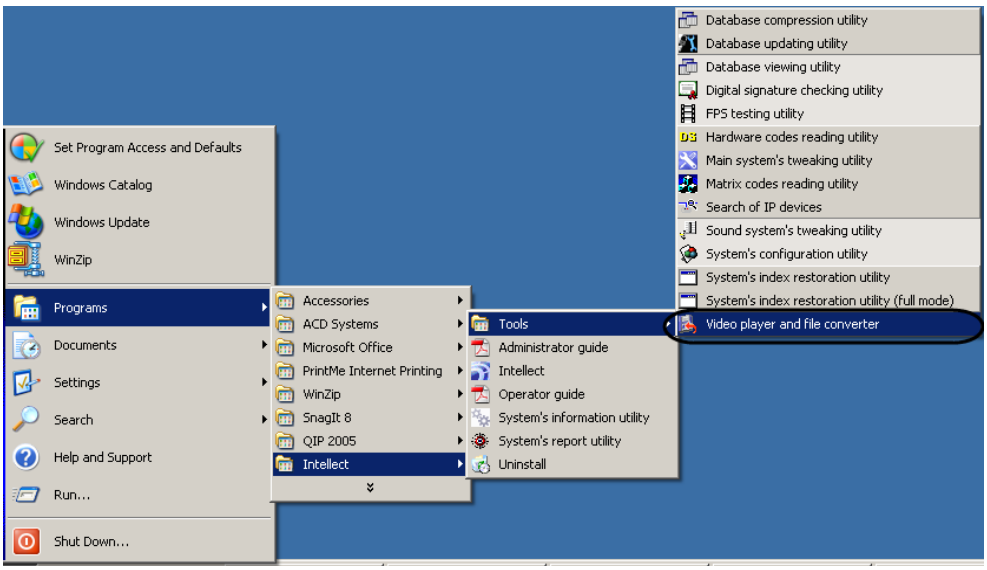


Figure 11.2-2. Start the utility from the Windows taskbar

2. Start the utility from the Tools folder of the Intellect program folder. Example: C:\Intellect\Tools\converter.exe.

Archive Converter dialog box will open (Figure 11.2-3).

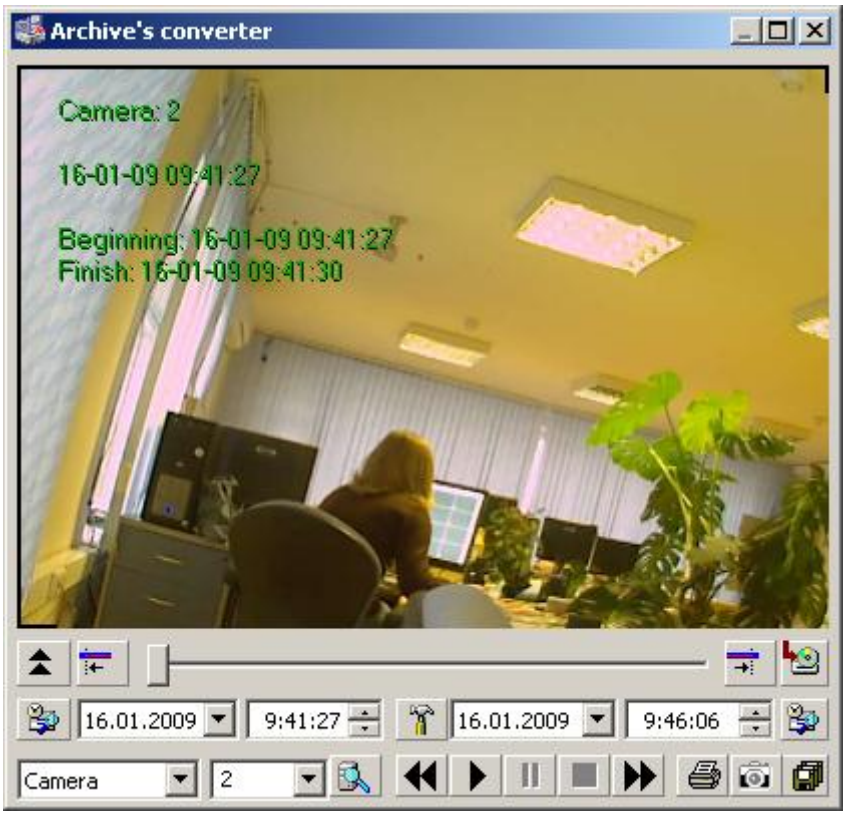


Figure 11.2-3. Archive Converter dialog box

To close the Converter.exe utility, either click the cross button in the top right corner of the dialog box, or press Alt+F4 on the keyboard (Figure 11.2-4).

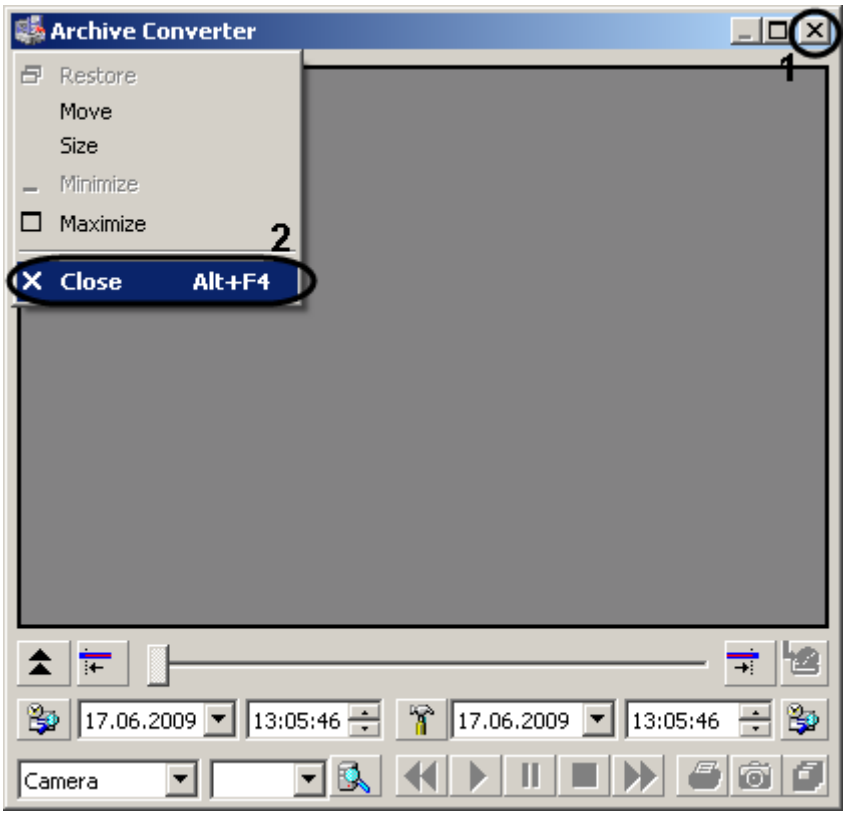


Figure 11.2-4. Closing the Converter.exe utility

11.2.3 Converter.exe interface

11.2.3.1 *Archive Converter dialog box*

The dialog box of the converter.exe utility is shown in Figure 11.2-5.

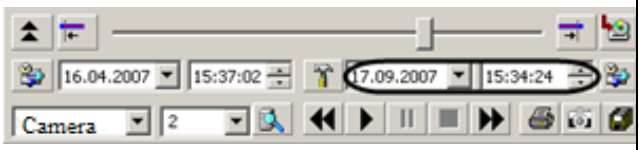
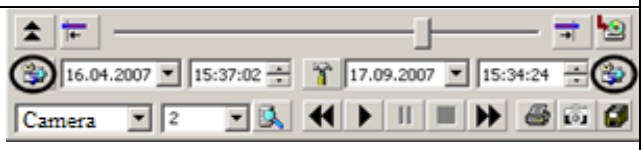
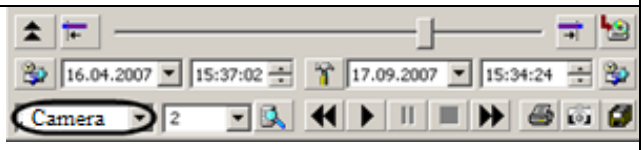
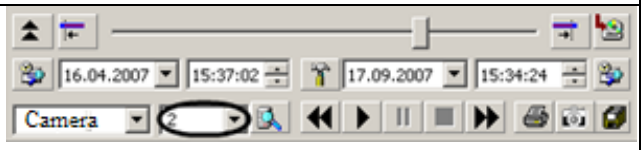


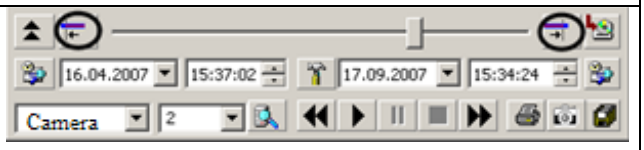
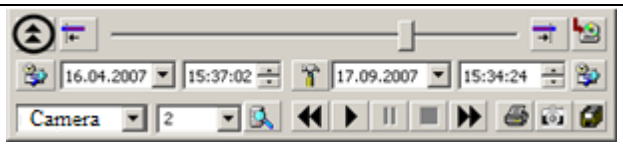
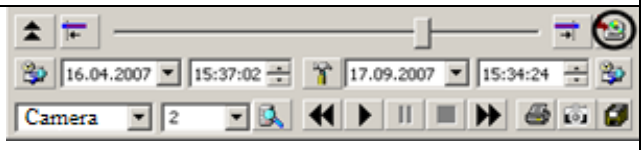
Figure 11.2-5. Converter.exe user interface

The Archive Converter dialog box comprises of the following elements:

1. The screen to play back recordings (Figure 11.2-5, 1);
2. The control panel for video and audio recordings playback (Figure 11.2-5, 2).
   The elements of the control panel are described in Table 11.2-1.

Table 11.2-1

№	Element name	Description	Picture
1	Recording start date and time	Fields for entering the approximate start date and time of the video or audio recording	
2	Recording end date and time	Fields for entering the approximate end date and time of the video or audio recording	
3	Go to first / last frame	Buttons for quick moving of the slider to the beginning or the end of the recording	
4	Device	Drop-down list field for selecting the device (camera, microphone), for which the recording should be found in the archive	
5	Device number	Drop-down list field for selecting the number of the device, for which the recording should be found in the archive	
6	Search	Button for starting the search of a recording in the archive of the chosen device. The recording is searched according to the time interval between the start and end dates/times *NOTE. Several recordings may fit the same time interval.*	
7	Playback panel	The panel consists of standard functions (left to right): fragment back, play, pause, stop, fragment forward.	

№	Element name	Description	Picture
8	Time scale	The scale allows monitoring the playback progress and moving between the frames. To move between the frames, drag the slider or use the playback panel buttons in a per frame playback mode.	
9	Export setup	The button for opening the Export Setup dialog box	
10	Exported recording limits	The buttons for setting up the first and the last frames of the recording fragment to be exported	
11	Hide/show the list	The button for hiding and showing the list of selected recordings	
12	Add to list	The button for placing the selected recording (recording fragment) on the list	
13	Print frame	The button prints the current frame	
14	Frame export	The button exports the current frame in a specified format. A dialog box opens for selecting the folder on the disk and entering the file name.	
15	Export to AVI or archive	The button for starting the export of the recording (fragment) in the specified format. A dialog opens for selecting the device name, which made the recording. On export start, a folder is created for saving the exported recordings (by default, C:\Backup).	

11.2.3.2 *Export Setup dialog box*

To open the Export Setup dialog box, click the  button in the Archive Converter window. The Export Setup dialog box will open, allowing to specify export parameters (Figure 11.2-6).

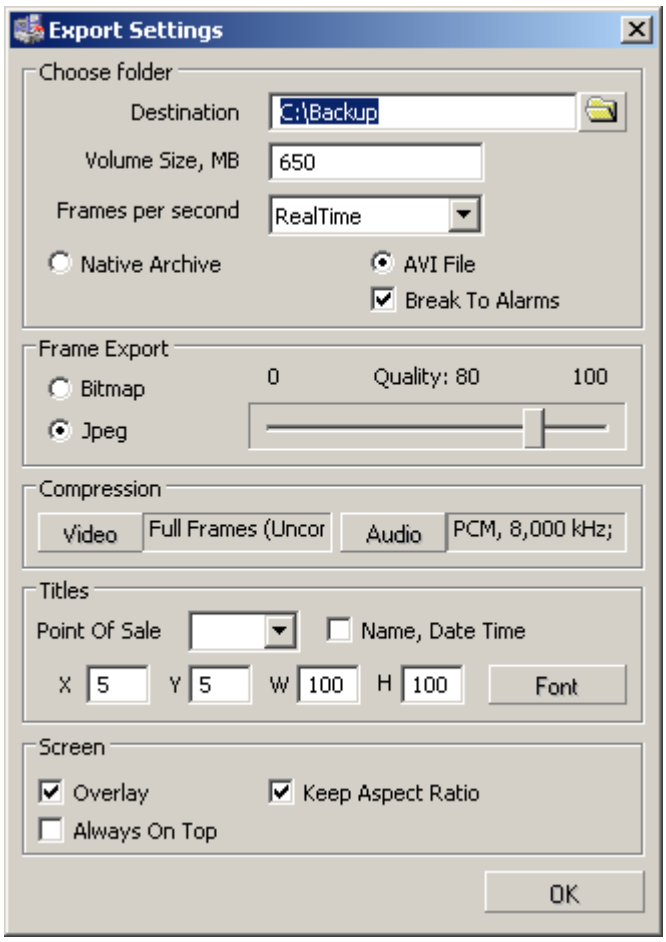


Figure 11.2-6. Export Setup dialog box

Table 11.2-2

No	Parameter name	Field type	Description	Format	Default value	Value range
Folder Selection group						
1	Folder	Enter the value	Enter the folder on the disk to store the exported files.	-	C:\Backup	-
2	Volume size, MB	Enter the value	Enter the maximum size of a volume (file) containing one or more recordings. If the Break Down by Alarms checkbox is checked, each volume will contain one recording only. The field is disabled if the Export to Archive radio-button is selected.	MB	650	0 to 2000
3	Frames per second	Select from a drop-down list	Enter the amount of scaling of the video recording	fps	Real time	0.5; 1; 3; 5; 15; 30; Real time
4	Export to archive	Select a radio-button	If Export to Archive is checked, the fragments will be exported to archive, keeping the creation time, but with no AVI	-	Export to AVI	Export to archive Export to AVI

No	Parameter name	Field type	Description	Format	Default value	Value range
	Export to AVI		conversion. If Export to AVI is checked, the fragment will be converted to AVI format using the specified codec.			
5	Break down by alarms	Checkbox	If the checkbox is checked, the recordings for each alarm will be saved to separate volumes (files).	-	Unchecked	Unchecked – the file will contain a fragment of the size specified in the Volume Size field. Checked – the file will contain a fragment related to one alarm only.
Frame Export group						
6	Bitmap Jpeg	Select a radio-button	If Bitmap is checked, the file will be saved in bitmap format. If Jpeg is checked, the file will be saved in JPEG format.	-		-
7	Quality	Drag the slider	The parameter specifies the quality level of the exported file. The value of 100% results in no quality loss.	%	80	0 to 100
Compression group						
8	Video	Click the button	The button allows selecting and setting up the video codec used to compress the video image. If the Export to Archive checkbox is checked, this button is disabled.	-	-	-
9	Field next to Video button	Not to be edited	The field shows the selected video codec. If the Export to Archive checkbox is checked, this field is disabled.	-	Full Frame (Uncompr-essed), Quality: 0	The list of codecs found by the utility.
10	Sound	Click the button	The button allows selecting and setting up the quality of the exported audio. If the Export to Archive checkbox is checked, this button is disabled.	-	-	-
11	Field next to Sound button	Not to be edited	The field shows the selected audio format.	-	PCM, 8000 kHz; 16 bit; Mono	The list of quality levels detected.

No	Parameter name	Field type	Description	Format	Default value	Value range
Screen group						
12	Overlay	Checkbox	The checkbox enables Overlay II conversion	-	Checked	Checked – use Overlay II for conversion Unchecked – do not use Overlay II for conversion
13	Always on top	Checkbox	The checkbox displays the Archive Converter window on top of other windows	-	Unchecked	Checked – the window will be displayed on top. Unchecked – the window will be displayed as usual.
14	3:2 frame	Checkbox	The checkbox maintains the 3:2 proportion of the frame sides while resizing the window.	-	Unchecked	Checked – 3:2 proportion is maintained. UnChecked – 3:2 proportion is not maintained.

If a microphone was selected as a device in the Archive Converter window, only the Sound button and the Screen group are enabled.

11.2.3.3 *A dialog box for choosing the video codec*

The Video button in the Export Setup dialog box opens a dialog box for choosing a video codec to be used for video compression (Figure 11.2-7).

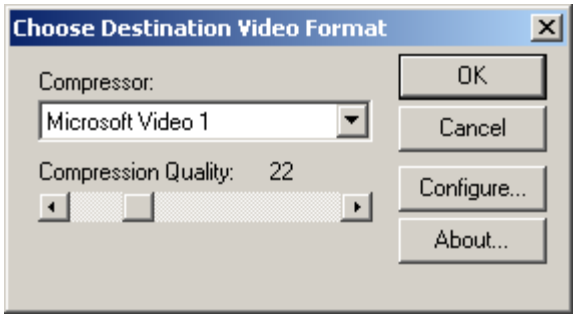


Figure 11.2-7. The dialog box for choosing video codec

Table 11.2-3

No	Parameter name	Field type	Description	Format	Default value	Value range
1	Compression program	Select from drop-down list	The button allows selecting and setting up the video codec used to convert and compress	Codec name	Full frames (no compre-	All video codecs recognized by the operating system

No	Parameter name	Field type	Description	Format	Default value	Value range
			the video image.		ssion)	
2	Compression quality	Drag the slider	The slider allows setting the compression level. The zero position of the slider represents the highest compression and lowest quality. Changing this parameter is enabled if the codec is selected in the Compression Program field.	%	0	0 to 100
3	Setup ...	Click the button	The button opens the settings panel of the video codec. See the codec manual for details.	-	-	-
4	About	Click the button	The button opens an information box with codec details.	-	-	-

NOTE. If AVI format is used, the resultant file size should not exceed 2 GB.

11.2.3.4 *A dialog box for selecting audio format*

The Sound button in the Export Setup dialog box opens a dialog box for choosing an audio format (Figure 11.2-8).

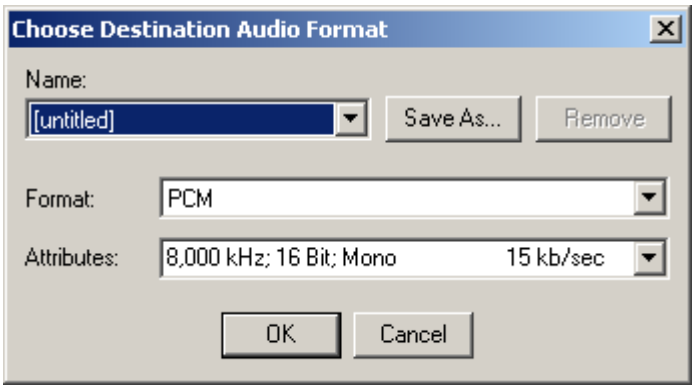


Figure 11.2-8. A dialog box for choosing audio format

Table 11.2-4

No	Parameter name	Field type	Description	Format	Default value	Value range
1	Name	Select from drop-down list	The field allows choosing the name for the selected audio format.	Format name	Untitled	Untitiled CD Quality Radio Quality Telephone Quality Compact disc

No	Parameter name	Field type	Description	Format	Default value	Value range
2	Format	Select from drop-down list	The field for selecting the format	Format name	PCM	The list of audio formats used by the utility.
3	Attributes	Select from drop-down list	The list of sound characteristics: playback/recording frequency (8000 kHz), digitizing level (8, 16, etc bits), channel type (mono/stereo)	Parame-ter values	PCM, 8000 kHz, Mono	The list of characteristics, recognized by the operating system
4	Save as…	Click the button	The button allows creating a unique name for the selected format. To save a format under a unique name: 1. Select Untitled in the Name field. 2. Select the values in the Format and Attributes fields. 3. Click the Save As button 4. Enter a unique name in the Save This Format As field and click OK. The newly created name will appear in the Name drop-down list.	String	-	-

11.2.4 Using the Converter.exe utility

11.2.4.1 *General description*

The Converter.exe utility is designed to convert and play back audio and video recordings from the archive and save them to a specified folder.

Using the Converter.exe utility includes:

1. Starting the utility (see the Starting and Closing the Utility section).
2. Selecting an archive.
3. Finding a recording in the selected archive.
4. Playback of the recording.
5. Finding the required recording fragment or frame.
6. Setting the export or conversion parameters.

7. Exporting the fragment or printing the frame.

8. Closing the Converter.exe utility.

11.2.4.2 *Selecting an archive to be played or converted*

To search an archive for a recording, do the following:

1. Select the device the recording was made by, and its number (Figure 11.2-9).

2. Specify the time limits in the date/time fields.

3. Click the Search button.

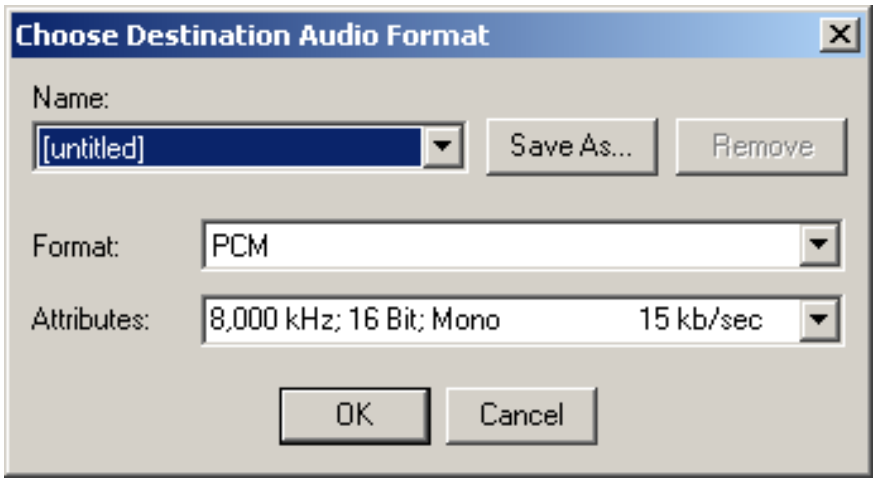


Figure 11.2-9. Selecting an archive

4. Select the location of the archive (folder with archives for specific date and time) on an appropriate disk (Figure 11.2-10).

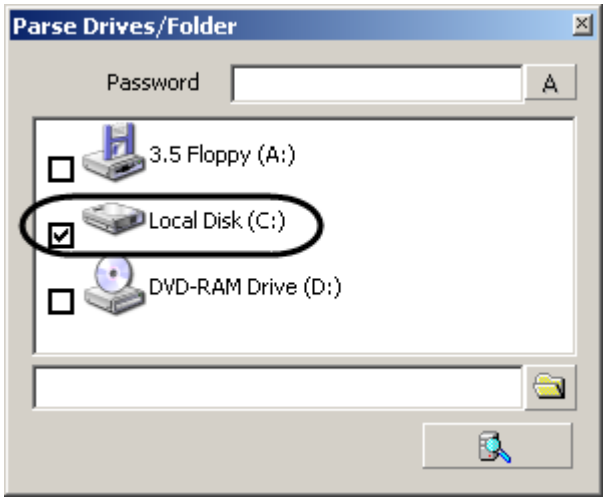


Figure 11.2-10. Selecting the location of the archive

5. Click the  button.

The first frame of the required recording will be displayed in the video playback screen.

NOTE. In case of searching for an audio recording, no visible signs of finding the recording will be shown. To check that a recording was found, play it.

11.2.4.3 *Looking for a video fragment*

After the approximate time interval is selected using the date/time fields, and the required archive is found, it may be necessary to find a particular fragment or frame to be played or exported.

11.2.4.4 *Looking for a fragment in a recording*

To find the required video fragment in the selected recording, do the following:

1. Click the Play ( ) button in the playback control panel.
2. When the required fragment appears, click the Pause ( ) button.
3. Click the Fragment Start ( ) button to make the current frame the start of the fragment.
4. Click the Play ( ) button in the playback control panel.
5. When the required fragment ends, click the Fragment End ( ) button to make the current frame the end of the fragment. All subsequent frames will be omitted.

The resultant recording fragment will then be available for conversion or export, maintaining the format and the creation date.

11.2.4.5 *Looking for a frame in a recording*

To find a particular frame in the selected recording, do the following:

1. Click the Play ( ) button in the playback control panel.
2. When the required frame appears, click the Pause ( ) button to enter the per frame playback mode.
3. Keep clicking the Fragment Forward ( ) and Fragment Back ( ) buttons, to browse the frames until the required frame appears on the screen.

The resultant frame may be printed or used as a starting frame for a fragment (see previous section).

NOTE. To quit the per frame playback mode, click the Pause ( ) button once more.

11.2.4.6 *Recording playback*

The recording selected by date and time, can be played in Converter.exe player using the playback control panel (Figure 11.2-11).



Figure 11.2-11. Playback panel

The panel contains five control buttons (left to right on Figure 11.2-12): Fragment Back, Play, Pause, Stop, Fragment Forward, allowing to play, pause, stop and browse the fragments.

1. When the Stop button is down (clicked), clicking the Fragment Forward or Fragment Back buttons moves to the next or previous fragment.

2. Clicking the Play button plays the fragment from beginning to end. If the recording contains several fragments, the Play button should be clicked to play each of them.

3. To play the whole recording consisting of several fragments, in one go, click the Play button, then click it again and hold for 3 seconds. The button then changes its appearance from  to  .

4. To play the recording in the per frame mode: a) click Play, b) click Pause, c) keep clicking Fragment Forward or Fragment Back to view frames one by one.

To play the fragment in fast forward mode, click Play, then double-click to double the playback speed, or click it three times to triple the speed.

11.2.4.7 *Converting video and audio archives to AVI files*

Video and audio archives are converted into AVI format according to Converter.exe settings, using the Export Setup dialog box. The level of compression of the exported recording is determined by the following parameters:

1. Frames Per Second parameter – setting the value of scaling of the recording;

2. Video button – selection of the video codec, in case of video archive export;

3. Sound button – set the sound quality parameters (frequency, bitrate, etc), in case of audio archive export.

NOTE. If AVI format is used, the resultant file size should not exceed 2 GB.

11.2.4.8 *Exporting recordings and frames*

Export of the recordings is one of the main functions of the Converter.exe utility. There are two ways of exporting records from an archive:

1. Export to AVI option converts (compresses) a recording and breaks it down into volumes (files of the size specified in the Export Setup dialog box).

To export the recording as AVI, do the following:

a. Find the recording in an archive (see the Selecting an Archive to be Played or Converted section).

b. In the Export Setup dialog box, select the Export to AVI radio-button.

c. Click the Video or Sound button to specify the conversion parameters. Click the OK button.

d. Click the Export to AVI/Archive button () to start exporting.

e. Enter the name of the device folder to save the recording to (Figure 11.2-12, 1), then click Continue (Figure 11.2-12, 2).

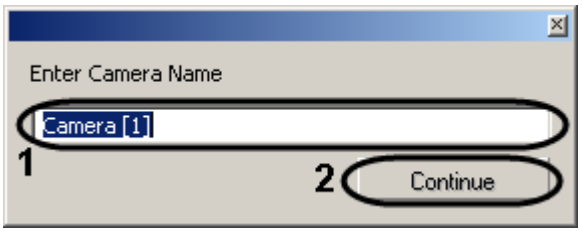


Figure 11.2-12. A dialog box for entering the device for recording export

The export progress will be shown in the title bar of the Converter.exe window (Figure 11.2-13).



Figure 11.2-13. Export progress

The title bar will read Complete, when exporting is completed. To verify the results, open the Backup folder (see Table 64, Folder Selection group) and find the file named after the device from which archive the recording was exported.

f. The Export to Archive option allows copying the files from an archive to another location on the disk with no conversion, maintaining the recording creation date and an option for breaking it down into volumes.

To export a recording in the same format as it is stored in the archive, do the following:

1. Find the recording in the archive (see the Selecting an Archive to be Played or Converted section).
2. In the Export Setup dialog box, select the Export to Archive radio-button.
3. Specify volume size in the Export Setup dialog box. Click the OK button.

4. Click the Export to AVI/Archive button ( ) to start exporting.

NOTE. If AVI format is used, the resultant file size should not exceed 2 GB.

The Converter.exe utility allows exporting frames into bitmap and JPEG formats. Do the following:

1. Find the required frame (see the Looking for a Frame in a Recording section).
2. In the Export Setup dialog box, specify the parameter values in the Frame Export group. Click the OK button.
3. Click the Export Frame button ( ).
4. Specify the location to save the exported file to in the Save As dialog window (Figure 11.2-14).

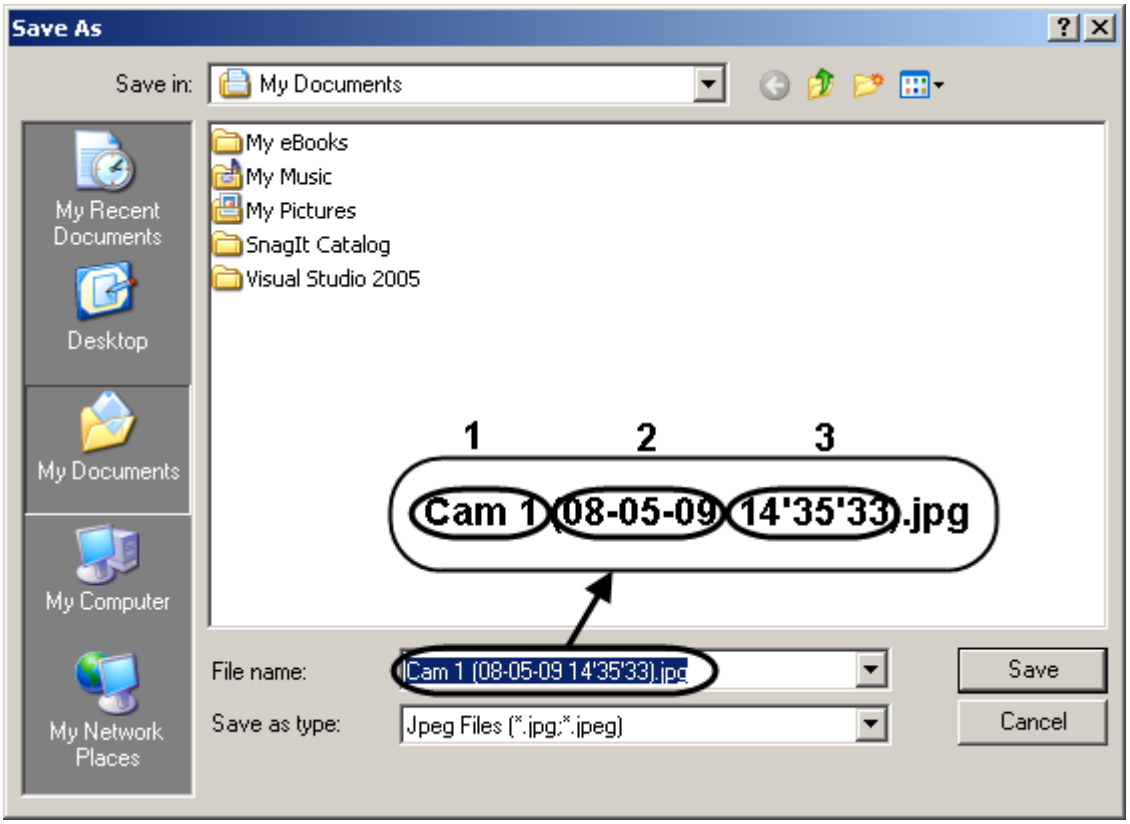


Figure 11.2-14. Saving an exported frame

The file name will be generated automatically in the following format: 1) name and number of the camera where the frame comes from; 2) creation date; 3) creation time. The file extension corresponds to the file format selected in the Export Setup dialog box.

5. Click the Save button.

11.2.4.9 *Printing a frame*

To print a frame, do the following:

1. Find the required frame (see the Looking for a Frame in a Recording section).

2. Click the Print Frame button ( ).

3. A standard dialog box for printing and printer setup will be opened.

11.2.4.10 *Video export with titles*

Video export with titles is done in the following way:

- Run Converter.exe utility(see. Starting and closing the utility).
- Call for Export Settings dialog window in the opened window of Converter.exe utility and set its groups Choose folder, Frame Export, Compression and Screen (see. Interface description of Export settings dialog window).
- Set the titles displaying in the Titles group in the dialog window Export Settings (Figure 11.2-15; Table 10.2-14 shows parameters description of the given).

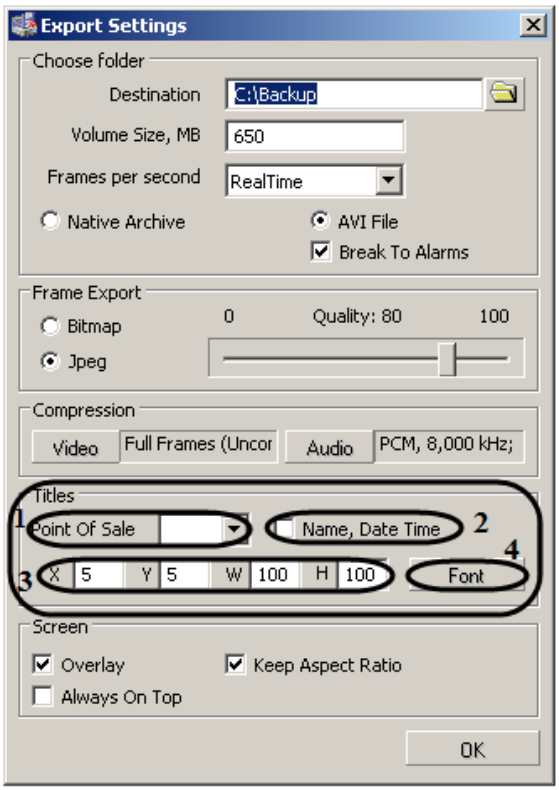


Figure 11.2-15 Setting up the titles displaying

Table 11.2-5

№	Parameter name	Parameter description	Value range
1	Point of sale dropdown list	Name of cash terminal, titles from which should be laid over the video recording while viewing and exporting the frames and recordings with the help of Converter.exe utility.	Empty value– titles from all the titrates overlay function . «no» - overlay function is off. Number of cash terminal (from one and above) – function of displaying the titles concerning the given cash terminal.

2	Checkbox«Name, Date, Time»	When the given checkbox is activated , lines, containing name and number of a camera, date and time of creation of the given video frame , will be laid over the video recording.	Yes – lines, containing name and number of a camera, date and time of creation of the given video frame , will be laid over the video recording. No – lines, containing name and number of a camera, date and time of creation of the given video frame , will not be laid over the video recording.
3	Editing text fields «X», «Y», «W», «H»	Coordinates and area size , taken by titles in the video recording. Is expressed in percentage relative to the screen size of video recording playback.	From 0 and above. Depends on the screen size of video recording playback.
4	Font button	Font selection of titles displaying.	-

Note. If the cash terminal is selected, its value will not be saved with the repeated run of Converter.exe utility. On default displaying titles from all the titers is set.

- To apply the settings it is necessary to click «OK» button. To cancel settings one should click the cross mark in the upper right corner of Export Settings dialog window.
- Dialog window of Converter.exe utility for exporting the required file will open in result (see. Exporting recordings and frames).

Export of video recordings with titles is completed.

11.3 Tweaki.exe utility for extended setup of the Intellect software system

11.3.1 The purpose of tweaki.exe utility

The tweaki.exe utility is designed for configuring the Intellect system by editing the HKLM/SOFTWARE/ITV and HKCU/SOFTWARE/ITV sections of the Windows registry, where the setup parameters for the Intellect kernel and modules are stored.

NOTE. Specifying invalid values of the registry keys may lead to system failure.

The Tweaki.exe utility provides the following functionality:

1. Setup of Intellect system start-up; enabling the debug mode;
2. Extended setup of the video surveillance monitor; extended setup of events logging:
3. Extended setup of video signal processing by video servers:
4. Extended setup of distributed architecture;
5. Changing computer names and IP-addresses in the configuration database:
6. Compressing the MS Access database:

7. Limiting the amount of RAM used by MS SQL server;
8. Extended setup of audio or video recording to an archive;
9. Re-indexing audio and video archives:
10. Selecting the analog video out mode;
11. Testing the operability of video capture cards:
12. Extended setup of PTZ devices;
13. Displaying versions of Intellect modules.

11.3.2 Starting and closing the utility

To start the Tweaki.exe utility, do one of the following:

1. Start the utility from the Windows taskbar. Click Start, then Programs, then Intellect, then Utilities, then The Expanded Adjustment (Figure 610).
2. Start the utility from the Tools folder of the Intellect program folder. Example: C:\Intellect\Tools\Tweaki.exe.

The Intellect Tweaker dialog box will open after running the tweaki.exe utility (Figure 11.3-1).

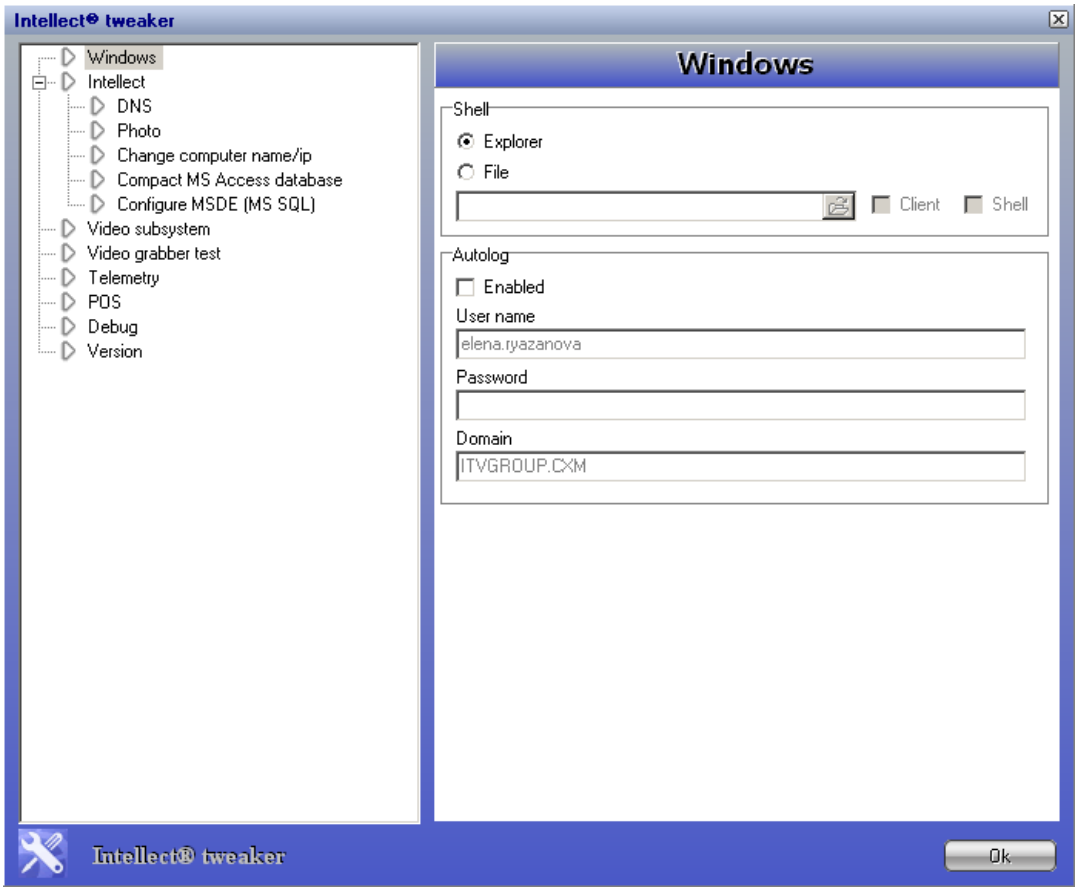


Figure 11.3-1. Intellect Tweaker dialog window

To close the Tweaki.exe utility and save the changes click the OK button (Figure 11.3-1).

To close the Tweaki.exe utility without saving the changes, click the Close button (⊠) (Figure 11.3-1).

11.3.3 Description of the Intellect Tweaker window

The user interface of the tweaki.exe utility consists of the two interrelated elements:

a. Tree of sections (Figure 11.3-2).

b. Setting panels for each section (Figure 11.3-2).

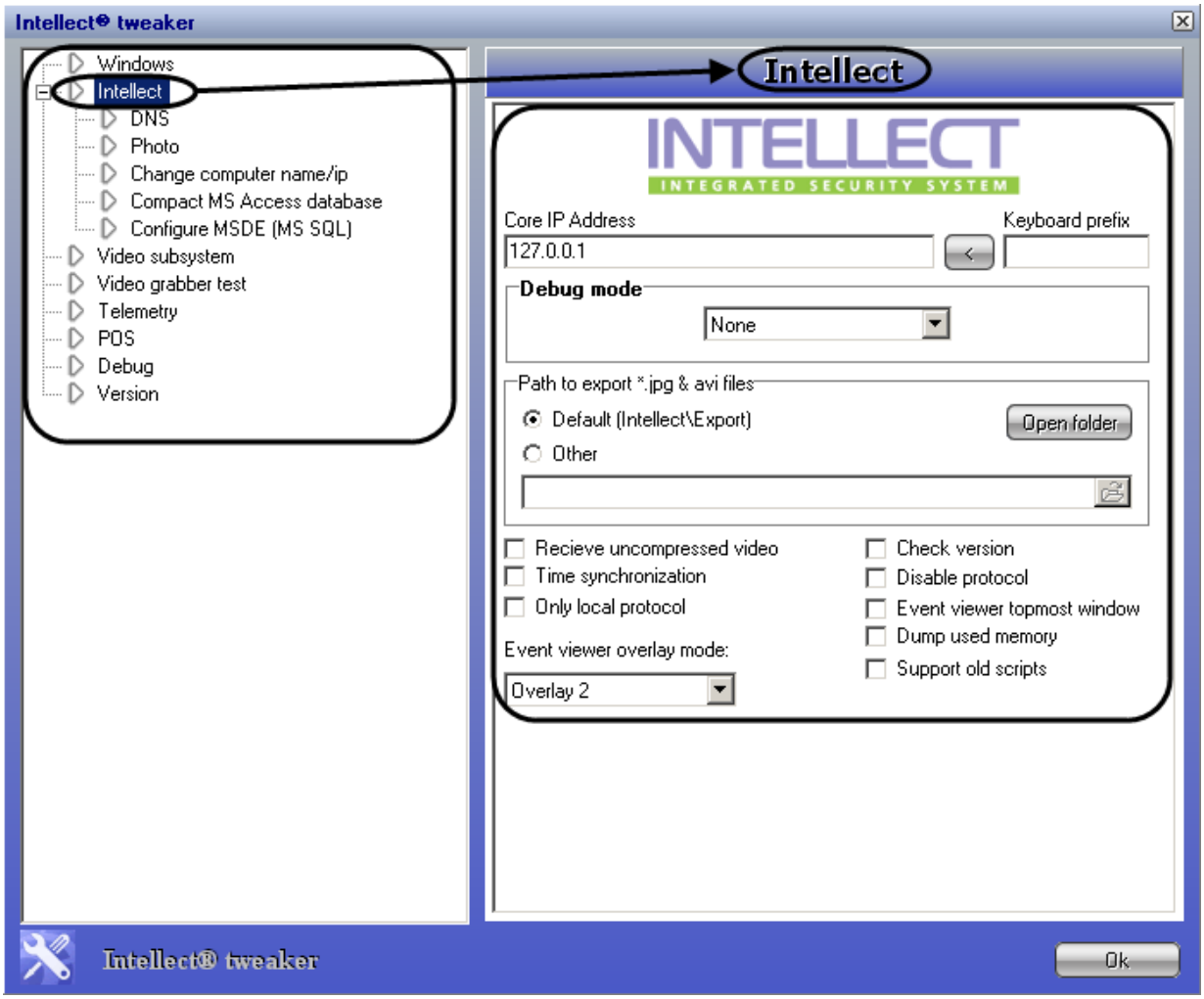


Figure 11.3-2 Tweaki.exe user interface

Sections tree of tweaki.exe dialog window is characterized by static structure and is used for navigation in work with the utility. Make a left mouse click upon the corresponding tree tab to access to the settings panel of the required section.

Note. Intellect section contains also subsections.

11.3.3.1 *Windows section settings panel*

The system settings panel is located on the ride side of the Tweaki.exe dialog box. Each section has its own settings panel.

Windows section is used to set Windows running OS Windows. The face of the Windows settings panel is shown in Figure 11.3-3.

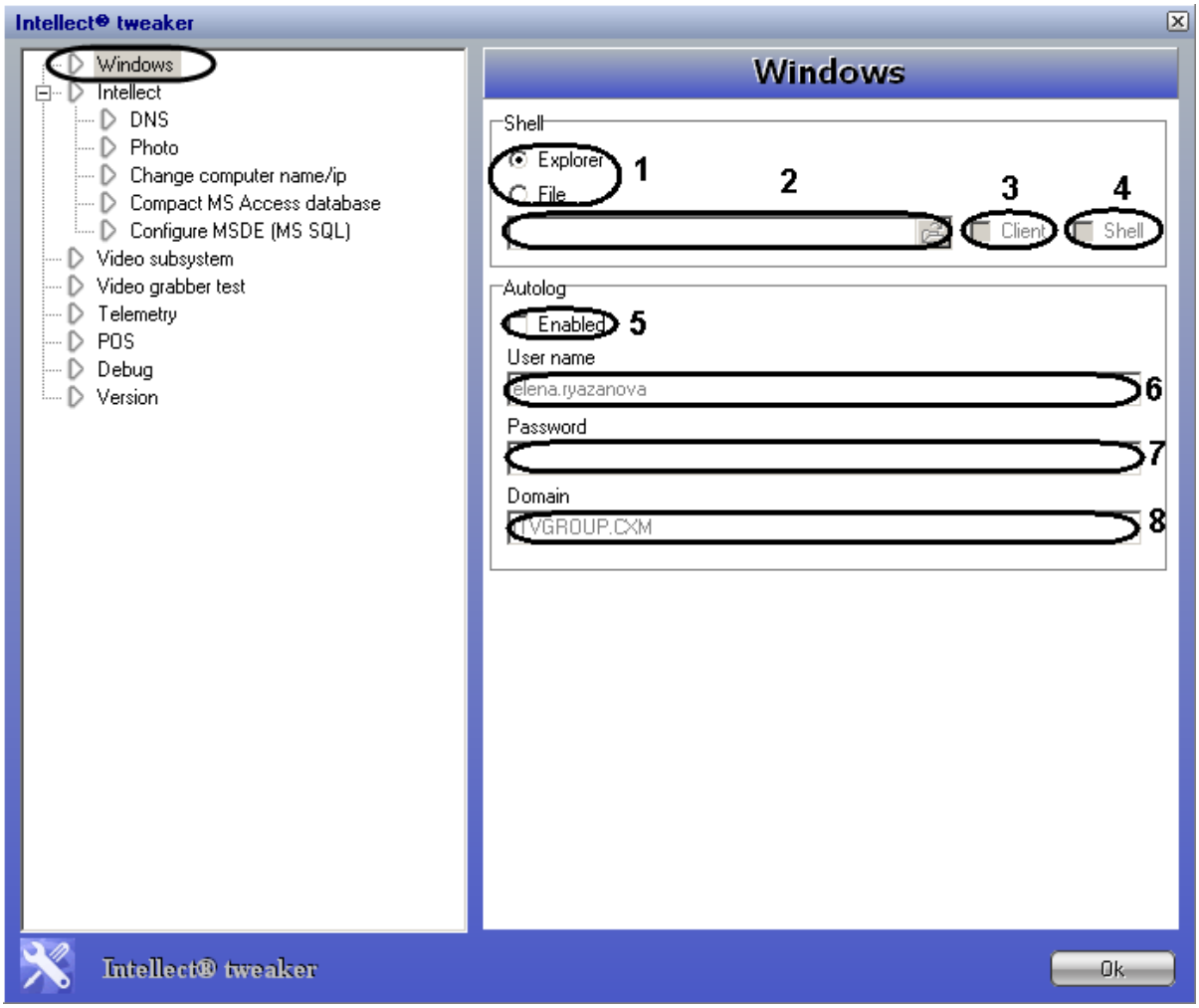


Figure 11.3-3. Windows settings panel

The parameters of the Windows settings panel are described in Table 11.3-1.

Table 11.3-1

No	Parameter name	Field type	Description	Units	Default value	Value range
Shell group						
1	Explorer File	Is set in the position	Selection of Windows working shell	-	Explorer	Explorer – Microsoft Explorer is loaded as working OSWindows shell(corresponds to standard OS Windows settings) File – PC starts as a working shell of OS Windows.
2	Field «File» with button. Active for	Button is pressed	Opens standard Windows window «Open» to select shell file of OS Windows. Full path to the file is displayed in the field.	-	-	Executive file intellect.exe is selected as a shell

No	Parameter name	Field type	Description	Units	Default value	Value range
	switch position «File»					
3	Client	Checkbox	Is not used	-	-	-
4	Shell	Checkbox	Is not used	-	-	-
Autolog group						
5	Enabled	Checkbox	Activates automatic log on of the user to OS Windows	Boole an type	Uncheck ed	Yes – automatic log on of the user is activated No– automatic log on of the user is not activated
6	User name	Enter the value	Se the user's name for logging on to the OS Windows	-	-	The user names should contain up to 64 characters. Depends on the settings of Window's user's account(soared locally or on domain server)
7	Password	Enter the value	Entering the password for log on to OS Windows	-	-	8 to 14 characters Depends on the settings of Window's user's account(soared locally or on domain server)
8	Domain	Automatically	Displays the name of domain server (if there is any), where data concerning user's account is stored(user name and password)	-	-	Depends on domain net settings (net settings of OS Windows correspondingly)

11.3.3.2 *Parameters in the Intellect settings panel*

Intellect section is used for extended settings of Intellect software complex. Figure 11.3-4 shows the face of Intellect settings panel.

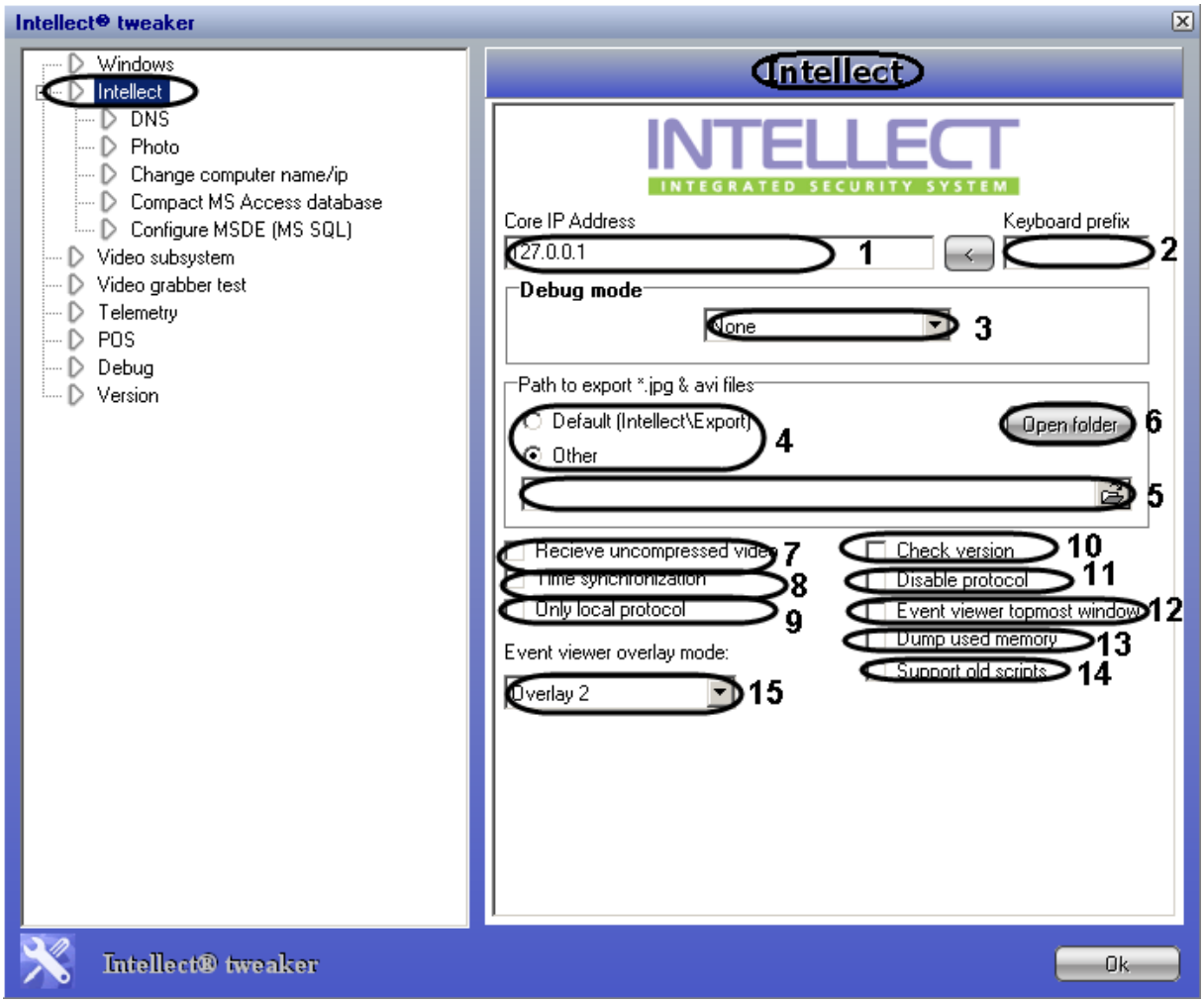


Figure 11.3-4. Parameters in the Intellect settings panel

The parameters of the Intellect settings panel are described in Table 11.3-2.

Table 11.3-2

No	Parameter name	Field type	Description	Units	Default value	Value range
No group						
1	Core IP-address with the button. Is set on the Client	Enter the value in the field using the button	Set the IP-address of the Intellect server to which slave.exe module will be connected by default. In case of pressing the button, IP-address of the local computer is entered.	IP-address	127.0.0.1	Depends on net settings of the Server. In case of connection failure dialog window requiring IP-address will be displayed
2	Keyboard prefix	Enter the value in the field	Set the prefix for a special key-board. When a button is pressed ob n this key-board the Intellect detects, then the button was pressed on this	symbol		Usually, a tilde (“~”), code 126

No	Parameter name	Field type	Description	Units	Default value	Value range
			very key-board			
Debug mode.						
3	Dropdown list Debug mode	Drop-down list item	Set the mode of the Intellect Debug window displaying	List of available modes of Debug windows displaying	None	None – Debug window is not displayed. Debug 1 – Debug window is displayed and log-file is created, that contains recordings about modules errors Debug 2 – Debug window is displayed and log-file is created, that contains recordings about modules errors and x - alerts. Debug 3 – Debug window is displayed and log-file is created, that contains recordings about all the modules events
Path to Export *.jpg & *.avi files						
4	Default (Intellect\Export) Other	Is set in the position	Set the folder for exported files from Intellect video archive	-	Default (Intellect\Export)	Default (Intellect\Export) – exported to the folder «<Intellect settings directory\Export>» Other –is exported to the selected folder
5	Other with button	Press the button/enter the value in the field	Set the pathname to the folder, where files from video archive should be exported when the switch is set in «Other» position	Pathname	-	-
6	Open folder	The button is pressed	Opens the current folder to export the files	-	-	-
No group						
7	Receive uncompress-	Is set by a checkbox	Enables receiving uncompressed video from the Server. As a rule is set on the	Boolean	No	Yes – Client receives uncompressed video

No	Parameter name	Field type	Description	Units	Default value	Value range
	ed video		Client	type		from the Server No – Client receives compressed video from the Server
8	Time synchronization	Is set by a checkbox	Enables every day 24 hours time synchronization of the computers, that are included in the distributed system with system time of the given computer	Boolean type	No	Yes – synchronization enabled No – synchronization disabled
9	Only local protocol	Is set by a checkbox	Enables logging of the information about events registered in the given computer to the Events protocol database	Boolean type	No	Yes – events registered in the given computer are recorded to the Events protocol database No – all the required events are recorded to the Events protocol database
10	Check version	Is set by a checkbox	Enables verifying the version of Slave.exe Clients upon intellect.exe kernel start on the Server. We recommend to use it upon updating Slave.exe module on the Clients	Boolean type	-	Yes– Server verifies the version of Slave.exe Clients No – the version of Slave.exe Clients is not verified
11	Disable protocol	Is set by a checkbox	Disables events logging to the Events protocol database	Boolean type	-	Yes– events are not logged to the Events protocol database No– events are logged to the Events protocol database
12	Event viewer topmost window	Is set by a checkbox	Enable displaying the events log window on top of other windows.	Boolean type	-	Yes- the events of log window are on top of other windows. No- the events of log window are displayed if a corresponding screen

No	Parameter name	Field type	Description	Units	Default value	Value range
						is selected
13	Dump used memory	Is set by a checkbox	Enables logging .dmp file with a copy of main memory with incorrect shutting down at least one of the system modules to the Intellect PC root folder	Boolean type	-	Yes-memory dump is formed No – memory dump is not formed
14	Support old scripts	Is set by a checkbox	Set the support of program tools in the Intellect PC	Boolean type	-	Yes-both scripts and programs are supported No-only scripts are supported
15	Event viewer overlay mode	Is selected from the list	Set the overlay mode for processing of video signals that can be viewed with the help of Events protocol object	Names of overlay modes	-	None – video signals are not processed by video card Overlay 1 – video signals are processed as a single video stream Overlay 2 – video signals are processed independently on each other

11.3.3.3 *Parameters in the DNS settings panel*

DNS section is used for setting the automatic connection between the Client and reserved servers in case when the connection to the primary kernel is lost. In DNS section it is necessary to specify computer names and IP-addresses for alternative connection, since they are not listed in the Windows registry on default. Figure 11.3-5 shows the face of DNS settings panel.

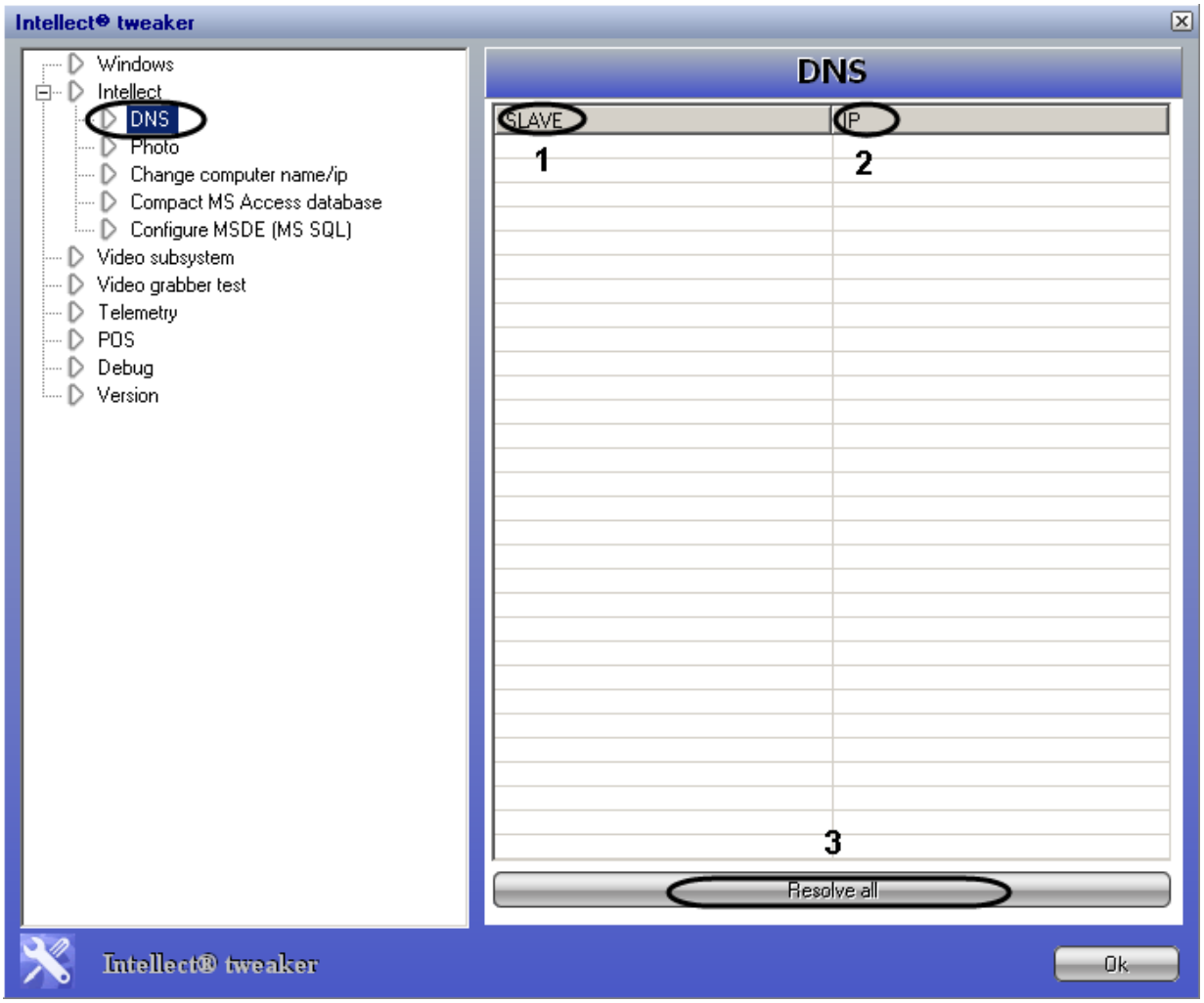


Figure 11.3-5. Parameters in the DNS settings panel

The parameters of the DNS settings panel are described in Table 11.3-3.

Table 11.3-3

№	Parameter name	Field type	Description	Units	Default value	Value range
Table						
1	Slave	The value is entered into the Host field of the Add dialog window (is called by Add contextual menu).	Set the name of the reserved in case of no connection with the kernel Server.	String	-	Depends on net settings of reserved video server
2	IP	The value is entered into the IP field of the Add dialog window(is called by Add contextual menu).	Set the IP-address of the selected reserved video Server	IP-address	-	Depends on net settings of reserved video Server

№	Parameter name	Field type	Description	Units	Default value	Value range
		.				
3	Resolve all	Button is pressed	Computer IP-addresses, set in the column SLAVE, are automatically added to the column Add, in case when these addresses are enabled and identified	-	-	-

11.3.3.4 *Photo settings panel*

This section is designed for setting up the single photo base of Personnel Access Service module (this module is not included in the basic version of the Intellect system).

11.3.3.5 *Settings panel of Change Computer Name/IP section*

The section Change computer name/ip is designed for changing the main Intellect database, if computer names do not match the actual values, stated in the database. This section may be also used for correcting IP-addresses of the selected computer in the database. Figure 616 shows the face of Change Computer Name/IP settings panel.

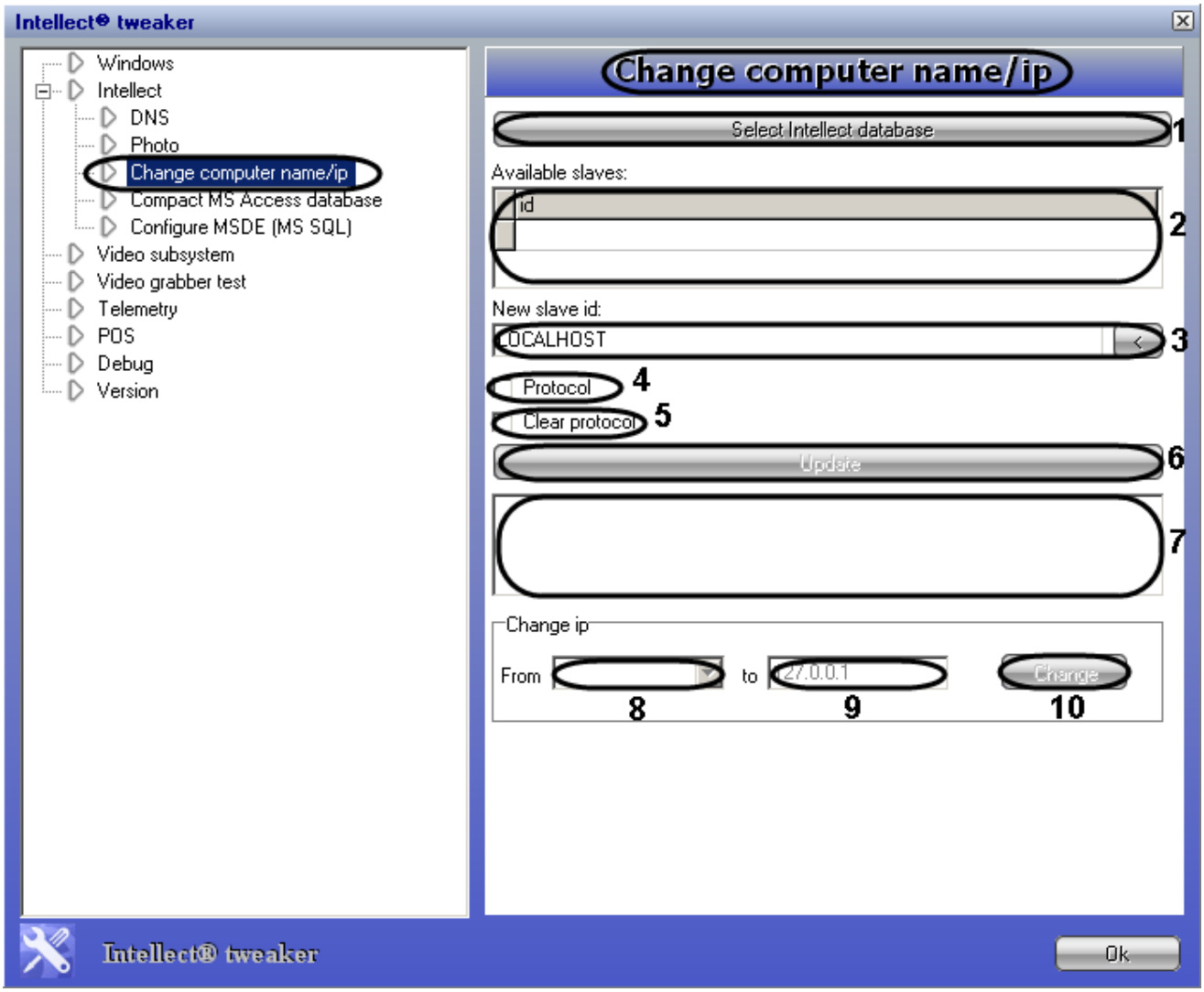


Figure 11.3-6. Settings panel of Change Computer Name/IP section

The parameters of the settings panel are described in Table 11.3-4.

Table 11.3-4

№	Parameter name	Field type	Description	Units	Default value	Value range
1	Select Intellect Database	Click the button	Opens the standard Data Link Properties dialog box for choosing the database, where computer name and/or IP-address should be changed.	-	-	-
2	Available Slaves group	Automatically	Displays the list of computers computer names, that the selected database contains	-	-	Computers computer names which connections are set on the tab

№	Parameter name	Field type	Description	Units	Default value	Value range
						Architecture
3	New Slave ID with < button	Selecting a value from the list and entering the value in the field	Enters a new computer name of the computer selected in the table «Available slaves»	-	-	Depends on current net settings of the required computer
4	Protocol	Checkbox	Replaces the computer name in the table Events protocol of the selected main Intellect database	Boolean type	No	Yes– computer name is replaced in the table Events protocol No – computer name is not replaced in the table Events protocol
5	Clear Protocol	Checkbox	Purging (cleaning) the event log from the table Events protocol of the selected main Intellect database	-	Unchecked	No– list of registered events is not cleared. Checked – list of registered events is cleared.
6	Update button	Click the button	Runs the process of updating the selected database in accordance with given settings	-	-	-
7	Update	Automatically	Displays updating process of the selected database	-	-	Depends on the structure of the selected database and the given settings
Change IP						
8	From	Select from the list	Enters IP-address to be changed in the selected database	IP-addresses computers in the selected database	-	Depends on the number of computers, which connections are set on the tab Architecture
9	To	Button is	Enters new IP-address to be changed in the selected	IP-addres	127.0.0.1	Depends on the current net settings

№	Parameter name	Field type	Description	Units	Default value	Value range
		pressed	database	s		of the required computer
10	Change button	Button is pressed	Changes the IP-address of the required computer in the selected database	-	-	-

11.3.3.6 *Settings parameters of Compact MS Access Database section*

«Compact MS Access database» section is designed for compressing the Intellect database of MS Access format. Compressing means physical deletion of marked as deleted files and enhances the performance of the Intellect system.

This section is designed for compressing the database by physically deleting all records marked as deleted. This enhances the performance of the Intellect system. Figure 11.3-7 shows the face of «Compact MS Access database» settings panel.

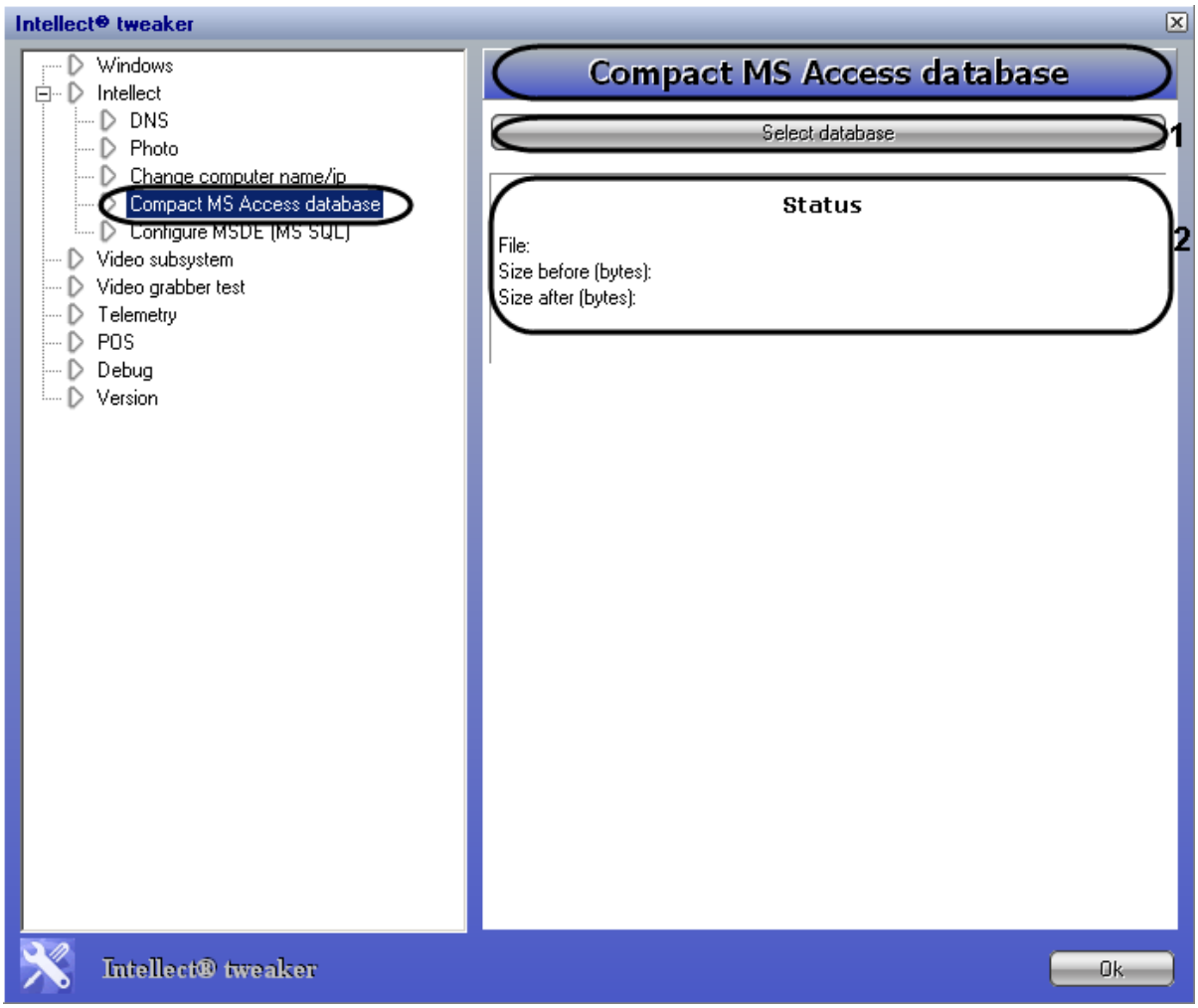


Figure 11.3-7. Compact MS Access Database setting panel

The parameters of the settings panel are described in Table 11.3-5.

Table 11.3-5

No	Parameter name	Field type	Description	Units	Default value	Value range
1	Select Database	Click the button	Opens the standard Data Link Properties dialog box for choosing the database of MS Access format, that has to be compressed Run the compressing process.	-	-	-
2	Status	Automatically	1. File – displays the full pathname of the database 2. Size Before - database size before compression, in bytes. 3. Size After - displays the database size after compression, in bytes.	-	-	-

11.3.3.7 *Configure MSDE (MS SQL) settings panel*

This section«Configure MSDE (MS SQL) » is designed for setting the limits of RAM space for work with MS SQL format database. This limitation enhances the performance of the system. Figure 11.3-8 shows the face of «Configure MSDE (MS SQL)» settings panel.

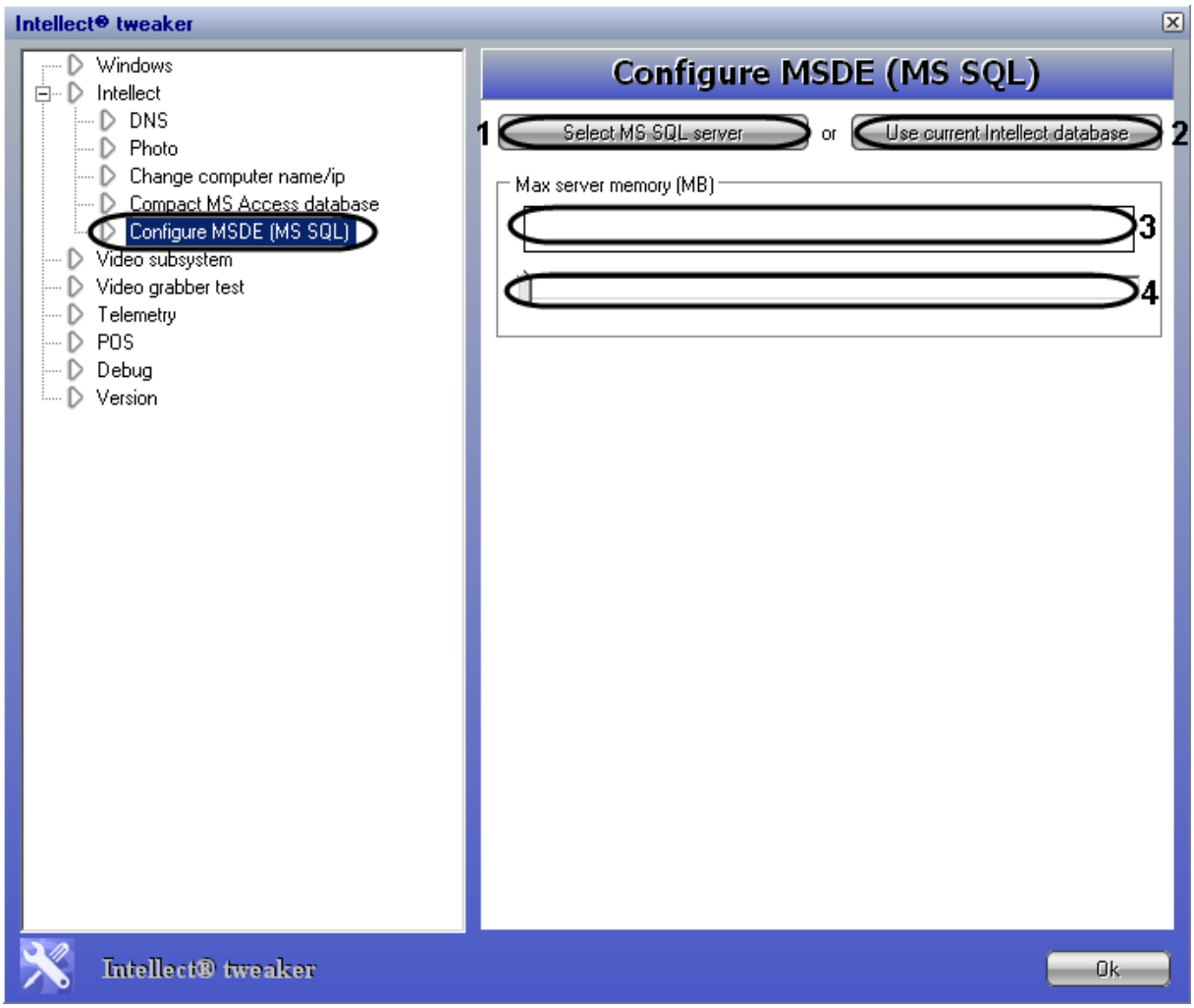


Figure 11.3-8. Configure the MSDE (MS SQL) settings panel

The parameters of the settings panel are described in Table 11.3-6.

Table 11.3-6

№	Parameter name	Field type	Description	Units	Default value	Value range
1	Select MS SQL Server	Click the button	Opens the standard Data Link Properties dialog box for choosing the database of MS SQL format. RAM space should be limited for it.	-	-	-
2	Use Current Intellect Database	Click the button	Selects the main Intellect database.	-	-	-
3	«Max server memory (MB)»	Automatically	Displays the relative (red strip) and absolute(in MB) space of RAM, selected fro SQL Server work	%, MB	-	Depends on full space of RAM

№	Parameter name	Field type	Description	Units	Default value	Value range
4	Slider «Max server memory (MB)»	Is set in the position	Specifies the required space of RAM fro SQL Server work	-	Corresp onds to the indicato r's state.	Depends on full space of RAM

11.3.3.8 *Video Subsystem settings panel*

Video subsystem section allows setting the parameters of the video subsystem in order to enhance the performance of the Intellect system. Figure 11.3-9 shows the face of the settings panel.

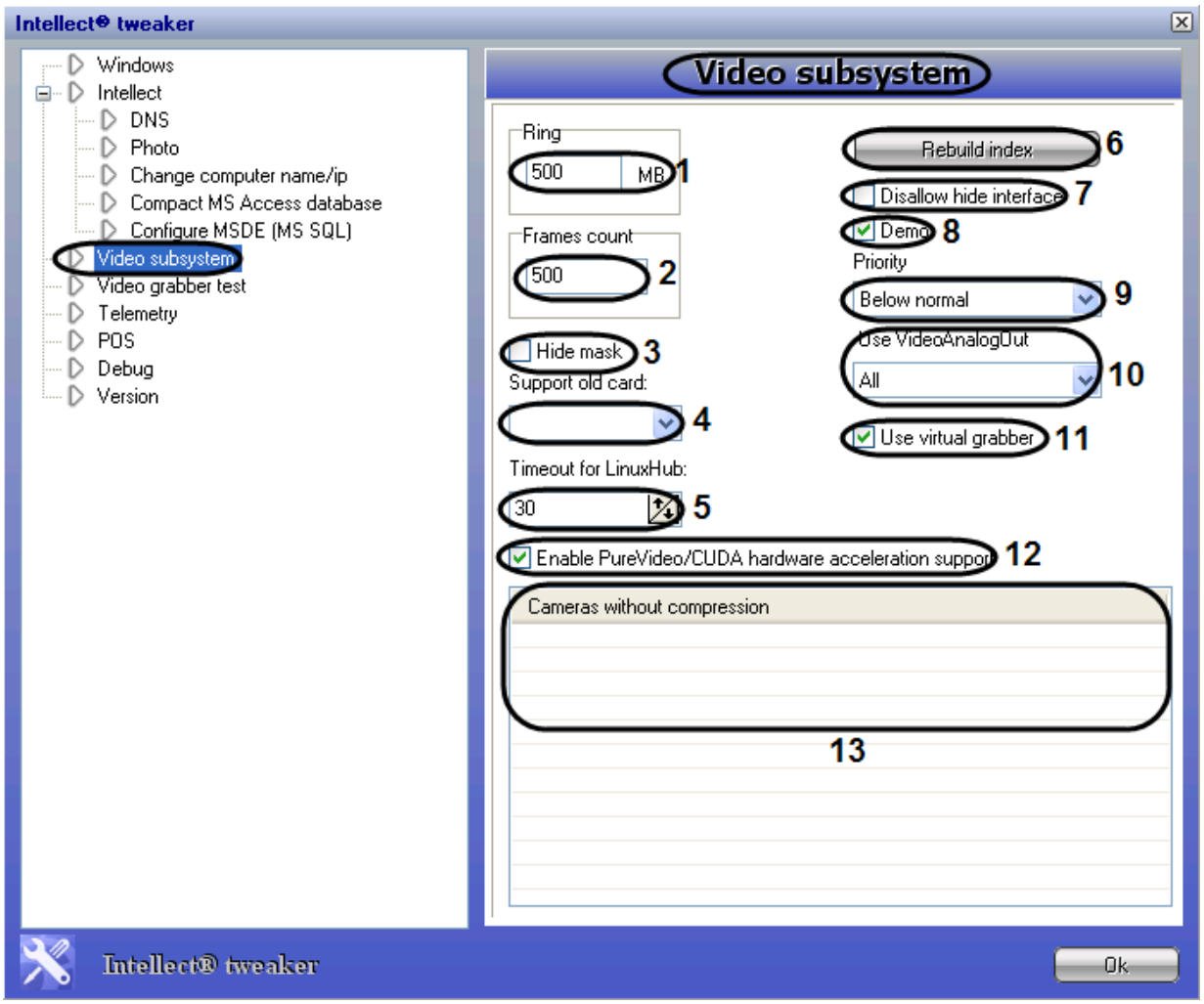


Figure 11.3-9. Video Subsystem settings panel

The parameters of the settings panel are described in Table 11.3-7.

Table 11.3-7

No	Parameter name	Field type	Description	Units	Default value	Value range

No	Parameter name	Field type	Description	Units	Default value	Value range
1	Ring	Enter the value	Set the amount of disk space to be left free on the video archives. When this limit is reached, the subsequent recordings will replace the earliest recordings in the database. The earliest recordings will be deleted. In case when two or more disks are usesd for video recording transfer to the next disk is implemented when no free space is left. As a result, the recordings will form a loop (Ring).	MB	500	Depends on the disk space
2	Frame Count	Enter the value	Enters the maximum number of frames in one recording file.	frames	500	No limitations. We recommend to keep the default value.
3	Hide Mask	Checkbox	Prohibits the displaying of video on the screen under the motion detector mask	Boolean type	No	No-hid by mask video is displayed Yes – No-hid by mask video is not displayed
4	Support old Card	Drop-down list	Enters the types of video capture cards that are no longer manufactured, but are supported by the Intellect system. To support a legacy card in the Intellect system, select FS5 card type, while setting up the Video Capture Card object (see the Setting up Video Subsystem section), and enter the actual card type in Tweaki.exe settings. Otherwise, the card will not be recognized by the Intellect system.	Type of phased out video capture cards	-	KV 1999, KV 2001, KV 2002, KV 2003.
5	Timeout for LinuxHub	Enter the value/select from the list	Set the maximum waiting time interval for Intellect system to maintain the response of LinuxHub server	sec	30	0 to 400000
6	Rebuild Index	Click the button	Delet the database index file. After deleting the index, restart the Intellect system for a new index to be created.	-	-	-

No	Parameter name	Field type	Description	Units	Default value	Value range
7	Disallow hide interface	Checkbox	Forbids hiding all Intellect PC interface objects.	Boolean type	No	No– hiding all windows is allowed Yes– hiding all windows is not allowed
8	Demo	Checkbox	Runs the Intellect system in demo mode. One channel will be opened for video file playback. This can be any of the video archive files located in the root of the Intellect program folder.	Boolean type	No	Unchecked – demo mode disabled Checked – demo mode enabled
9	Priority	Drop-down list	Set the priority of all Intellect video system processes	Names of priority processes	Below Normal	Realtime, High, Above normal, Normal, Below normal, Low.
10	Use VideoAnalogOut	Drop-down list	Selection of analog out mode.	Names of availiable modes	All	All-video signals from all the analog outs are displayed on one screen One – video signal from one analog out is displayed on one screen
11	Use virtual grabber	Checkbox	Allows access to virtual grabber setting(grabber)in the Intellect PC	Boolean type	No	Yes – value «Virtual» is accessible from the dropdown list Type on the settings panel of Video capture card objects No – value «Virtual» is not accessible for Video capture card objects
12	Enable PureVideo/ CUDA hardware acceleration support	Checkbox	Enables the PureVideo/CUDA hardware support when video signals are decompressed from IP devices if video card PureVideo HD of the second or third generation (Nvidia VP2 and VP3). Is used for reducing the load on CPU by means of graphics processor's resources	Boolean type	Yes	No–PureVideo/CUDA technology is not used Yes– PureVideo/CUDA technology is used

No	Parameter name	Field type	Description	Units	Default value	Value range
13	Camera Without Compression	Enter the value in the field «Camera number» of «Add» dialog window(is called by contexual menu command «Add»)	Set the numbers of cameras to record from with no compression. The individual camera settings made in the Intellect system, will be ignored.	serial number	-	Depends on the number of cameras, registered in the system

11.3.3.9 *Video Graber Test section setting panel*

This section is designed for testing and connecting the cameras to the video capture card. Figure 11.3-10 shows the face of «Video grabber test» settings panel.

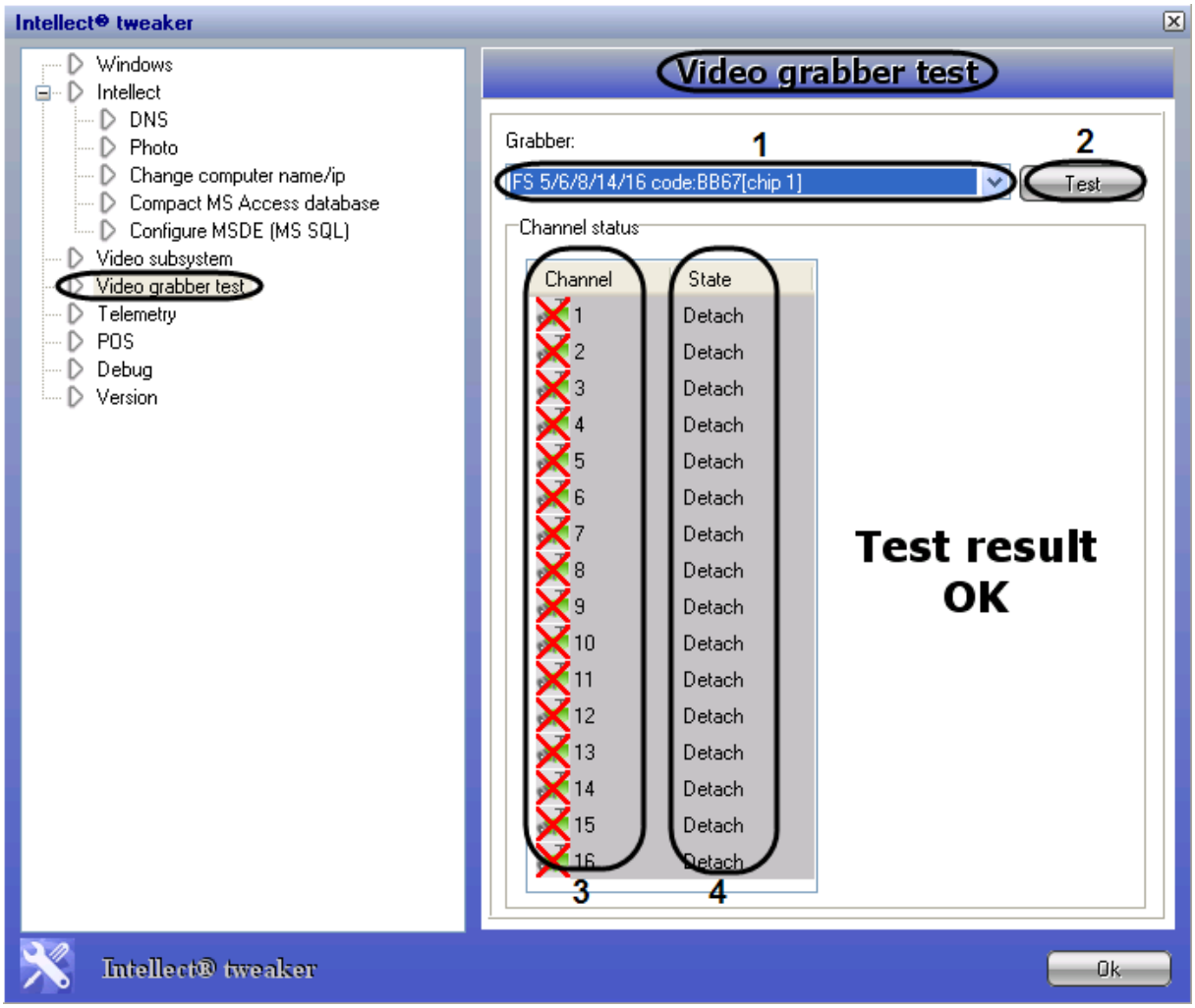


Figure 11.3-10. Parameters in the Video Grabber Test settings panel

The parameters of the settings panel are described in Table 11.3-8.

