AxxonSoft

INTELLECT™ Software Package

Administrator's Guide

Installation and Configuration Manual

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Video Surveillance and Security Solutions

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1 INTRODUCTION

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	Is realized with the use of Macros object functionality-see. Intellect software: Administrator guide.	Setting of enabling the additional executive relay with ray closed

Ways of setting up the logical interrelation	Description	Realization	Example
	operations		
Program	Setting up complex interactions among objects, when Macros object functionality does not allow to carry out the required operations	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 JScript language – see. Intellect program complex: Program guide (JScript).	

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 AxxonSoft Company are used on the video server, the Guardant electronic hardware security key connection will result in impossibility of starting the software.

2 General description of the INTELLECT™ software

2.1 INTELLECT™ software functionality

This section provides information on the main basic user functions of the distributed digital video and audio surveillance system based on the INTELLECT™ software.
The INTELLECT™ software provides the following basic user functions:

2.1.1 Video surveillance functionality

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. infra-red

25. Detector zone(s) masking.

26. Image de-interlacing.

27. Analog video-signal output.

2.1.2 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.

2.1.3 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.

2.1.4 Event registration functionality

1. Event log maintenance.

2.1.5 Notification functionalities

1. Automatic notification using:

   1. SMS (Short Message Service);

   2. email;

   3. V-dial auto dialing service;

   4. Audible/voice notification.

2.1.6 Functions of workability control

1. System object «Restarting system service».

2.1.7 Management functionality

Macro commands programming of user specific functions.

2.1.8 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 have the following features:

1. Maximum number of video input channels for videosignal processing in the live video and/or multiplexing modes is limited by the Server hardware resources - processor power, RAM memory space, etc.
2. Maximum number of simultaneous output analog videosignals is limited by the number of video capture cards (with analog video outputs) in use on the Server.
3. Maximum number of PTZ units in use is 64.
4. Maximum number of remote workstations connected to the Server to receive videos is limited by the number and parameters of transmitted videosignals, video surveillance system architecture and network bandwidth.
5. Maximum number of Servers, videosignals from which are transmitted simultaneously to a remote work station, is limited by the number and parameters of transmitted videosignals, video surveillance system architecture and network bandwidth.
6. Maximum number of simultaneous video images displayed on the screen of a remote work station is limited by video image parameters and network bandwidth.
7. Maximum video stream rate transmitted via a video gateway is limited by the video gateway hardware parameters and network bandwidth.
8. Supported video capture cards: FS-5, FS-6, FS-16, FS-8, FS15, FS115, FX2, FX4, FX8, FX16, FX116, FX416, FX HD4, WS-7, WS16, WS-17, WS216, VRC6004, VRC6008, VRC6416, VRC7008L, VRC6404HD and DS-4016HCI(R).
9. Supported video cards: any PCI-E video cards, not integrated in the motherboard, mainframe memory is to be at least 256 Mb.

10. Maximum number of simultaneous processed signals from the microphones or telephone lines is 64.

11. Maximum number of audio output channels (to the loudspeakers, earphones, etc.) depends on the audio card used for playback.

12. Supported audio cards: standard audio cards, MidiMan Delta, Comart Hera and Olkha 9P. Digitization bandwidth depends on the audio card parameters, software limitation from 0 to 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.

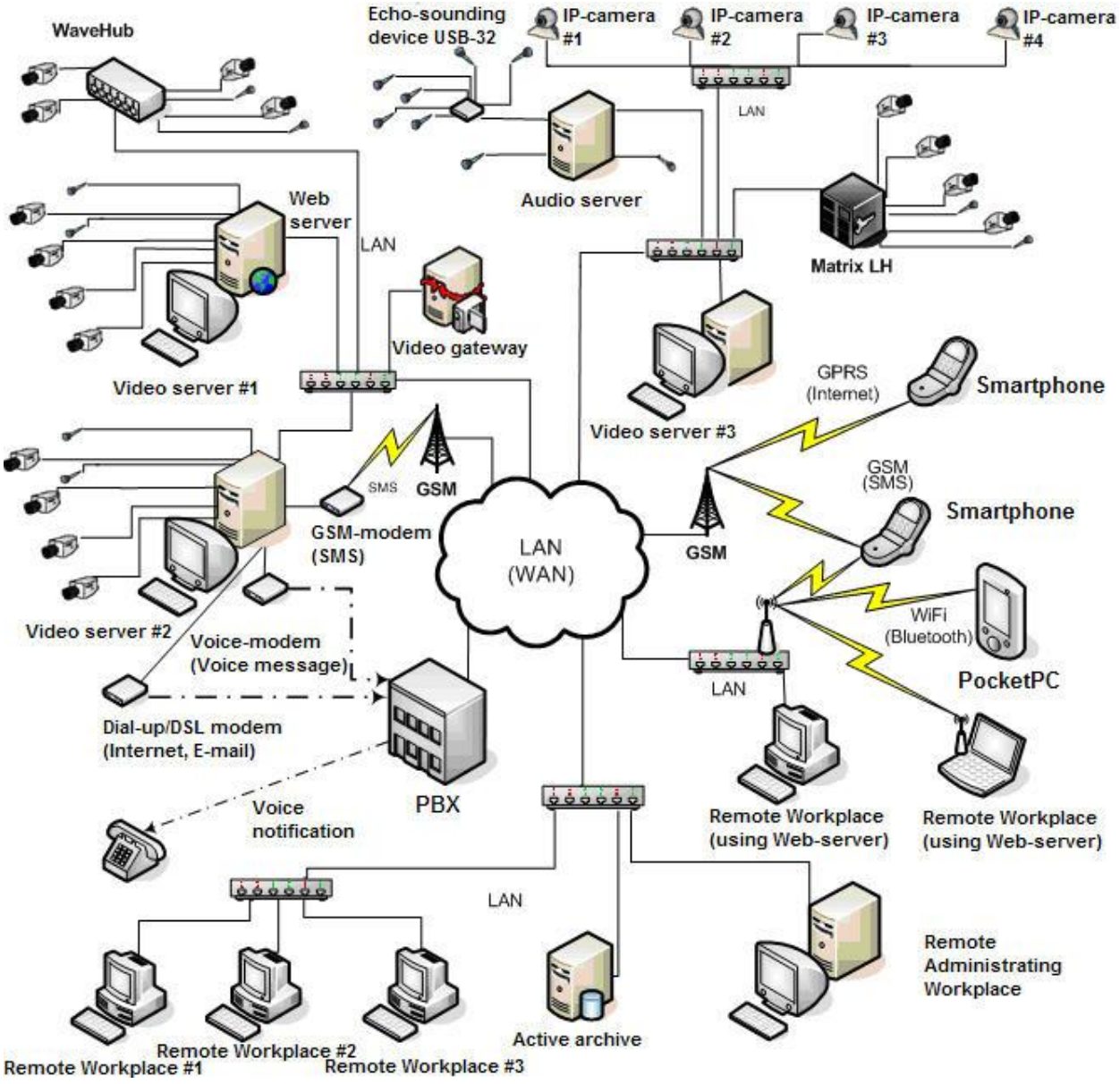


Figure 2.3—1. Versatile structure of the digital video surveillance and audio monitoring system based on INTELLECT™ software

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(Maximum memory capacity restriction– 4 Gb, maximum database size – 4Gb)
	Workgroup Edition
	Standard Edition
	Enterprise Edition
MS SQL Server 2008 R2 - see. 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, maximum database size -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 AxxonSoft 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.

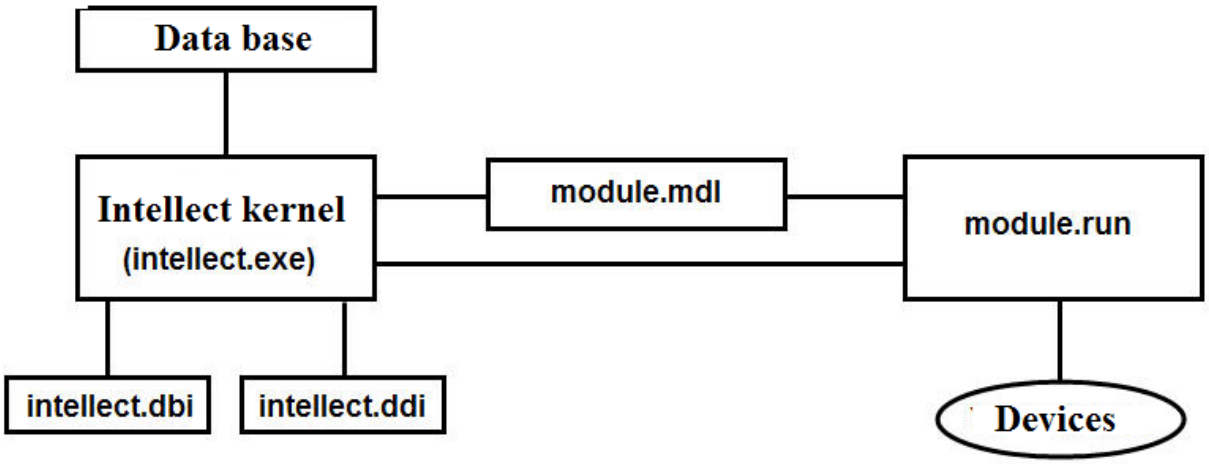


Figure 2.3—2. Scheme of the modules and Intellect kernel interaction, using the Intellect kernel data exchange interface (intellect.exe process)

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).

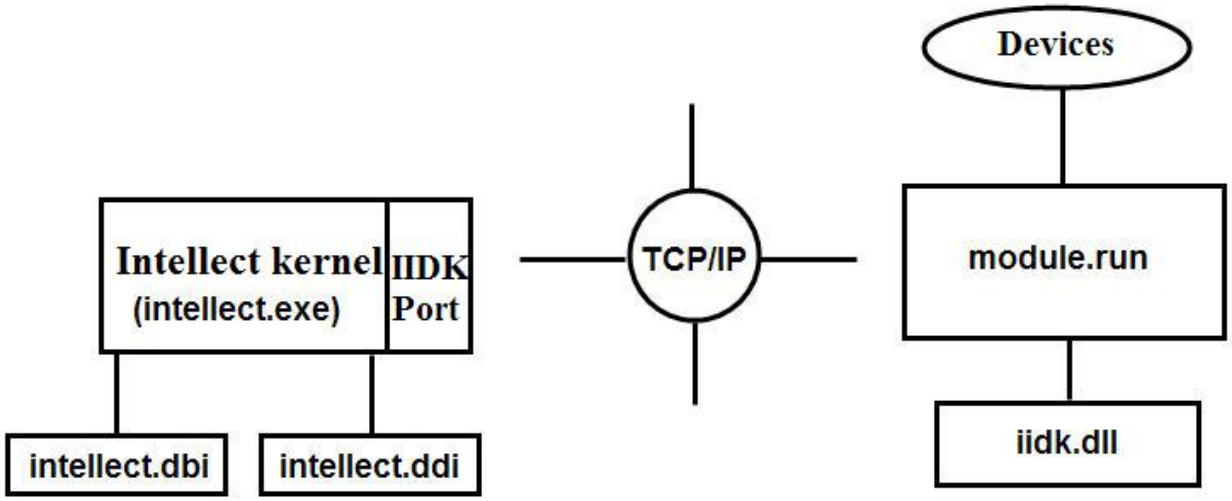


Figure 2.3—3. Scheme of interaction between the Intellect kernel and external software (modules) within the TCP/IP communication environment

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.

The activation key is bound to computer equipment. The bind to the equipment is performed by three means:

1. Binding to dallas-codes of video capture cards and to hardware keys «Guardant»;
2. Binding to computer's equipment(HID);
3. Binding to dallas-codes of video capture cards and to computer's equipment (HID).

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 the video server is used to which IP devices and/or video capture cards without cryptochips are connected (e.g., FX116).

Note. If a distributed system consists of a remote operator workstation and a server with an activation key then there is no need to have an activation key for the remote operator workstation.

2.3.3.1 *Binding the activation key to computer equipment*

HID (Hardware ID) – is encrypted information about computer's equipment which is gathered by CodeReader utility and is transferred to AxxonSoft Group Company for activation key generation.

At the moment of writing the documentation the binding of following elements has been realized:

1. MAC addressEthernet adapter(all present in the computer);
2. Processor model (CPU0);
3. Serial number and mother board model.

Note! When the devices mentioned above are changed in the computer, its HID will be changed too. In result new activation key should be obtained in accordance with new HID.

In case if in HID there are not all codes of devices mentioned above the activation key can not be generated.

Note! While software, creating virtual devices (VirtualBox, VmWare and others), installation on the computer, its HID will be changed (due to virtual devices creation). In result the activation key loses its functionality and will not be run. If there is a problem of such kind it is strongly recommended to delete all virtual devices from computer equipment tree or obtain a new activation key in accordance with new HID.

2.3.3.2 *Match search in the activation key*

Codes match search in the activation key with devices codes in the computer is performed in the following way:

1. Computer HID is read where the Intellect PC is run.
2. Activation key is read.
3. For every computer, stated in the activation key, the following actions are performed:
    3.1 If the computer in activation key is bound via HID:
        3.1.1 If there are video capture cards manufactured by AxxonSoft company in the activation key , the match search of board codes on the computer

and board codes in the activation key will be performed (if there is no match , the following computer in the key will be checked);

3.1.2 If there are no video capture cards manufactured by AxxonSoft Company in the activation key, the match search of computer HID and computer equipment codes in the key will be performed (if there is no match , the following computer in the key will be checked).

3.2 If the computer in activation key is not bound via HID, the match search of video capture cards manufactured by AxxonSoft company on the computer and board codes in the activation key will be performed (if there is no match , the following computer in the key will be checked).

If there is at least one match found the Intellect PC will be run.