Table 11.3-8

No	Parameter name	Field type	Description	Units	Default value	Value range
1	Grabber	Drop-down list	Set the grabber, which camera connections should be checked	List of grabbers	-	Depends on the number of installed video capture cards
2	Test	Click the button	Starts the testing process of the grabber. The Intellect system should be closed at the time of testing.	-	-	-
Channel status table						
3	Channel Status	Automatically	Displays the channels numbers of the selected grabber	-	-	From 1 to 16
4	State	Automatically	Displays the state of camera connections to the channels of the selected grabber			Attach – camera is connected Detach – camera is disconnected

11.3.3.10 *Telemetry section settings panel*

«Telemetry» section is used for setting up the telemetry control elements. Figure 11.3-11 shows the face of Telemetry settings panel.

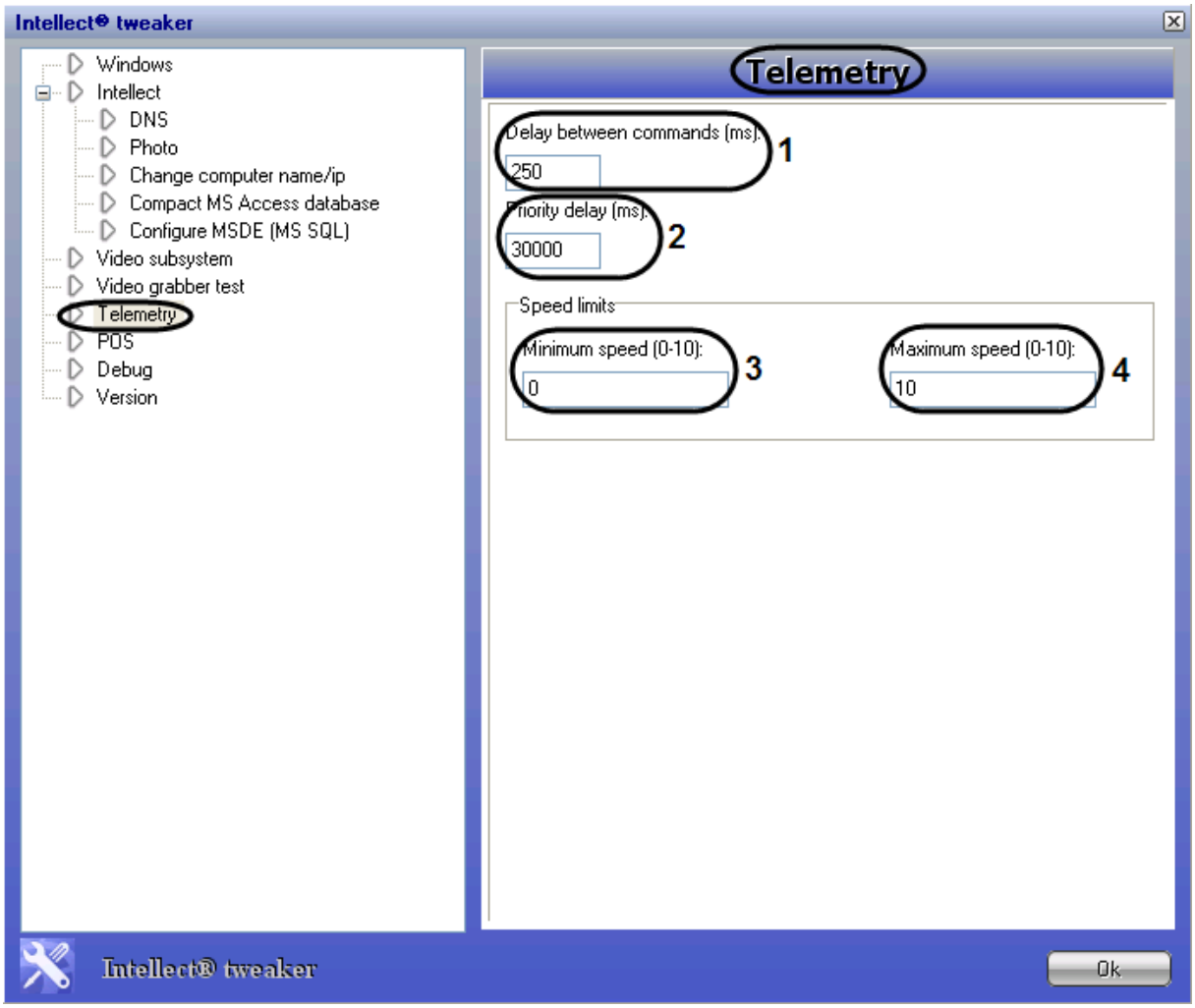


Figure 11.3-11. Parameters in the Telemetry settings panel

The parameters of the Telemetry settings panel are described in Table 11.3-9.

Table 11.3-9

No	Parameter name	Field type	Description	Units	Default value	Value range
1	Delay Between Commands	Enter the value	Set the delay between executing the commands for PTZ devices	ms	250	No limitations. We recommend to keep the default value.
2	Priority Delay (ms)	Enter the value	Set the delay before transferring the PTZ control to a user with lower priority.	ms	30000	No limitations. We recommend to keep the default value.
Speed Limits group						
3	Minimum Speed (0-10)	Enter the value	Set the minimum rotation speed of PTZ devices.	Speed in equivalent units	0	1-10

No	Parameter name	Field type	Description	Units	Default value	Value range
4	Maximum Speed (0-10)	Enter the value	Set the maximum rotation speed of PTZ devices.	Speed in equivalent units	10	1-10

11.3.3.11 *POS settings panel*

This section is designed for setting up the POS module for controlling cashier operations, which is not described in this manual(is not included in the Intellect basic version).

11.3.3.12 *Debug settings panel*

Debug section is designed for choosing the debugger program by selecting one of the radio-buttons:

a. Dr. Watson – standard Windows debugger;

b. Other – select another debugger from a drop-down list containing all programs installed on the computer.

By default, Dr. Watson is used.

NOTE. We do not recommend to change the default value.

Figure 11.3-12 shows the face of Debug section settings panel.

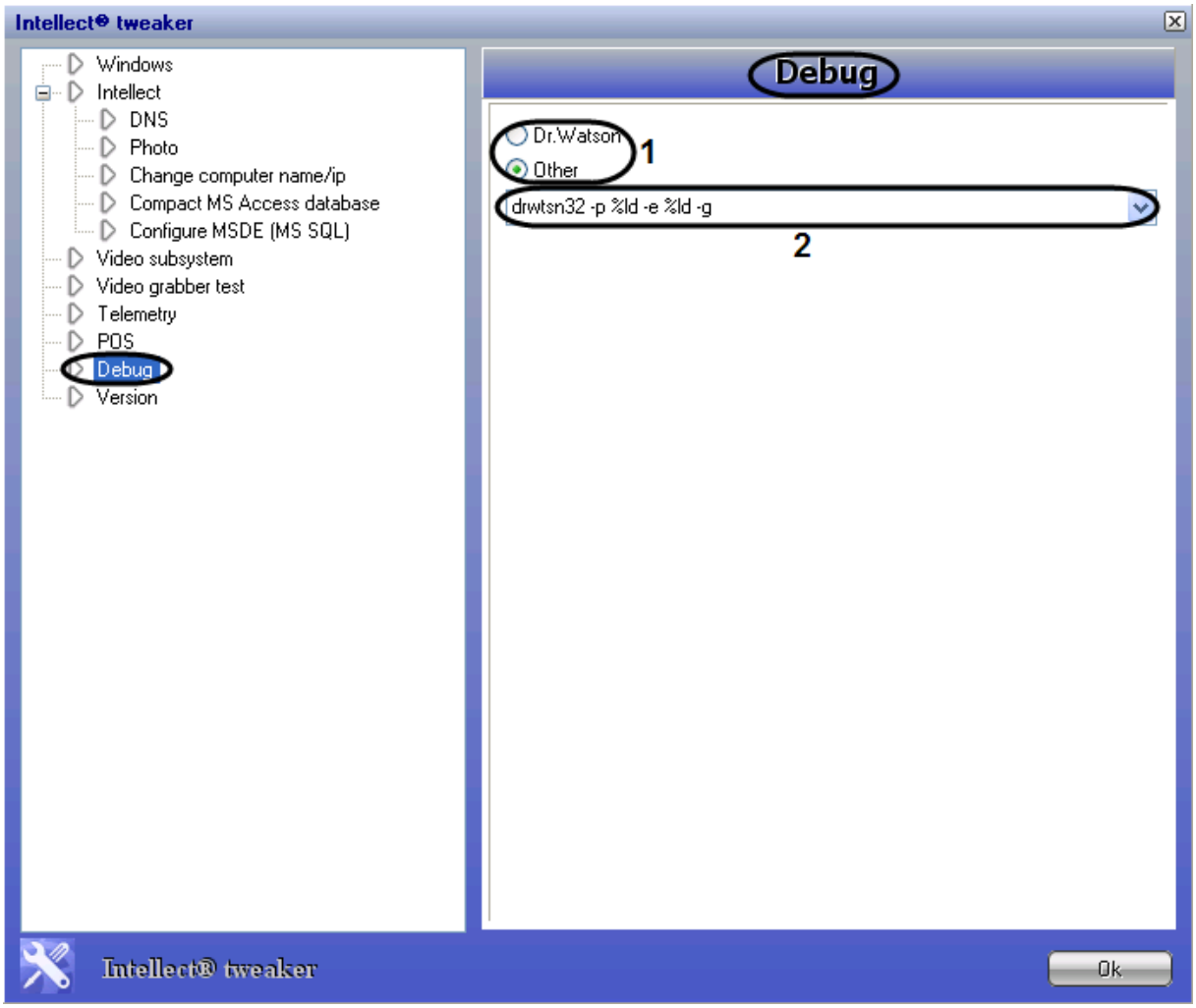


Figure 11.3-12. Debug settings panel

11.3.3.13 *Version settings panel*

This section Version provides information about the Intellect software modules: version numbers, paths to executive files and .dll libraries, and file sizes and dates of creation and modification.

Figure 11.3-13 shows face of Version settings panel.

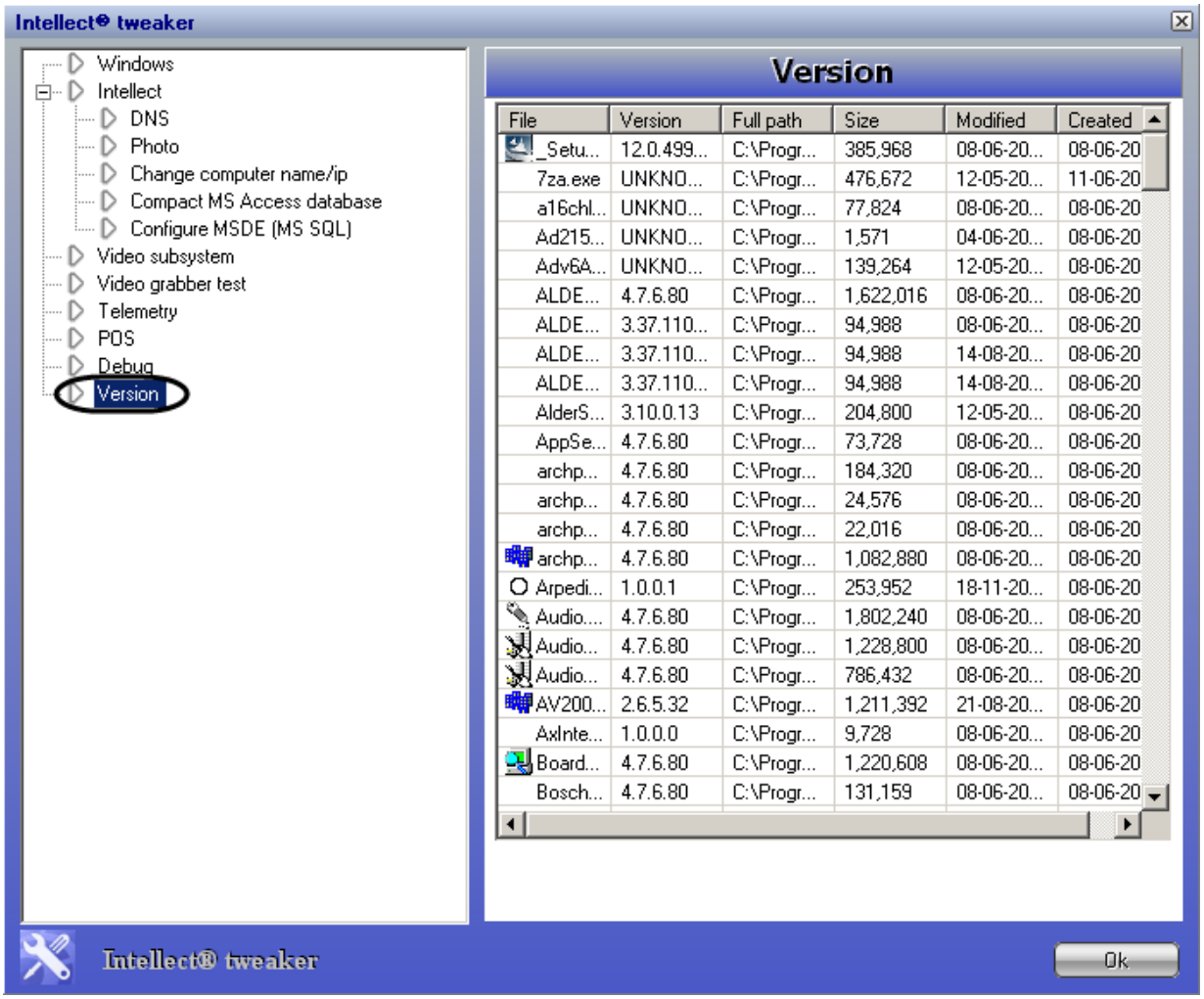


Figure 11.3-13. Version settings panel

11.3.4 Typical tasks concerning system extended settings

11.3.4.1 *Setting up Intellect software*

Autorun mode of Intellect is set up in the section Windows (Figure 11.3-13).

11.3.4.2 *Selecting and enabling the debug mode of Intellect software*

Debug mode is a special operation mode when the Debug Window is open, and is designed for analyzing the progress of Intellect software operation and for prompt debugging in case errors occur (Figure 11.3-14).

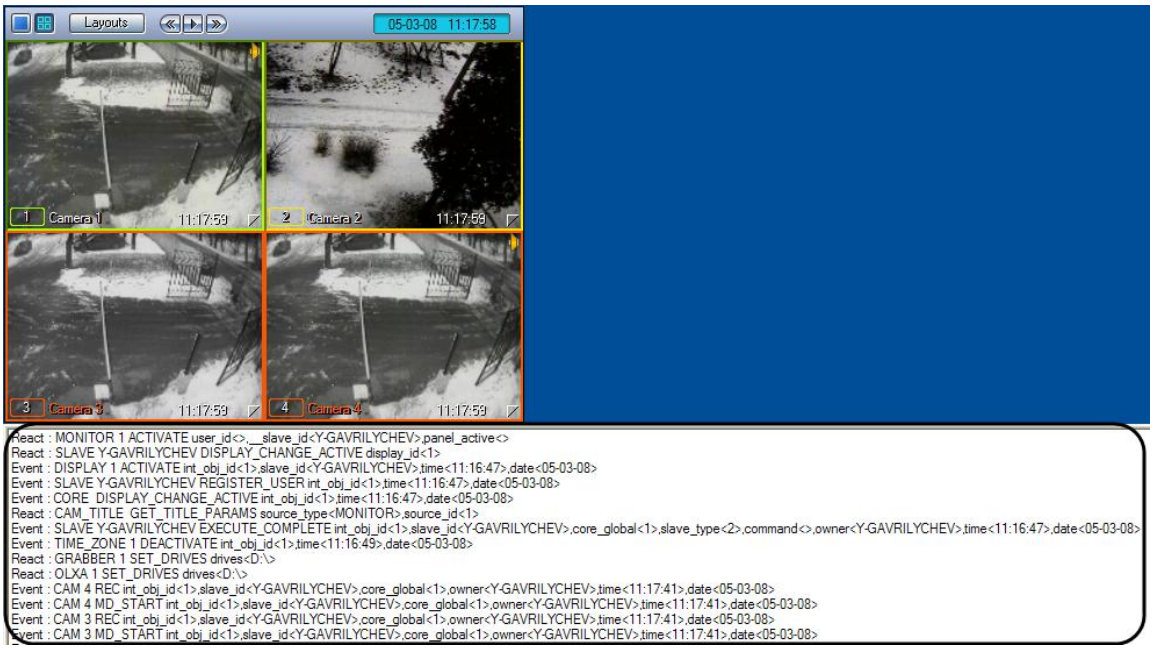


Figure 11.3-14. Debug mode. Debug window

By default, debug mode is disabled. To enable debug mode, do the following:

1. Close the Intellect software.
2. Start the Tweaki.exe utility (see the Start and Shut down the Utility)
3. Select the Intellect node in the tree on the left side of the utility dialog box.
4. Change the parameter Debug Mode from None to Debug 1, Debug 2 or Debug 3 (see Windows section settings panel).
5. Click the OK button.
6. Start the Intellect system.

The Debug Window item will appear in the Intellect main control menu (Figure 11.3-15).

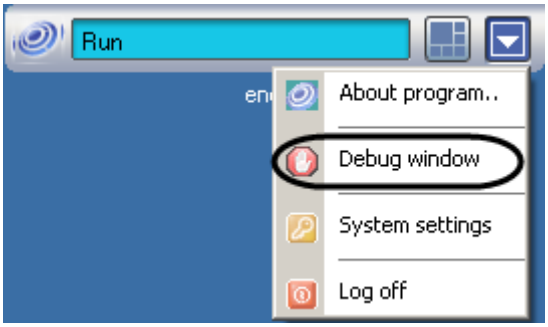


Figure 11.3-15. Debug Window item in the main control menu

7. Select Debug Window in the main control menu to open the Debug window (Figure 11.3-15). The selected item will be marked with a tick (Figure 11.3-16).

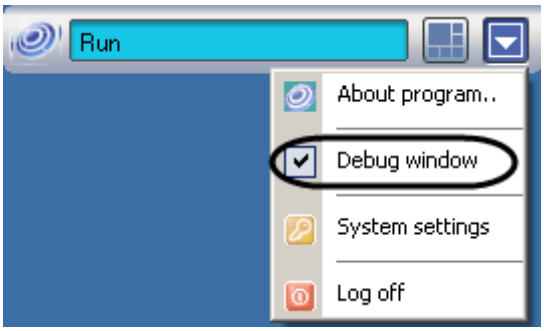


Figure 11.3-16. Debug Window item is selected

To hide the Debug window, select the Debug Window item in the menu once more.

NOTE. The debug mode slows the system down and uses a lot of system resources. We strongly recommend to enable debug mode for debugging purposes only and to disable it when all the settings are completed.

11.3.4.3 *Extended settings of the motion detector mask*

To enable the mask of the motion detector, do the following:

1. Close the Intellect software.
2. Start the Tweaki.exe utility (see Start and Shut down).
3. Select the Video Subsystem node in the tree on the left side of the utility dialog box (Figure 11.3-17, 1).
4. Check the Hide Mask checkbox (Figure 11.3-17, 2).
5. Click the OK button.

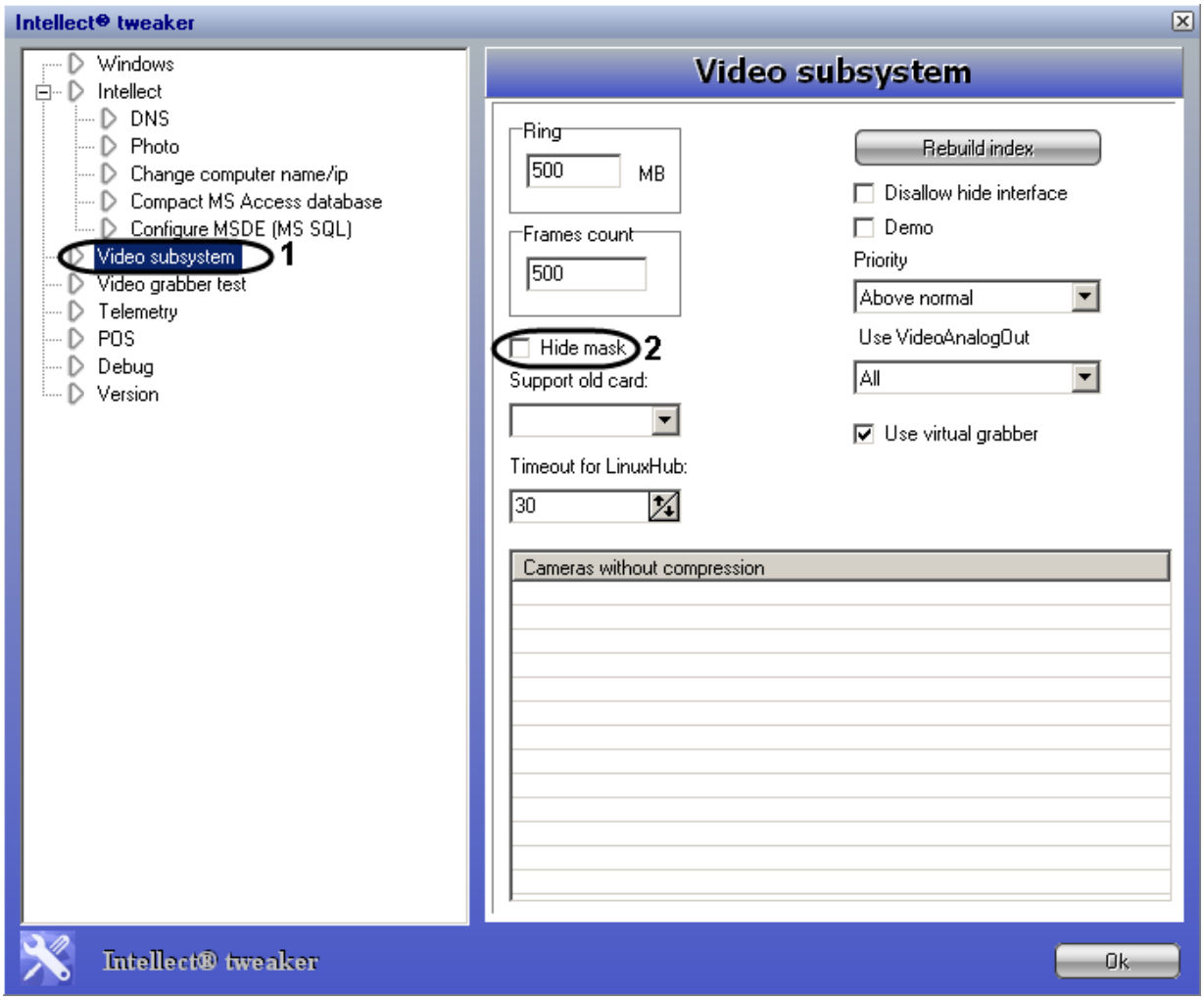


Figure 11.3-17. Setting the motion detector mask

The masked area on the video image will be filled with grey colour.

11.3.4.4 *Extended settings of events logging*

The Tweaki.exe utility allows selecting the following modes of events logging:

1. Logging the events from devices connected to the local computer only.
2. Disable events logging.
3. Opening the Event Viewer on top of other windows.
4. Replacing the computer name in the events log.
5. Purging event log.

11.3.4.4.1 Logging the events from devices connected to the local computer only

To log only the events from the devices connected to a computer (server, kernel), enable the Only Local Protocol mode. Do the following:

1. Close the Intellect software if it is open.
2. Start the Tweaki.exe utility (see the Start and Shut down)

3. Select the Intellect node in the tree in the left side of the utility dialog box (Figure 11.3-18, 1).
4. Activate the checkbox Only Local Protocol (Figure 11.3-18, 2).
5. Click the OK button.

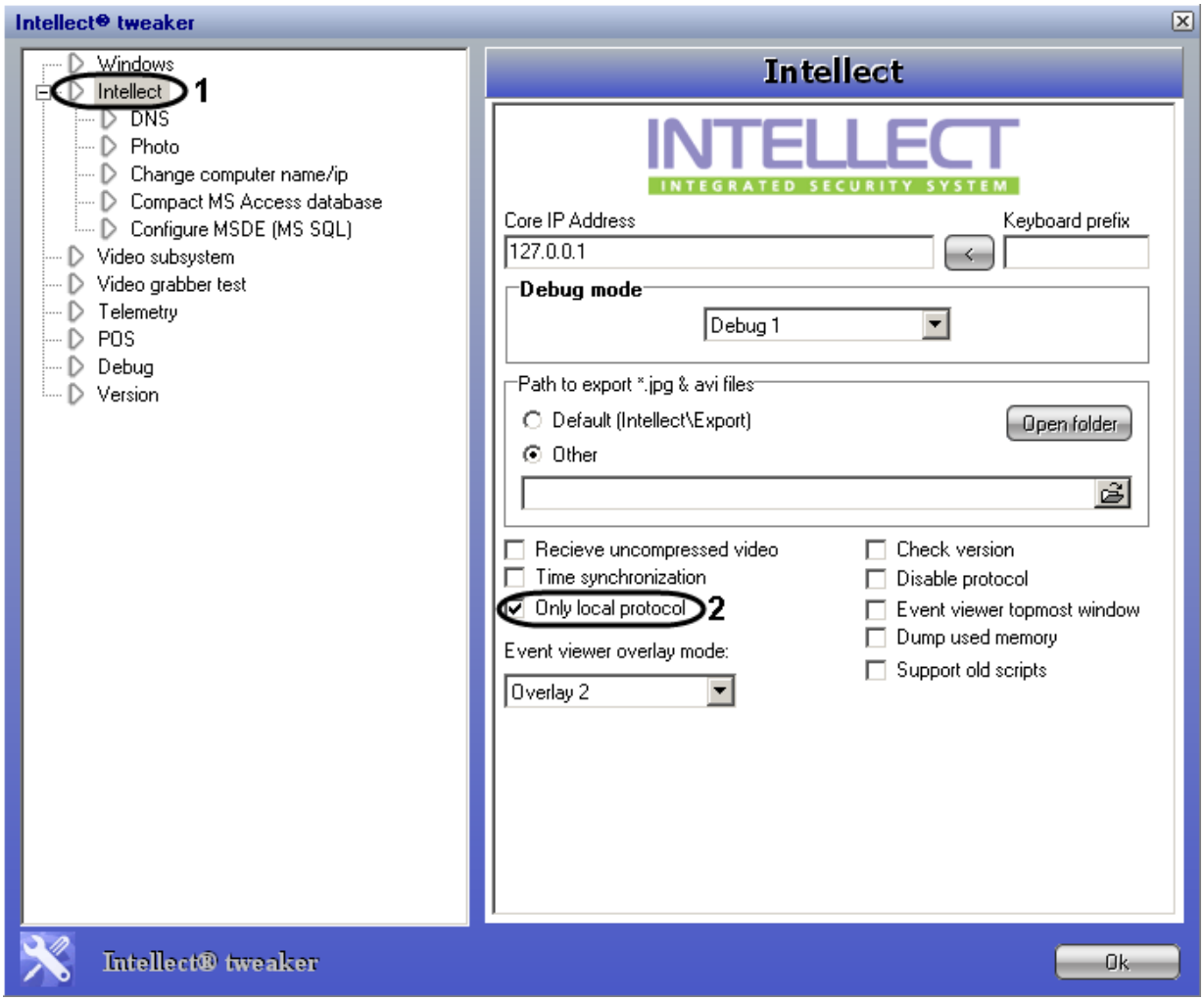


Figure 11.3-18. Enabling Only Local Protocol mode

11.3.4.4.2 Disabling the events logging

To disable events logging, do the following:

1. Close the Intellect software if it is open.
2. Start the Tweaki.exe utility (see the Start and Shut down)
3. Select the Intellect node in the tree on the left side of the utility dialog box (Figure 11.3-19, 1).
4. Check the Disable Protocol checkbox (Figure 11.3-19, 2).
5. Click OK.

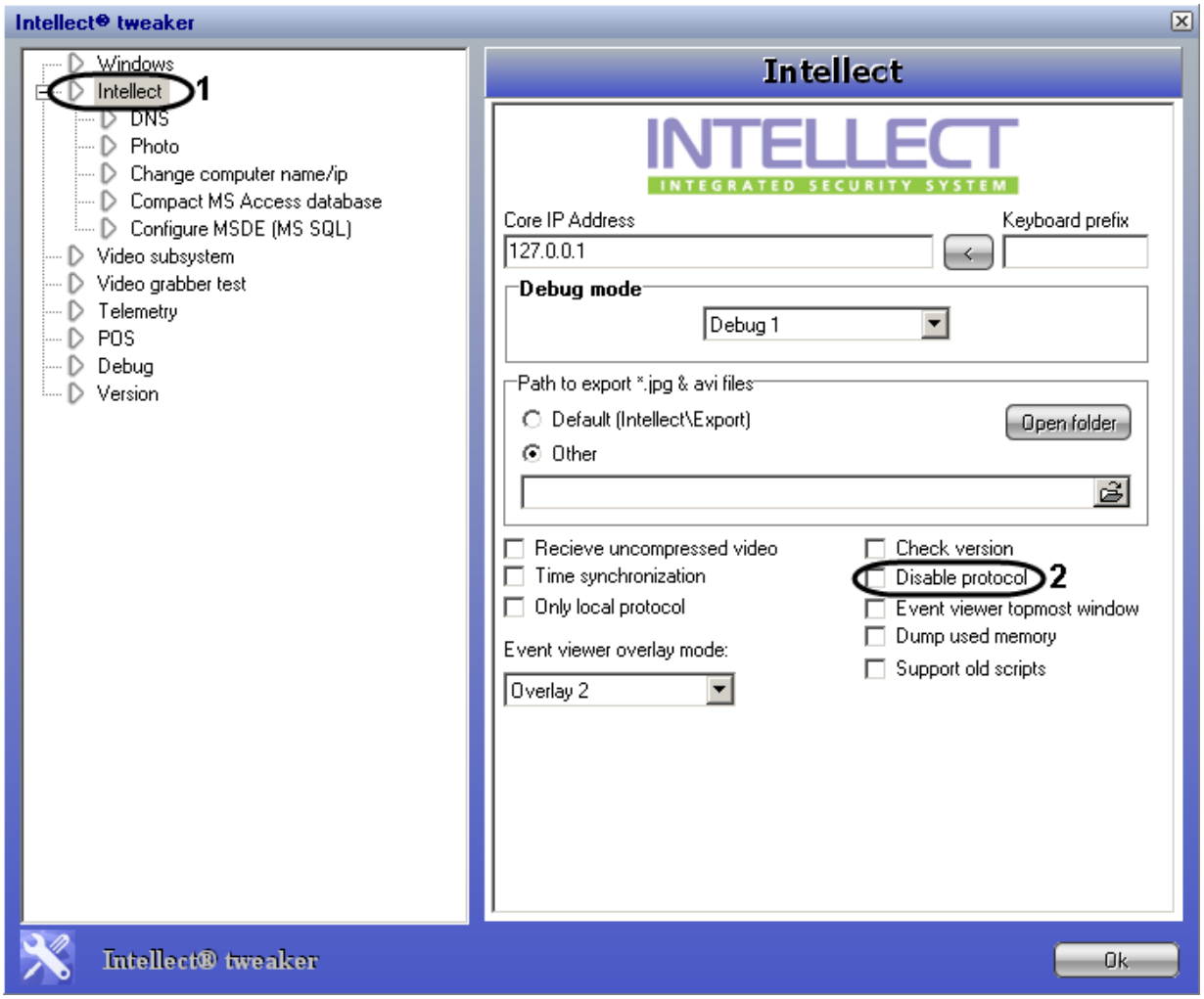


Figure 11.3-19. Disabling events logging

11.3.4.4.3 Displaying the Events Viewer window on top of other windows

To display the Event Viewer window on top of other windows, do the following:

1. Close the Intellect software if it is open.
2. Start the Tweaki.exe utility (see the Star and Shut down)
3. Select the Intellect node in the tree on the left side of the utility dialog box (Figure 11.3-20,1).
4. Check the Event Viewer Topmost Window checkbox (Figure 11.3-20, 2).
5. Click OK.

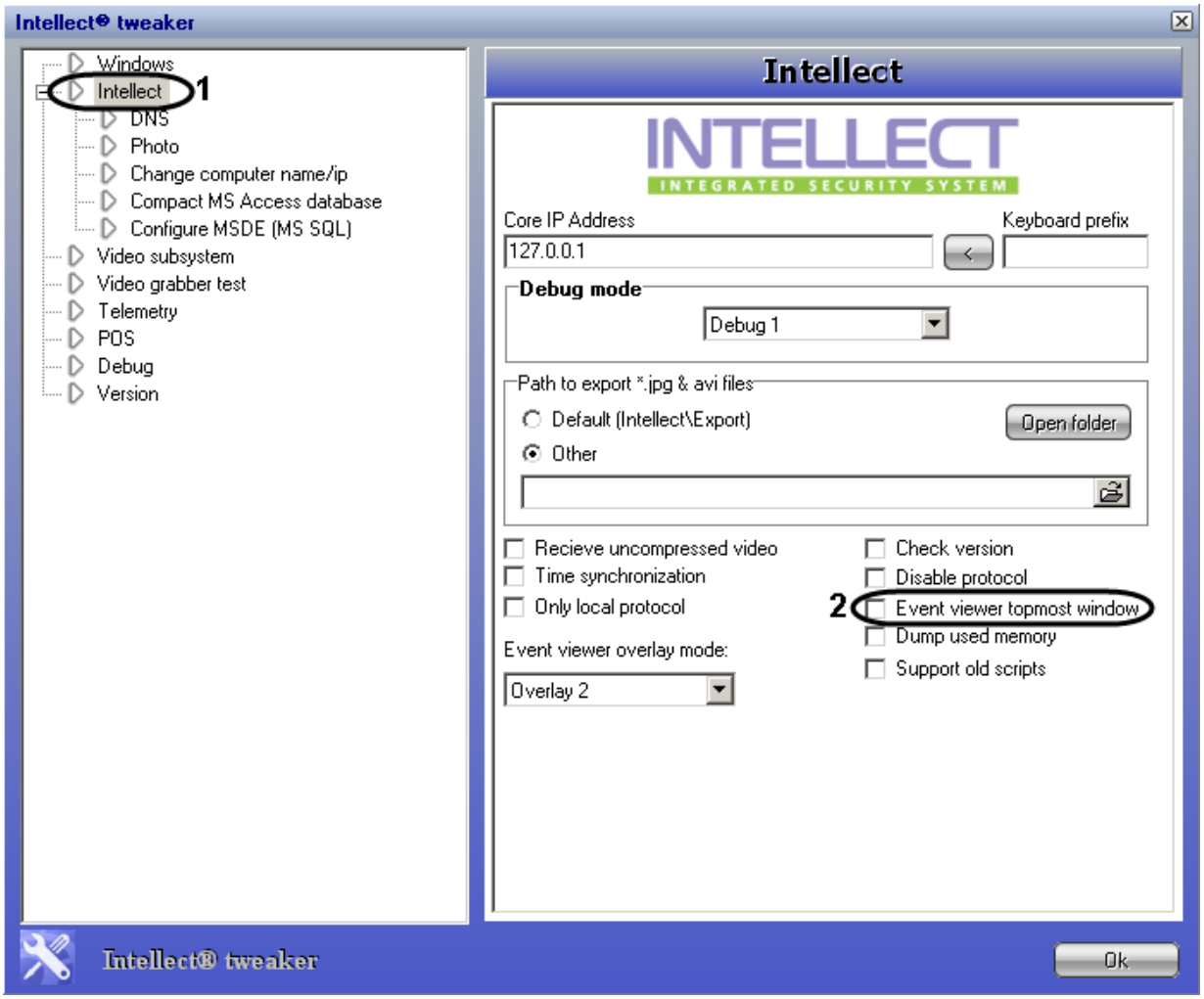


Figure 11.3-20. Displaying the Event Viewer on top

11.3.4.4.4 Replacing the computer name in the events log

To replace the computer name in the events log records, do the following:

1. Close the Intellect software if it is open.
2. Start the Tweaki.exe utility (see the Start and shut down).
3. Select the Change Computer Name/IP subnode of the Intellect node on the tree on the left side of the utility dialog box (Figure 11.3-21, 1).
4. Check the Protocol checkbox (Figure 11.3-21, 2).
5. Click OK.

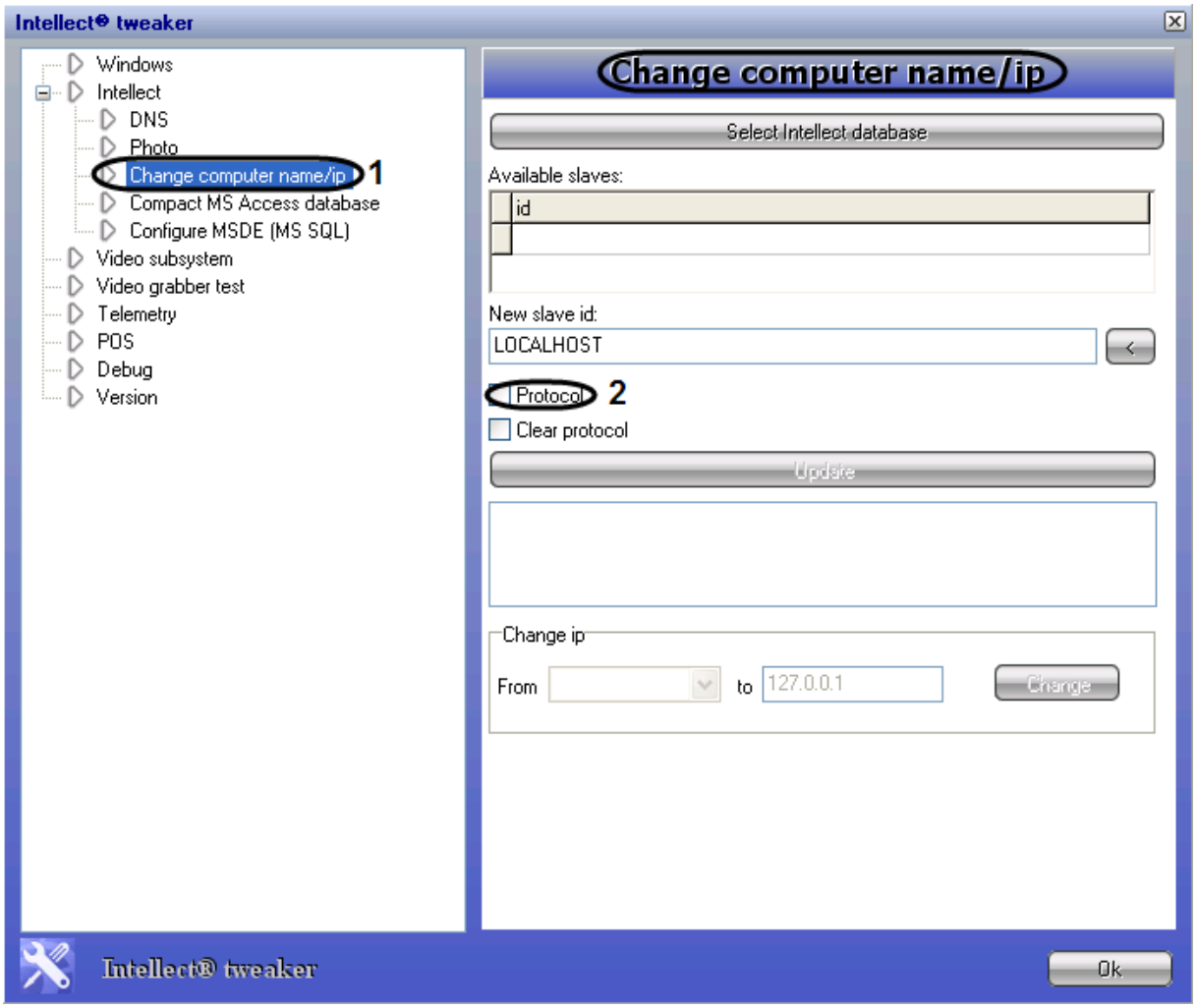


Figure 11.3-21. Replacing the computer name

11.3.4.4.5 Purging the event log

To delete all records in the event log, do the following:

1. Close the Intellect software if it is open.
2. Start the Tweaki.exe utility (see the Start and Shut down)
3. Select Change Computer Name/IP subnode of the Intellect node in the tree on the left side of the utility dialog box (Figure 11.3-22, 1).
4. Check the Clear Protocol checkbox (Figure 11.3-22, 2).
5. Click OK.

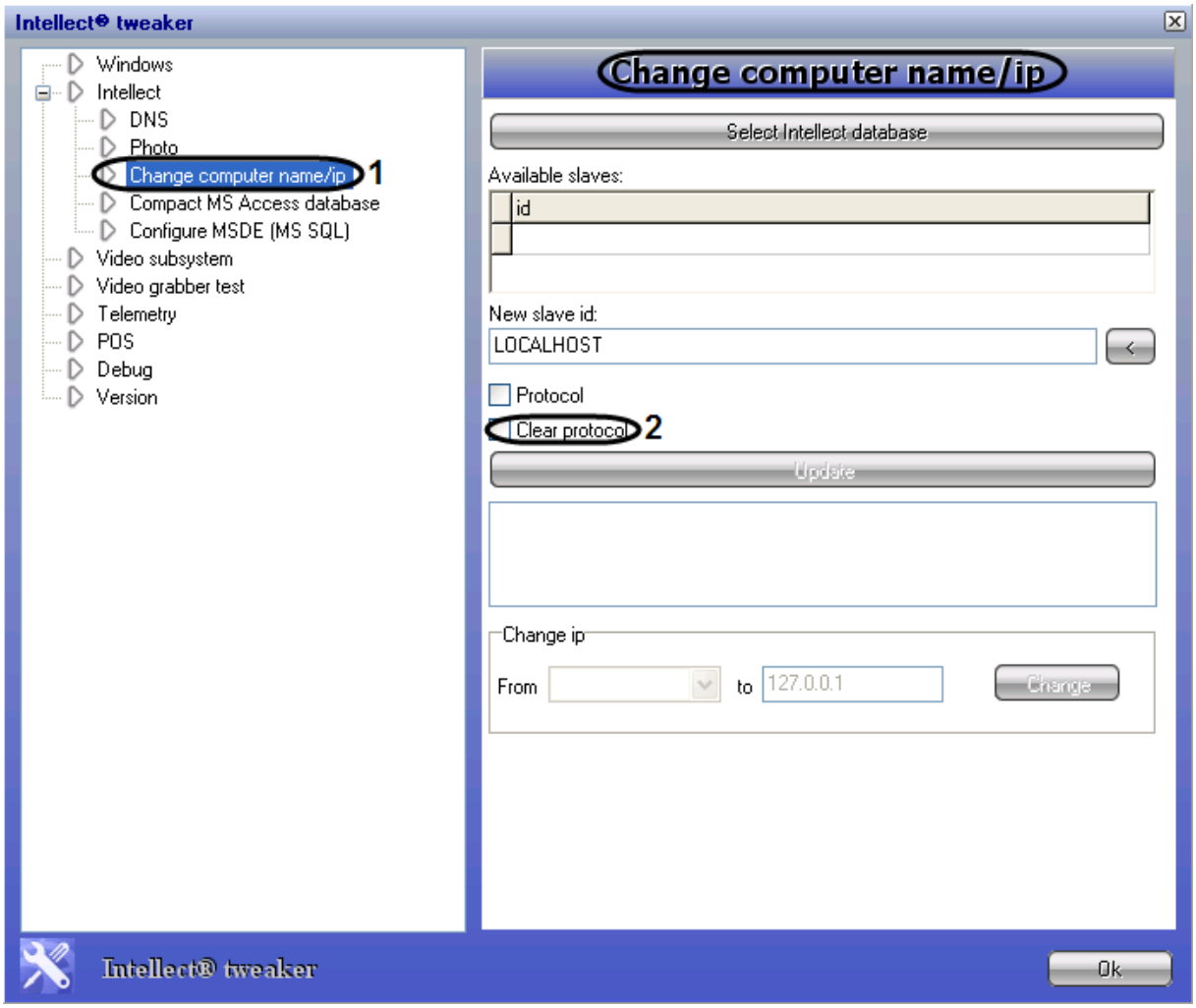


Figure 11.3-22. Purging the event log

11.3.4.5 *Additional settings for video processing by the videoserver*

The Tweaki.exe utility allows enabling the mode for sending video over the network with no compression. To enable this mode, do the following:

1. Close Intellect software if it was open.
2. Start the Tweaki.exe utility (see the Start and shut down).
3. Select the Intellect node in the tree on the left side of the utility dialog box (Figure 11.3-23, 1).
4. Check the Receive Uncompressed Video checkbox (Figure 11.3-23, 2).
5. Click OK.

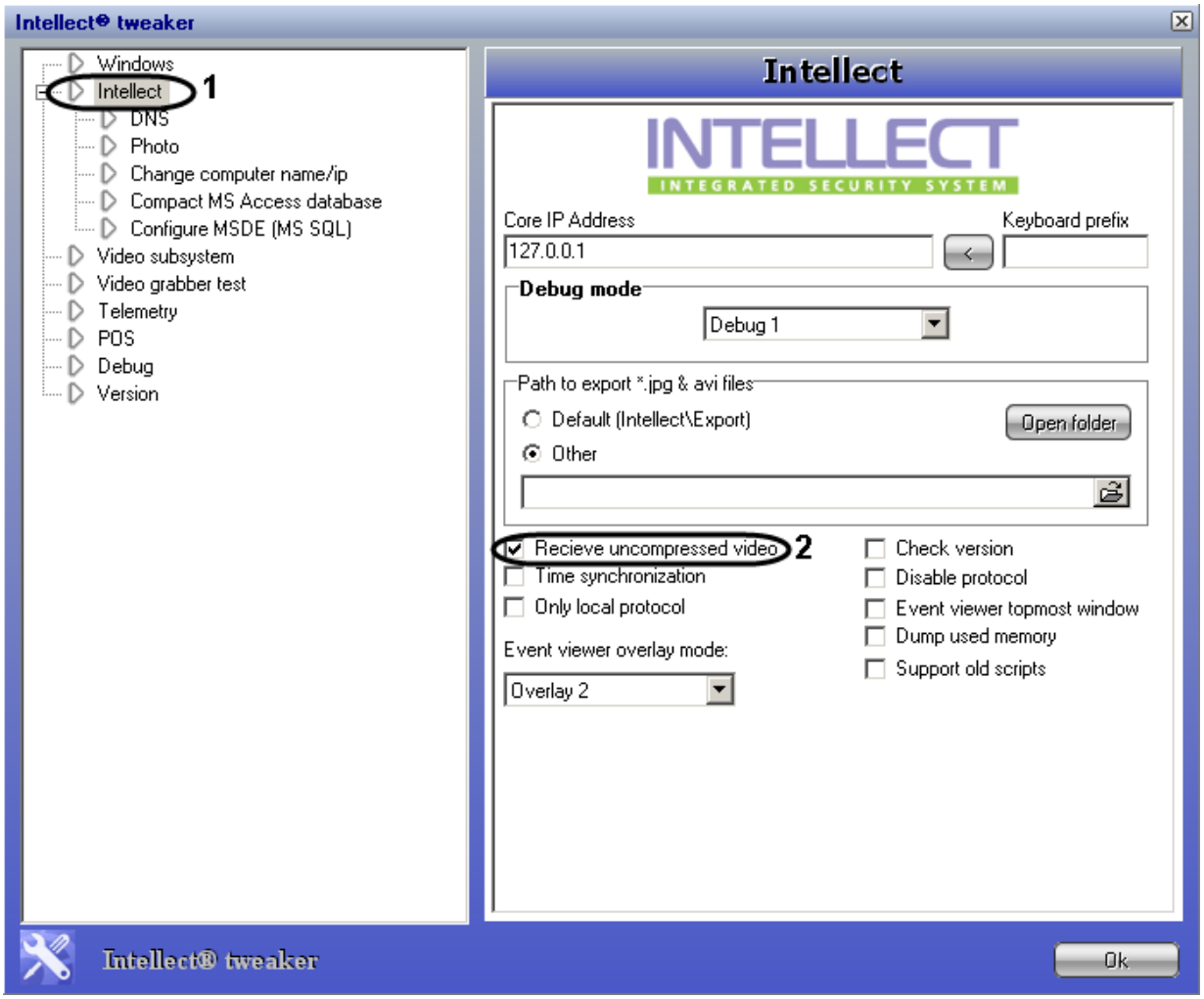


Figure 11.3-23. Enabling receiving uncompressed video

11.3.4.6 *Extended setup of the distributed architecture*

The Tweaki.exe utility allows enabling the mode for sending video over the network with no compression. To enable this mode, do the following:

1. Close Intellect software if it was open.
2. Start the Tweaki.exe utility (see the Start and shut down).
3. Select the Intellect node in the tree on the left side of the utility dialog box (Figure 11.3-24, 1).
4. Check the Receive Uncompressed Video checkbox (Figure 11.3-24, 2).
5. Click OK.

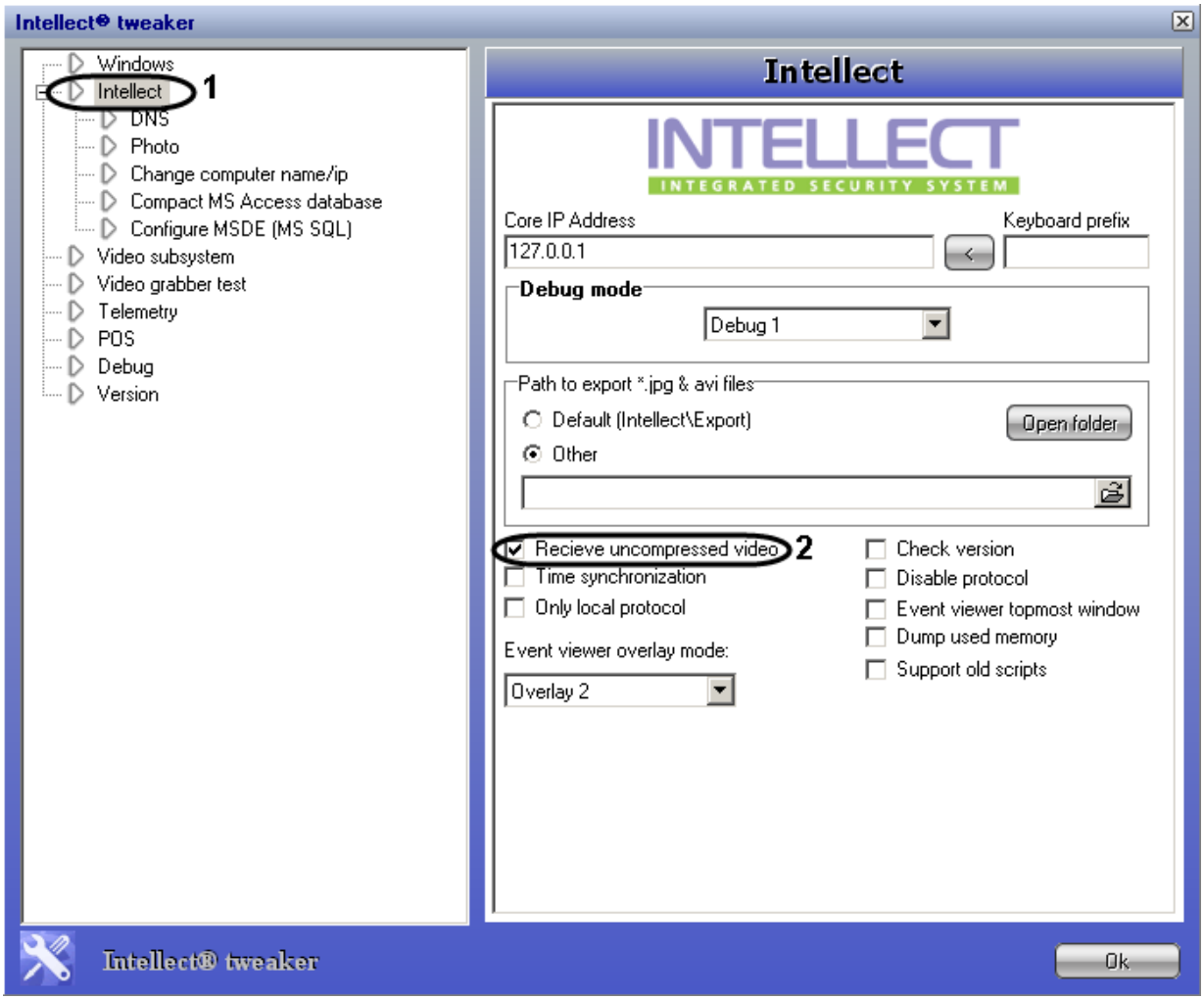


Figure 11.3-24. Enabling receiving uncompressed video

11.3.4.7 *Changing computer names and IP-addresses in the configuration database of the Intellect system*

The Change Computer Name/IP node allows changing the computer name and/or IP-address in the Intellect database.

To change the computer name in the configuration database, do the following:

1. Close the Intellect software if it is open.
2. Start the Tweaki.exe utility (see the Start and Shut down)
3. Select the Change Computer Name/IP node in the tree on the left side of the utility dialog box.
4. Select the database containing the computer name to be changed (see the Selecting an SQL Database and Setting up Its Parameters section).

In result the Available Slaves table will show all computer names registered in the selected database (Figure 11.3-25).

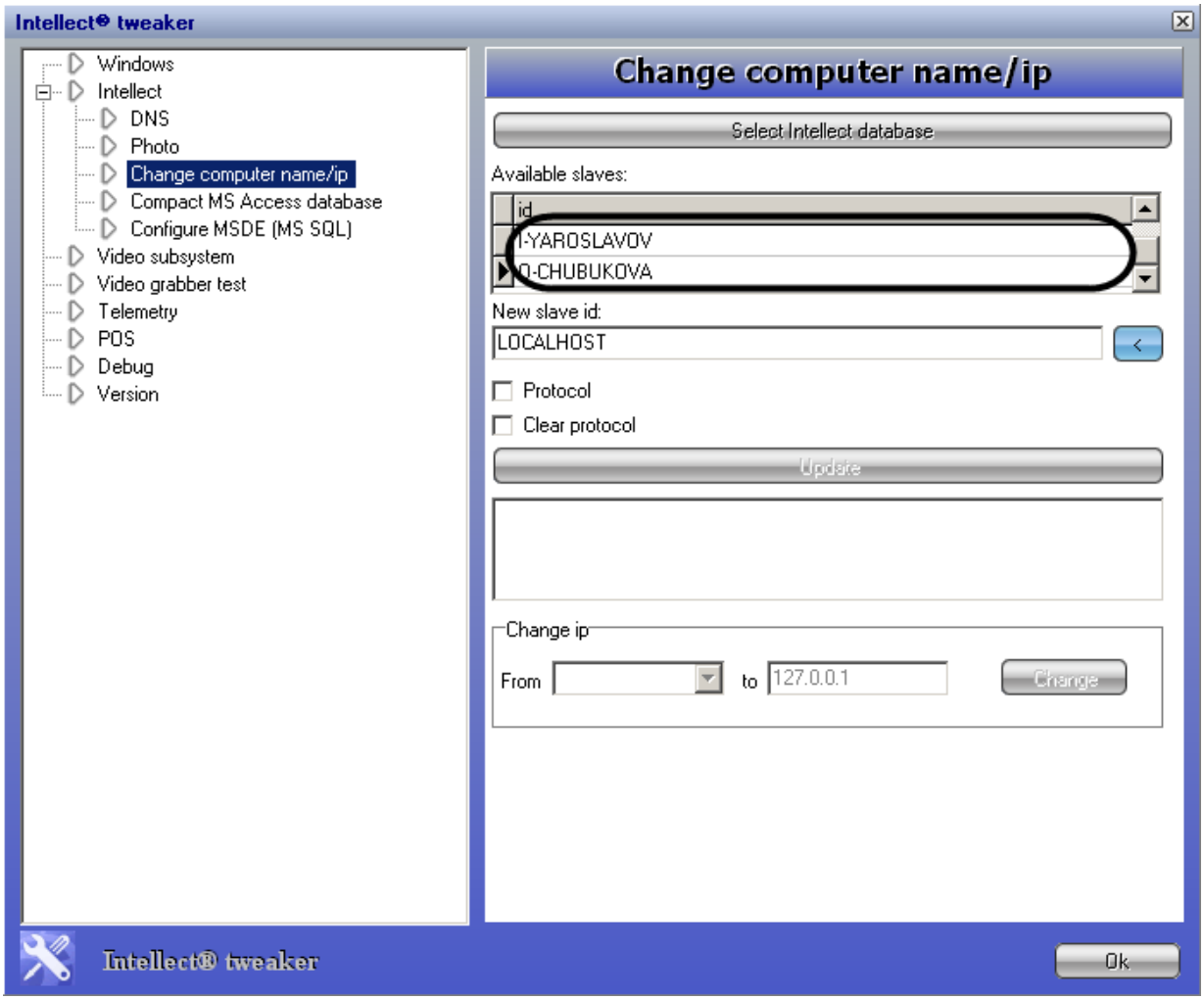


Figure 11.3-25. The list of computer names in the selected database

5. To select the computer name to be changed in the Available Slaves table, right-click an appropriate row. The row will be highlighted (Figure 11.3-26).

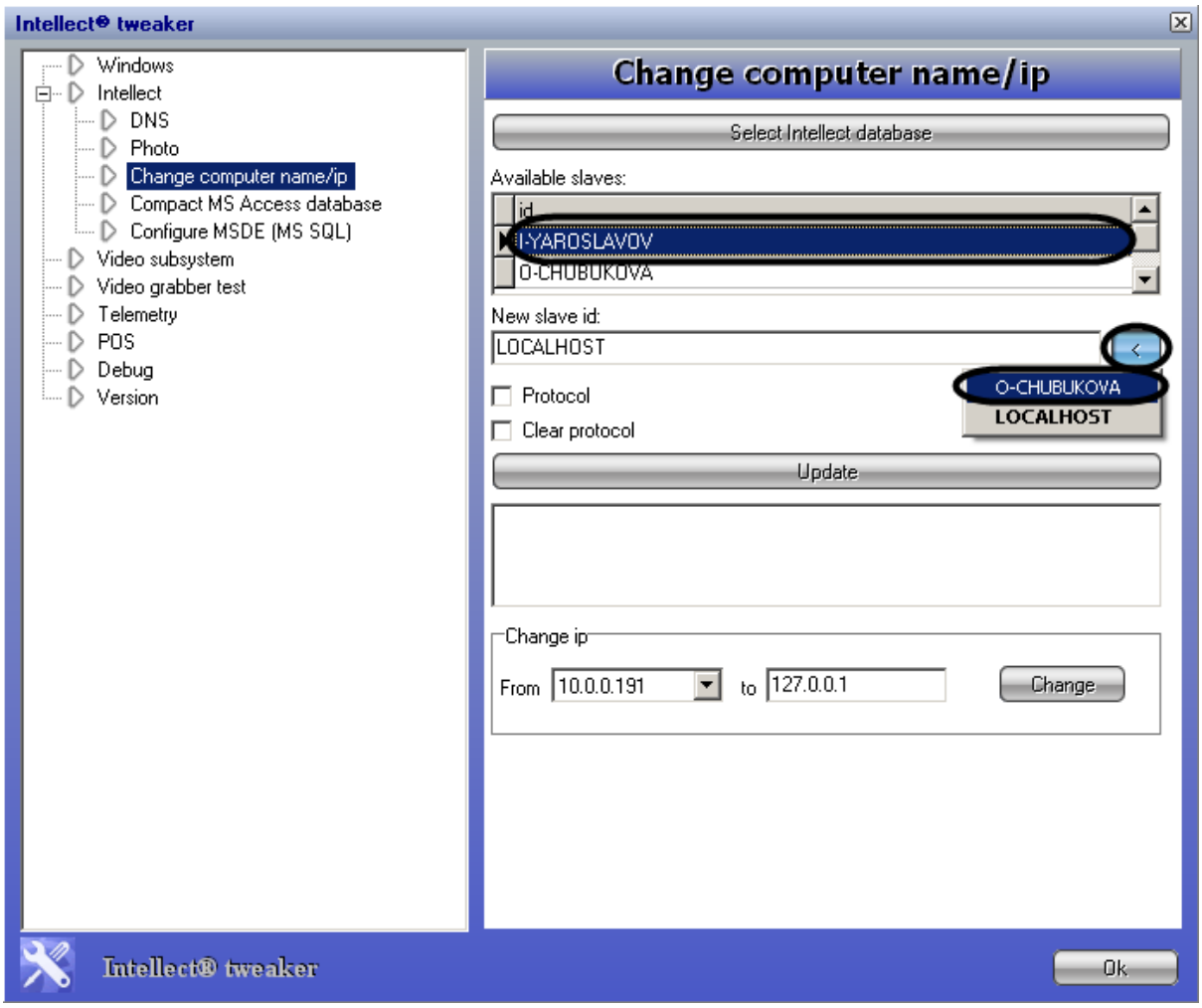


Figure 11.3-26. Selecting a computer name

6. Click the button next to the New Slave ID field to see the drop-down list of available computer names.

7. Select the required computer name in the list. The selected name will appear in the New Slave ID field (Figure 11.3-27, 1).

8. Check one of the following checkboxes: Check the Protocol checkbox to replace the computer name in the events log, or the Clear Protocol checkbox to delete all records in the log. Only one of two checkboxes should be checked (Figure 11.3-27, 3).

9. Click the Update button (Figure 11.3-27, 4). The progress of replacing computer names for a new one will be displayed in the field below the Update button (Figure 11.3-27, 5).

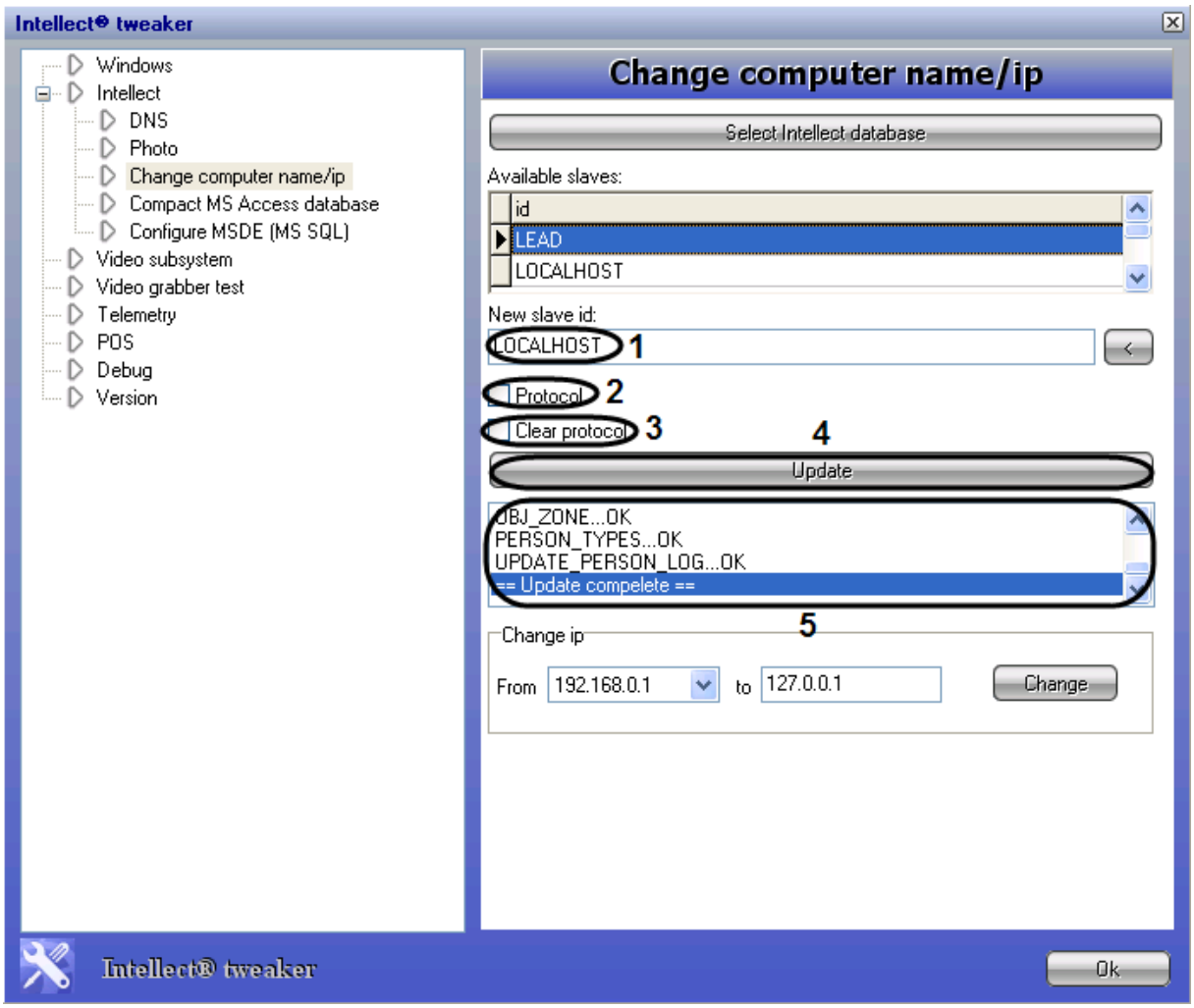


Figure 11.3-27. Updating the database

To change the IP-address in the configuration database, do the following (Figure 11.3-28):

1. Do steps 1-4 of the previous instructions (Figure 11.3-28, 1).
2. Select the IP-address to be replaced from the From drop-down list (Figure 11.3-28, 2).
3. Enter a new IP-address into the To field, or leave the default LOCALHOST value (Figure 11.3-28, 3).
4. Click the Change button (Figure 11.3-28, 4).

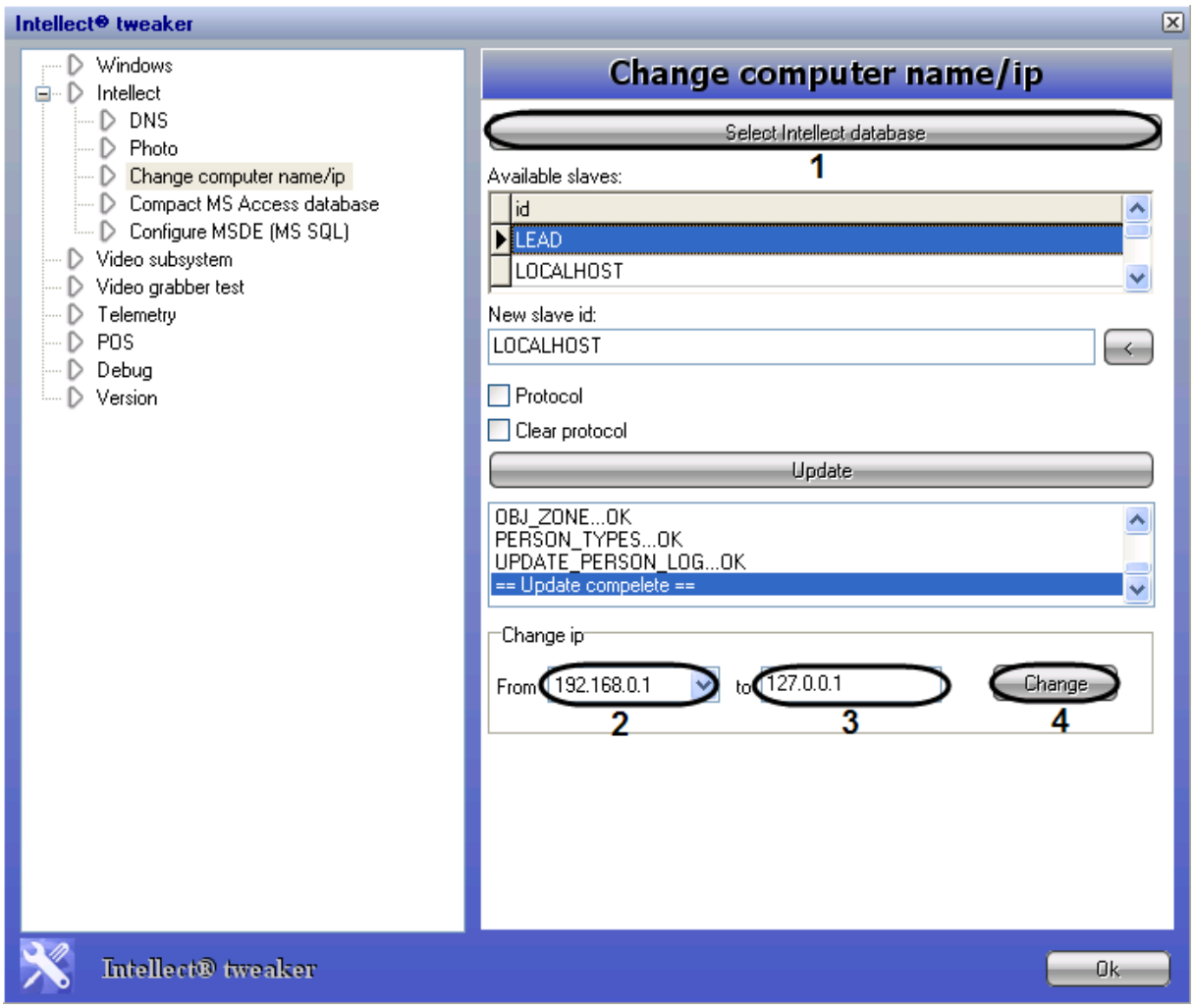


Figure 11.3-28. Replacing an IP-address in the database

The IP-address in the From field and in the database will be changed.

11.3.4.8 *Compressing the MS Access database*

The MS Access database tends to grow in size due to the logic method of deleting records and temporary/hidden tables, i.e. they are marked as deleted but the data actually remains in the database. To enhance Intellect performance in using the databases, regular data compression is recommended. The Tweaki.exe utility allows compressing MS Access databases by physically deleting data objects marked as deleted.

To compress an MS Access database, do the following:

1. Close the Intellect software if it is open.
2. Start the Tweaki.exe utility (see the Start and Shut down)
3. Select the Compact MS Access Database node in the tree on the left side of the utility dialog box (Figure 11.3-29, 1).
4. Select the database to be compressed (see the Selecting an SQL Database and Setting up Its Parameters section) using the Select Database button (Figure 11.3-29, 2).

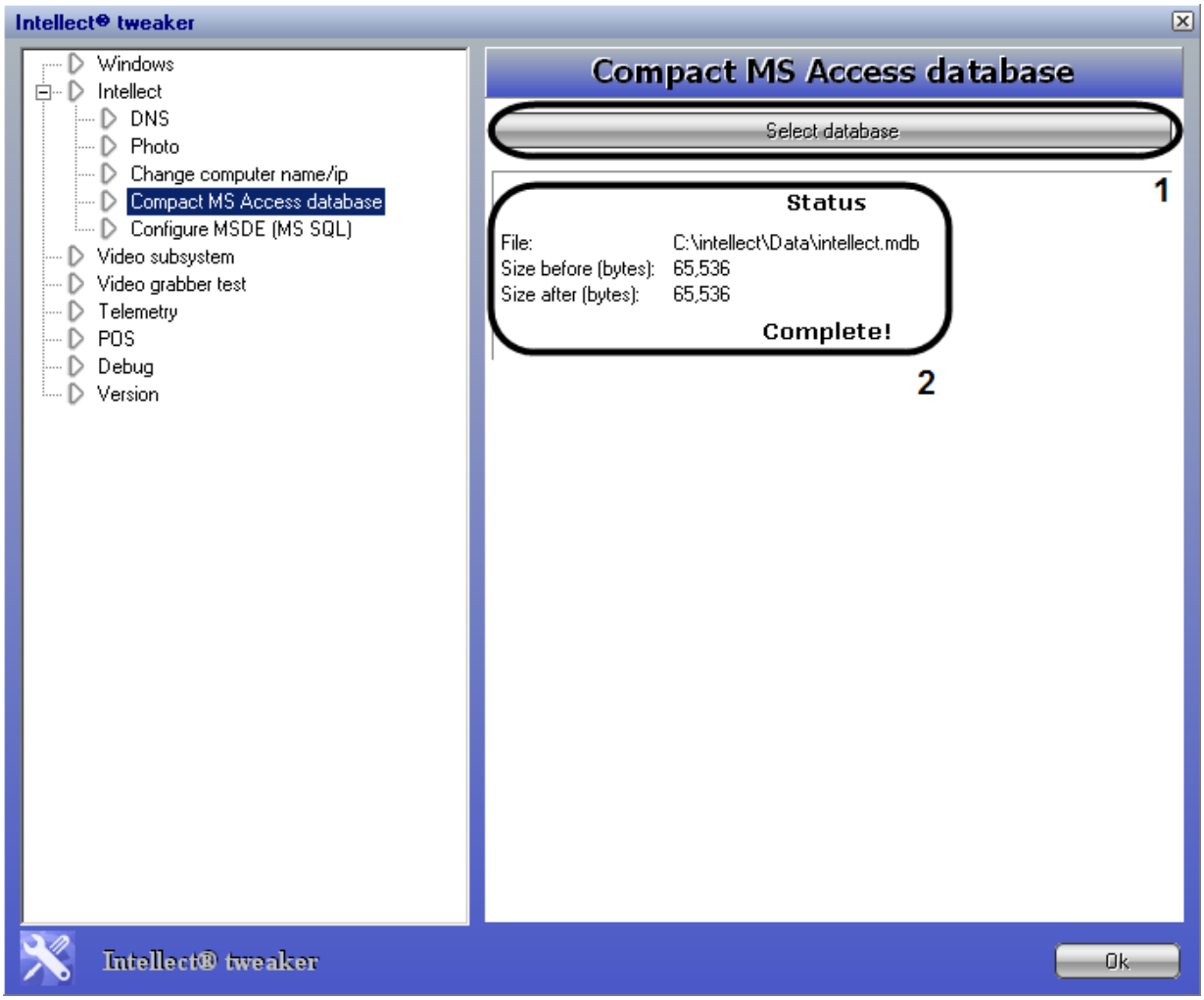


Figure 11.3-29. Compressing the MS Access database

The database will be compressed automatically. Compressing progress will be displayed in the Status field under the Select Database button.

11.3.4.9 *Limiting memory usage by an MS SQL server*

A certain amount of disk space is allocated for the SQL server for storing its data, functions and other internal structures. Allocated RAM is determined by default by the total RAM resources available for the SQL server in the system. The Tweaki.exe utility allows limiting the amount of RAM allocated for the SQL server. Do the following:

a. Close the Intellect software if it is open.

b. Start the Tweaki.exe utility (see the Start and Shut down)

c. Select the Configure MSDE (MS SQL) node in the tree on the left side of the utility dialog box (Figure 11.3-30, 1).

d. Select the MS SQL database to limit the allocated RAM by doing one of the following (Figure 11.3-30, 2):

1. Click the Select MS SQL Server button (see the Selecting an SQL Database and Setting up Its Parameters section);

2. Click the Use Current Intellect Database button.

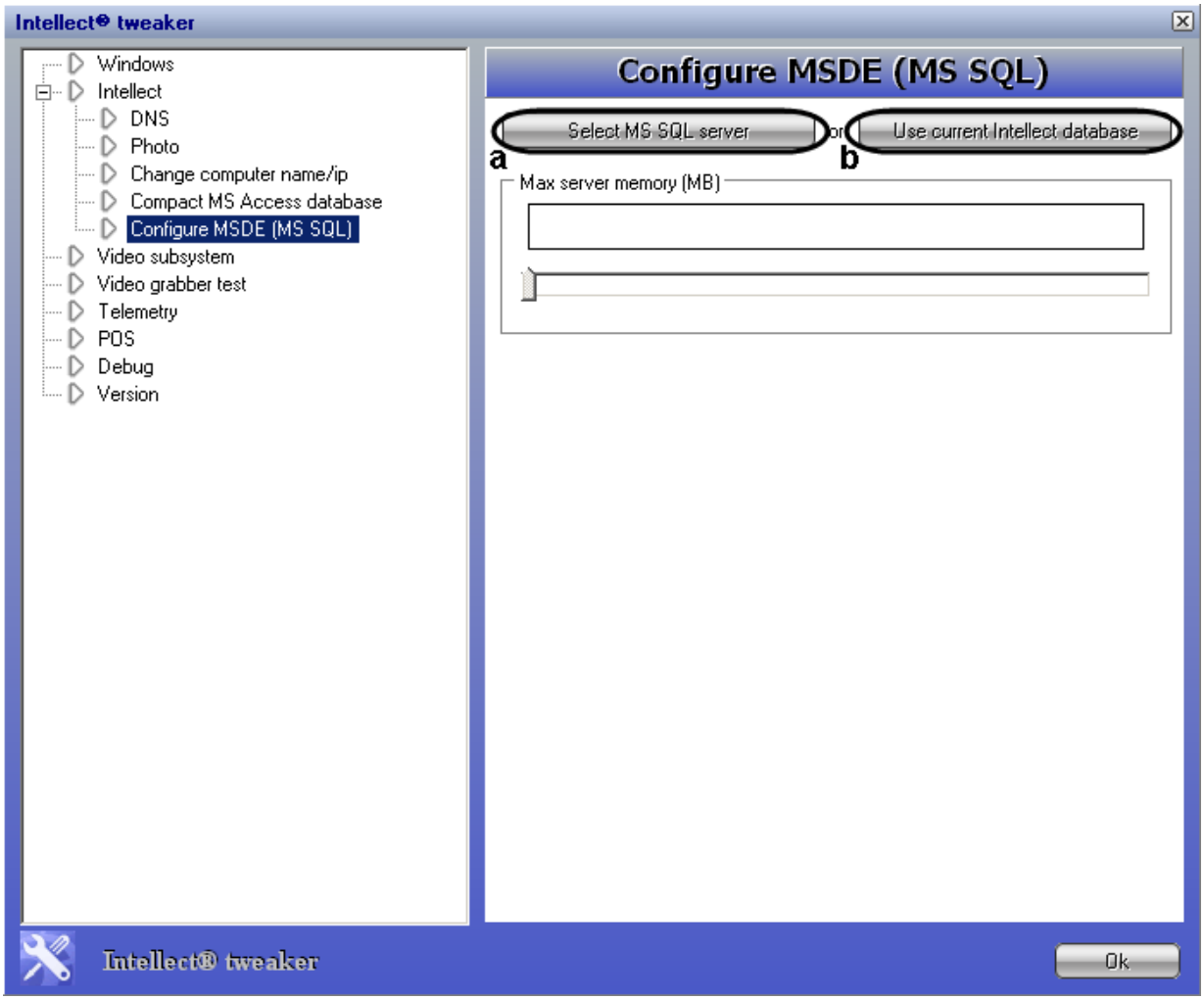


Figure 11.3-30. Click one of the buttons to select the database

The Max Server Memory (MB) group will display the amount of space allocated for the selected database (Figure 11.3-31, 1).

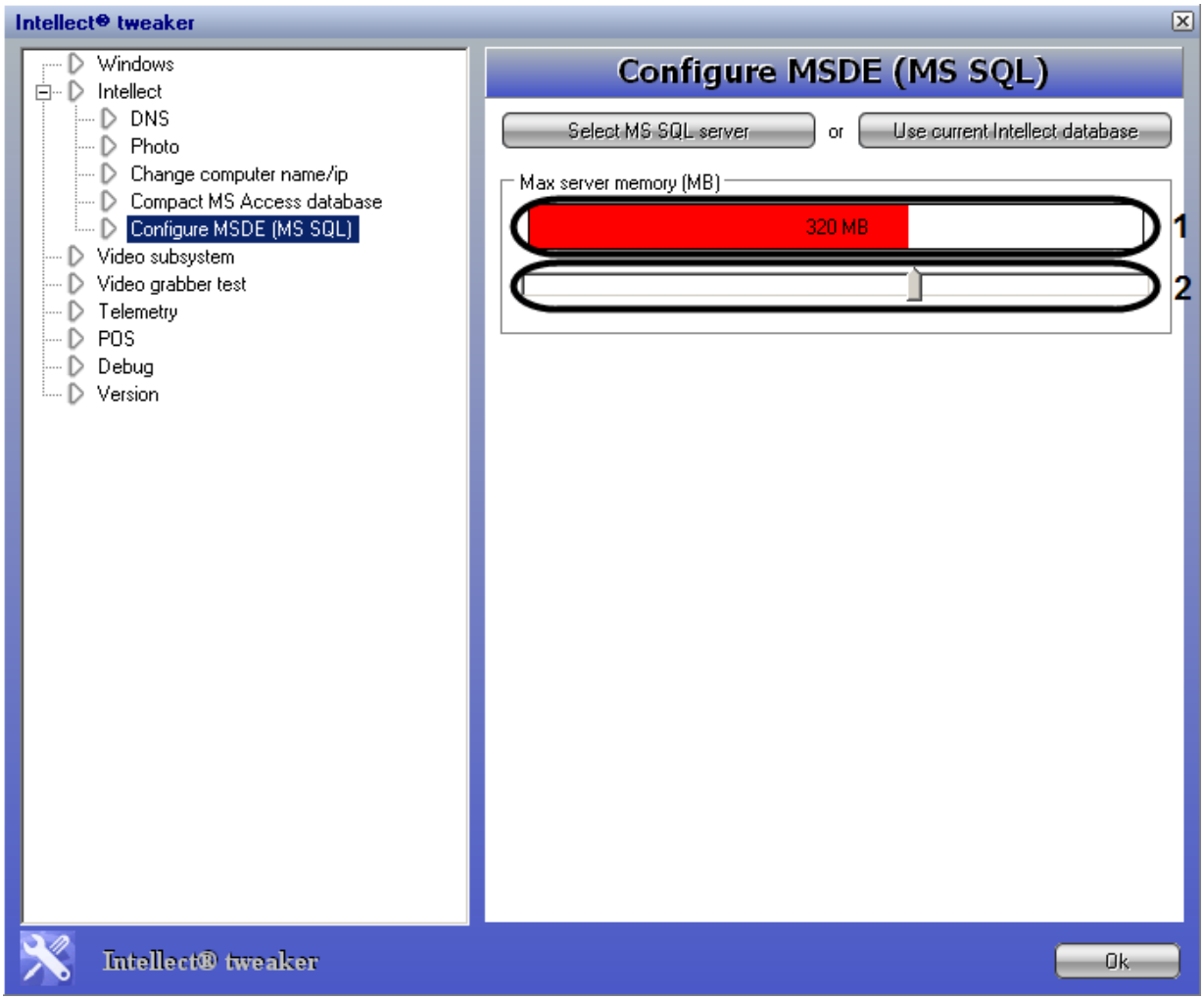


Figure 11.3-31. Current memory usage by the selected database

e. Drag the slider to a position representing the required amount of memory to be allocated for the SQL server (Figure 11.3-31, 2).

f. Click OK.

11.3.4.10 *Extended setup of audio and video recording to an archive*

The Tweaki.exe utility allows the following parameters of audio and video recording to an archive:

1. Ring determines the numerical condition for starting the cyclic recording of the archive.
2. Frames Count determines the maximum number of frames in a video recording file.

To set the audio and video recording parameters, do the following:

1. Close the Intellect software if it was open.
2. Start the Tweaki.exe utility (see the Start and Shut down)
3. Select the Video Subsystem node in the tree on the left side of the utility dialog box (Figure 11.3-32, 1).

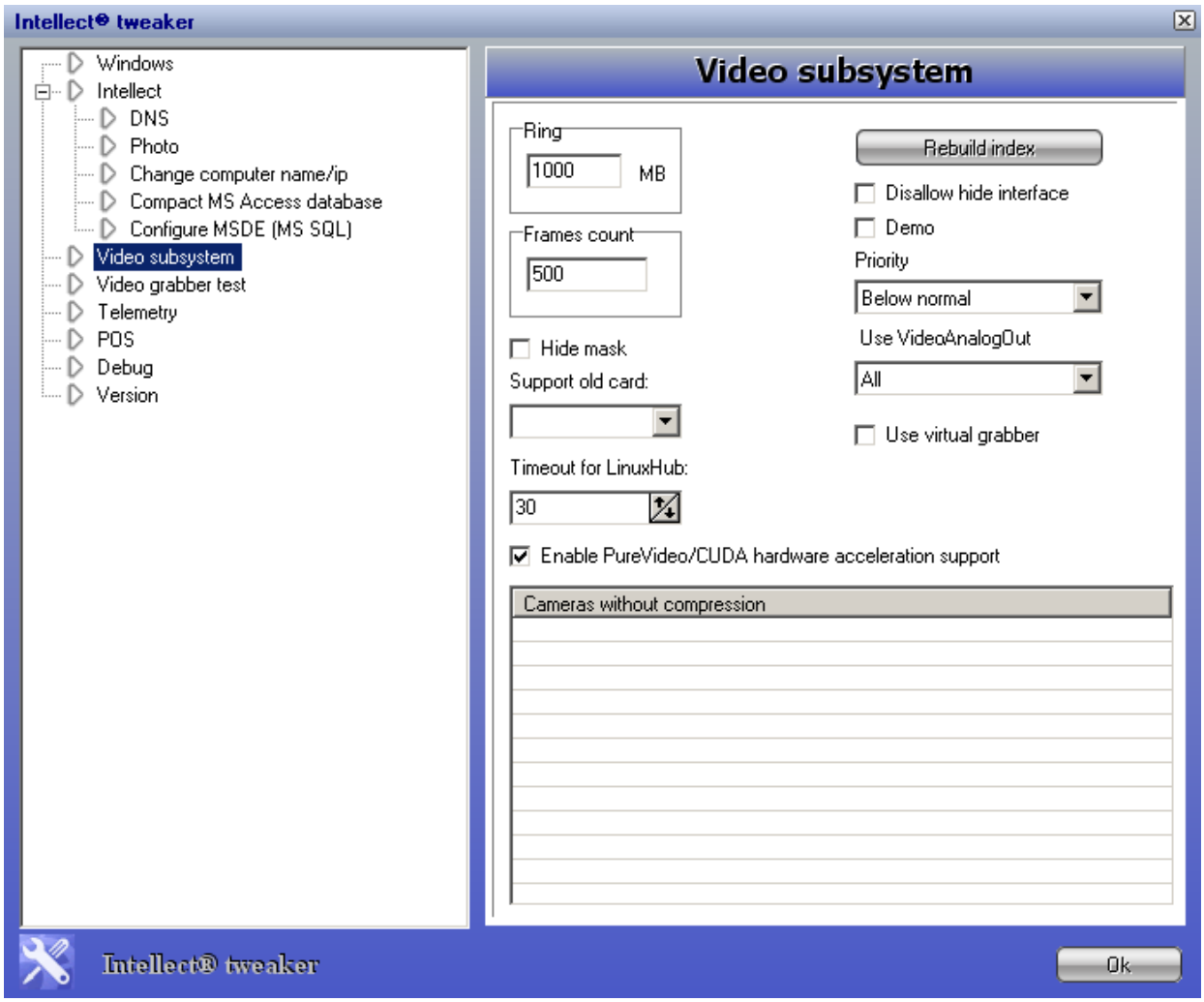


Figure 11.3-32. Setting the audio and video recording parameters

4. Enter the value for the Ring parameter determining the amount of disk space not to be used by the audio or video archive (Figure 11.3-32, 2).