2.3.3.3 *Features of the Intellct software operation when the object limit is exceeded*

When the INTELLECT ™ software is started with the key and exceeded object limit, there is the message with the name of object because of which the limit is exceeded (Figure 2.3—4).

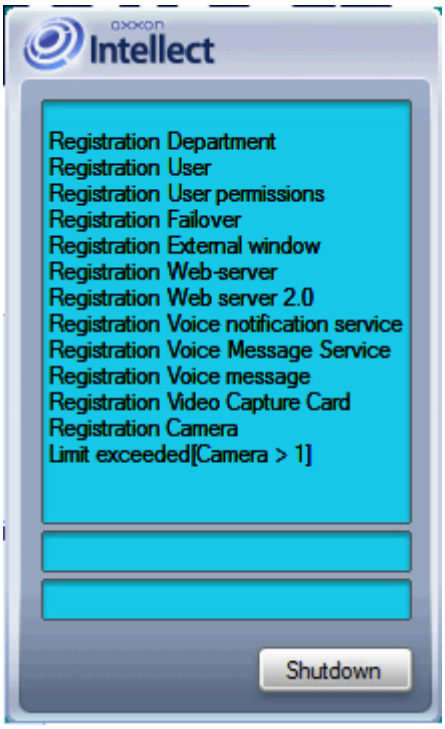


Figure 2.3—4 Message about the limit exceeding

In this case to start the INTELLECT ™ software operation, do the following:

1. Forward the intellect.sec key from the INTELLECT directory to another folder, e.g. “D:\Temp”.
2. Run the INTELLECT ™ software in a demo mode.
3. Remove a redundant object.
4. Shutdown the INTELLECT ™ software.
5. Restore the key from the “D:\Temp” folder to the INTELLECT installation directory.

6. Start the INTELLECT ™ software.

If you try to add an object that is not provided by the key, there will be the message that current system configuration does not allow more than 1 object of this type (Figure 2.3—5).

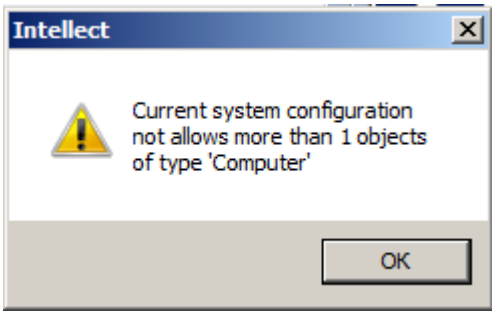


Figure 2.3—5 Message that an object can not be created

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	Any temperature control module.	1	Not compulsory

Component	Description	QTY	Parameter
Control			
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 both with 32 and 64 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 SP2	x64	Windows XP Professional	OS edition, enabling to use all realized product features	
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 (x64 edition does not exist)	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 Server 2008 R2 SP1	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.	

Windows version	Supported architecture	Supported release	Note
		Web	OS edition, enabling to use all realized product features.
		HPC	OS edition, enabling to use all realized product features.
		Foundation	OS edition, enabling to use all realized product features.
Windows 7 SP1	x86, x64	Starter (x64 edition does not exist)	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.

Attention! For stable and correct Intellect PC operating 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

System	Resolution - color	Number of channels													
		1	2	4	6	8	12	16	20	24	32	40	48	56	64
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 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	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

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	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
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				

System	Resolution - color	Number of channels												
		1	2	4	6	8	12	16	20	24	32	40	48	56	64
	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				
	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,

Color	Description	Example:
		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.

Attention! For correct operation of video archive recording the disc space size must exceed «Ring» parameter, that has been stated in «Video Subsystem» section of advanced system settings utility (see The setting panel of the Video subsystem section).

Table 3.1-8 below shows the average frame size of a PAL video signal depending on frame resolution, video signal compression, color grade of the image and frame resolution, frame chromaticity and motion level in the frame.

Table 3.1-8

Video card type	Resolution	Colour	Frame size (Kb) with 50% of motion in the frame	Frame size (Kb) with 75% of motion in the frame	Frame size (Kb) with 100% of motion in the frame
FX16	704x576	colour	33	66	95
		black-and-white	30	63	91
	704x288	colour	17	22	62
		black-and-white	12	19	44
	352x288	colour	9	12	40
		black-and-white	8	11	33
FS15\FX4\FX8	704x576	colour	43	73	127
		black-and-white	40	70	122
	704x288	colour	18	26	54
		black-and-white	16	24	51
	352x288	colour	11	16	44
		black-and-white	13	15	42

Video card type	Resolution	Colour	Frame size (Kb) with 50% of motion in the frame	Frame size (Kb) with 75% of motion in the frame	Frame size (Kb) with 100% of motion in the frame
FS5\FS6\FS8\FS16	704x576	colour	29	60	73
		black-and-white	28	58	61
	704x288	colour	15	22	46
		black-and-white	12	20	43
	352x288	colour	8	12	32
		black-and-white	8	11	31

Note. Table 3.1-8 shows the examples of frames for video cameras with set frame frequency – 25 f\s.

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:

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

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 1000Mb. 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 bandwidt

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*

Communication mode	Link capacity	Black and white image			Color image		
		standard	high	full	standard	high	full
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 sithe of AxxonSoft in the Integration section at:
http://www.axxonsoft.com/products/axxon_enterprise/core_functionality/integration.php

3.4 Requirements for audio input units

INTELLECT™ software can use the following audio inputs:

1. FS/WS/FX/VRC video capture cards. These cards support simultaneous digitization of 1-16 audio signals, depending on the type of the card used. The list of video capture cards compatible with INTELLECT™ software and their features are given in the *Configuring components guide*.

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 AxxonSoft site in the Integration section at: http://www.axxonsoft.com/products/axxon_enterprise/core_functionality/integration.php.

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 AxxonSoft site in the Integration section at: http://www.axxonsoft.com/products/axxon_enterprise/core_functionality/integration.php.

3.5 Requirements for IP devices of audio and video input

INTELLECT™ software is compatible with IP devices of video and audio input of the following vendors: Axis, Panasonic, Sony, Arecont Vision and others.

*Note. The updated list of IP devices compitable with Intellect system and the range of IP device's functionalities supported by INTELLECT™ the system are at the company's site in the **Integration** section: http://www.axxonsoft.com/products/axxon_enterprise/core_functionality/integration.php.*

Number of IP devices connected to one Server depends on TCP/IP network bandwidth (see *Requirements for TCP/IP Network bandwidt* section) and functions performed on the basis of these devices. For instance, virtual memory consumption (for video.run process) increases when VMDA detectors are in use (see *Configuring forensic search in an* archive section). One camera with configured VMDA detector can use 30-40 Mb (depending on camera resolution) of virtual memory. As there are only 2 Gb of virtual memory for video.run process, it is not recommended to connect more than 40 IP cameras with embedded VMDA detectors to one Server.

For proper video recording and playing back time that is set on IP camera (if the device supports this setting) is to be the same as system time on the Server.

Specific application features of certain IP devices:

1. To ensure correct sound recording from Axis IP-cameras when AAC audio codec is used, avoid setting the audio stream bit rate at 8 or 12 Kb/s, if the digitizing rate is 8 kHz: the bite rate should be 16, 24, 32, 48 or 64 Kb.

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

Note! It is possible to install update drivers and codecs , taking into account the changed distributive structure, irrespective of the general Intellect 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. AxxonSoft product expert. The above qualifications can be obtained through authorized training in AxxonSoft Products in the AxxonSoft Training Centre.

5 Installing and removing INTELLECT™ software

5.1 Installing INTELLECT™ software

5.1.1 Description of INTELLECT™ software distribution package

INTELLECT™ software is offered as a software installation package (distribution package) on a compact disk (Figure 5.1—1).

Figure 5.1—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.

5.1.2 Installation of INTELLECT™ software as a server

This section outlines a step-by-step instruction on how to install INTELLECT™ software as a “Server”.

Note. The following features are to be taken into account while installing INTELLECT™ software:

INTELLECT™ software is to be installed on a “clean” Windows OS (see the “Operating system requirements” section).

To install INTELLECT™ software, administrator rights are required.

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 box (Figure 5.1—2).

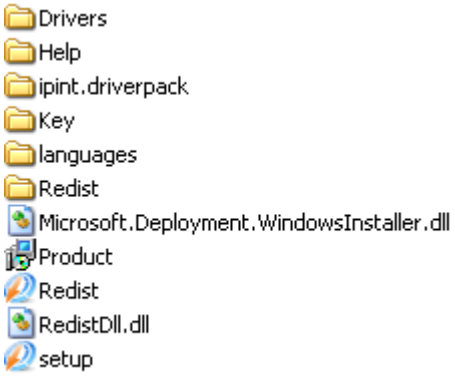


Figure 5.1—2 Contents of INTELLECT installation software

2. Run the setup.exe file to start the INTELLECT™ software installation procedure.

As a result the dialog box of choosing language is displayed (Figure 5.1—4).

Note. The notification box is displayed if Microsoft.Net Framework 2.0 has not been installed (Figure 5.1—3).

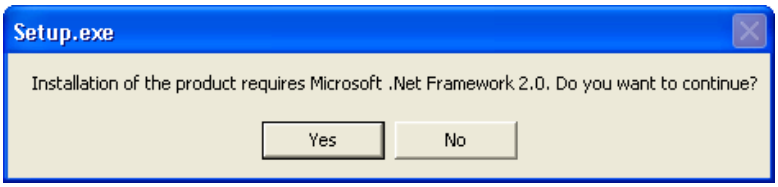


Figure 5.1—3 Notification window

Click "Yes" for Microsoft.Net Framework 2.0 auto installation.

3. Choose the language of INTELLECT™ software installation and click "Install" (Figure 5.1—4).

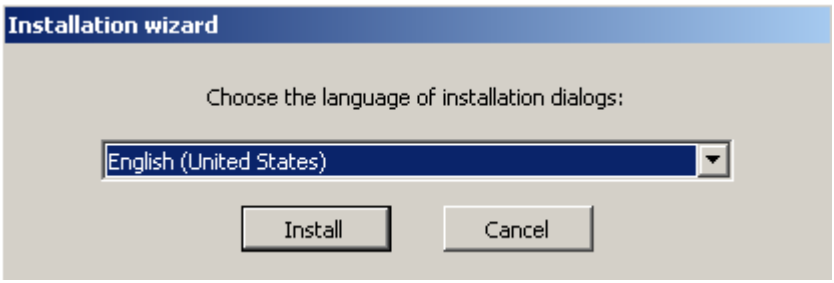


Figure 5.1—4 The dialog box of choosing language

As a result the "Type of installation" dialog box is displayed (Figure 5.1—5).

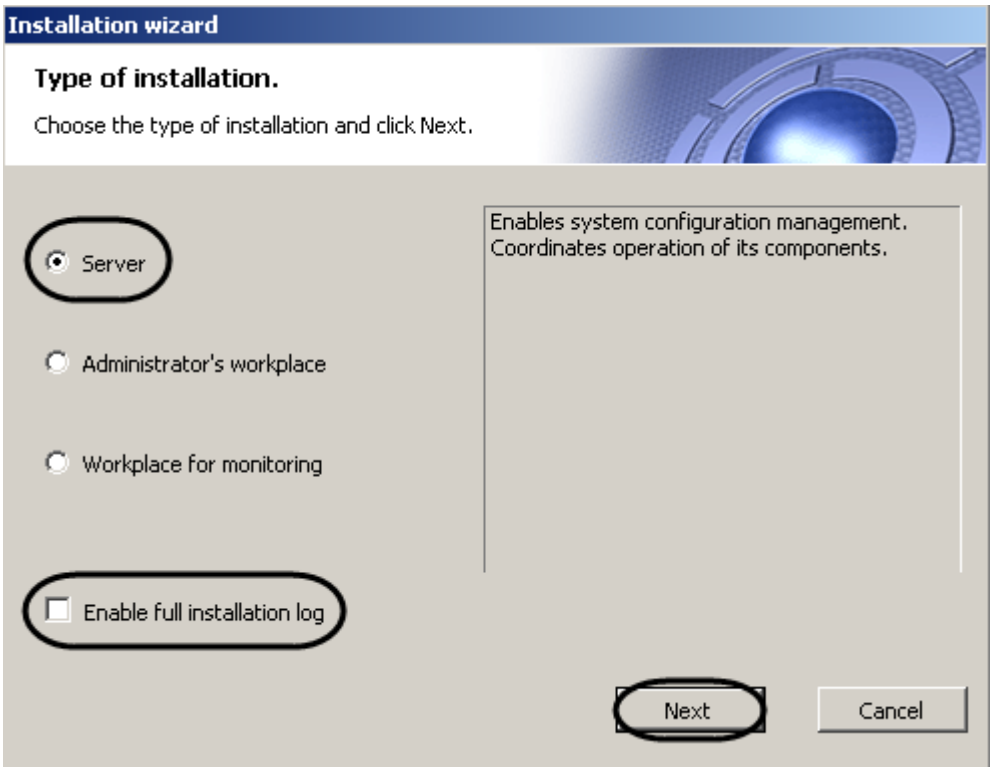


Figure 5.1—5 The “Type of installation” dialog box

4. Select the “Server” type of installation (Figure 5.1—5).
5. To log all installation events, set the “Enable full installation log” checkbox (Figure 5.1—5).

Note. While installing and uninstalling the software events are logged to Intellect.log and Intellect uninstall.log correspondingly. To collect log-files, the “Support.exe” tool is to be used (see “The utility for collecting configuration data on servers and RWS for the Technical Support” section).

6. Click “Next” (Figure 5.1—5).

The “Selecting components for installation” dialog box is displayed (Figure 5.1—6).

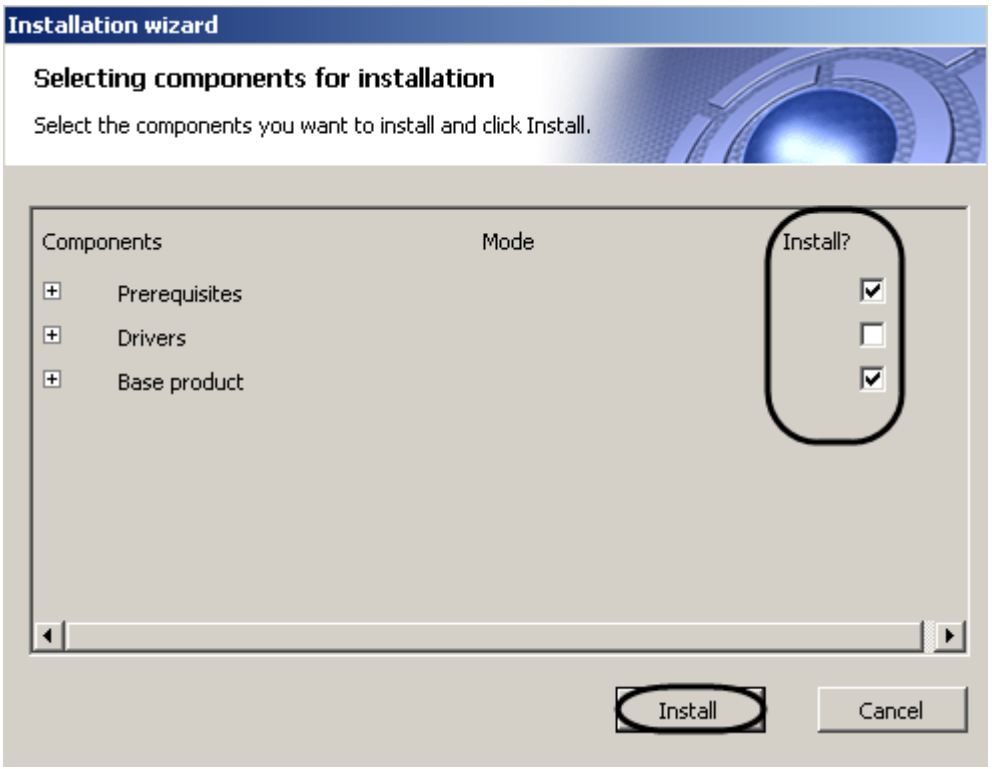


Figure 5.1—6 The "Selecting components for installation" dialog box

7. Set the checkboxes next to the components that are to be installed (Figure 5.1—6).

Note. All offered components are recommended to be installed.

8. Click the "Install" button (Figure 5.1—6).

The selected components are automatically installed except Microsoft SQL Server Express 2008 R2 database (necessary for work with INTELLECT™ databases), that is installed manually (see "Appendix 5. «Microsoft SQL Server 2008 Express R2» setup" section) (Figure 5.1—7).

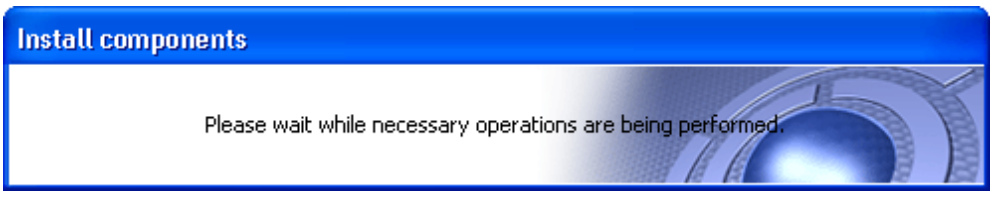


Figure 5.1—7 Auto installation of necessary prerequisites

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

Note. Desktop Experience Feature is to be enabled in Windows Server 2008 for correct installation of the "Microsoft ActiveSync/WMDC" component.

After this the "Welcome to the Intellect Setup Wizard" box is displayed (Figure 5.1—8).

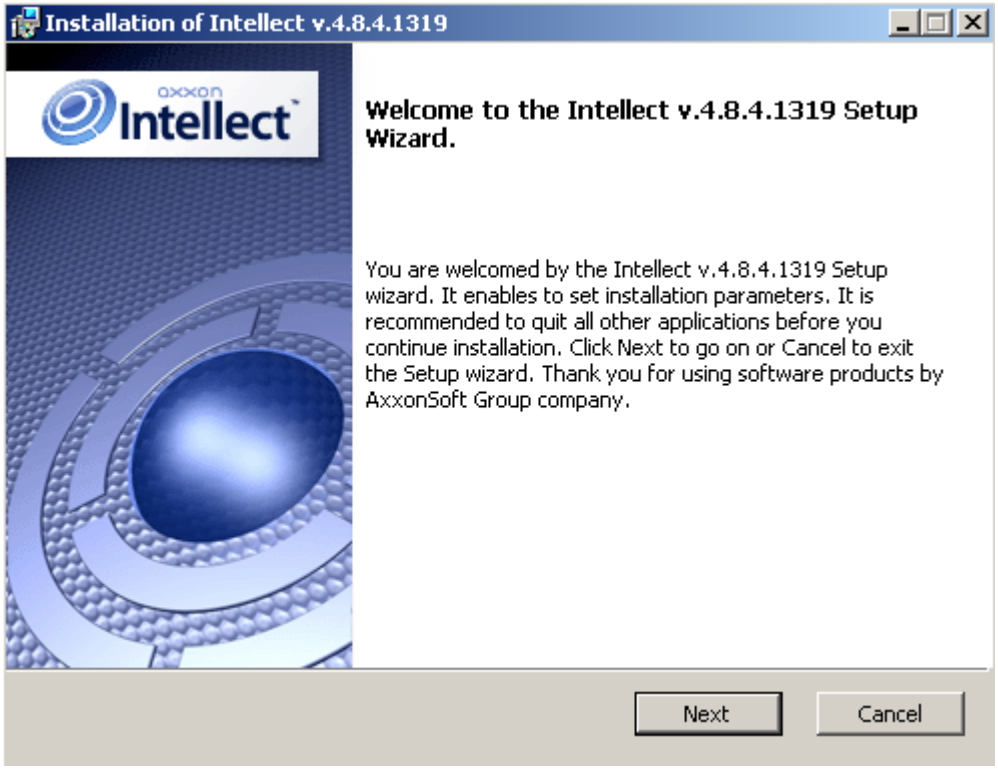


Figure 5.1—8 Welcome to installation wizard

9. Click the “Next” button (Figure 5.1—8).

The “License Agreement” dialog box is displayed (Figure 5.1—9).

Figure 5.1—9 The “License Agreement” dialog box

10. Read the License agreement and accept its terms by setting the switch into the «I accept the terms of the License agreement» position, otherwise the INTELLECT™ installation will be stopped (Figure 5.1—9).
11. Click the “Next” button (Figure 5.1—9).

The dialog box of choosing language is displayed (Figure 5.1—10).

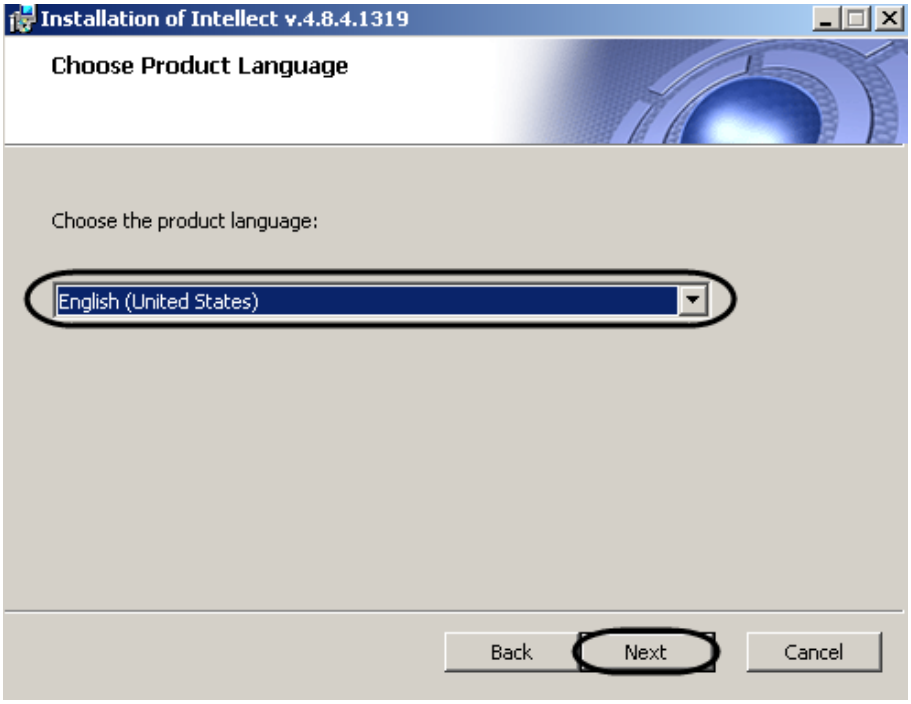


Figure 5.1—10 The “Choose Product Language” dialog box

12. Choose the required language in the list (Figure 5.1—10).
13. Click the “Next” button (Figure 5.1—10).

The dialog box of installation mode selection is displayed (Figure 5.1—11).

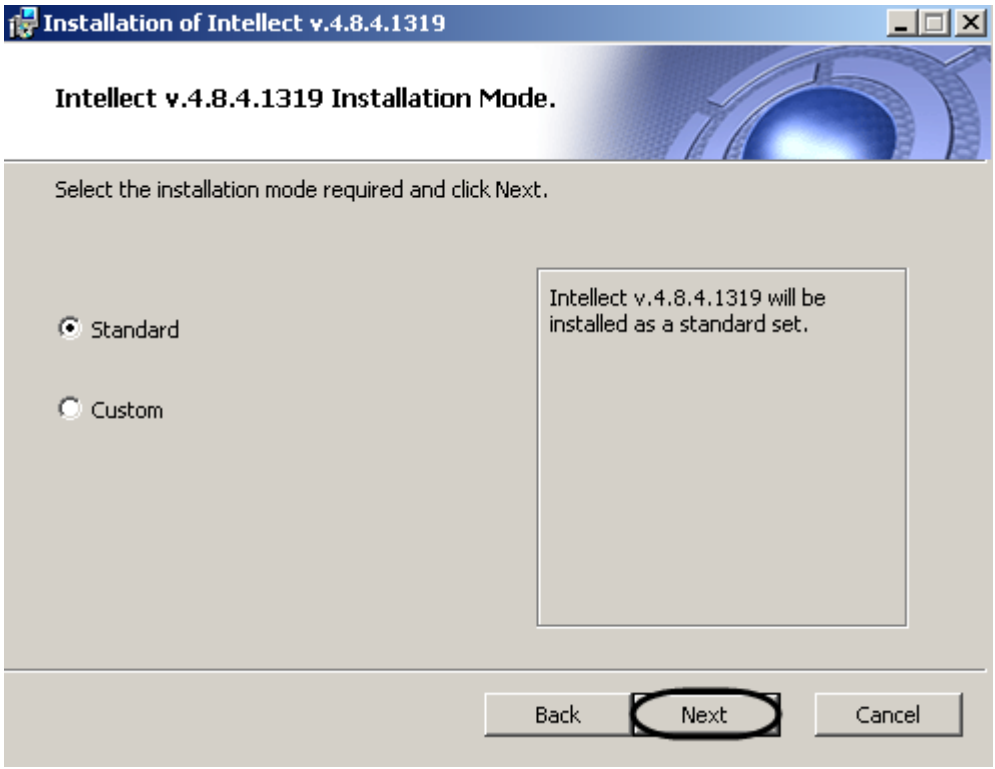


Figure 5.1—11 Installation mode selection

14. Select the installation mode (Figure 5.1—11).
15. Click the “Next” button (Figure 5.1—11).

Note. When the “Custom” installation mode is selected, the dialog box of choosing the installation folder is displayed (Figure 5.1—12), and then the“Select components” dialog box is displayed (Figure 5.1—13). This step is omitted when the “Standard” installation mode is selected.