5. Enter the value of the Frames Count parameters (Figure 11.3-32,3).

6. Click OK

11.3.4.11 *Re-indexing the audio and video recordings archive*

To re-index the audio and video archives, do the following:

1. Close the Intellect software if it is open.

2. Start the Tweaki.exe utility (see the Start and Shut down)

3. Select the Video Subsystem node in the tree on the left side of the utility dialog box (Figure 11.3-33, 1).

4. Click the Rebuild Index button to delete the INDEX folder with .idx files containing the indexes to the video recording files in the archive (Figure 11.3-33, 2).

Note.Pressing the button «Rebuild index» sets the value of parameter Rebuild Index=1 in the register's branch of OS Windows: HKLM\SOFTWARE\ITV\INTELLECT\VIDEO. Afterarchive

*reindexing the value of the parameter Rebuild Index=0 is automatically set. Whwn Intellect PC is run together with Rebuild Index=1 parameter, the archive is reindexed without any attmpt to reas it from *.idx files.*

5. Click OK.

6. Start the Intellect system again. A new INDEX folder will be created in the video archive folder, containing new indexes.

This completes re-indexing of the database.

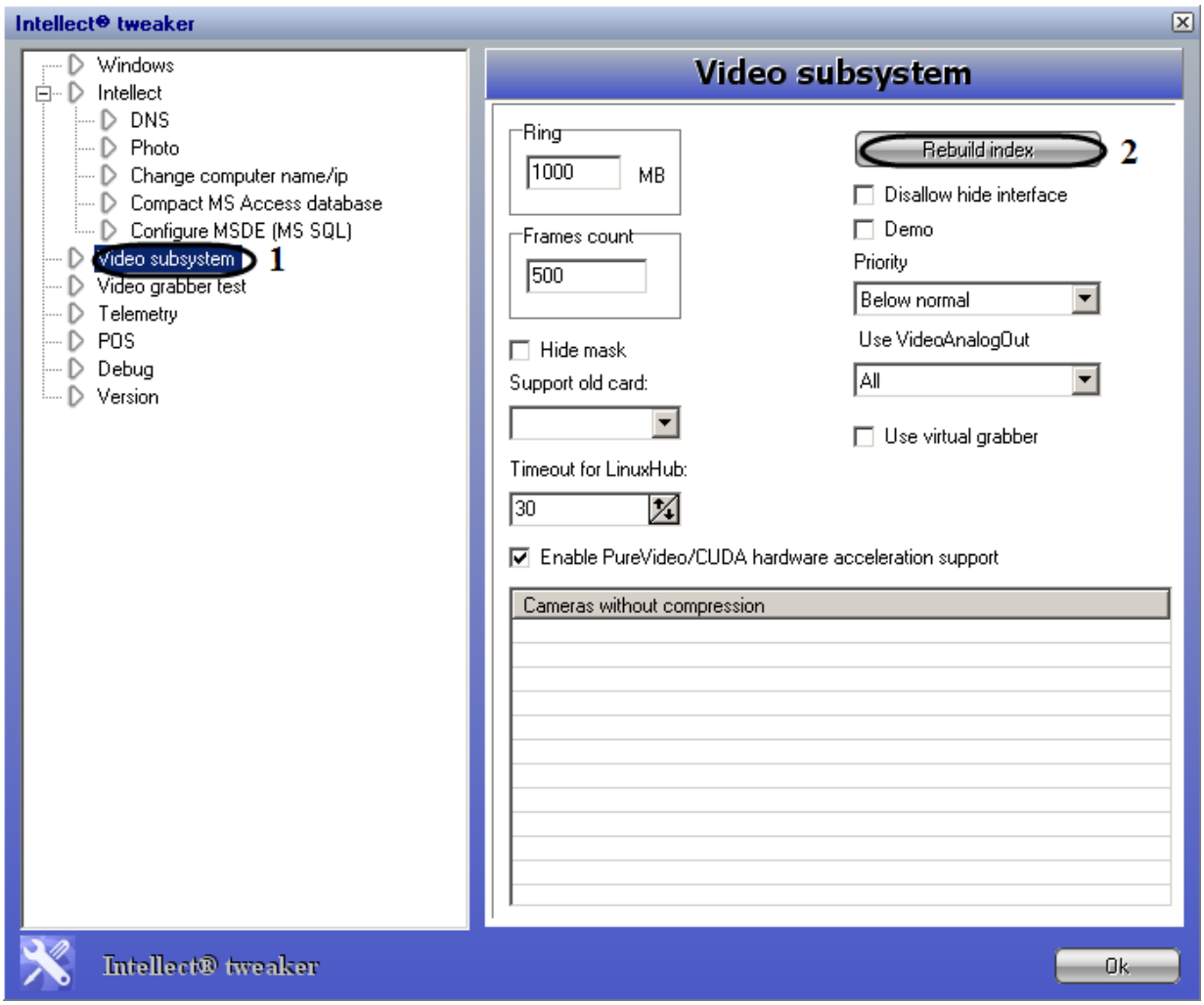


Figure 11.3-33. Deleting the INDEX folder

11.3.4.12 *Enabling the virtual video capture card*

Virtual video capture card is designed to simulate video data reception by playback the ready video recording. To activate access to virtual grabber settings do the following:

1. Shut down Intellect PC if the program was run on the computer.

2. Run Tweaki.exe (see.Start and Shut down).

3. Select section «Video subsystem» in the tree, allocated in the left corner of the utility's dialog window (Figure 11.3-33, 1).

4. Set the checkbox «Use virtual grabber» (Figure 11.3-33, 2).

Note. The set checkbox «Use virtual grabber »corresponds to the value of parameter virtual grabber equal to 1 in the register branch of OS Windows HKLM\SOFTWARE\ITV\INTELLECT. Disabled checkbox corresponds to the value of virtual grabber equal to 0.

5. Click «Ок».

In result Virtual value will be available in the dropdown list Type on the settings panel of Video capture card objects.

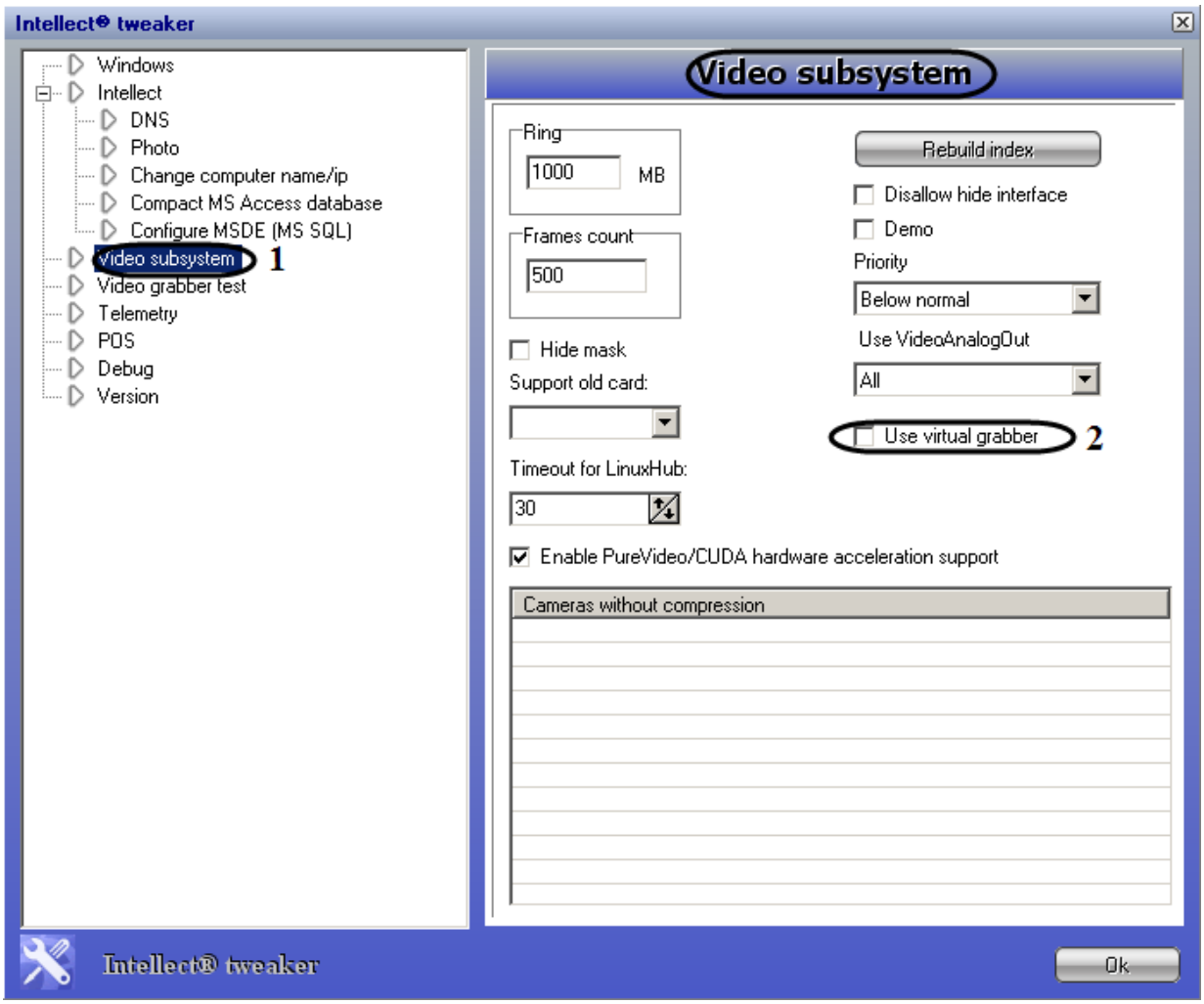


Figure 11.3-34. Enabling the virtual video capture card

11.3.4.13 *Selecting the operation mode of the analog video out*

To select the operation mode of the analog video out, do the following:

1. Close the Intellect software if it is open.

2. Start the Tweaki.exe utility (see the Start and shut down)

3. Select the Video Subsystem node in the tree on the left side of the utility dialog box (Figure 11.3-35,1).

4. Select the value for the Use VideoAnalogOut parameter from the drop-down list (Figure 11.3-35, 2).

5. Click OK.

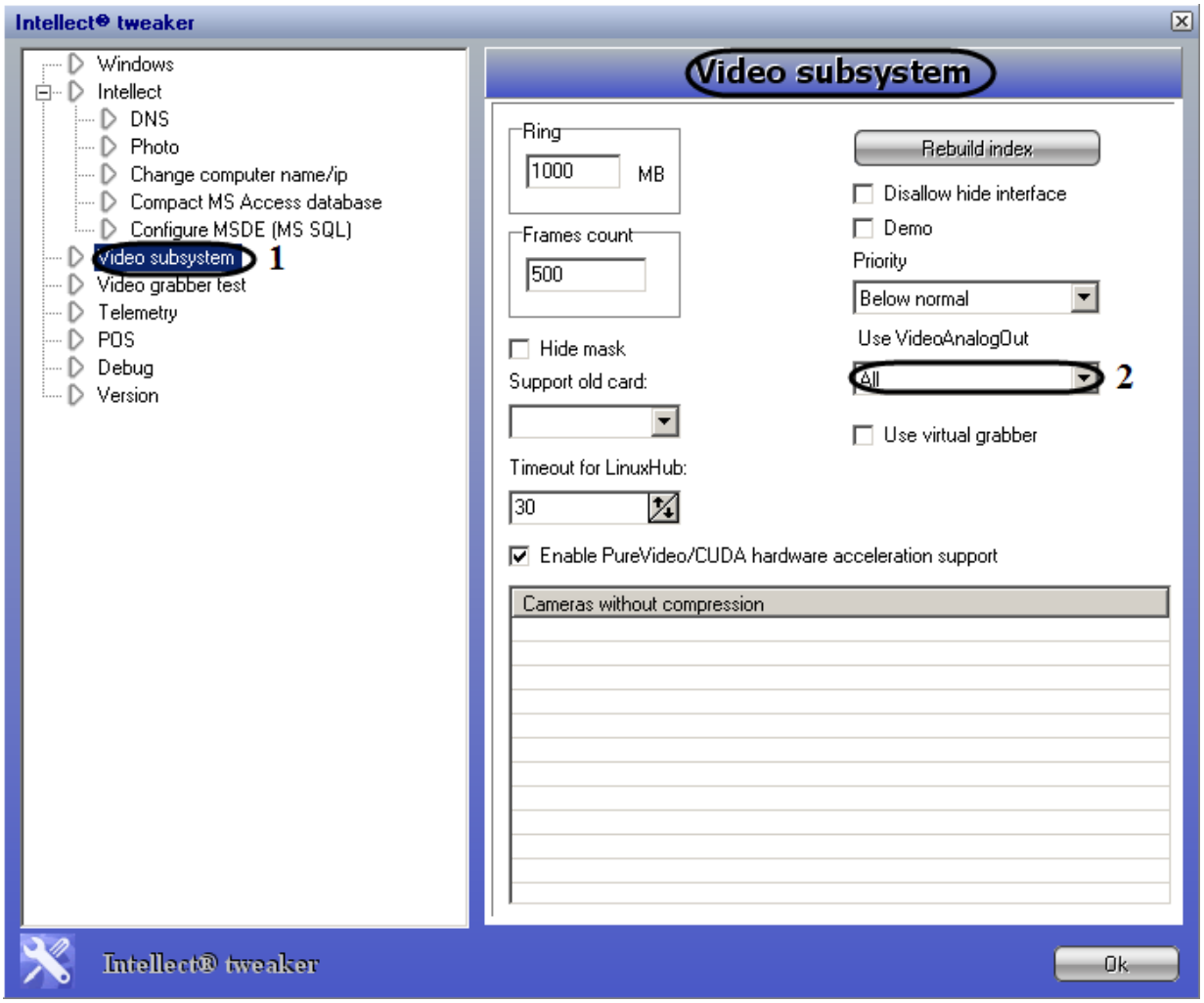


Figure 11.3-35.. Selecting the analog video out mode

If All is selected, all video signals will be sent to one analog monitor simultaneously. If One is selected, only one video signal will be sent to a single monitor. In this case, to switch from one video signal to another, the first one should be disconnected.

11.3.4.14 *Enabling the Pure video/CUDA hardware support*

It is possible to enable the PureVideo/CUDA hardware support when video signals are decompressed from IP devices.In this case decompression may be carried out by Server's graphics processor and this reduces the load on CPU.

Note.Detailed information about PureVideo/CUDA hardware technology is given in reference manual of Nvidia company.

PureVideo/CUDA functionality is correctly realized when Server meets the following requirements of software platform:

1. Is managed by OS Windows XP or Windows Vista
2. Video card PureVideo HD of the second or third generation is installed (Nvidia VP2 and VP3)

Note.Well-known models of video cards , supporting PureVideo/CUDA:

1 Nvidia GeForce GTX 295;

2 Nvidia GeForce GTX 285;

3 Nvidia Quadro NVS 450;

4 Nvidia GeForce 9800 GT;

5 Nvidia Quadro NVS 420;

6 Nvidia Quadro NVS 295.

Detailed description of video cards of the second and third generations, supporting PureVideo/CUDA, one can see on thevendor site www.nvidia.ru

In Intellect PC , version 4.7.6, PureVideo/CUDA technology is applied only for video signals' decompression in codec H264.

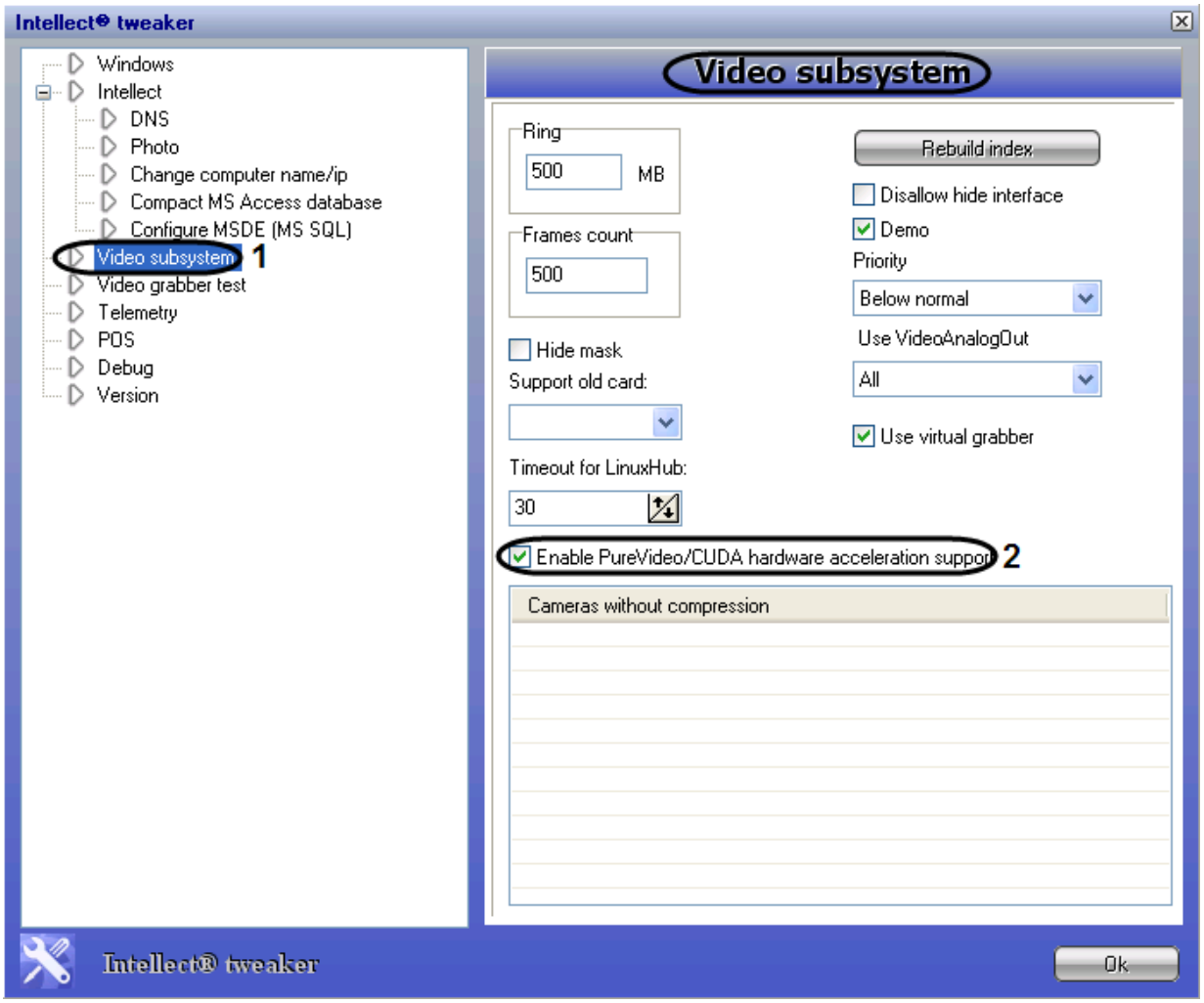
Note.If the resolution over 1920x1088 is set in the camera, PureVideo/CUDA technology is not used for video signals' decompression.

256 MB memory video cards are used toprocess one video channel. If the whole memory capacity is involved, the left channels are processed by CPU.

To enable PureVideo/CUDA hardware support, carry out the following steps:

1. Quit the work with Intellect PC in case when the program was run on thee computer.
2. Run the Tweaki.exe utility(See. Start and Close the system).
3. Select the section«Video subsystem» in the tree, that is in the left upper corner of utility's dialog window(Figure 11.3-36,1).
4. Set the checkbox «Enable PureVideo/CUDA hardware acceleration support»(Figure 11.3-36, 2).
5. Click«Ок».

Enabling the PureVideo/CUDA hardware support is completed.



11.3-36. Enabling the PureVideo/CUDA hardware support

11.3.4.15 *Testing operability of video capture cards*

To test the operability of a video capture card, its channels should be tested using the Video Grabber Test module of the Tweaki.exe utility. Do the following:

1. Close the Intellect software if it is open.
2. Start the Tweaki.exe utility (see the Starting Tweaky.exe Utility section)
3. Select the Video Graber Test node in the tree on the left side of the utility dialog box (Figure 11.3-37).

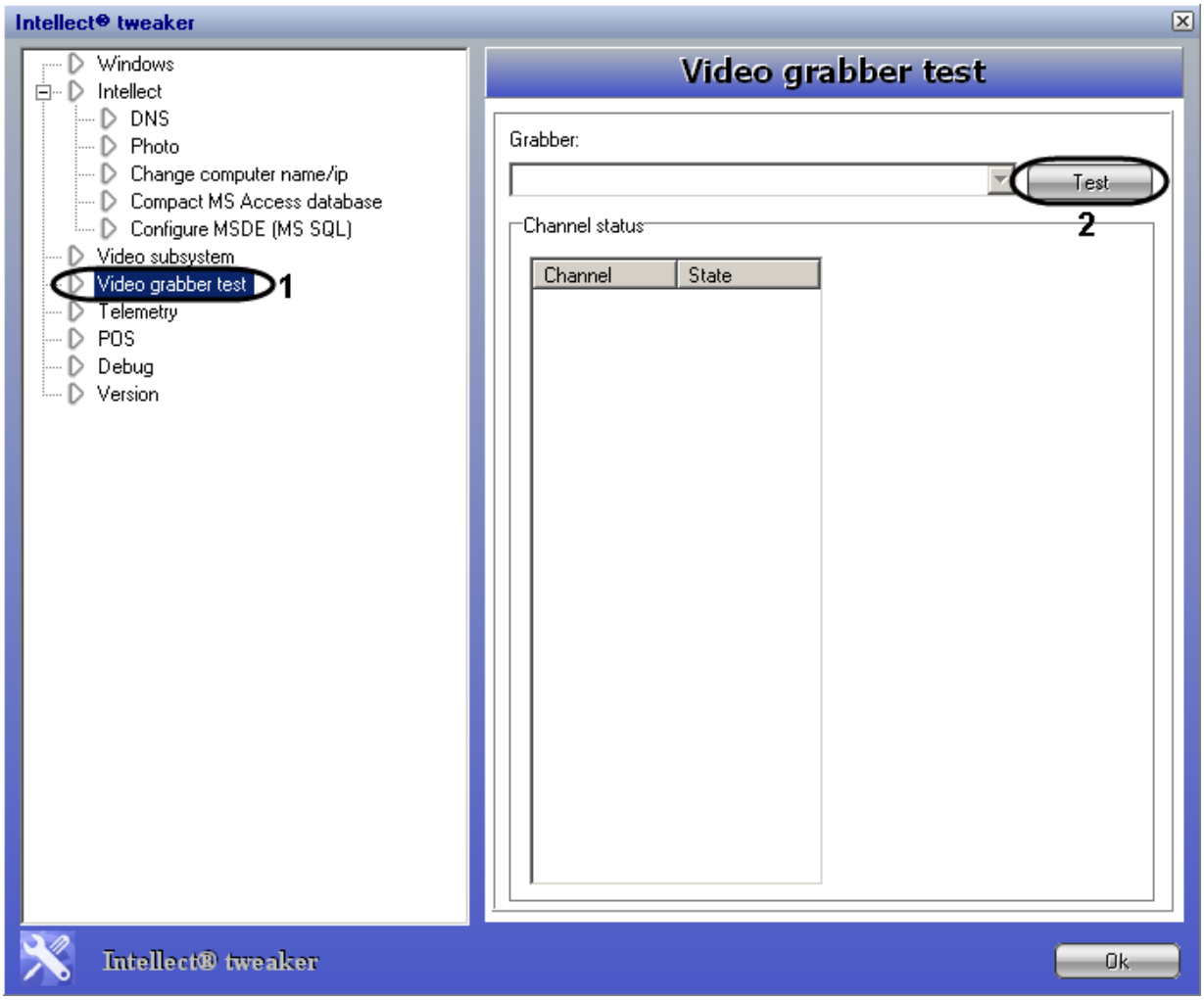


Figure 11.3-37. Testing channels of the video capture card

The Grabber field will display the name of the video capture card, and the Channel Status table will show the information about each channel of the card (number and status). The confirmation of successful testing will be displayed to the right of the Channel Status table (Figure 11.3-38).

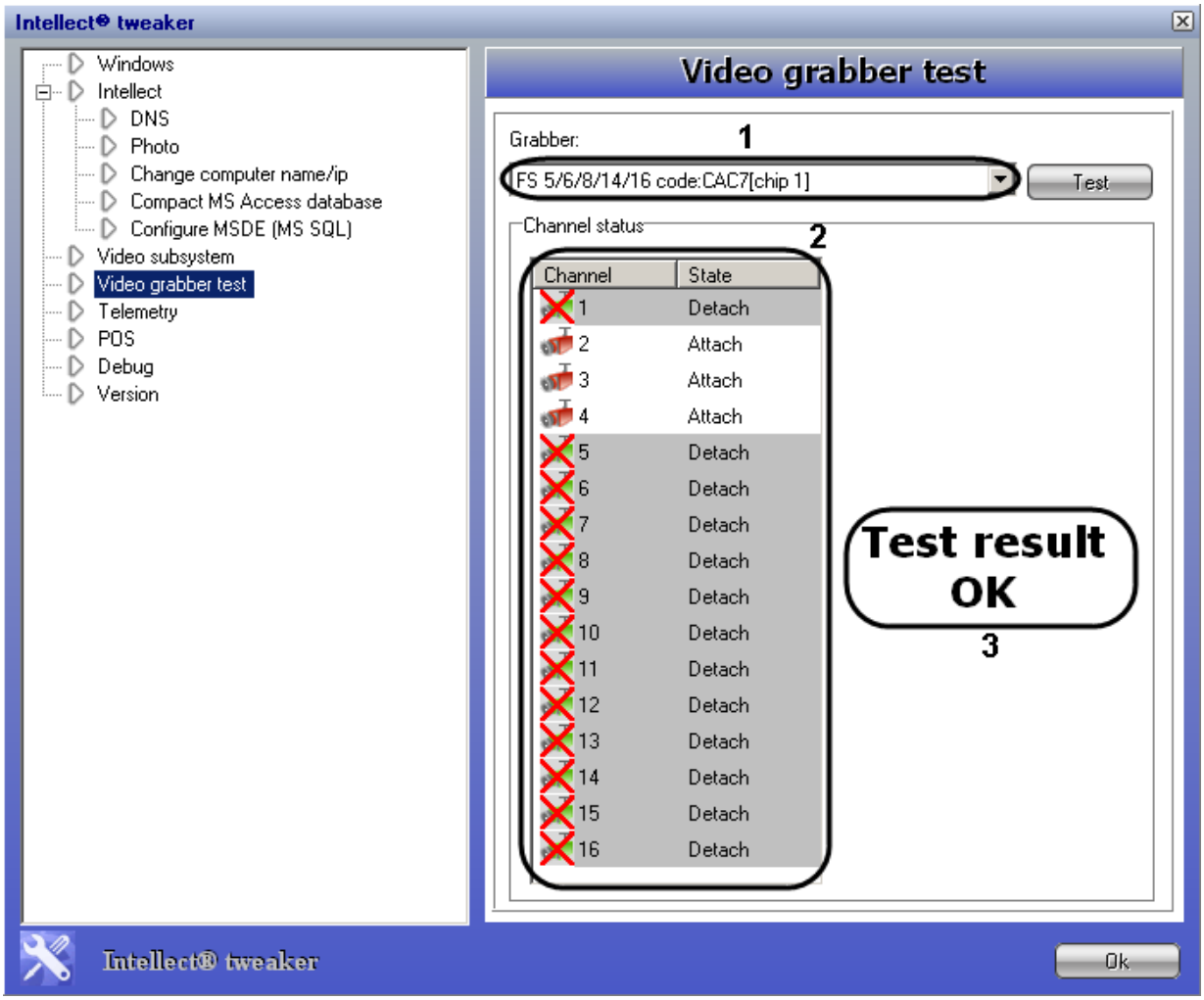


Figure 11.3-38. The result of testing the video capture card channels

If the Intellect system was not closed before starting the test, a dialog box will open requiring to close the Intellect system (Figure 11.3-39).

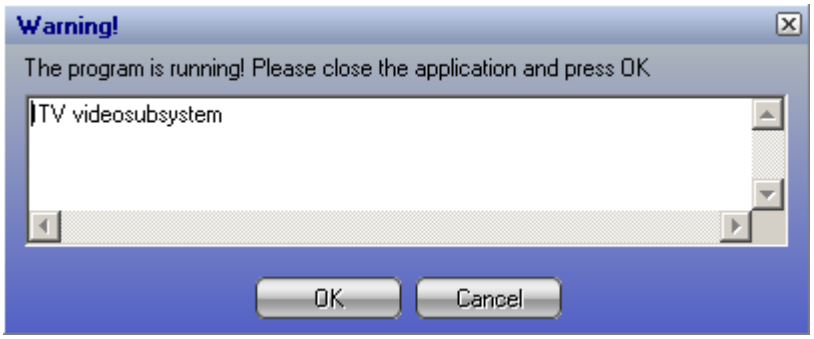


Figure 11.3-39. A dialog box requiring to close the system

To continue using the Video Grabber Test module, close the Intellect system and click OK.

11.3.4.16 *Extended setup of PTZ devices*

Additional setup of PTZ devices is available in the Telemetry section of the Tweaki.exe utility. It allows setting the following parameters: a) delay between controls; b) control delay; c) minimum turning speed of the devices: c) maximum turning speed of the devices. Available values of the parameters (see.Telemetry section settings panel).

11.3.4.17 *Displaying the module versions of Intellect software*

The information about version numbers of software modules of the Intellect system is shown in the Version section. This information is generated automatically.

11.4 The utility for collecting configuration data on servers and RWS for the Technical Support

11.4.1 The purpose of the Support.exe utility

The Support.exe utility is designed for collecting information about the configuration and operating status of the hardware, the Windows system and the Intellect system. The utility generates an archive that can be used by ITV Technical Support Service for troubleshooting purposes. In case of system malfunction or errors, run the Support.exe utility to produce the archive and send it by email to the following address: support@itv.ru.

11.4.2 Starting and closing the utility

To run Support.exe utility use one of the following methods:

- Fron the «Start» menu of OS Windows: «Start» -> «All programs» -> «Intellect» -> «System's information gathering utility »
- From the Tools folder of the Intellect program folder: «<Intellect installation directory>\Tools\Support.exe»

After running the Support.exe , Support –system's information gathering utility dialog box will be displayed on the screen (Figure 11.4-1).

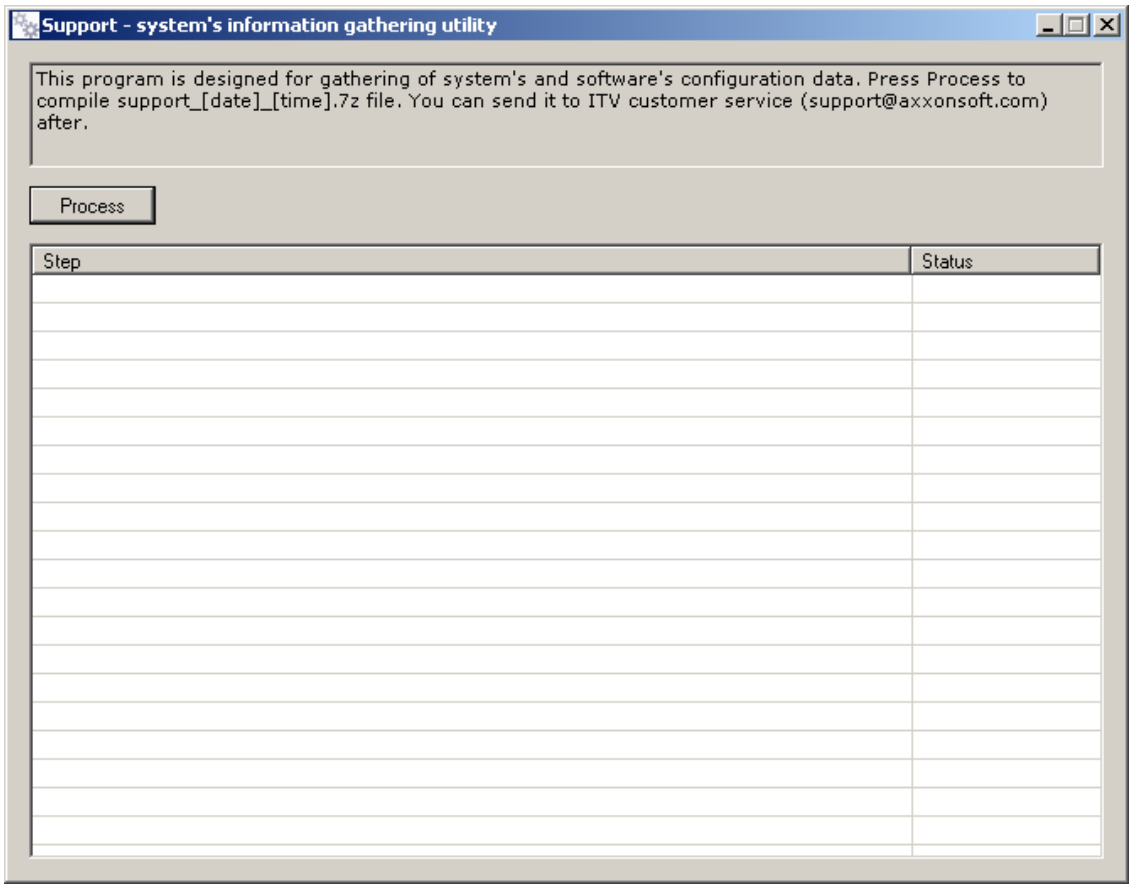


Figure 11.4-1. The Support dialog box

To close the Support.exe utility, click the Close button ( ).

11.4.3 The Support window

Start the utility from the Tools folder of the Intellect program folder. Example: C:\Intellect\Tools\Support.exe.

The Support dialog box will open (Figure 11.4-2).

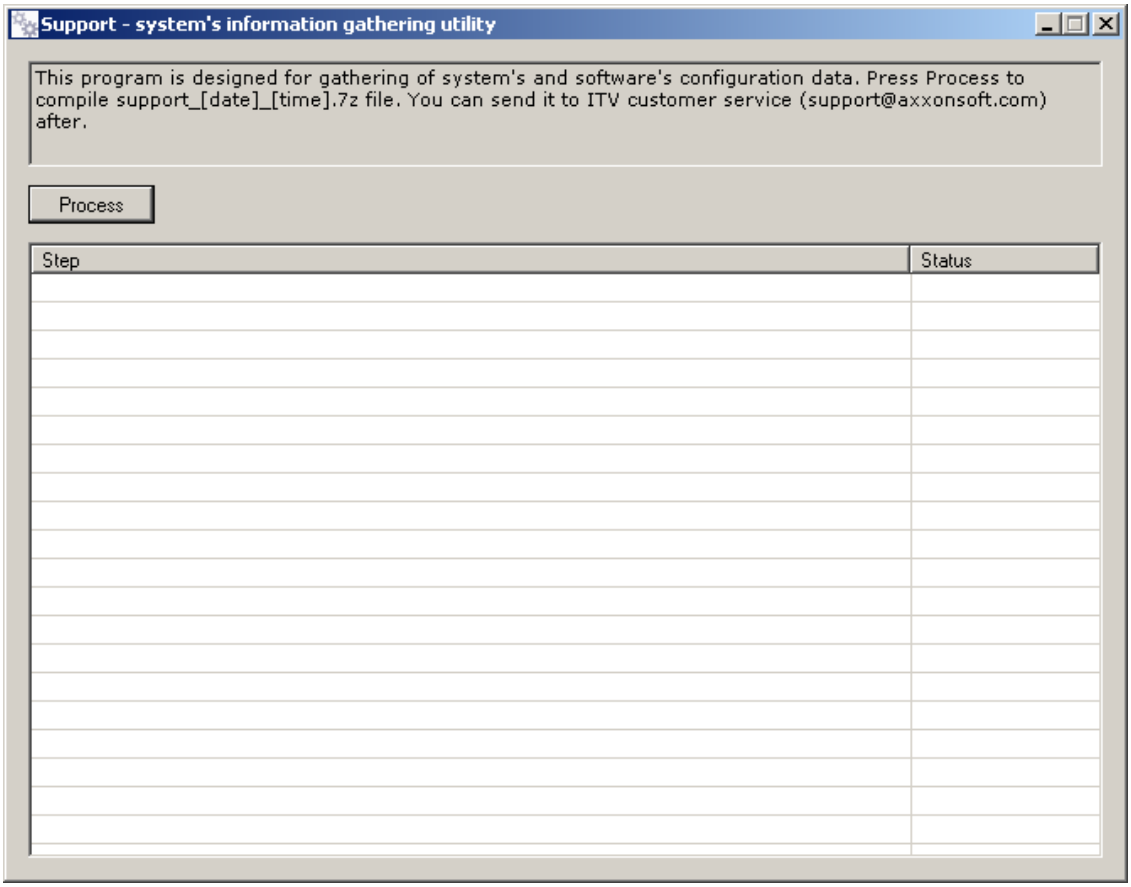


Figure 11.4-2. The Support dialog box

To close the Support.exe utility, click the Close button ( ).

11.4.4 Collecting information about videoservers and remote workstations using the Support.exe utility

To collect the information using the Support.exe utility, do the following:

1. Start the utility (see Starting the Support.exe Utility section).
2. Click the Collect button.

The data collection process will start. Upon completion, the "Completed!" message will be displayed in the Step column, while the information area will show the link to the newly generated file – support.7z (Figure 11.4-3).

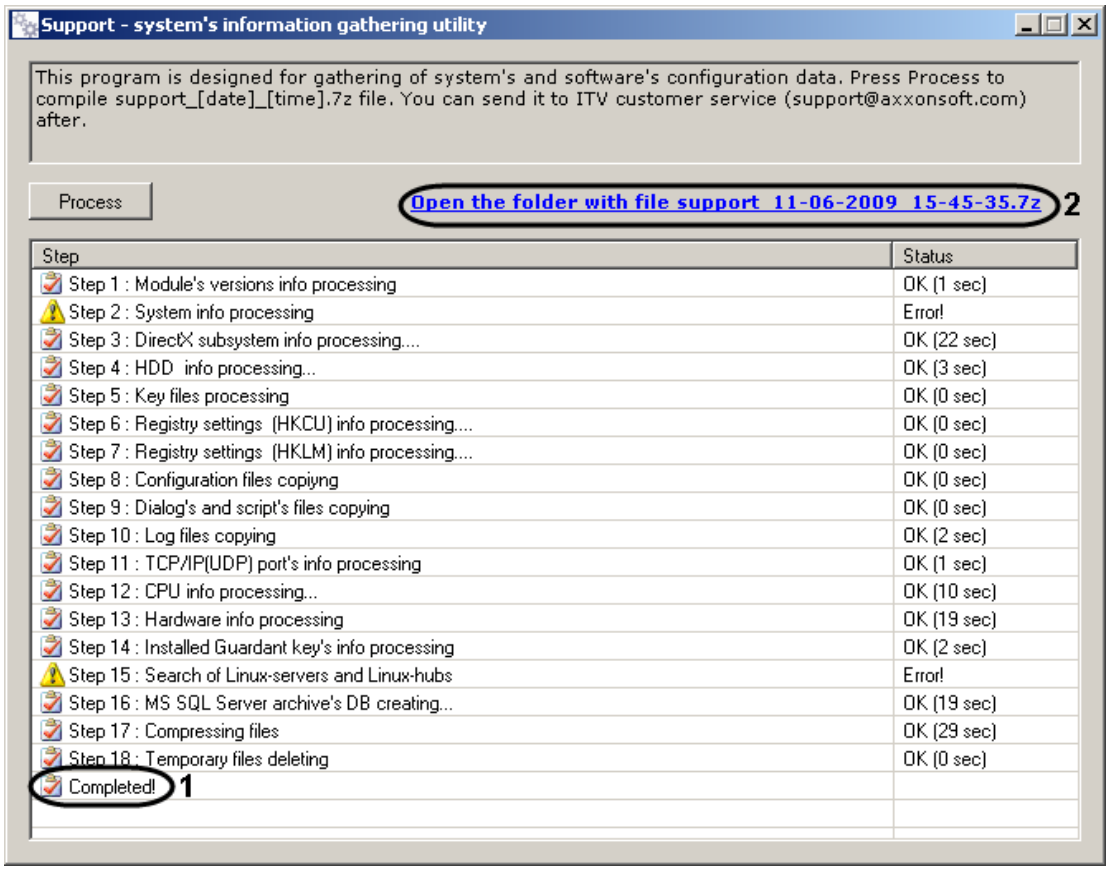


Figure 11.4-3. Completion of data collection

3. Follow the Open Folder with Support.7z File link to view the archive (Figure 11.4-4).

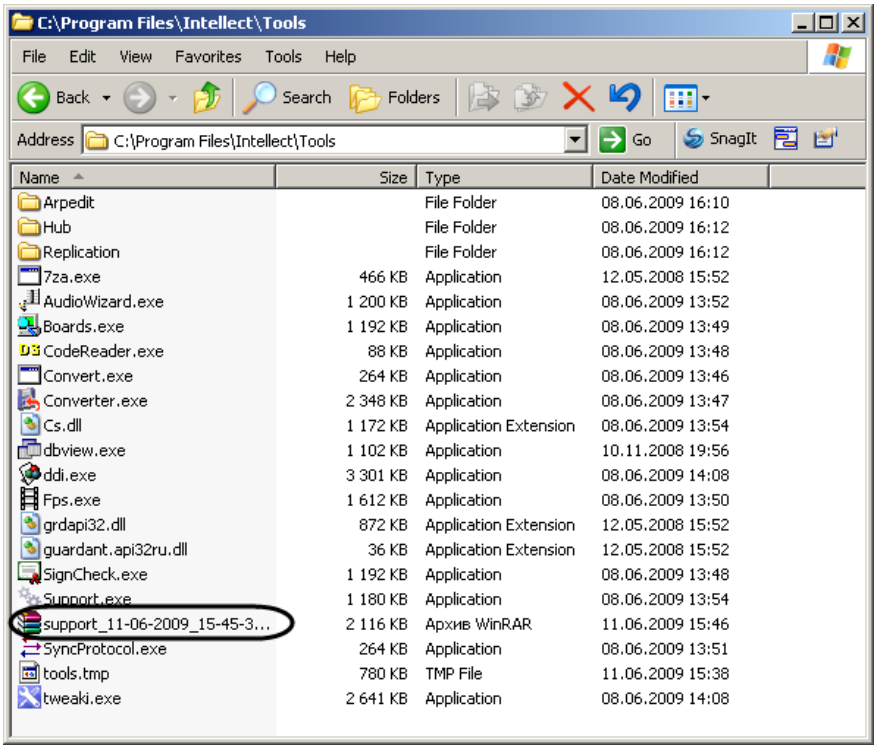


Figure 11.4-4. Newly generated support.7z archive

11.5 The AutoWizard.exe utility for extended setup of audio system components

11.5.1 The purpose of the AudioWizard.exe utility

The AutoWizard.exe utility is designed for extended setup of the audio system. It allows adjusting the sensitivity of the microphones and speakers volume, testing the operation of microphones, sound recording and playback.

11.5.2 Starting and closing the utility

To start the AudioWizard.exe utility, do one of the following:

1. Start the utility from the Windows taskbar. Click Start, then Programs, then Intellect, then Tools, then Adjustment of the Sound Subsystem (Figure 11.5-1).

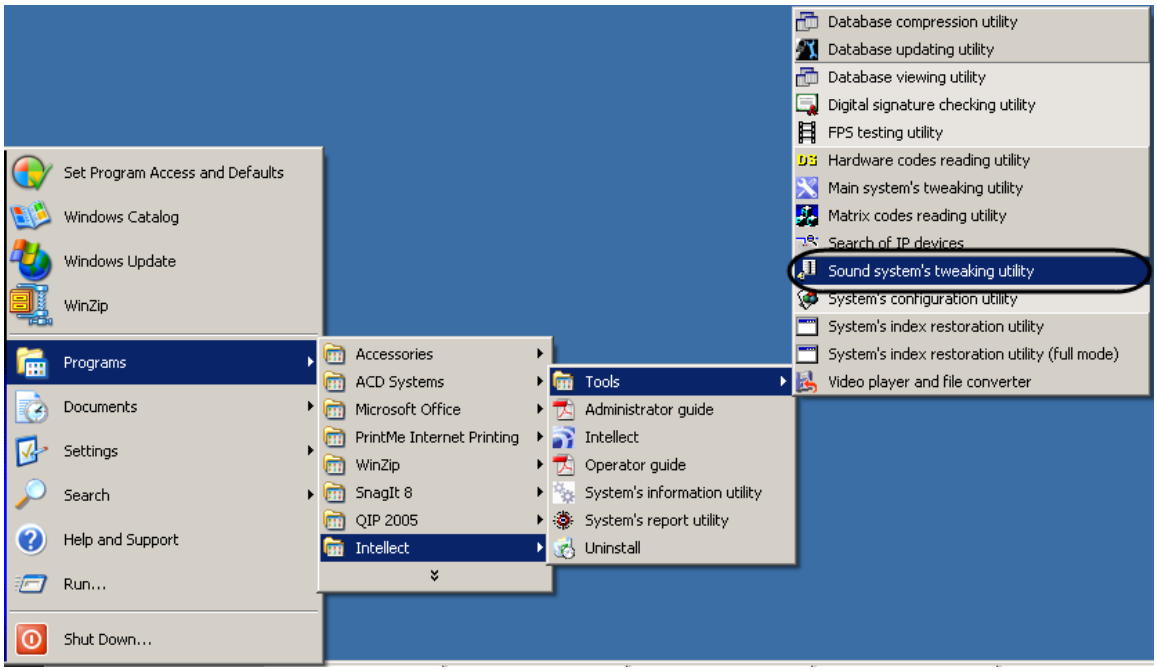


Figure 11.5-1. Starting the utility from the Windows taskbar

2. Start the utility from the Tools folder of the Intellect program folder. Example: C:\Intellect\Tools\AudioWizard.exe.

   The Audio Wizard dialog box will open (Figure 11.5-2).

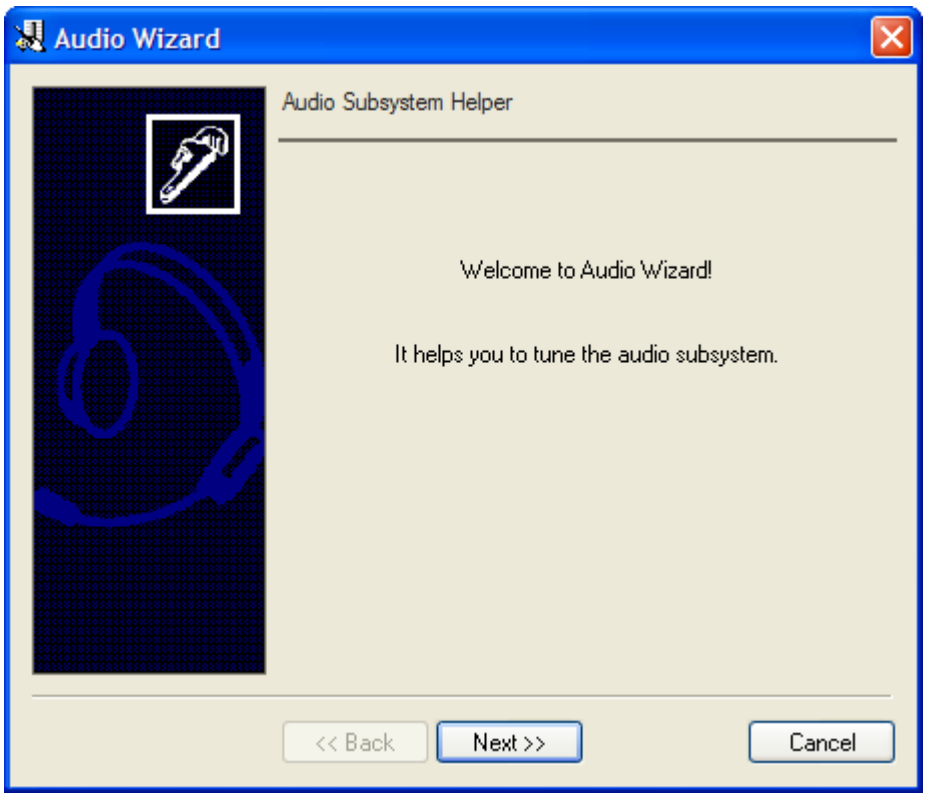


Figure 11.5-2. The Audio Wizard dialog window

To close the AudioWizard.exe utility, click the Close button ( ).

11.6 Setting up the audio subsystem using the AudioWizard.exe utility

To set up the audio subsystem using the AudioWizard.exe utility, do the following:

1. Start the utility (see Starting the AudioWizard.exe Utility section).
2. Click the Next button. The window shown in Figure 11.6-1 will open.

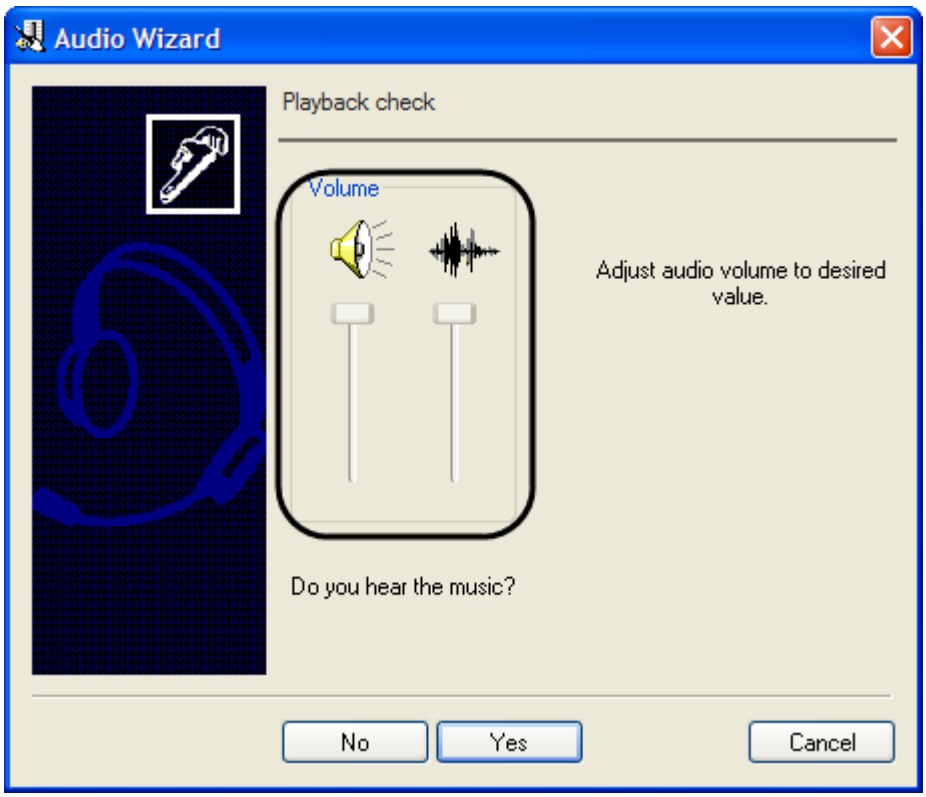


Figure 11.6-1. Audio adjustment window

Put on your headphones to listen to the sound file which will be played after the Next button is pressed.

If you hear the sound, click the Yes button and go to step 7. Otherwise, go to step 5.

Click the No button. A dialog box will open showing the recommendation in case the sound could not be heard (Figure 11.6-2).

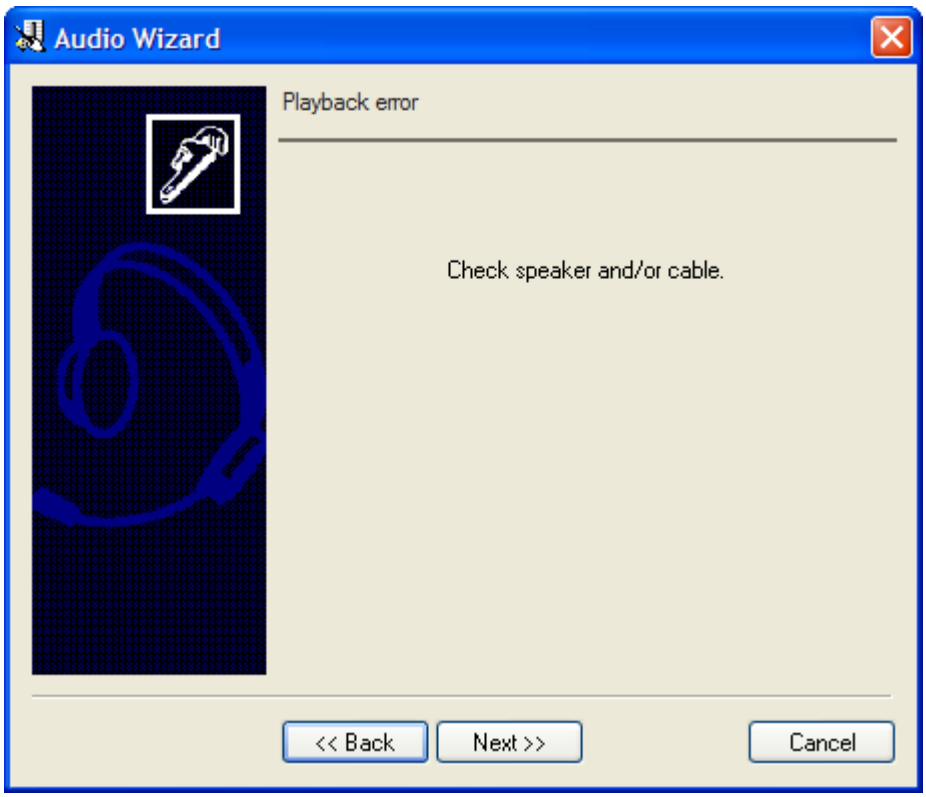


Figure 11.6-2. Dialog box with recommendations

3. Carry out the recommended actions and click the Back button. Repeat steps 1 to 4.
4. Speak into the microphone while listening to your voice in the headphones.
5. Listen Listen to the sound in the headphones. If you hear the sound coming from the microphone, click the Yes button and go to step 11. Otherwise, go to step 9.
6. Click the No button. A dialog box will open showing the recommendation in case the sound could not be heard (Figure 11.6-3).

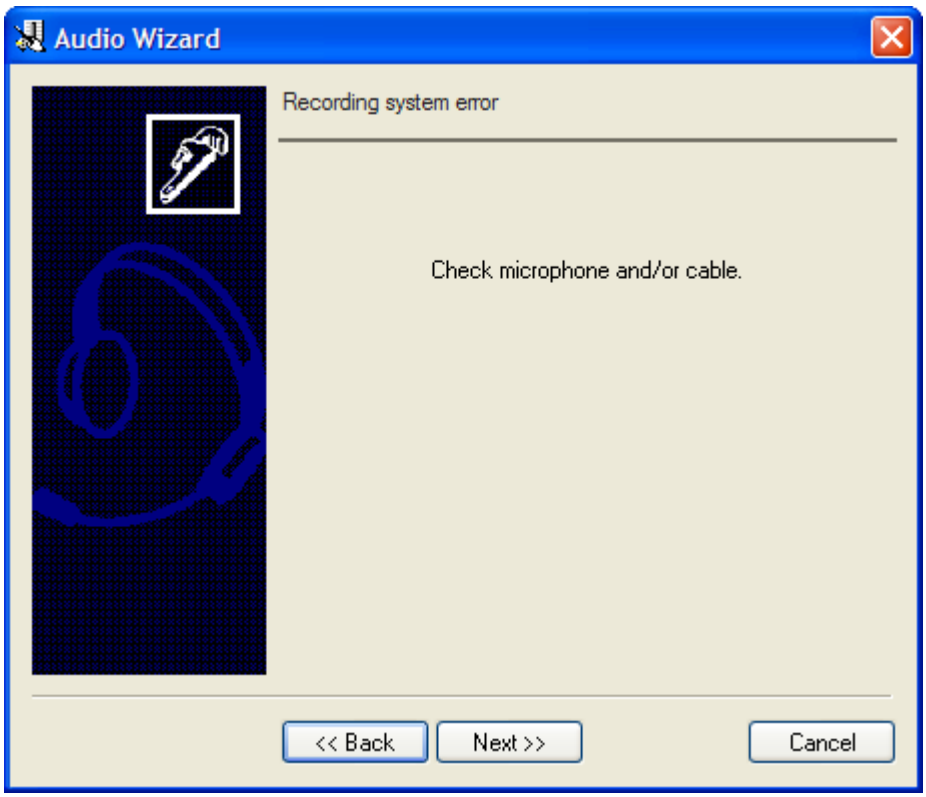


Figure 11.6-3. Dialog box with recommendations

7. Carry out the recommended actions and click the Back button. Repeat steps 1 to 8.

8. Make a recording from the microphone, according to the instructions in the dialog window to check the sound recording and click Next (Figure 11.6-4).

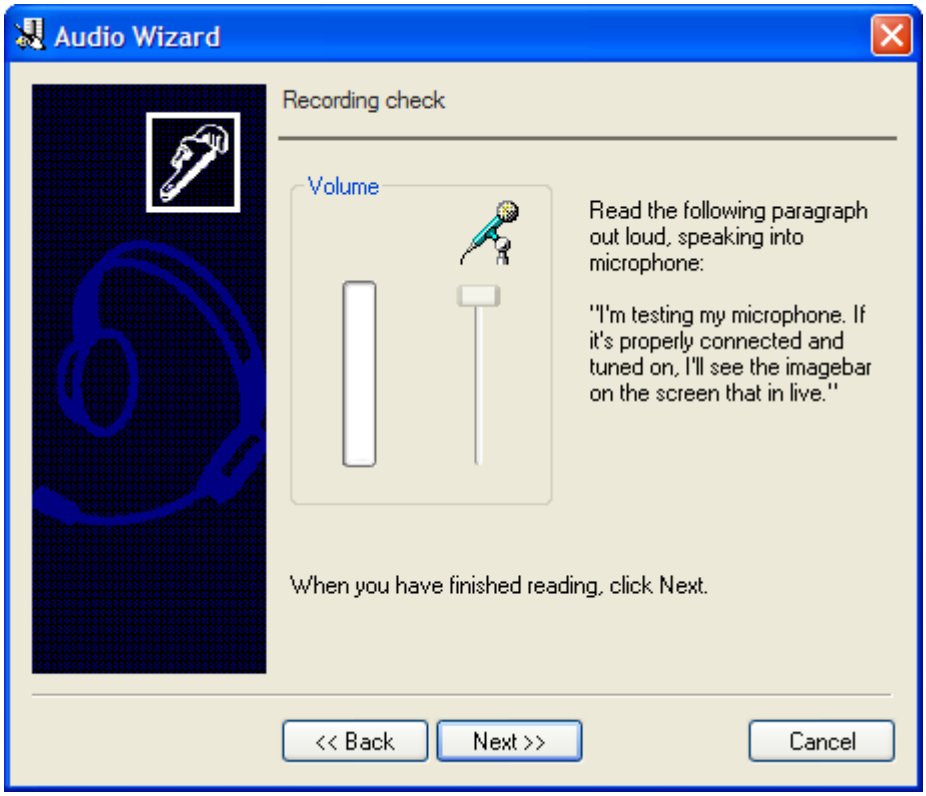


Figure 11.6-4. Sound recording testing

9. Listen for sound in the headphones. If you hear the sound, click the Yes button and go to step 14. Otherwise, go to step 13.

10. Click the No button. A dialog window will open recommending to consult the technical support specialists (Figure 11.6-5).

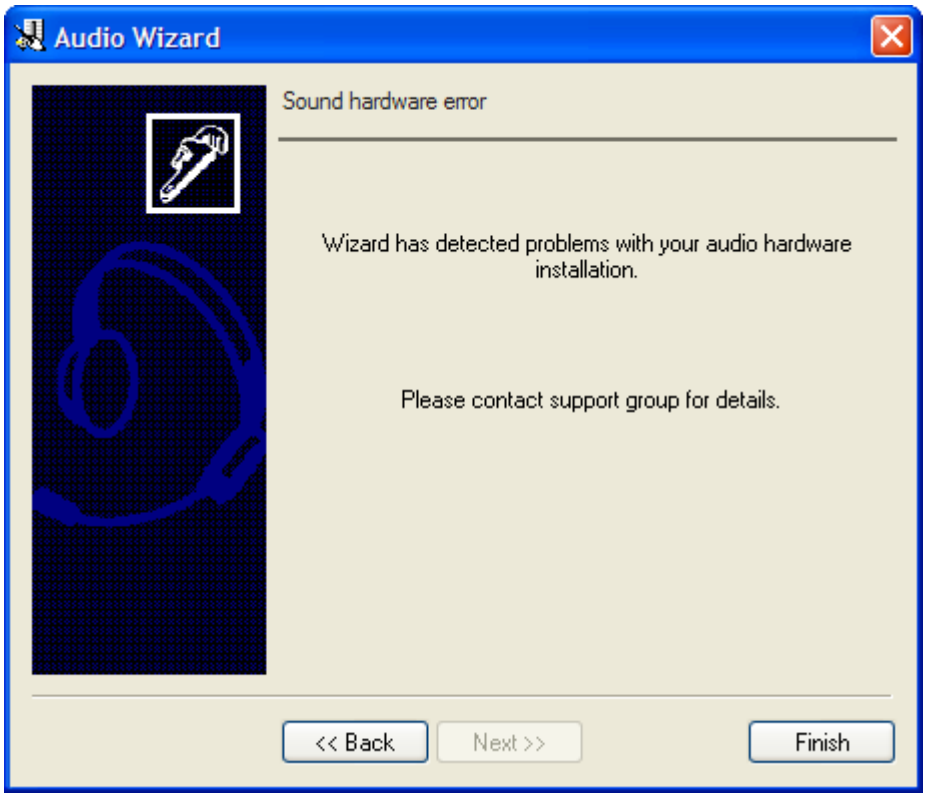


Figure 11.6-5. Audio subsystem test results

11. Click the Finish button.

In case of successful test results, the window shown in Figure 11.6-6 will open.

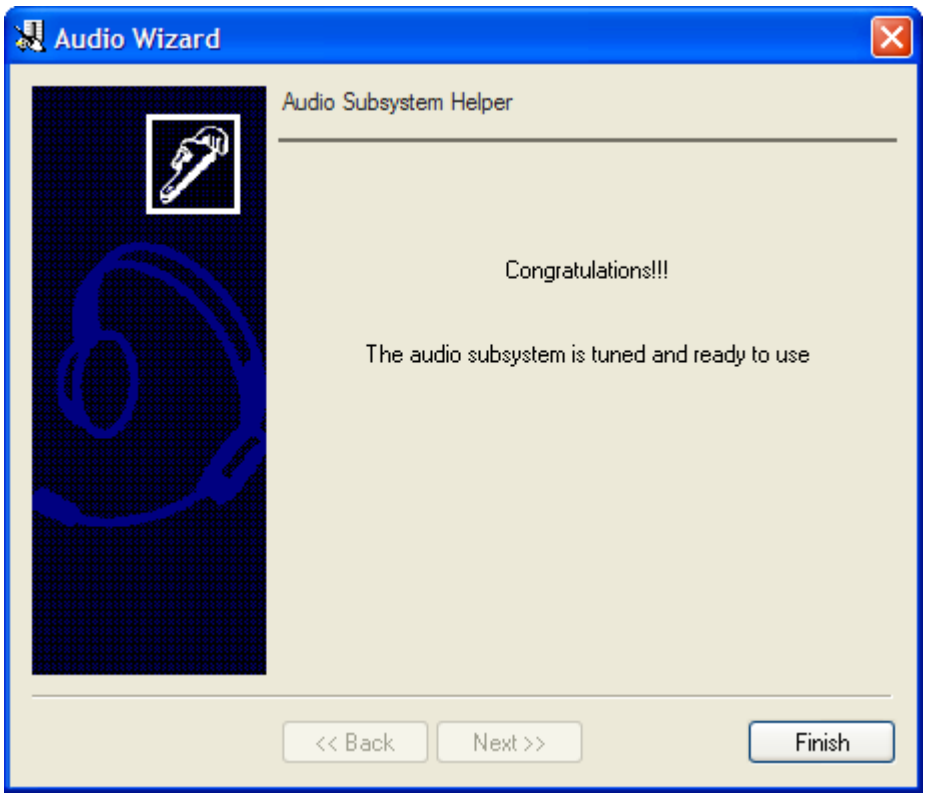


Figure 11.6-6. Audio subsystem setup success notification

11.7 The Fps.exe utility for productivity estimation

11.7.1 The purpose of the Fps.exe utility

Productivity measurement fps.exe utility is used to estimate productivity of video processing.

Estimation is done in the following way:

1. Segmentation of the given video fragment for a set of frames in jpeg format.

Note.If the video fragment is not set, the utility generates pattern set of frames. When necessary the utility may store the created set for fames to the selected directory.

2. Compression and/or decompression of the created frame set.
3. Calculation of productivity parameters- number of processed fps with defined resolution and colour.
4. Recording of productivity parameters to the file «<Intellect installation directory >\Tools\fps.txt».

NOTE. Compression is not available on the Cilent. Playback of a previously recorded video, or a video being received over the network in real time, is available.

11.7.2 Starting and closing the utility

To start fps.exe do one of the following procedures:

1. Start the utility from the Windows taskbar. Click Start, then Programs, then Intellect, then Tools, then FPS testing utility.

2. Start the utility from the Tools folder of the Intellect program folder: «<Intellect installation directory >\Tools\fps.exe» .

After starting the fps.exe utility there will be a dialog window «Video processing FPS tester»(Figure 11.7-1).

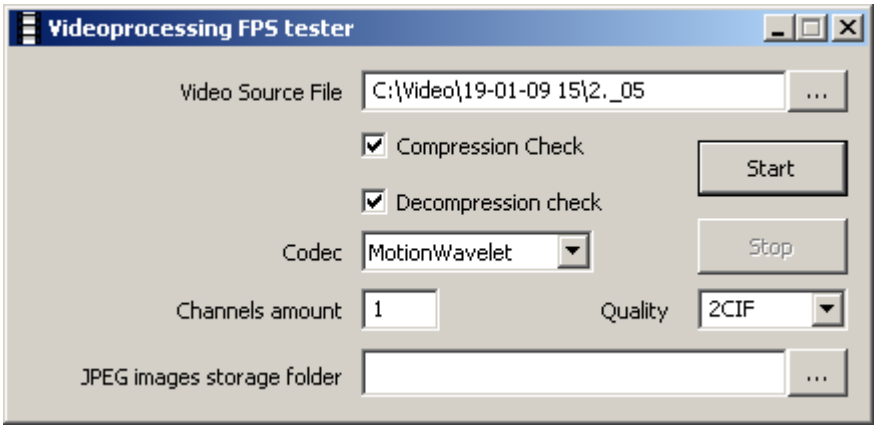


Figure 11.7-1. Dialog window of fps.exe.utility

To close fps.exe utility click «  » in the right upper corner of the utility's dialog window (Figure 11.7-1).

11.7.3 Using the Fps.exe utility

To check productivity of video processing do the following:

1. Start the fps.exe utility (See. Starting and closing the utility).

2. To set the file of video fragment click «  » button in the field Images storage folder anf in the Open standard Windows dialog window, that will open, select with a double mouse click the required file (Figure 11.7-2,1).

Note. To emulation the pattern set of framen, the field Video Source File is not entered.

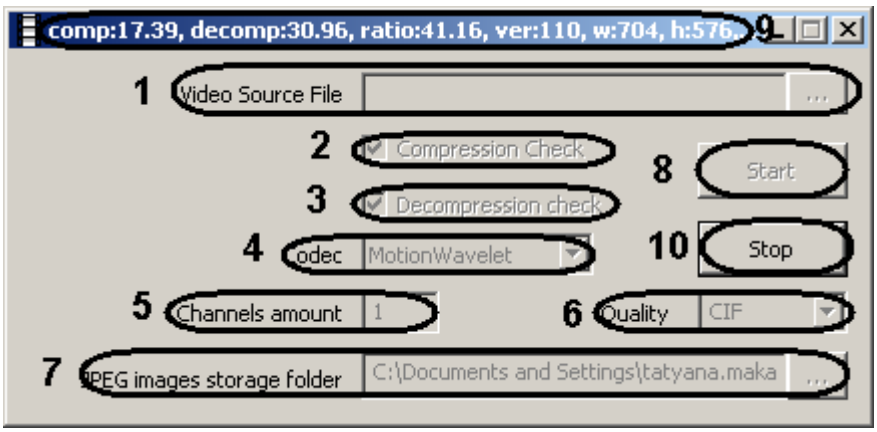


Figure 11.7-2. Video processing FPS tester

3. Activate Compression check checkbox to check how many fps the given computer can compress (Figure 11.7-2, 2).

4. Activate Decompression check checkbox to check how many fps the given computer can decompress(Figure 11.7-2, 3).

5. Select thr requiret compressor version from the dropdown list Codec (Figure 11.7-2, 4).

6. Enter the required number of emulated cameras in the field Channels amount (Figure 11.7-2, 5).

Note. This setting is actual only with emulation of pattern set of channels.

7. Select the required value of frames compression from the dropdown list Quality (inversely to compression level) (Figure 11.7-2, 6).

8. When necessary set the directory, where frames extracted from the video would be decompressed with the help of «  »button of the field « Jpeg images storage folder»(Figure 11.7-2, 7).

9. To start video processing tester click Start button (Figure 11.7-2, 8).

10. In result parameters of video processing productivity will be recorded to «<Intellect settings directory>\ Tools\ fps.txt» file (Table 11.7-1).

Note. These parameters are also displayed in the title bar of the utility window(Figure 11.7-2, 2-9).

Table 11.7-1

Productivity parameter	Description of parameter
comp	total number of frames that can be compressed in one second
decomp	total number of frames that can be decompressed in one second
ratio	compression ratio
ver	selected version of the compressor
w	frame width
h	frame height
color	if the frame is in color
count	number of compressor instances per CPU

11. If step 8 is compeleted, the frames for testing video processing will be recorded to thefiles jpeg storage folder (Figure 11.7-3).

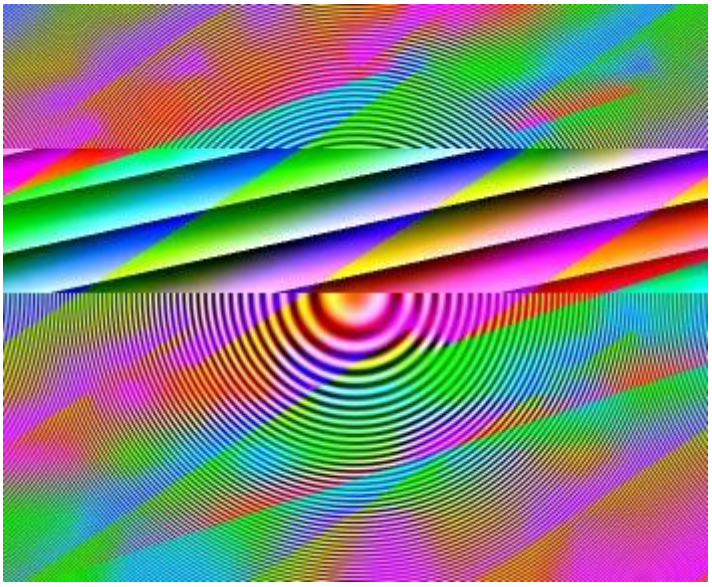


Figure 11.7-3. Example of emulated frame

12. To stop the testing process, click the Stop button (Figure 11.7-3, 10).

Testing productivity of video processing is completed.

11.8 The SignCheck.exe utility for checking the authenticity of exported frames and video recordings

11.8.1 The purpose of the SignCheck.exe utility

The SignCheck.exe utility is designed for checking the authenticity of a frame exported into BMP or JPEG format using the Converter.exe utility.

11.8.2 Starting and closing the utility

To start the SignCheck.exe utility, do one of the following:

1. Start the utility from the Windows taskbar. Click Start, then Programs, then Intellect, then Tools, then Check of the Digital Signature (Figure 11.8-1).

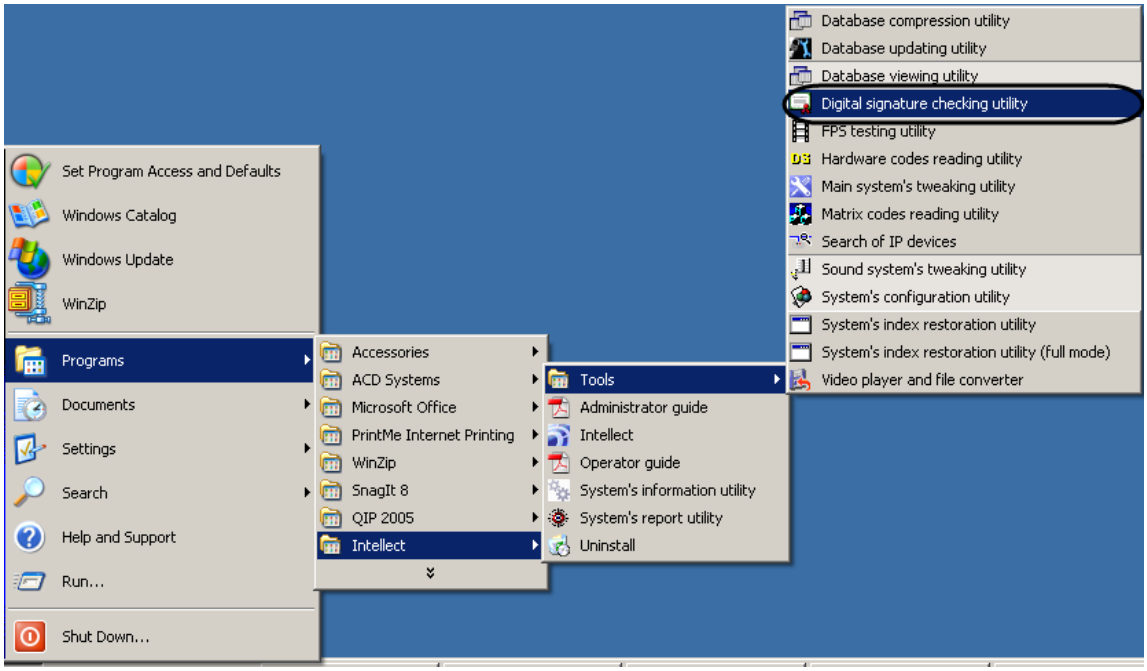


Figure 11.8-1. Starting the utility from the Windows taskbar

2. Start the utility from the Tools folder of the Intellect program folder. Example: C:\Intellect\Tools\SignCheck.exe.

The SignCheck dialog box will open (Figure 11.8-2).

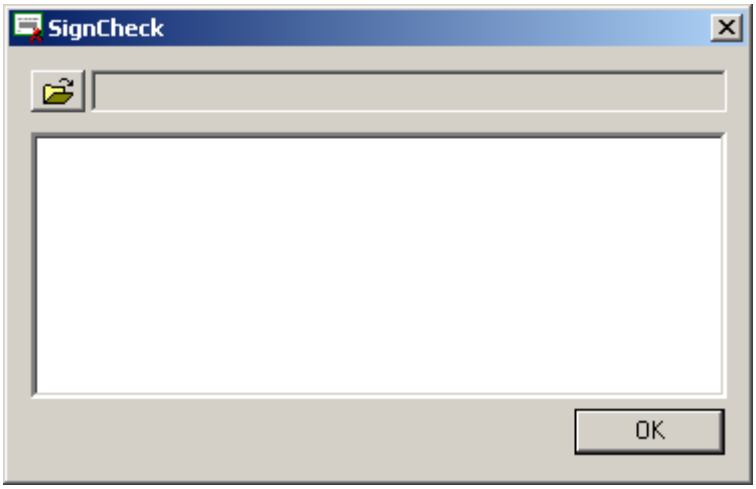


Figure 11.8-2. The SignCheck dialog box

To close the SignCheck.exe utility, click the Close button ( ).

11.8.3 Using the SignCheck.exe utility

To verify the frame authenticity, do the following:

1. Start the utility (see Starting the SignCheck.exe Utility section).
2. Select the file with exported frame to check, using the button and a standard dialog box for opening files.

The SignCheck window will show the information about the selected frame (Figure 11.8-3).

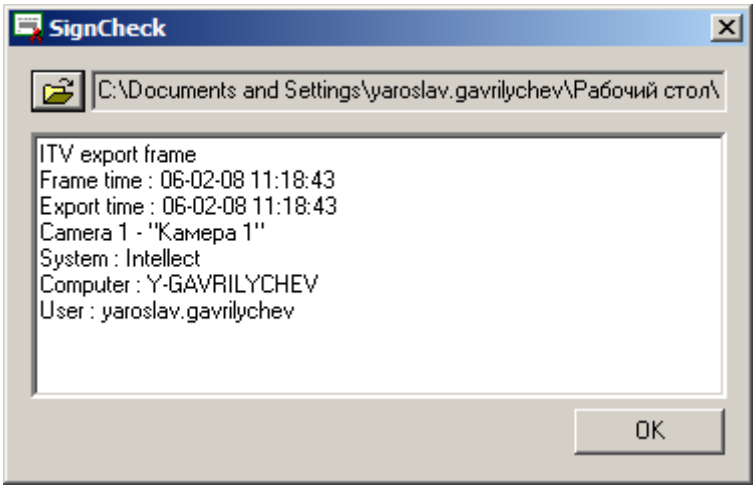


Figure 11.8-3. Information about the selected frame

The following information is displayed:

1. ITV export frame – digital signature title
2. Frame time – date and time stamp of this frame in the recording
3. Export time – date and time of exporting this frame to a file
4. Camera – ID of the camera from which the recording was made

5. System – the software that made the recording
6. Computer – name of the computer this software is installed on
7. User – user name of this computer.

If the frame cannot be authenticated, or the digital signature is missing, the “Verification failed” message will be displayed.

11.9 The Convert.exe utility for correcting modification dates of video archives

11.9.1 The purpose of the Convert.exe utility

The Convert.exe utility is designed for restoring changed creation dates of video archive files. For example, file creation dates may be changed (corrupted) while transferring an archive from one computer to another. This may lead to incorrect playback of the archive.

11.9.2 Starting and closing the utility

Start the utility from the Tools folder of the Intellect program folder. Example: C:\Intellect\Tools\Convert.exe.

The Convert.exe utility dialog box will open (Figure 11.9-1).

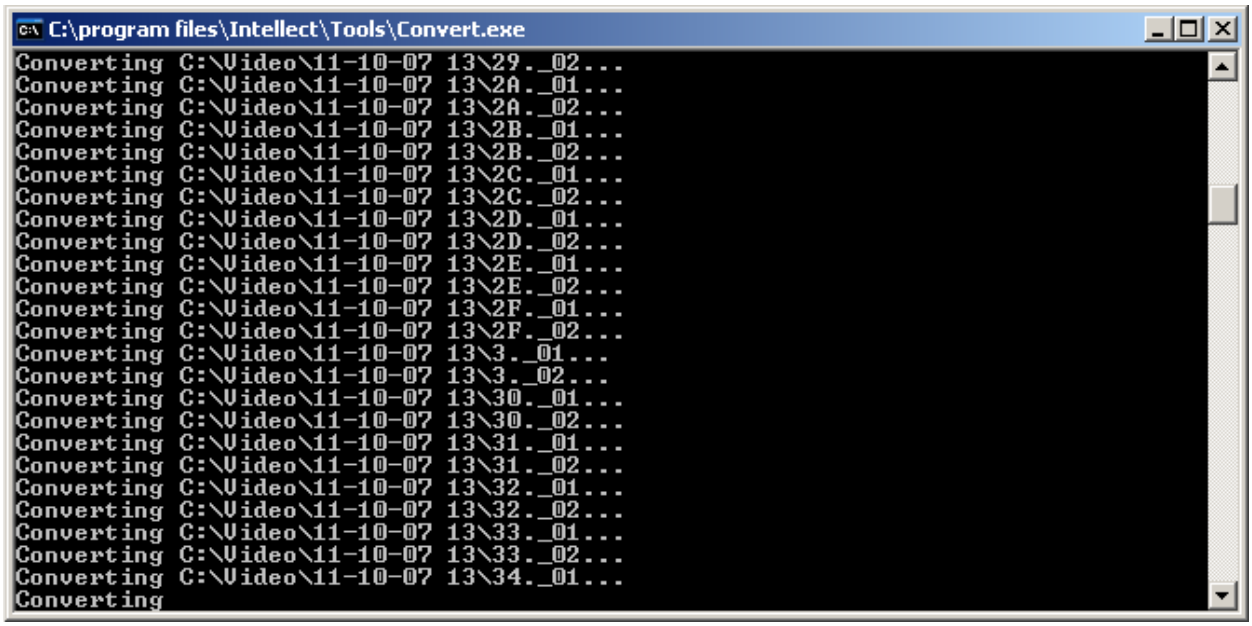


Figure 11.9-1. The Convert.exe dialog box

To close the Convert.exe utility, click the Close button ().

11.9.3 Restoring changed creation dates using the Convert.exe utility

The Convert.exe utility allows restoring the creation date of a video archive file.To make the restoration, start the utility (see the *Starting the Convert.exe Utility* section). A console window will open starting the process of searching the Video folder on each of the available disks. Then, replacing of modification date for creation date will start automatically. This process will take some time depending on the archive size. For example, restoring dates in a 500 MB archive will take about 10 seconds. When all dates are replaced, the Convert.exe window will close by itself.

11.10 The Dbview.exe utility for viewing the contents of databases

11.10.1 The purpose of the Dbview.exe utility

The Dbview.exe utility is designed for viewing and editing MS Access databases.

NOTE. The utility can handle only small databases.

11.10.2 Starting and closing the utility

To start the Dbview.exe utility, do one of the following:

1. Start the utility from the Windows taskbar. Click Start, then Programs, then Intellect, then Tools, then View the Database (Figure 11.10-1).

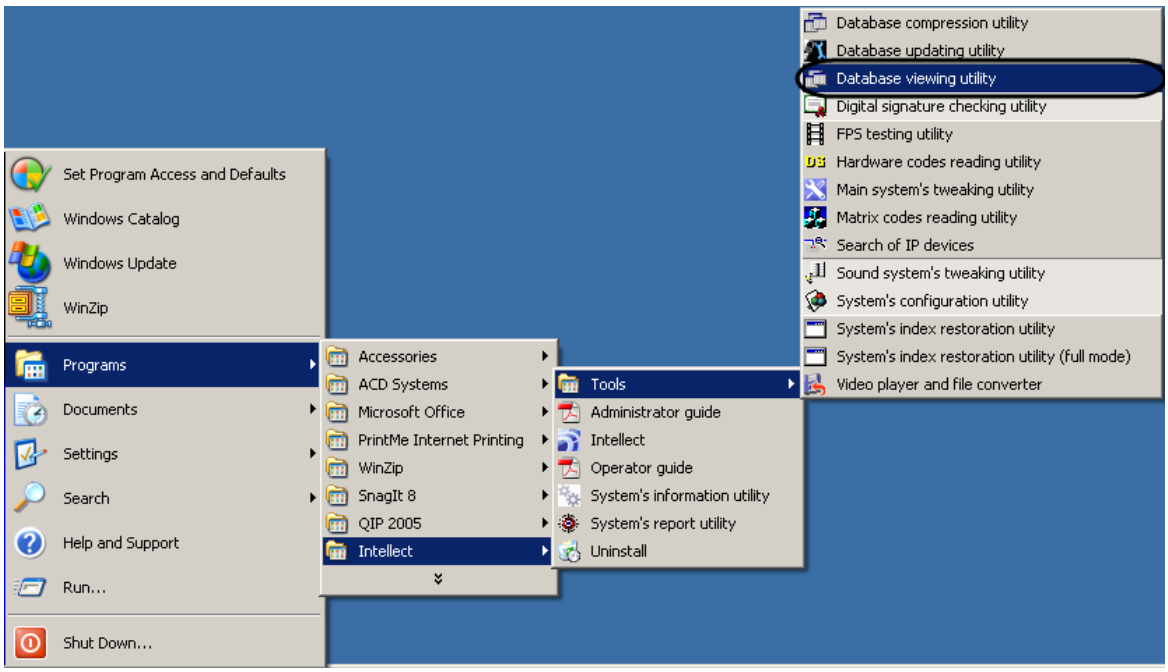


Figure 11.10-1. Starting the utility from the Windows taskbar

2. Start the utility from the Tools folder of the Intellect program folder. Example: C:\Intellect\Tools\Dbview.exe.

The DBView dialog box will open (Figure 11.10-2).

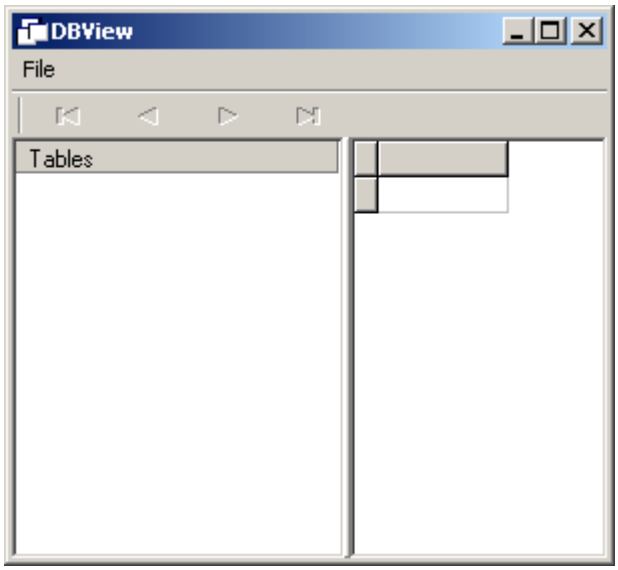


Figure 11.10-2. The Dbview.exe dialog window

To close the Dbview.exe utility, click the Close button ().

11.10.3 Interface elements of the DBView window

The DBView window contains the following interface elements:

1. Main menu.
2. The buttons for navigating the records (left to right): first, previous, next, last, delete, edit, save changes.
3. Object list.
4. Contents of the selected object.

Figure 11.10-3 shows the DBView window.