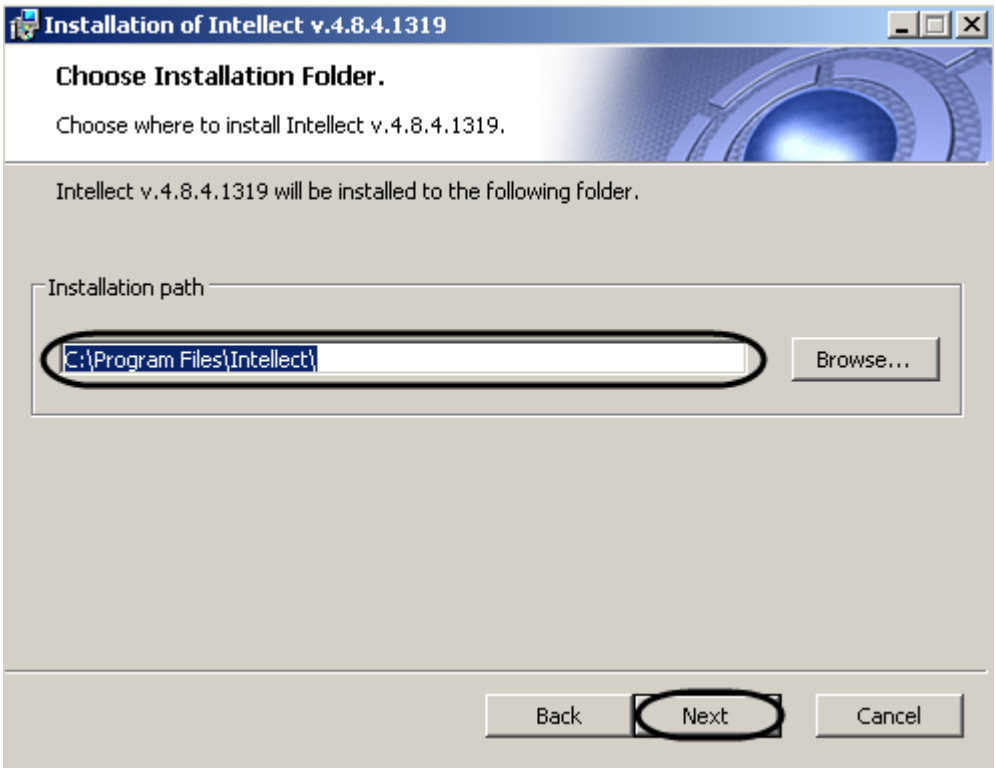


Figure 5.1—12 The dialog box of choosing the INTELLECT™ installation folder

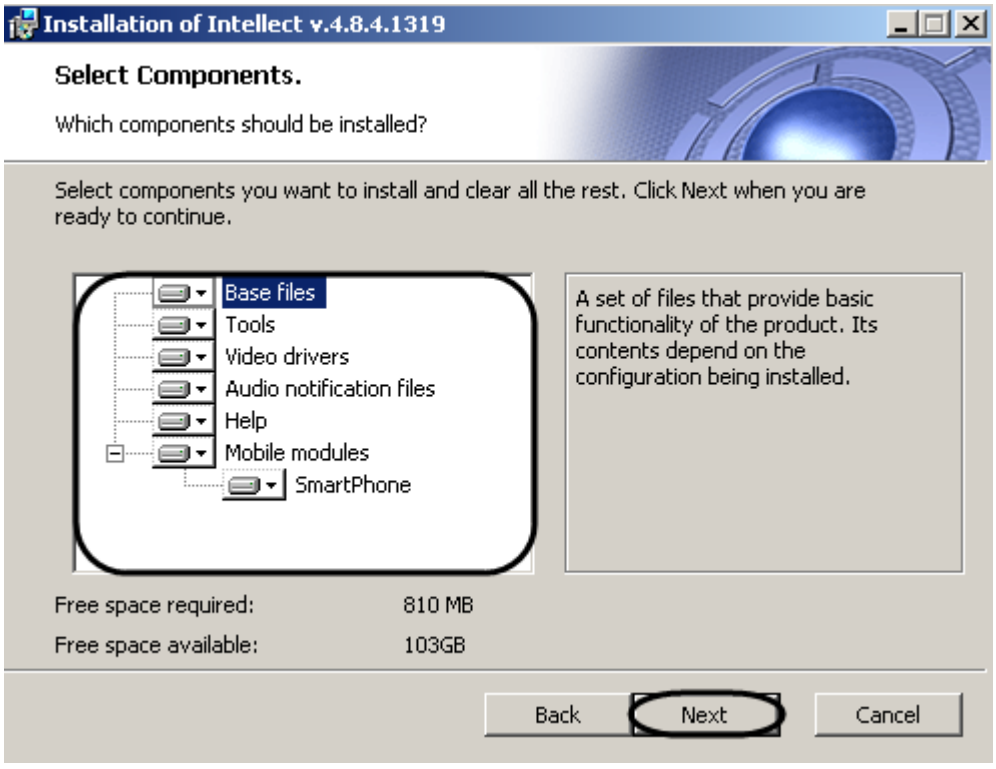


Figure 5.1—13 The "Select components" dialog box

The dialog box of specifying the path to the key file is displayed (Figure 5.1—14).

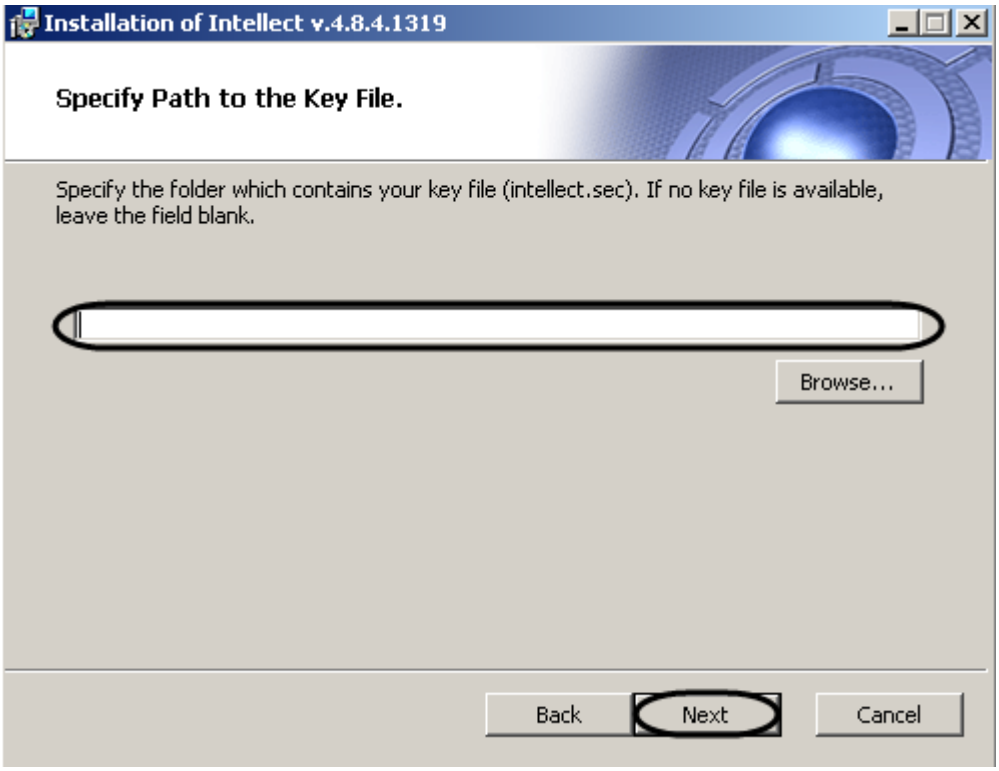


Figure 5.1—14 Indicate the folder dialog box

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

16. Click the “Next” button (Figure 5.1—14).

The dialog box of installing Intellect as a service is displayed (Figure 5.1—15).

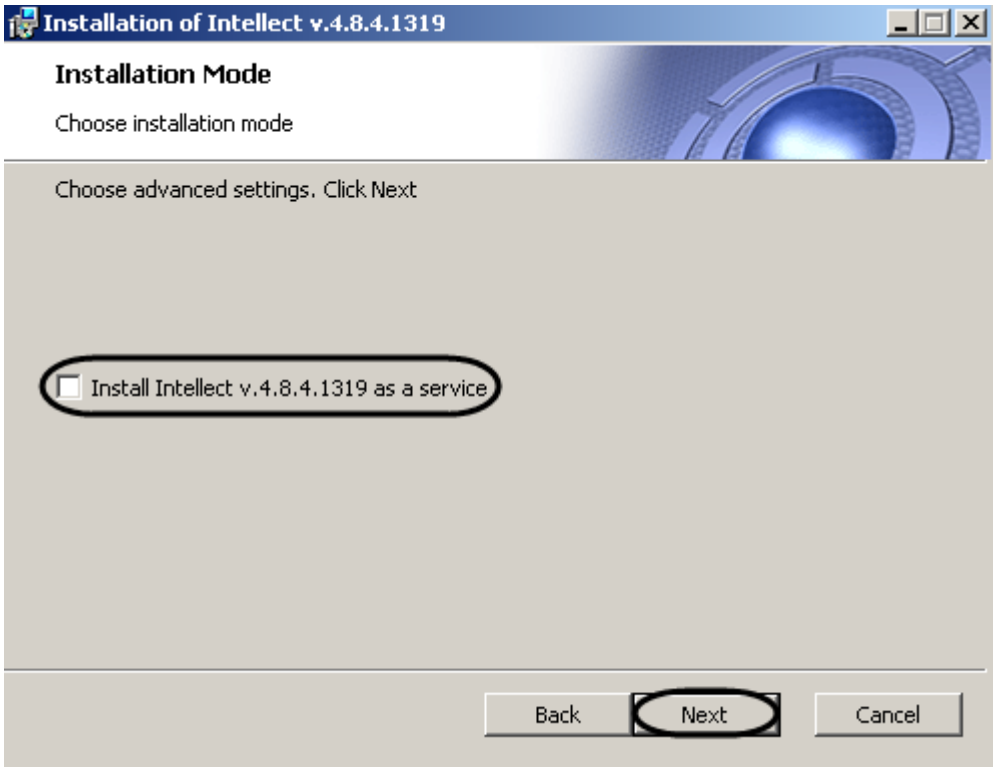


Figure 5.1—15 The “Install Intellect as a service” dialog box

17. Set the “Install Intellect as a service” checkbox if INTELLECT™ software is to be started before the user is authorized by the Windows OS and before Windows applications are started (including the Explorer application) that is used for starting Windows OS intrrfaces and various other applications installed on the Server (see “*Working with Windows OS services for operating Intellect PC that is installed as a Service*” section).

18. Click the “Next” button (Figure 5.1—15).

The dialog box of database server selection is displayed (Figure 5.1—16).

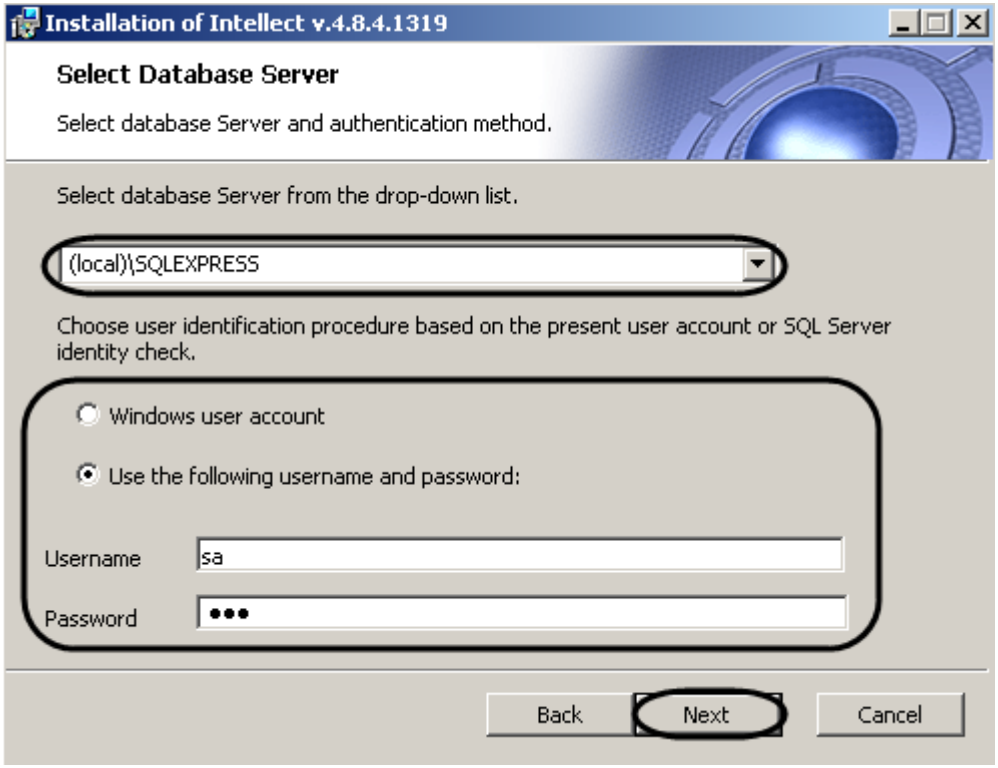


Figure 5.1—16 Database server selection dialog window

19. Select the SQL-server using the drop-down list (Figure 5.1—16).

Note. If there is necessity to use the SQL-server installed on this (local) computer, the “(local)\SQLEXPRESS” item (set bydefault) is to be selected.

20. Set the authorization parameters that will be used by INTELLECT™ while connecting to the SQL-server.

Note. If INTELLECT™ is installed as a Service, select the SQL Server identity check, i.e. set the «Use the following username and password” checkbox and enter the username and password to login the Server database.

Ways of authorization performed in the dialog box (Figure 5.1—16, Table 5.1-1).

Table 5.1-1 Ways of authorization

Ways of authorization	Windows user account	Use the following username and password (recommended)

Usage	SQL Server from Intellect distributive (or from the distributive of the external vendor) and Intellect is installed on the same computer	SQL Server from Intellect distributive and Intellect are installed on the same computer. Meanwhile connection to SQL Server with the set username (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 are installed on different computers that are connected through TCP/IP net and are in the same net domain. Meanwhile the account for the user currently authorized in Windows OS on the computer, where Intellect is being installed is to be created in Windows OS on the computer with installed MS SQL Server.	SQL Server from Intellect distributive and Intellect are installed on different computers that are connected through TCP/IP net and are in the same net domain. Meanwhile the username (login) and password are to correspond to the username (login) and password used for access to SQL-server.
	Full-scale SQL Server (supplementary installed) and Intellect are installed on different computers, connected through TCP/IP net and are in the same net domain. Meanwhile the account for the user currently authorized in Windows OS on the computer, where Intellect is being installed is to be created on the remote SQL Server.	Full-scale SQL Server (supplementary installed) and Intellect are installed on the same or different computers that are connected through TCP/IP net and are in the same net domain. Meanwhile the username (login) and password are to correspond to the username (login) and password used for access to SQL-server.

Note. For SQL Server installed from Intellect distributive, the "sa" username and "Intellect_default_DB_4" password are used by default. While installing the Microsoft SQL Server Express 2008 R2 the password may be changed for any other.

21. To continue the installation, click the "Next" button (Figure 5.1—16)

The dialog box of selecting or setting names for databases is displayed (Figure 5.1—17).

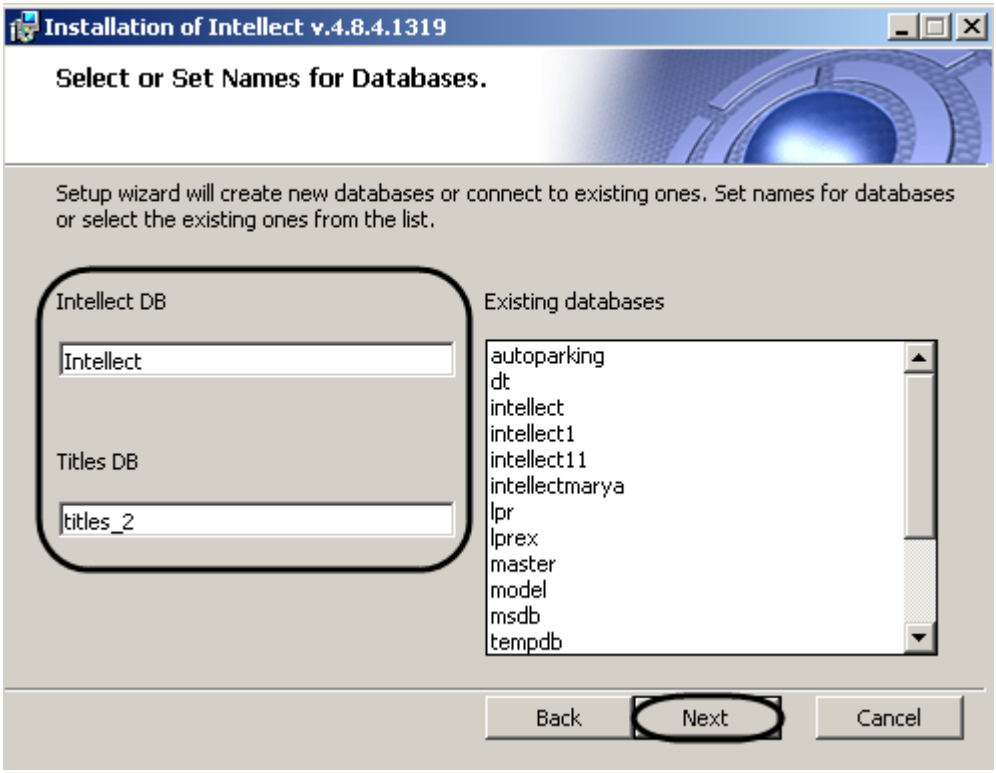


Figure 5.1—17 The “Select or set names for databases” dialog box

22. Click the “Next” button (Figure 5.1—17).

Note. If the system while being installed displays the “Rights are required to create or edit databases” message, then the installation process must be stopped and then restarted again.

The “Advanced settings” dialog box is displayed (Figure 5.1—18).

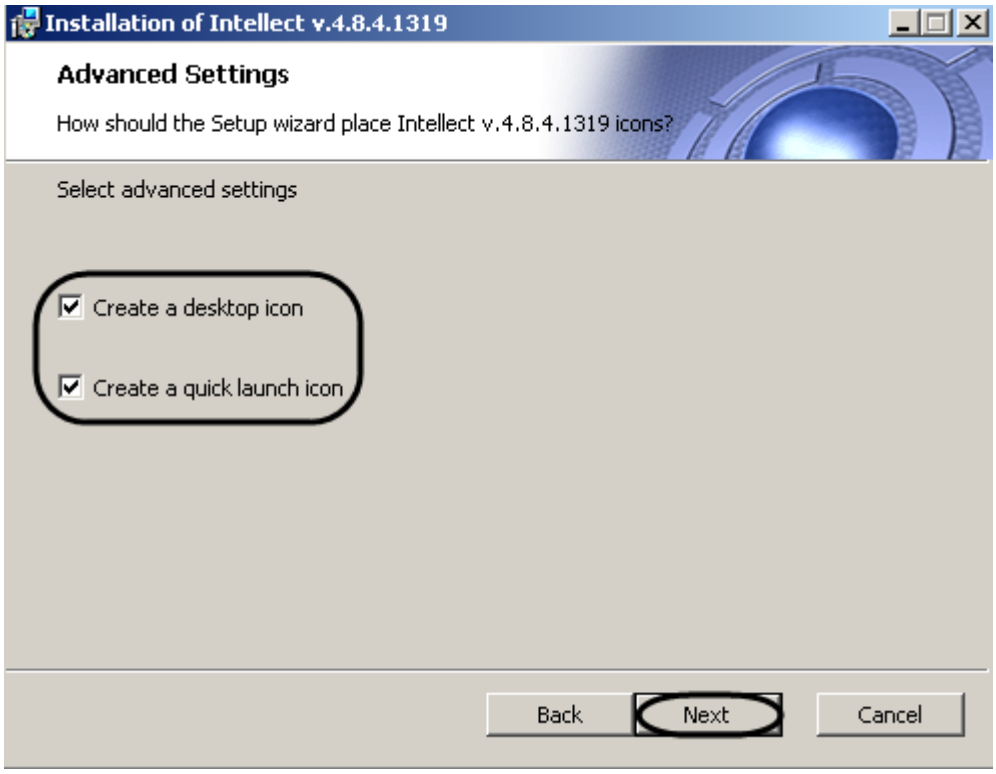


Figure 5.1—18 The “Advanced settings” dialog box

23. If a desktop icon is to be created, set the corresponding checkbox (Figure 5.1—18).
24. If a quick launch icon is to be created, set the corresponding checkbox (Figure 5.1—18).
25. Click the “Next” button (Figure 5.1—18).

The “Ready to install” dialog box is displayed (Figure 5.1—19).

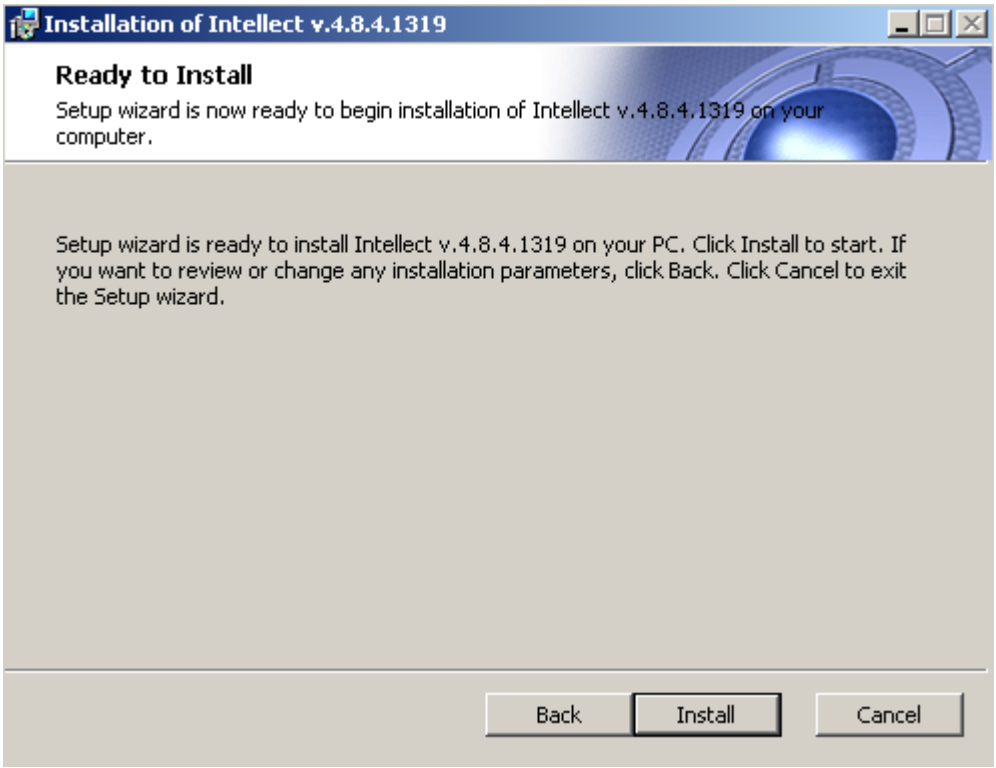


Figure 5.1—19 The “Ready to install” dialog box

*Note. To change the setting, click the "Back" button (*Figure 5.1—19*).*

26. Click the "Install" button (Figure 5.1—19).

The "Installing Intellect" dialog box is displayed (Figure 5.1—20).

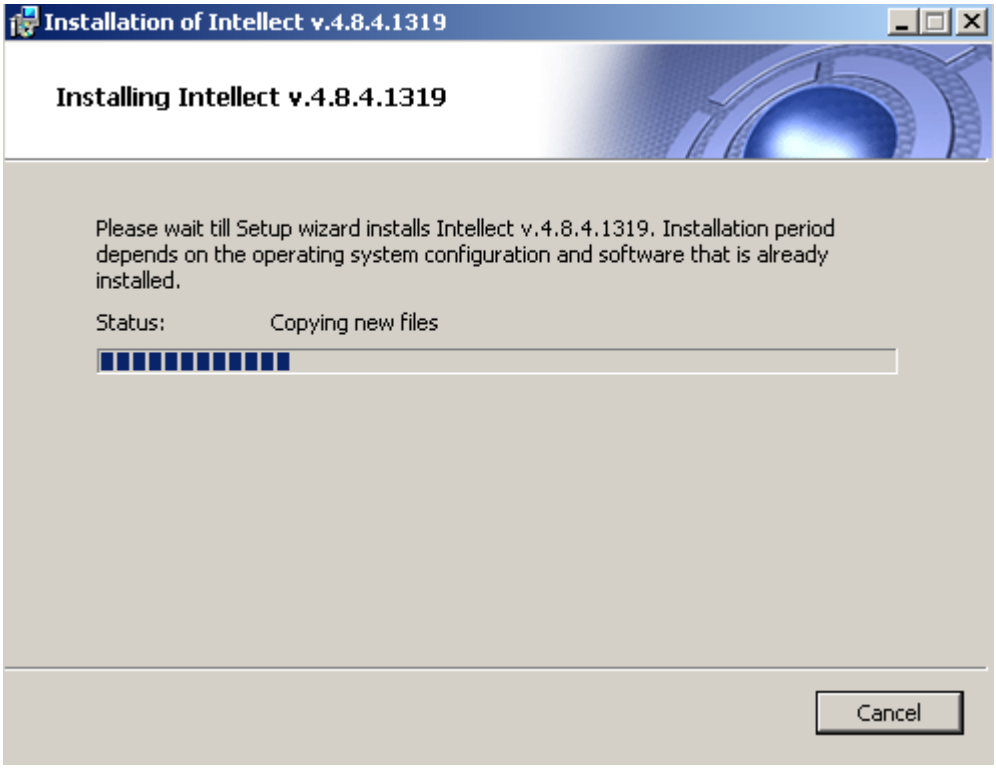


Figure 5.1—20 The "Installing Intellect" dialog box

Note. If the "SmartPocketPC" module installation was selected, the "SmartPocketPC" software module will be installed on the pocket PC.

The "Software Installation" dialog box is displayed (Figure 5.1—21).

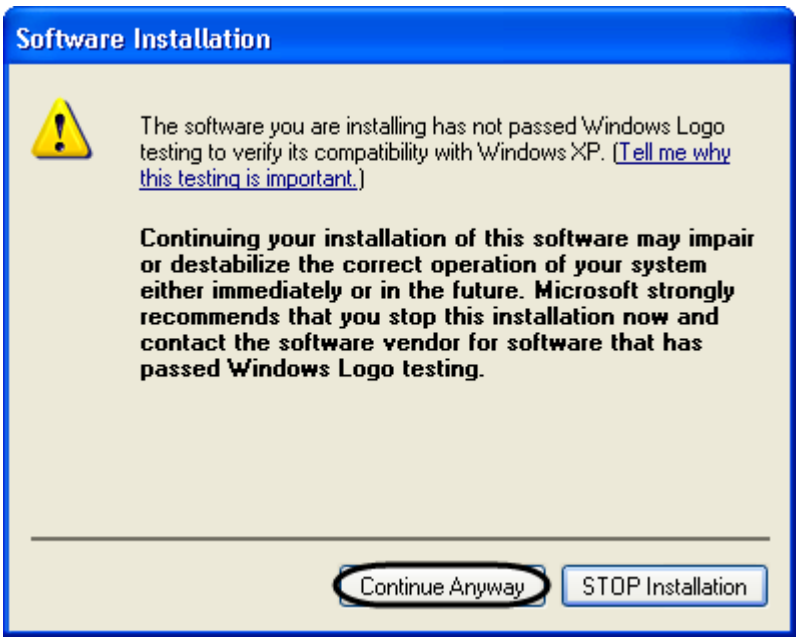


Figure 5.1—21 The "Software Installation" dialog box

27. To continue the installation, click the "Continue Anyway" button (Figure 5.1—21).

The "Installation Complete" dialog box is displayed (Figure 5.1—22).