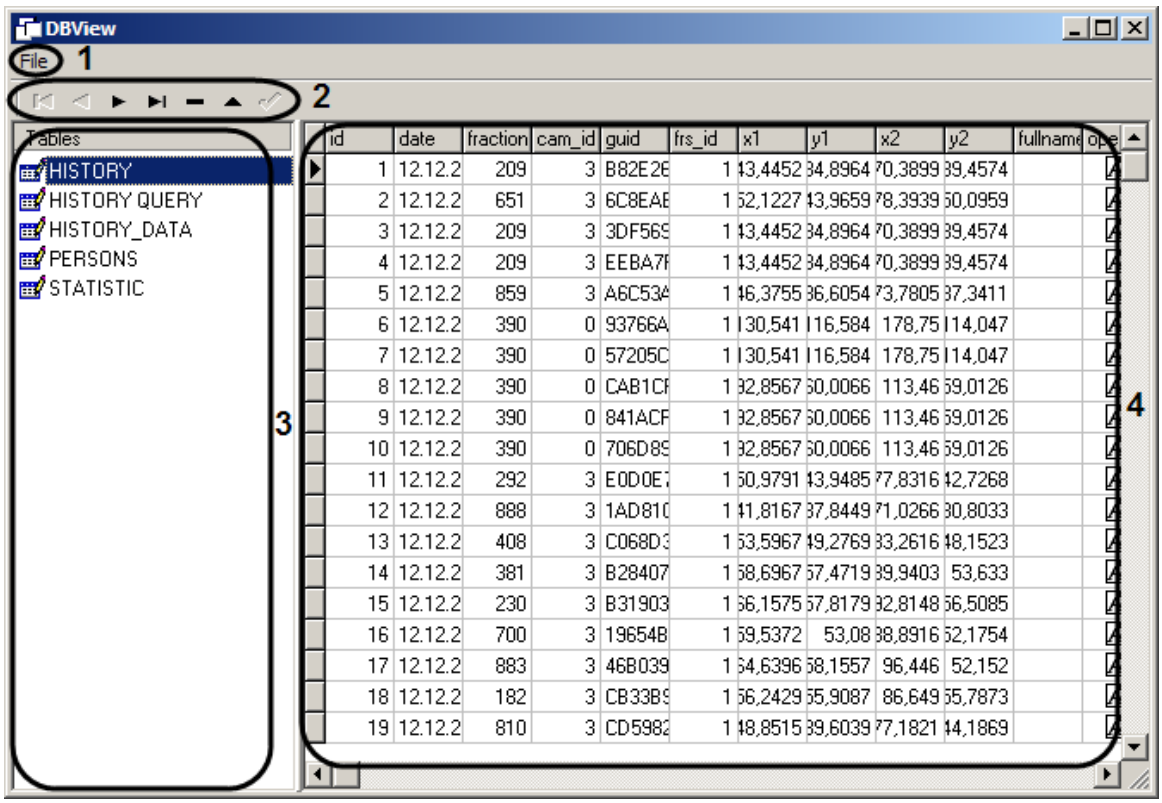


Figure 11.10-3. Interface elements of the DBView window

11.10.4 Viewing database contents using the Dbview utility

To view an MS Access database, do the following:

1. Start the utility (see Starting the Dbview.exe Utility section).

2. In the File menu, select Open Database for Reading (Figure 11.10-4).

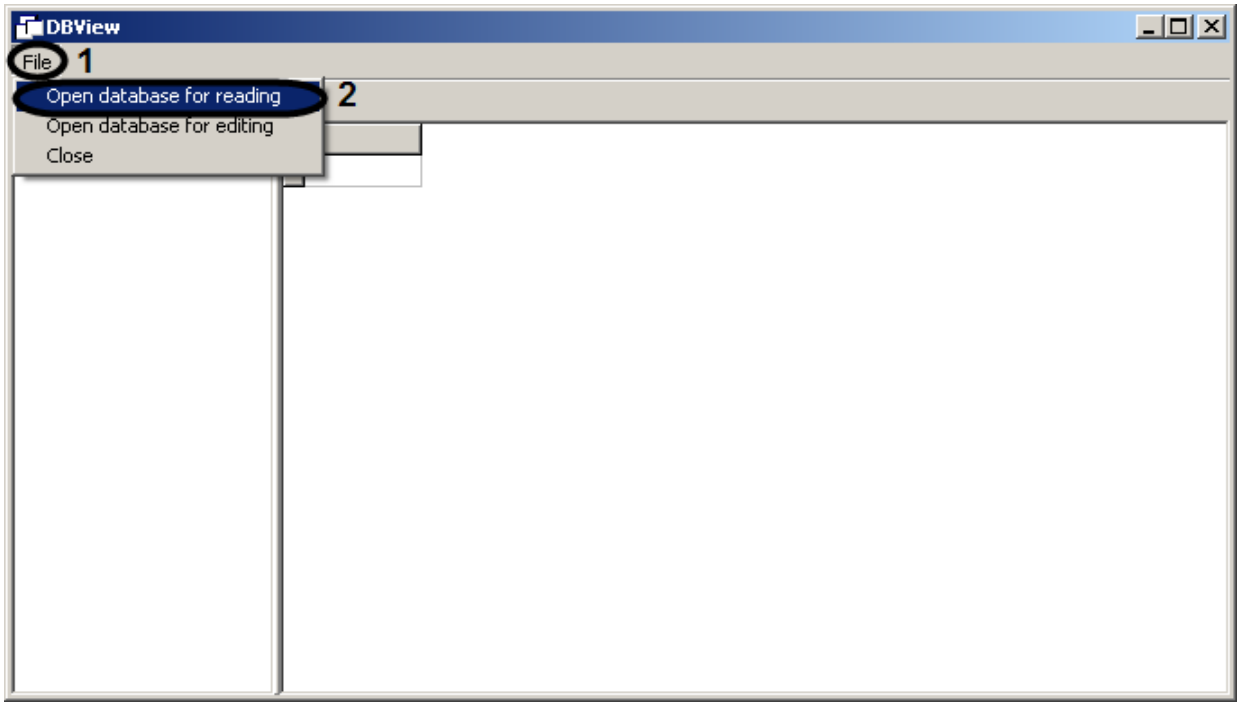


Figure 11.10-4. Selecting the database for viewing

3. Select the database (see the Selecting an MS Access Database and Setting up Its Parameters section). The list of objects in the database will be displayed in the Tables field.

4. Select an object in the list by double-clicking it (Figure 11.10-5).

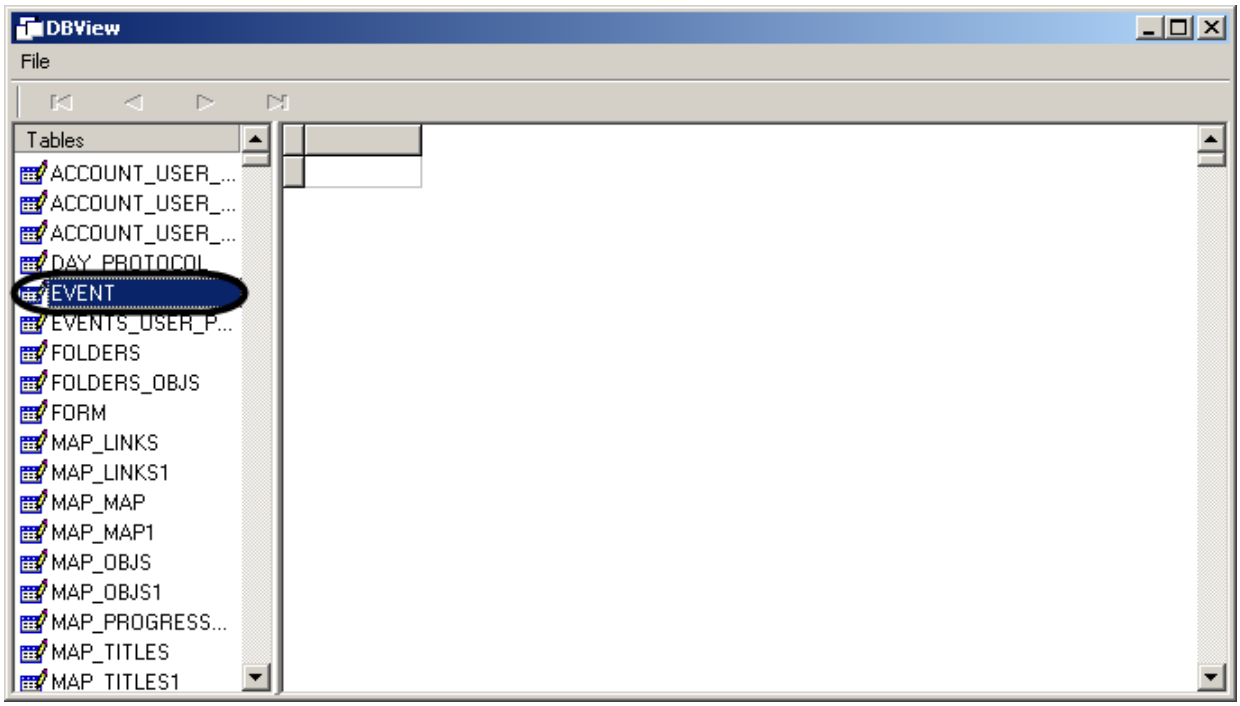


Figure 11.10-5. Selecting an object

The object contents open on the right side of the window (Figure 11.10-6).

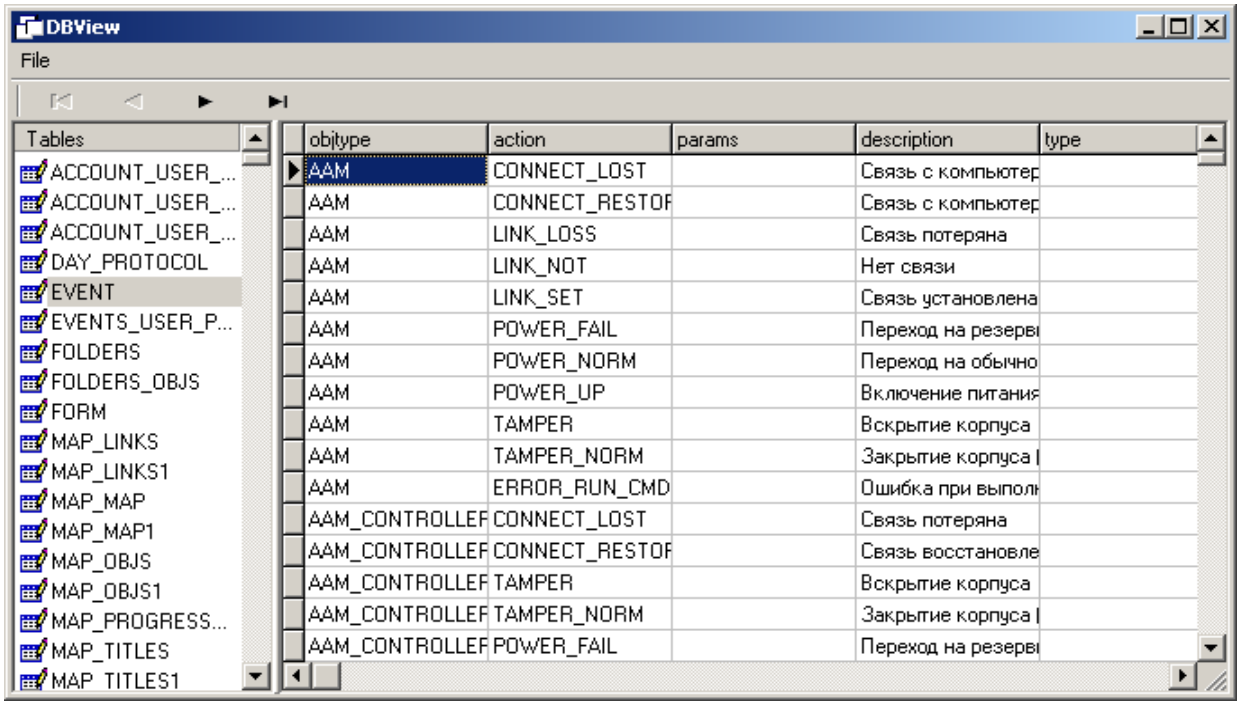


Figure 11.10-6. Contents of the selected object

To navigate through the records, click the right or left mouse buttons, or the navigation buttons in the toolbar.

11.10.5 Editing database contents using the Dbview.exe utility

To edit an MS Access database, do the following:

1. Start the utility (see Starting the Dbview.exe Utility section).
2. In the File menu, select Open Database for Editing (Figure 11.10-7).

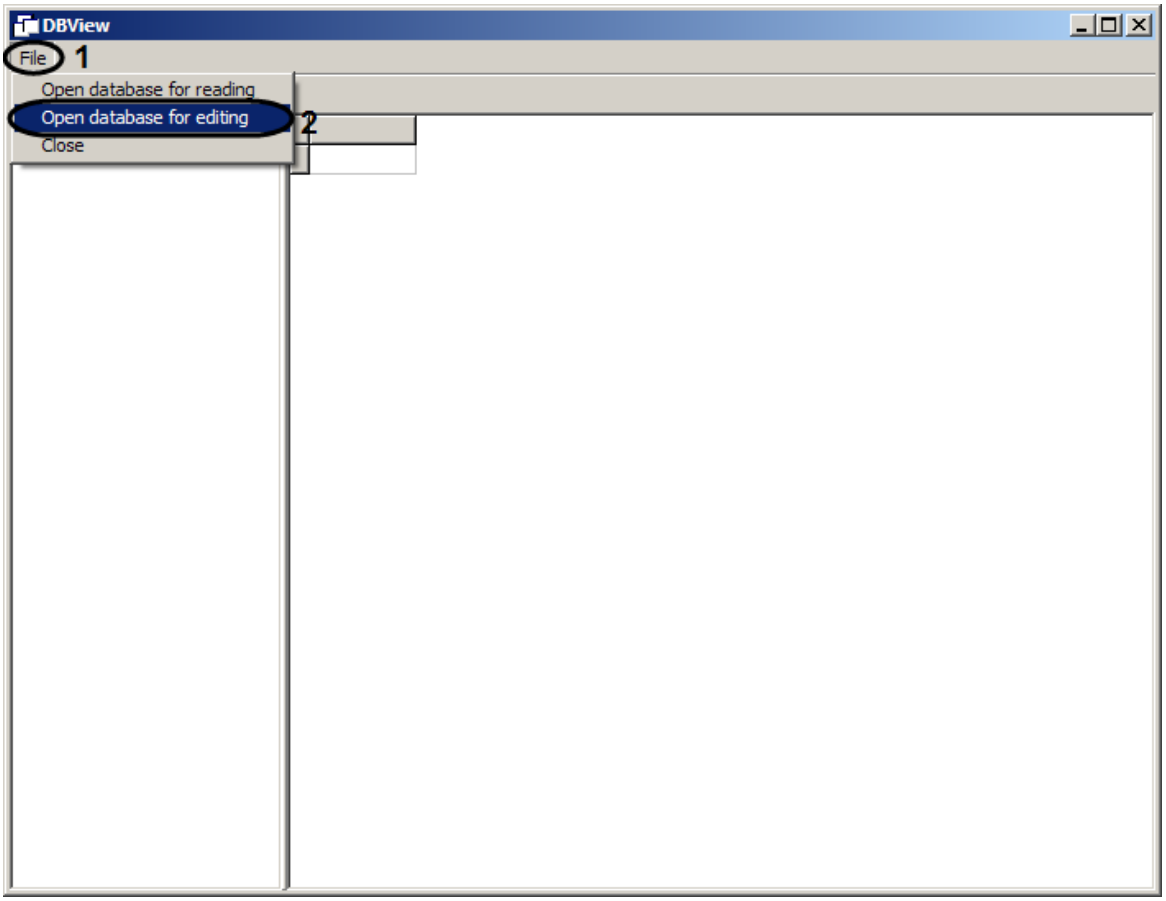


Figure 11.10-7. Selecting the database for editing

3. Select the database (see the Selecting an MS Access Database and Setting up Its Parameters section). The list of objects in the database will be displayed in the Tables field.
4. Select an object in the list by double-clicking it (Figure 11.10-8).

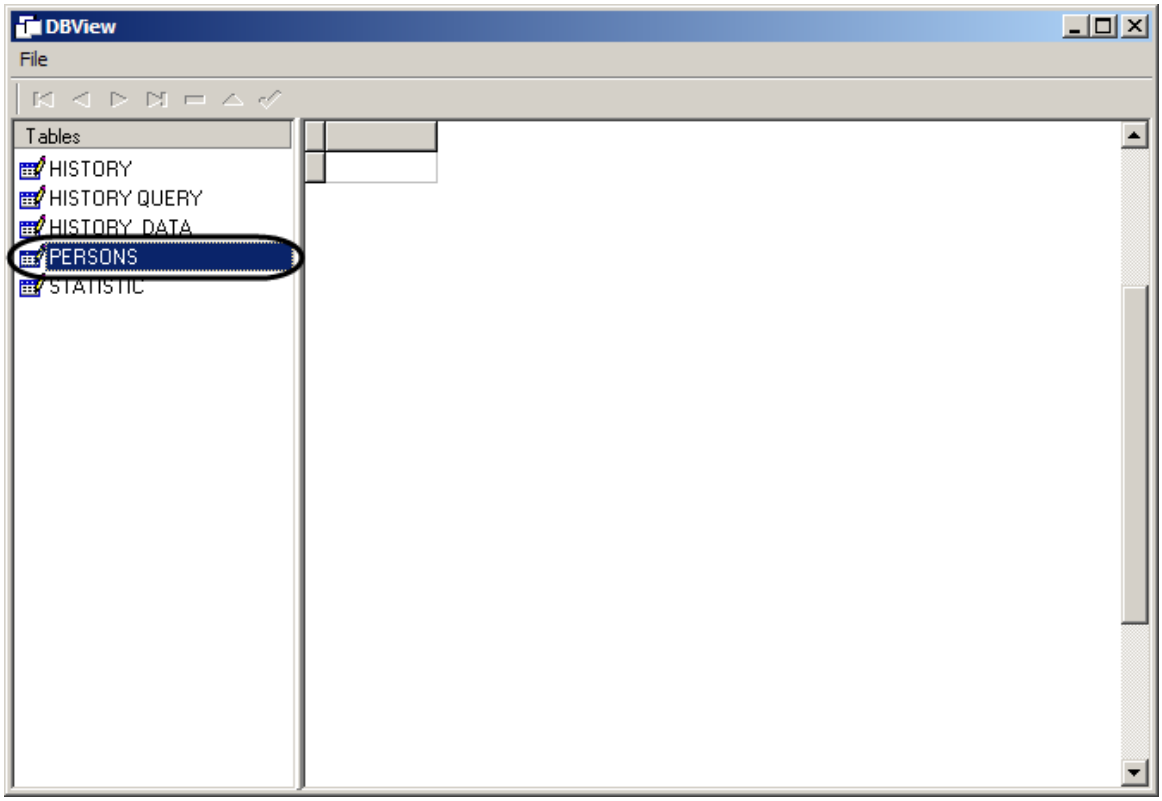


Figure 11.10-8. Selecting an object

The object contents will open on the right side of the window (Figure 11.10-9).

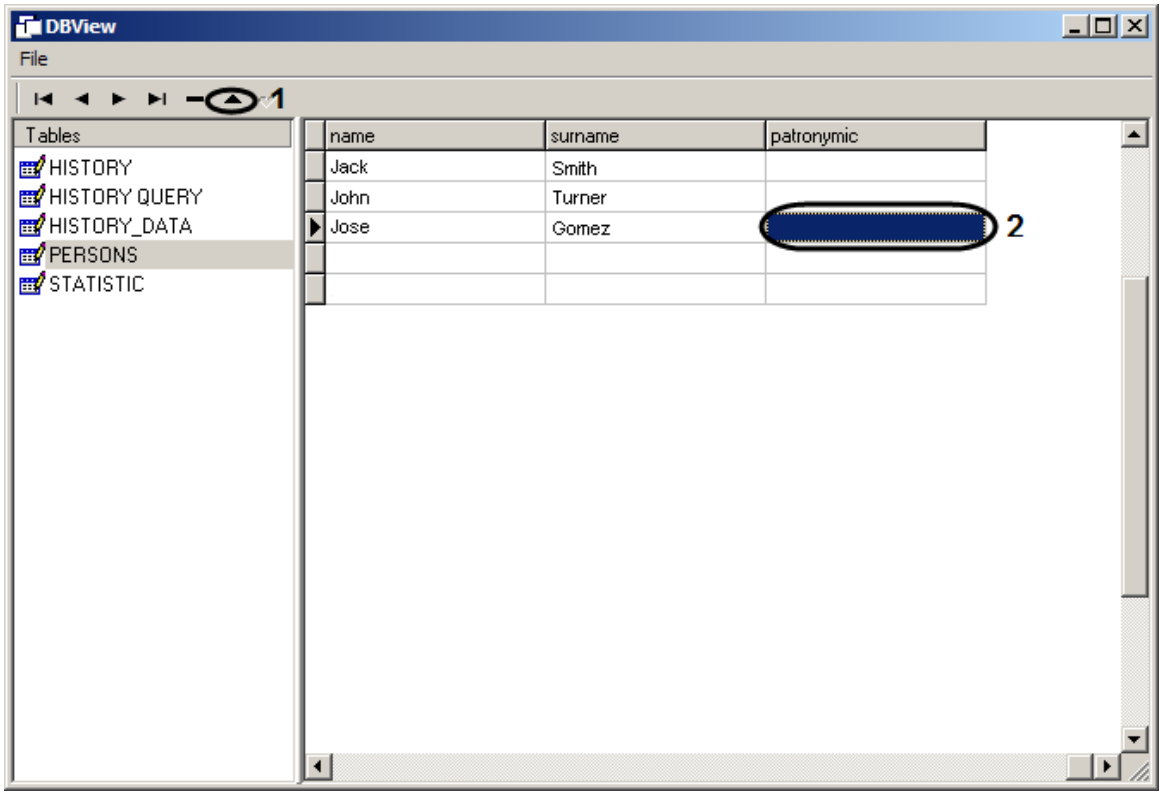


Figure 11.10-9. Contents of the selected object

5. To navigate through the records, click the right or left mouse buttons, or the navigation buttons in the toolbar.

6. To edit the selected record, click it or click the button marked as 1 in Figure 11.10-10.

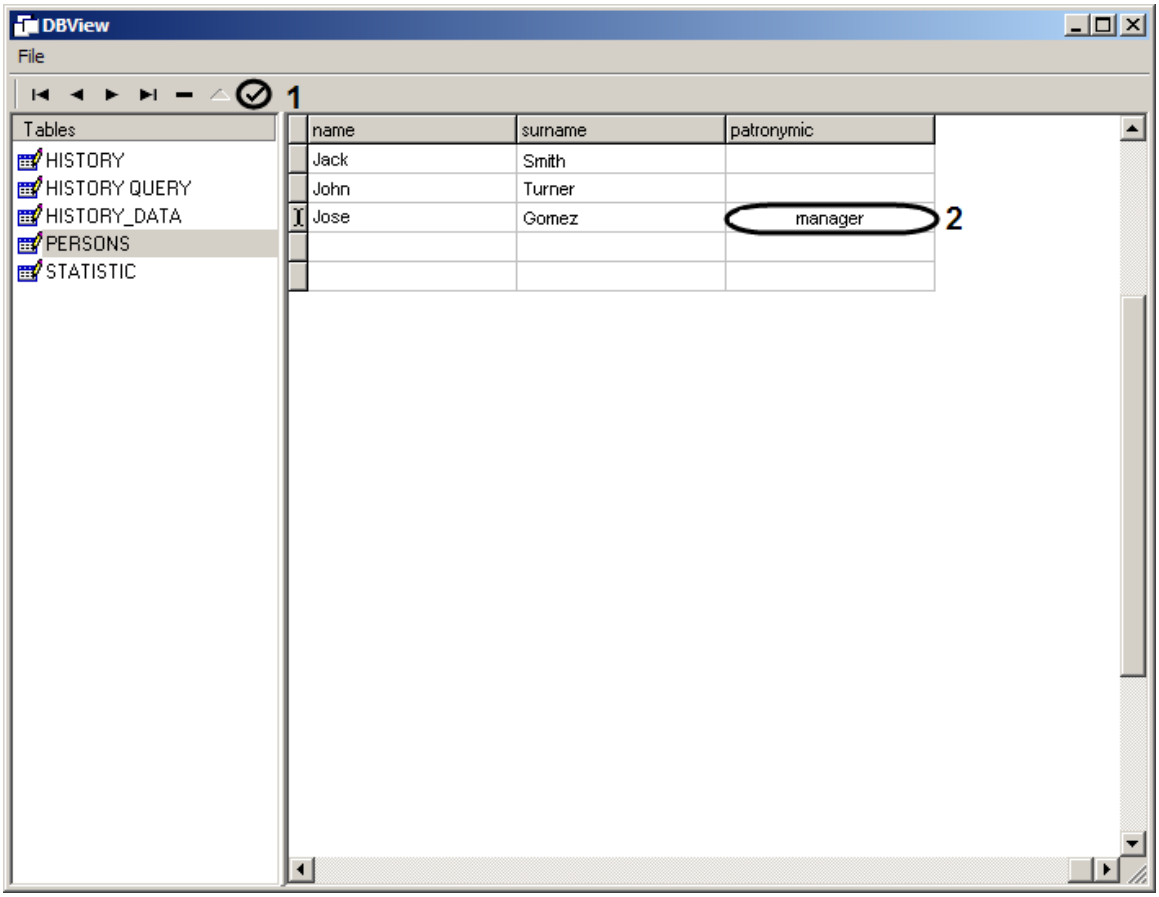


Figure 11.10-10 Editing the contents of the selected object

To save the changes, press Enter on the keyboard, or click the button marked as 1 in Figure 11.10-10.

7. To delete the selected record, click the button marked as 1 in Figure 11.10-11).

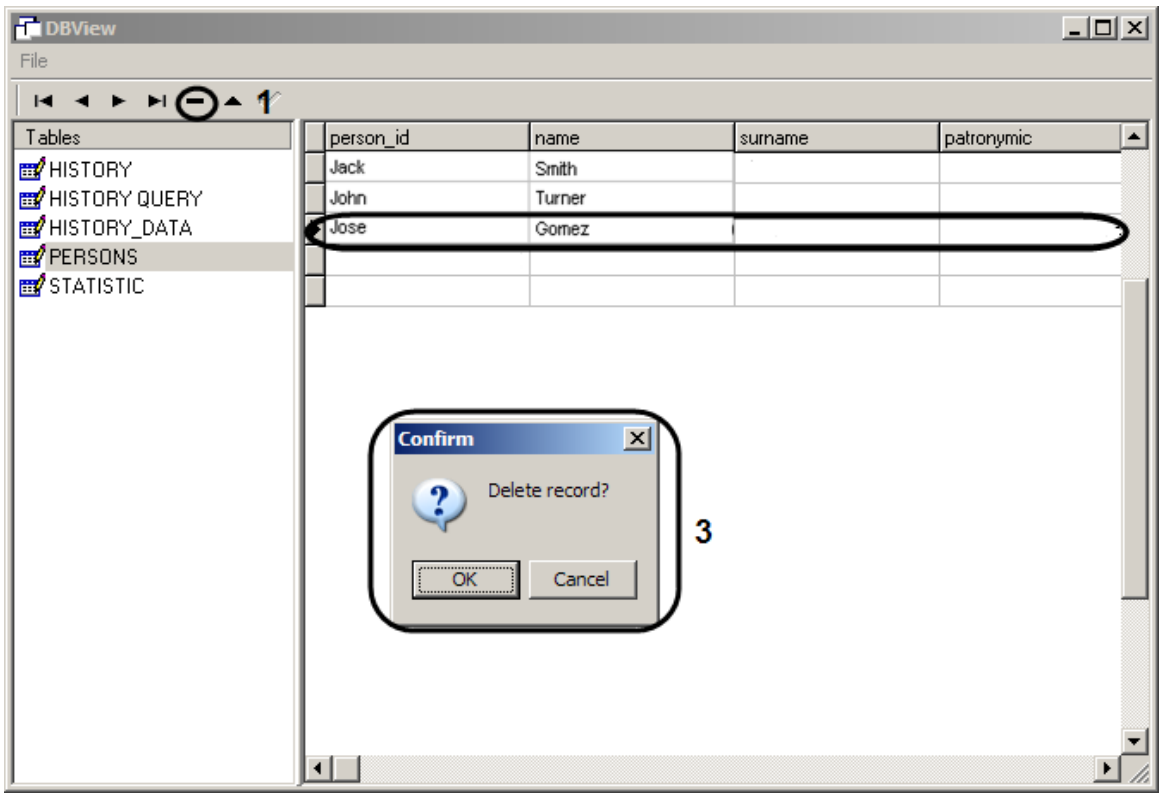


Figure 11.10-11. Deleting a record

Click OK in the dialog box that will open.

11.11 The ddi.exe utility for editing database templates and external settings files

The ddi.exe utility is designed for editing external system settings files (*.ddi) and the templates of the main database (intellect.dbi, intellect.ext.dbi).

Start the utility from the Tools folder of the Intellect program folder. Select Language in the File menu to change the interface language of the utility window.

After the changes are made to *.ddi and/or *.dbi files, update the main database. This can be done by selecting Update Data in the Tools menu or by using the idb.exe utility.

The utility dialog window is shown in Figure 11.11-1.

11.11.1 Editing intellect.dbi and intellect.ext.dbi database templates using the ddi.exe utility

To edit the template of the main database, open it using File – Open menu. The template files are located in the root of the Intellect program folder.

Intellect.dbi file contains the list of main tables and fields of the database. User-defined tables and fields are stored in a separate file – intellect.ext.dbi. This file is made separate from the main file, to eliminate the need to re-insert user-defined tables and fields into the main file, in case of Intellect system update. The contents' of these files are merged upon Intellect start-up.

*NOTE. Specify the DBI File in the File Types field of the dialog box for opening files. Otherwise, the dialog box will not show *.dbi files in the folder.*

To view the database template, open the DBI tab in the top left corner of the window. The list of the tables of the main Intellect database will be displayed in the left panel. The right panel will show the list of fields of a selected database (Figure 11.11-1).

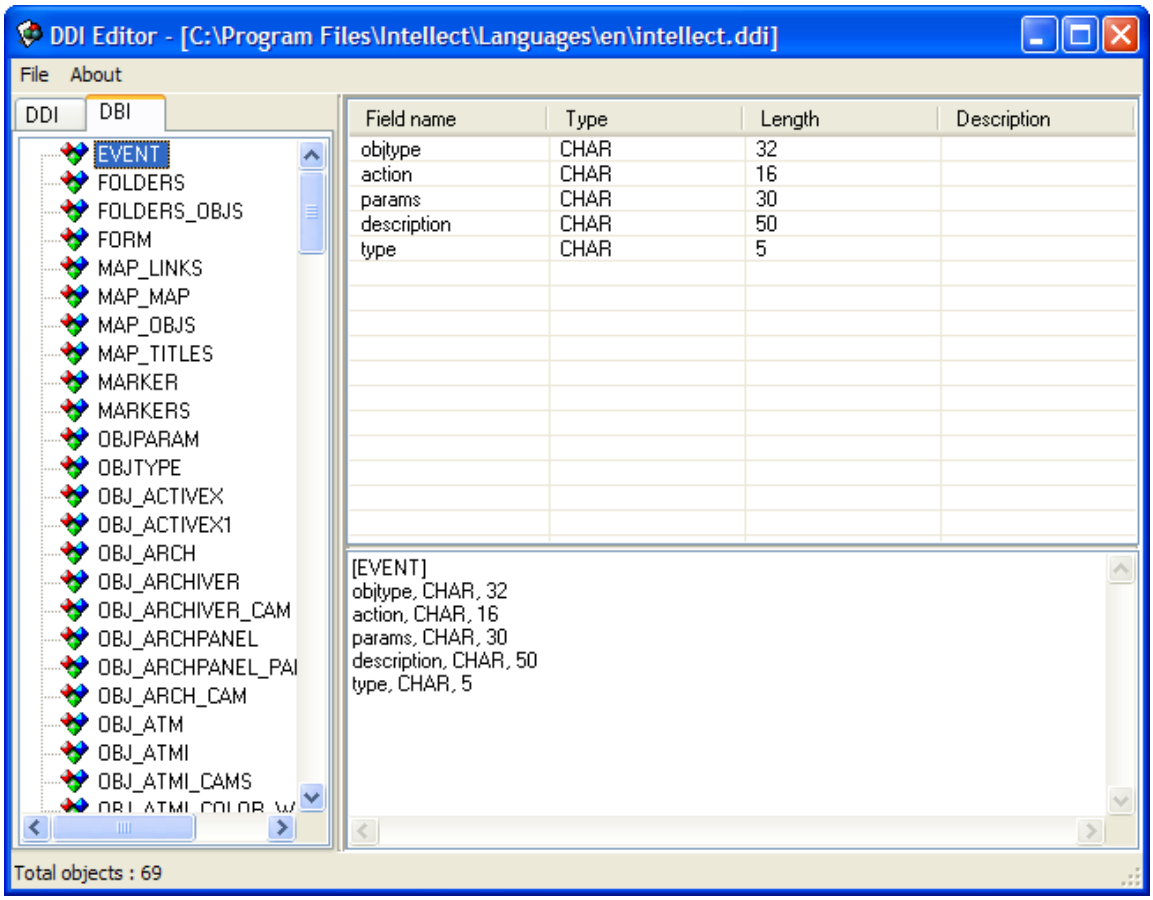


Figure 11.11-1. The Ddi.exe interface window

To delete, add, edit or copy object properties, right-click a cell in the tab to open the context menu.

The following parameters of the table fields are displayed:

a. Field name – the name of the field in the database.

b. Type – data type of the field's contents. Available types:

1. BIT – checkboxes taking logical values Yes and No;
2. CHAR – small text fields;
3. DATETIME – date and time in the following format: date – dd-mm-yyyy, time – h:mm:ss;
4. DOUBLE, INTEGER, SMALLINT – numerical fields of corresponding types;
5. TEXT – larger texts.

c. Length – maximum number of units of the specified format in a field.

d. Description – field name shown in the interface.

The database should be refreshed after the changes were made.

11.11.2 Editing the external setting file (intellect.ddi) using the ddi.exe utility

To edit the external settings file (intellect.ddi), open it by clicking File – Open menu. This file is located in the root of the Intellect program folder.

The external settings file contains the information about objects and events loaded into the system configuration, graphical symbols for various objects' states on the map, and the rules for transitions between the object states.

The purpose of editing can be software localization or expanding/limiting its functionality (for example, removing unused objects from the system).

NOTE. Changing the external settings file may lead to system failure. Create a backup copy of the file before editing it.

The database should be refreshed after the changes were made.

11.11.2.1 *General information*

To start using the utility, open the DDI tab in the top left corner of the window.

The left side of the window will display all system objects loaded into the configuration. The right side of the window shows the settings panel of a chosen object. This panel consists of several tabs: Names, Events, Reacts, Markers, States, State Rules.

To delete, add, edit or copy object properties, right-click a cell in the tab to open the context menu.

11.11.2.2 *Names tab*

This tab contains three fields (Figure 11.11-2). Name is the name of the object in the system. Group Name is the name of the group the object will be assigned to upon creation. If this field is left blank, no group will be assigned to the field. The Search by Name field relates to the search system. The list below will contain all object names in the system that exactly or partially match the word entered in this field. The figure shows the results of searching for "cam".

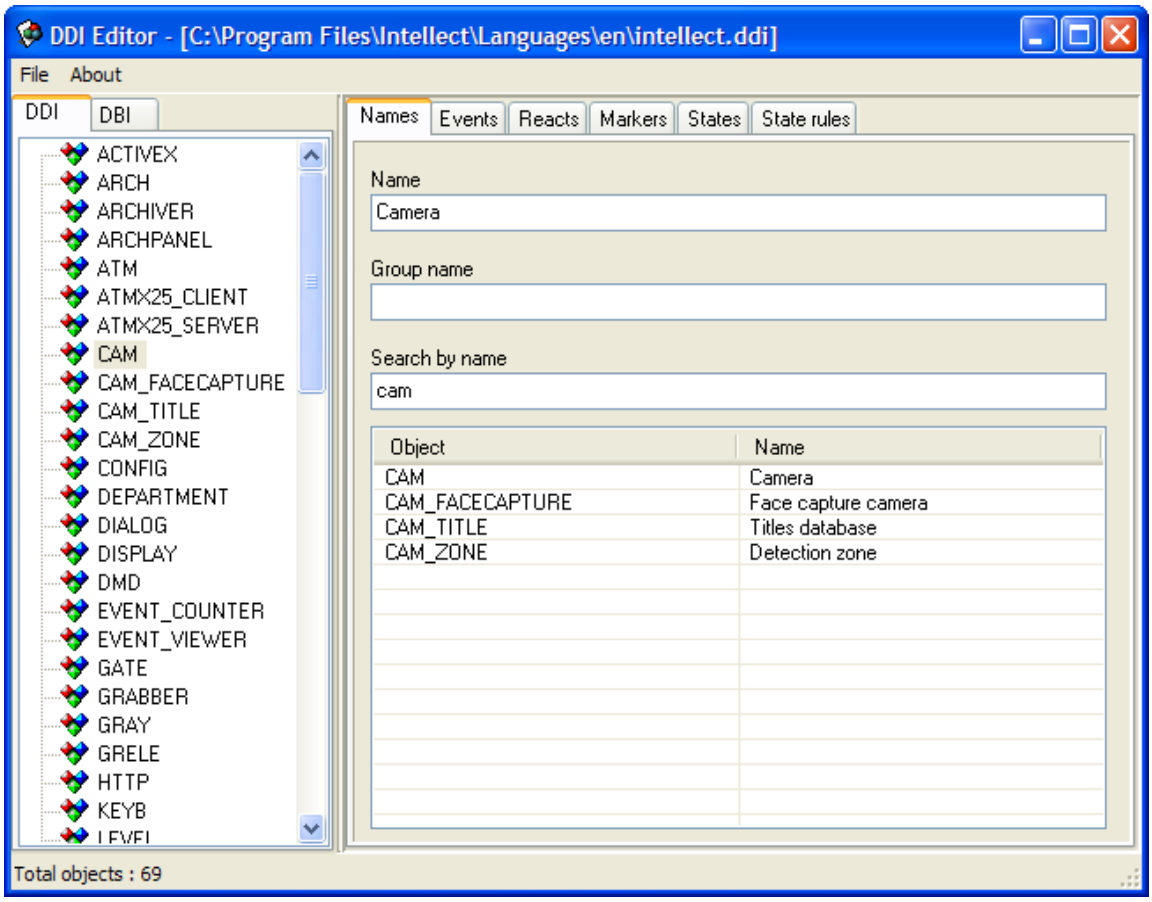


Figure 11.11-2. Names tab

11.11.2.3 *Events tab*

This tab contains the list of system events that the selected object can generate (Figure 693). Each event has the following editable parameters:

1. Name – event's identifier.
2. Description – short description of the event.
3. Message Handling – type of window to open on event occurrence: alarm window or information window.
4. Sound Support – attached .wav files to be played when the event occurs.
5. Net blocking – local event only. If this property is set, other computers on the net will not be notified when the event occurs.
6. Don't Log – do not log this event. By default, all events are logged.

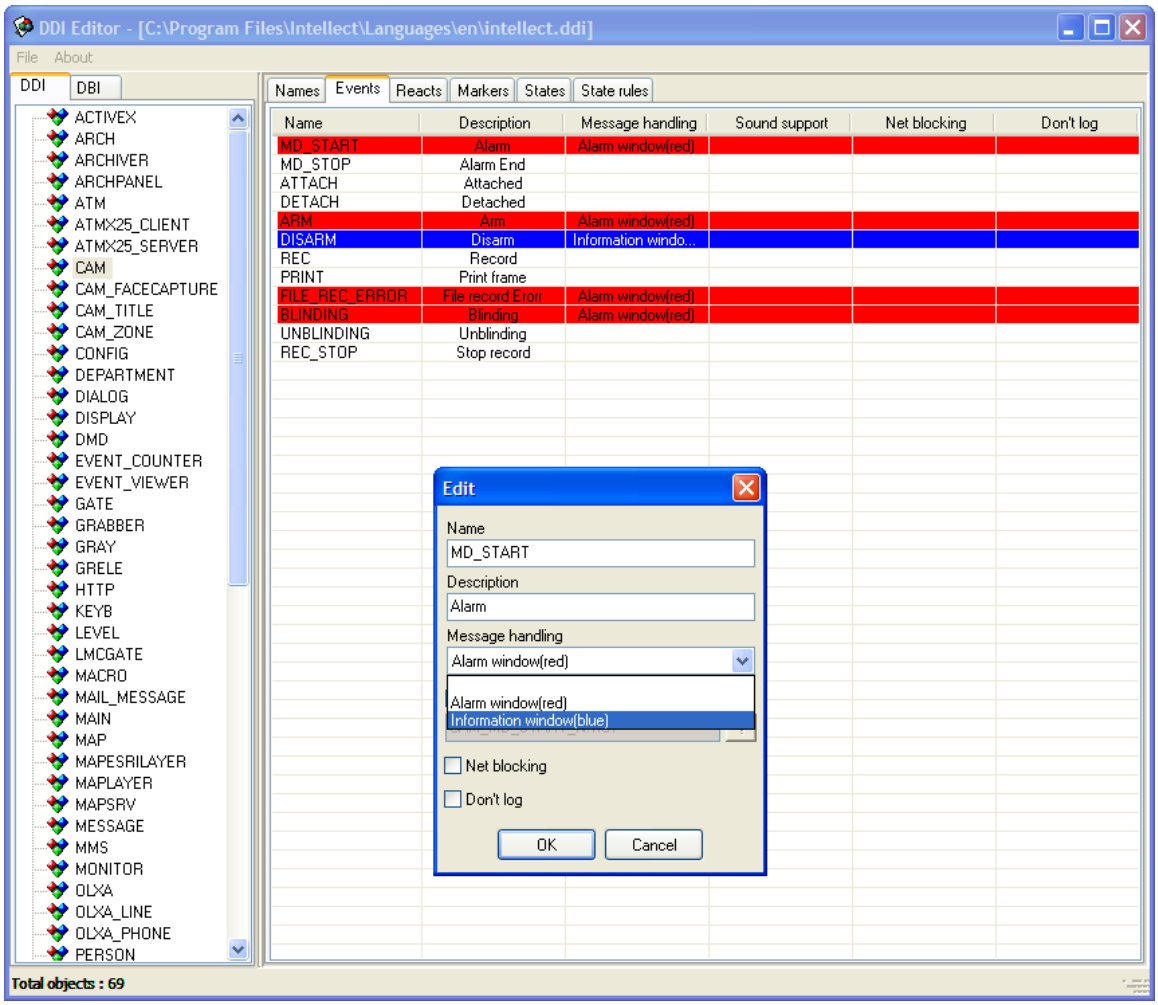


Figure 11.11-3. Events tab

NOTE. You can create only the events that were included in the system at the time of system design. Initially, they all exist in the intellect.ddi file, thus, before deleting any events from the file, make a backup copy of the file.

11.11.2.4 *Reacts tab*

This table lists all actions that the object can make in response to events. Each action has the following properties:

1. Reaction – action's identifier.
2. Description – short description of the action.
3. Flags – additional action property, arming a region.

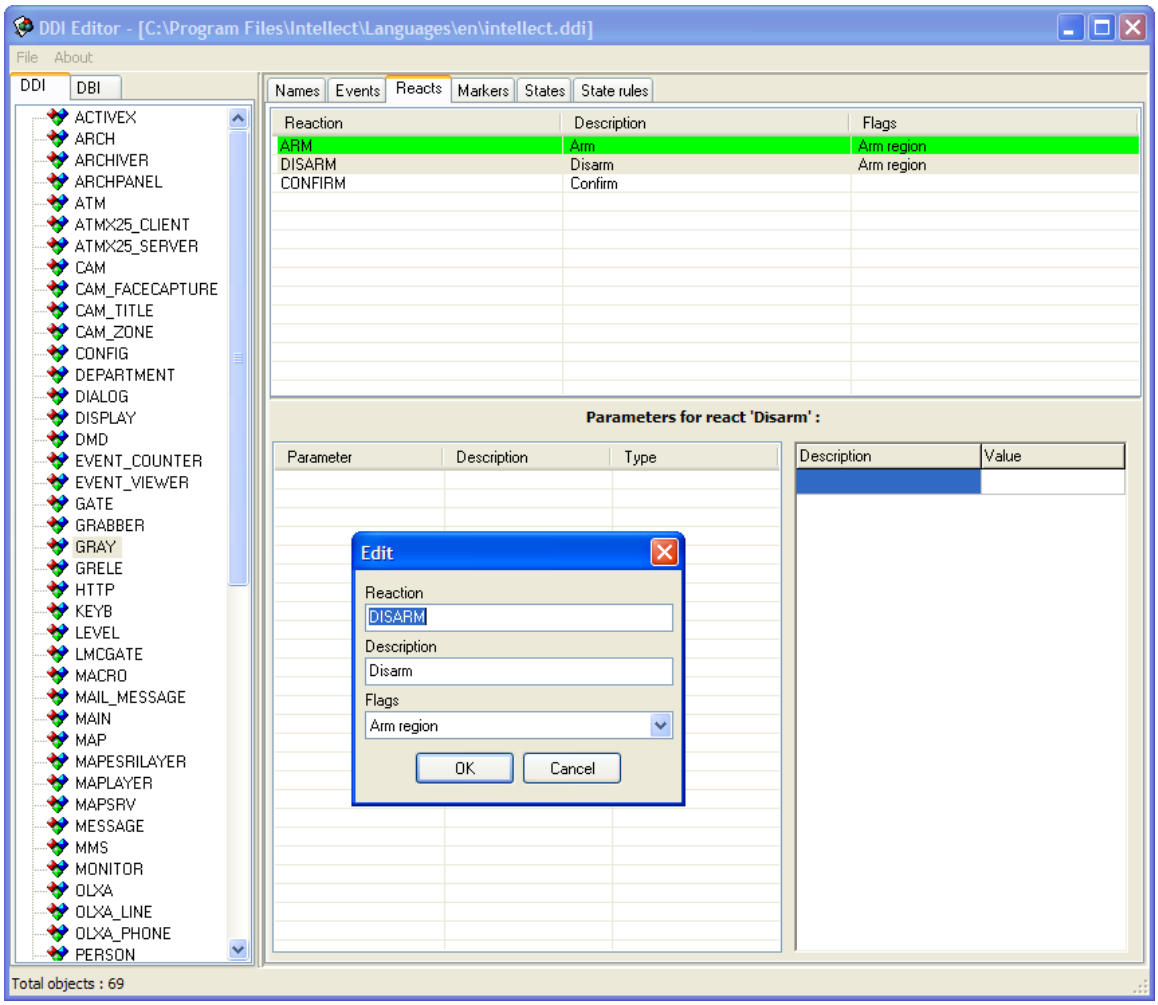


Figure 11.11-4. Reacts tab

11.11.2.5 *Markers tab*

This tab lists the graphical symbols (icons) that represent the selected object on the map (Figure 11.11-5). The columns specify the file name of the BMP image file and the name of the symbol. Image files should be located in the BMP folder in the Intellect program folder, for example, C:\Intellect\Bmp.

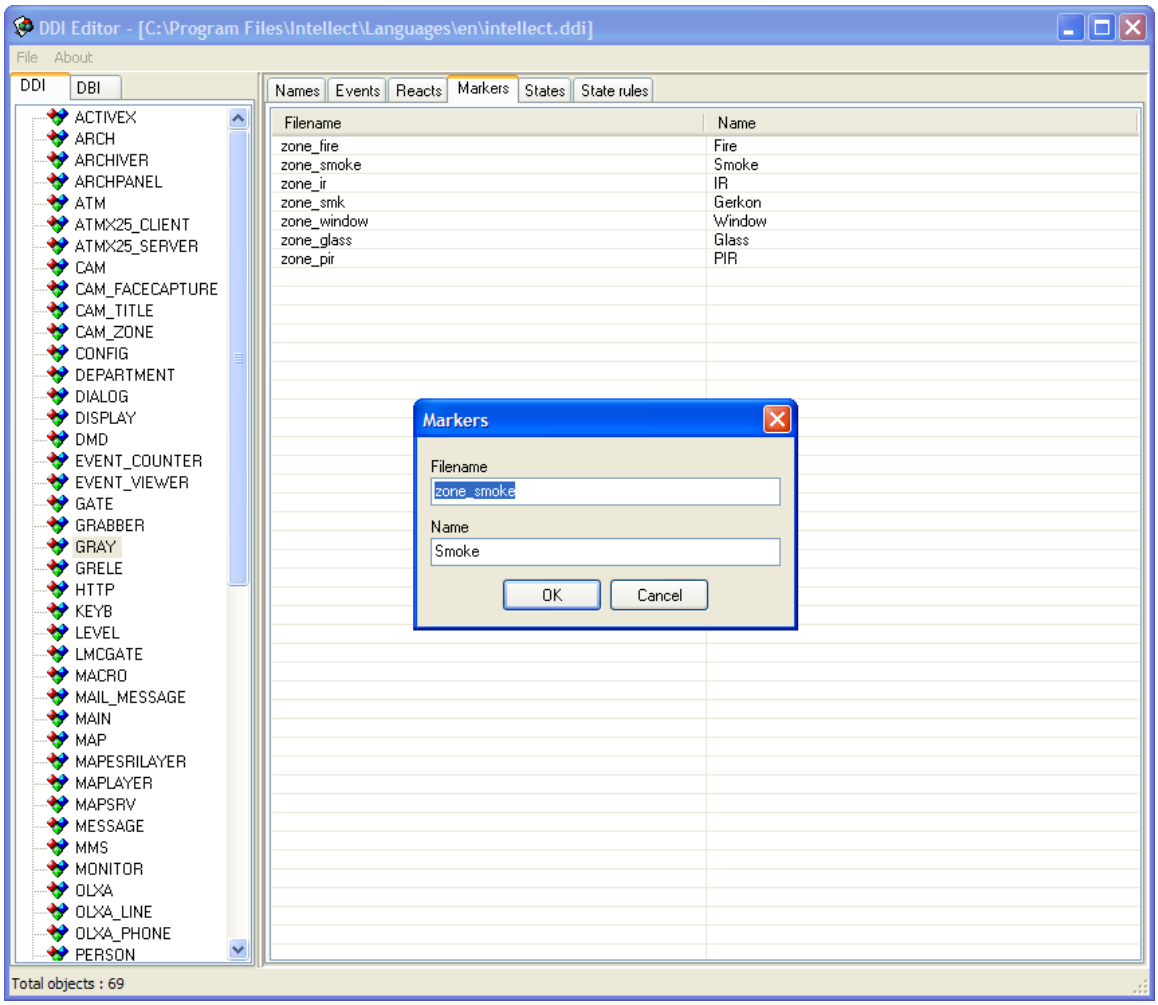


Figure 11.11-5. Markers tab

11.11.2.6 *States tab*

This table lists all states of the selected object (Figure 11.11-6). The states have the following properties:

1. Name – state's identifier.
2. Image – suffix added to the file name of the symbol representing this state. For example, if the "zone_fire" file name was selected in the Markers tab, and the selected ATTENTIONED state is represented by the "attention" suffix, the full file name will be "BMP\zone_fire_attention.bmp".
3. Description – short description of the state.
4. Blinking – optional blinking of the object in this state.

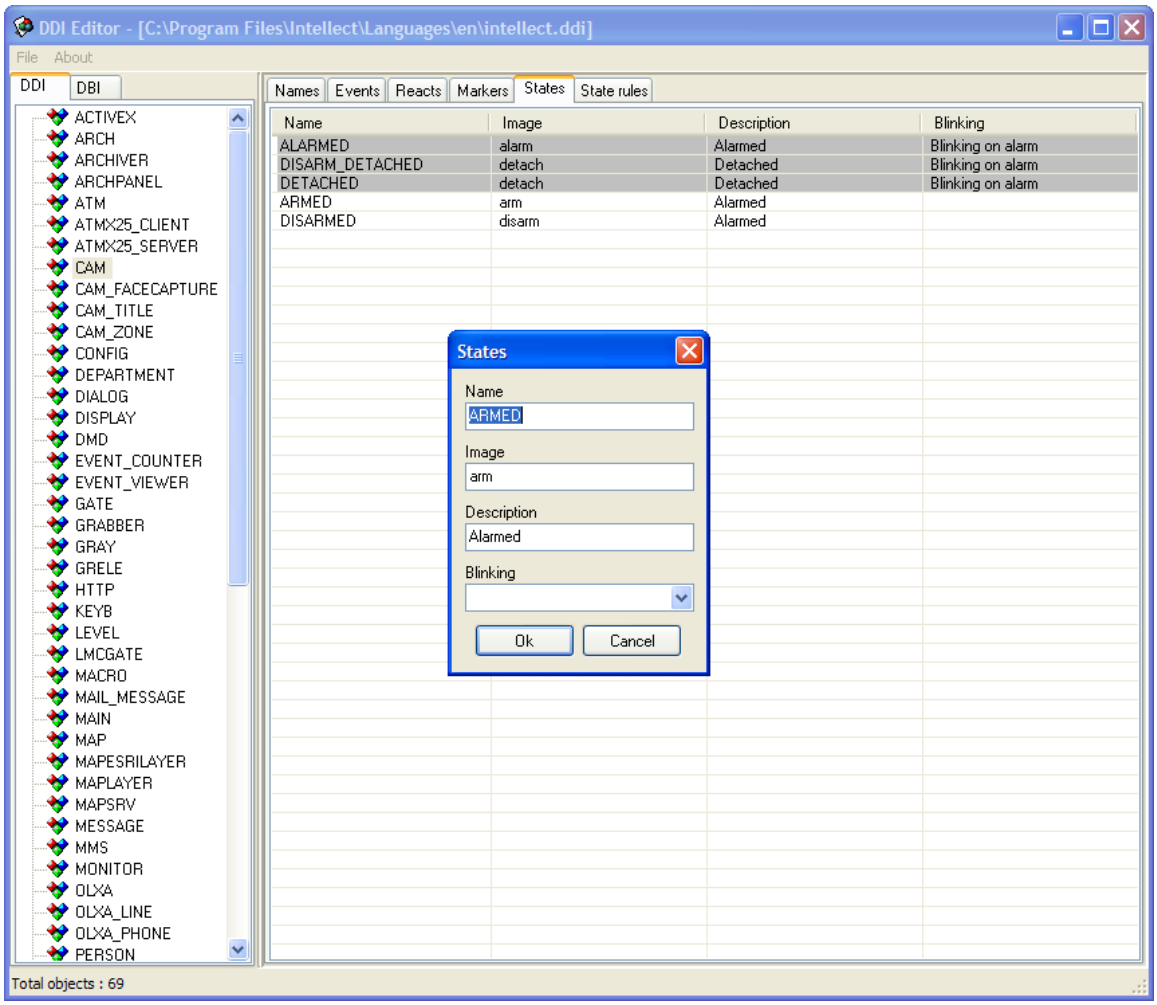


Figure 11.11-6. States tab

11.11.2.7 *State Rules tab*

State transition rules logically link the events generated by objects, and the states of these objects. Each rule consists of the starting state of the object, an event, and an ending state that the object will take after the event.

The table lists the rules for transitions between the states of the selected object (Figure 11.11-7). Each rule has the following properties:

1. Event – identifier of the event triggering the transition.
2. From State – identifier of the object state before the event took place. If this field is left blank, the rule will apply to all starting states.
3. To State – identifier of the resultant state of the object.

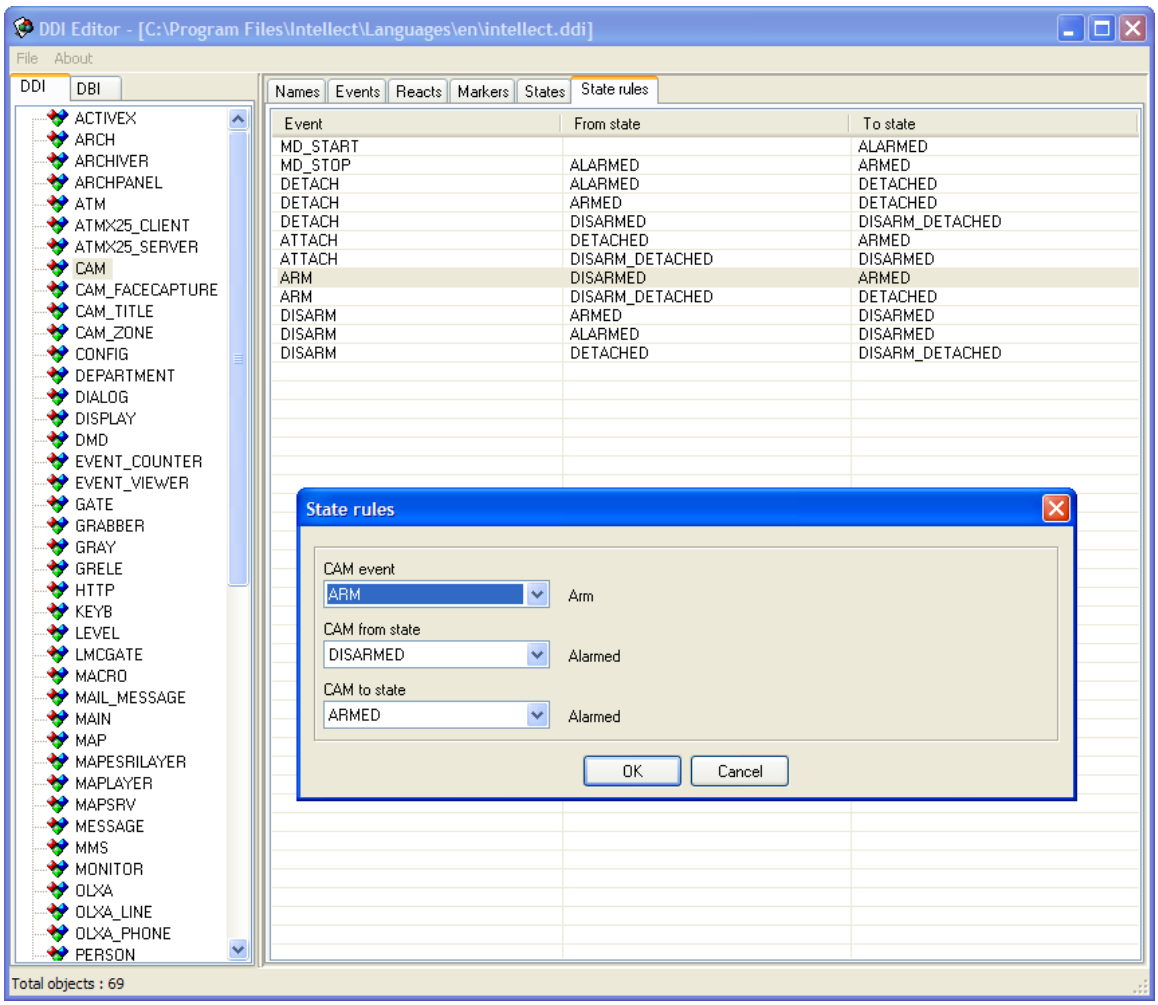


Figure 11.11-7. State Rules tab

11.11.3 Additional functionality

The Ddi.exe utility has some more useful functions that can be accessed from the main menu – translation of interface elements of the Intellect system, and updating external settings data.

11.11.3.1 *Translating text strings in interface elements*

The translation application is used for translating the text strings in interface elements of the Intellect software. To start this application, select an appropriate item in the main menu of the Ddi.exe utility window. A dialog window will open containing the list of all text strings in the external settings file (Figure 11.11-8).

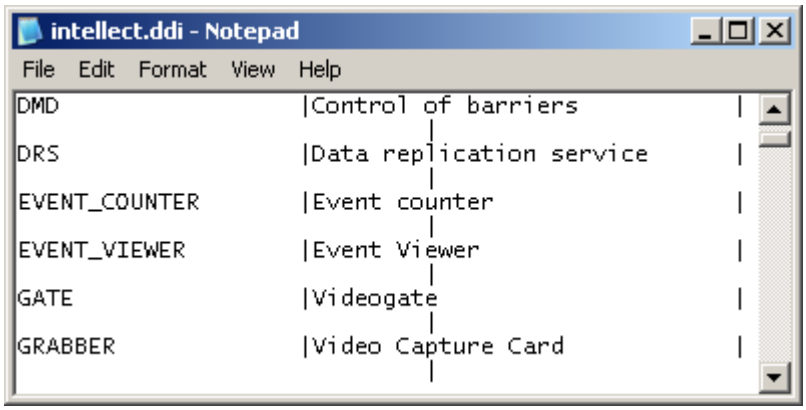


Figure 11.11-8. The Translation dialog window

To search for a string, enter its first characters in the field on top of the window, or scroll the list. To replace a string with a translation, double-click it. A dialog box will open containing the selected string. Type in a new string over the existing one and click OK.

11.11.3.2 *Updating the external settings file*

If the main Intellect database is changed (for example, in case new objects are added), external settings should be updated. In the Tools menu, select Update Data. The Data Link Properties dialog box will open.

Select the database (intellect.mdb or SQL server) and click OK. Updating of the external settings will start. After the update is completed, a “Complete” information box will open. Click OK to close the box.

11.12 The Arpedit.exe utility for creating user dialog windows

11.12.1 The purpose of the Arpedit.exe utility

The Arpedit.exe utility is designed for creating dialog boxes for various purposes in the Intellect software. A created dialog window is linked to the Intellect system via the Operator Request Window system object and is opened on the condition set in the macro, which was created for opening this window. Thus, the Arpedit.exe utility allows tailoring the Intellect system to particular monitoring and security tasks of the customer.

11.12.2 Starting and closing the Arpedit.exe utility

To start the Arpedit.exe utility, do one of the following:

1. In the Intellect program folder, in the Tools subfolder, select the arpedit.exe file.
2. In Windows, click Start, then, Programs, then Intellect, then Tools, then Creation of Dialog Windows (Figure 11.12-1).

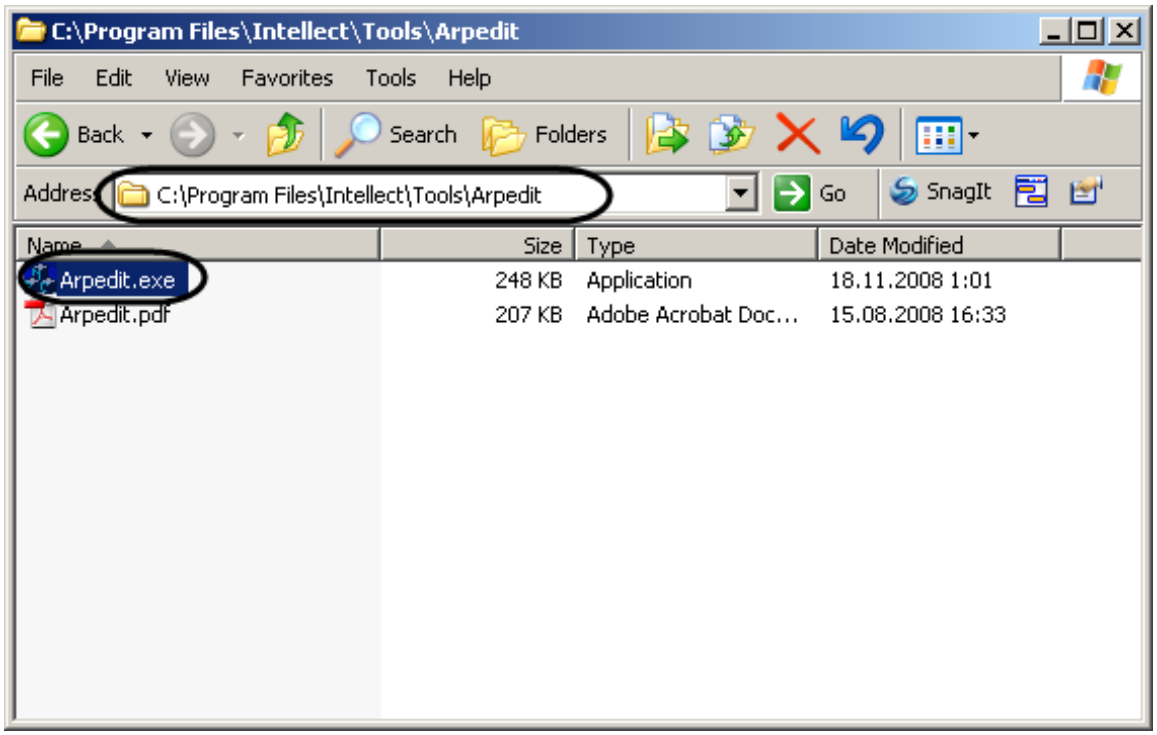


Figure 11.12-1. Starting the utility using the Start button

To close the Arpedit.exe utility, either click the ✕ button, or select Exit in the File menu.

11.12.3 Interface elements of the Arpedit.exe window

The Arpedit.exe window contains the following interface elements:

1. Main menu.
2. Toolbar.
3. Working area.
4. Status line.

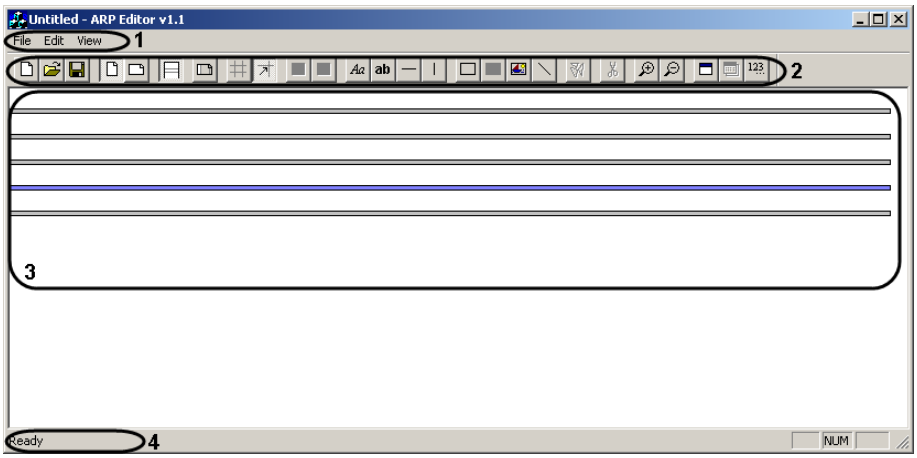


Figure 11.12-2. Interface elements of the Arpedit.exe window

11.12.3.1 *Main menu*

The main menu is located under the title bar of the window. It is constantly visible and allows selecting the commands to be executed.

The menu bar contains the following menus (Figure 11.12-3).

1. File.
2. Edit.
3. View.

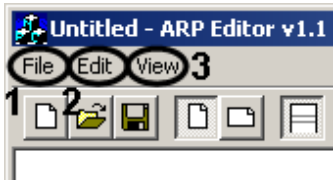


Figure 11.12-3. Main menu bar

The File menu allows carrying out general actions with files: create, open, save, print, exit the utility.

NOTE. To print, select the Print the Grid item.

The Edit menu allows carrying out typical file editing actions: cancel last command, cut, copy or paste an object.

The View menu allows setting up the interface elements: showing or hiding the toolbar and the status line. If an item is selected in the View menu, it is marked by a tick, and the corresponding interface element is displayed. Figure 702 shows an example. The Status Line item is marked (Figure 11.12-4, 1). This means that the status line will be displayed in the dialog window (Figure 11.12-4, 2).

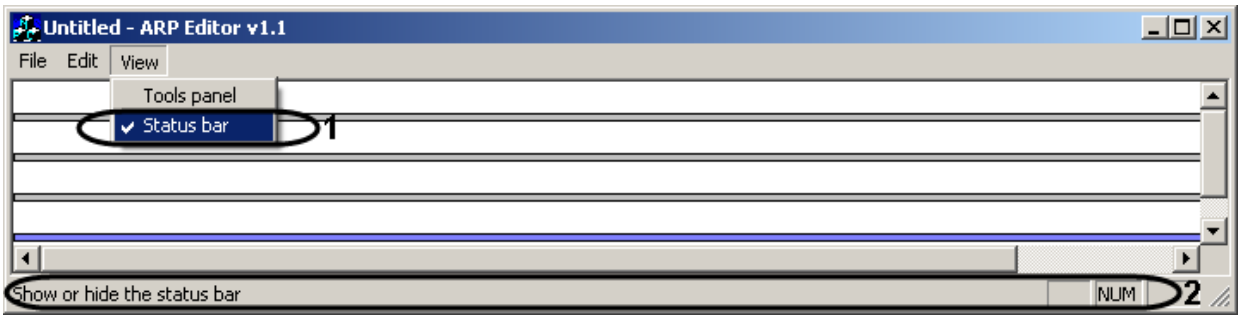


Figure 11.12-4. Showing the status bar

11.12.3.2 *Toolbar*

The Arpedit.exe dialog window has a toolbar. The toolbar is shown in Figure 11.12-5.

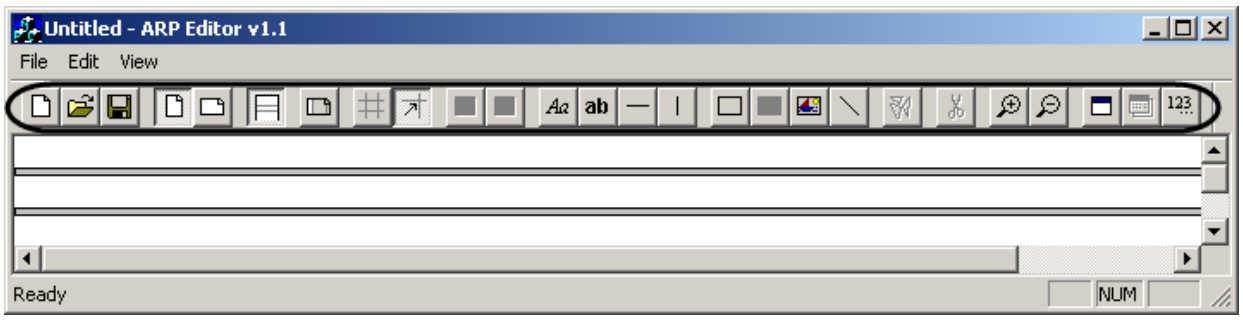


Figure 11.12-5. The toolbar

The buttons in the toolbar are described in Table 11.12-1.

Table 11.12-1

No	Button name	Parameter type	Description	Units	Default position	Available positions
1	New	Click the button	Creates a new ARP file	-	Button up	-
2	Open	Click the button	Opens an existing ARP file	-	Button up	-
3	Save	Click the button	Saves an edited ARP file	-	Button up	-
4	Portrait	Click the button	Vertical (portrait) orientation of the working area	-	Button down	
5	Landscape	Click the button	Horizontal (landscape) orientation of the working area	-	Button up	
6	Show sections	Click the button	Shows the sections visually dividing the working area. Objects cannot be moved from one section to another.	-	Button down	Button down – show sections Button up – hide sections
7	Show grid	Click the button	Shows the grid used to align objects	-	Button up	Button down – show grid Button up – hide grid
8	Snap to grid	Click the button	Snaps object boundaries to the grid	-	Button down	Button down - snap Button up – don't snap
9	Field parameters (no tips)	Click the button. Button becomes enabled on selecting an object.	Opens the Field Parameters dialog box.	-	Button up	Button down – dialog box can be opened Button up – dialog box cannot be opened
10	Text	Click the button	Creates a text object	-	Button	Button down – start

No	Button name	Parameter type	Description	Units	Default position	Available positions
					up	creating an object Button up – cannot start creating an object
11	Field	Click the button	Creates a value field object	-	Button up	Button down – start creating an object Button up – cannot start creating an object
12	Horizontal bar	Click the button	Creates a horizontal bar for graphical design purposes. After compilation the bar is not shown and is used for extending the width of the window.	-	Button up	Button down – start creating an object Button up – cannot start creating an object
13	Vertical bar	Click the button	Creates a vertical bar for graphical design purposes. After compilation the bar is not shown and is used for extending the height of the window.	-	Button up	Button down – start creating an object Button up – cannot start creating an object
14	Frame	Click the button	Creates a frame object for graphical design purposes.	-	Button up	Button down – start creating an object Button up – cannot start creating an object
15	Square	Click the button	Creates a square object for graphical design purposes.	-	Button up	Button down – start creating an object Button up – cannot start creating an object
16	Image	Click the button	Creates an image object for graphical design purposes. The image itself is not shown in the Arpedit.exe utility. It appears in the created dialog box only.	-	Button up	Button down – start creating an object Button up – cannot start creating an object
17	Line	Click the button	Creates an arbitrarily placed line for graphical design purposes. After compilation the bar is not shown and is used for extending the size of the window.	-	Button up	Button down – start creating an object Button up – cannot start creating an object
18	Split text	Click the button. Button becomes enabled on selecting an	Splits a multi-line text block into separate lines.	-	Button up	Button down – split the text Button up – cannot spilt

No	Button name	Parameter type	Description	Units	Default position	Available positions
		object.				the text
19	Delete	Click the button. Button becomes enabled on selecting an object.	Deletes an object	-	Button up	Button down – delete an object Button up – cannot delete an object
20	Zoom in	Click the button	Zooms in, up to 40 times	-	-	-
21	Zoom out	Click the button	Zooms out, up to 20 times	-	-	-
22	Form	Click the button	Creates a form	-	Button up	Button down – form creation mode enabled Button up – form creation mode disabled
23	Form parameters	Click the button. Button becomes enabled if the Form button is down	Opens the Form Parameters dialog box.	-	Button up	Button down – dialog box can be opened Button up – dialog box cannot be opened
24	Field order	Click the button	Numbers the created objects	-	Button up	Button down – objects are numbered Button up - object are not numbered

NOTE. The tool name appears as a tip when the mouse hovers over the tool.

11.12.3.3 *Working area*

The working area is used for creating graphical objects in a dialog box (Figure 11.12-6).

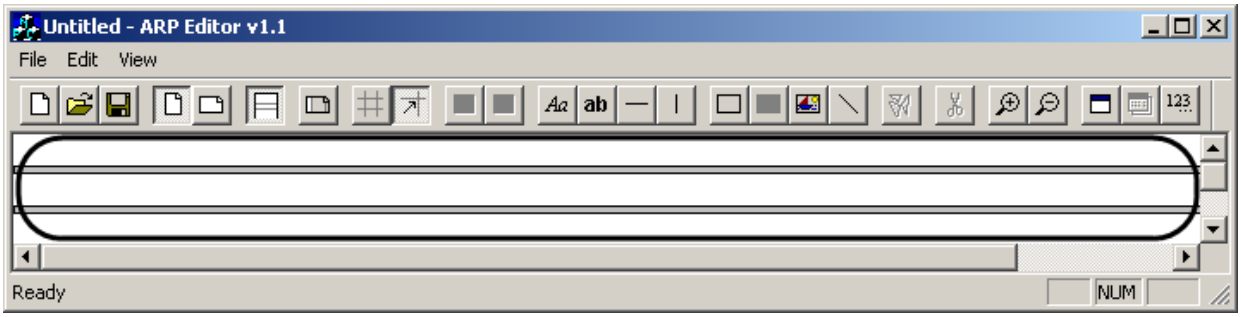


Figure 11.12-6. Working area

When the Show Sections button is down, the working area is divided into sections by horizontal lines. Each section represents a page. To activate a section, click it. Figure 686 shows the sections: section 1 (Figure 11.12-7, 1) inactive, section 2 – active (Figure 11.12-7, 2).

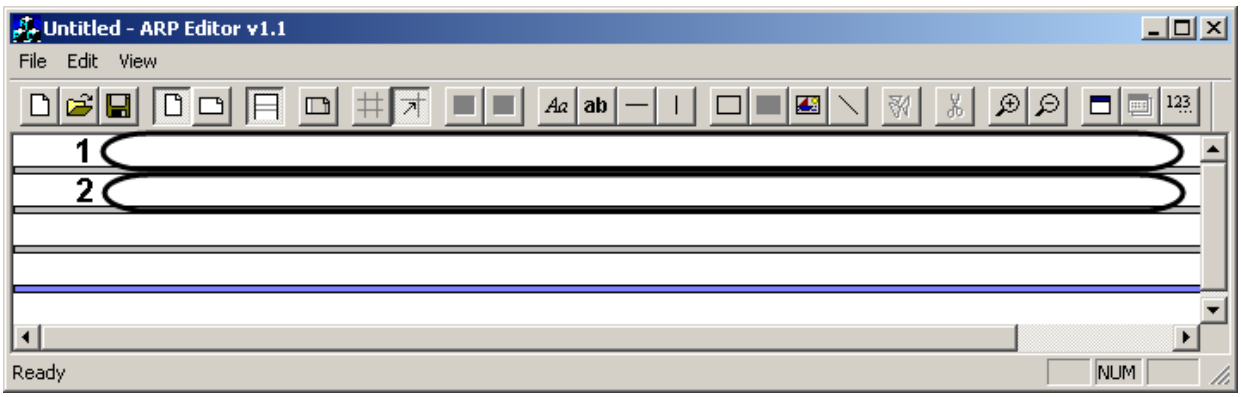


Figure 11.12-7. Sections in the working area

11.12.3.4 *Status line*

The Status line informs the user about the purpose of the selected menu item, tool or object.

11.12.4 Creating dialog windows using the Arpedit.exe utility

To create a dialog window, do the following:

1. Create a dialog window form using the Arpedit.exe utility.
2. Save the form in a .dlg file in the Program folder of the Intellect program folder, for example C:\Intellect\program\file_name.dlg.
3. Create an Operator Request Window object with the "file_name" number, in the Hardware tab.
4. Create a Program object containing the script, in the Programming tab. The script should set the conditions for opening an operator request window.

11.12.4.1 *Creating a dialog box form*

To create a dialog box form, create the objects, place them on the working area and set their parameters.

11.12.4.2 *Creating objects*

To create an object, do the following:

1. Select an appropriate tool in the toolbar - frame, square, line, text (Figure 11.12-8).

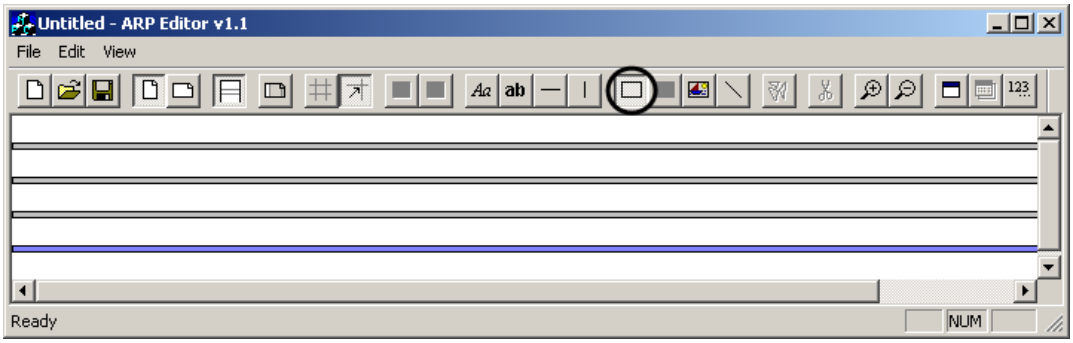


Figure 11.12-8. Selecting a tool

2. Point anywhere in the working area and right-click the mouse (Figure 11.12-9).

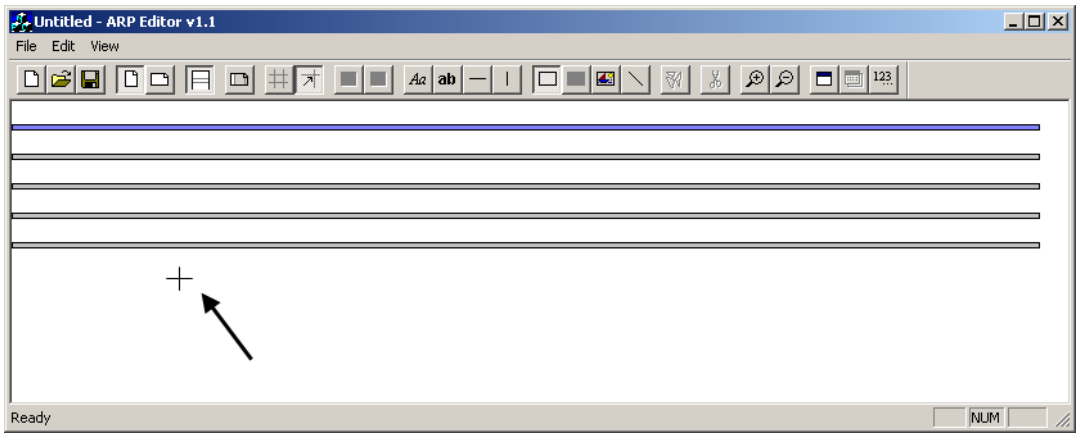


Figure 11.12-9 Pointing at a required position

The selected point will become the top left corner of the object (Figure 11.12-10).

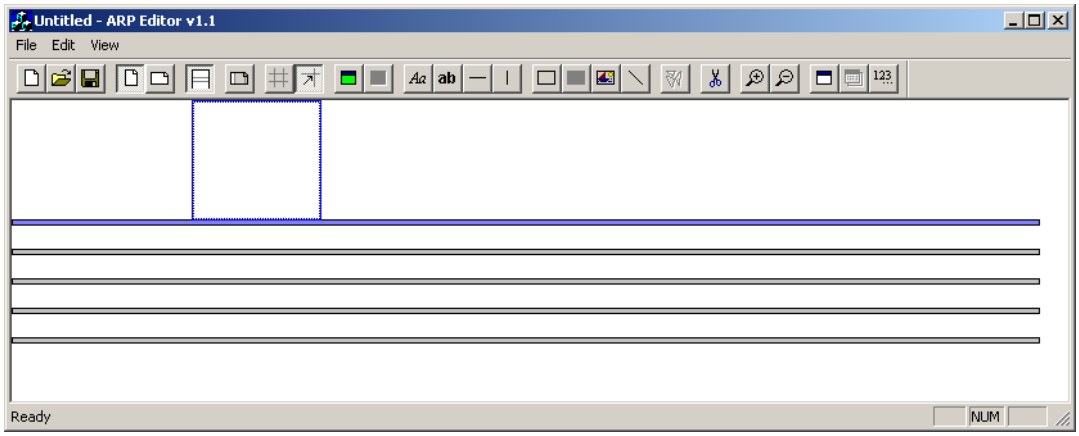


Figure 11.12-10. Frame object is created

11.12.4.3 *Relative positions of the objects*

It is important to place the objects in the correct position relative to each other. Objects can be placed at any position on the page using the mouse. To align objects, use the Grid and Snap to Grid tools. The Field Parameters dialog box allows entering the exact X and Y coordinates of the upper left corner (Figure 11.12-11).

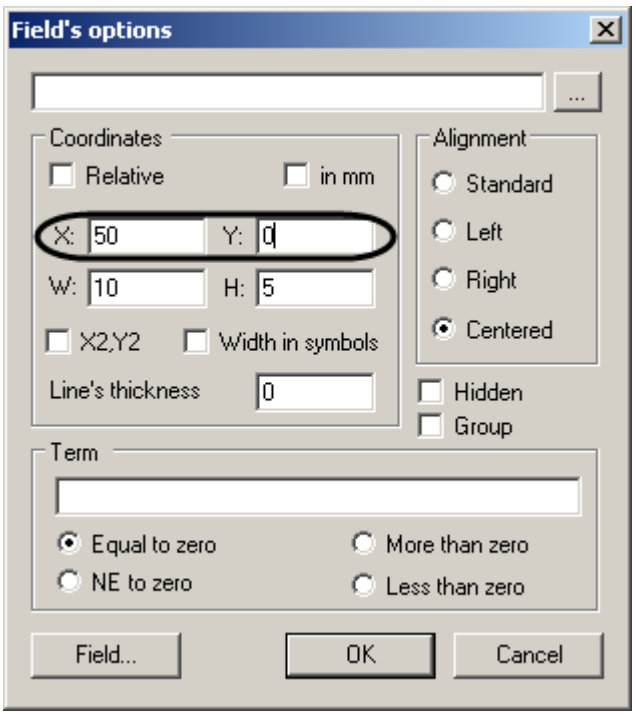


Figure 11.12-11. Setting object coordinates

Object sizes also effect relative positions of the objects. The W and H fields in the Field Parameters dialog box allow setting object width and height (Figure 11.12-12).

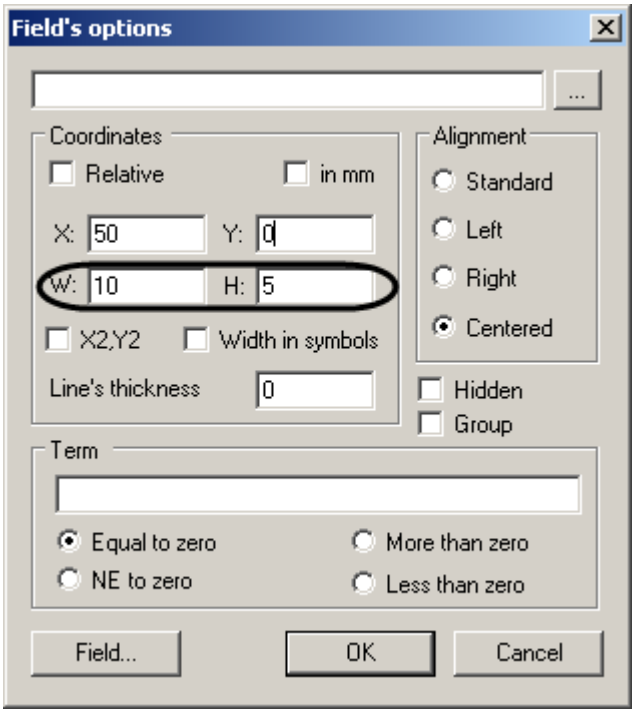


Figure 11.12-12. Setting object size

11.12.4.4 *Object setup*

To set up an object, do the following:

1. Open the Field Parameters dialog box.

Three methods of opening the Field Parameters dialog box.

Method 1

2. Right-click the object. The Field frame will become blue (Figure 11.12-13, 1).

3. Left-click the blue frame. Select Properties in the drop-down menu (Figure 11.12-13, 2).

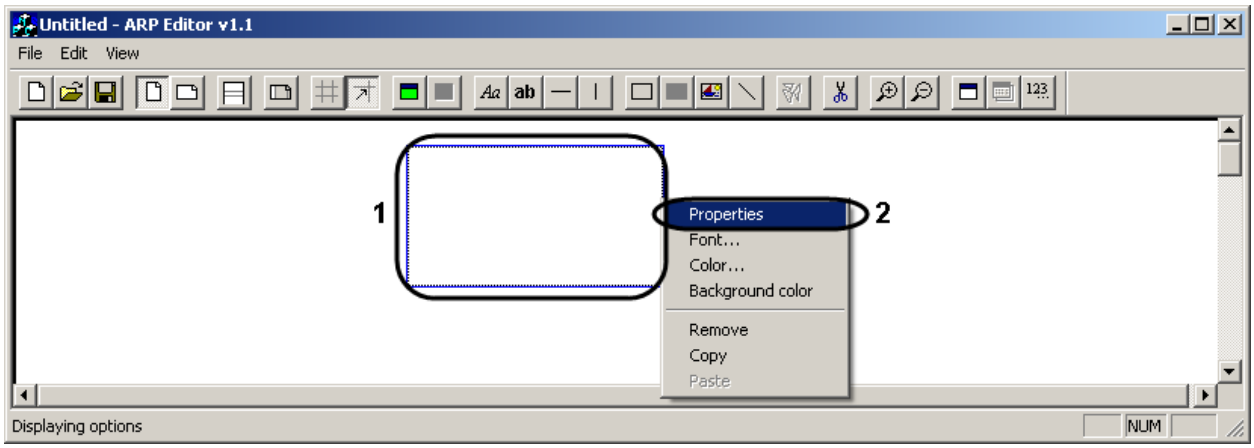


Figure 11.12-13. Opening the Field Parameters dialog box from the object menu

Method 2

1. Right-click the object to select it. The field frame will become blue (Figure 11.12-14, 1).

2. Select the Field Parameters tool (Figure 11.12-14, 2).

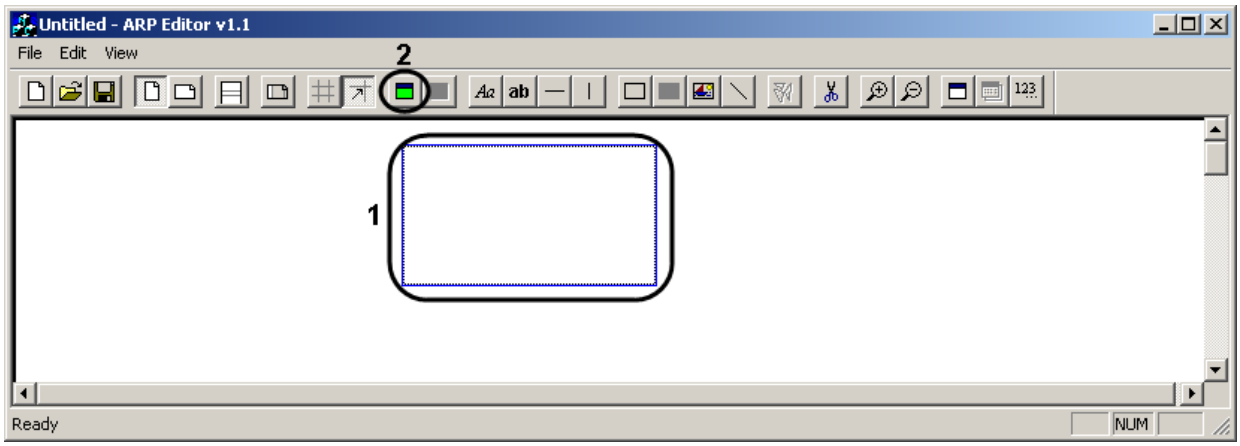


Figure 11.12-14. Opening the Field Parameters dialog box from the toolbar

Method 3

1. Double-right-click the frame of the object.

2. Specify the values of the parameters.

3. Click OK to save the settings.

11.12.5 An example of creating a dialog window for reading the number of motions registered by a camera

11.12.5.1 *Step 1. Creating a dialog window form*

1. Start the Arpedit.exe utility.

2. Create a text object using the Text tool.

3. Enter “Number of motions:” in the Field Parameters dialog box (Figure 11.12-15).

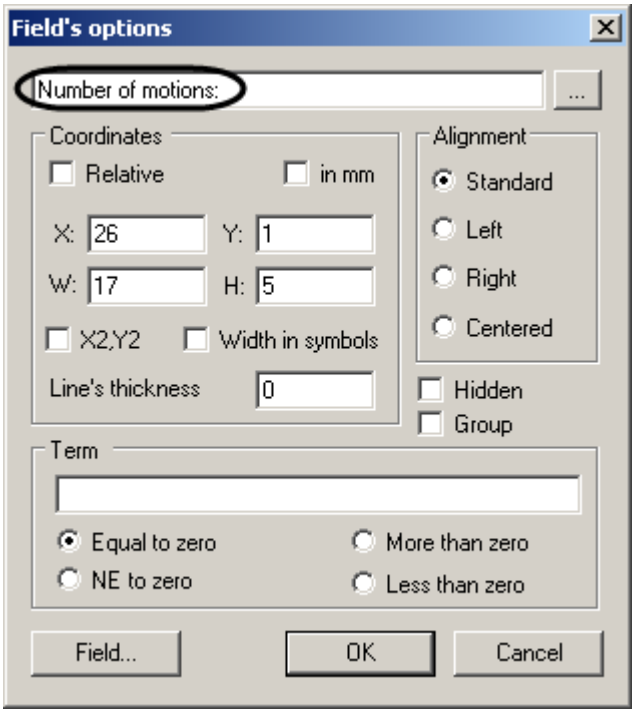


Figure 11.12-15. The Text field setup

1. Click OK.

2. Create a variable object using the Field tool, under the Number of Motions object (Figure 11.12-16).

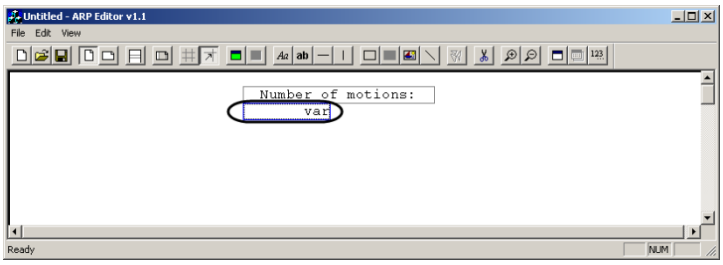


Figure 11.12-16. Creating a variable object

3. Enter “param” in the Field element of the Field Parameters dialog box, and check the Not Editable checkbox (Figure 11.12-17).

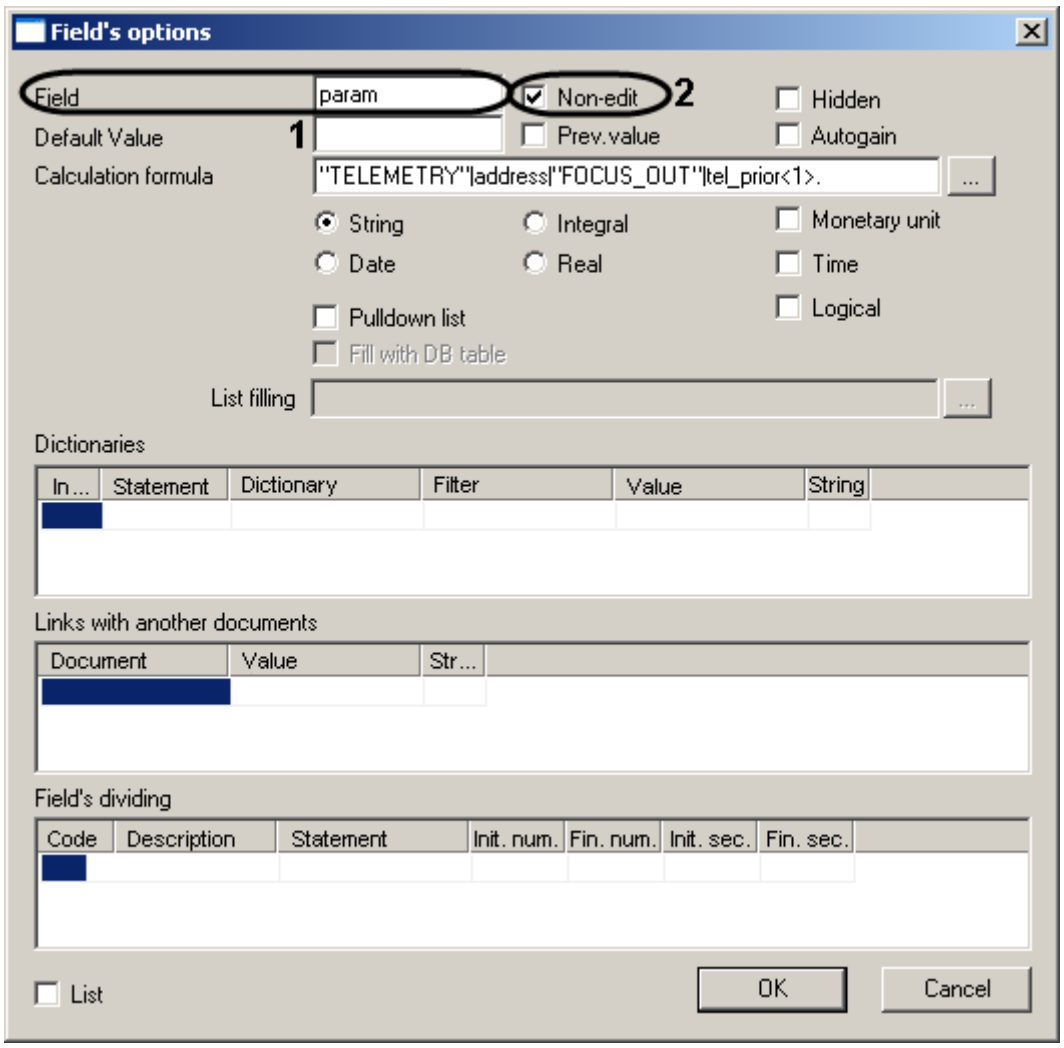


Figure 11.12-17. The Variable object setup

4. Click OK.

The completed dialog window is shown in Figure 11.12-18.

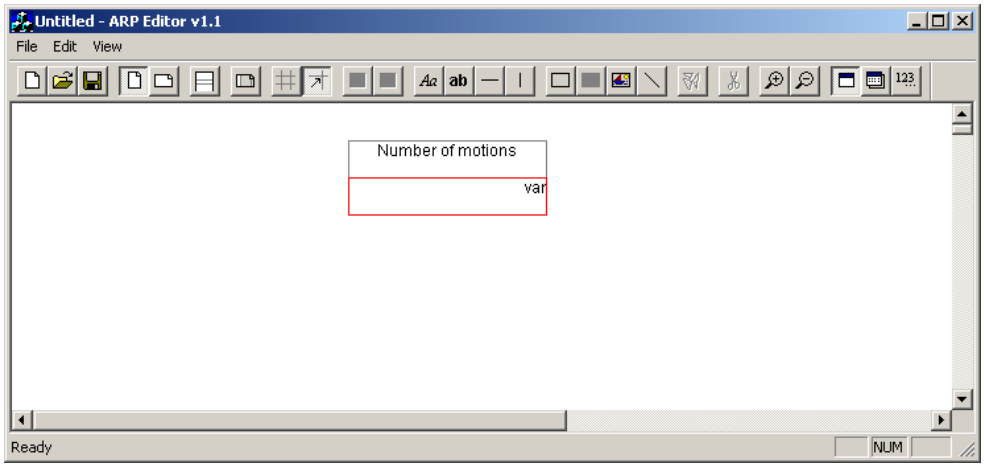


Figure 11.12-18. The created dialog box as seen in the editor

Save the dialog box in the file named motion.dlg in the Program folder of the Intellect program folder (for example, C:\Intellect\program\motion.dlg).

11.12.5.2 *Step 2. Creating an Operator Request Window object*

1. Start the Intellect system.
2. Create the Operator Request Window object in the Hardware tab (Figure 11.12-19).
3. Enter “motion” in the Number field.

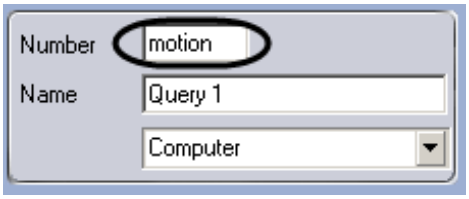


Figure 11.12-19. Creating an Operator Request Window object

4. Specify the screen coordinates for the window.
5. Create a Program object in the Programming tab.
6. Enter the following code into the script area (Figure 11.12-20):

```
OnInit()

{param="0";}

OnEvent("CAM","1","MD_START")

{
DoReact("DIALOG","motion","CLOSE");param=str(atof(param)+1);DoReact("DIALOG","motion","RUN","
param<" + param + ">");}
```

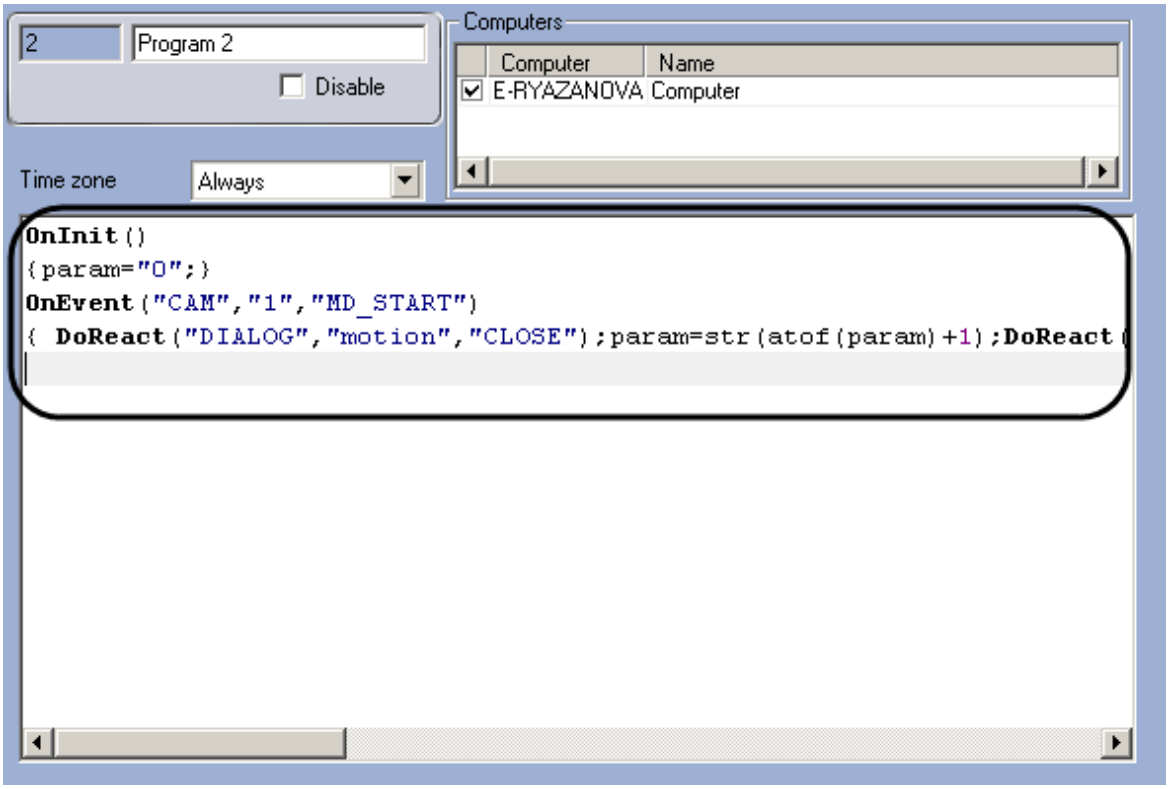


Figure 11.12-20. Creating a Program object

7. Select Always in the Time Zone drop-down list.

8. Click the Apply button to save the code.

Now, each time camera 1 registers some movement, this dialog box will display the number of movements registered from the time of opening the dialog box (Figure 11.12-21).

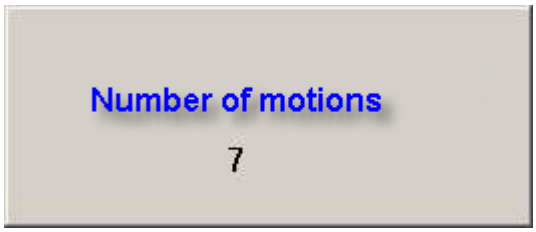


Figure 11.12-21. The motion-counting window

11.13 The Dbcompact.exe utility for compressing MS Access databases

11.13.1 The purpose of the Dbcompact.exe utility

The Dbcompact.exe utility is designed for compressing MS Access databases. MS Access databases tend to grow in size due to the logic method of deleting records and temporary/hidden tables, i.e. they are marked as deleted but the data actually remains in the database. To enhance the Intellect performance, regular data compression is recommended. The Dbcompact.exe utility allows compressing MS Access databases by physically deleting data objects marked as deleted.

11.13.2 Starting and closing the Dbcompact.exe utility

To start the utility, do one of the following:

1. Start the utility from the Windows taskbar. Click Start, then Programs, then Intellect, then Tools, then Compression of the Database (Figure 11.13-1).

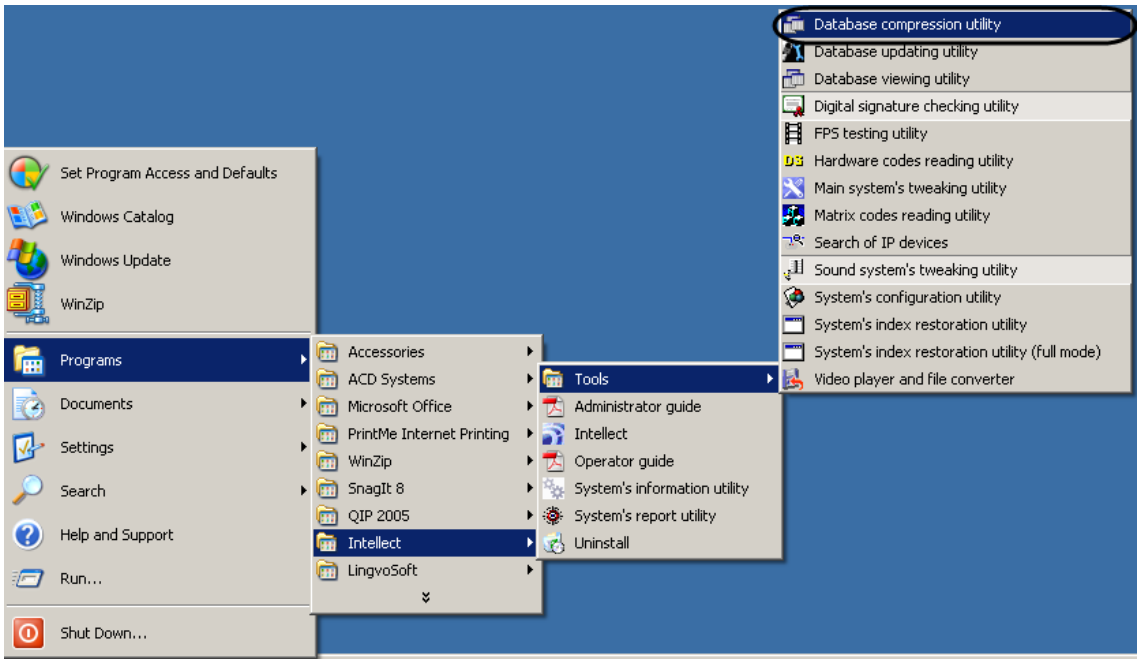


Figure 11.13-1. Starting the utility from the Windows taskbar

2. Start the utility from the Tools folder of the Intellect program folder. Example: C:\Intellect\Tools\Dbcompact.exe.

The Dbcompact.exe dialog box will open (Figure 11.13-2).

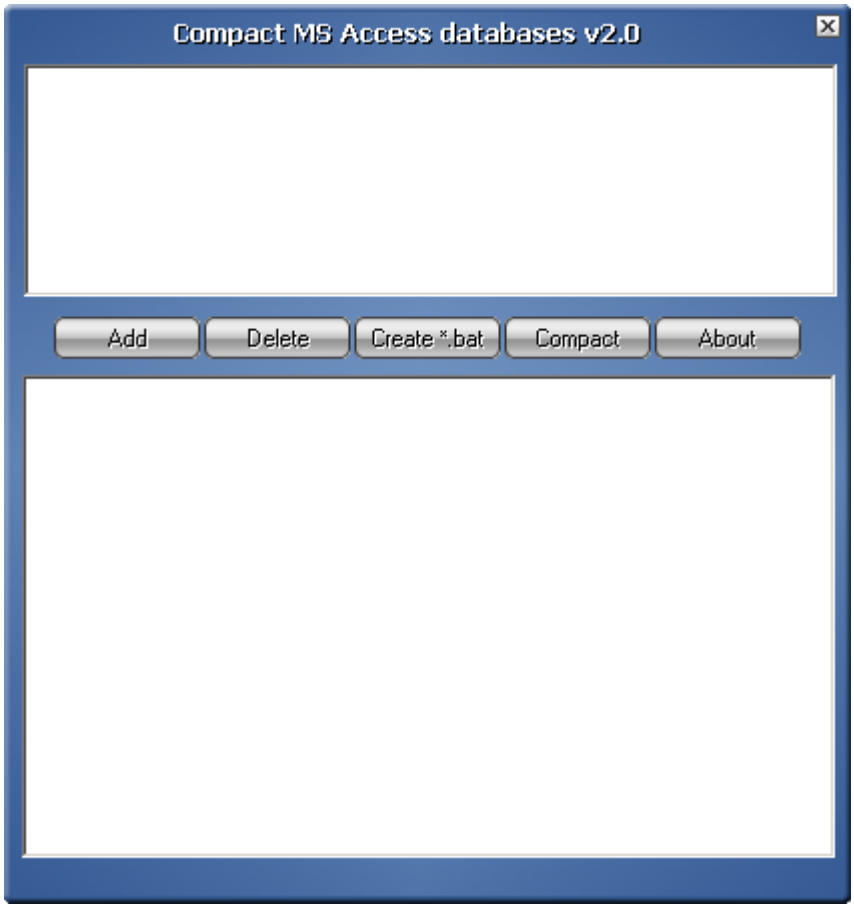


Figure 11.13-2. The Dbcompact.exe dialog window

To close the Dbcompact.exe utility, click the Close button (☒).

11.13.3 Interface elements in the Dbcompact.exe window

Figure 11.13-3 shows the Dbcompact.exe dialog window.

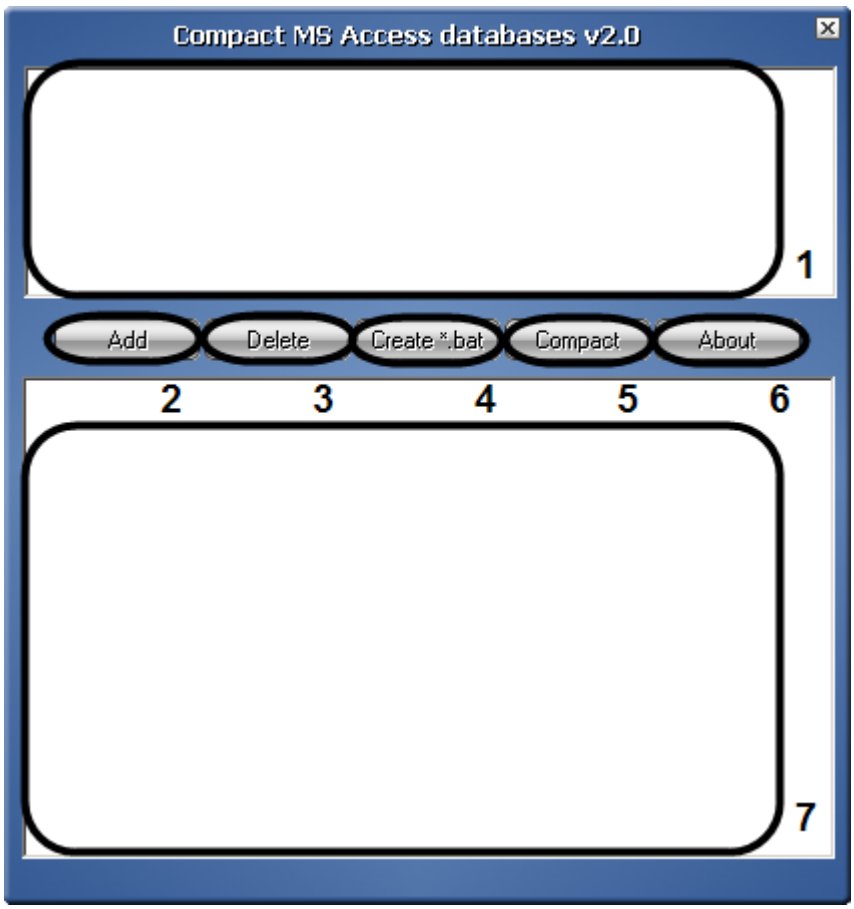


Figure 11.13-3. Interface elements of the Dbcompact.exe window

The interface elements are described in Table 11.13-1.

Table 11.13-1

№	Element name	Element type	Description	Units	Default	Value range
1	Area above the buttons	Select the pathname in Explorer using the Add button.	The list of databases to be compressed.	-	-	-
2	Add	Click the button.	Opens a standard Windows dialog box for selecting a file, i.e. an MS Access database.	-	-	-
3	Delete	Click the button.	Removes the database from the list above.	-	-	-
4	Create *.bat	Click the button.	Creates a command file (.bat) used to automate regular compression of the selected databases.	-	-	-
5	Compact	Click the button.	Starts compressing the selected databases.	-	-	-

№	Element name	Element type	Description	Units	Default	Value range
6	About	Click the button.	Opens the About information box.	-	-	-
7	Area under the buttons	Select the pathname in Explorer using the Compact button.	Displays the progress of compressing and the completion notification.	-	-	-

11.13.4 Compressing MS Access databases using the Dbcompact.exe utility

To compress a database, use one of the following methods:

1. Compress the databases using the Dbcompact.exe window.
2. Compress the databases automatically using the .bat command file.

11.13.4.1 *Compressing the databases using the Dbcompact.exe window*

To compress a database in the Dbcompact.exe window, do the following:

1. Close the Intellect software if it is open.
2. Start the utility (see Starting the Dbcompact.exe Utility section).
3. Click the Add button to select the database.
4. Click the Compact button to start the compressing process.

A notification about the successful completion of the compressing process will be displayed in the area under the buttons (Figure 11.13-4).

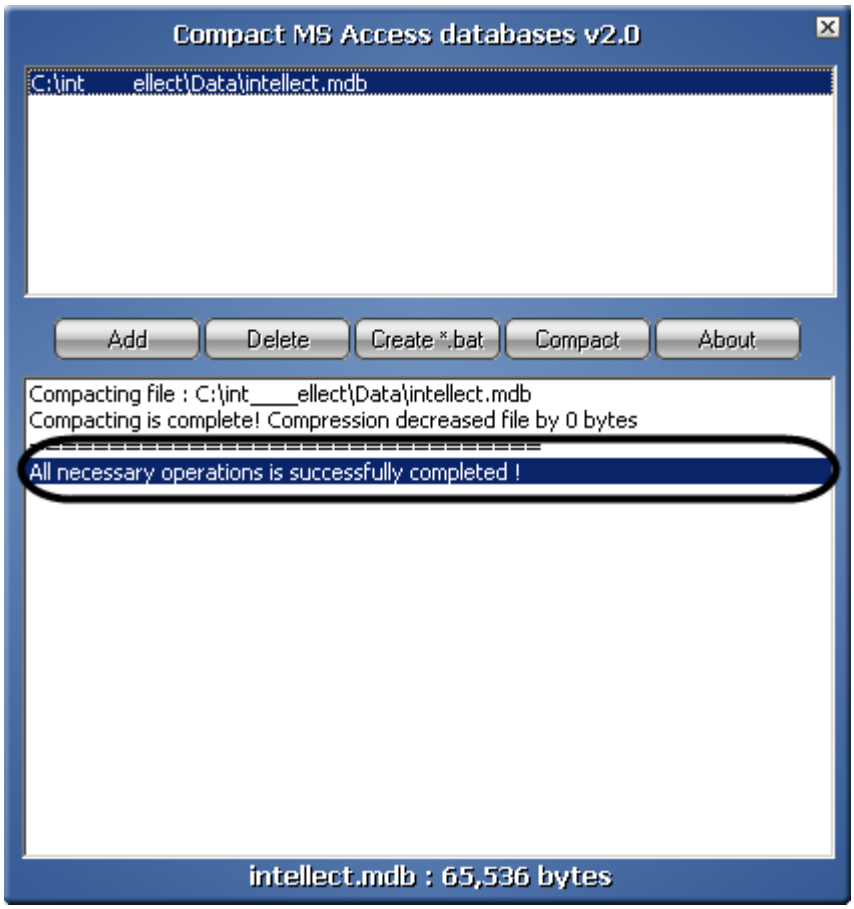


Figure 11.13-4. Notification on the successful completion of the compression

11.13.4.2 *Automatic compressing using the .bat command file*

To compress a database automatically, do the following:

1. Close the Intellect software if it is open.
2. Start the utility (see Starting the Dbcompact.exe Utility section).
3. Click the Add button to select the database.
4. Click the Create *.bat button to create a command file containing the list of all pathnames selected in the upper area and a command for compressing them all using the Dbcompact.exe utility.

Set up automatic execution of the .bat file at the specified time intervals using Windows Task Scheduler.

11.14 The HubSearch.exe utility for searching IP-devices

11.14.1 The purpose of the HubSearch.exe utility

The HubSearch.exe utility is designed for searching IP-devices, such as Wave Hub, Matrix LH and Matrix LS and also for changing net settings(for example changing the IP address, address mask etc.) of a found device.

11.14.2 Starting and closing the utility

To start the HubSearch.exe use one of the following ways:

- Run the utility from Windows start menu. Foe this click «Start» ⇒ «Programs» ⇒ «Intellect» ⇒ «Tools» ⇒ «Search of IP devices».
- Run the utility from Tools folder of Intellect installation catalogue. For example: «C:\Program Files\Intellect\Tools\ Hub\HubSearch.exe».

In result dialog window of the HubSearch.exe utility will open (Figure 11.14-1).

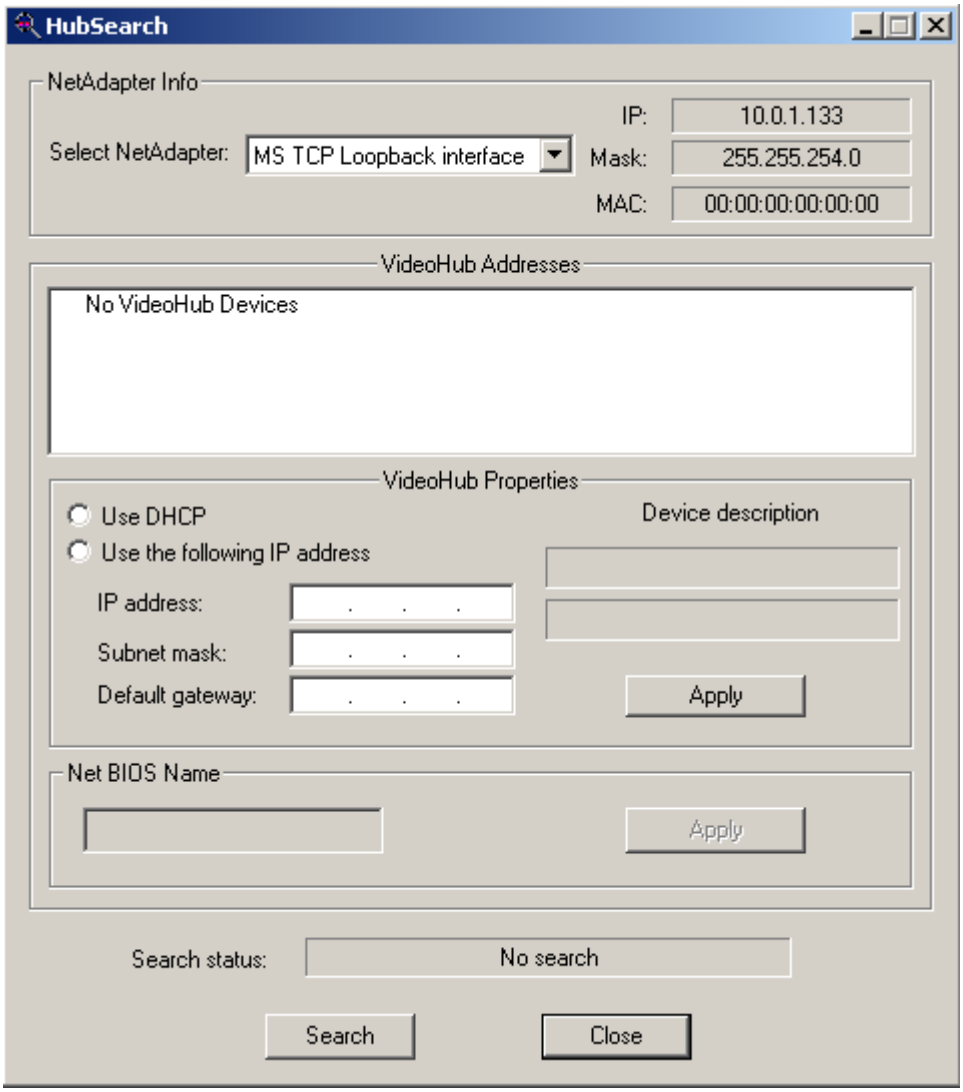


Figure 11.14-1 HubSearch.exe utility dialog window

To close the HubSearch.exe utility use one of the following ways:

1. Click the button in left upper corner of Close dialog window (Figure 11.14-2,1);
2. Press a combination of keys «Alt»+«F4» (Figure 11.14-2,2);
3. Click «Close» button at the bottom of dialog window (Figure 11.14-2,3).

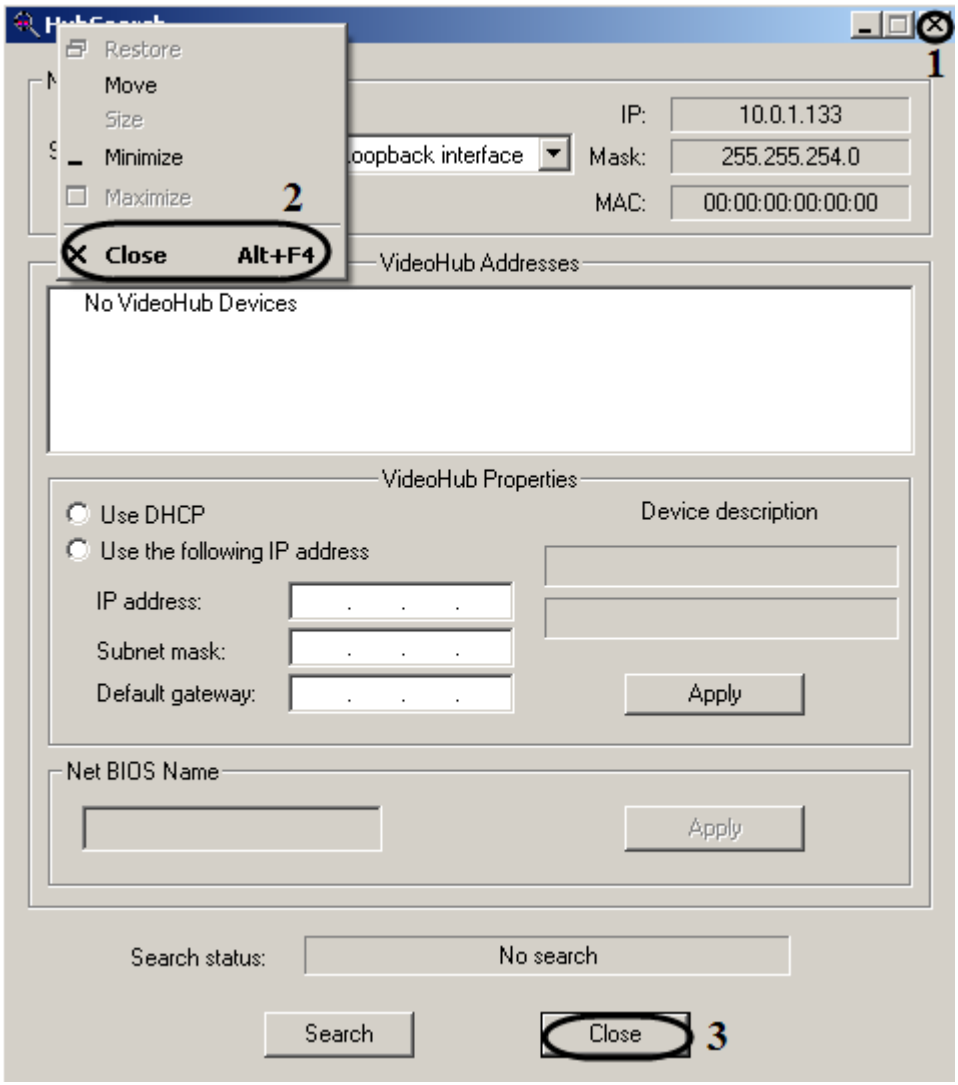


Figure 11.14-2 Closing the HubSearch.exe utility

11.14.3 Interface elements of HubSearch.exe utility window

User interface (dialog window) of HubSearch.exe utility is shown in Figure 11.14-3.

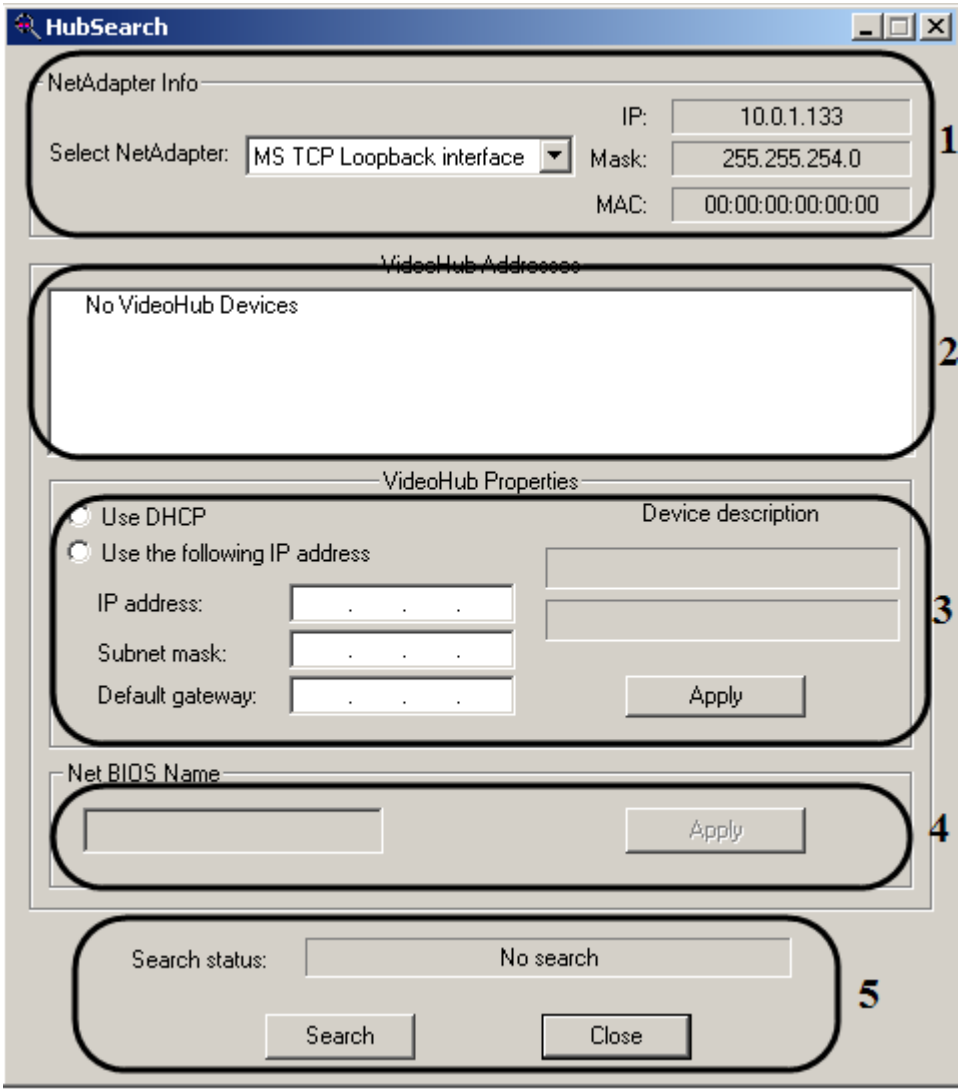


Figure 11.14-3 User interface of HubSearch.exe utility window

Table 11.14-1 shows the content of HubSearch.exe utility user interface.

Table 11.14-1

Group №	group	Element's name	description
1	NetAdapter Info	Dropdown list «Select NetAdapter»	Selection of net adapter
		Display-only field «IP»	Displays IP-address of computer's netcard
		Display-only field «Mask»	Displays mask of computer's netcard
		Display-only field «MAC»	Displays MAC-address of computer's netcard
2	VideoHub Addresses	Field «VideoHub Addresses»	Displays found devices
3	VideoHub Properties	Switch «Use DHCP»	Enables protocol of dynamic site configuration
		Switch «Use the following IP address»	Enables net settings
		Field «IP address»	Set IP address of the device

Group №	group	Element's name	description
		Field «Subnet mask»	Set address mask of the device
		Field «Default gateway»	Set the gate
		2 Display-only fields «Device Description»	Displays parameters of the device
		Button«Apply»	Is used for applying the new settings
4	Net BIOS Name	Field «Net BIOS Name»	Set the netname of the device
		Button« «Apply»	Is used for applying the new settings
5	Search status	Display-only field «Search status»	Displays status of device search
		Button« «Search»	Serves to start the search
		Button« «Close»	Closes dialog window

11.14.4 Using the HubSearch utility

Using the HubSearch.exe utility is done in the following way:

1. Run the HubSearch.exe utility (see. section «**Ошибка! Источник ссылки не найден.** utility of IP devices search»)
2. To search for device click «Search»(Figure 11.14-4).

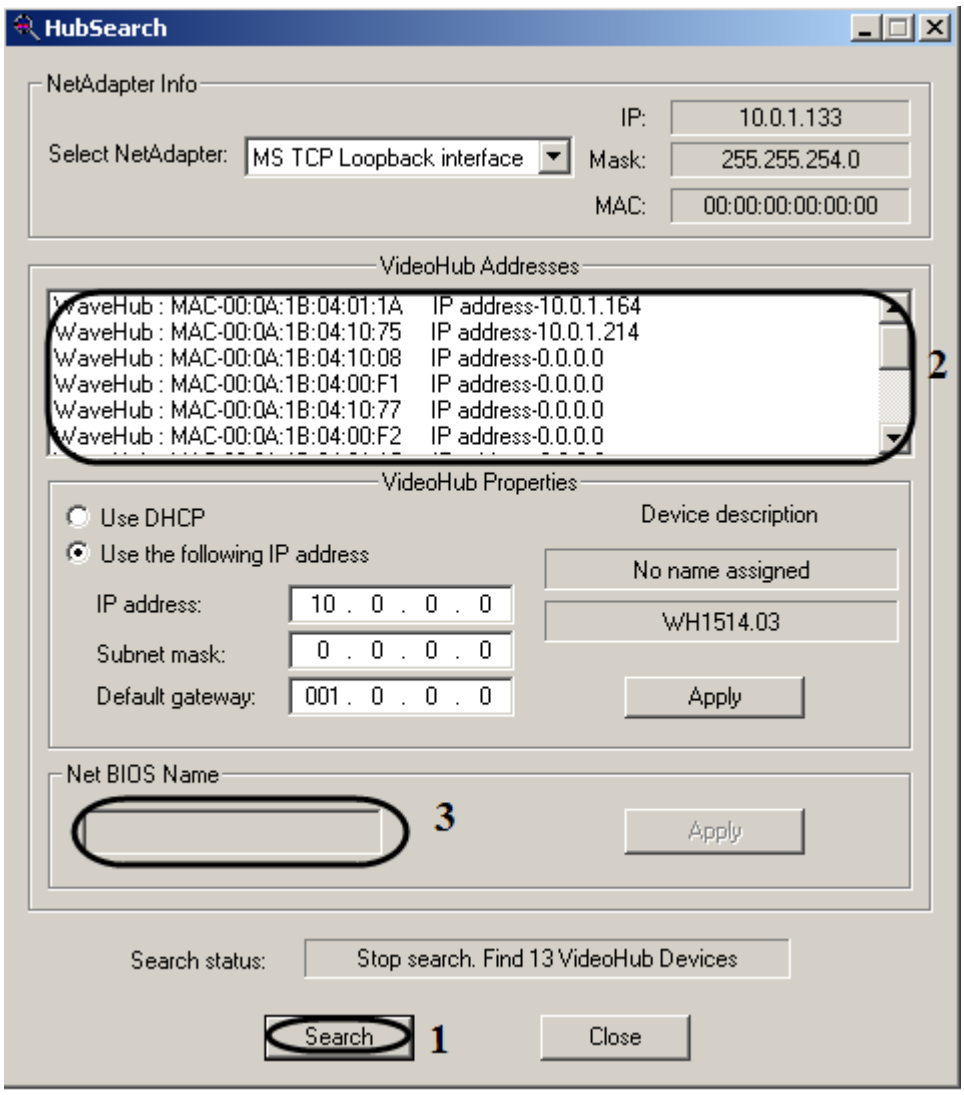


Figure 11.14-4 Using the HubSearch.exe utility

3. From the list «VideoHub Addresses» select the requires net device (Figure 11.14-4,2)
4. When protocol of site dynamic configuration is used, set the switch to the position «Use DHCP». To change net settings set the switch to the position «Use the following IP address»
5. Click «Apply» button of «VideoHub Properties» group to save the changes.
6. If necessary change the net name of the device in the field «Net BIOS Name» (Figure 11.14-4,3).
7. Click «Apply» button of «Net BIOS Name» group to save the changes(Figure 11.14-4,1).
8. Close the HubSearch.exe utility(see. section «Start and finishing the utility»).

Work with HubSearch.exe utility is completed.

11.15 The MatrixCodeReader.exe utility

11.15.1 The purpose of MatrixReader.exe utility

The MatrixCodeReader.exe utility is designed for getting dallas-codes of video capture cards' cryptochips on Matrix devices.

11.15.2 Starting and closing the utility

To start the, MatrixCodeReader.exe do one of the following:

1. Start the utility from the Windows taskbar. Click Start, then Programs, then Intellect, then Tools, then MatrixCodeReader.exe.
2. Run the utility from the folder «Tools\Hub» of Intellect installation directory catalogue. For example: «C:\Program Files\Intellect\Tools\ Hub\ MatrixCodeReader.exe».

MatrixCodeReader.exe dialog window will be displayed in result (Figure 11.15-1).

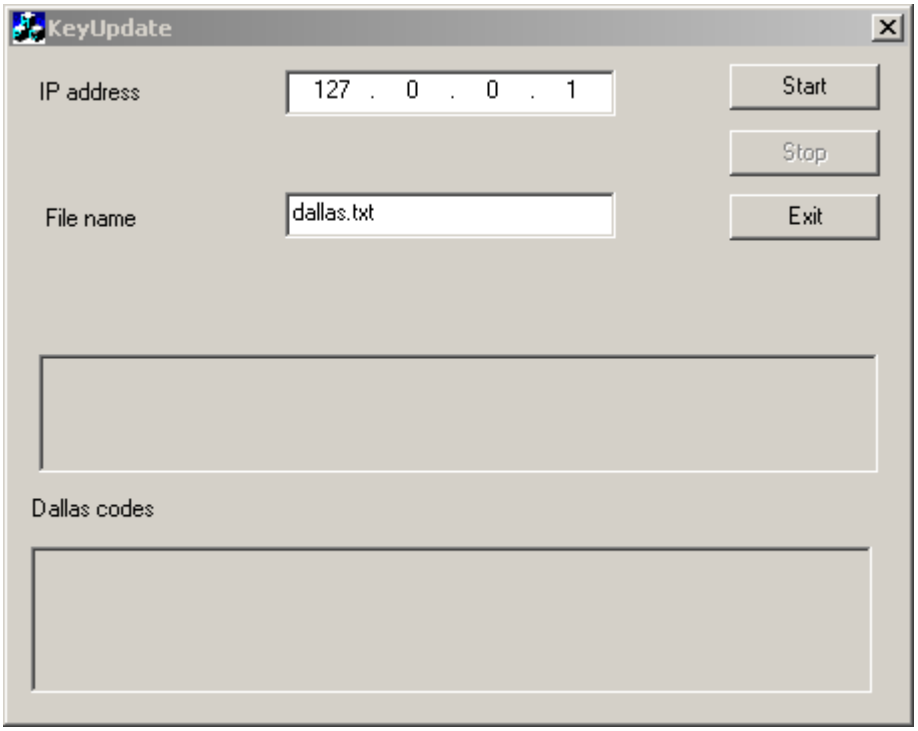


Figure 11.15-1 MatrixCodeReader.exe dialog window

To close MatrixCodeReader.exe do one of the following:

4. Click the button in right upper corner of Close dialog window (Figure 11.15-2,1);
5. Press a combination of keys «Alt»+«F4» (Figure 11.15-2,2);
6. Click «Exit» button in the dialog window (Figure 11.15-2,3).

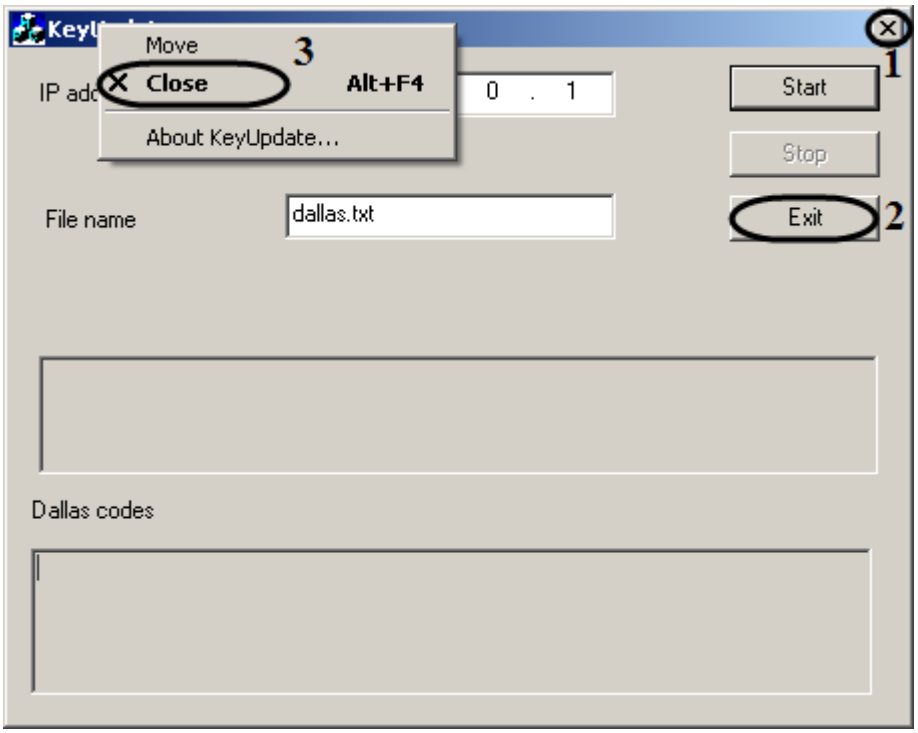


Figure 11.15-2 Closing the MatrixCodeReader.exe

11.15.3 Interface elements of the MatrixCodeReader.exe

The user interface of MatrixCodeReader.exe is shown in Figure 11.15-3.

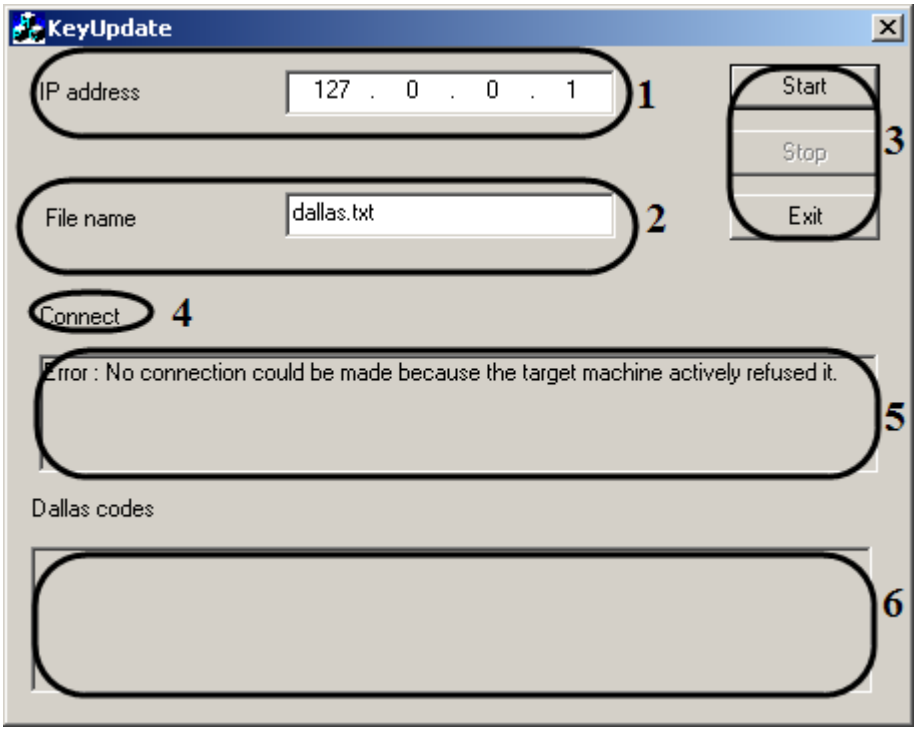


Figure 11.15-3 MatrixCodeReader.exe user interface

MatrixCodeReader.exe user interface has the following elements:

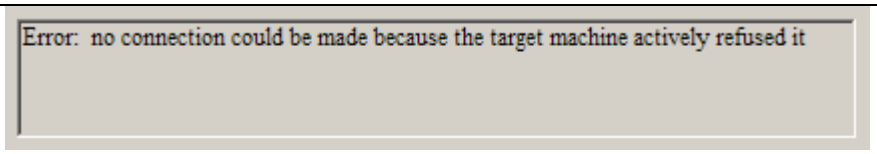
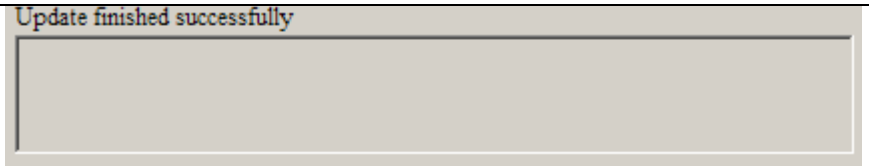
1 Entry field «IP address» of device's IP address (Figure 11.15-3, 1).

2 Entry field «File name» of file's name, containing dallas-code of video capture card's cryptochip. Is set by default(Figure 11.15-3, 2).

3 Start button of running and receiving the dallas-code, Stop button and Exit buttin to quit the utility (Figure 11.15-3, 3).

4 State line (Figure 11.15-3, 4). May contain the following information (Table 11.15-1).

Table 11.15-1

State	Image of inerface's elements
1. Empty line, when the utility is run	
2. Connection at the beginning or when an error has occured	
3. Update finished successfully	

5 Area of error's displaying (Figure 11.15-3, 5).

6 Area of displaying the dallas-code (Figure 11.15-3, 6).

11.15.4 Work order with MatrixCodeReader.exe

Work with MatrixCodeReader.exe is done in the following way:

1. Run MatrixCodeReader.exe (see section Start and closing the utility)
2. Enter IP of the device in the field IP-address (Figure 11.15-4, 1)
3. Click «Start» (Figure 11.15-4, 2)
4. Dallas codes of the boards will appear in the area Dallas codes in result (Figure 11.15-4, 3)
5. Finish work with MatrixCodeReader.exe (see section Start and closing the utility).

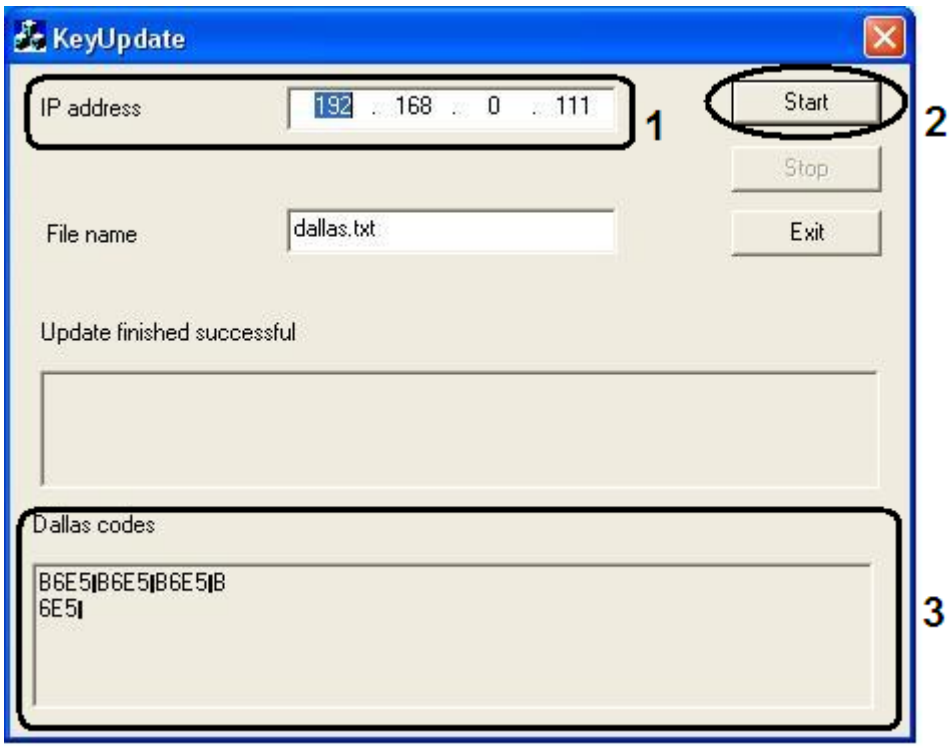


Figure 11.15-4Work with MatrixCodeReader.exe

Work with MatrixCodeReader.exe is over.

11.16 The Boards.exe utility

11.16.1 The purpose of the Boards.exe utility

Boards.exe utility is designed for setting the devices of video digitization, installed on the Server, in Intellect program.

11.16.2 Starting and closing the utility

Boards.exe is run from «Tools» folder of Intellect program installation directory. For example: «C:\Program Files\Intellect\Tools\ Boards.exe» (Figure 11.16-1).

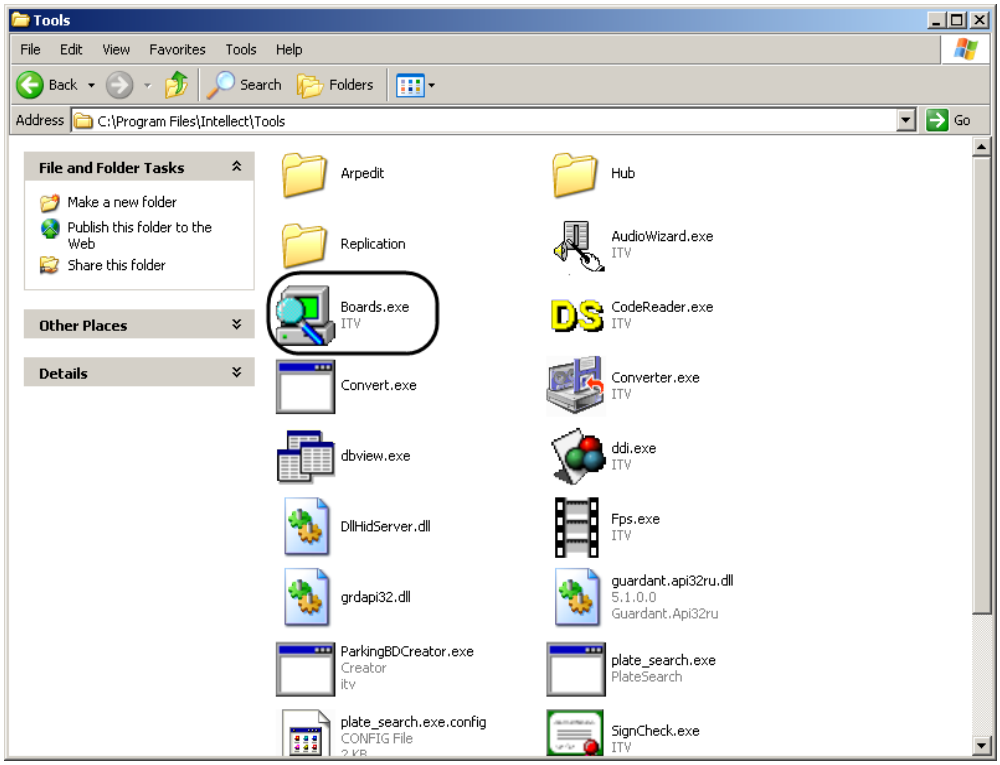


Figure 11.16-1 Starting the Boards.exe

Boards.exe dialog window will be displayed in result(Figure 11.16-2).

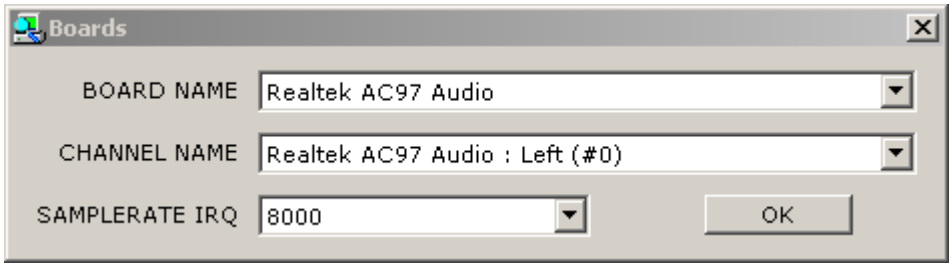


Figure 11.16-2 Boards.exe dialog window

One can quit Boards.exe using one of the following ways:

7. Press a combination of keys «Alt»+«F4»(Figure 11.16-3,1).
8. Click the button in right upper corner of Close dialog window (Figure 11.16-3,2);
9. Click «OK» after changes (Figure 11.16-3,3).

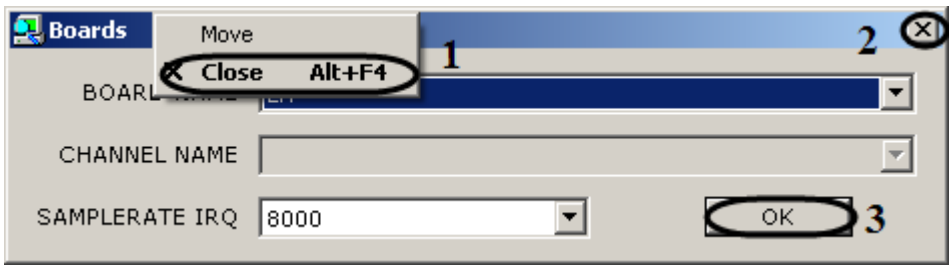


Figure 11.16-3 Closing Boards.exe

11.16.3 Interface elements of Boards.exe

User interface(dialog window) of Boards.exe is shown in



Figure 11.16-4 Interface of Boards.exe

Boards.exe user interface has the following elements, that are shown in Table 11.16-1.

Table 11.16-1

Element №	Element of user interface	Description
1	Dropdown list «BOARD NAME»	Set the type of sound digitization device. Depends on type and number of devices of audio signal digitization installed on the Server.
2	Dropdown list «CHANNEL NAME»	Set the number of audio input channel in accordance with RCA-F pin number, to which microphone is connected. Depends on board type of audio signal digitization.
3	Dropdown list «SAMPLERATE IRQ»	Set the sample rate by the device. Influences on quality of played back and recorded audio signal and size of audio recording. For video capture cards' ADC– 8000, 16000, 32000.
4	Button«OK»	Is used for applying the changes and closing the Boards.exe.

Note. For video capture cards' ADC of ITV company: 0 – Left channel; 1 – Right channel.
The more the level of digitization, the better the quality of audio signal and consequently the more efficiency of audio control.

11.16.4 Using the Boards.exe

Using the Boards.exe utility is done in the following way:

1. Run Boards.exe (see section Start and closing the utility).

2. Select the name of the board from the dropdown list «BOARD NAME» (Figure 11.16-5).

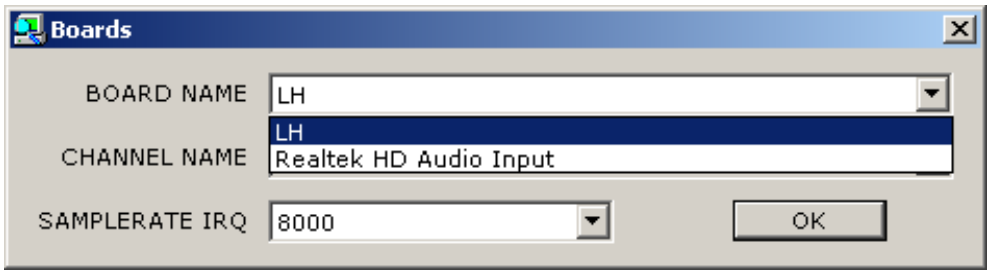


Figure 11.16-5 Changing the board name

3. Select the channel name from the dropdown list «CHANNEL NAME» (Figure 11.16-6).

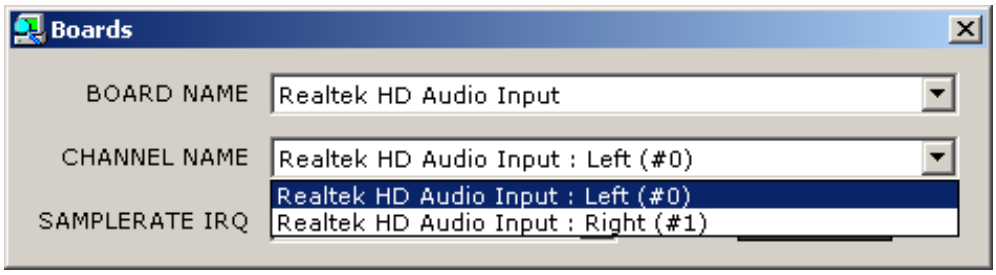


Figure 11.16-6 Changing the Channel name

4. Select the rate of audio signal digitization from the dropdown list «SAMPLERATE IRQ»(Figure 11.16-7).

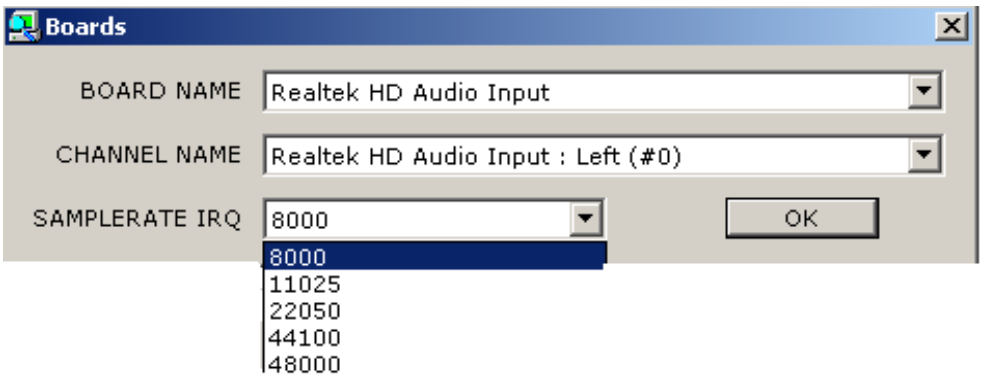


Figure 11.16-7 Changing the «SAMPLERATE IRQ»

5. Click «OK» to save the changes. The utility window will automatically close.

Work with Boards.exe is completed.

11.17 The idb.exe utility for converting databases, selecting database templates and making backup copies of databases

11.17.1 The purpose of the idb.exe utility

The idb.exe utility is designed for database administration of Intellect software. It provides the following functionality:

1. Converting MS Access databases to MS SQL format.
2. Connecting to the Intellect database.
3. Setting up the database synchronization.
4. Creating backup copies of a database.
5. Restoring a database from its backup copy.
6. Changing the database template.
7. Extracting the events log into a separate database.

11.17.2 Starting and closing the utility

Close the Intellect system before starting the idb.exe utility.

To start the idb.exe utility, do one of the following:

1. Start the utility from the Windows taskbar. Click Start, then Programs, then Intellect,then Updating the Database.
2. Start the utility from the Intellect program folder. Example: C:\Intellect\idb.exe.

The idb.exe dialog box will open (Figure 11.17-1).

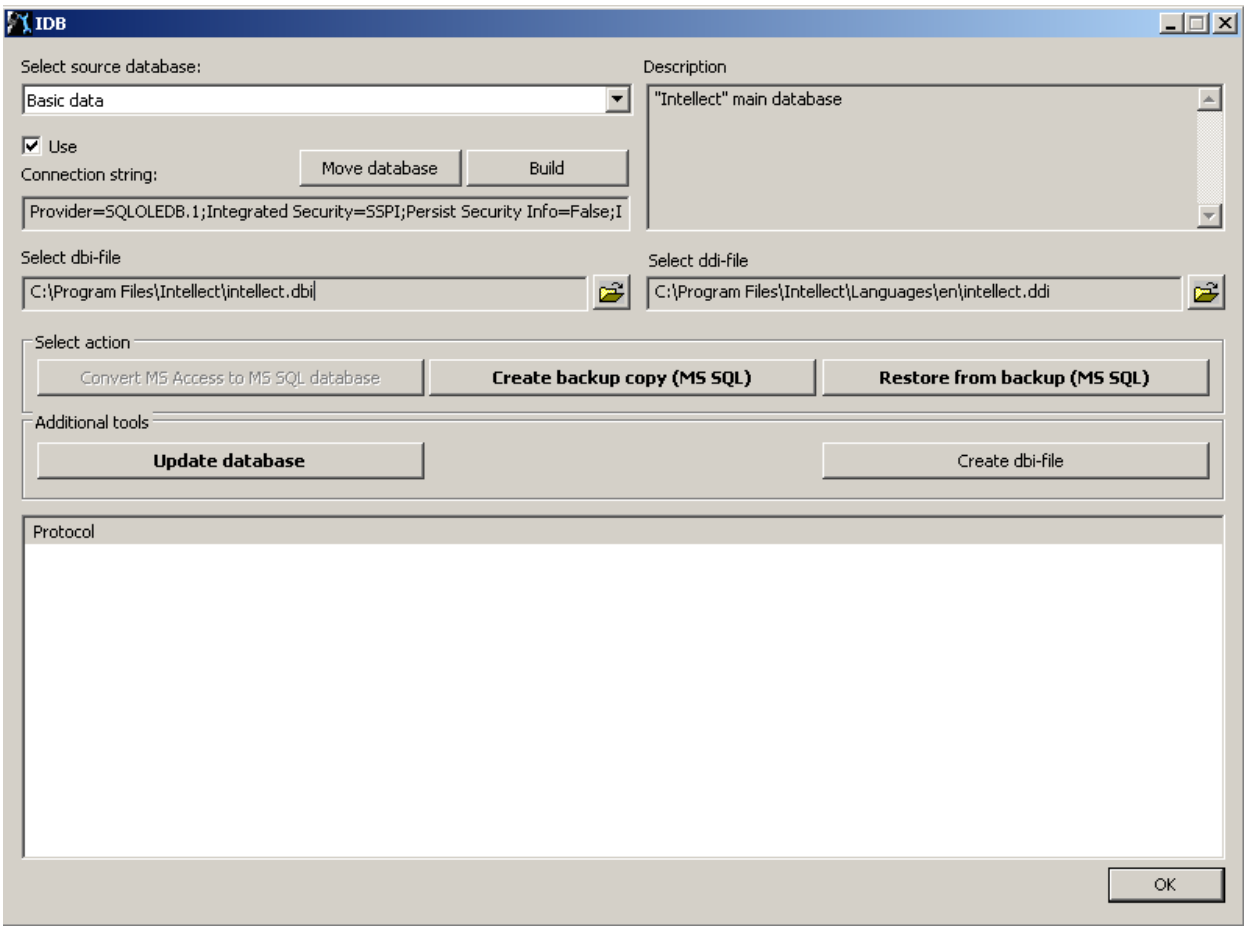


Figure 11.17-1. The Idb.exe dialog window

To confirm the changes and close the utility, click the OK button. To close the utility without saving the changes, click the Close button (☒).

11.17.3 Interface elements of the idb.exe window

Figure 11.17-2 shows the idb.exe dialog window. Table 11.17-1 gives the description of its elements.

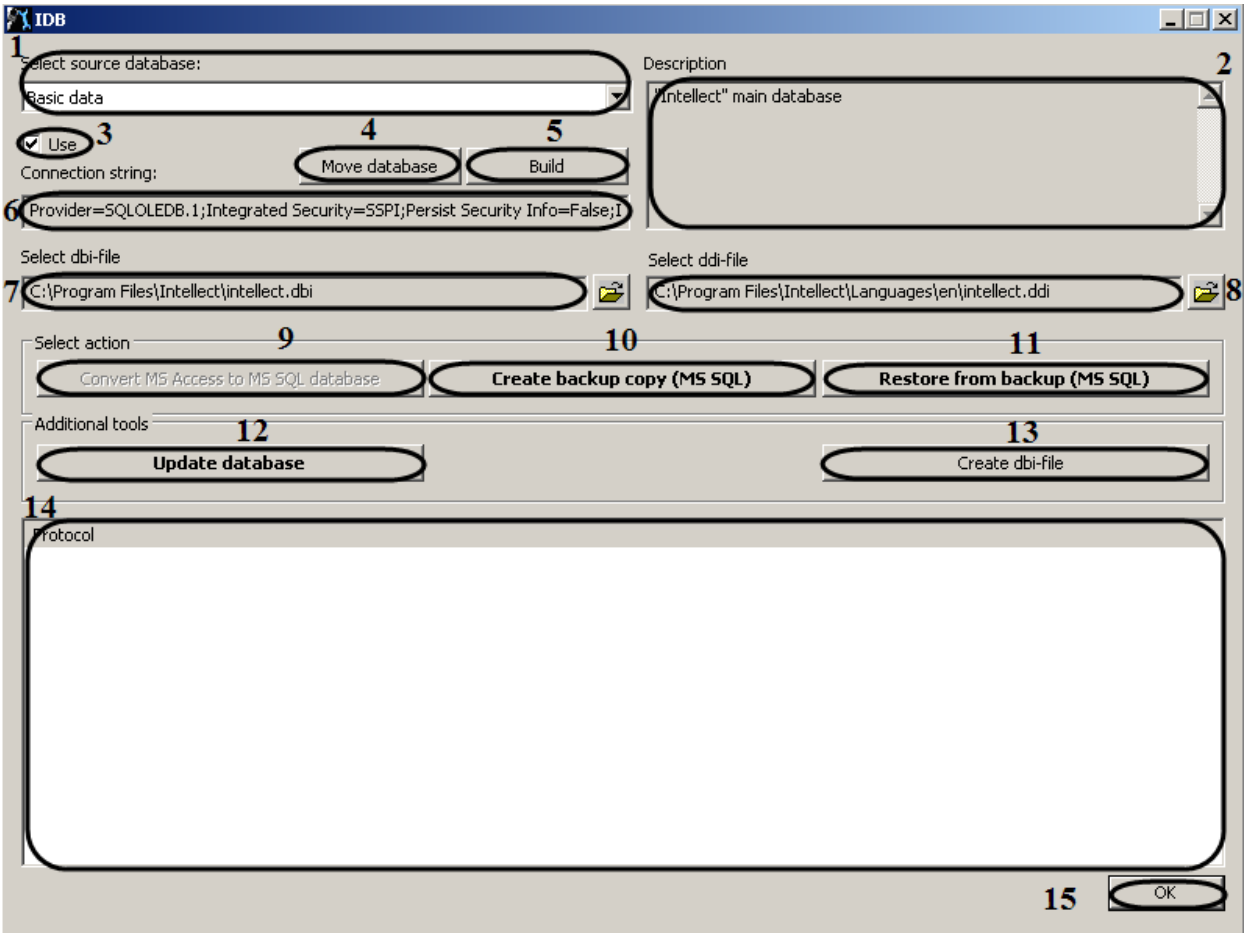


Figure 11.17-2. Idb.exe dialog window

Table 11.17-1

№	Element name	Description	Default value	Allowed values
1	Select source database	A drop-down list for selecting the database: local, events log, or remote.	Basic data	Basic data – local configuration database Synchro source – remote database for synchronization Protocol – events log database Other values are not used.
2	Description	An information field showing the description of the selected source database.	Base for a configuration system Intellect	Base for a configuration system Intellect – Main configuration database of the Intellect system

№	Element name	Description	Default value	Allowed values
				Remote database for synchronization Events log database Other values are not used.
3	Use	A checkbox for enabling/disabling database usage. When checked, the Build button becomes enabled which is used for setting up the connection to the database.	Checked	Checked – database connected Unchecked – database not connected
4	Move the Database	A button for starting the process of creating an .mdf file in MS SQL format to be transferred to another MS SQL server later.	Enabled	Enabled – idb.exe utility is connected to an MS SQL database Disabled – idb.exe utility is not connected to an MS SQL database
5	Build	A button for opening the Data Link Properties dialog box for database connection setup. This button is enabled if the Use checkbox is checked.	Enabled	Enabled – idb.exe utility is connected to the database Disabled – idb.exe utility is not connected to the database
6	Connection string	An information field showing the summary about the database connection	Depends on database connection parameters and server/workstation configuration	Shows the following parameters: Provider, Integrated Security, Persist Security Info, Data Source. The Provider parameter can take the following values: SQLOLEDB.1 – MS SQL database Microsoft.Jet.OLEDB.4.0 – MS Access database; other values are not

№	Element name	Description	Default value	Allowed values
				used. The Integrated Security parameter can take the following values: SSPI – authentication on MS SQL server using Windows account information; parameter not shown – authentication on MS SQL server using login/password, or MS Access database is used. The Persist Security Info parameter can take the following values: True – allow saving the password for automatic connection to the database; False – do not allow saving the password for automatic connection to the database; The Data Source parameter can take the following values: the name of an MS SQL server used for controlling the database; full pathname of the .mdb file of an MS Access database.
7	Select .dbi file	An information field and a button for selecting and displaying a database structure file (.dbi). The updated database will have the structure	C:\Program Files\Intellect\intellect.dbi	Full pathname of the .dbi file

№	Element name	Description	Default value	Allowed values
		specified in this file.		
8	Select .ddi file	An information field and a button for selecting and displaying the name of the .ddi file with system objects, events and actions.	C:\Program Files\Intellect\Languages\ru\intellect.ddi	Full pathname of the .ddi file
9	Convert MS Access to MS SQL database	A button for starting the conversion of an MS Access database to MS SQL format. This button is enabled if the utility is connected to an MS Access database.	Disabled	Enabled – idb.exe utility is connected to an MS SQL database Disabled – idb.exe utility is not connected to an MS Access database
10	Create backup copy (MS SQL)	A button for starting the process of creating a backup copy of the database. This button is enabled if the utility is connected to an MS SQL database.	Enabled	Enabled – idb.exe utility is connected to an MS SQL database Disabled – idb.exe utility is not connected to an MS SQL database
11	Restore from backup (MS SQL)	A button for restoring the database from a backup.	Enabled	Enabled – idb.exe utility is connected to an MS SQL database Disabled – idb.exe utility is not connected to an MS SQL database
12	Update database	A button for starting the process of updating the database structure. The structure is updated according to the .dbi file specified in the Select .dbi File field.	Enabled	Enabled – idb.exe utility is connected to the configuration database Disabled – idb.exe utility is not connected to the configuration database
13	Create dbi-file	A button for creating a database structure file (.dbi template).	Enabled	Enabled - .dbi file creation is allowed.
14	Protocol	An information area displaying the progress of database processing: converting, structure updating,	Empty	An information area displaying the progress of the database processing.

№	Element name	Description	Default value	Allowed values
		creating backup copy, etc.		A blue “i” marks the notifications about successful completion of each processing step. A red “!” marks the notifications about the errors in a processing step. A blue tick marks the completion of the processing.
15	OK	A button for saving the database connection parameters and closing the idb.exe utility.	Enabled	Enabled – saving database connection parameters and closing the utility is allowed. Disabled – the utility is still processing the database.

Note. It is necessary to enter the parameter BackupFolder in the system register OS Windows HKLM\\SOFTWARE\\ITV\\INTELLECT if the folder for database recording can not be changed. (see. «Work with system register OS Windows»).

11.17.4 Using the idb.exe utility

The idb.exe utility allows the administration of the databases of the Intellect system. Using this utility is described in the Database Administration section.

NOTE. The Windows Firewall/ICS service should be enabled to use the idb.exe utility.

11.17.5 Work with idb.exe utility with the use of keys

It is possible to run idb.exe utility with keys. For this click «Start» ⇒ «Run». Enter the path to idb.exe utility and after « /» the required key in the appeared window(Figure 11.17-3).

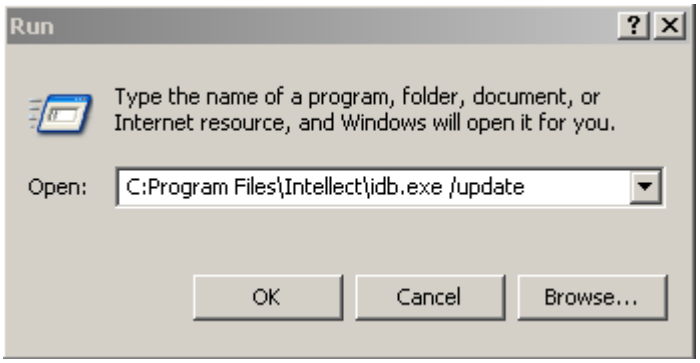


Figure 11.17-3. Work with idb.exe through command line

To display keys, supported by the utility, use the command «idb.exe /?» (Figure 11.17-4).



Figure 11.17-4. The result of «idb.exe/?» command

idb.exe utility supports the run with the following keys:

1. «/update» - the key of running the hidden updating of database (uses intellect.dbi file).
2. «/sync» - - the key of database synchronization with the source of data
3. «/backup» -- the key of running the process of creation the reserve copy of Intellect database. Reserve copy is created to the address «C:\Documents and Settings\USER2\My documents\ITV\Intellect\Data\intellect.sql.bak». Is used, when idb.exe utility is connected to database of MS SQL format.
4. «/restore» -- the key of running the database recover from the previously created reserve copy. Is used, when idb.exe utility is connected to database of MS SQL format .
5. «/set_cs "key=value"» - - the key of saving the connection string to the system register of connection string (free information about parameters of connection to database).
6. «sql_convert:db_name mssql2000|mssql2005» - - the key of running the database conversion process from MS Access to MS SQL format. Is used, when idb.exe utility is connected to database of MS Access format.

11.17.6 Singling the events protocol into a separate database

External events protocol is created with the help of idb.exe utility. Do the following to connect external events protocol:

1. Open idb.exe utility (see. Start and closing the utility).
2. Select Protocol administration database in the dropdown list Select source database (Figure 11.17-5).

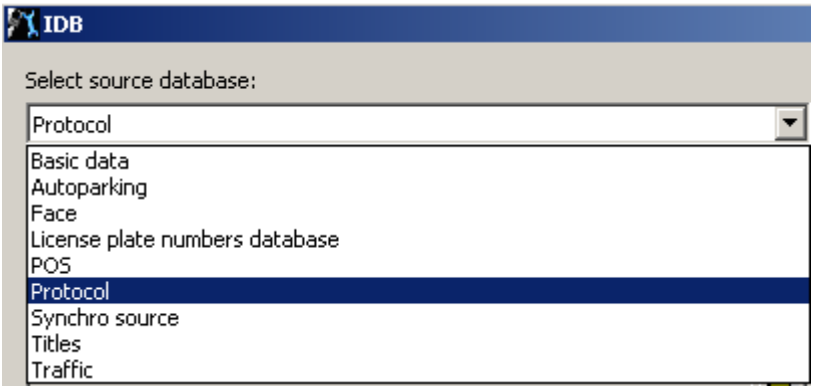


Figure 11.17-5 Selecting the source database

3. To enable Protocol database set the Use checkmark (Figure 11.17-6).

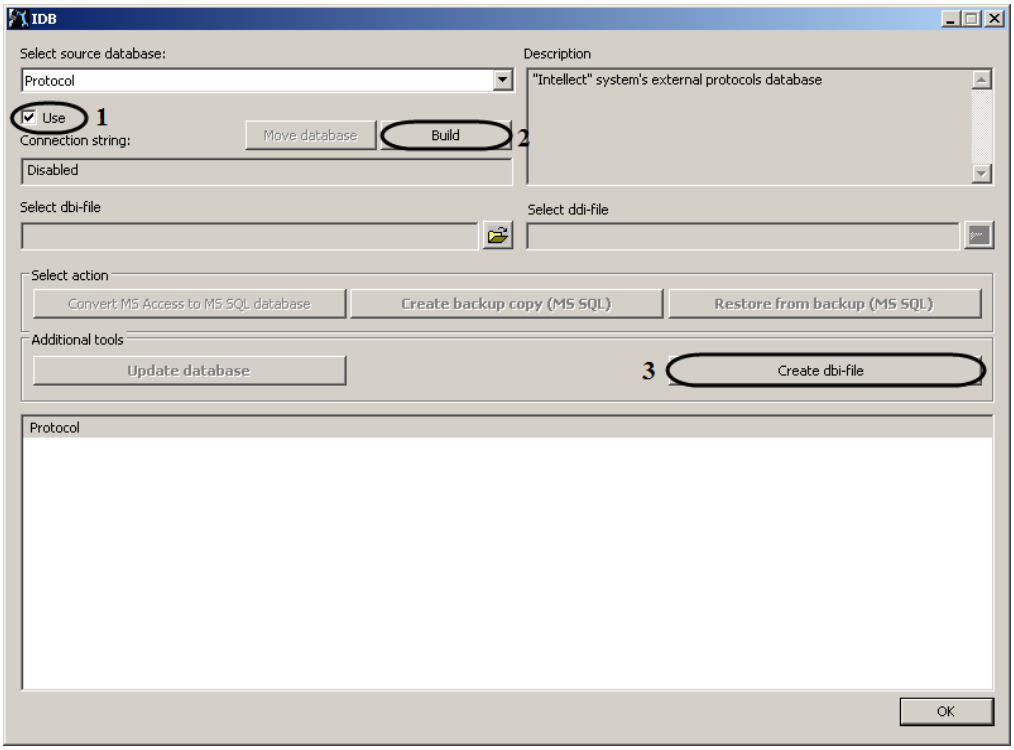


Figure 11.17-6 Setting up Protocol database

4. In result Build button will be activated (Figure 11.17-6). Click Build button to connect to Protocol database.

5. In result Data link properties dialog window will be displayed. Go to Provider tab in the opened window.

6. Select the point «Microsoft OLE DB Provider for SQL Server» from the list ULE DB Provider (Figure 11.17-7,1).

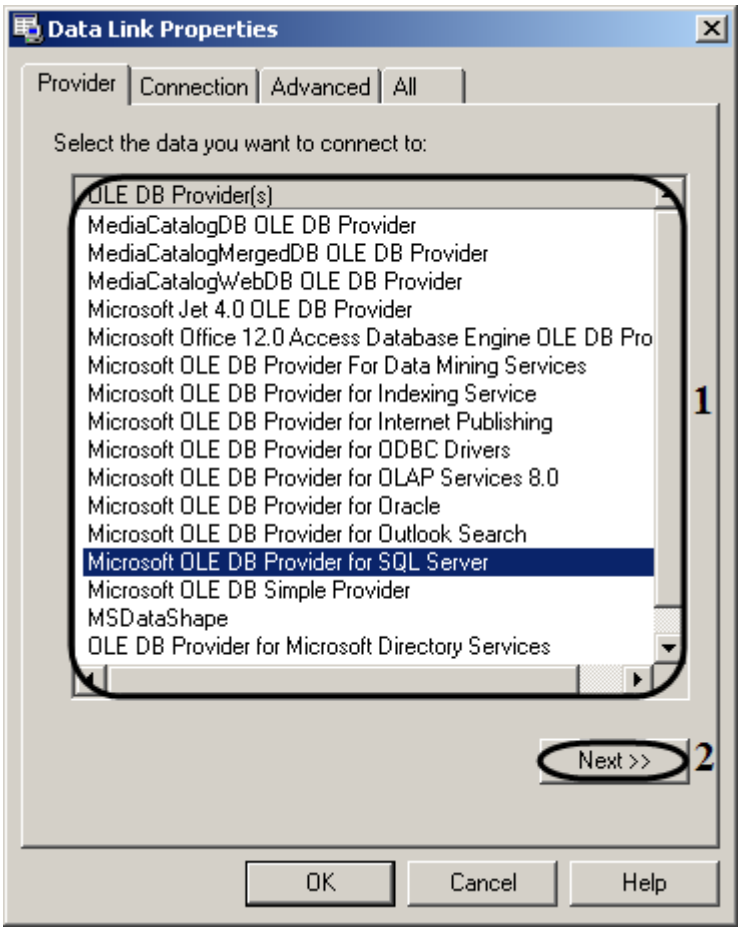


Figure 11.17-7 Provider tab

7. Click Next button (Figure 11.17-7,2).
8. After this operation there is auto transfer to the Connection tab .
9. On the Connection tab do the following:

- Select the server name from the dropdown list Select or enter a server name (Figure 11.17-8,1).