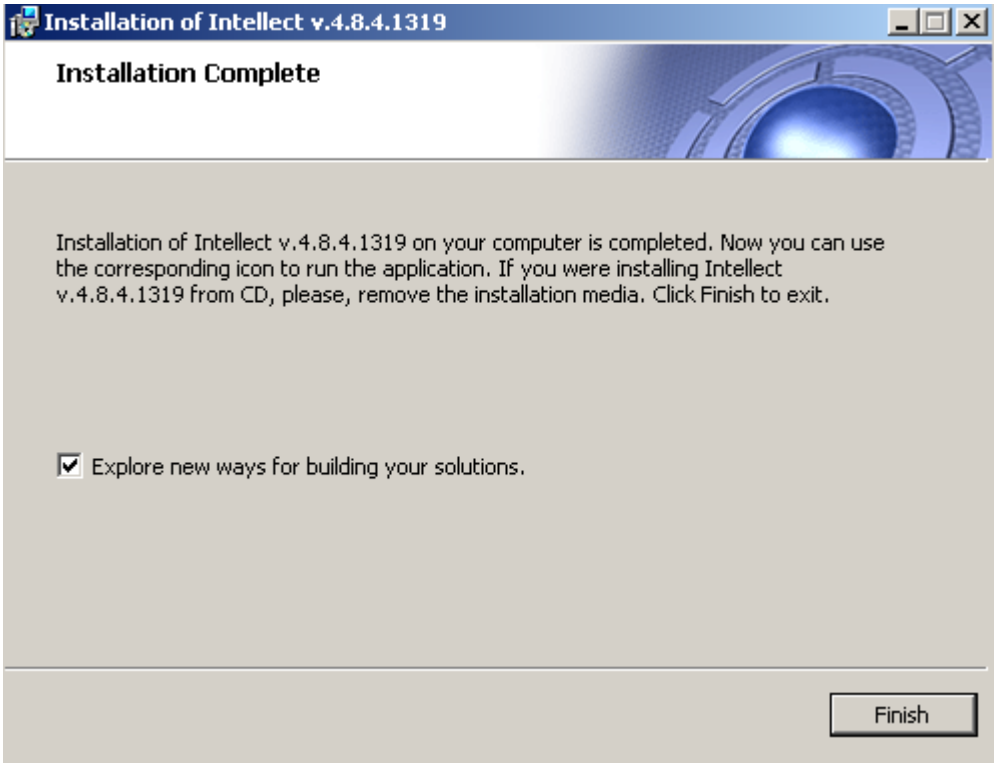


Figure 5.1—22 The "Installation Complete" dialog box

28. Set the "Explore new ways for building your solutions" checkbox, to view thw document containing information about new features of the installed Intellect (Figure 5.1—22).
29. Click the "Finish" button (Figure 5.1—22).

Note. Then the Axxon Driver Pack will be installed.

Then the Installation wizard dialog box is displayed, containg the information on the mode (installed or not) of Intellect components (Figure 5.1—23).

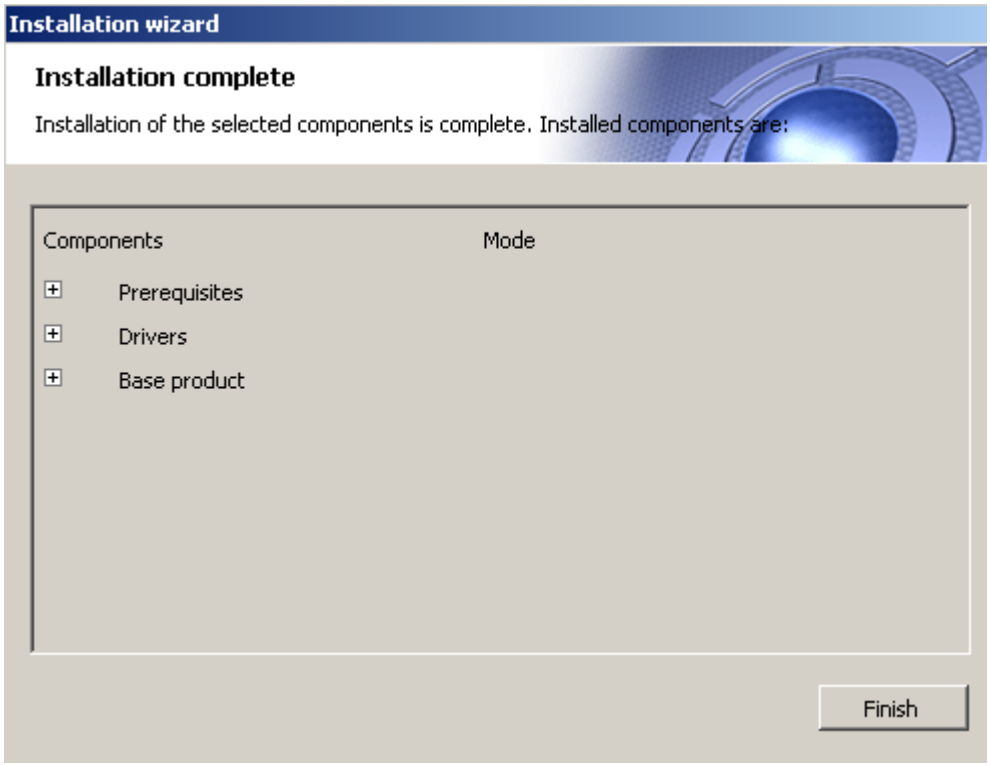


Figure 5.1—23 The “Installation complete” dialog box

30. Click the “Finish” button (Figure 5.1—23).

The dialog box offering to restart the system is displayed (Figure 5.1—24).

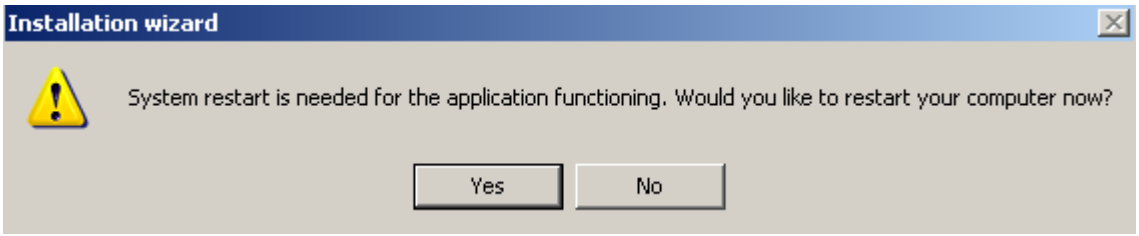


Figure 5.1—24 Redist message window

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

The Intellect as a Server is now installed.

5.1.3 Installation of INTELLECT™ software as an Administrator’s workplace

The installation of INTELLECT™ software with the “Administrator’s workplace” type of installation is similar to the installation for the “Server” and one is to select the “Administrator’s workplace” at the stage of selecting the type of installation (Figure 5.1—25).

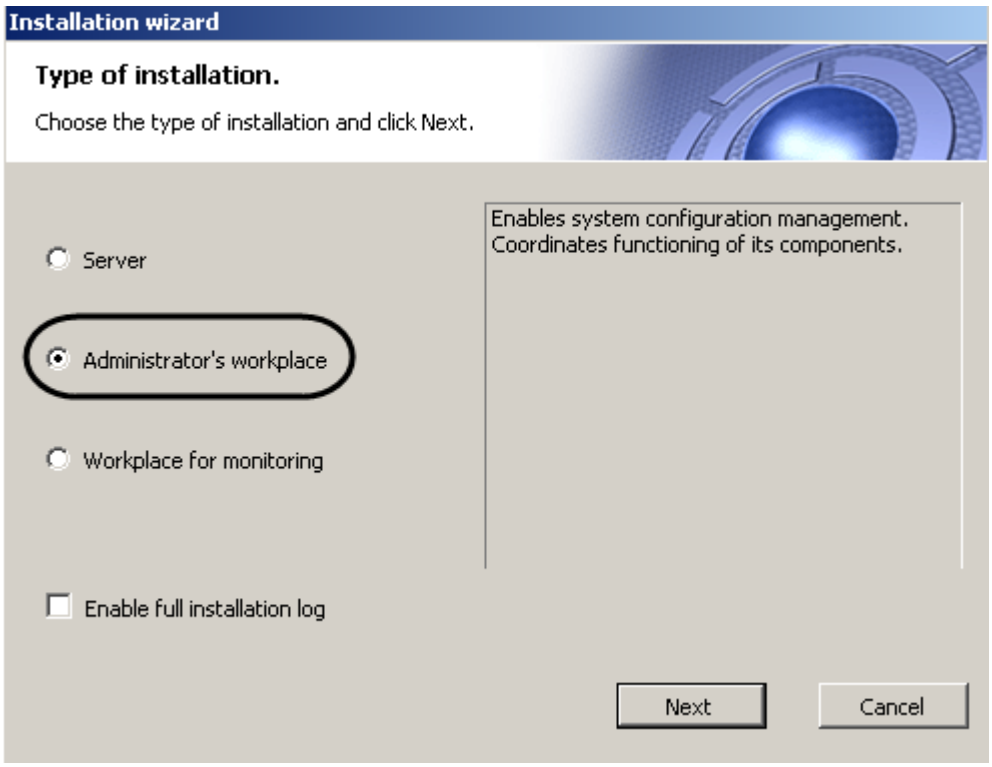


Figure 5.1—25 The "Type of installation" dialog box

5.1.4 Installation of INTELLECT™ software to the Workplace for monitoring

This section outlines a step-by-step instruction on how to install INTELLECT™ software onto a workplace for monitoring.

Note. The following features are to be taken into account while installing INTELLECT™ software:

INTELLECT™ software is to be installed on a "clean" Windows OS (see the "Operating system requirements" section).

To install INTELLECT™ software, administrator rights are required.

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

To install INTELLECT™ software – "Workplace for monitoring", do the following:

1. Insert INTELLECT installation disk in the CD-ROM drive, its contents will be displayed in a dialog box (Figure 5.1—26).

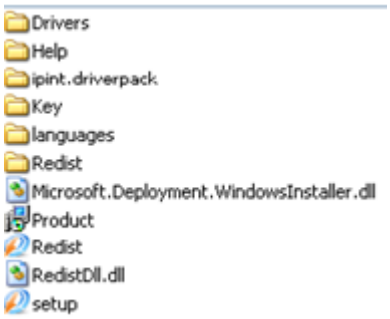


Figure 5.1—26. Contents of INTELLECT installation software

2. Run the setup.exe file to start the INTELLECT™ software installation procedure.

As a result the dialog box of choosing language is displayed (Figure 5.1—28).

*Note. The notification box is displayed if Microsoft.Net Framework 2.0 has not been installed (*Figure 5.1—27*).*

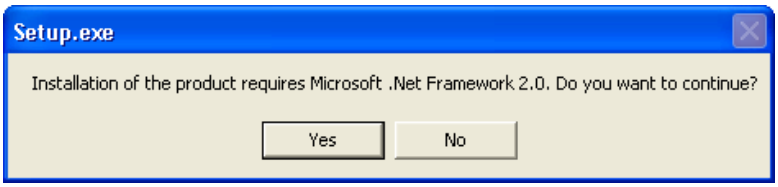


Figure 5.1—27 Notification window

Click "Yes" for Microsoft.Net Framework 2.0 auto installation.

3. Choose the language of INTELLECT™ software installation and click "Install" (Figure 5.1—28).

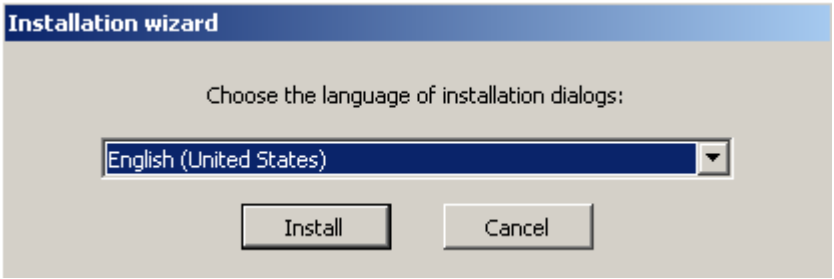


Figure 5.1—28 The dialog box of choosing language

As a result the "Type of installation" dialog box is displayed (Figure 5.1—29).

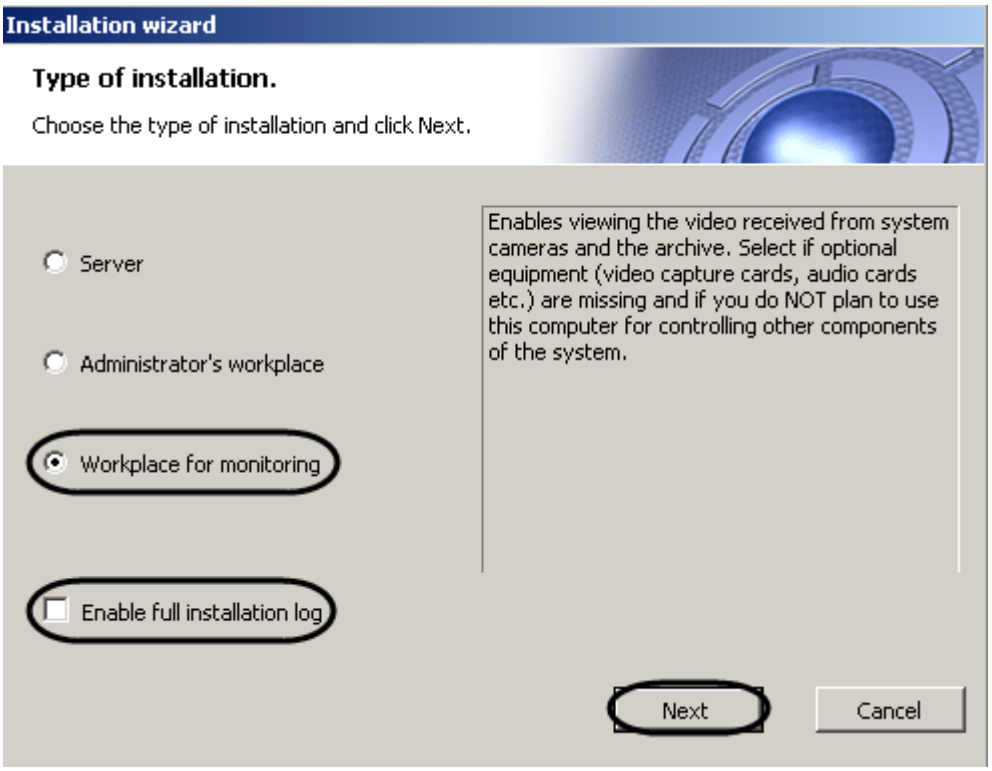


Figure 5.1—29 The “Type of installation” dialog box

4. Select the “Workplace for monitoring” type of installation (Figure 5.1—29).
5. To log all installation events, set the “Enable full installation log” checkbox (Figure 5.1—29).