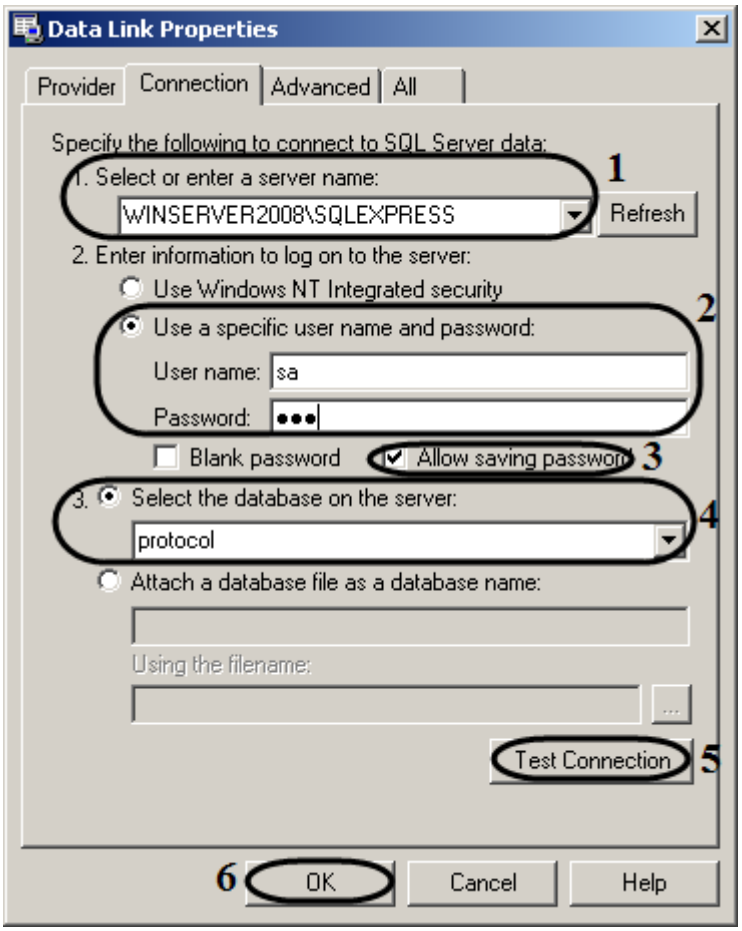


Figure 11.17-8 Connecting to SQL Server

- In the field User enter the user name and in the field Password enter the password: (Figure 11.17-8,2).
- Set the checkmark Allow saving password (Figure 11.17-8, 3).
- Select the Protocol database from the dropdown list Select database on the server (Figure 11.17-8, 4).

Note. Protocol database is necessary to be created beforehand with the help of MS SQL Server program. For this do the following:

1. *Open Microsoft SQL Server Management Studio Express;*
2. *Select «Databases» (**Figure 11.17-9**);*

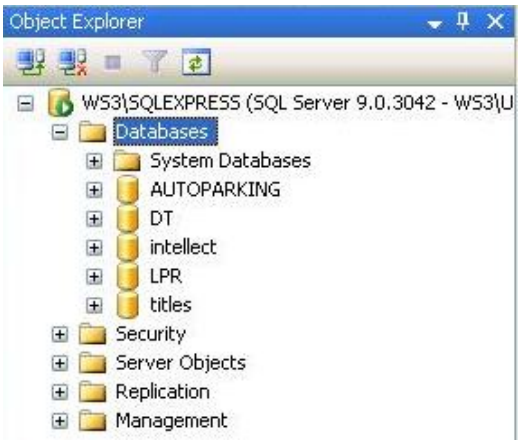


Figure 11.17-9 Selecting the Databases

3. *Press the right mouse button and click «New Database…»;*

4. *Enter database name Protocol in the line Database name in the opened window «New Database» (*Figure 11.17-10*);*

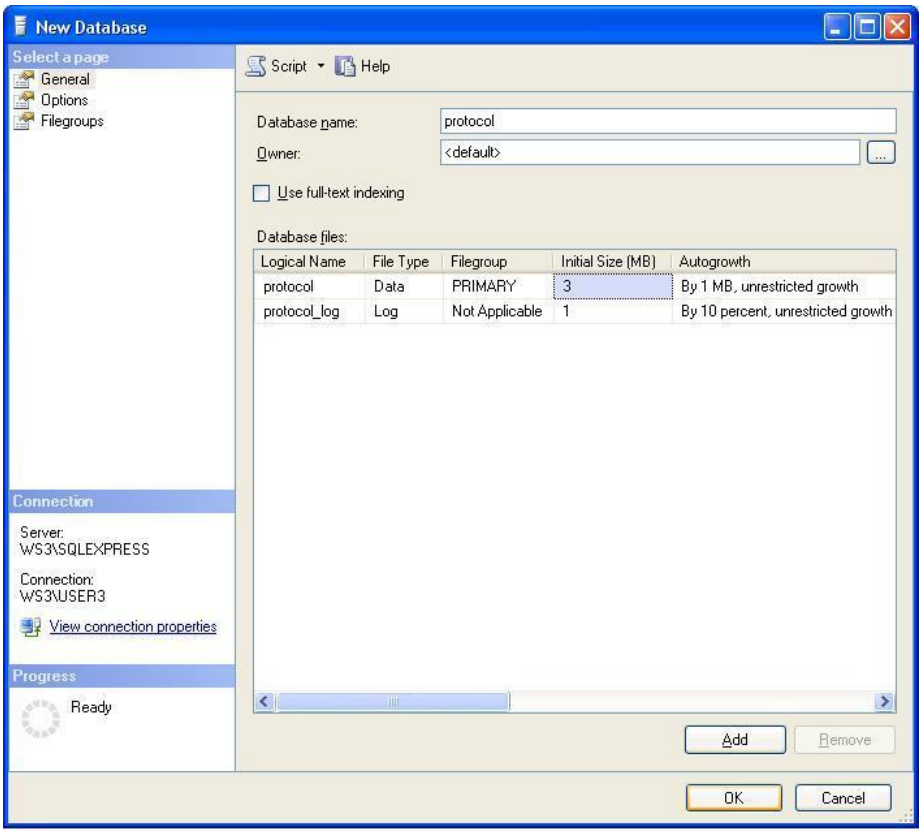


Figure 11.17-10 Creating the new database

5. *Click Ok to create new database «protocol»;*

6. *Close Microsoft SQL Server Management Studio Express, clicking «Close» - «» in the right upper corner of the window.*

In result protocol database was created.

- Click the Check connection button (Figure 11.17-10);

- When connection to MS SQL server is successfully carried out, Test connection succeeded message will be displayed (Figure 11.17-11).

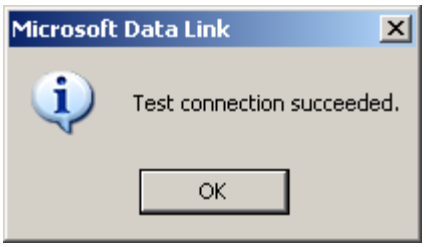


Figure 11.17-11 Message confirming the connection

- Click OK in the message window to close the window automatically.

10. Then select dbi file. Click the button next to the information field «Select dbi file:».
11. «Open»window will open in result (Figure 11.17-12).
12. Select the file of database structure– C:\Program Files\Intellect\intellect.dbi

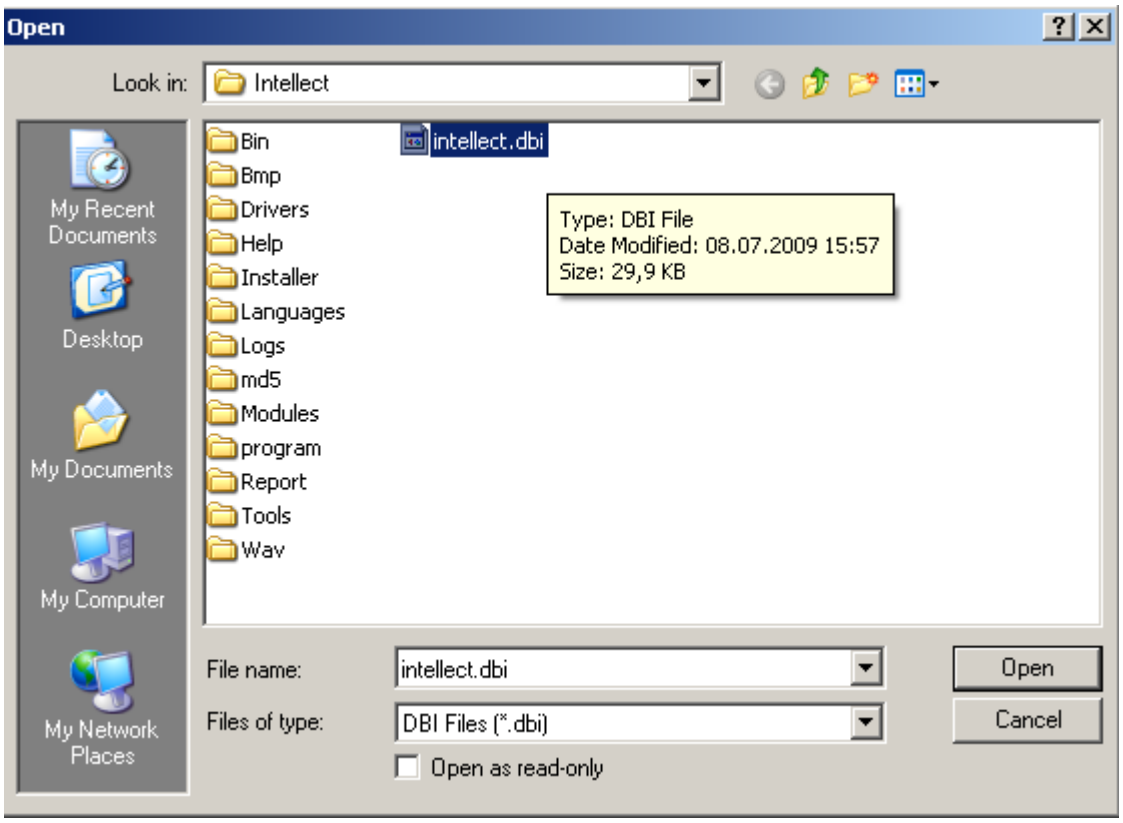


Figure 11.17-12 Creating dbi.file

13. To start Update database process in accordance with intellect.dbi database structure file stated in the field «Select dbi file: »click the Update database button (Figure 11.17-13).

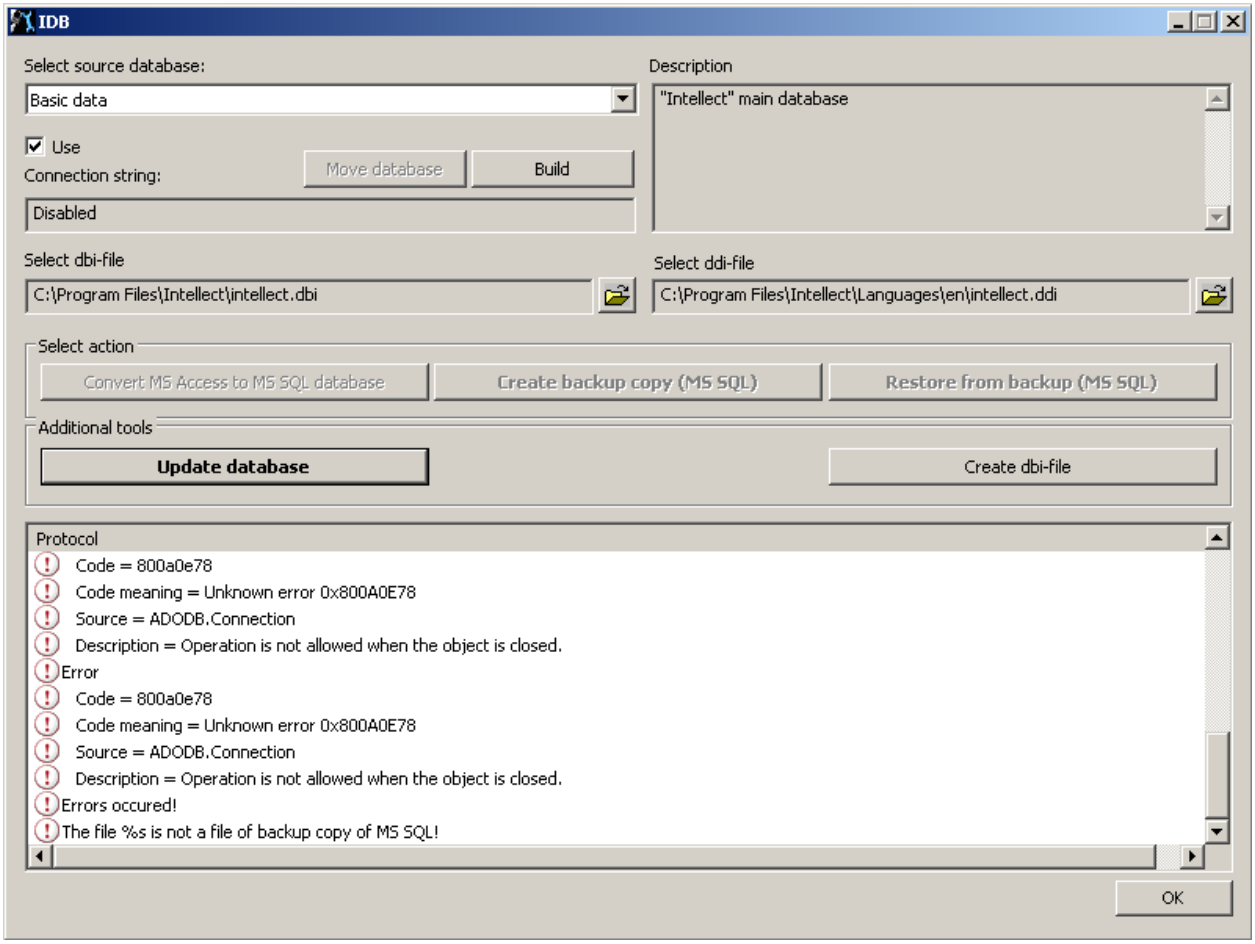


Figure 11.17-13 Updating the database structure

14. Updating process of database structure will start in result. Information concerning this process is displayed in the Protocol table.
15. Updating process of database structure is completed, when the message Updating the database is over is displayed in the Protocol table.
16. Click Ok button to save Intellect PC connection parameters to Protocol database, the window will close automatically in result.

External events protocol is created and connected.

12 Appendix 3. Technical Characteristics of the Video capture cards

Table 11.17-1 shows the technical characteristics of FS-5, FS-6, FS-16 and FS-8 video capture cards.

Table 11.17-1

Parameters	FS-5	FS-6	FS-16	FS-8
PCI bus, bit / MHz	32 / 33, using PCI-66/X	32 / 33, using PCI-66/X	PCI E 1x	32 / 33, using PCI-66/X
Supply voltage, V	3.3 and 5	3.3 and 5	3.3	3.3 and 5
Power consumption, W	2	5	5	9
Video inputs, V / Ohm	1 / 75	1 / 75	1 / 75	1 / 75
Video output, V / Ohm	1 / 75	1 / 75	1 / 75	1 / 75
Number of video inputs	16	16	16	16
Hardware compression	no	no	no	no
Analog video out	1 (optional)	1 (optional)	1 (optional)	1 (built-in)
Signal type	CCIR PAL, NTSC	CCIR PAL, NTSC	CCIR PAL, NTSC	CCIR PAL, NTSC
Resolution, pixels	PAL: 352*288, 704*288, 704*576 / NTSC: 320*240, 640*240, 640*480	PAL: 352*288, 704*288, 704*576 / NTSC: 320*240, 640*240, 640*480	PAL: 352*288, 704*288, 704*576 / NTSC: 320*240, 640*240, 640*480	PAL: 352*288, 704*288, 704*576 / NTSC: 320*240, 640*240, 640*480
Resolution, TV lines (b/w, color)	500 (500)	500 (500)	500 (500)	500 (500)
Color palette	16 mln colors, 256 shades of gray	16 mln colors, 256 shades of gray	16 mln colors, 256 shades of gray	16 mln colors, 256 shades of gray
Number of multiplexed video inputs	16	16	16	16
Number of non-multiplexed (live) video inputs	1	4	4	8
Video input rate for each non-multiplexed channel, fps, PAL (NTSC)	25 (30)	25(30)	25(30)	25(30)
Total video input rate for all multiplexed channels, fps, PAL	16 (704x288, 352x288) 12 (704x576)	64 (704x288, 352x288) 48 (704x576)	64 (704x288, 352x288) 48 (704x576)	128 (704x288, 352x288) 96 (704x576)

Parameters	FS-5	FS-6	FS-16	FS-8
Total video input rate for all multiplexed channels, fps, NTSC	20 (640x240, 320x240) 15 (640x480)	80 (640x240, 320x240) 60 (640x480)	80 (640x240, 320x240) 60 (640x480)	160 (640x240, 320x240) 120 (640x480)
Total video input rate for all non-multiplexed channels, fps, PAL (NTSC)	25 (30)	100 (120)	100 (120)	200 (240)
Galvanic separation of sensor lines	4(16), 2000 V	4(16), 2000 V	4(16), 2000 V	4(16), 2000 V
Galvanic separation of control outputs	4, 24 V, 30 mA	4, 24 V, 30 mA	4, 24 V, 30 mA	4, 24 V, 30 mA
Number of audio inputs	2, line, 1 kOhm	8, line, 1 kOhm	8, line, 1 kOhm	16, line, 1 kOhm
Audio digitizing frequency, kHz	8, 16, 32	8, 16, 32	8, 16, 32	8, 16, 32
Watchdog, hardware control of OS hanging-up	yes	yes	yes	yes
Digital-analog conversion, bit	9	9	9	9

Table 11.17-2 shows the technical characteristics of WS-6, WS-7 and WS-17 video capture cards.

Table 11.17-2

Parameters	WS-6		WS-7		WS-17	
PCI bus, bit / MHz	32 / 33, using PCI-66/X		32 / 66(33)		1x	
Supply voltage, V	3.3 and 5		3.3		3.3	
Power consumption, W	4		8		8	
Video inputs, V / Ohm	1 / 75		1 / 75		1 / 75	
Video output, V / Ohm	no		no		no	
Number of video inputs	4		4		4	
Hardware compression	yes		yes		yes	
Analog video out	no		no		no	
Signal type	CCIR PAL, NTSC		CCIR PAL, NTSC		CCIR PAL, NTSC	
Resolution, pixels	PAL	NTSC	PAL	NTSC	PAL	NTSC

Parameters	WS-6		WS-7		WS-17	
	704*544	640*480	704*288 704*544	640*240 640*480	352*288 704*288 704*544	320*240 640*240 640*480
Resolution, TV lines (b/w, color)	500 (500)		500 (500)		500 (500)	
Color palette	16 mln colors, 256 shades of gray		16 mln colors, 256 shades of gray		16 mln colors, 256 shades of gray	
Number of multiplexed video inputs	-		-		-	
Number of non-multiplexed (live) video inputs	4		4		4	
Video input rate for each non-multiplexed channel, fps, PAL (NTSC)	25 (30)		25 (30)		25 (30)	
Total video input rate for all multiplexed channels, fps, PAL	-		-		-	
Total video input rate for all multiplexed channels, fps, NTSC	-		-		-	
Total video input rate for all non-multiplexed channels, fps, PAL (NTSC)	100 (120)		100 (120)		100 (120)	
Galvanic separation of sensor lines	no		no		no	
Galvanic separation of control outputs	no		no		no	
Number of audio inputs	8, line, 1 kOhm		8, line, 1 kOhm		8, line, 1 kOhm	
Audio digitizing frequency, kHz	16		16		16	
Watchdog, hardware control of OS hanging-up	no		no		no	
Digital-analog conversion, bit	9		-		-	

13 Appendix 4. Video capture cards pins

13.1 FS-5 video capture card pins scheme

FS-5 video capture card has 3 external pins– two RCA pins and D-SUB-25 pin (Fig. 11.17.6-1). Video connection is performed to the D-SUB-25 pin with the help of D-SUB-25/BNC stub. Up to 16 cameras simultaneous connection is possible. Sound connection is performed with the help of RCA pins (two sound sources are maximum possible). Analog output card is connected to J2, J7, J8 pins. Watchdog cable is connected to the pin J1.

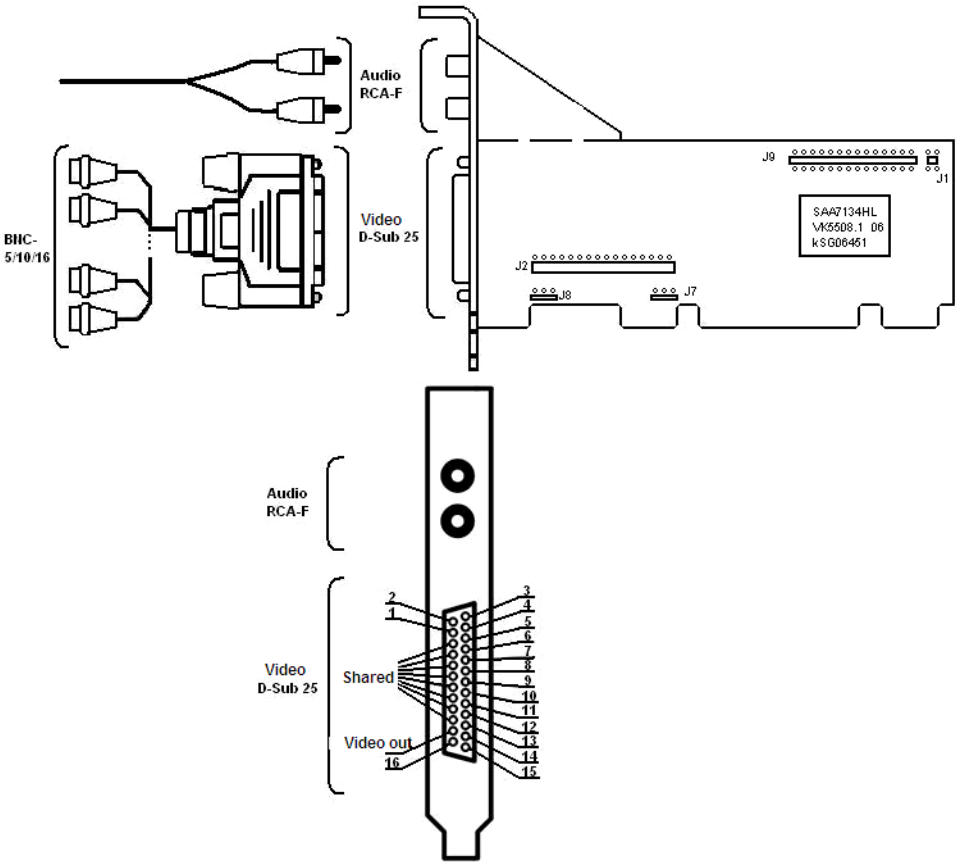


Fig. 11.17.6-1 FS-5 card pins scheme

13.2 FS-6 video capture card pins scheme

FS-6 video capture card has external pins D-SUB-9 and D-SUB-25 (Fig. 11.17.6-1). Video connection is performed with the help of D-SUB-25/BNC stub. Up to 16 cameras simultaneous connection is possible. Interface cable D-SUB-9/RCA-8 is used for connecting the audio channels (up to 8 sound sources simultaneously) to the external pin D-SUB-9 of FS-6 video capture card. Analog output card is connected to J2, J7, J8 pins. Watchdog cable is connected to the pin J1.

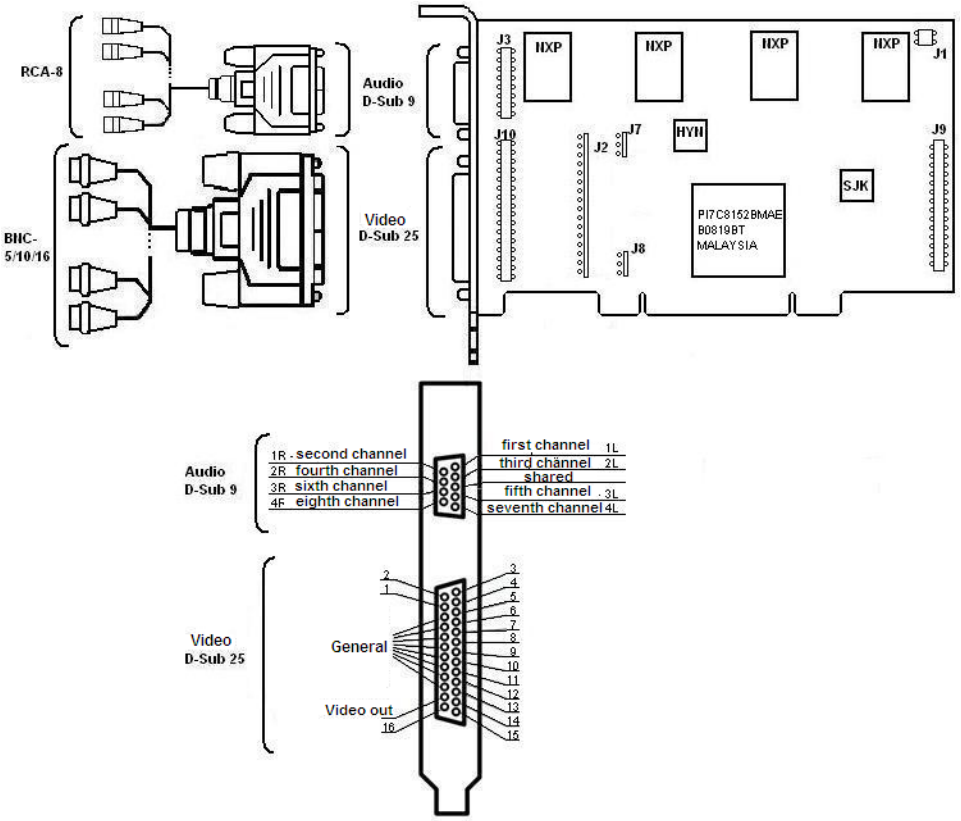


Fig. 11.17.6-1 FS-6 card pins scheme

13.3 FS-16(Exp) video capture card pins scheme

FS16 (Exp) video capture card has external pins D-SUB-9 and D-SUB-25 (Fig. 11.17.6-1). Video connection is performed with the help of D-SUB-25/BNC stub. Up to 16 cameras simultaneous connection is possible. Interface cable D-SUB-9/RCA-8 is used for connecting the audio channels to the external pin D-SUB-9 of FS16 (Exp) video capture card (up to 8 sound sources simultaneously). Analog output card is connected to J2, J7, J8 pins. Watchdog cable is connected to the pin J1.

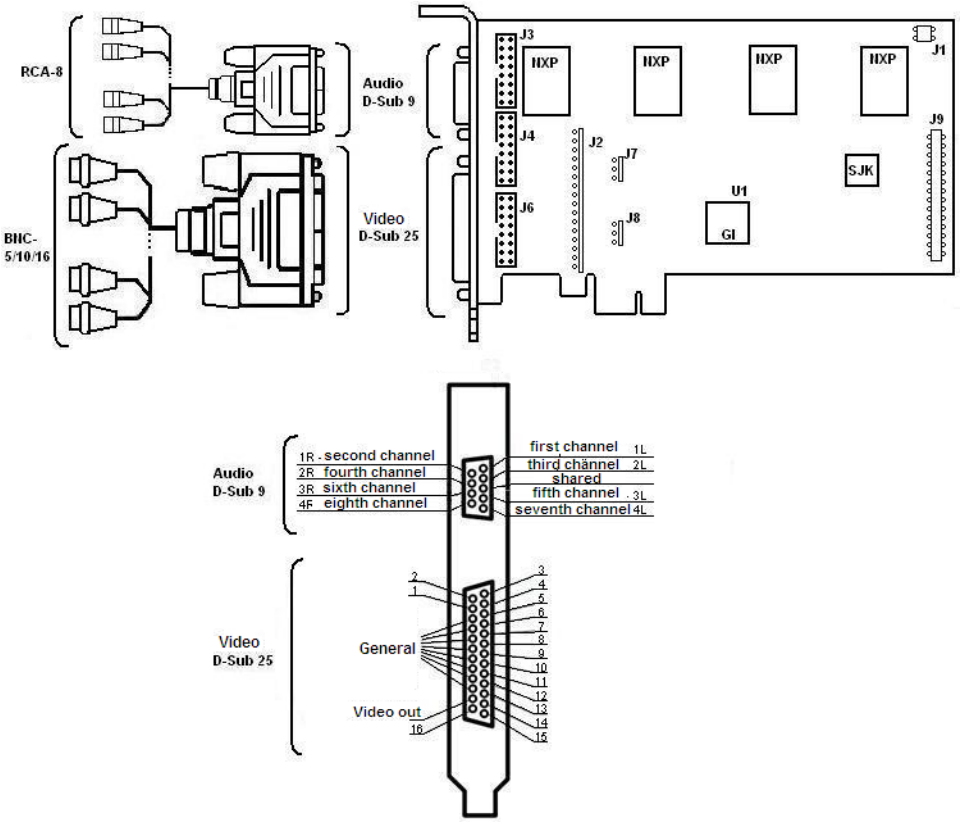


Fig. 11.17.6-1 FS-16 card pins scheme

13.4 FS-8 video capture card pins scheme

FS-8 video capture card has two external pins D-SUB-9 and D-SUB-25 and one internal pin IDC-16 (Fig. 11.17.6-1). Video connection is performed with the help of D-SUB-25/BNC stub via pin D-SUB-25. Up to 16 cameras simultaneous connection is possible. Interface cable D-SUB-9/RCA-8 is used for connecting the audio channels to the external pin D-SUB-9 of FS-8 video capture card (up to 8 sound sources simultaneously). To connect additional audio channels the bracket of sound extension IDC-16/D-SUB-9 is used (up to 8 sound sources simultaneously). It is connected to the internal pin of FS-8 video capture card. Watchdog cable is connected to the pin J1.

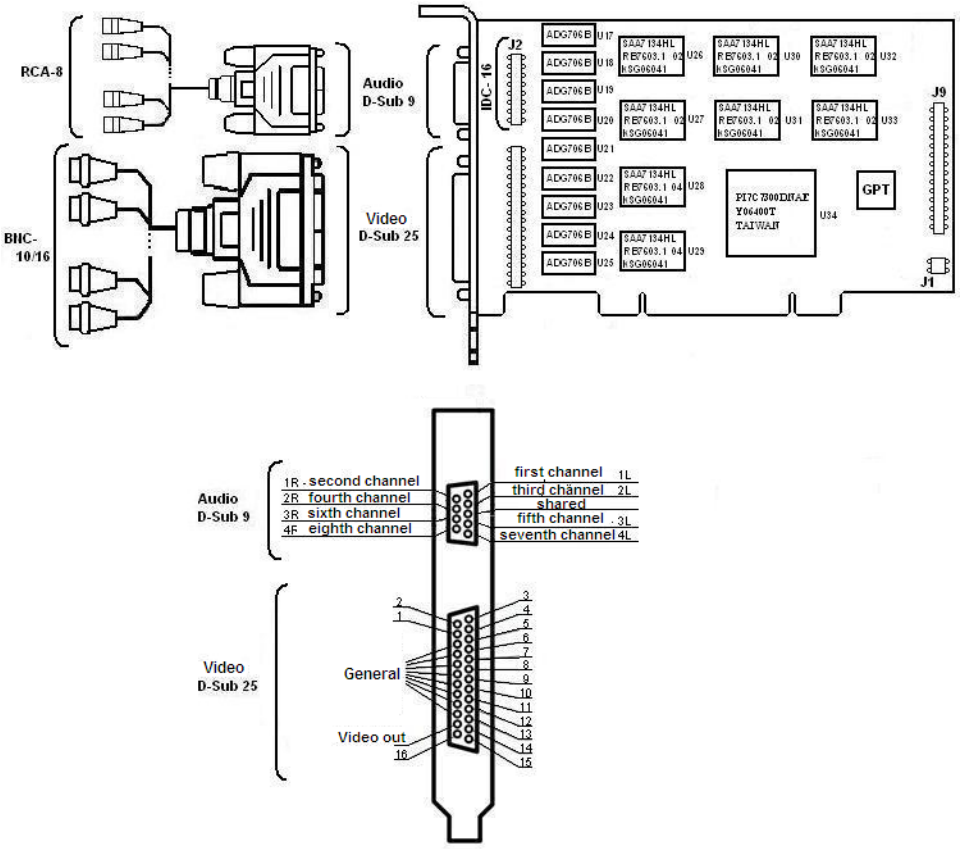


Fig. 11.17.6-1 FS-8 card pins scheme

13.5 WS-7 video capture card pins scheme

WS-7 video capture card has two external pins D-SUB-9 and D-SUB-25 (Fig. 11.17.6-1). Interface cable D-SUB-25/BNC is used for 4 cameras simultaneous connecting to the external pin D-SUB-25 of WS-7 video capture card. Interface cable D-SUB-9/RCA is used for 4 audio channels simultaneous connecting to the external pin D-SUB-9 of WS-7 video capture card.

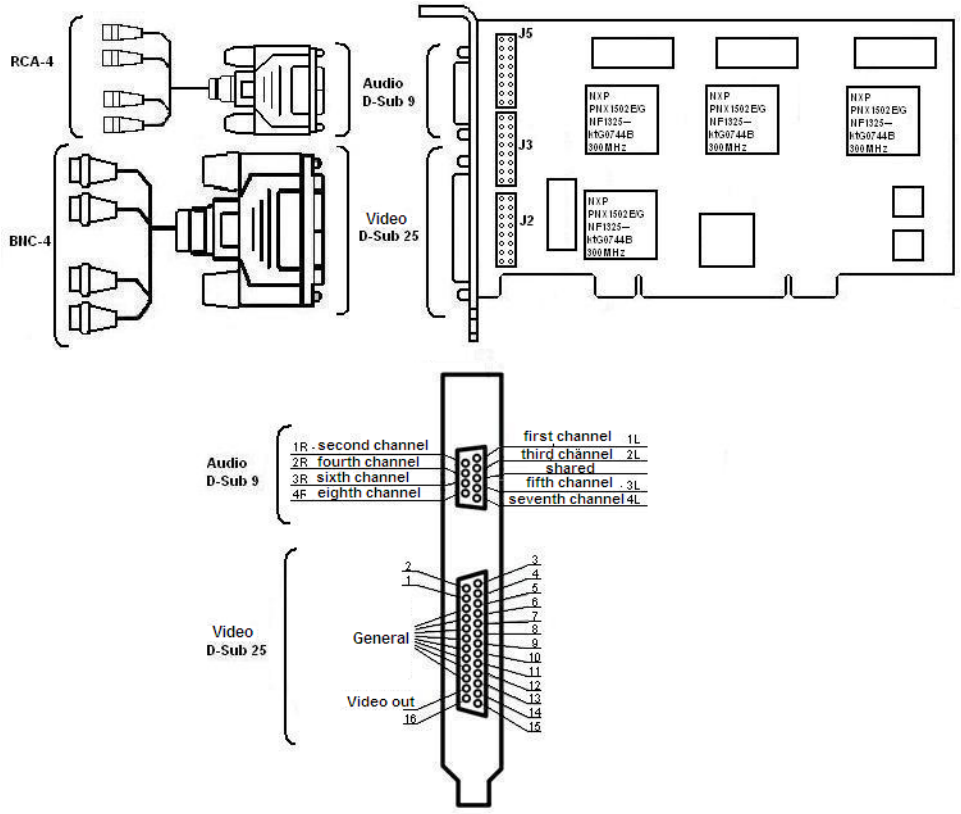


Fig. 11.17.6-1 WS-7 card pins scheme

13.6 WS-17 video capture card pins scheme

WS-17 video capture card has two external pins D-SUB-9 and D-SUB-25 (Fig. 11.17.6-1). Interface cable D-SUB-25/BNC is used for 4 cameras simultaneous connecting to the external pin D-SUB-25 of WS-17 video capture card. Interface cable D-SUB-9/RCA is used for 4 audio channels simultaneous connecting to the external pin D-SUB-9 of WS-17 video capture card.

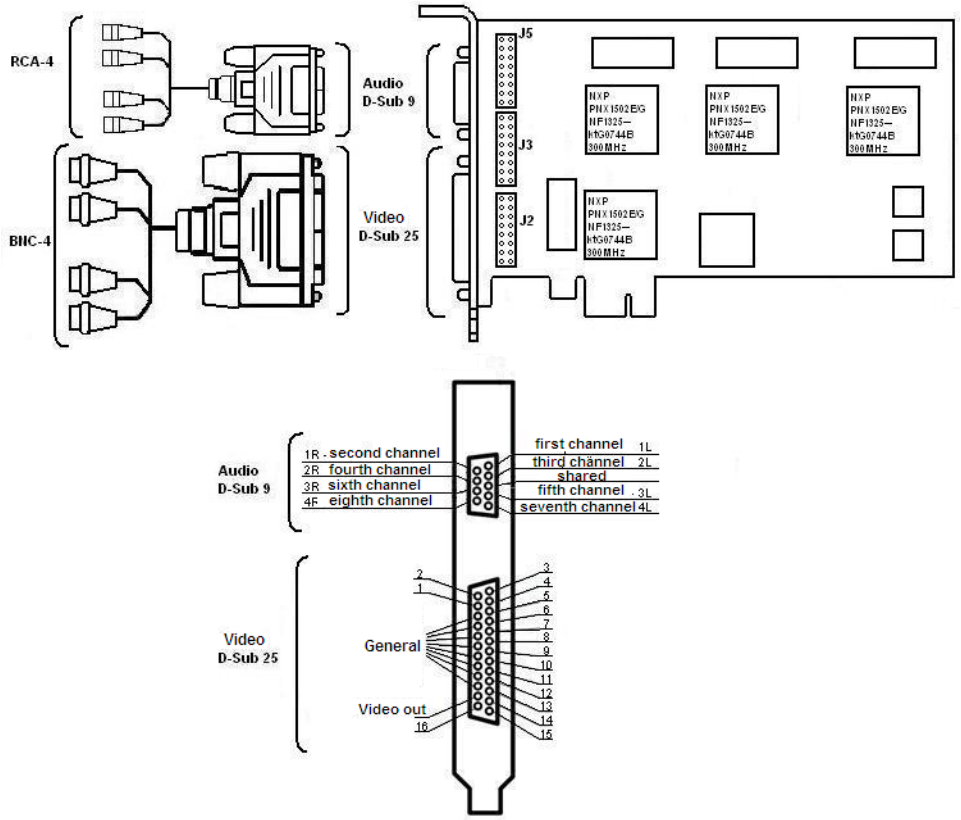


Fig. 11.17.6-1 WS-17 card pins scheme

14 Appendix 5. Relevant information on using Windows operating system

14.1 Working with Windows OS registry

14.1.1 General information about Windows OS registry

Windows system registry is a database containing the settings of the operating system (hardware, software, users). When system parameters of the operating system are changed, the system registry is updated.

The registry can be edited by the regedit.exe program included in the standard set of service programs in Windows. The information is stored in two hidden files in a Windows folder: system.dat and user.dat . The registry is a hierarchical tree structure, the branches of which constitute the keys that contain values or subkeys. The registry has six main branches described in Table 14.1-1.

Table 14.1-1

Branch name	Description
HKEY_CLASSES_ROOT	Contains the information of software configuration, including the links from file extensions to programs, drag-and-drop parameters, printer settings and

	COM port settings.
HKEY_CURRENT_USER	Contains user settings of the system. This section is created and populated from the HKEY_USERS section upon user logon.
HKEY_LOCAL_MACHINE	Contains the parameters of the computer, its drivers and other hardware. The data in this section is shared by all users of the computer.
HKEY_USERS	Contains the information about all users registered on the computer. There are two types of parameters – shared by all users, and specific to each user.
HKEY_CURRENT_CONFIG	Contains the information about current hardware configuration.
HKEY_DYN_DATA	Points to a subsection in the HKEY_LOCAL_MACHINE section related to Plug and Play devices. This section changes upon adding or removing devices to or from the computer.

The branch structure is visually similar to the structure of the user folders, allowing nested branches. Figure 14.1-1 shows the main elements of the registry.

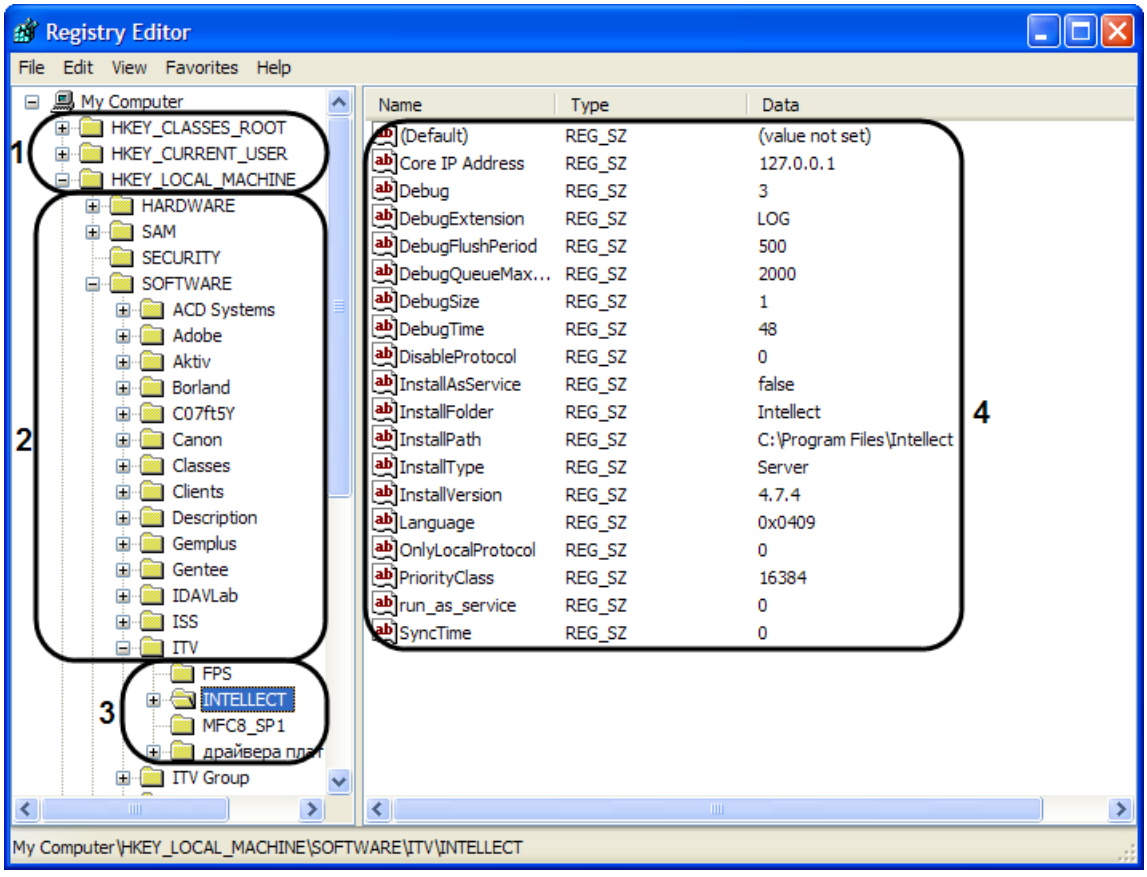


Figure 14.1-1. Main elements of the registry

1. Branches;
2. Keys;
3. Subkeys;

4. Parameters;

Each parameter has three components: name, type and value. A key can have only one parameter with no name, which serves as a default value of the key. It is recommended to assign meaningful names to parameters, indicating its purpose.

The values in the registry can be of particular types. The most commonly used types are described in Table 14.1-2.

Table 14.1-2

Data type	Description	Purpose
REG_DWORD	4 bytes in hexadecimal or decimal format.	Many service or driver parameters are of this type. Example: 0x00000240(576) — decimal value is given in parenthesis.
REG_BINARY	Binary data of an arbitrary form. Maximum length – 16 bytes.	Most data on hardware components is stored as binary. In the regedit.exe window it is displayed in hexadecimal format, for example 01 00 00 00.
REG_SZ	A string ending with a null symbol.	Example: C:\Windows
REG_MULTI_SZ	Multi-line text. An array of strings ending with a null each. An array itself ends with two nulls.	Lists and other records in readable format are of this type. The records are separated by commas and other symbols in the editor.
REG_EXPAND_SZ	Data string of variable length ending with a null.	Undisclosed links to environment variables are of this type.
REG_FULL_RESOURCE _DESCRIPTOR	A sequence of nested arrays.	This type is designed for storing the list of device resources and drivers.

14.1.2 Using the registry editor

14.1.2.1 *Starting and closing the editor*

Several programs allow editing the system registry. The regedit.exe utility is included in the standard set of Windows service programs.

To start the editor, do the following:

a. Open the Run dialog box by clicking Start, then Run, or by pressing WIN+R keys on the keyboard (Figure 14.1-2).

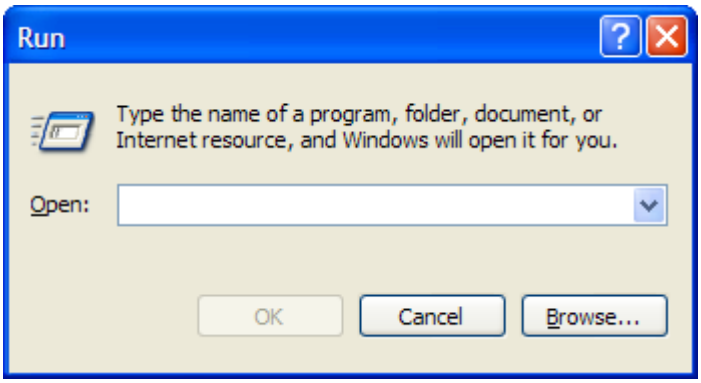


Figure 14.1-2. The Run dialog box

b. Enter “regedit” in the Open field of the dialog box.

c. Click OK.

The registry editor window will open (Figure 14.1-3).

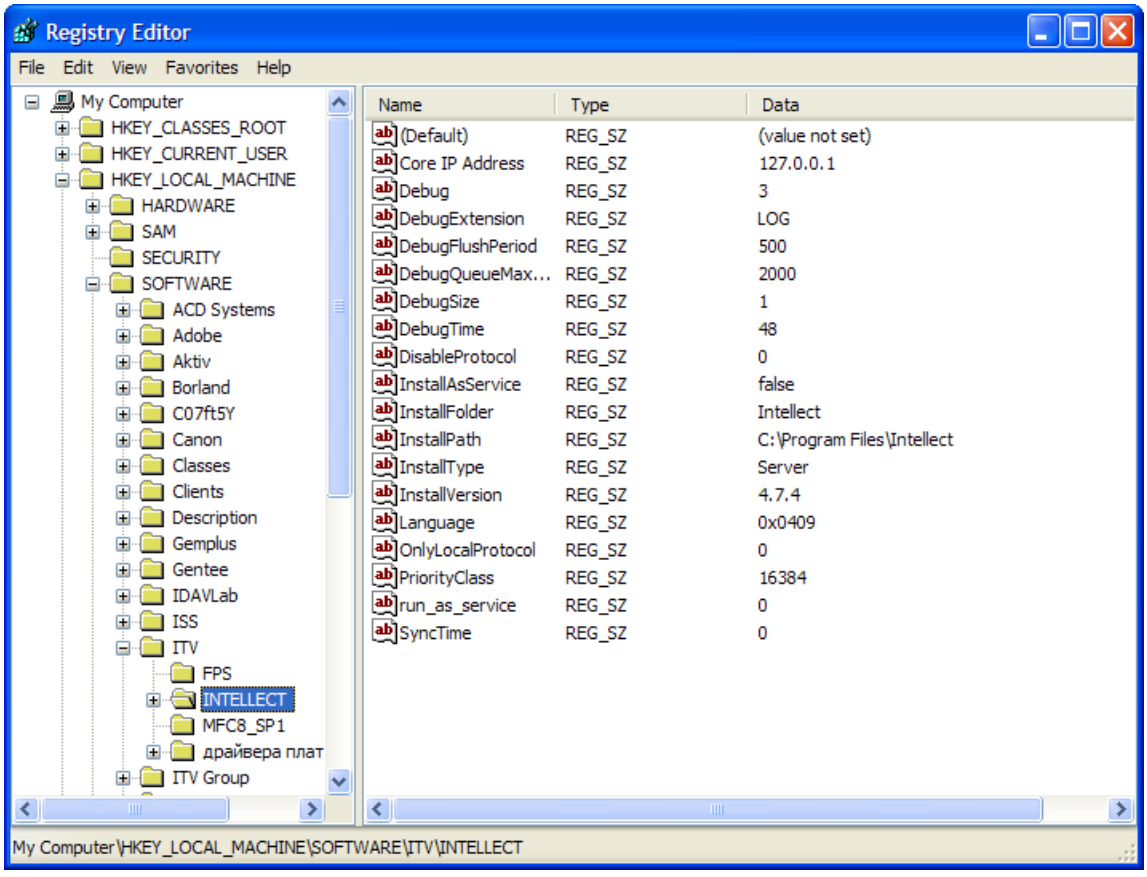


Figure 14.1-3 Registry editor window

To close the registry editor, click the ✕ button, or select Exit from File menu (Figure 14.1-4).

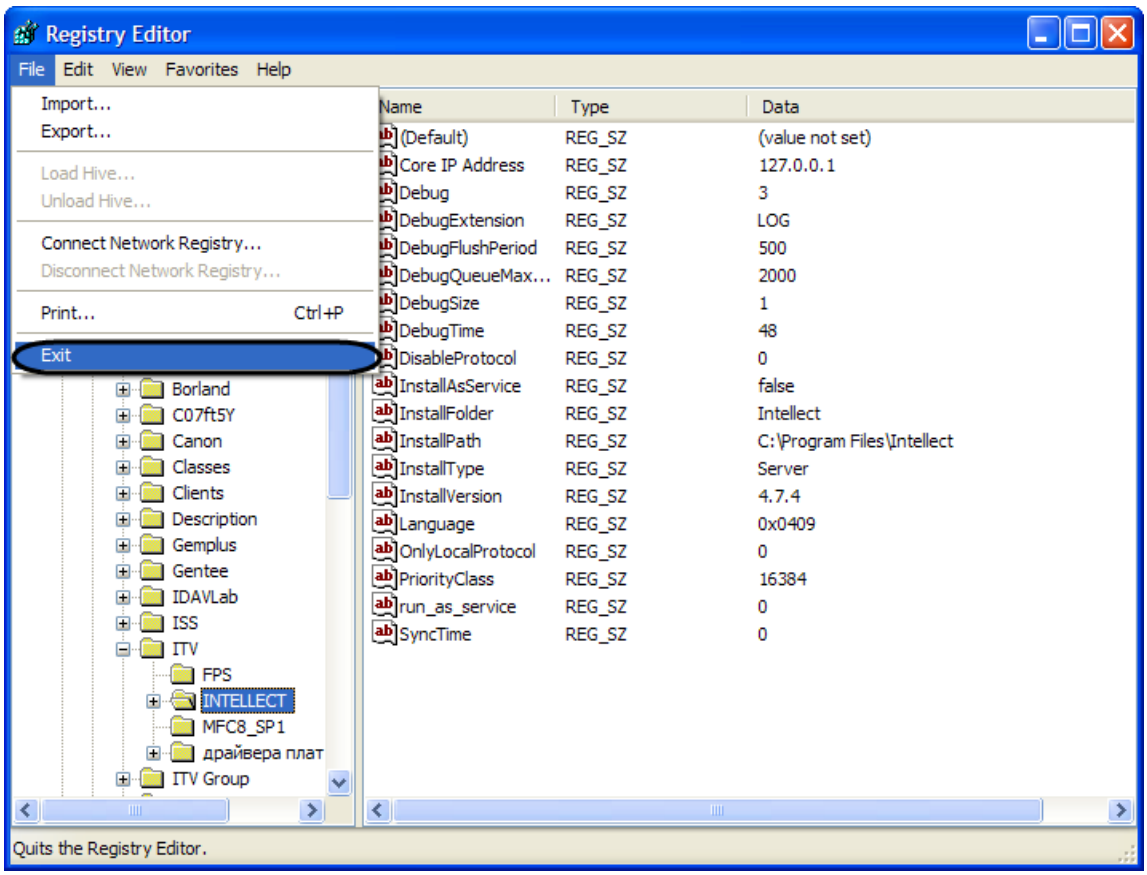


Figure 14.1-4. Closing the registry editor

14.1.2.2 *Interface elements*

Figure 14.1-5 shows the elements of the registry editor window.

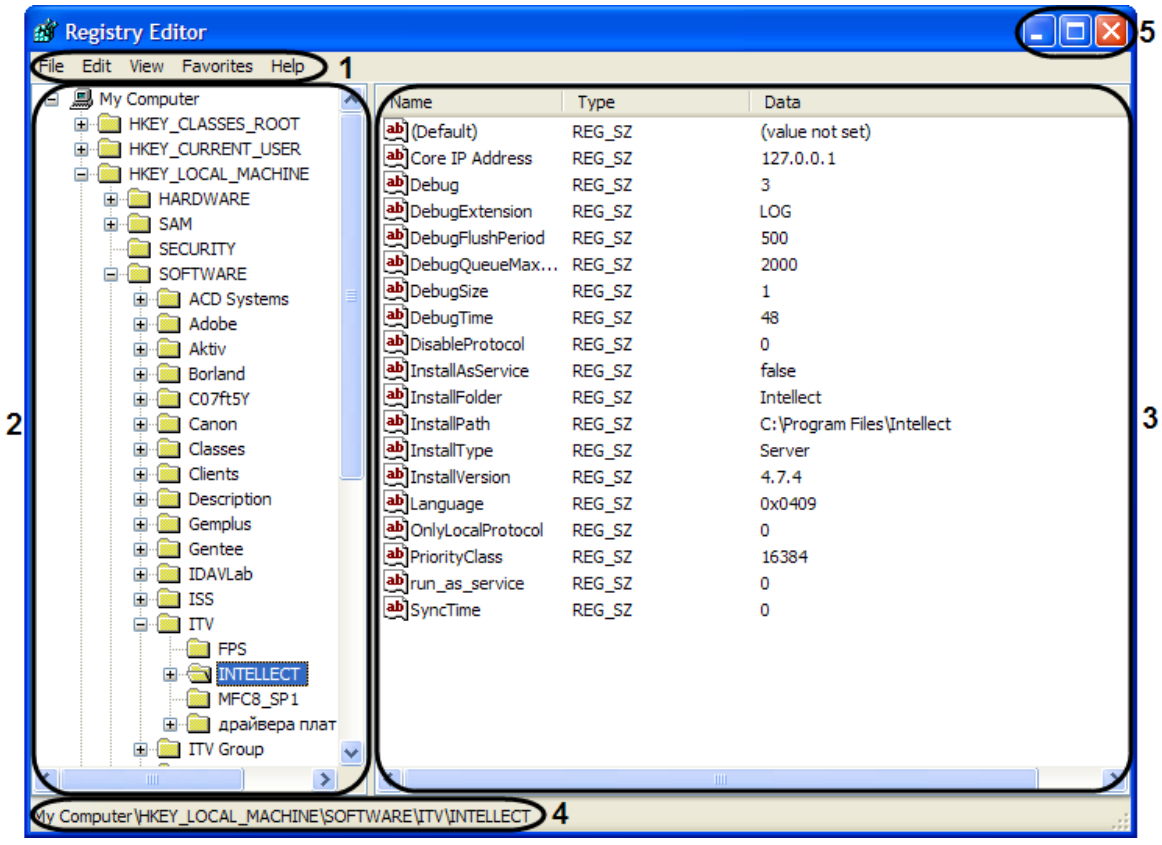


Figure 14.1-5. Interface elements of the registry editor window

1. Main menu. Contains the commands and settings.
2. Registry tree. Displays the structure of the registry.
3. Parameters table. Displays the parameters of the selected key.
4. Information line. Displays the pathname of the selected object.
5. Control buttons (left to right): Minimize, Restore, Close.

14.1.2.3 *Navigating the registry tree*

The registry structure is shown on the left of the window in a tree similar to the folders tree in Explorer. The tree contains six main branches, each of which contains keys, subkeys and parameters shown in the right panel of the window.

To enter a lower level folder (key), click the plus icon next to the parent folder (Figure 14.1-6).

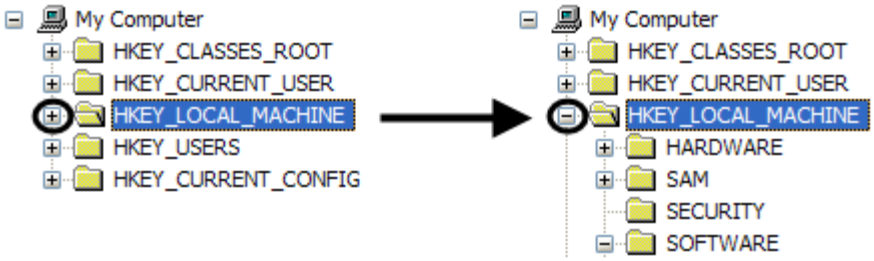


Figure 14.1-6. Expanding a branch in the registry tree

To contract the branch, click the minus icon next to it.

14.1.3 Adding string parameters to the registry

To add a string parameter to a key, do the following:

1. Select the required branch and click the plus icon (Figure 14.1-7). All folders (keys) inside this branch will be displayed.
2. Find a key to add a parameter to. The table on the right will display existing parameters of this key.

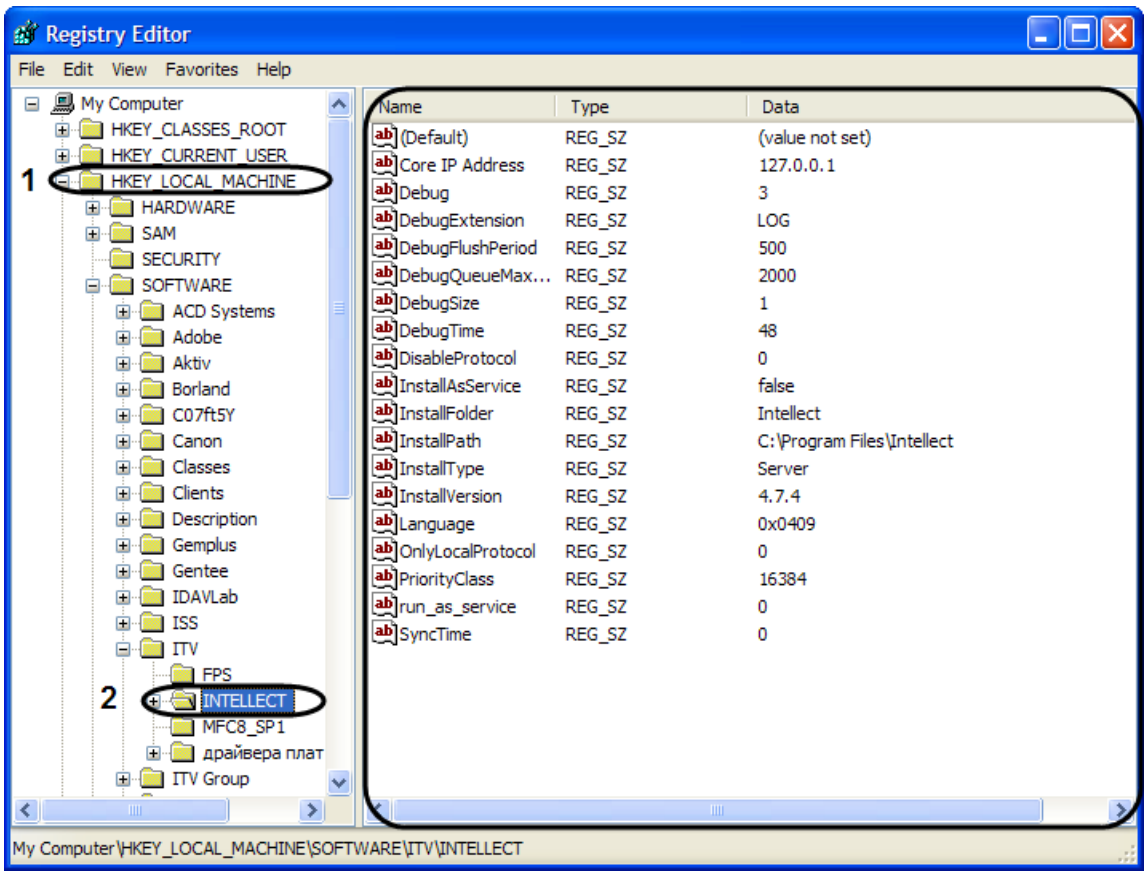


Figure 14.1-7. Selecting a folder in the tree

3. In the main menu, select Edit, then New, then String Value (Figure 14.1-8).

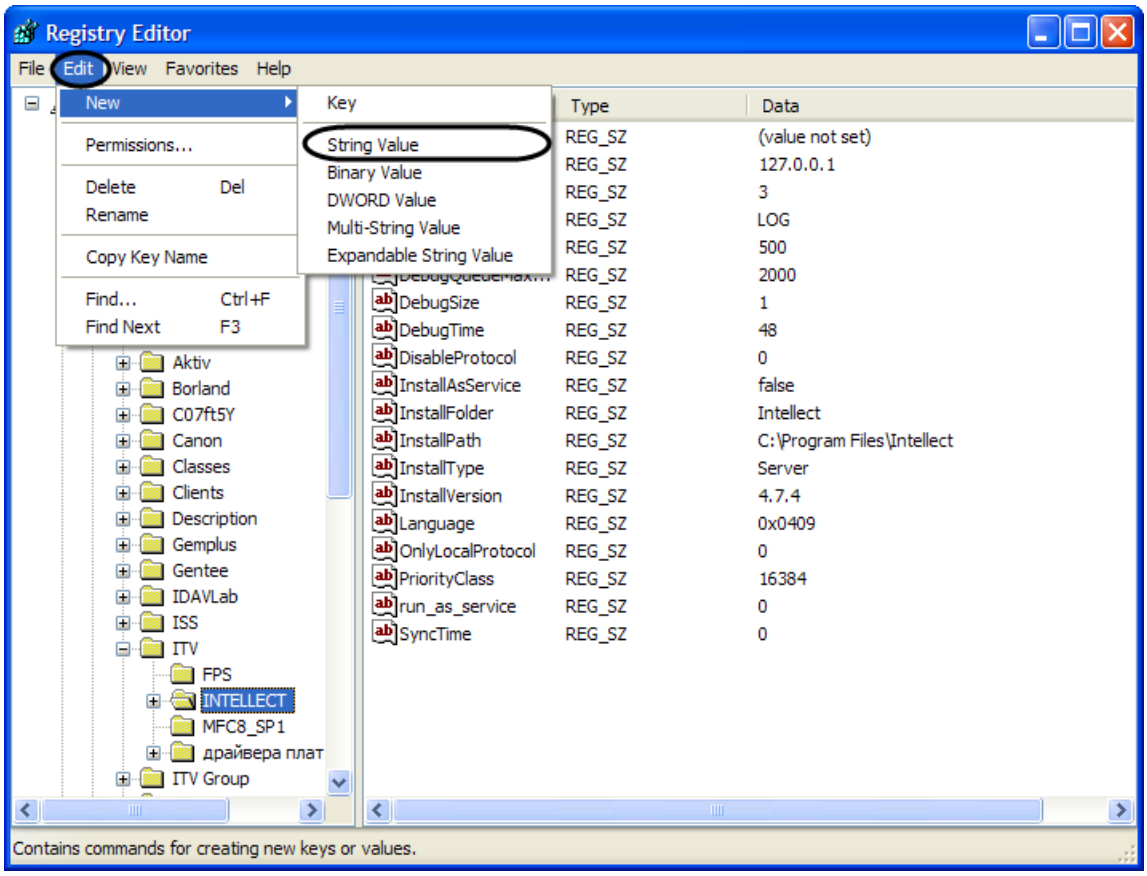


Figure 14.1-8. Creating a new string parameter

A new string parameter will be created (Figure 14.1-9).

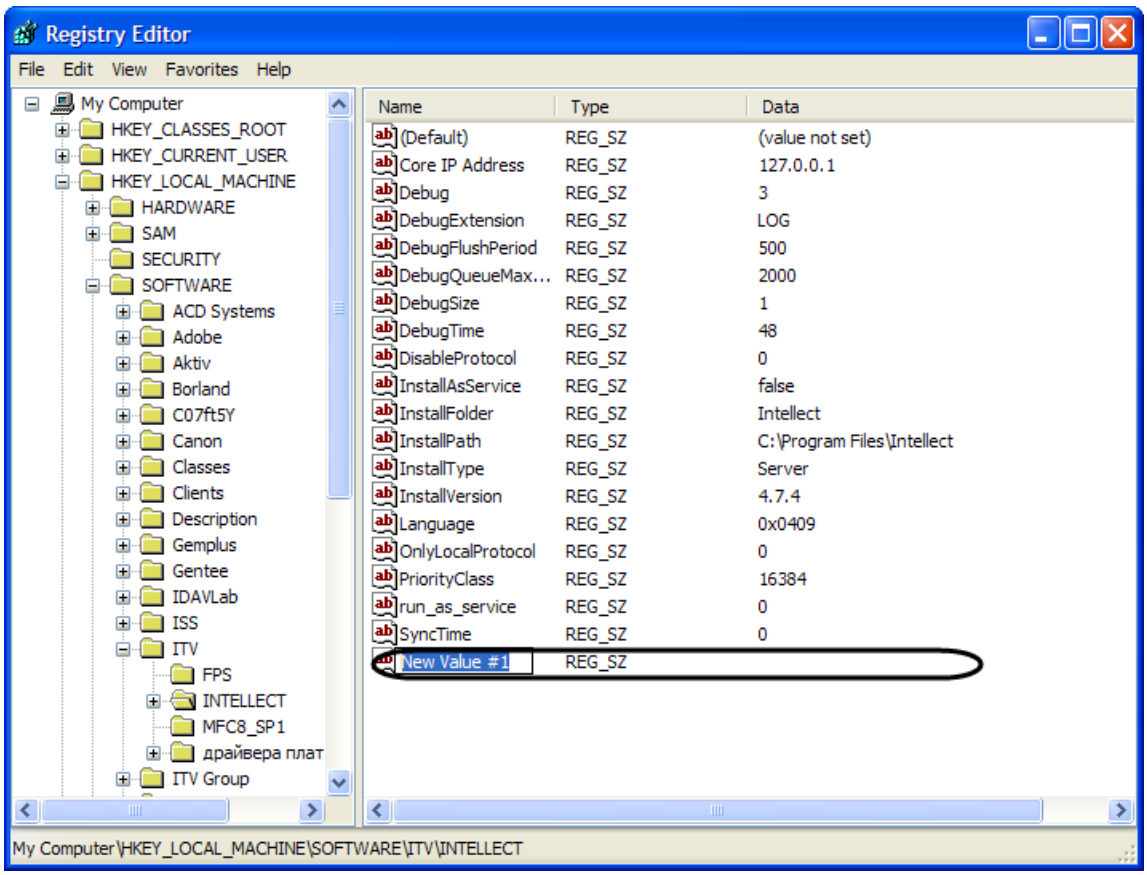


Figure 14.1-9. A new string parameter is created

4. Assign a name to the new parameter. Enter the name in the highlighted name field, which by default reads “New Value #1”, and click anywhere in the editor window. The entered name will be saved (Figure 14.1-10).

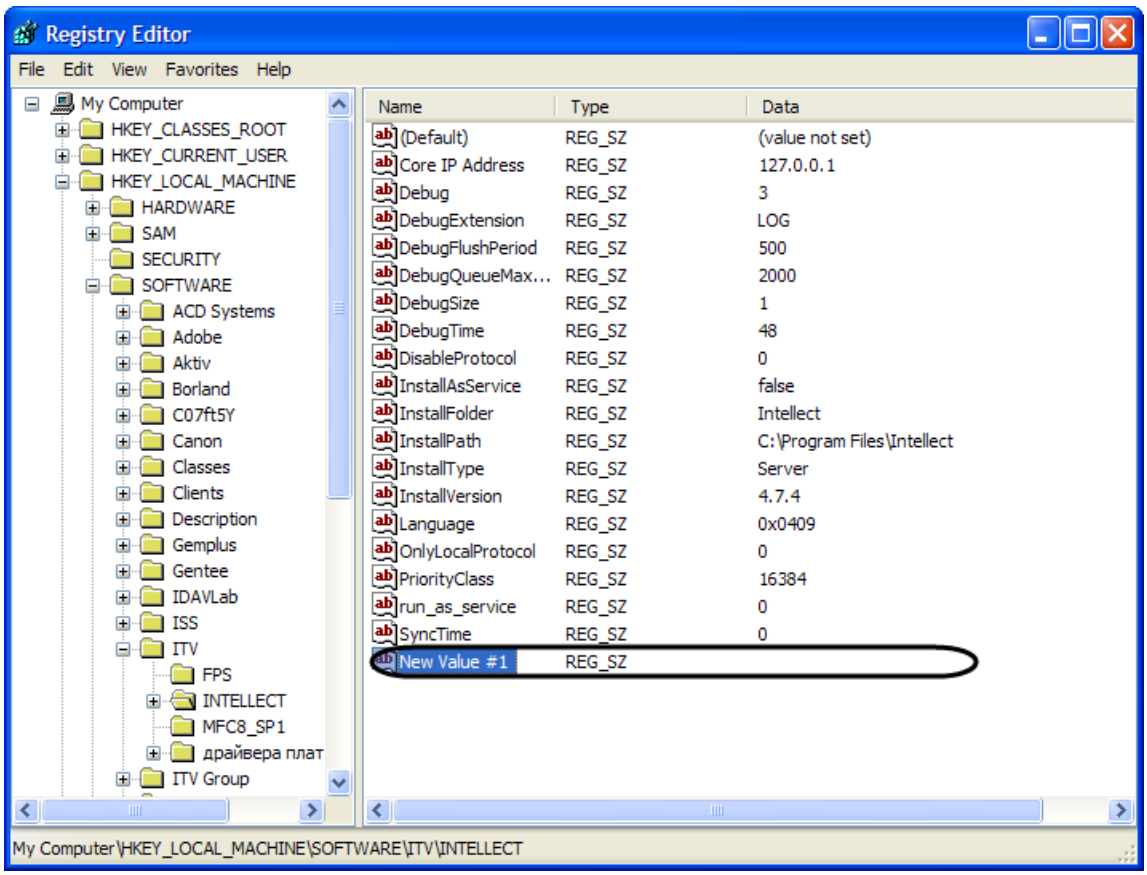


Figure 14.1-10. The new parameter is assigned a name

5. Specify the value of the new parameter. Double-click the parameter name. The Edit String dialog box will open (Figure 14.1-11).

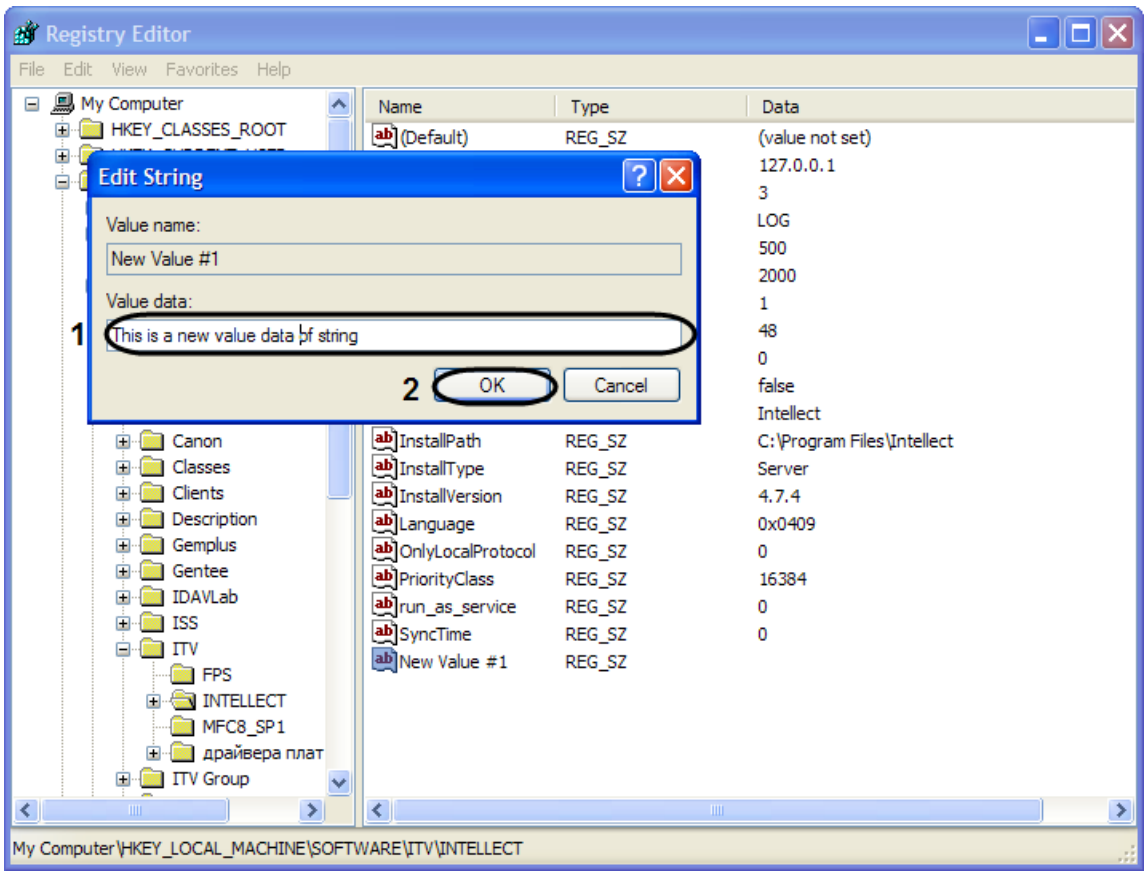


Figure 14.1-11. Edit String dialog box

Enter the value into the Value Data field (Figure 14.1-11, 1) and click OK (Figure 14.1-11, 2).

A string parameter with a specified value will be created (Figure 14.1-12). To edit the value, repeat step 5.

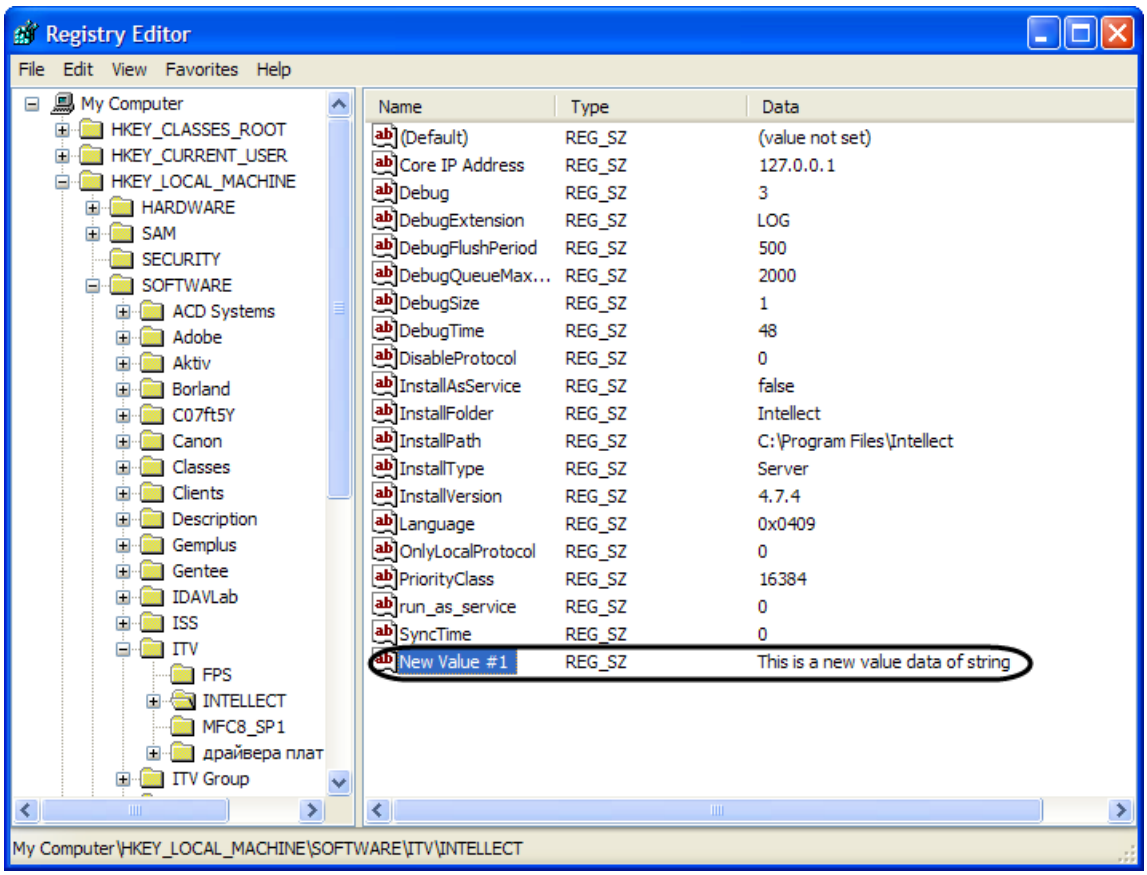


Figure 14.1-12. A string parameter is created

14.1.4 Modifying the value of string parameters in Windows OS registry

To modify the value of a string parameter, do the following:

1. Select the required branch and click the plus icon (Figure 14.1-13). All folders (keys) inside this branch will be displayed.

2. Find a key containing the parameter to be edited. The table on the right will display the existing parameters of this key.

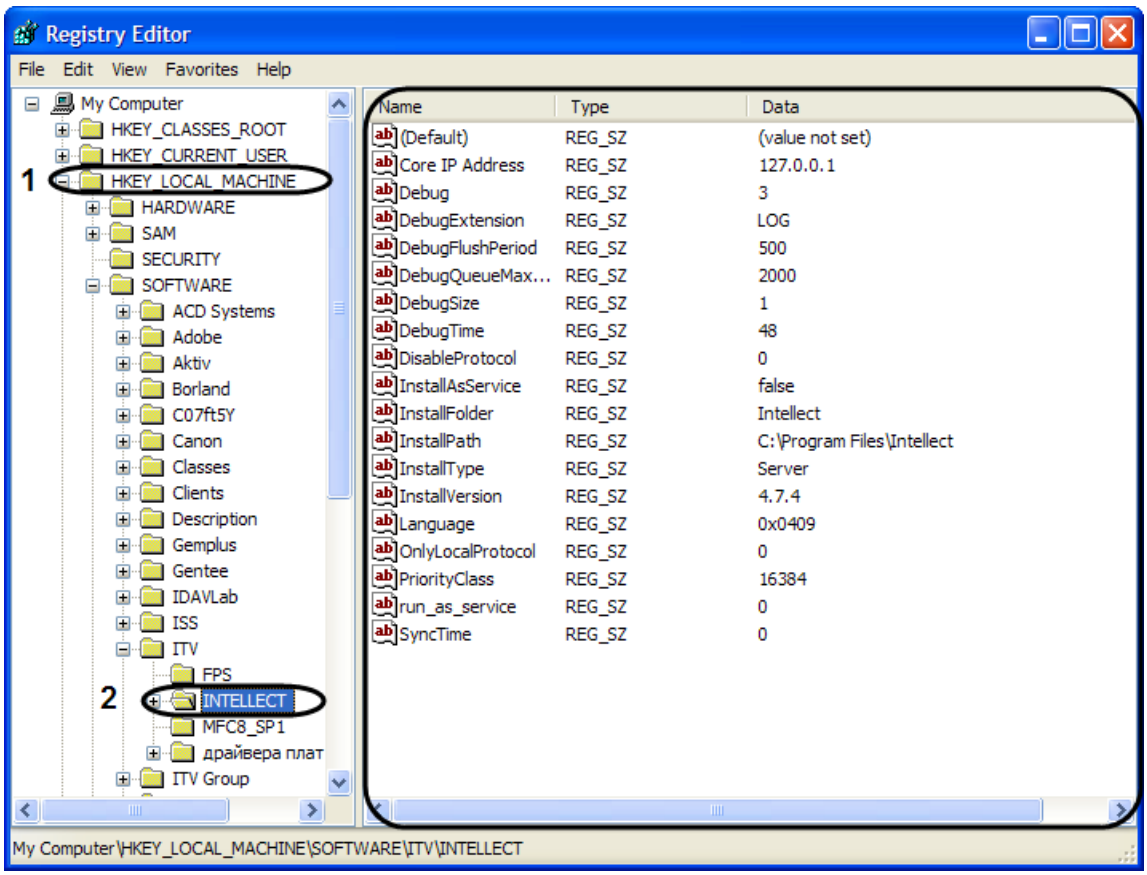


Figure 14.1-13. Selecting a folder in the tree

3. Select the parameter to be modified (Figure 14.1-14).

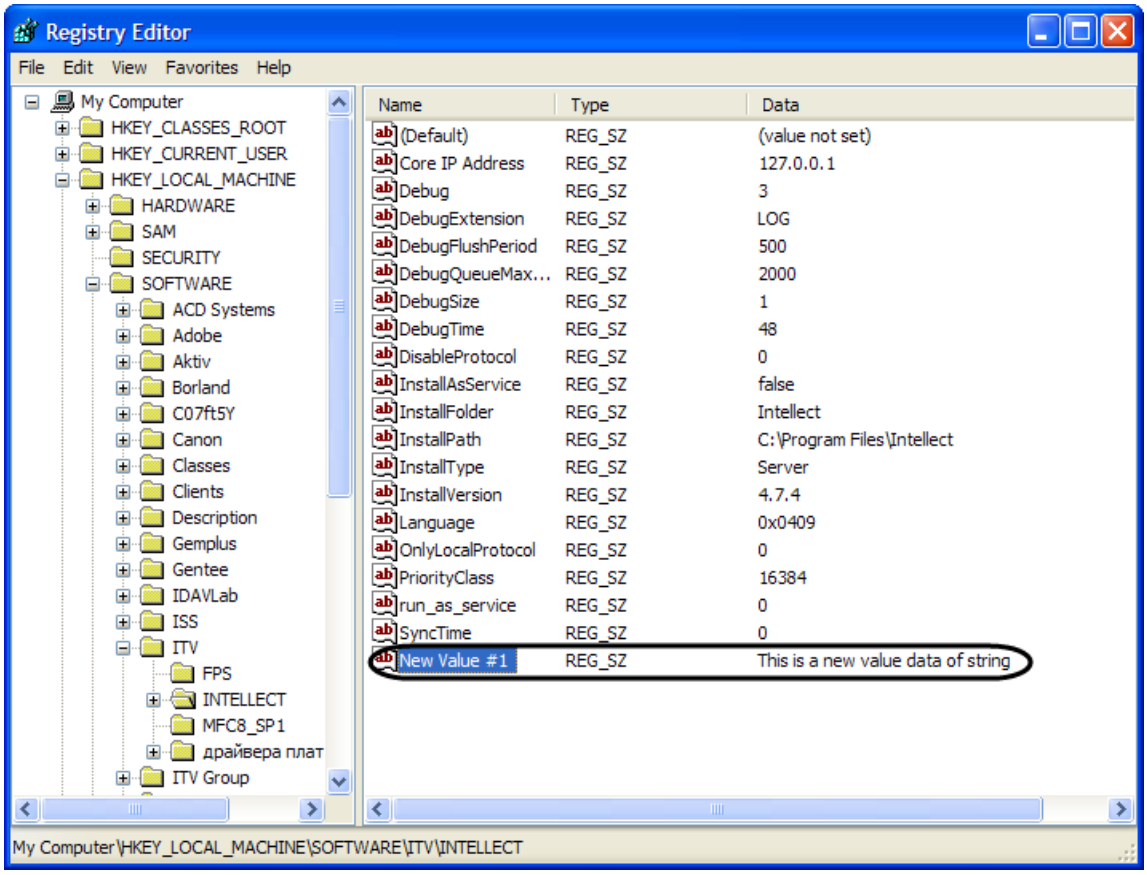


Figure 14.1-14. Selecting the parameter to be modified

4. In the menu, select Edit, then Modify (Figure 14.1-15).

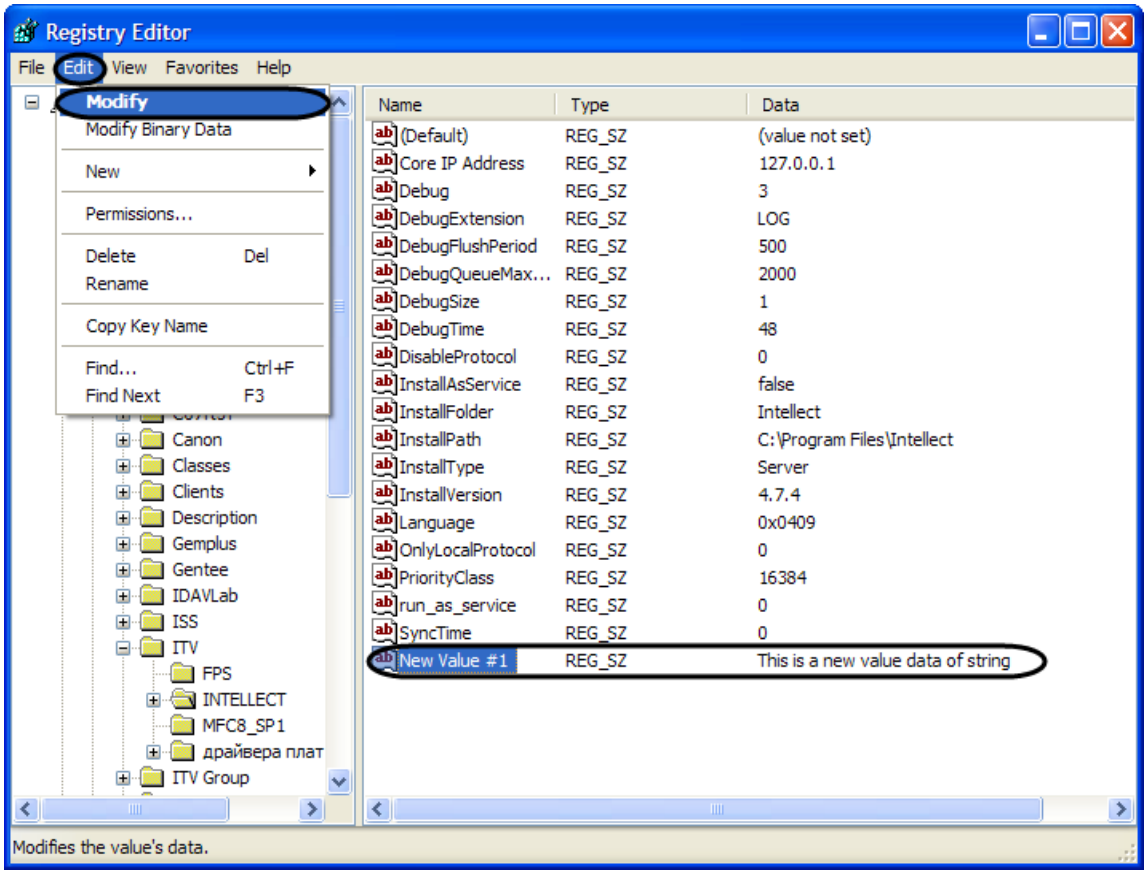


Figure 14.1-15. Selecting a menu command for modifying a parameter

The Edit String dialog box will open (Figure 14.1-16).

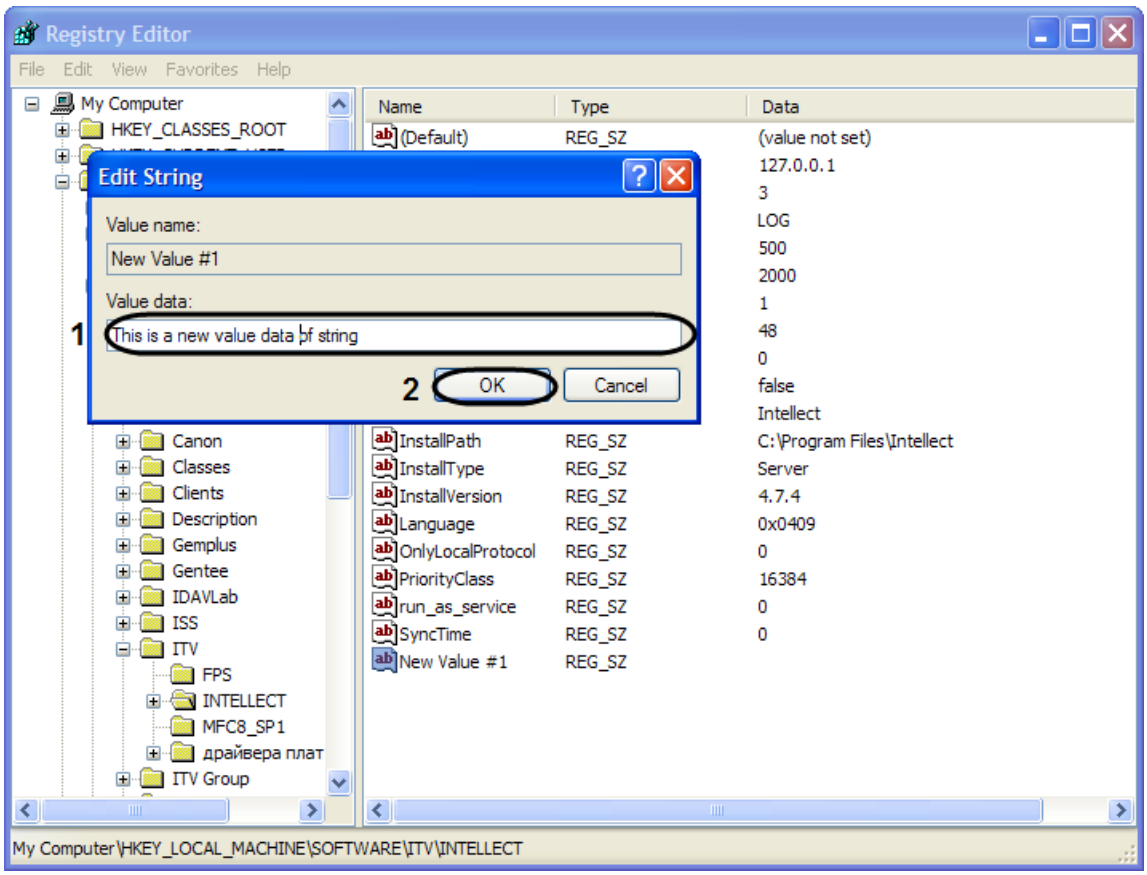


Figure 14.1-16. Edit String dialog box

5. Modify the value of the parameter. Delete the old value and enter a new one into the Value Data field (Figure 14.1-16, 1). Click OK (Figure 14.1-16, 2).

The value of the parameter will be changed (Figure 14.1-17).

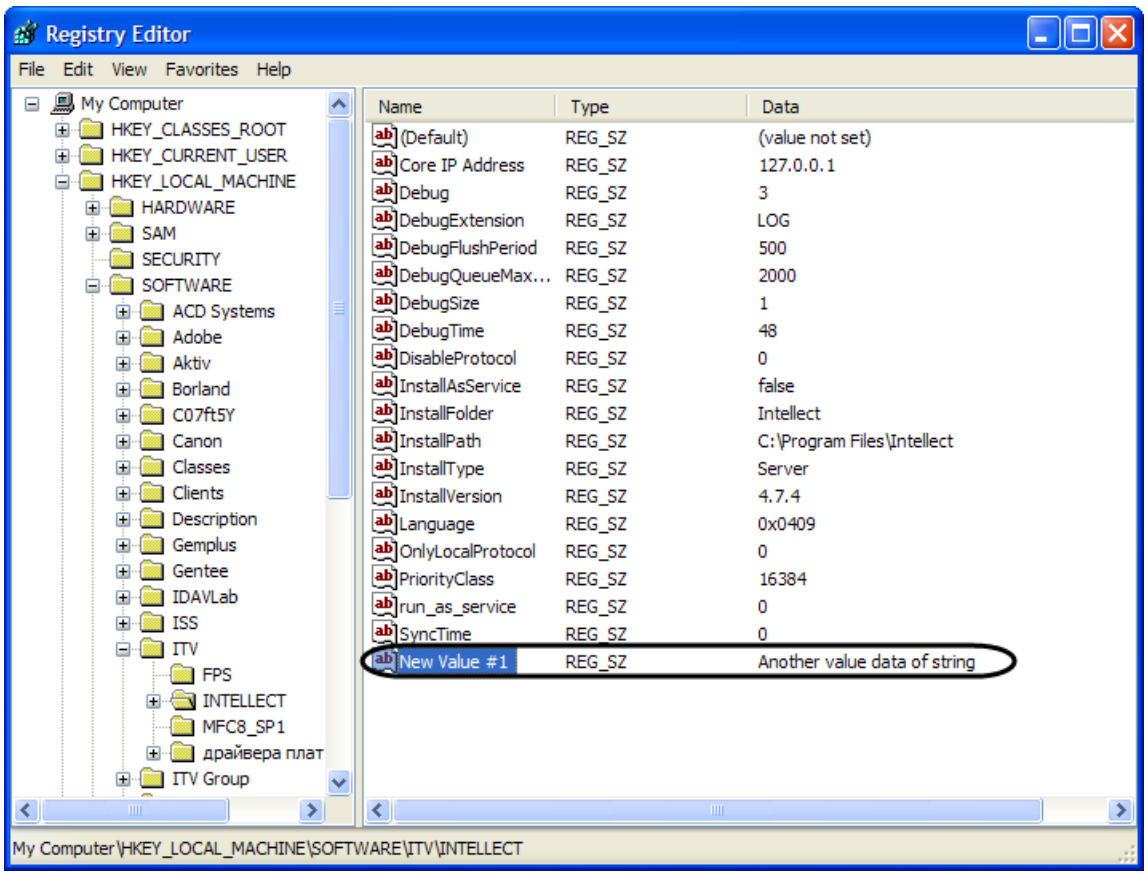


Figure 14.1-17. The parameter value is modified

14.1.5 Deleting parameters from the Windows OS registry

To delete a string parameter from the registry, do the following:

1. Select the required branch and click the plus icon (Figure 14.1-18). All folders (keys) inside this branch will be displayed.

2. Find a key containing the parameter to be deleted. The table on the right will display the existing parameters of this key.

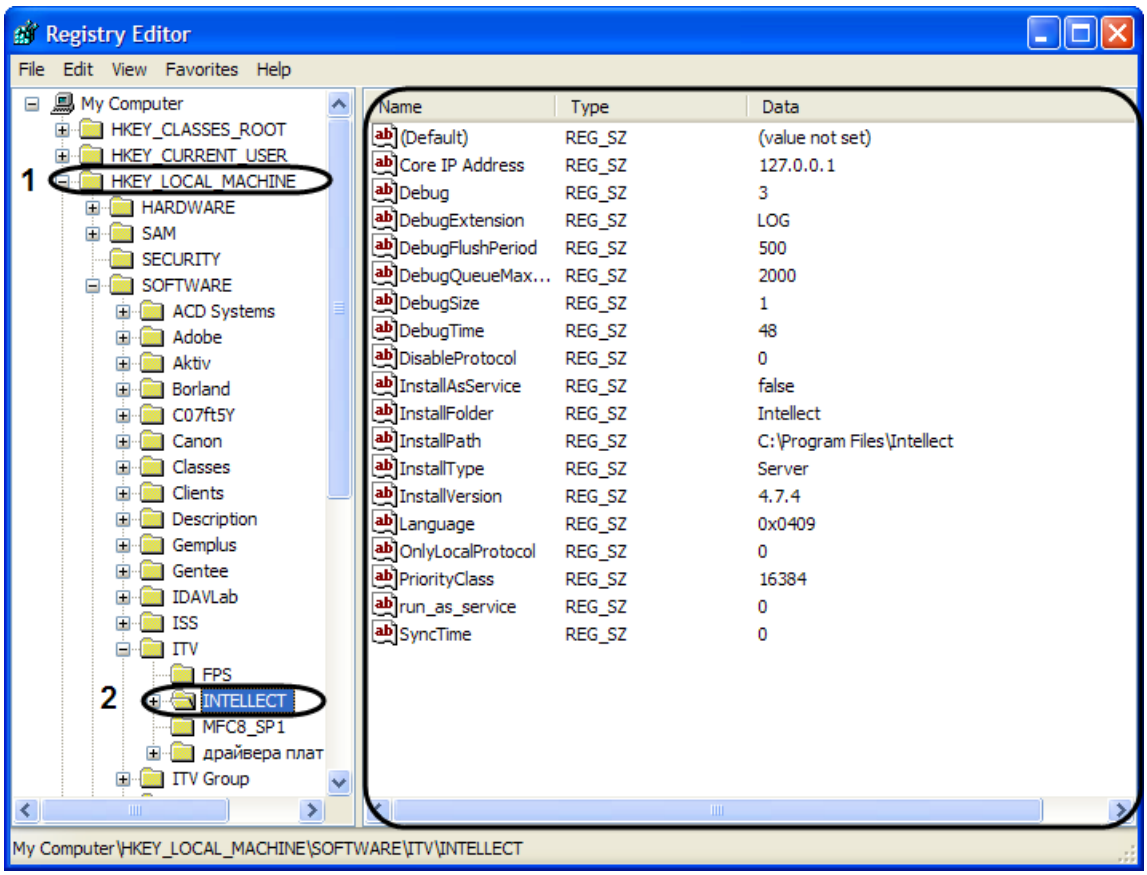


Figure 14.1-18. Selecting a folder in the tree

3. Select the parameter to be deleted (Figure 14.1-19).

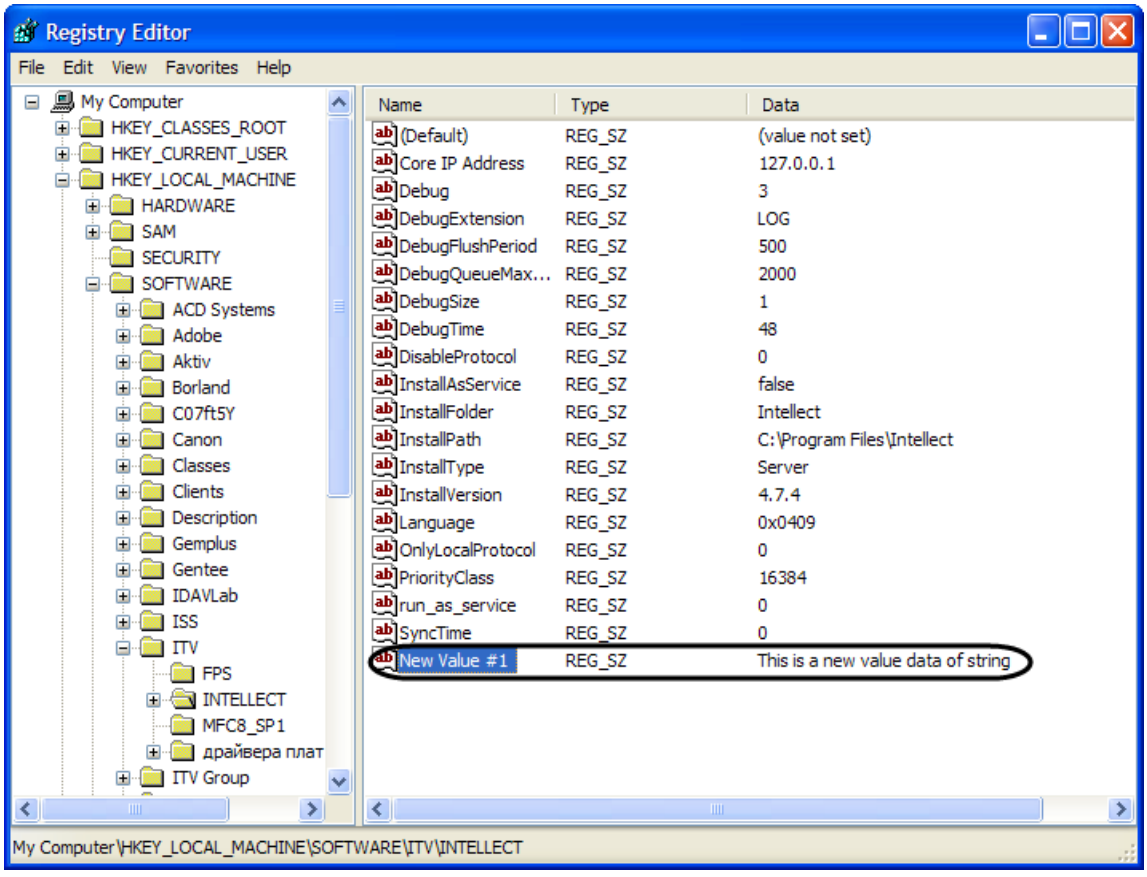


Figure 14.1-19. Selecting the parameter to be deleted

4. In the menu, select Edit, then Delete (Figure 14.1-20).

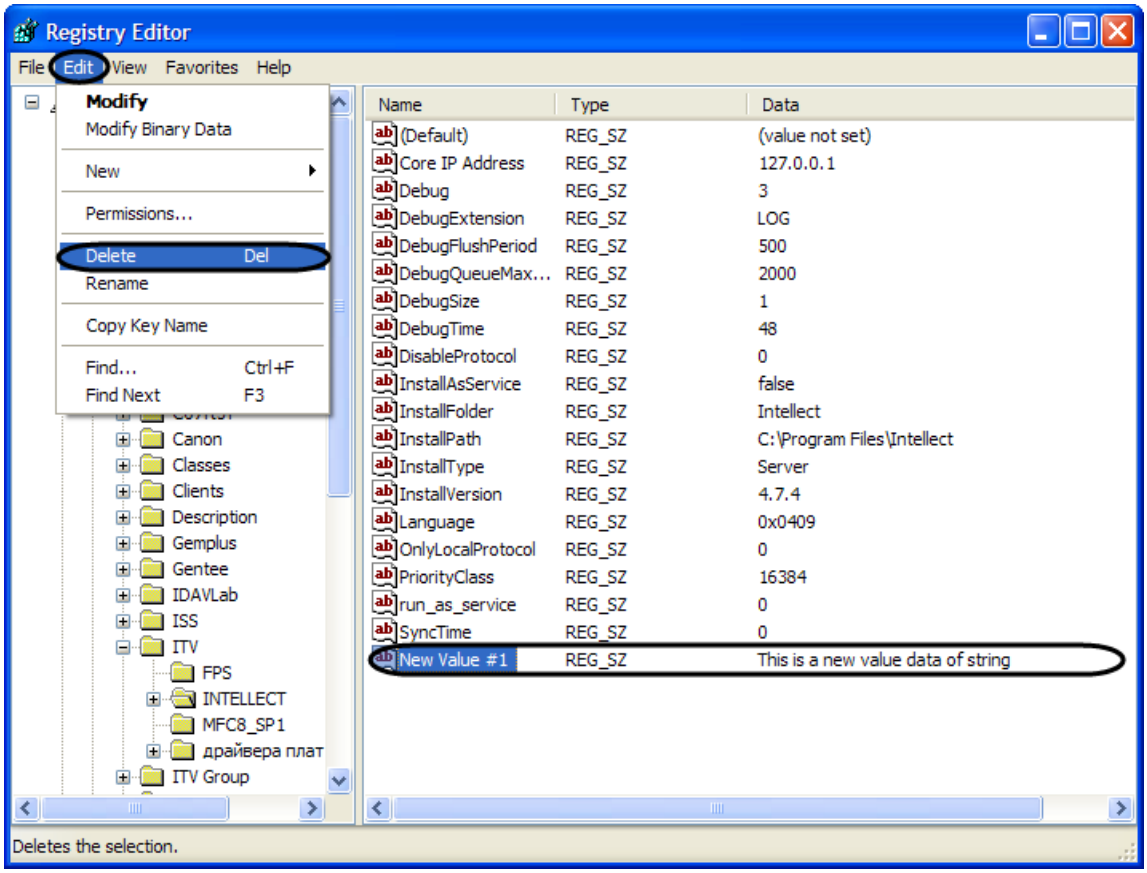


Figure 14.1-20. Deleting a string parameter

The string parameter will be deleted from the registry.

NOTE. The Edit menu can also be opened as a context menu by right-clicking the required parameter.

14.2 Setting up serial (COM) ports in Windows

To view and edit the settings of COM ports, start the Device Manager. Right-click the My Computer icon on the Desktop and select Properties in the drop-down menu. The System Properties window will open. Open the Hardware tab and click the Device Manager button (Figure 14.2-1).

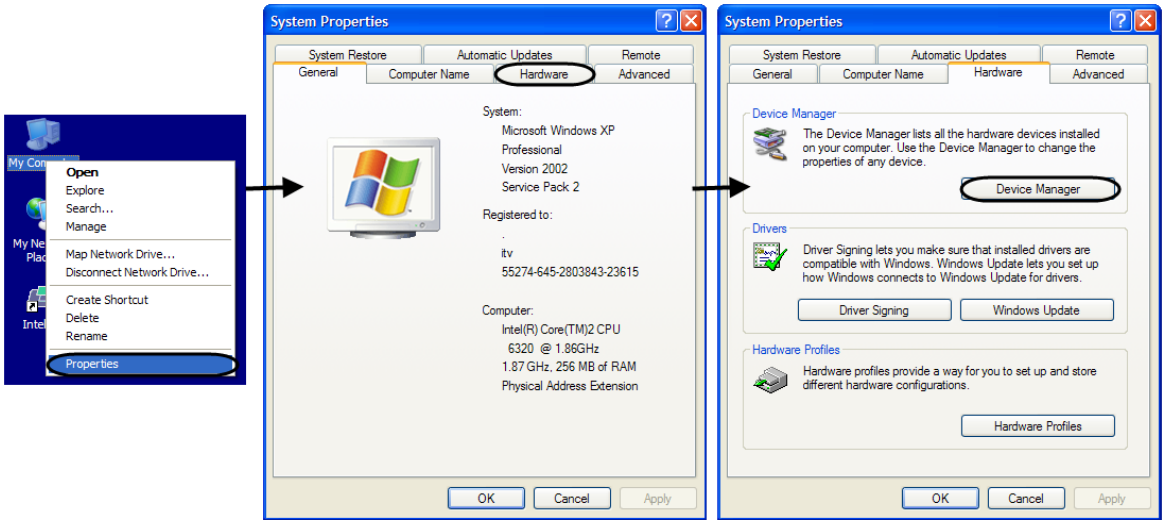


Figure 14.2-1. Starting the Device Manager

The Device Manager window will open. Expand the Ports (COM & LPT) branch and select the COM port to which the device to be set up is connected. Then, right-click the required COM port in the tree to open the drop-down menu and select Properties. The settings of the port will open in a dialog window. Go to the Port Settings tab to view and edit the Bits per Second and the Parity parameters (Figure 14.2-2).

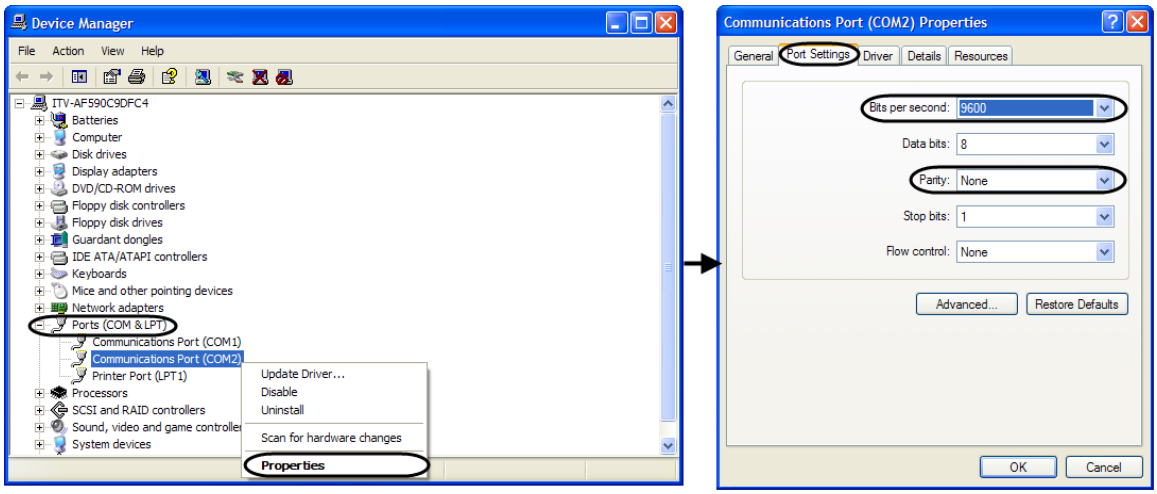


Figure 14.2-2. Opening the Port Properties window

14.3 The list of TCP ports, used in Intellect PC

The list of TCP ports, used in Intellect PC is given in Table 14.3-1. Port 1062 is used to connect Intellect cernal intellect.exe and Title (CAM_TITLE.run module) to MS SQL Server.

Note.This data is necessary for setting security system and fire vol on the Server. Parameters«Client's connection to the module », «Client's module name» are set for client-server modules.

Table 14.3-1

№ п/п	Name of the module	Name of the corresponding PC Intellect object	Connection port to the kernel intellect.exe	Connection port to the kernel intellect.exe	Client's connection port to the module
1	ARCHPANEL.run	Active archiving panel	22118	-	-
2	audio.run	Microphone	21008	player.run	20910

№ п/п	Name of the module	Name of the corresponding PC Intellect object	Connection port to the kernel intellect.exe	Connection port to the kernel intellect.exe	Client's connection port to the module
3	CAM_TITLE.run	Title	21077	TITLEVIEWER.run	20978
4	dialog.run	Operator dialog window	21058	-	-
5	DRS.run	Data replication service	22175	-	-
6	EVENT_COUNTER.run	Events counter	22153	-	-
7	EVENT_VIEWER.run	Events protocol	21055	-	-
8	keyb.run	Special keyboard	21005	-	-
9	MAP.run	Map	21051	-	-
10	MC_CLIENT.run	Monitoring client	22179	-	-
11	message.run	Alarm message window	21056	-	-
12	MMS.ru	Mms service	21031	-	-
13	player.run	Audio player	21060	-	-
14	slave.exe	Computer	21111		
15	SMS.run	Sms service	21035	-	-
16	telemetry.run	Telemetry control	21010	-	-
17	TELEMETRY_PANEL.run	Telemetry control window	22101	-	-
18	TITLEVIEWER.run	Title viewer	22112	-	-
19	video.run	Video server Active archiving Videogate	21050	CAM_TITLE.run	20900
				audio.run	20903, 20904
20	VMS.run	Voice message service	21032	-	-
21	VNS.run	Voice notification service	21004	-	-
22	WEBSERVER.run	Web-server	21034	-	-
23	WINDOW.run	External window	21053	-	-

15 Appendix 6. Installing the Matrix Linux server and LinuxHub

15.1 Introduction

Matrix is a specialized hardware/software platform for building the integrated security systems based on digital surveillance systems.

Matrix Linux Server (LS) and Matrix LinuxHub (LH) are the hardware/software video commutators used for receiving analog-to-digital conversion and transferring video images via IP-networks. LS and LH work under the Linux operating system (kernel 2.6). An LH is shown in Figure 15.1-1.



Figure 15.1-1. Matrix LinuxHub

There are two basic configurations of LS (LH):

1. Based on the FS5 video capture card
2. Based on FS6 or FS16 video capture cards.

The main technical characteristics of LS (LH) depend on the video capture card installed. LS (LH) is used in conjunction with Intellect-based systems. Remote access to LS (LH) is available through the Web interface.

LH/LS functionality:

1. Enclosed in desktop casing of microATX type (FS6 card) or Mini-ITX type (FS5 card).
2. Watchdog hardware system for system failure prevention.
3. Flash memory used for holding the operating system.
4. Telemetric devices connection.
5. External storage connection for storing video recordings from surveillance cameras (LS only).
6. External devices connection to the built-in sensor-relay module – 4/4 for FS5 and 4/16 for FS6/16 (optional).
7. Possibility for remote firmware update.
8. No local video display (monitor connected directly to LS (LH) for viewing the video received from the cameras).

Figure 15.1-2 shows a general structural diagram of the digital video surveillance system based on the Matrix hardware/software platform.

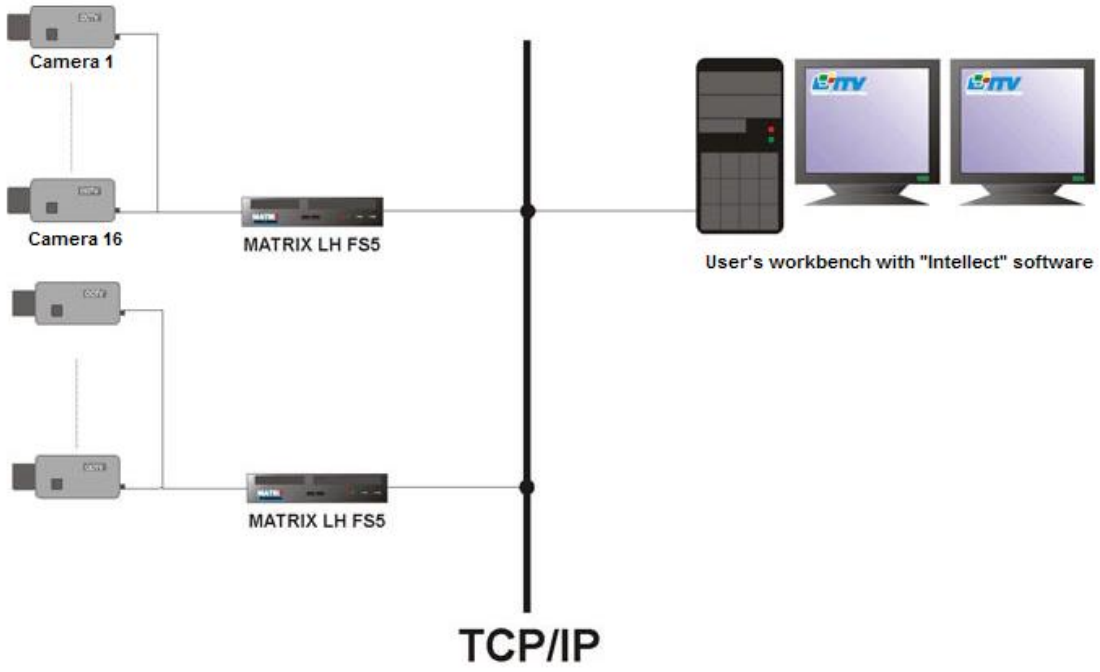


Figure 15.1-2. General structural diagram of the digital video surveillance system based on the Matrix hardware/software platform

15.2 Installing the Linux Server (LinuxHub)

15.2.1 Introduction

The LS/LH installation and setup includes the following stages:

1. Connecting and starting the LS (LH). This stage is common to LS and LH.
2. Network identification of the LS (LH). This stage is common to LS and LH.
3. Setting up the LS (LH) for operation in conjunction with the Intellect system. This stage is different for LS and LH.

15.2.2 Connecting and starting the LS (LH)

This stage includes the following steps:

1. To connect the LS (LH) to the local network, plug the network cable into the network socket and the corresponding LAN socket in the LS (LH).
2. To connect the LS (LH) to the power supply, plug the power cable into the 220 V mains and the corresponding power plug on the back panel of the LS (LH).
3. To turn the LS (LH) on, press the power button on the front panel of the LS (LH).
4. Wait for the LS (LH) system to load. It usually takes no more than one minute.

Note. With running LS after incorrect unloading there is a check of hard disks for errors, that can take much time (depends on archive size).

15.2.3 Network identification of the LS (LH)

This stage includes the following steps:

1. Start the Search of the IP-Devices utility included in the Intellect installation kit. To start the utility from Windows, click Start, then Programs, then Intellect, then Tools, then Search of IP-Devices.

2. Select the network adapter through which your computer is connected to the LAN to which the LS (LH) is connected (Select the NetAdapter drop-down list) and click the Search button (Figure 15.2-1).

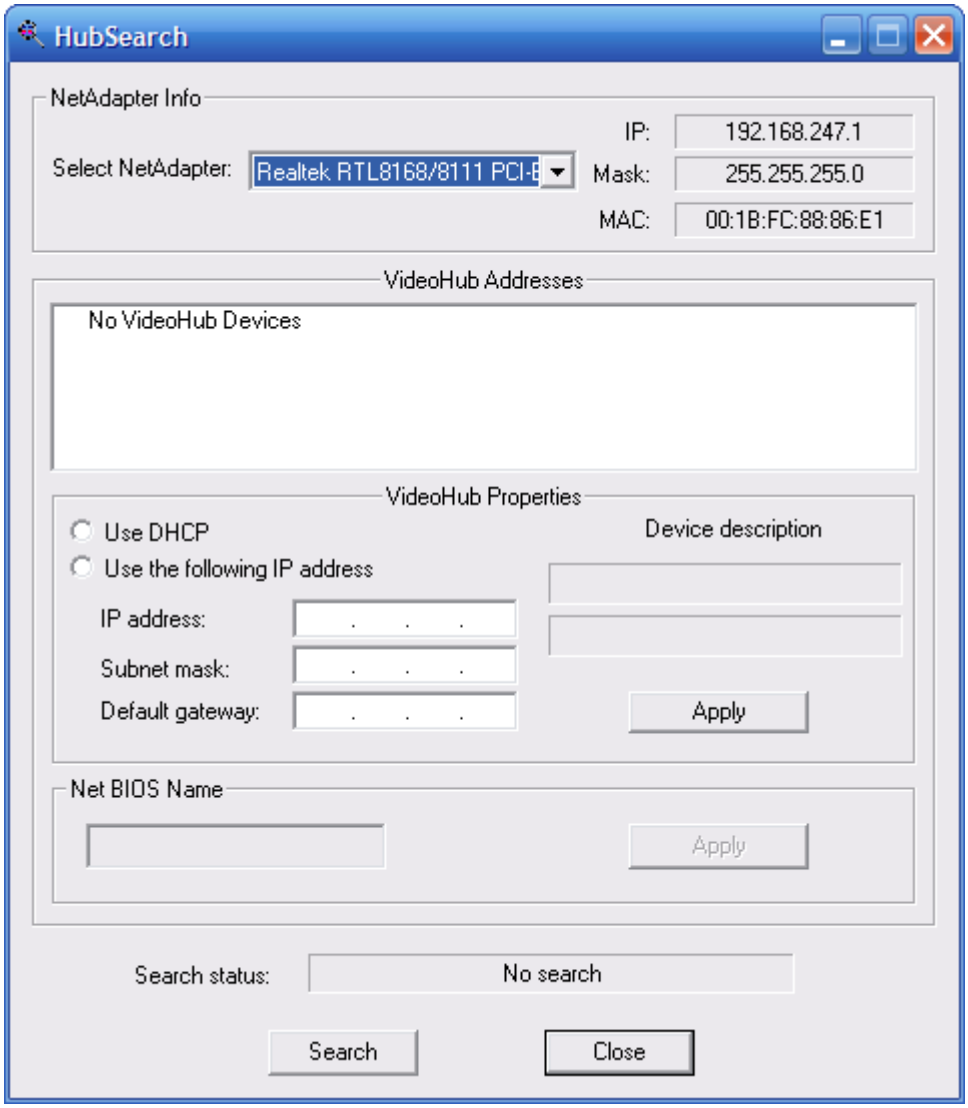


Figure 15.2-1. Selecting the network adapter

3. The system will search for all LSs and LHs connected to this local network (Figure 15.2-2). The Search Status field will read "Search. Please wait" during the search process.

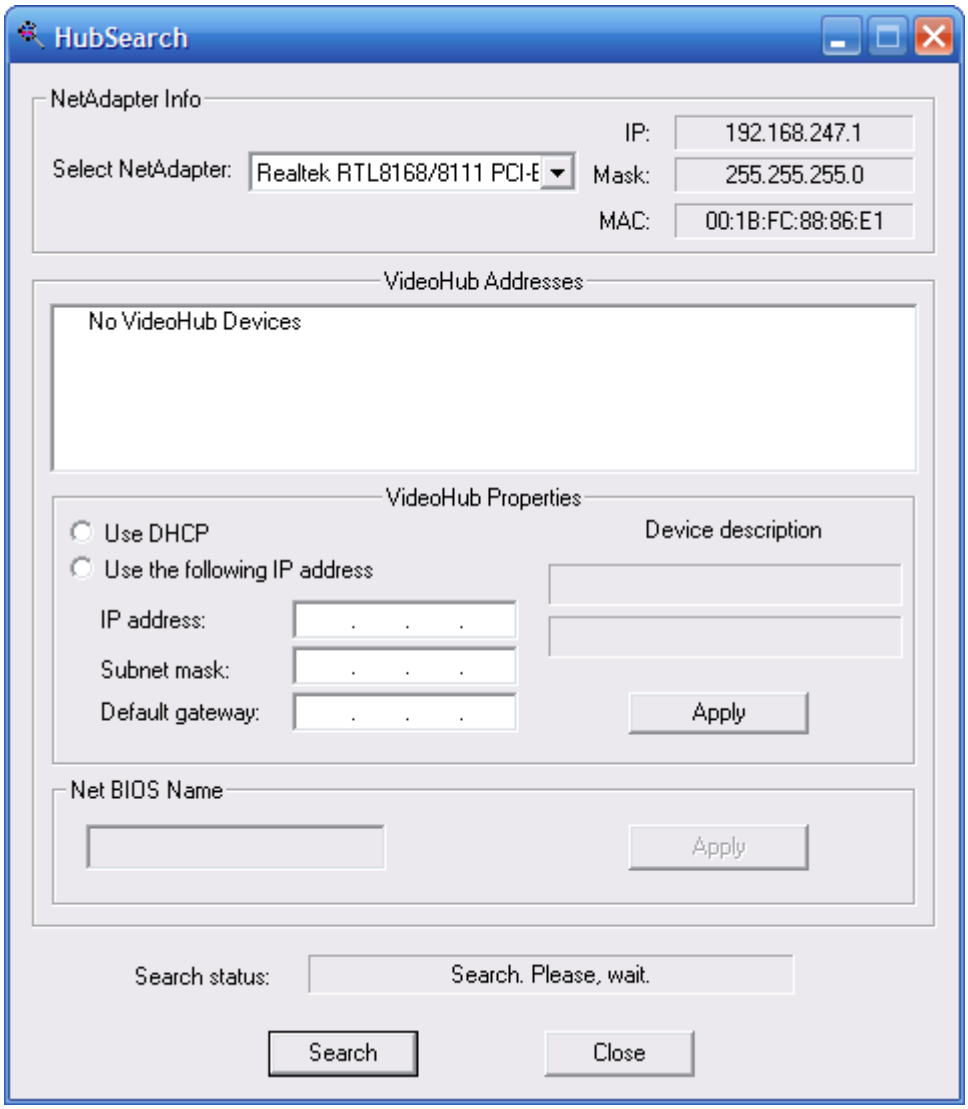


Figure 15.2-2. Searching for LS and LH

4. After the search is completed, the Search Status field will read "Stop search. Find…". The found devices will be added to the VideoHub Addresses list. Select the required LS (LH) from the list. The VideoHub Properties field will show the information on the selected device (Figure 15.2-3).

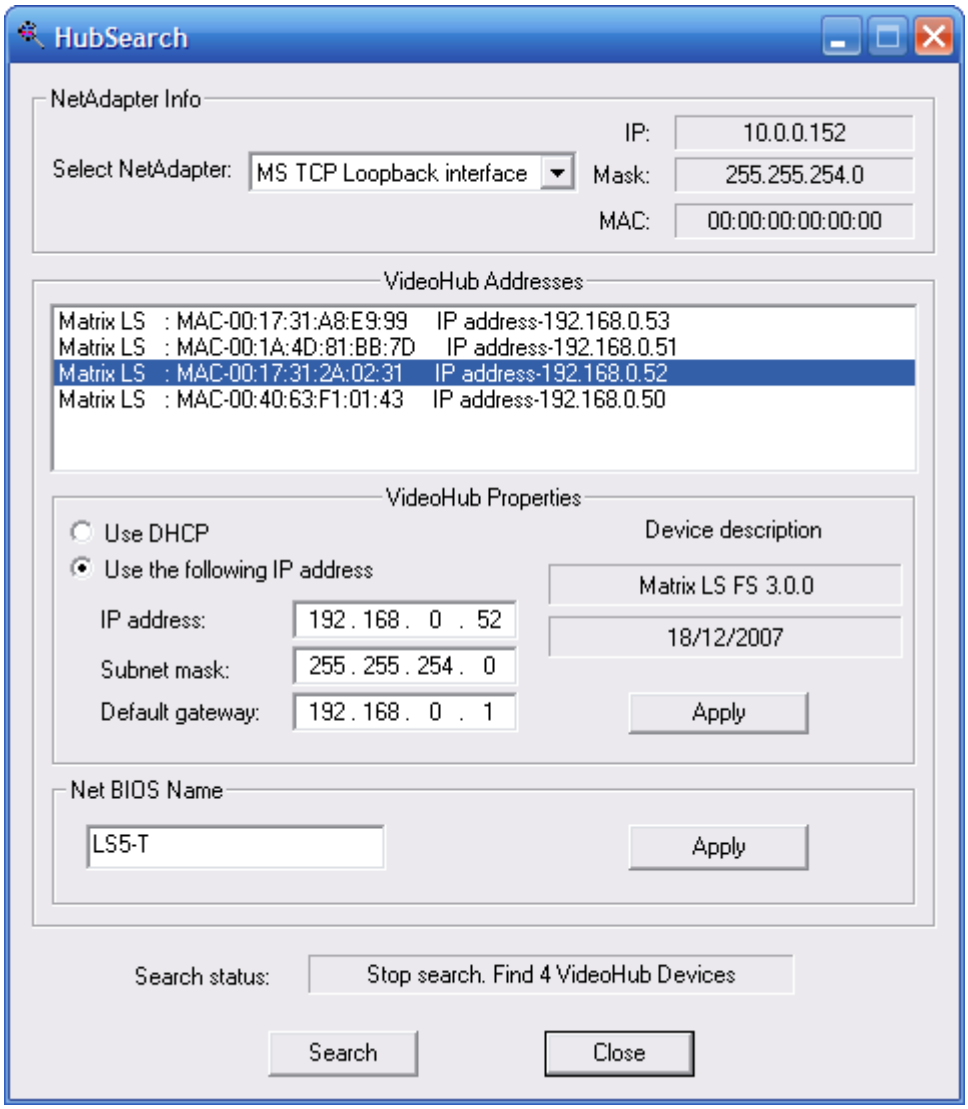


Figure 15.2-3. Search results for LS and LH

5. Some of the parameters of the selected device can be edited (IP-address, subnet mask, default gateway and NETBIOS name). To edit the NETBIOS name, change the value in the Net BIOS Name field and click the button next to this field. To specify the IP-address, subnet mask and default gateway manually, select the Use the Following IP-address radio-button, enter the values in the fields and click the Apply button next to these fields. The default values are set by the Dynamic Host Configuration Protocol service when the DHCP radio-button is selected.

6. To test the LS (LH) connection, send a request to the specified IP-address using the Ping utility included in the Windows software package (Figure 15.2-4).

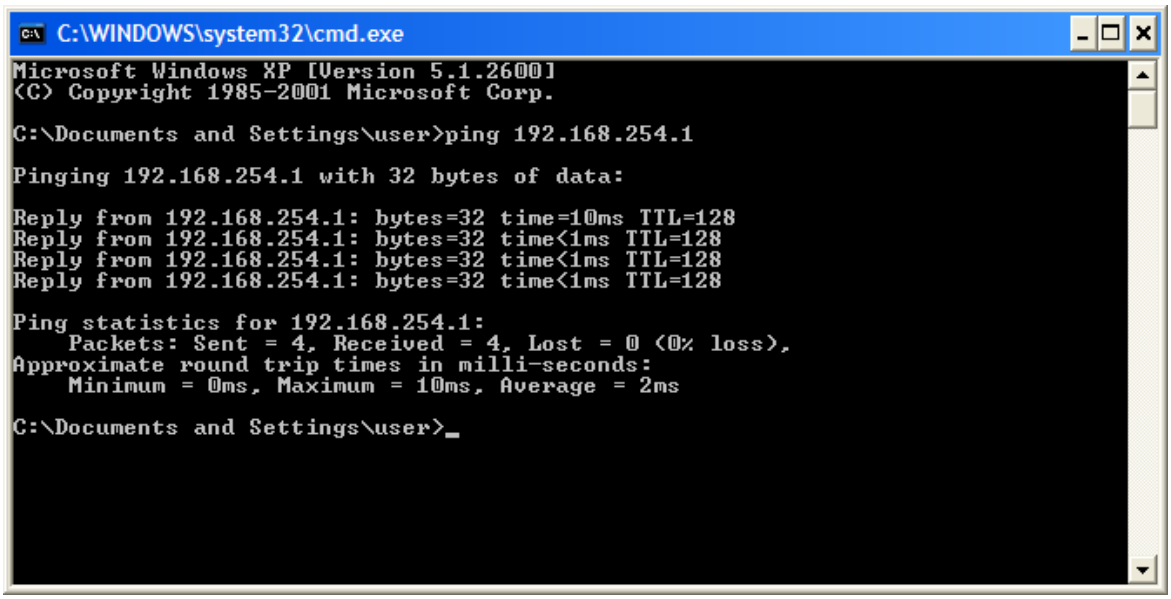


Figure 15.2-4. Using Ping utility

15.2.4 Setting up the Linux Server for operation with the Intellect system

This stage includes the following steps:

1. Start the Intellect system. To start the system from Windows, click Start, then Programs, then Intellect, then Intellect again.

2. In the Hardware tab, create a new Computer object (Figure 15.2-5) and enter the NetBIOS name (see previous section) into the Computer Name field.

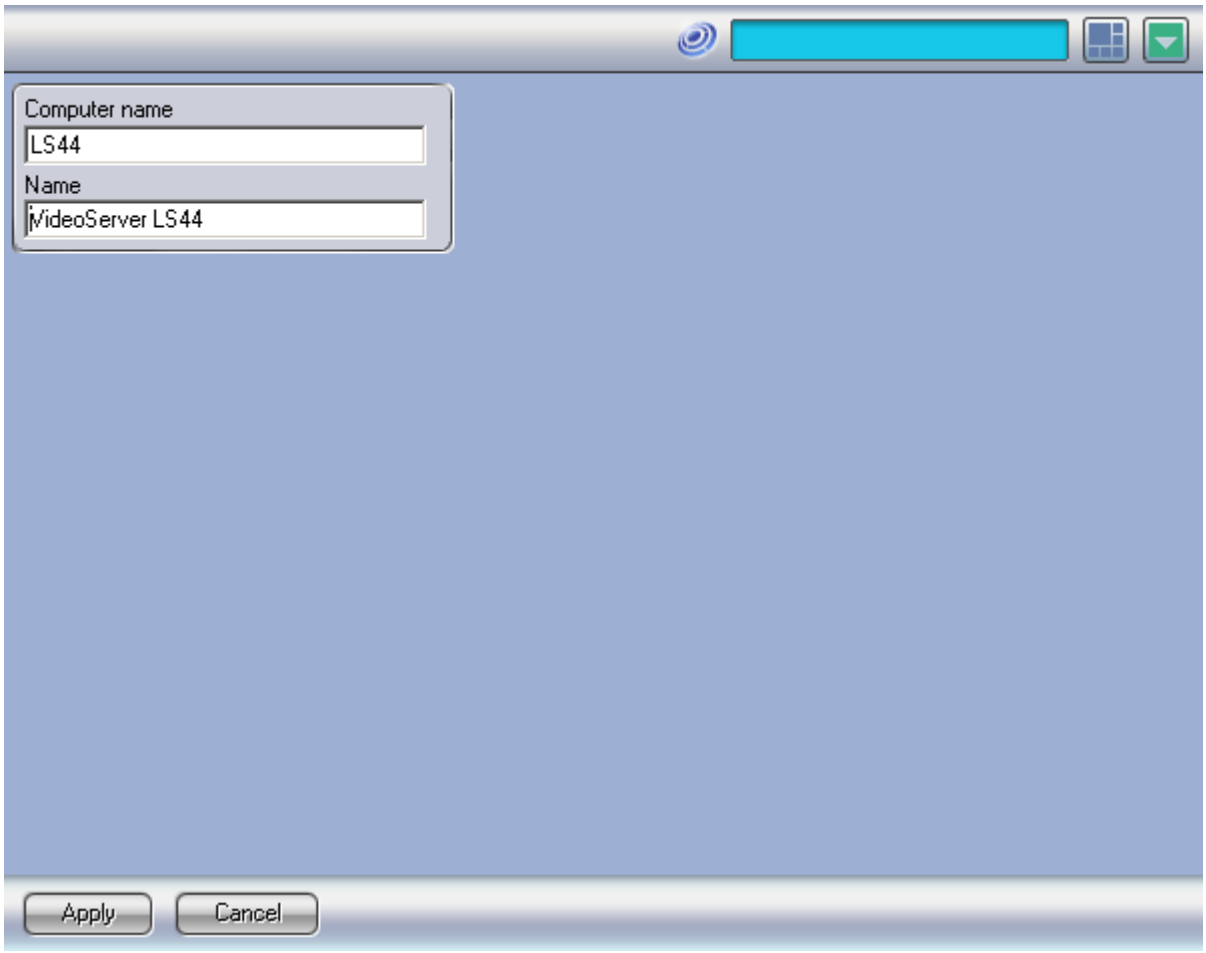


Figure 15.2-5. Creating a Computer object

3. In the Architecture tab, specify the IP-addresses of your computer and LS, then restart the Intellect software (Figure 15.2-6, Figure 15.2-7).

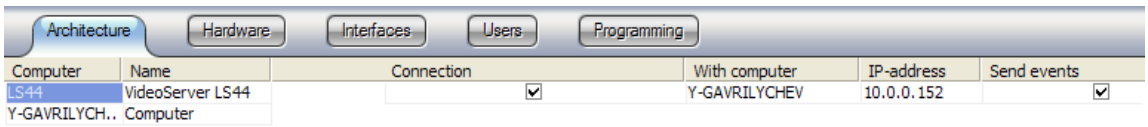


Figure 15.2-6. Entering an LS IP-address

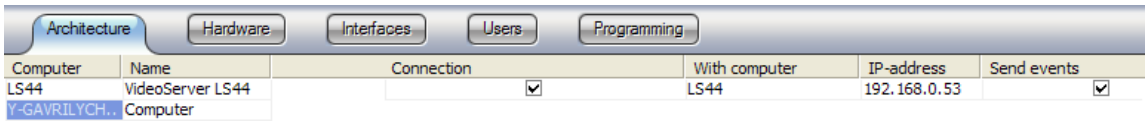


Figure 15.2-7. Entering a computer IP-address

4. In the Hardware tab, select Re-connect in the context menu of the created computer object. If the settings are correct, the created computer will be displayed in the hardware list (Figure 15.2-8).

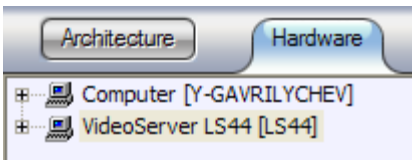


Figure 15.2-8. The connected computer is displayed in the list

5. Make other settings in the Intellect system. For example, to display video received from a camera connected to the LS, create a Video Capture Card object under the Computer <NetBIOS name> object in the tree, and set up the created camera (Figure 15.2-9, Figure 15.2-10).

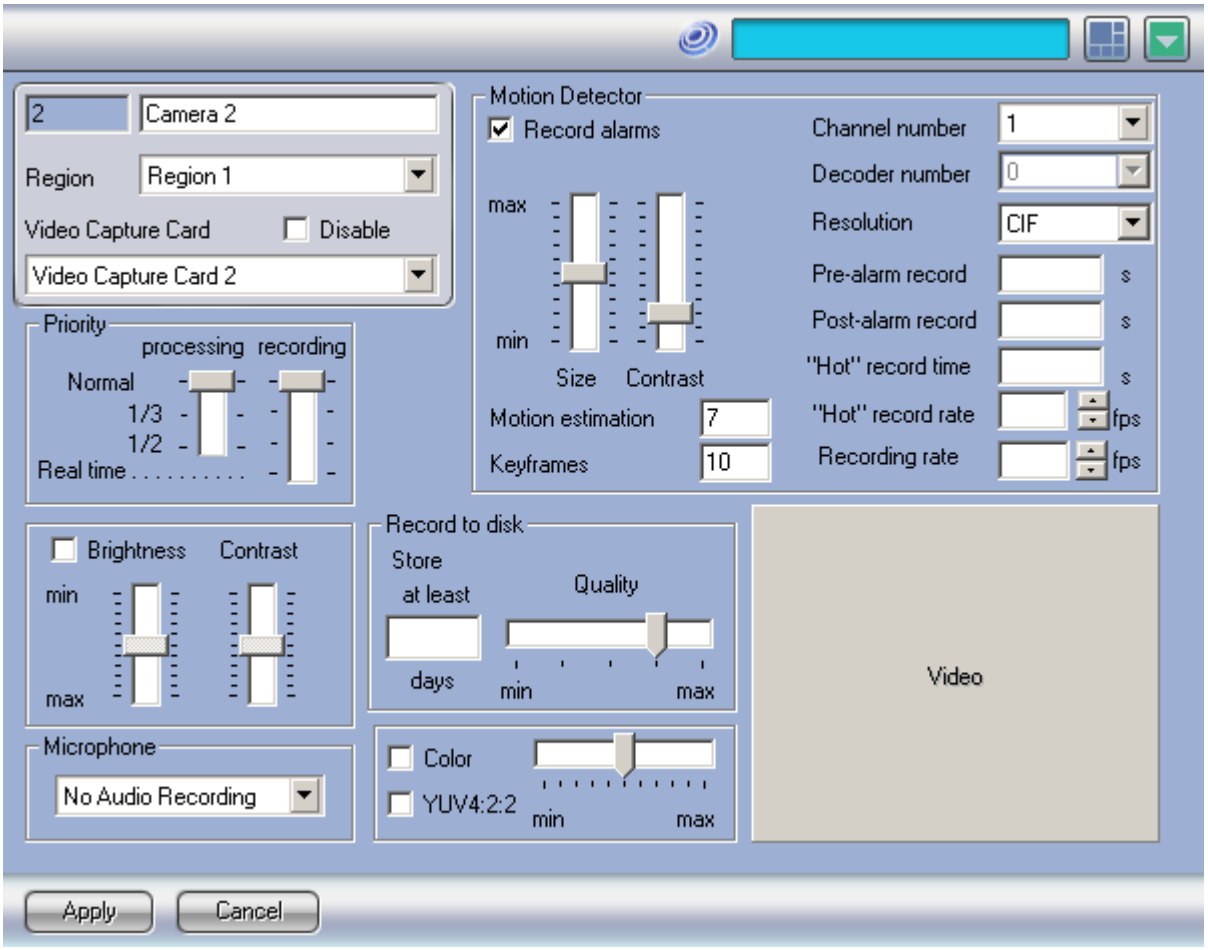


Figure 15.2-9. Creating a Camera object

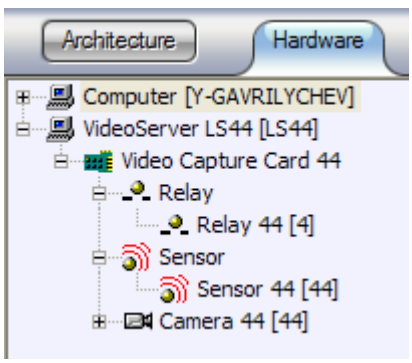


Figure 15.2-10. LS configuration example

NOTE. The details on the Intellect system setup are described in another section of this manual.

Some LS settings can be set through the Web interface (see the Linux Server (LinuxHub) Web Interface section).

15.2.5 Setting up the LinuxHub for operation with the Intellect system

This stage includes the following steps:

1. Start the Intellect system. To start the system from Windows, click Start, then Programs, then Intellect, then Intellect again.

2. In the Hardware tab, create a new Video Capture Card object under a Computer object in the object tree (Figure 15.2-11). Select "LinuxHub" in the Type drop-down list and enter the IP-address of the required LH (see the Network Identification of the LS (LH) section).

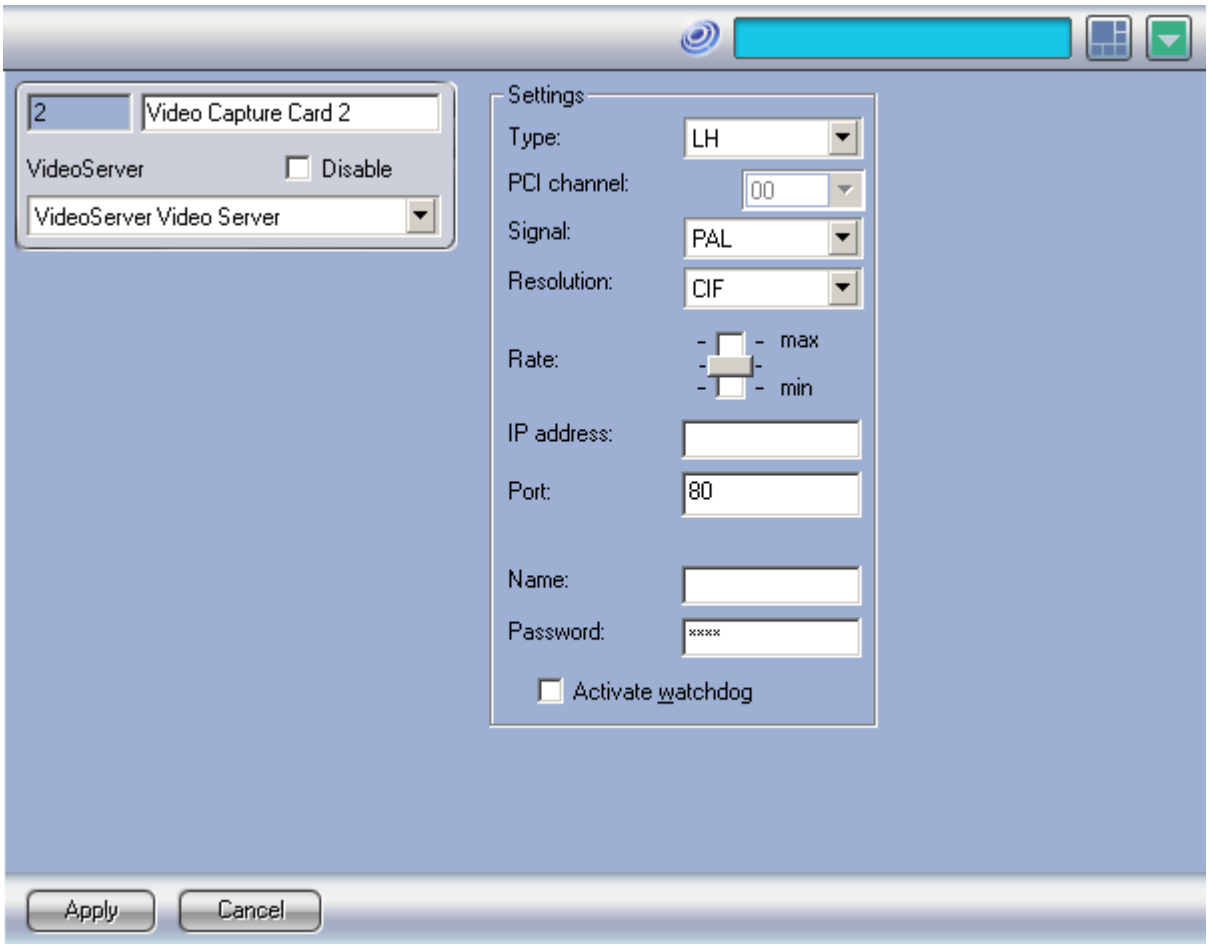


Figure 15.2-11. Creating a Video Capture Card object

3. Make other settings in the Intellect system. For example, to display video received from a camera connected to the LH, create a Camera object under the Video Capture Card <card id> object in the object tree, and set up the created camera (Figure 15.2-12, Figure 15.2-13).

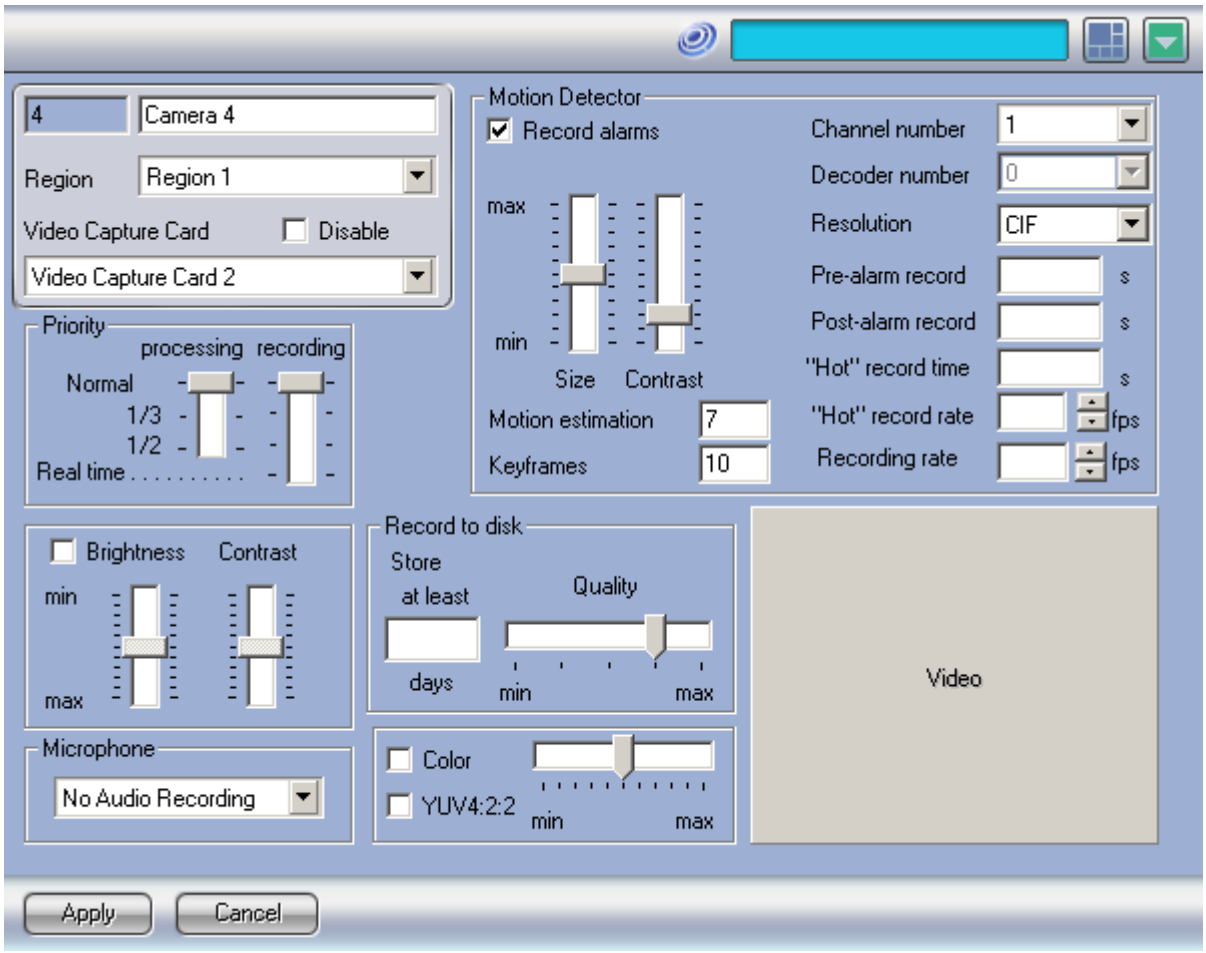


Figure 15.2-12. Creating a Camera object

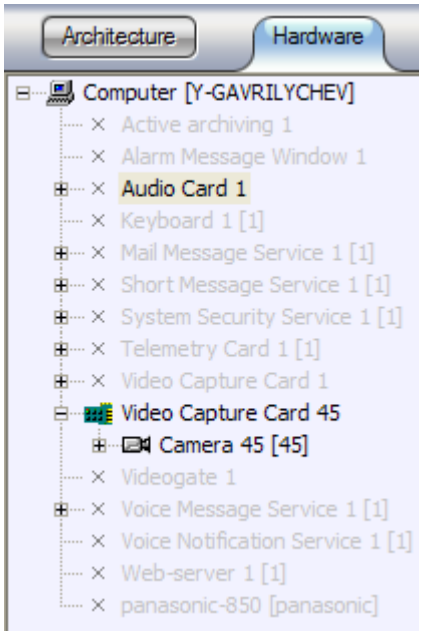


Figure 15.2-13. LH configuration example

4. Restart the Intellect system.

NOTE. The details on the Intellect system setup are described in another section of this manual.

Some LH settings can be set through the Web interface (see the Linux Server (LinuxHub) Web Interface section).

15.3 Linux Server (LinuxHub) Web interface

15.3.1 Introduction

The Web interface is designed for remote access to the LS (LH) and has the following functionality:

1. Viewing video received from the cameras connected to the LS (LH).
2. LS (LH) operability monitoring.
3. LS (LH) network parameters setup.
4. Resetting the LS (LH) configuration.
5. Updating the firmware LS (LH)
6. Downloading the keyfile to LS (LH)

15.3.2 The access the Web interface

To open the LS (LH) Web interface, enter the IP-address of the required LS (LH) into the address line of the browser. The Web interface home page will load, shown in Figure 15.3-1.

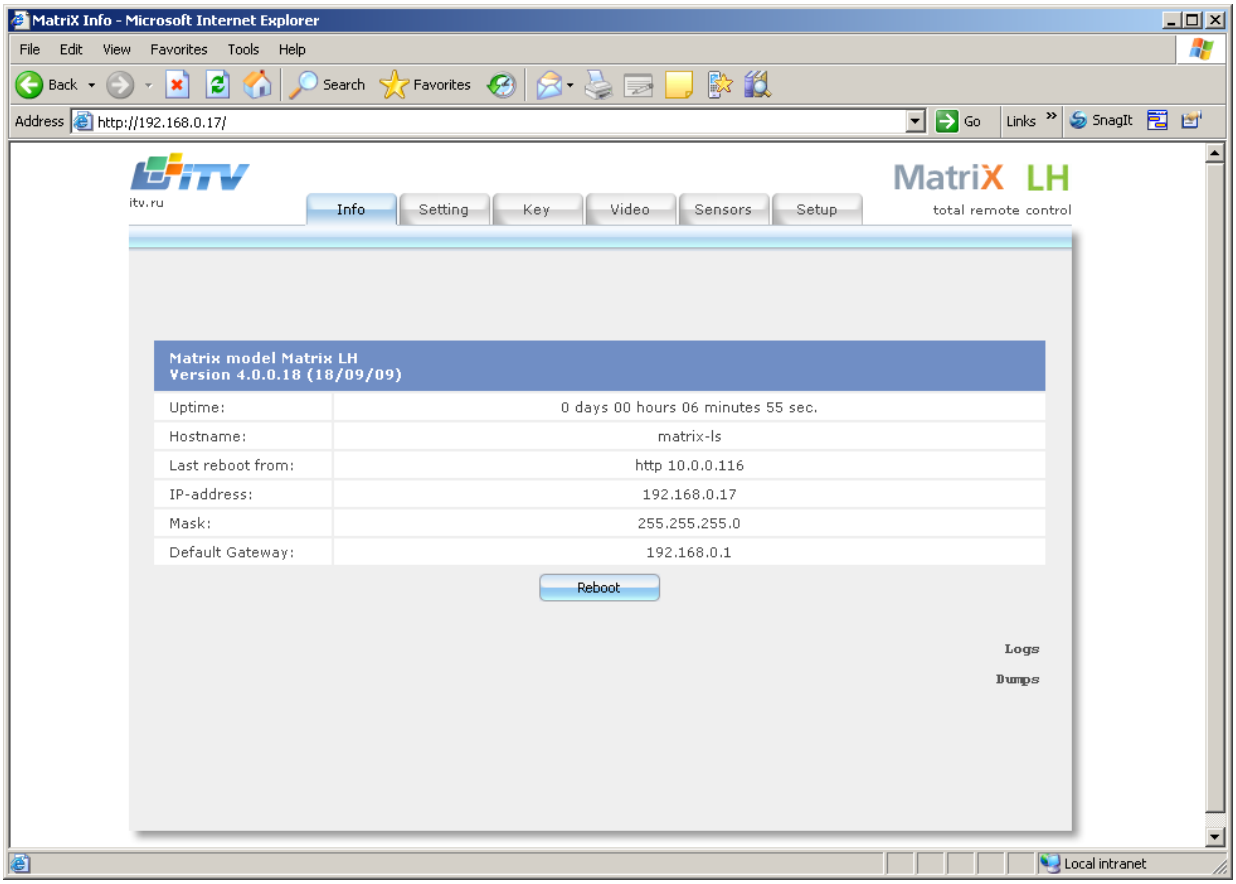


Figure 15.3-1. LS (LH) Web interface home page (Info tab)

The following information is displayed in the Info tab:

1. LS (LH) name;
2. LS (LH) firmware version;
3. Operation time since last re-booting of the LS (LH);
4. NetBIOS name of the LS (LH);
5. IP-address of the remote computer from which the LS (LH) was last re-booted;
6. IP-address, subnet mask and default gateway of the LS (LH).

The Reboot button is located below, allowing to re-boot the LS (LH). The message shown in Figure 764 is displayed during the re-boot.

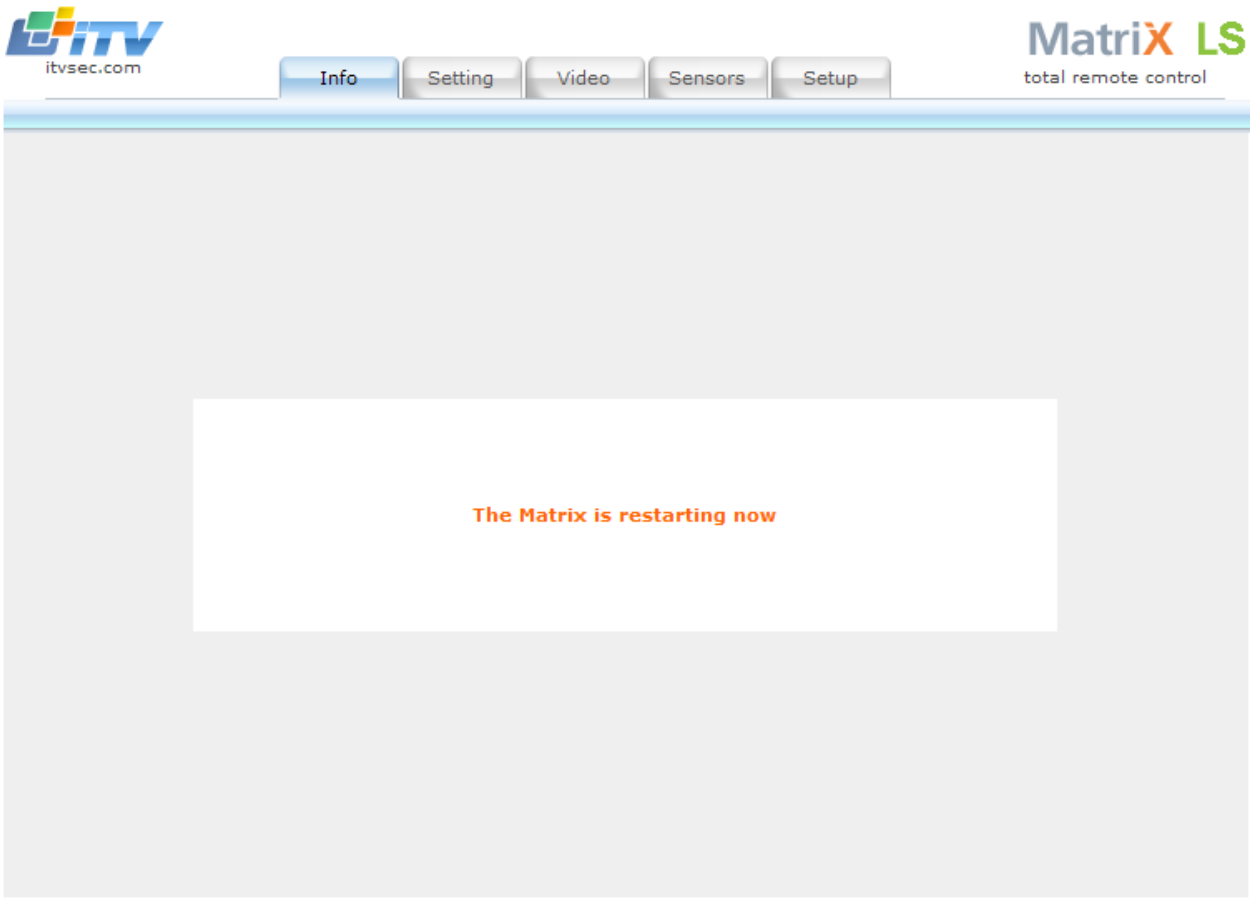


Figure 15.3-2. Re-booting the LS (LH)

NOTE. The browser must support Java to work correctly with the Web interface.

15.3.3 Viewing the video

The Video tab allows viewing the video signal received from the LS (LH) cameras (Figure 15.3-3).

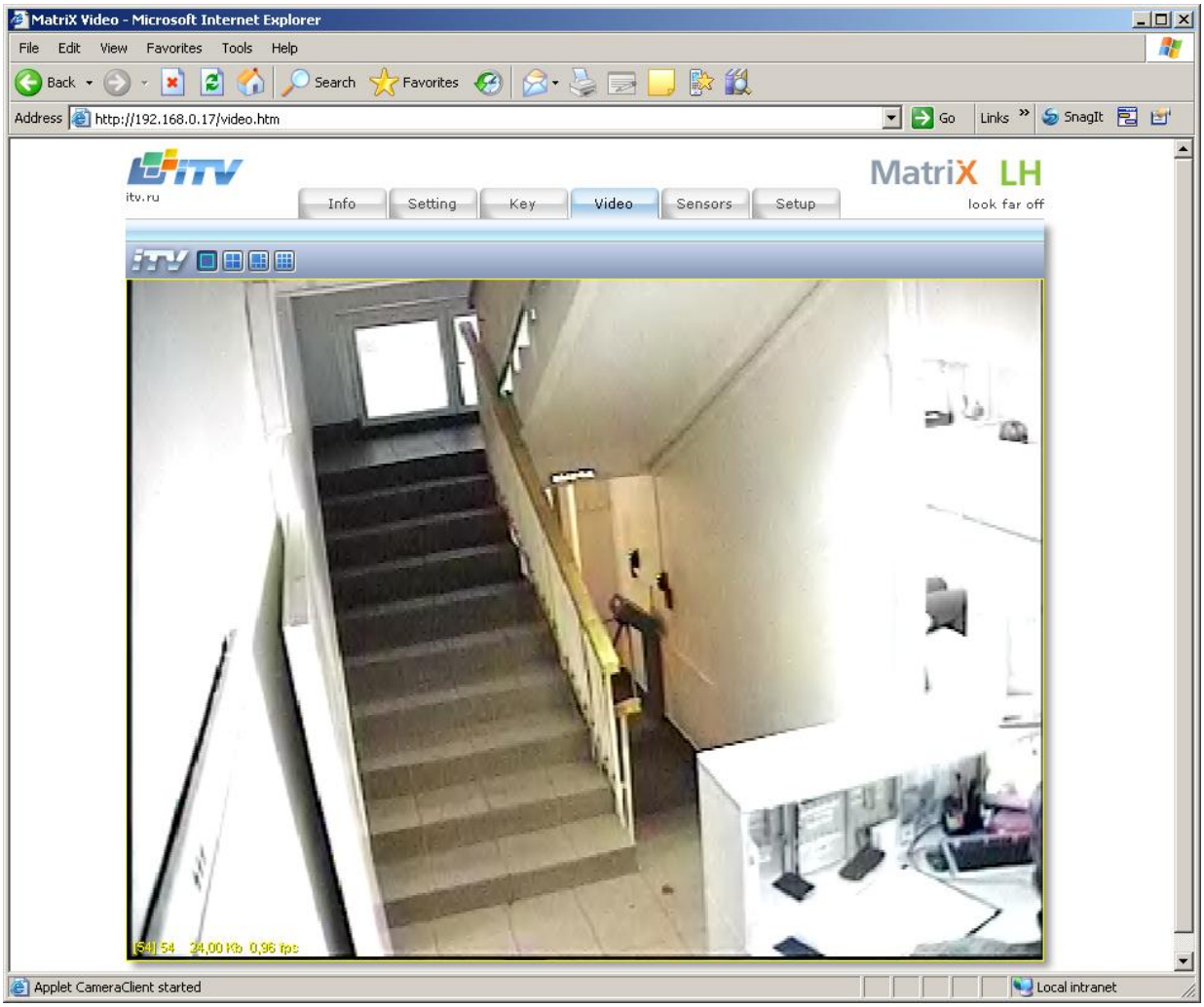


Figure 15.3-3. Viewing video (Video tab)

Viewing the video received from the LS (LH) cameras in the Web interface is similar to viewing the video through a web browser (see this manual).

15.3.4 Linux Server (LinuxHub) operability monitoring

The Sensors tab allows monitoring the operability of the LS (LH) (Figure 15.3-4).

The name, current value and acceptable limits are displayed for each sensor.

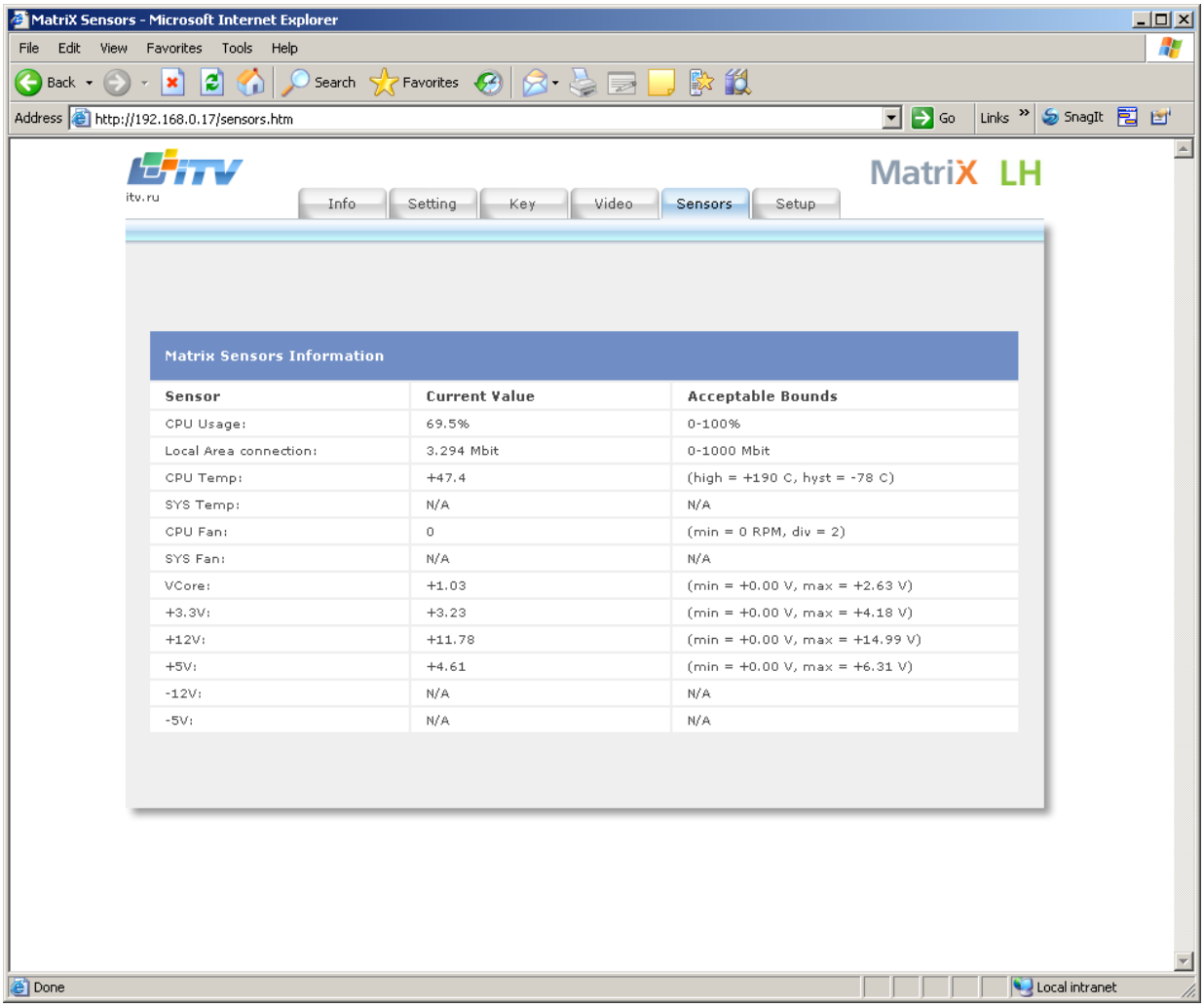


Figure 15.3-4. System operability monitoring in the Sensors tab

15.3.5 LS (LH) network parameters setup

The Settings tab allows setting up the network parameters of the LS (LH):

1. The password for accessing the Web interface (Password and Confirm Password fields);
2. NetBIOS name of the LS (LH);
3. IP-address, subnet mask and default gateway of the LS (LH).

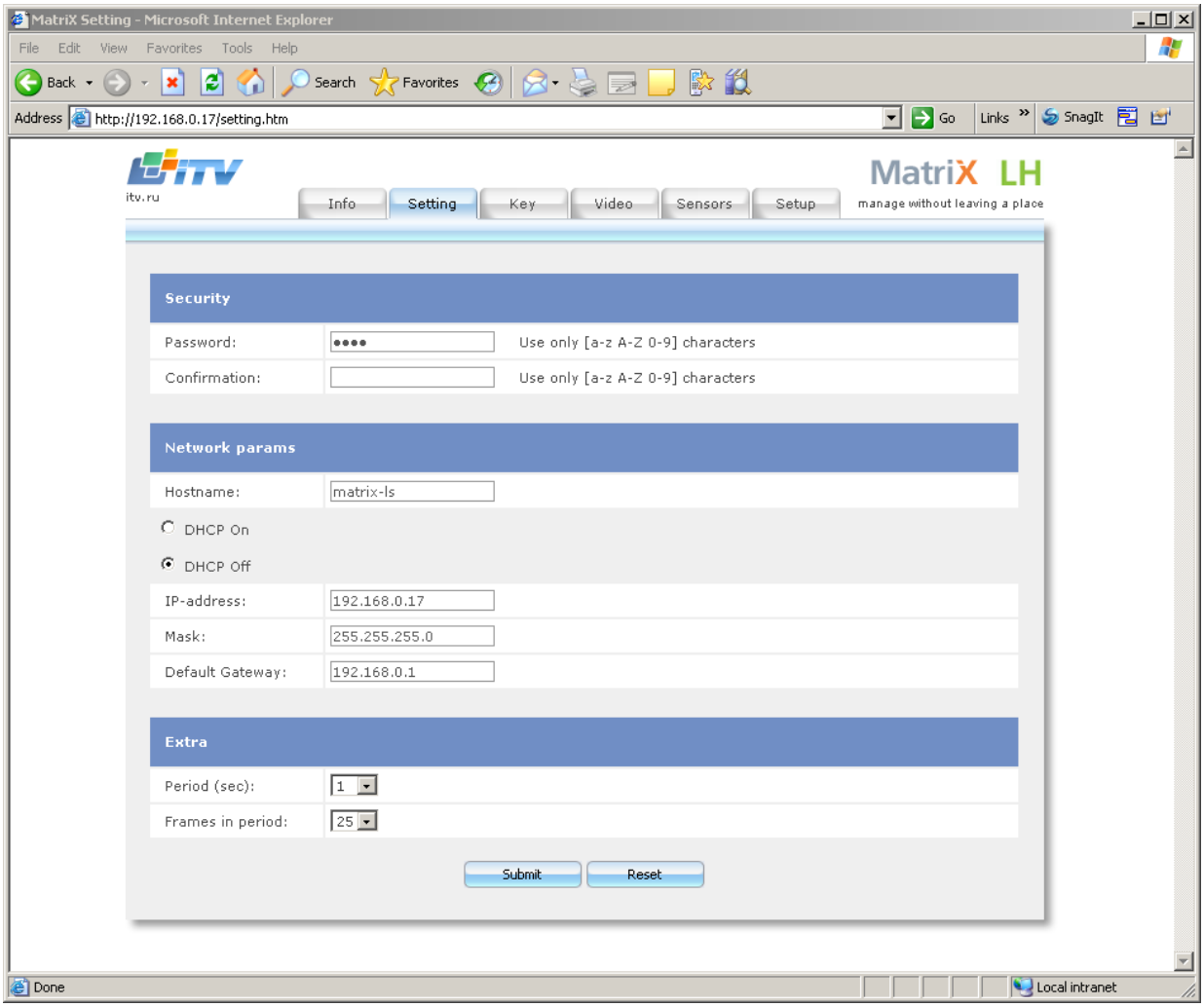


Figure 15.3-5. Network parameters setup in the Settings tab

NOTE. To enter an IP-address, subnet mask and default gateway manually, select the DHCP Off radio-button and enter the values. To set the parameters automatically using the Dynamic Host Configuration Protocol service, select the DHCP On radio-button.

After all values are set, click the Submit button to apply the changes, or Reset to restore old values.

15.3.6 Setting up the Linux-server security

The following operations are performed on the «Key» tab (Figure 15.3-6):

1 Viewing the dallas codes of video capture cards' cryptochips, installed on LS (LH)

2 Viewing the information about the compliance of video capture card's dallas-codes with LS (LH)'s key file

Note. I.sec is used for Linux-server security , for Linux-hub – video.sec.

3 Downloading the key file on LS (LH).

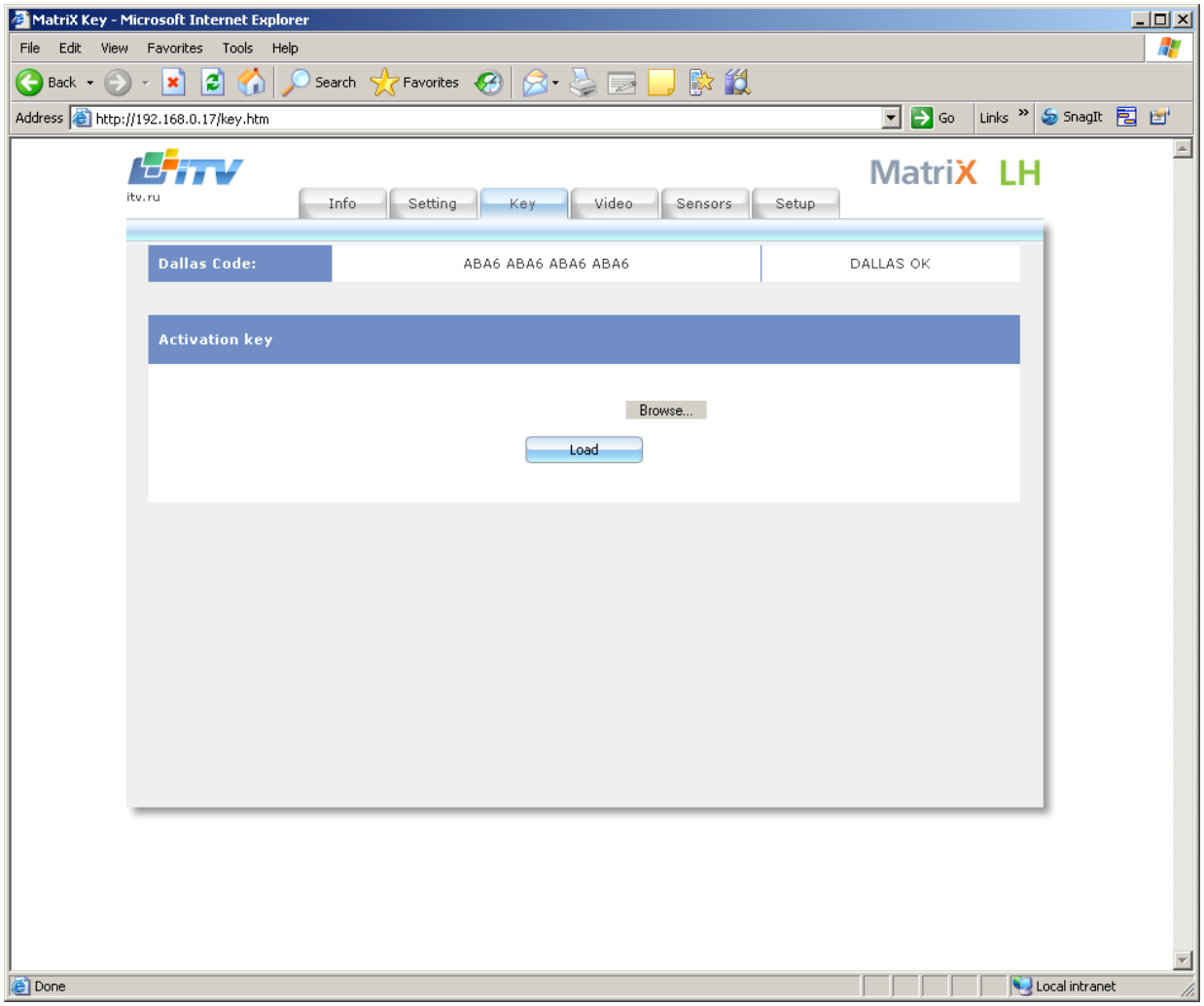


Figure 15.3-6 Downloading the key file on LS (LH)

Downloading the key file on LS (LH) is done in the following way (Figure 15.3-6):

1. Click «Browse» to select the key file
2. Select the required file and click Open in the appeared standard dialog window of OS Windows
3. Click «Load»
4. In result the key file intellect.sec (video.sec) will be saved on LS (LH) in the directory \etc\itv\
5. Restart LS (LH)

Note! Through Mozilla Firefox browser the key file is not downloaded on LS (LH).

Downloading the key file on LS (LH) is completed.

15.3.7 LS (LH) configuration reset

The Setup tab allows resetting some configuration parameters of the LS (LH).