Note. While installing and uninstalling the software events are logged to Intellect.log and Intellect uninstall.log correspondingly. To collect log-files, the “Support.exe” tool is to be used (see “The utility for collecting configuration data on servers and RWS for the Technical Support” section).

6. Click the “Next” button (Figure 5.1—29).

The “Selecting components for installation” dialog box is displayed (Figure 5.1—30).

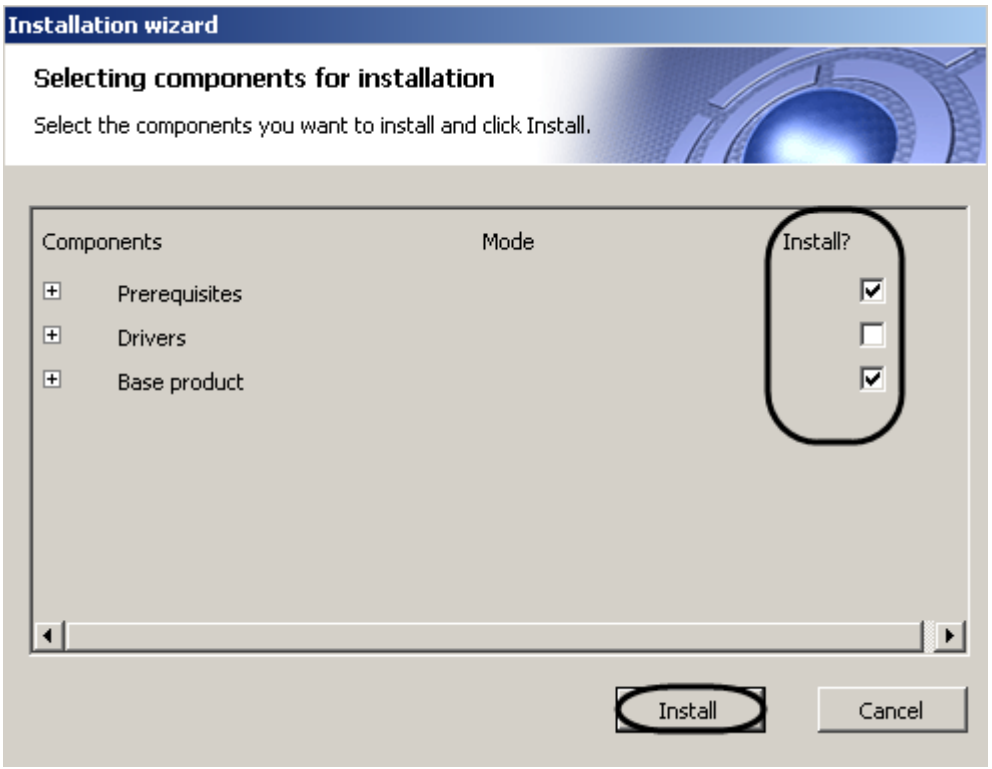


Figure 5.1—30 The "Selecting components for installation" dialog box

7. Set the checkboxes next to the components that are to be installed (Figure 5.1—30).

Note1. All offered components are recommended to be installed.

Note2. Note. Desktop Experience Feature is to be enabled in Windows Server 2008 for correct installation of the "Microsoft ActiveSync/WMDC" component.

8. Click the "Install" button (Figure 5.1—30).

Necessary prerequisites auto installation will be performed (Figure 5.1—31).

Figure 5.1—31 Auto installation of necessary prerequisites

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

After this the "Welcome to the Intellect Setup Wizard" box is displayed (Figure 5.1—32).

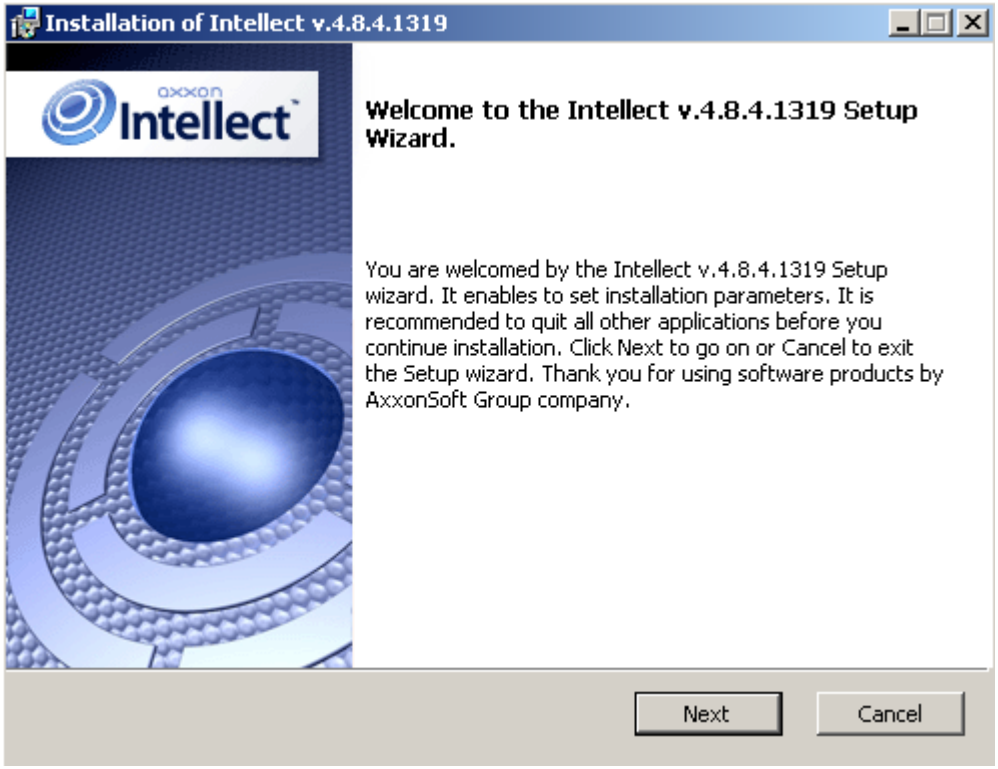


Figure 5.1—32 The “Welcome to the Intellect Setup Wizard” box

9. Click the “Next” button (Figure 5.1—32).

The “License Agreement” dialog box is displayed (Figure 5.1—33).

Figure 5.1—33 The “License Agreement” dialog box

10. Read the License agreement and accept its terms by setting the switch into the «I accept the terms of the License agreement» position, otherwise the INTELLECT™ installation will be stopped (Figure 5.1—33).
11. Click the “Next” button (Figure 5.1—33).

The dialog box of choosing language is displayed (Figure 5.1—34).

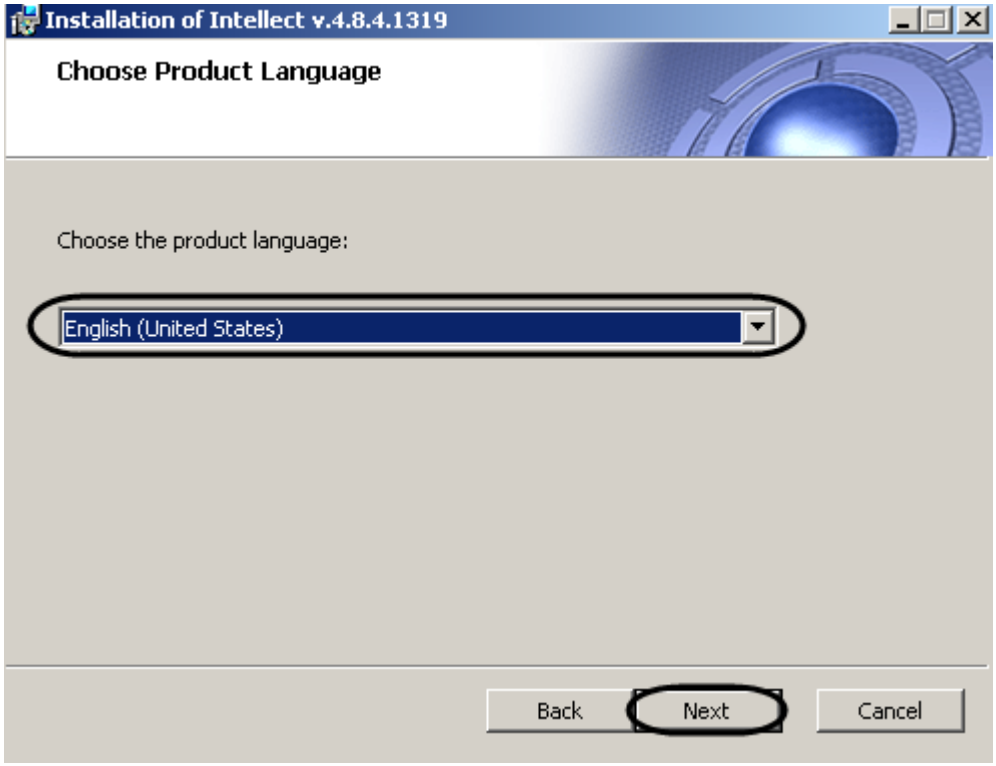


Figure 5.1—34 The “Choose Product Language” dialog box

12. Choose the required language in the list (Figure 5.1—34).
13. Click the “Next” button (Figure 5.1—34).

The dialog box of installation mode selection is displayed (Figure 5.1—35).

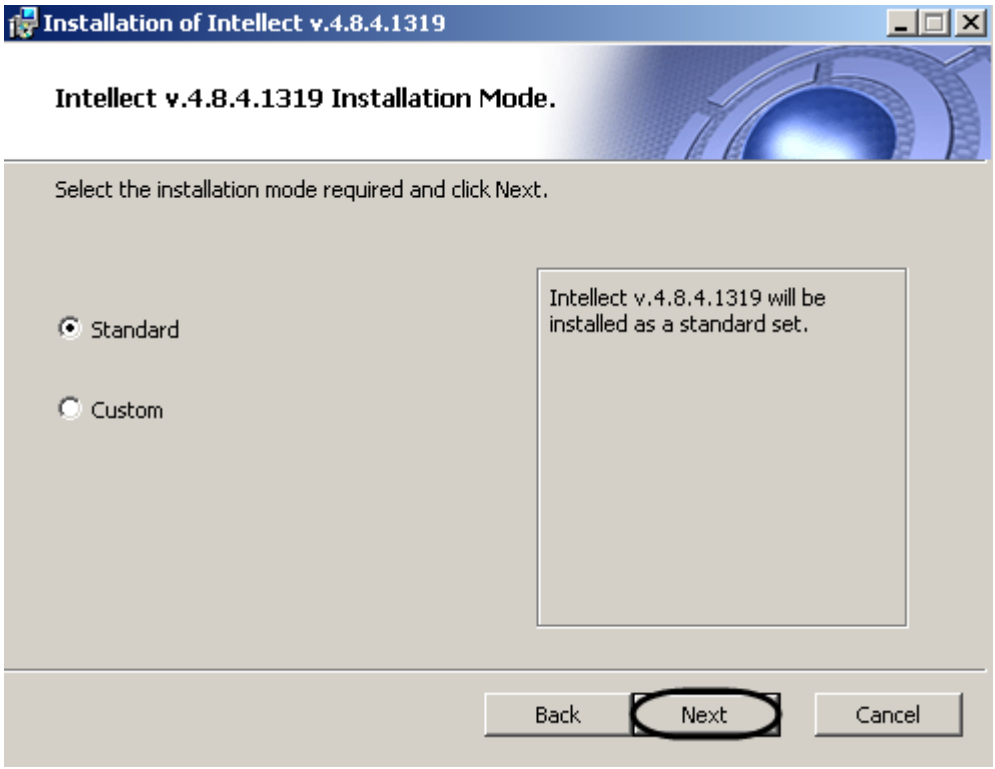


Figure 5.1—35 Installation mode selection

14.Select the installation mode (Figure 5.1—35).

15.Click the “Next” button (Figure 5.1—35).

Note. When the “Custom” installation mode is selected, the dialog box of choosing the installation folder is displayed (Figure 5.1—36). This step is omitted when the “Standard” installation mode is selected.

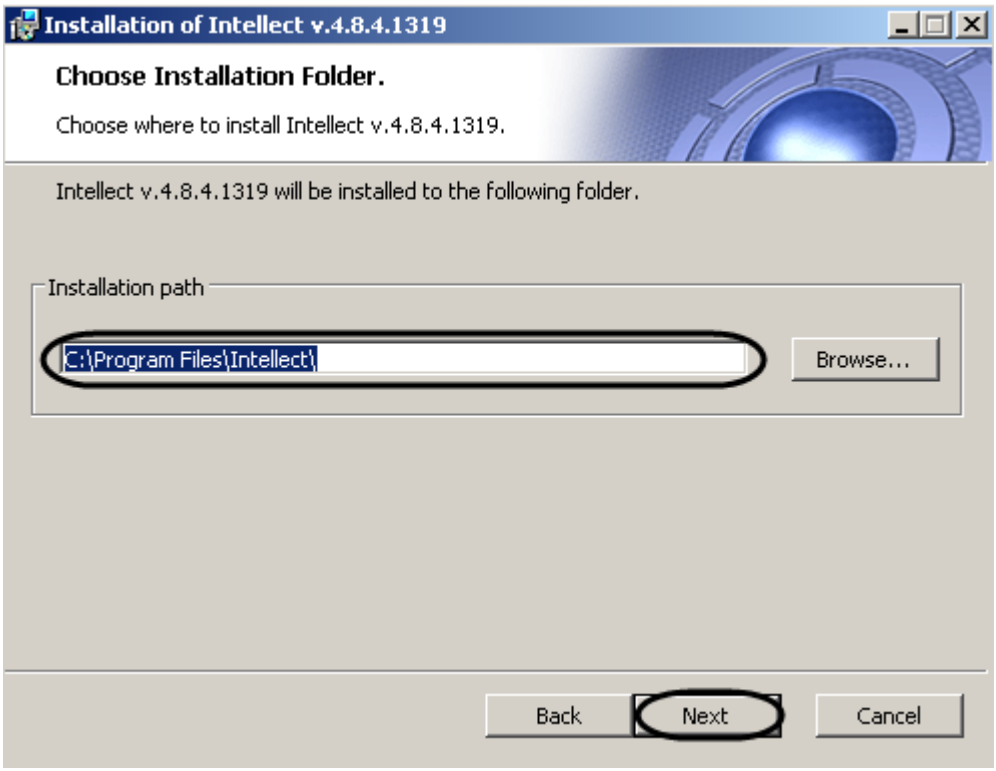


Figure 5.1—36 The dialog box of choosing the INTELLECT™ installation folder

The “Advanced settings” dialog box is displayed (Figure 5.1—37).