Note. Web updating of the firmware is performed on the tab «Setup» (see. Updating firmware **Ошибка! Источник ссылки не найден.***interface).*

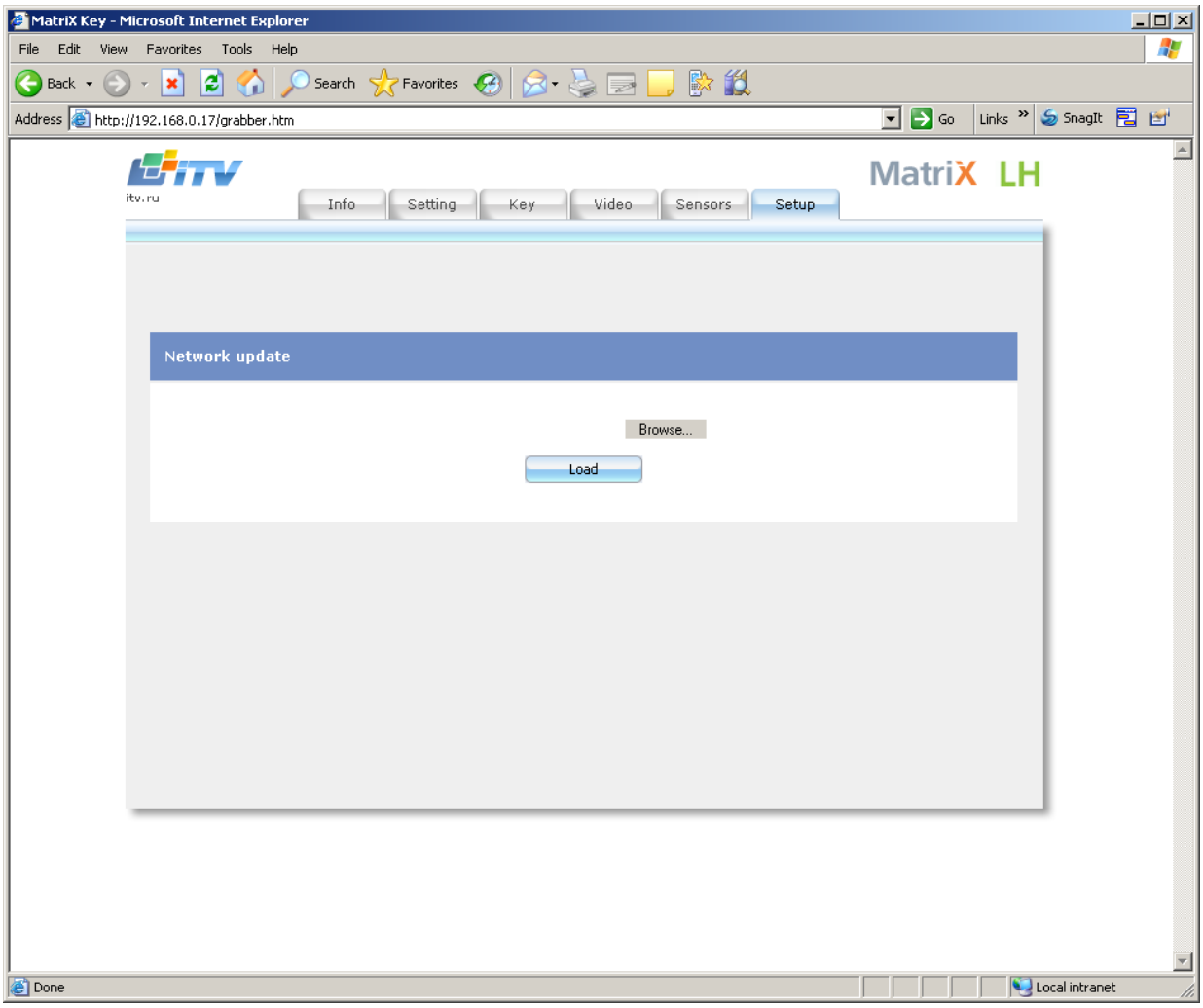


Figure 15.3-7. Resetting some of the configuration parameters in the Setup tab

The Reset button does not make any changes to LS (LH) configuration.

To reset the current LS (LH) configuration, check the required checkboxes next to the Reset Current Setup and Reset Current Database Table fields, and click the Submit button. The home page will open. Click the Reboot button to re-boot the LS (LH). After the LS (LH) re-boots, the selected configuration parameters will be reset.

15.4 Updating firmware Linux-server(Linux-hub)

Updating LS (LH) firmware is done with one o fhte following ways:

1. With iso-image (locally)
2. Through the net by Web-interface
3. Through the net by LS_Net_Updater.exe utility (only for LS)

Note!

While updating the hardware from iso-image net settings and the key file LS (LH) are not saved.

Installing the Linux-hub firmware for Linux-server leads to incorrect operation of Linux-hub.

15.4.1 *Updating the firmware Linux-server (Linux-hub) from iso-image*

Updating the firmware Linux-server (Linux-hub) from iso-image is done in the following way:

1. Save iso-image of the firmware to CD-disk

Note. To get the firmware iso-image it is necessary to apply to Technical support service of ITV group company.

2. Connect CD-ROM device to a free IDE/ SATApin of LS (LH) mother board, or USB CD-ROM device to USB-pin.

Note. Emulation devices CD-ROM USB may also be used for firmware LS (LH).

Note!Connection of CD-ROM devices to IDE/SATA pins of mother board shoul be done in a power down state of LS (LH).

3. Run LS (LH) and while its running incert CD with iso-image of firmware into CD-ROM
4. Download LS (LH) from CD-ROM device

Note. To download fromCD-ROM device one should set corresponding settings in BIOS program of mother board (is called by pressing the key «Del»at start). Information about BIOS settings is given in the official reference manual concerning mother boards.

5. Wait for «Enter disk to build» message, suggesting to sate the disk forfirmware installation. Enter the value «/dev/hda» and the click «Enter»key.
6. Information about the selected disk will be displayed on the screen in result.Enter Yes to confirm installation on the selected disc and then click Enter.
7. Firmware installation process will be run in result.Wait for «darkstar:» console and then restart LS (LH)

Updating the LS (LH) from iso-image is completed.

Note. After firmware updating with the help of iso-image it is necessary to restore net settings and LS (LH) key file – see. Identification of **Ошибка! Источник ссылки не найден.***, Setting up the* **Ошибка! Источник ссылки не найден.** security.

15.4.2 *Updating the firmware of Linux-server(Linux-hub) through Web-interface*

Updating LS (LH) firmware through Web-interface is done in the following way:

1. Click «Update» on the tab «Setup» in Web- interface of LS (LH) – see. LS/LH configuration reset
2. «Network update» page will open in result (Figure 15.4-1)

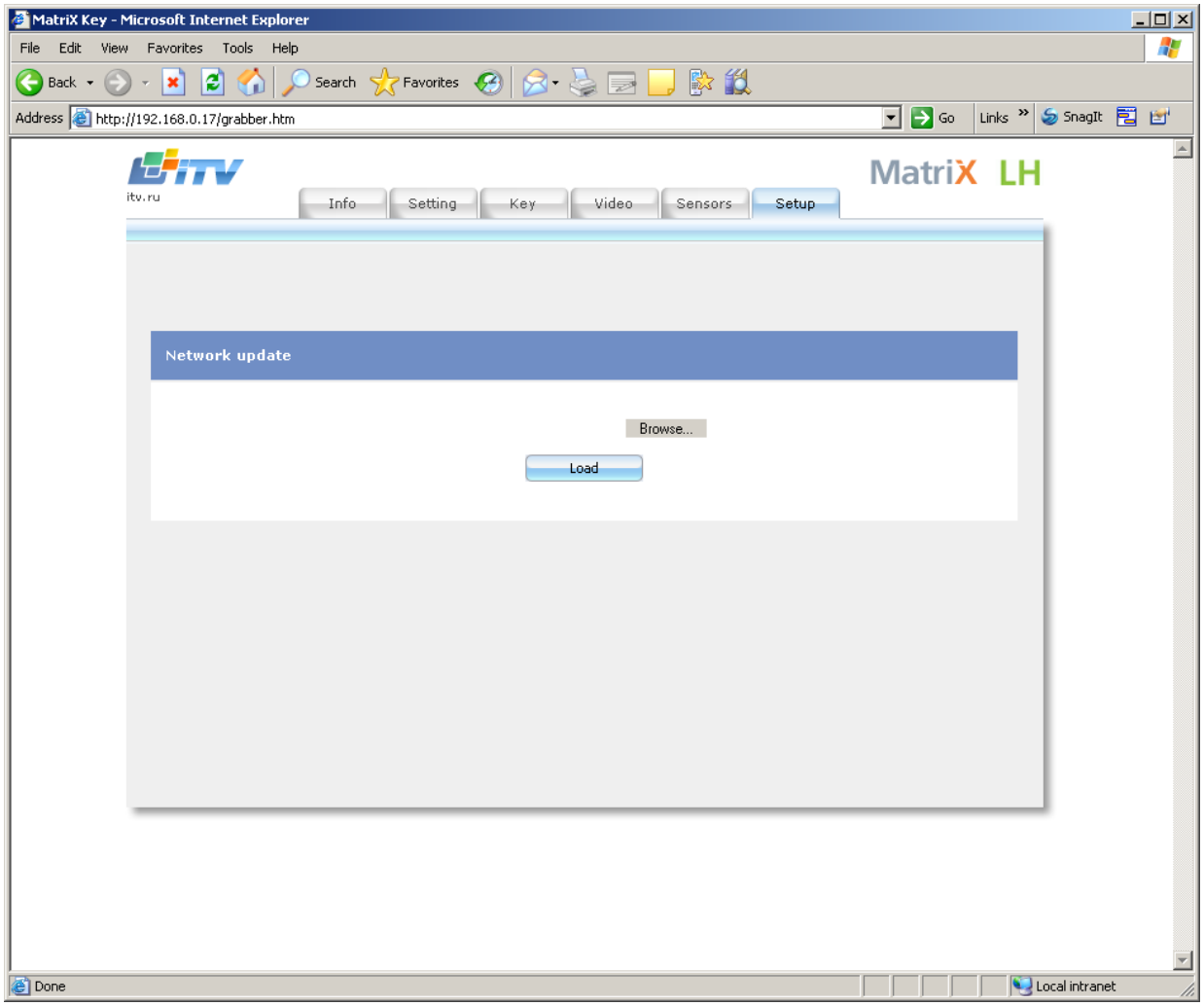


Figure 15.4-1 UpdatingLS (LH) firmware through Web-interface

3. Click Browse button fo select firmware file (Figure 15.4-1)

Note. To get the firmware file it is necessary to apply to Technical support service of ITV group company.

Firmware file through Web-interface has extension .nlp.

4. Select the required firmware file and click Open in the standard dialog window of OS Windows «File selection»

5. Click «Load» button

6. Firmware will be downloaded and installed on LS (LH)in result

7. Wait the operation to end and the then restart LS (LH)

Updating the LS (LH) firmware through Web- interface is completed.

Note. While updating the firmware through Web-interface it is not required to restore net settings and LS (LH) key file.

15.4.3 Updating the firmware of Linux-serverwith the help of LS_Net_Updater.exe utility

Updating LS firmware with the help of LS_Net_Updater.exe utility is done in the following way:

1. Run executable file LS_Net_Updater.exe on the computer connected to LS through the net

Note. To get LS_Net_Updater.exe utility it is necessary to apply to Technical support service of ITV group company.

2. «Update Matrix» dialog window will open in result (Figure 15.4-2)

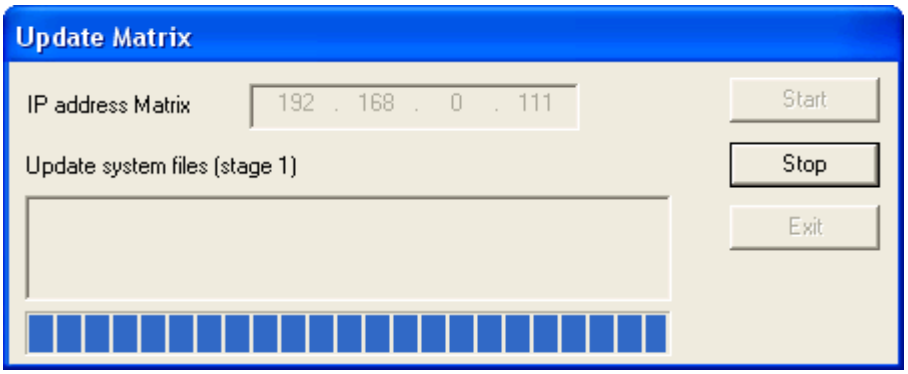


Figure 15.4-2 LS_Net_Updater.exe utility dialog window

3. Enter IP-address of the required LS in the field «IP address Matrix» (Figure 15.4-2)
4. Click «Start» to run updating of LS firmware (Figure 15.4-2)

*Note. To stop firmware updating it is necessary to click «Stop» (*Figure 15.4-2*).*

5. «Restarting DVI» dialog window will be displayed after the updating of firmware is completed. Auto restart of LS in 60 sec after the appearance of dialog window is selected on default (the switch is set to the position «Reboot automatically»). For LS immediate restarting click «Ok» (Figure 15.4-3)
6. To reboot LS manually, set the switch to the position «Reboot manually later» and click «Ok», and then reboot LS manually (Figure 15.4-3).

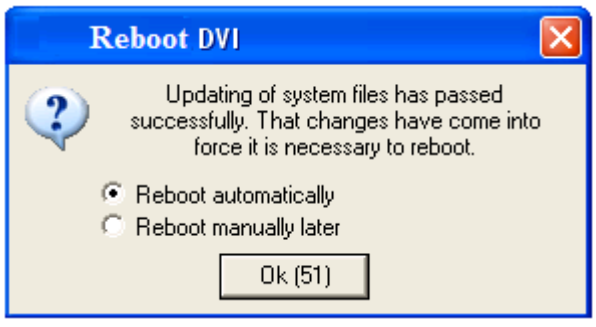


Figure 15.4-3«Restarting DVI» dialog window

7. Click «Exit»to close LS_Net_Updater.exe utility dialog .

LS firmware updating with the help of LS_Net_Updater.exe utility is completed.

Note. While updating LS with the help of LS_Net_Updater.exe utility it is not required to restore net settings and LS (LH) key file.

15.5 Formatting the Linux-server hard drive

If archive recording to disk is not carried out after LS settings, the disk should be formatted. Formatting is performed from the computer , connected to LS through the net by telnet protocol.

LS disc formatting is done in the following way:

1. Select point Run from the Start menu . Dialog window Program starting will appear in result (Figure 15.5-1)

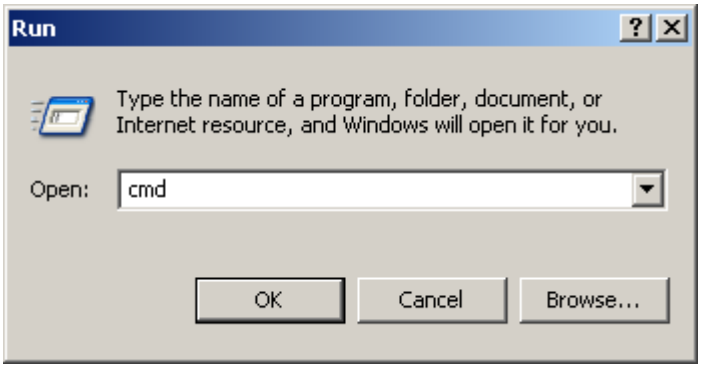


Figure 15.5-1 Running the command line

2. Enter cmd command in the field Open and the click OK. (Figure 15.5-1). Command line window will appear in result (Figure 15.5-2)

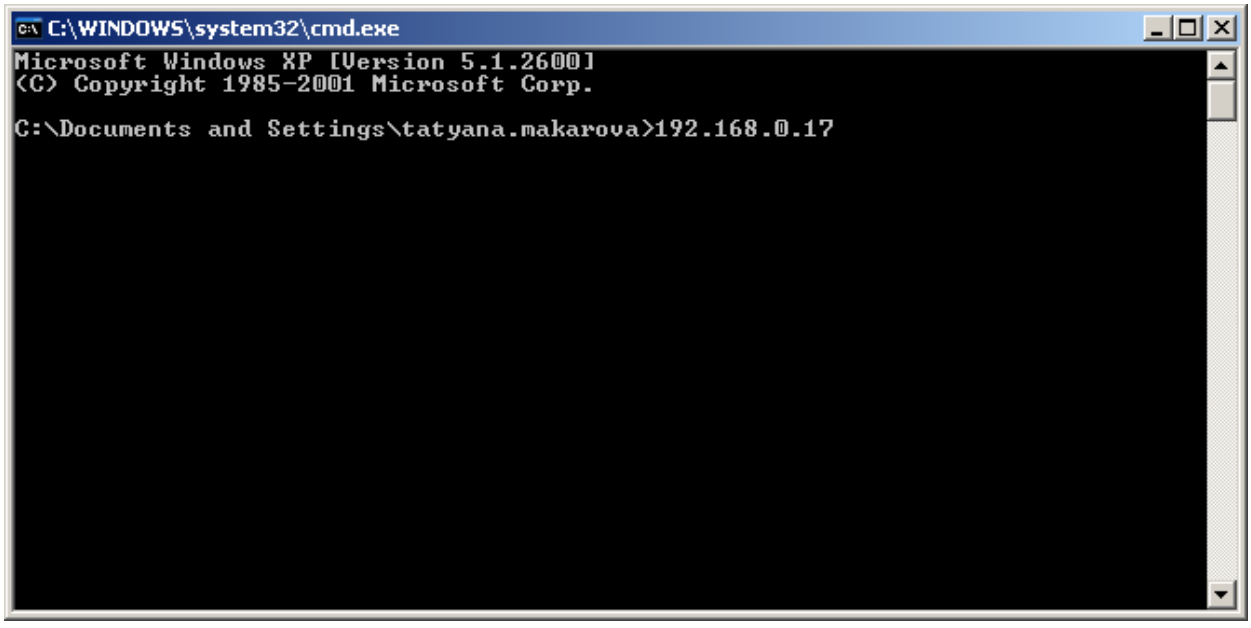


Figure 15.5-2 Connecting to LS through telnet protocol

3. To connect to LS through telnet protocol enter the command «telnet <ip adress LS>» and then click «Enter» (Figure 15.5-2)

4. «Telnet» terminal window will appear in result (Figure 15.5-3)

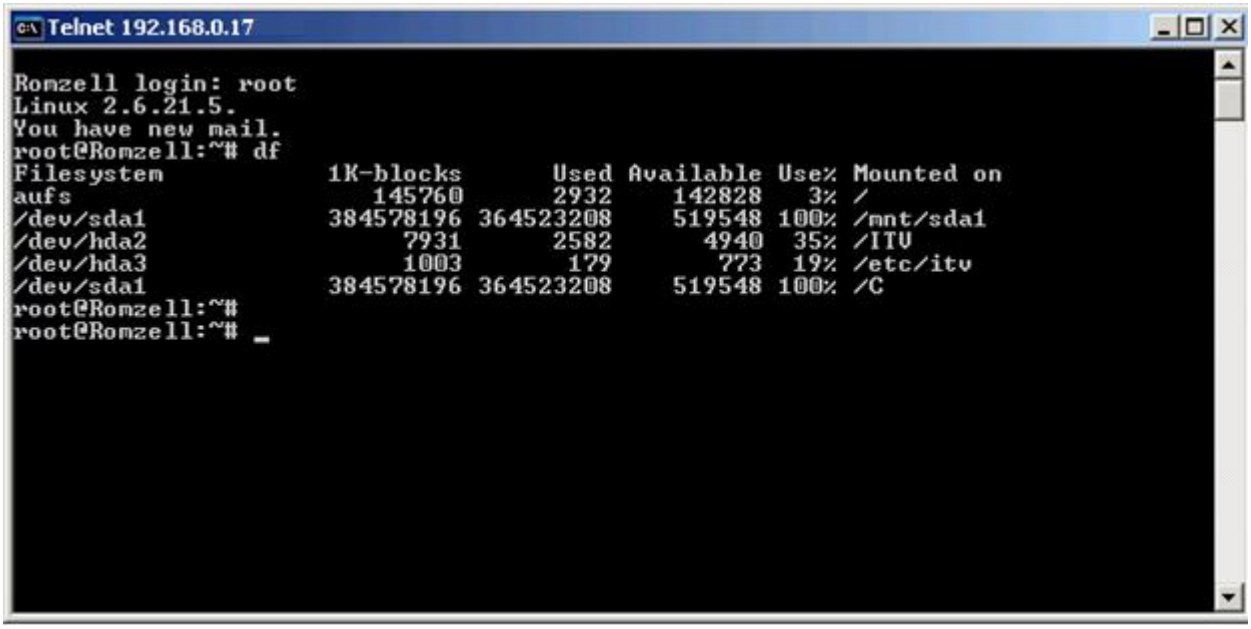


Figure 15.5-3 Formatting the LS hard drive

5. To enter to LS in the line «login» enter the value «root» and then press the key «Enter».
6. To view information about LS sections enter df command and then press the key «Enter».
7. Find the section , which mounting point is the disc, selected for archive recording to LS

Note. Selection of disc for archive recording to LS is done on the settings panel of corresponding LS Computer object *(see.* **Ошибка! Источник ссылки не найден.***).*

*Mounting points of LS sections are given in the column «Mounted on» (*Figure 15.5-3*).*

Example.If drice C:\ is selected for archive recording, section /dev/sda1 shoul be formatted in accoedance with information in Figure 15.5-3.

8. Enter the command «fuser -kc <required section >» and then press «Enter» key
9. Repeat step 8
10. Enter the command «umount < required section >» and then press «Enter» key
11. Repeat step 10
12. Repeat step 6. In case when information about the required section is displayed, repeat steps 8-11
13. To run formatting process enter the command «mkfs.ext3 < required section >» and then press «Enter» key
14. Wait for the operation to be ended and the restart LS

LS disc formatting is completed.

16 Appendix 7. Electrical and technical features of DI/DO cards.

DI/DO cards-multichannel digital-analogue converters and transmitters of up to 4 control signals to EU(relays) that are to be used in in video surveillance systems installed with FS-5, FS-6, FS-16, FS-8 video capture cards for video signals processing.

While working with DI/Do cards it is necessary to take account of the following electrical features:

1. Current sensor state.

Depending on the resistance between input contacts on the line, the current sensor state is devided into:

a. close(over 3 kiloohm);

b. open (over 10 kiloohm);

c. undefined (from 3 to 10 kiloohm).

Note. Undefines state may be determined by the system as close or open.

2. Output relay state.

Output relay state should be «Open» for DI/DO card The following conditions should be obtained:

a. maximum current through the open collector– 150 milliampere;

b. resistanse – 24 volt;

c. minimum resistanse of connected relay– 160 ohm.

Technicl features of DI/DO cards should be beared in mind while connecting the sensors (Table 15.5-1).

Table 15.5-1

Features	**4/4 DI/DO cards**	**16/4 DI/DO cards**
Guard sensor (sensors)	4	16
Breakdown voltage	1000 volt up to 1 minute	1000 volt up to 1 minute
Control output(relays)	4	4
Open collector (interface)	24, 30 milliampere	24, 30 milliampere

17 Appendix 8. Controlling the PTZ units by control panels

PTZ units can be controlled be control panels , specialized pointing devices, connected to computers.

See below an example of camera control by means of «Samsung SSC-2000»device,that enables to perform the following functions:

1. Camera functions control, such as turn, inclination, scaling and focusing;

2. Setting the given camera positions;

3. Activating the beforehand programmed settings groups and groups' sequences.

Elements location of «Samsung SSC-2000» device are given in Figure 14.4.3-1 :

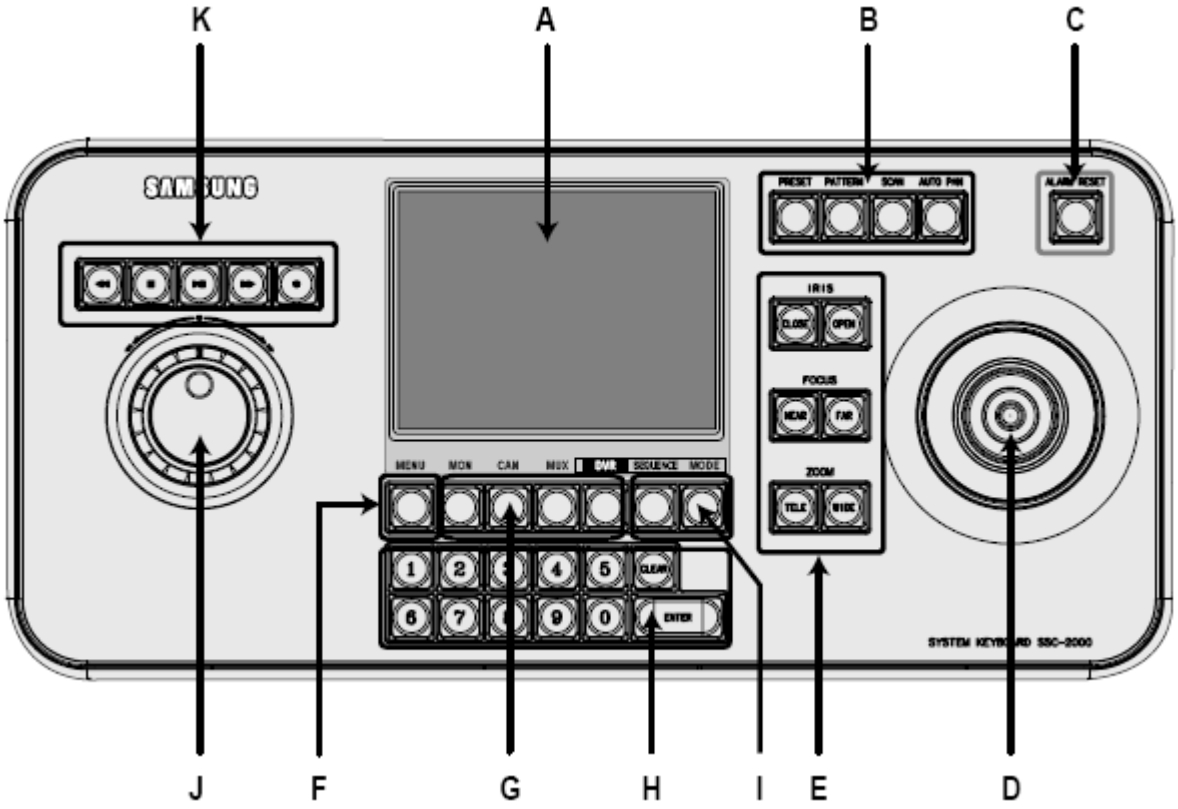


Figure 0-1 Elements location of «Samsung SSC-2000» device

Description of «Samsung SSC-2000» device control elements is given in Table 0-1.

Table 0-1 Description of «Samsung SSC-2000» device control elements

Control element	Name	Function
1.	LCD	Displays the work state of control panel
2.	Keys block for changing the PTZ unit orientation of the camera	PRESET PATTERN SCAN AUTO PAN
3.	Alarm reset key	ALARM RESET

Control element	Name	Function
4.	Joystick for manual changing the the PTZ unit orientation of the camera	UP DOWN LEFT RIGHT
5.	Keys block for controlling the camera's objective lens (iris, focus, zooming in)	IRIS CLOSE/OPEN FOCUS NEAR/FAR ZOOM TELE/WIDE
6.	Menu key	Access to control panel settings
7.	Device selection key	MON/CAM/MUX/DVR
8.	Block of numeric keypad	Is used for entering the digits if necessary on the control panel
9.	Camera's operation mode control	SEQUENCE MODE
10.	Controller in the form of rotatable disc	Is used for navigation through archive recordings
11.	Controlling the recording from the camera and displaying the archive camera recordings	PLAY/PAUSE STOP FAST FORWARD REWIND RECORD

Note. For detailed information use the user manual for the used device. See. http://www.tatrissecurity.ru/client/doc/SSC-2000-Rus.pdf for «Samsung SSC-2000» device.

18 Appendix 9. Instaling the «Microsoft .NET Framework 3.5 SP1»

To install «Microsoft .NET Framework 3.5 SP1» manually do the following:

1. Install the Intellect PC as a server (see section «Intellect installation on servers »).
2. Run the «Microsoft .NET Framework 3.5 SP1» setup from the folder «redist» of the Intellect setup program directory.For example: «C:\Intellect\redist\DotNet3.5\dotnetfx35.exe».
3. Extracting files message will be displayed in result (Fig. 15.4.3-1).

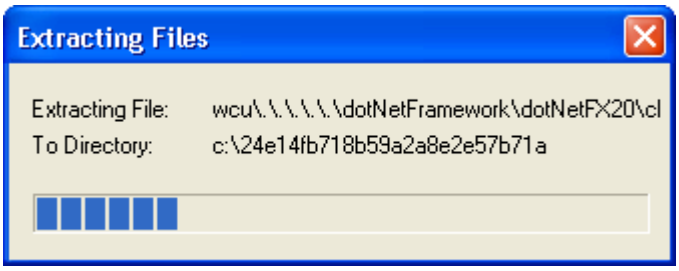


Fig. 15.4.3-1 Extracting the files «Microsoft .NET Framework 3.5 SP1»

4. Then «Microsoft .NET Framework 3.5 SP1» setup window will be displayed (Fig. 15.4.3-2).

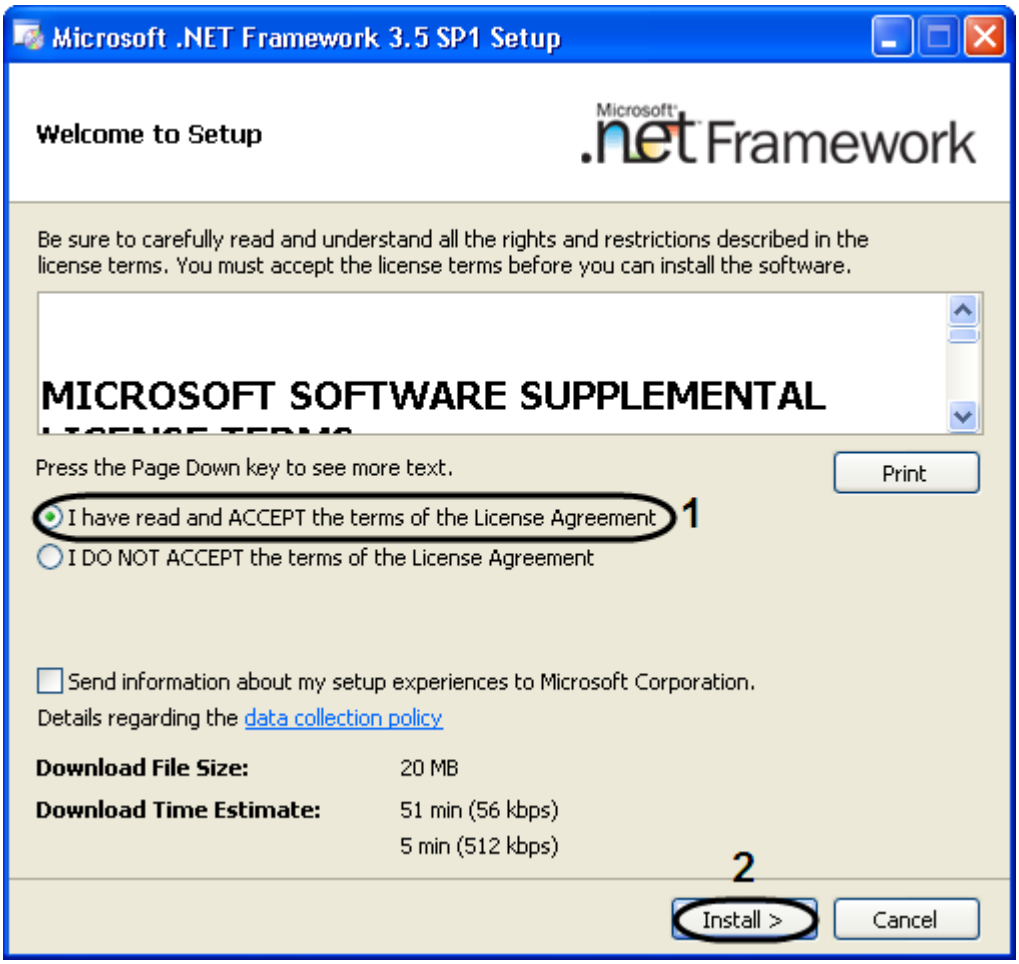


Fig. 15.4.3-2 «Microsoft .NET Framework 3.5 SP1» setup

5. Confirm the acceptance of License Agreement terms by setting the switcher to the position «I have read and ACCEPT the terms of the License Agreement » after investigating the License Agreement terms, otherwise the setup will be cancelled (Fig. 15.4.3-2, 1).
6. Click«Install>» (Fig. 15.4.3-2, 2).
7. Install process dialog window will be displayed in result (Fig. 15.4.3-3).

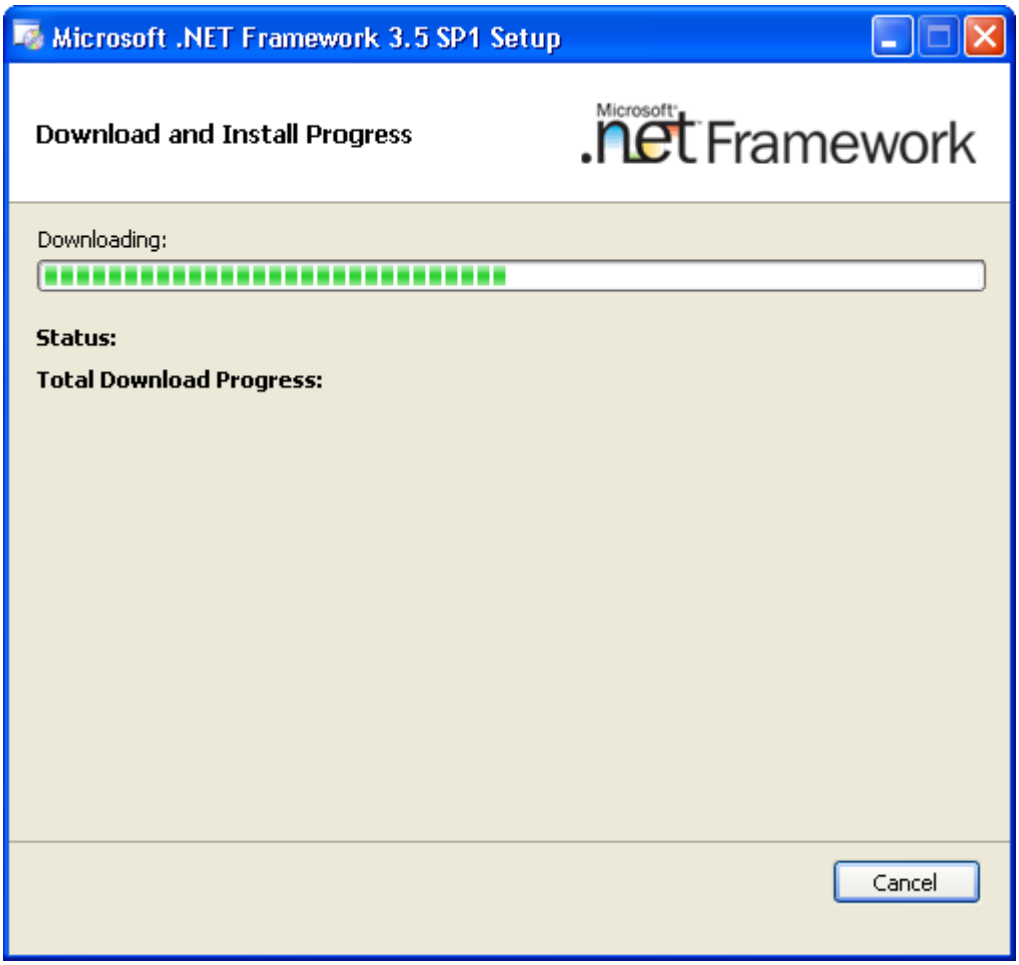


Fig. 15.4.3-3 Downloading window

8. «Download complete.You can now disconnect from the internet» message will be displayed after finishing the download process (Fig. 15.4.3-4).

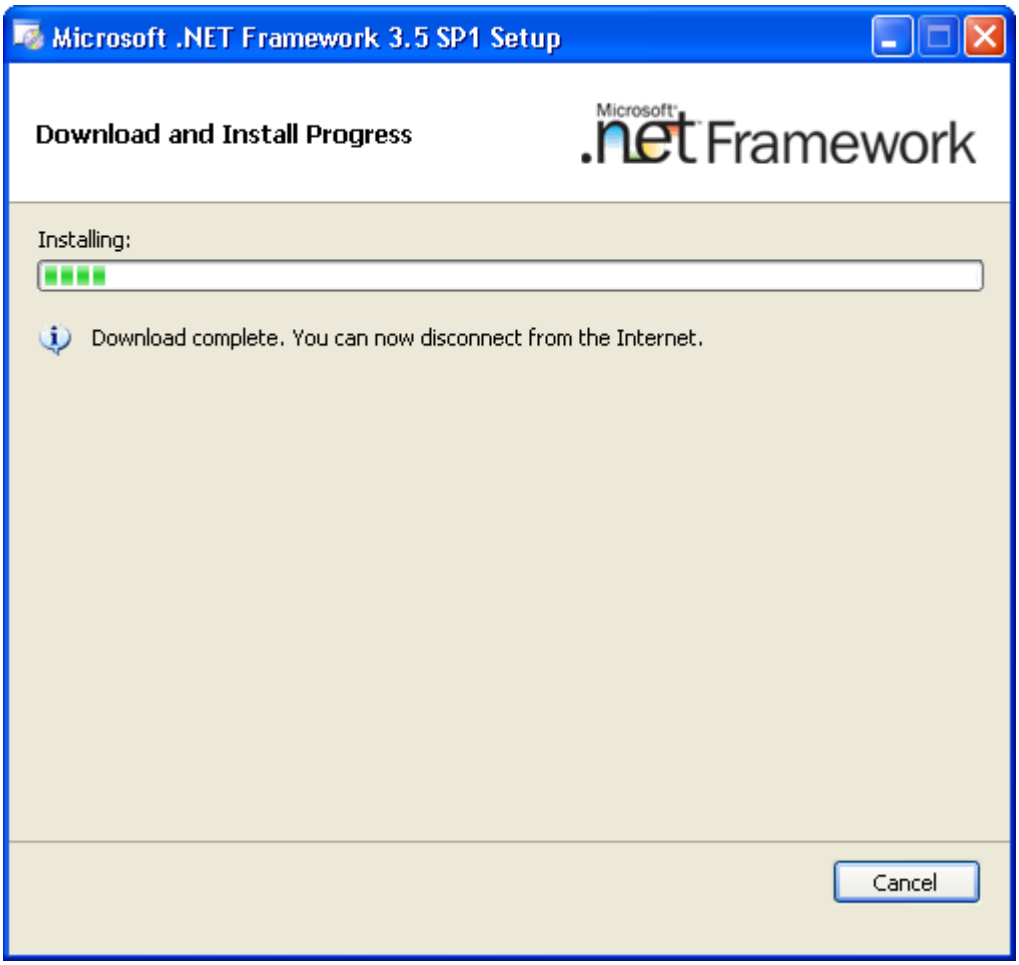


Fig. 15.4.3-4 Message Download complete

9. Then «Microsoft .NET Framework 3.5 SP1» setup complete dialog window will be displayed (Fig. 15.4.3-5).

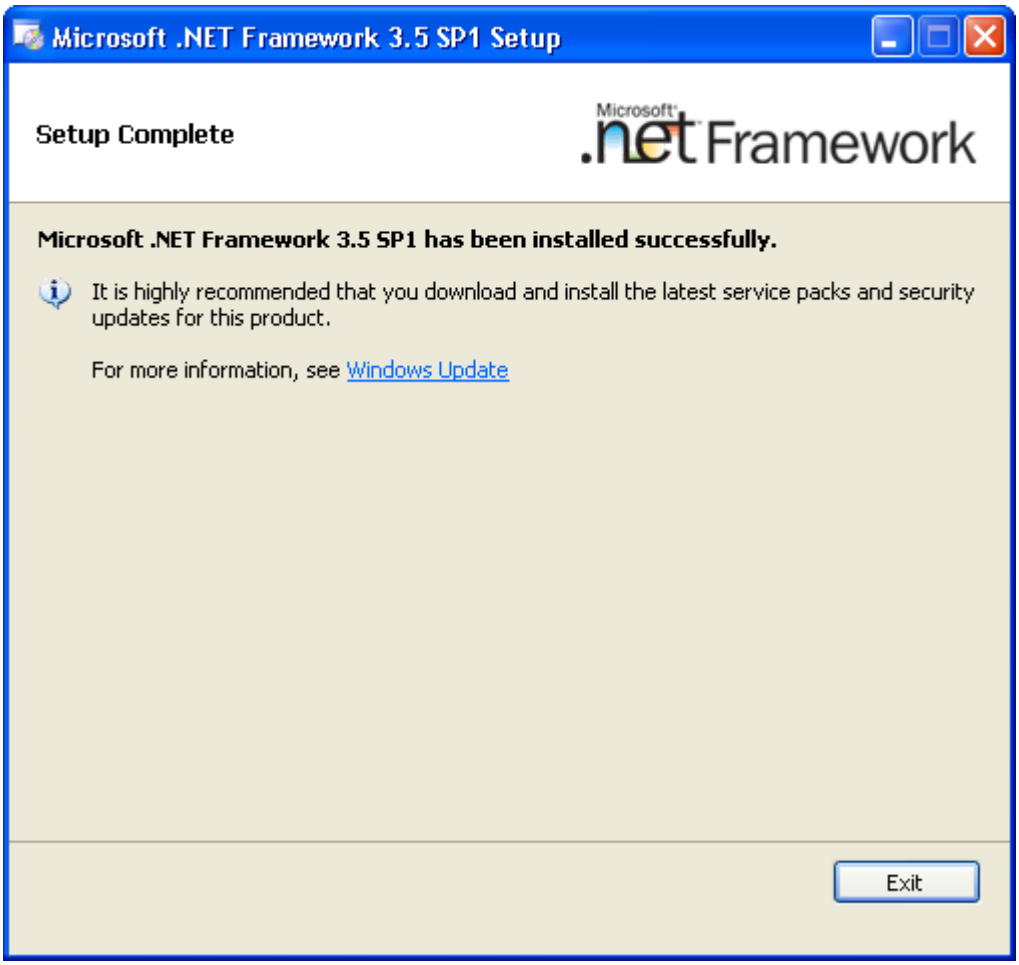


Fig. 15.4.3-5"Microsoft .NET Framework 3.5 SP1" setup completion

10. Click Exit button to complete the setup process (Fig. 15.4.3-5).

«Microsoft .NET Framework 3.5 SP1» setup is completed.

19 Appendix10. «Microsoft SQL Server 2008 Express R2» setup

To install «Microsoft SQL Server 2008 Express R2» manually do the following:

Note. While installing the MS SQL Server 2008 Express R2 in auto mode it is recommended to leave the offered settings in «SQL Server 2008 R2 Setup» unchanged.

1. Set the switcher to the position «Yes, I want to install Microsoft SQL Server 2008 Express R2» (see section «Intellect installation on servers »).
2. MS SQL Server 2008 Express R2 setup window will be displayed (Fig. 15.4.3-1).



Fig. 15.4.3-1 MS SQL Server 2008 Express R2 setup window

3. Then «Setup Support Rules» dialog window will be displayed for identification and deletion of possible problem while installing the MS SQL Server 2008 Express R2(Fig. 15.4.3-2).

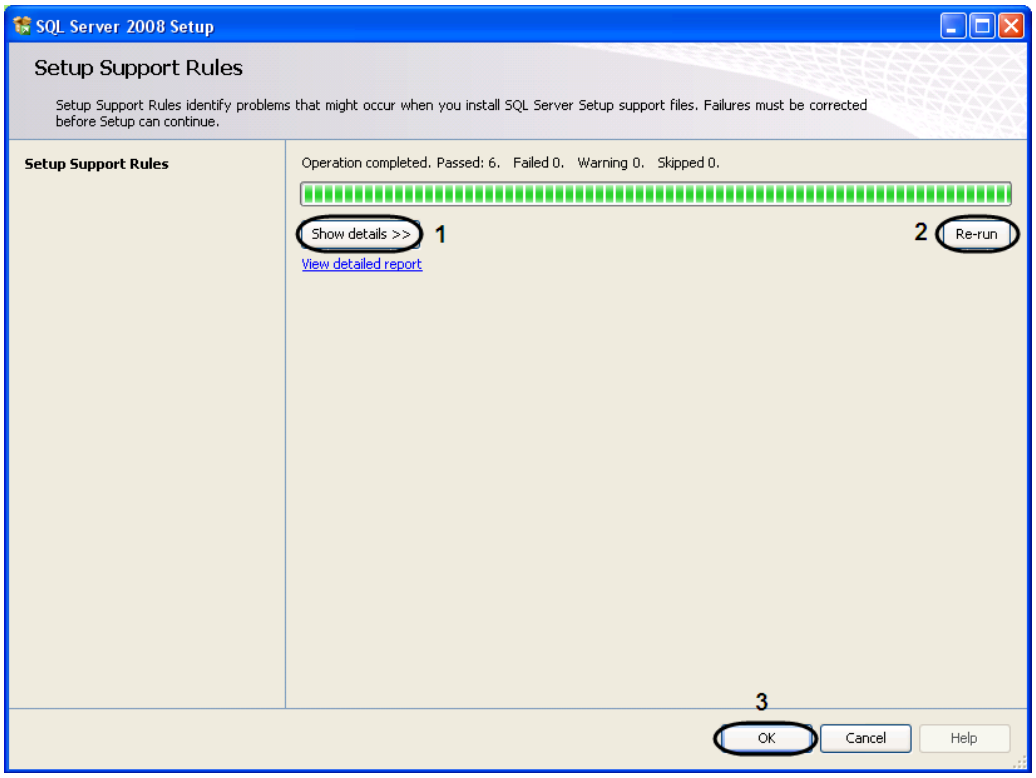


Fig. 15.4.3-2 "Setup Support Rules" window

3.1. To view the detailed report concerning installation click «Show details>>» (Fig. 15.4.3-2, 1).

3.2. To rerun the installation click «Re-run» (Fig. 15.4.3-2, 2).

3.3. To close the window click«OK» (Fig. 15.4.3-2, 3).

4. Then «Please wait while SQL Server 2008 R2 Setup processes the current operation» message will be displayed (Fig. 15.4.3-3).



Fig. 15.4.3-3 Processing the current operation window

5. Then the «Product Key» dialog window will be displayed for stating the product key of MS Sql Server 2008 R2(Fig. 15.4.3-4).

Note. This version MS SQL Server 2008 Express R2 is free of charge and does not require activation.

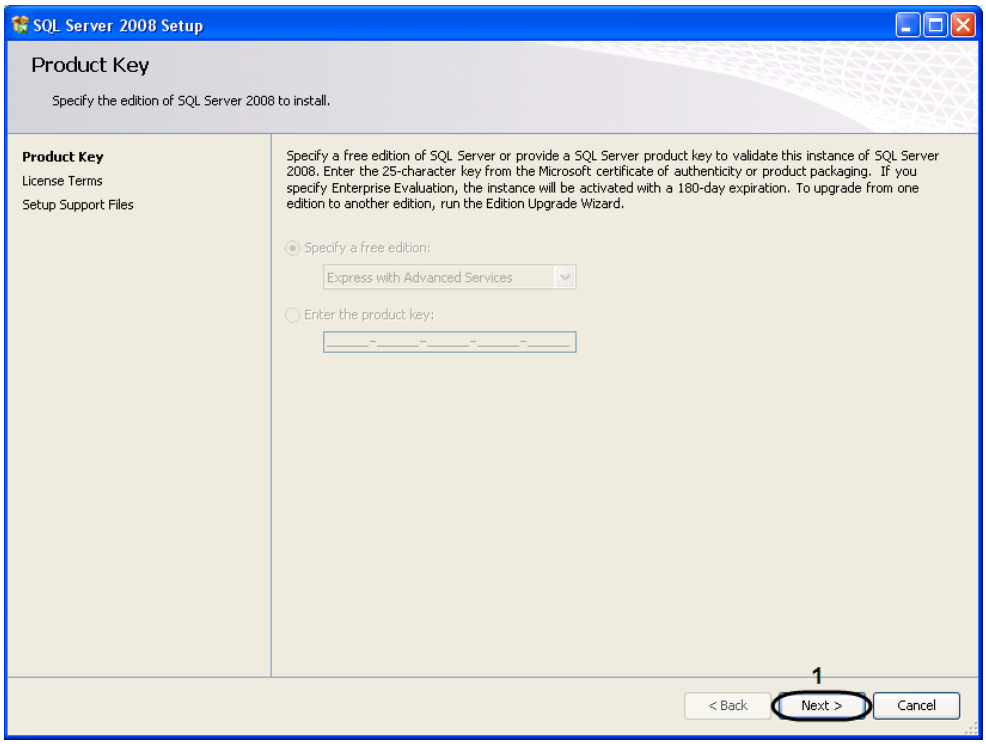


Fig. 15.4.3-4 "Product Key" window

6. Click «Next>» to go to the next window (Fig. 15.4.3-4, 1).
7. Then «License Terms» window will be displayed with License Terms (Fig. 15.4.3-5).

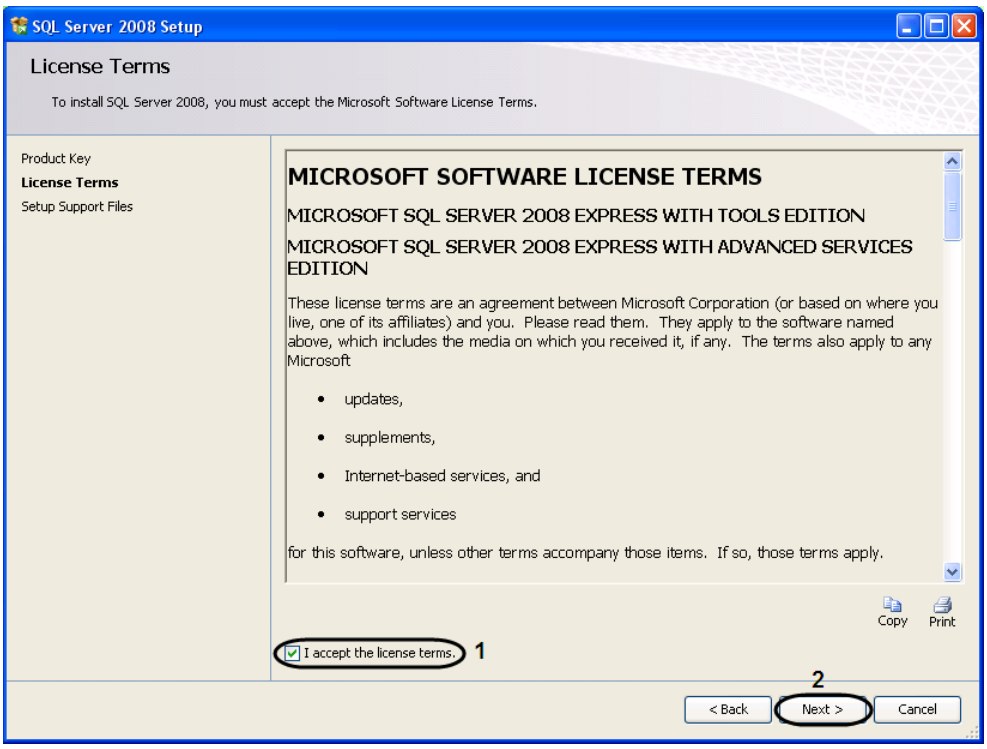


Fig. 15.4.3-5 "License Terms" window

7.1. Confirm the acceptance of license terms by setting the checkbox «I accept the license terms» (Fig. 15.4.3-5, 1).

7.2. Click «Next>» to go to the next window (Fig. 15.4.3-5, 2).

8. Install the system components necessary for MS SQL Server 2008 R2» operation by clicking «Install» button in the opened «Setup Support Files» window(Fig. 15.4.3-6, 1).

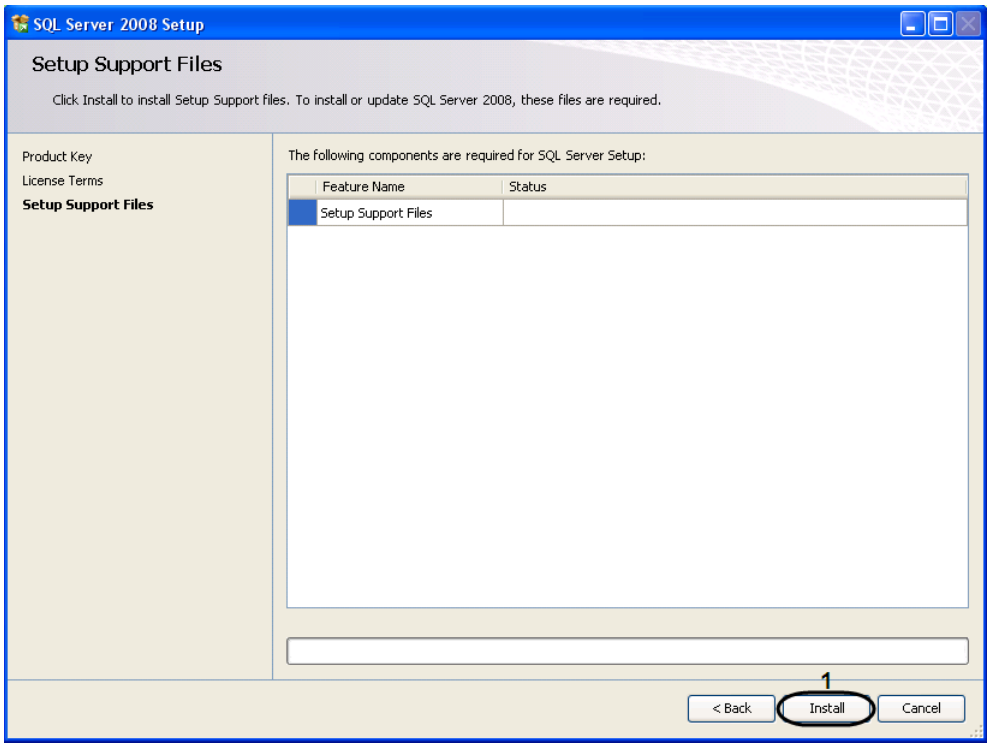


Fig. 15.4.3-6 "Setup Support Files" window

9. Then «Please wait while SQL Server 2008 R2 Setup processes the current operation» message will be displayed (Fig. 15.4.3-7).



Fig. 15.4.3-7 Processing the current operation window

10. In the «Setup Support Rules» dialog window setup the support rules of MS SQL Server 2008 R2(Fig. 15.4.3-8)

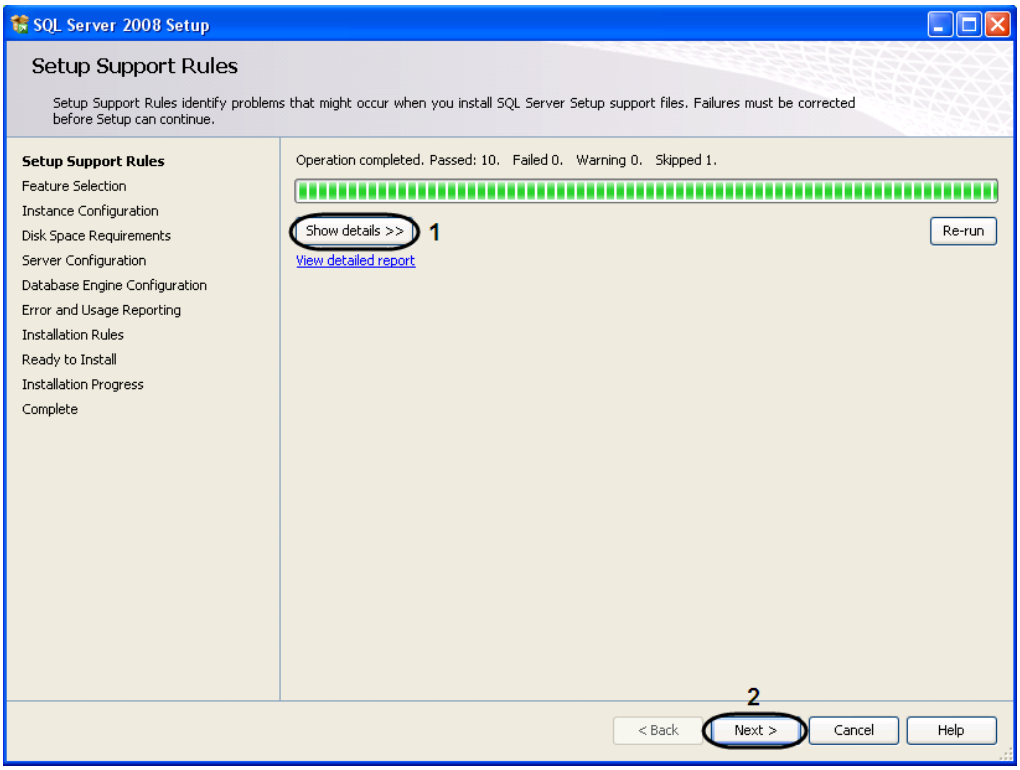


Fig. 15.4.3-8 "Setup Support Rules" window

10.1. To view the detailed report concerning installation click «Show details>>» (Fig. 15.4.3-8, 1).

10.2. Click «Next>» to go to the next window (Fig. 15.4.3-8, 2).

11. Then MS SQL Server 2008 R2«Feature Selection» setup dialog window will be displayed (Fig. 15.4.3-9).

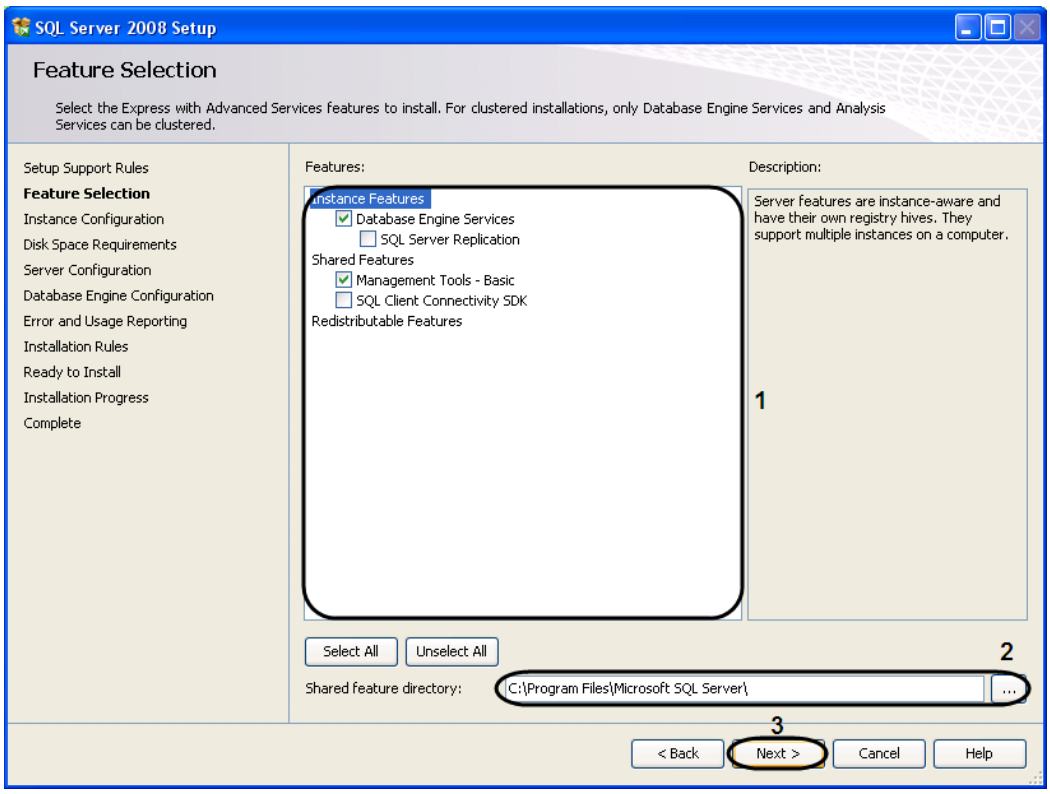


Fig. 15.4.3-9 "Feature Selection" window

11.1. Set the checkboxes in the field «Features: » next to the components that are to be installed (Fig. 15.4.3-9, 1).

11.2. State the path to the installation directory in the field «Shared feature directory:» (Fig. 15.4.3-9, 2).

11.3. Click «Next>» to go to the next window (Fig. 15.4.3-9, 3).

12. Then «Instance Configuration» dialog window will be displayed for setting the configuration of MS SQL Server 2008 R2 instatnce (Fig. 15.4.3-10).

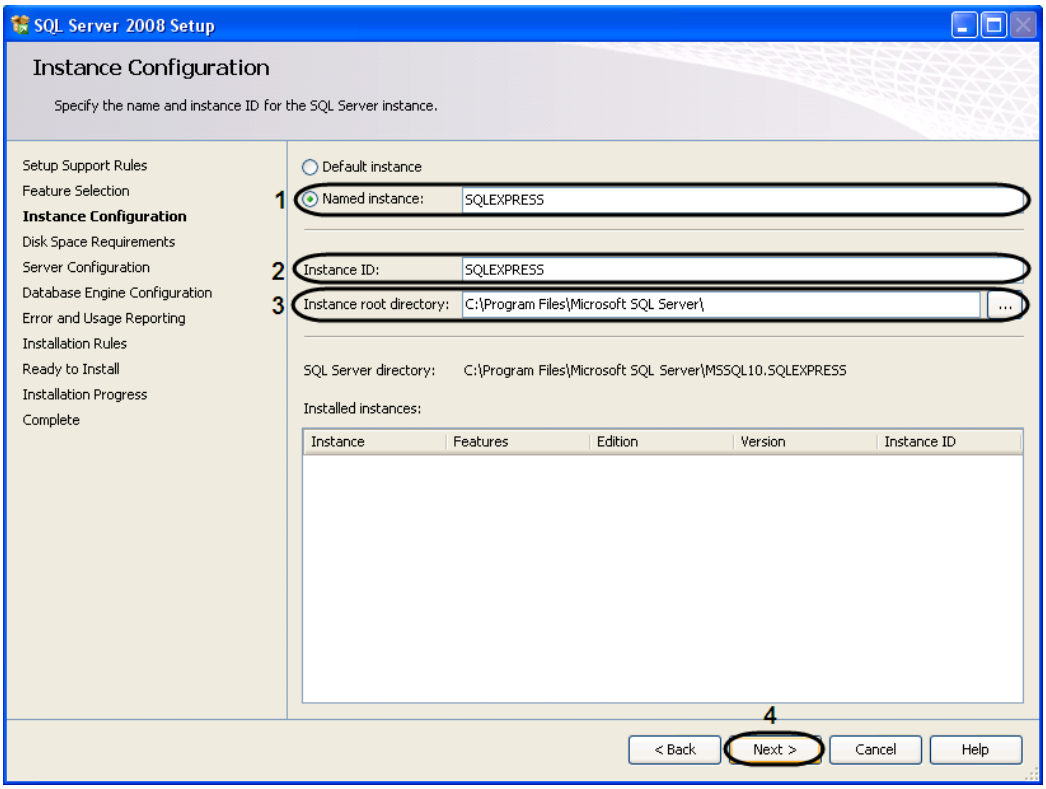


Fig. 15.4.3-10 "Instance Configuration" window

12.1. Set the switcher to the position «Named instance» and enter the name of named instance in the field - «SQLEXPRESS» (Fig. 15.4.3-10, 1).

12.2. Enter the value of the «SQLEXPRESS» instance identifier in the field «Instance ID» (Fig. 15.4.3-10, 2).

12.3. State the path to the root directory for setting up the MS SQL Express in the field «Instance root directory» (Fig. 15.4.3-10, 3).

12.4. Click «Next>» to go to the next window (Fig. 15.4.3-10, 4).

13. Then «Disk Space Requirements» window will be displayed (Fig. 15.4.3-11).

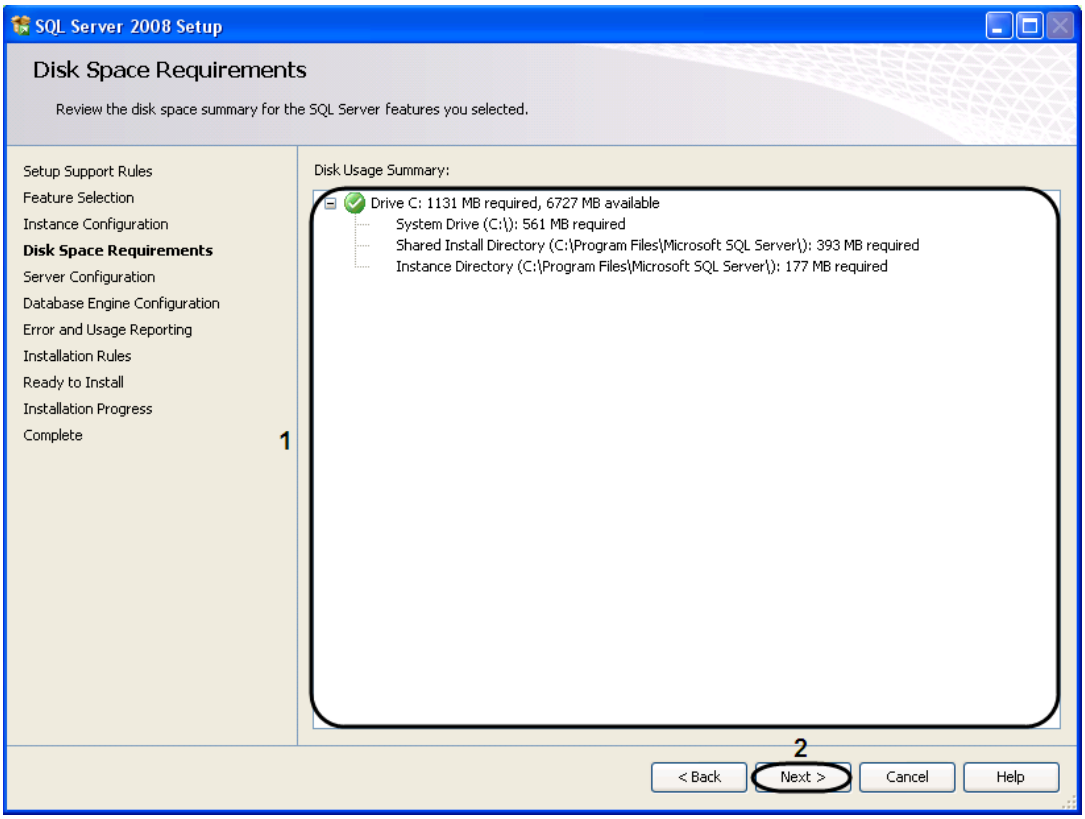


Fig. 15.4.3-11 "Disk Space Requirements" window

13.1. In the field «Disk Usage Summary» there are set requirements for disc space for setting up the selected functions of MS SQL Server 2008 R2(Fig. 15.4.3-11, 1).

13.2. Click «Next>» to go to the next window (Fig. 15.4.3-11, 2).

14. Then «Server Configuration» window will be displayed, click «Next >» to continue (Fig. 15.4.3-12, 1).

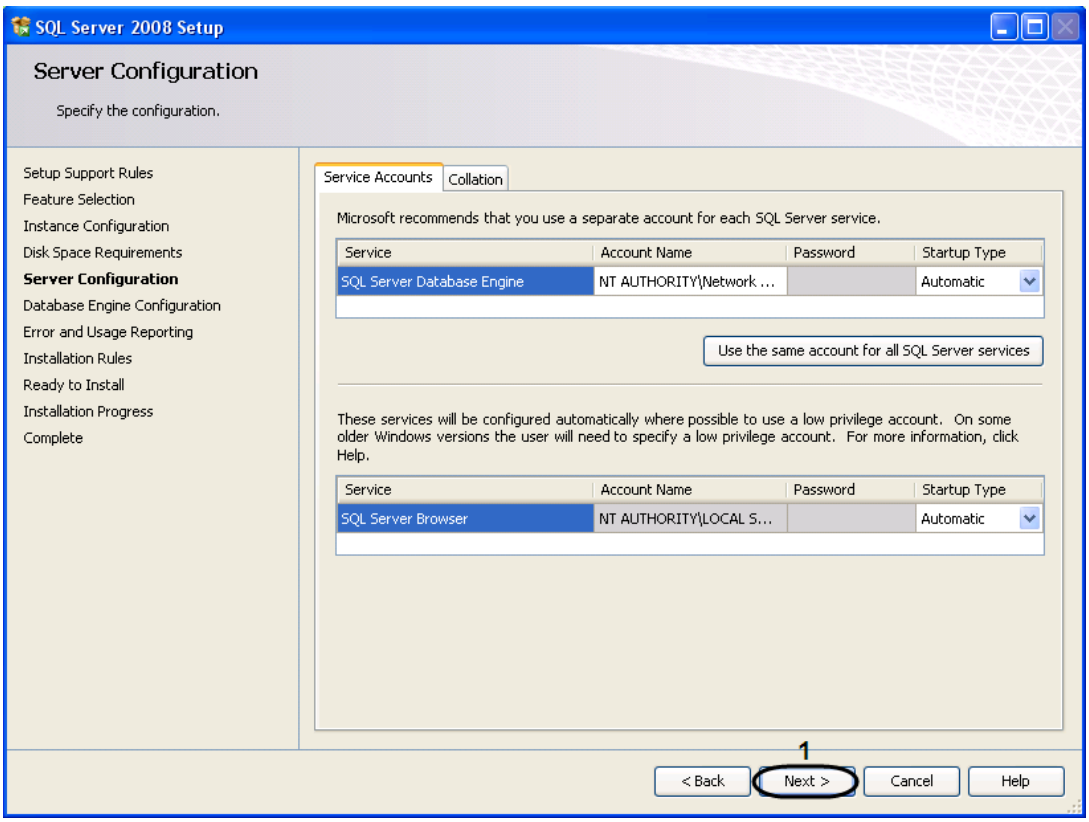


Fig. 15.4.3-12 "Server Configuration" window

15. Then «Database Engine Configuration» window will be displayed, click «Next >» (Fig. 15.4.3-13, 1).

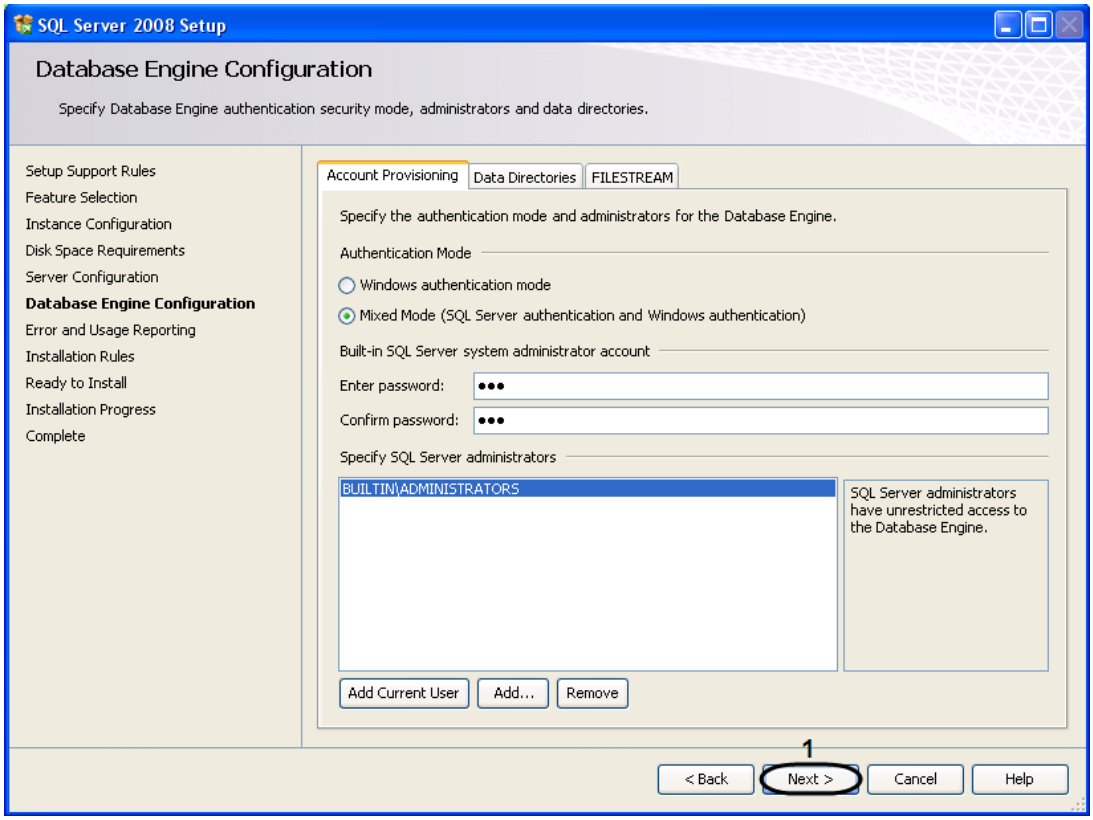


Fig. 15.4.3-13 "Database Engine Configuration" window

16. Then «Error and Usage Reporting» window will be displayed, for resending the errors and reports of using the SQL Server to Microsoft (Fig. 15.4.3-14).

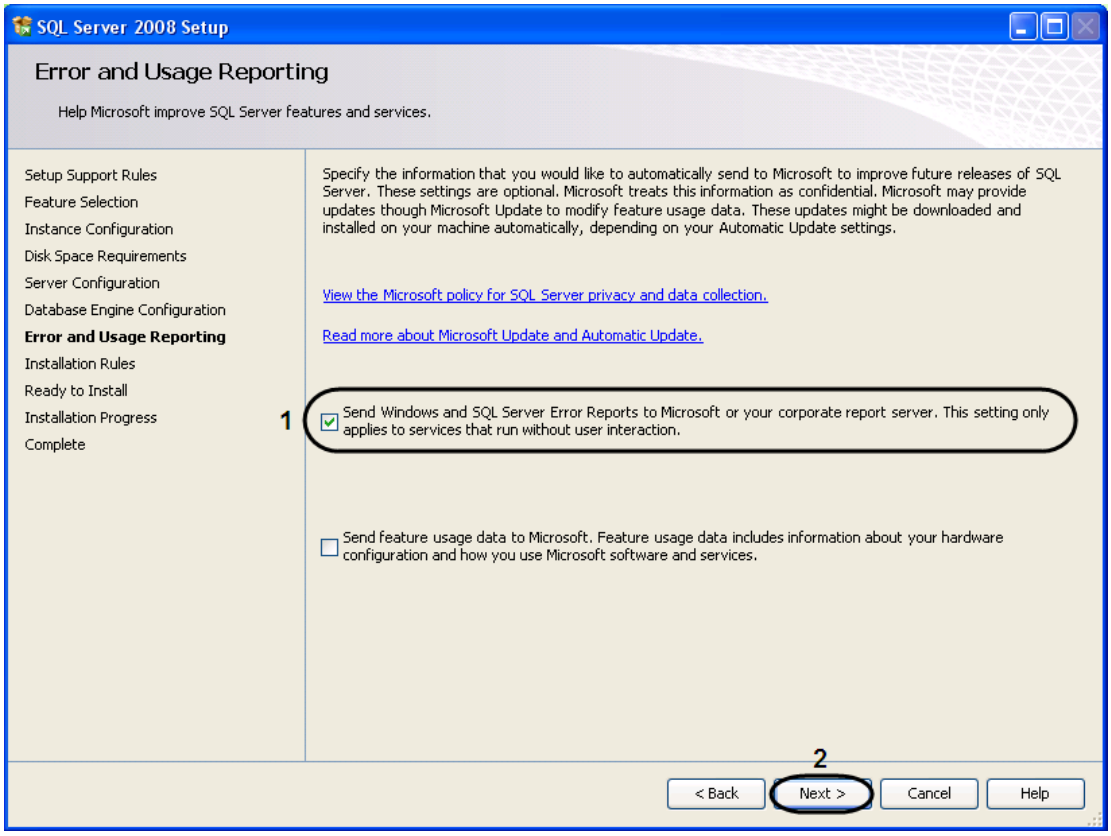


Fig. 15.4.3-14 "Error and Usage Reporting" window

16.1. Set the checkbox «Send Windows and SQL Server Error Reports to Microsoft or your corporate report server. This setting only applies to services that run without user interaction» (Fig. 15.4.3-14, 1).

16.2. Click «Next>» to go to the next window (Fig. 15.4.3-14, 2).

17. Then «Installation Rules» window will be displayed (Fig. 15.4.3-15).

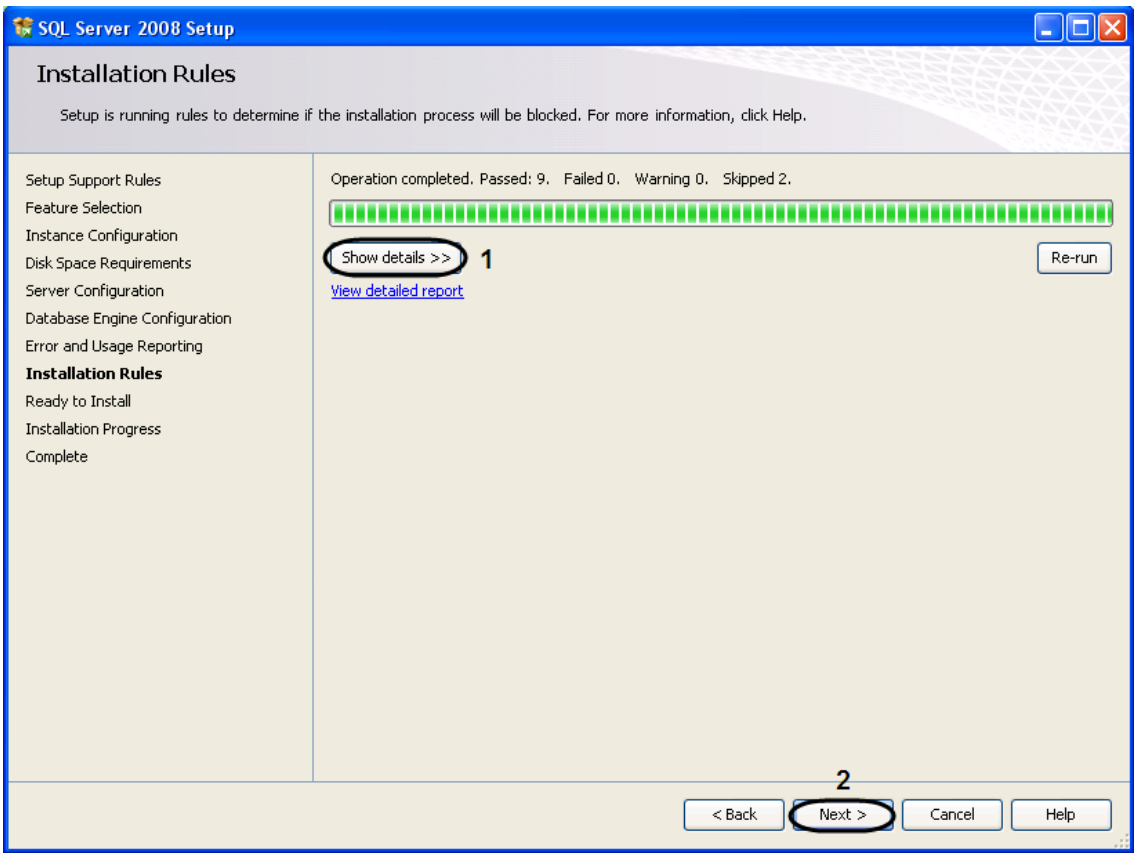


Fig. 15.4.3-15 "Installation Rules" window

17.1. To view the detailed report concerning installation click «Show details>>» (Fig. 15.4.3-15, 1).

17.2. Click «Next>» to go to the next window (Fig. 15.4.3-15, 2).

18. Then «Ready to Install» window will be displayed (Fig. 15.4.3-16).

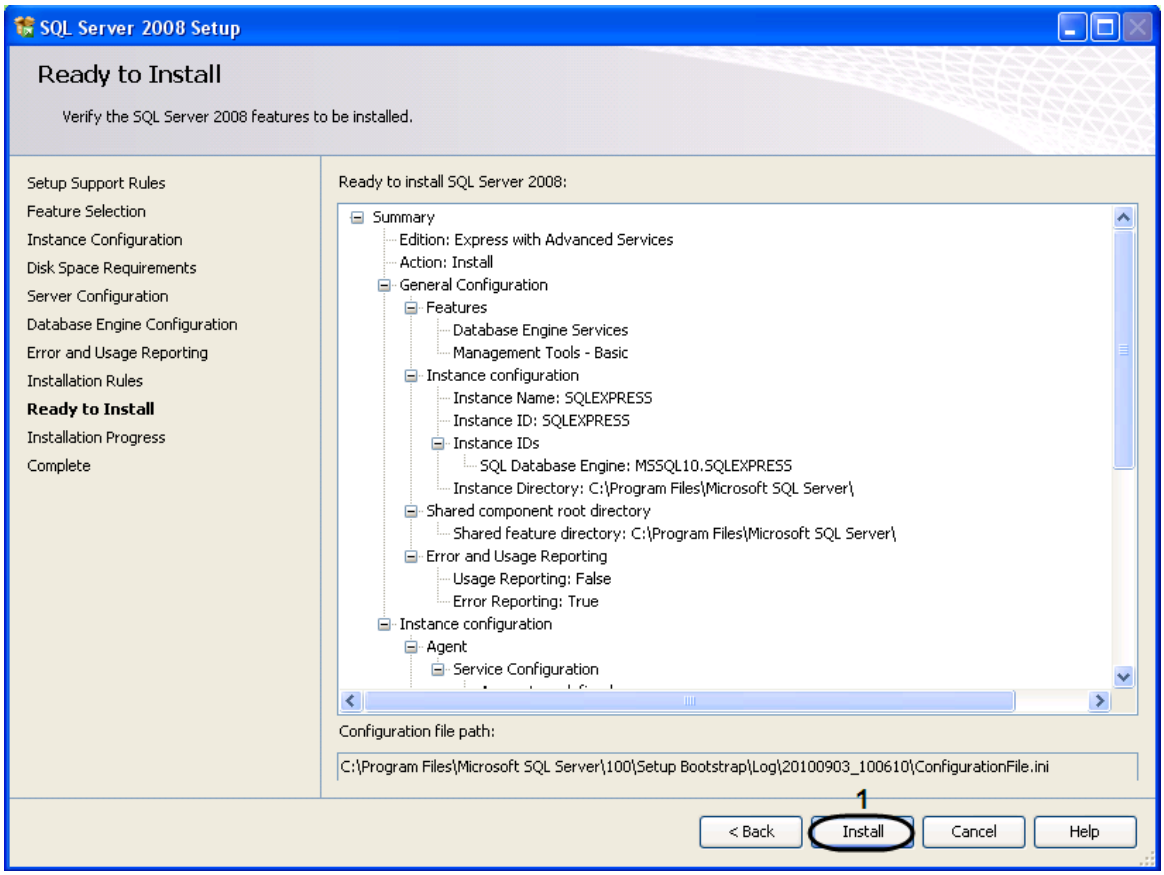


Fig. 15.4.3-16 "Ready to Install" window

19. Click «Install» to run the installation process(Fig. 15.4.3-16, 1).
20. Then «Please wait while SQL Server 2008 R2 Setup processes the current operation» message will be displayed (Fig. 15.4.3-17).



Fig. 15.4.3-17 Processing the current operation window

21. In the opened dialog window «Installation Progress» there is displayed information about the installation process. After the installation completion click «Next >» (Fig. 15.4.3-18, 1).

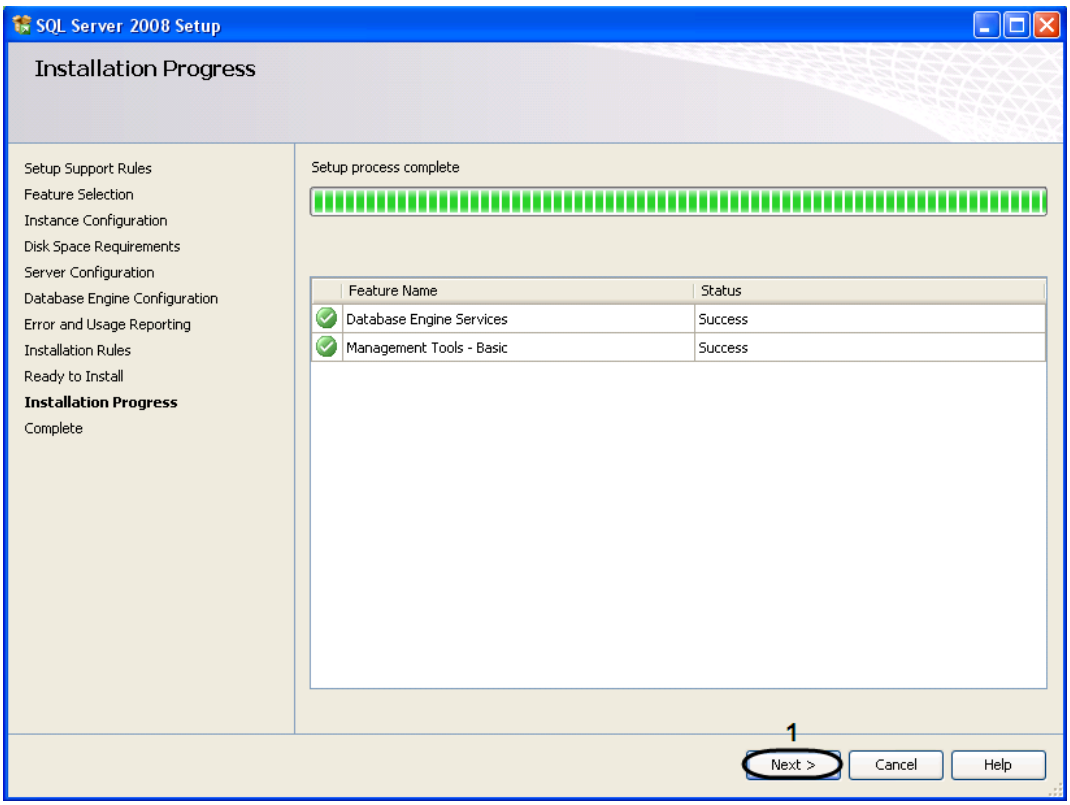


Fig. 15.4.3-18 "Installation Progress" window

22. Then «Complete» window will be displayed to provide information about the MS SQL Server 2008 R2 installation completion (Fig. 15.4.3-19, 1).

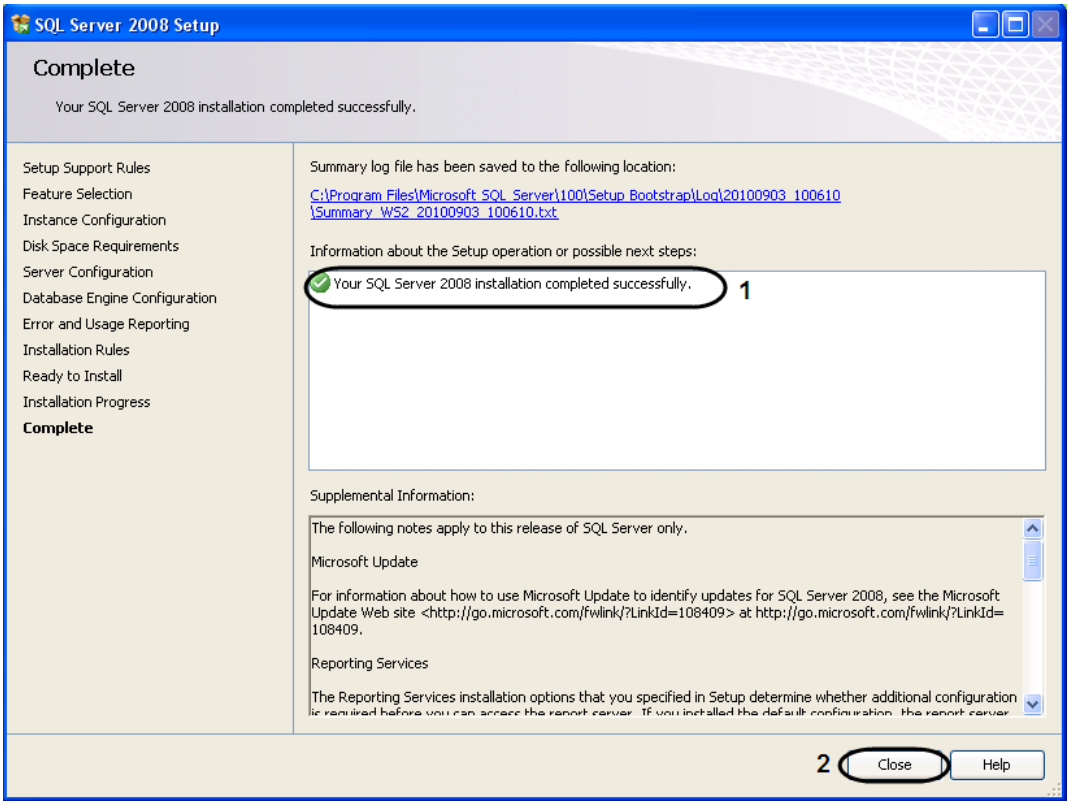


Fig. 15.4.3-19 "Complete" window

23. «Close» to quit the installation process (Fig. 15.4.3-19, 2).

«Microsoft SQL Server 2008 Express R2» setup is completed.