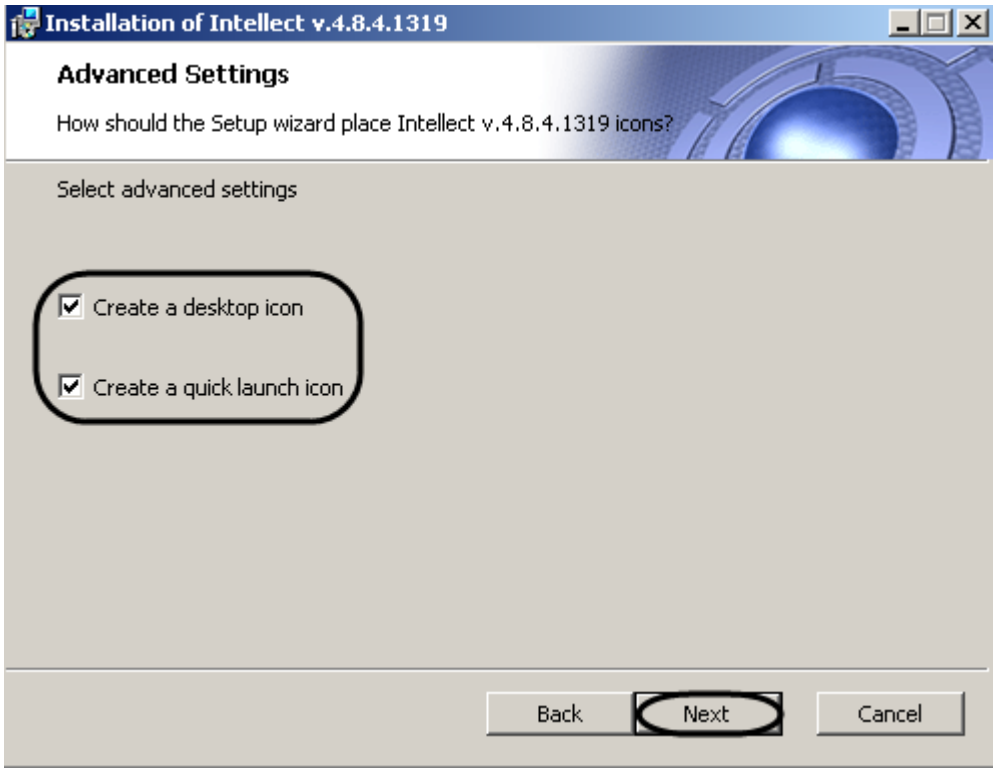


Figure 5.1—37 The “Advanced settings” dialog box

16.If a desktop icon is to be created, set the corresponding checkbox (Figure 5.1—37).
17.If a quick launch icon is to be created, set the corresponding checkbox (Figure 5.1—37).
18.Click the “Next” button (Figure 5.1—37).

The “Ready to install” dialog box is displayed (Figure 5.1—38).

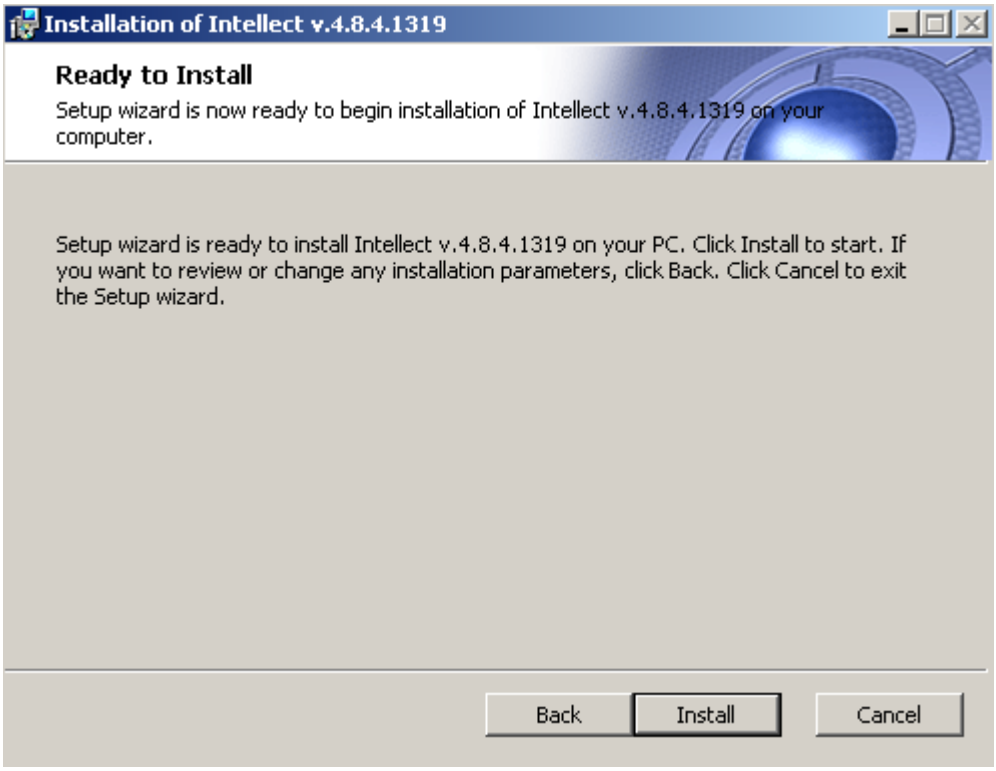


Figure 5.1—38 The “Ready to install” dialog box

Note. To change the setting, click the “Back” button (Figure 5.1—38).

19.Click the “Install” button (Figure 5.1—38).

The “Installing Intellect” dialog box is displayed (Figure 5.1—39).

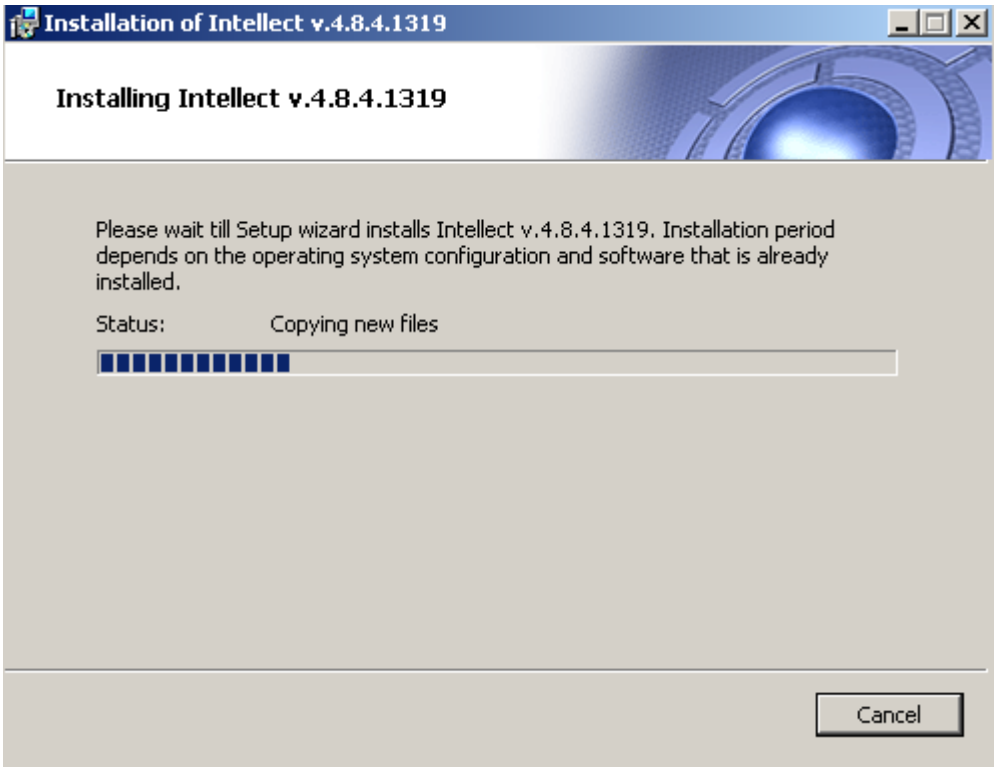


Figure 5.1—39 The “Installing Intellect” dialog box

Note. If the “SmartPocketPC” module installation was selected, the “SmartPocketPC” software module will be installed on the pocket PC.

The “Software Installation” dialog box is displayed (Figure 5.1—40).

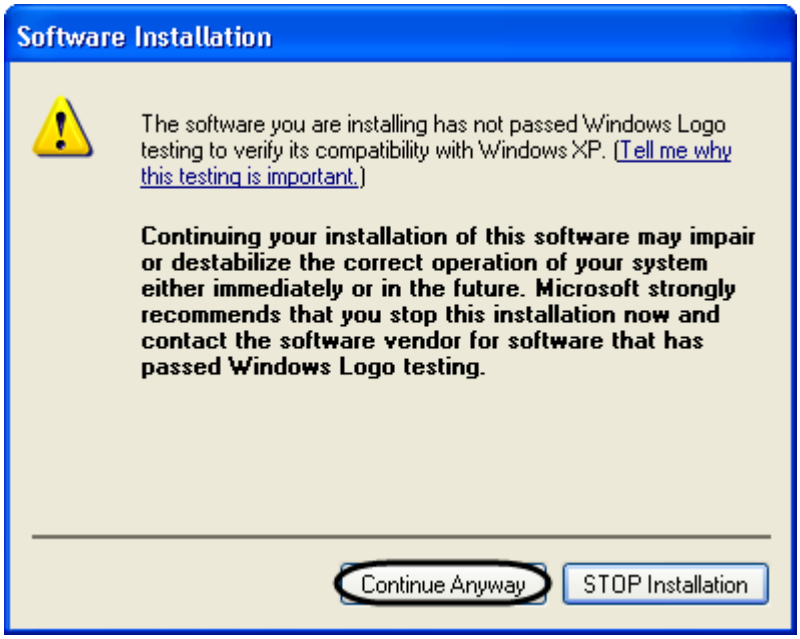


Figure 5.1—40 The “Software Installation” dialog box

20.To continue the installation, click the “Continue Anyway” button (Figure 5.1—40).

The “Installation Complete” dialog box is displayed (Figure 5.1—41).

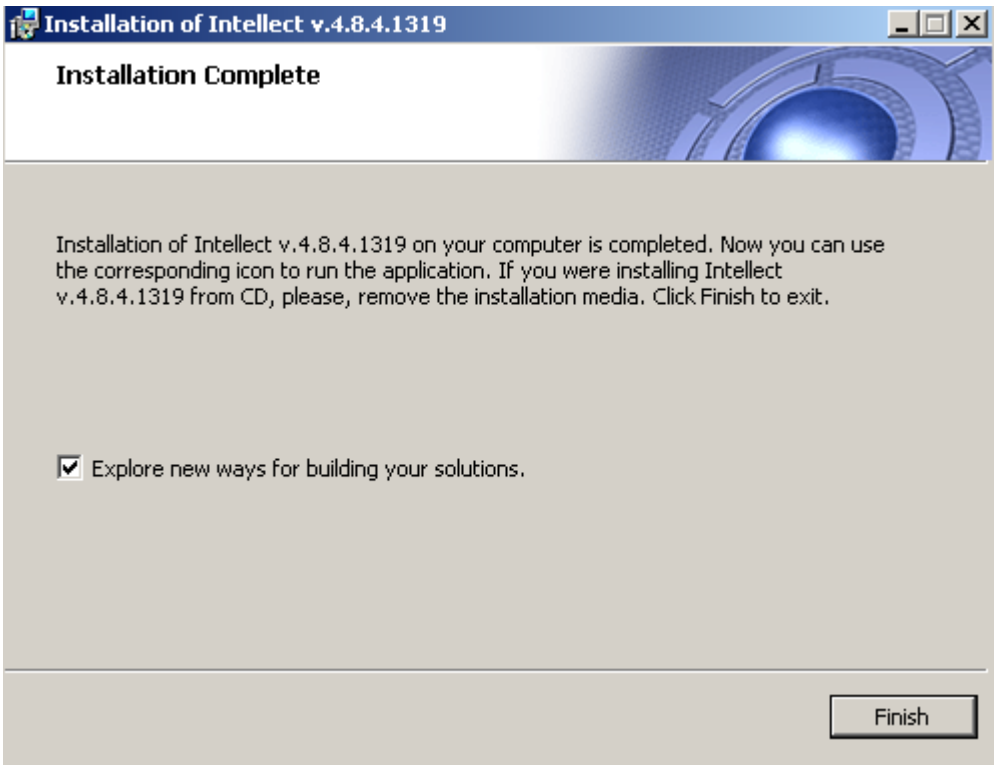


Figure 5.1—41 The “Installation complete” dialog box

21. Set the “Explore new ways for building your solutions” checkbox, to view thw document containing information about new features of the installed Intellect (Figure 5.1—41).
22. Click the “Finish” button (Figure 5.1—41).

Note. Then the Axxon Driver Pack will be installed.

Then the Installation wizard dialog box is displayed, containg the information on the mode (installed or not) of Intellect components (Figure 5.1—42).

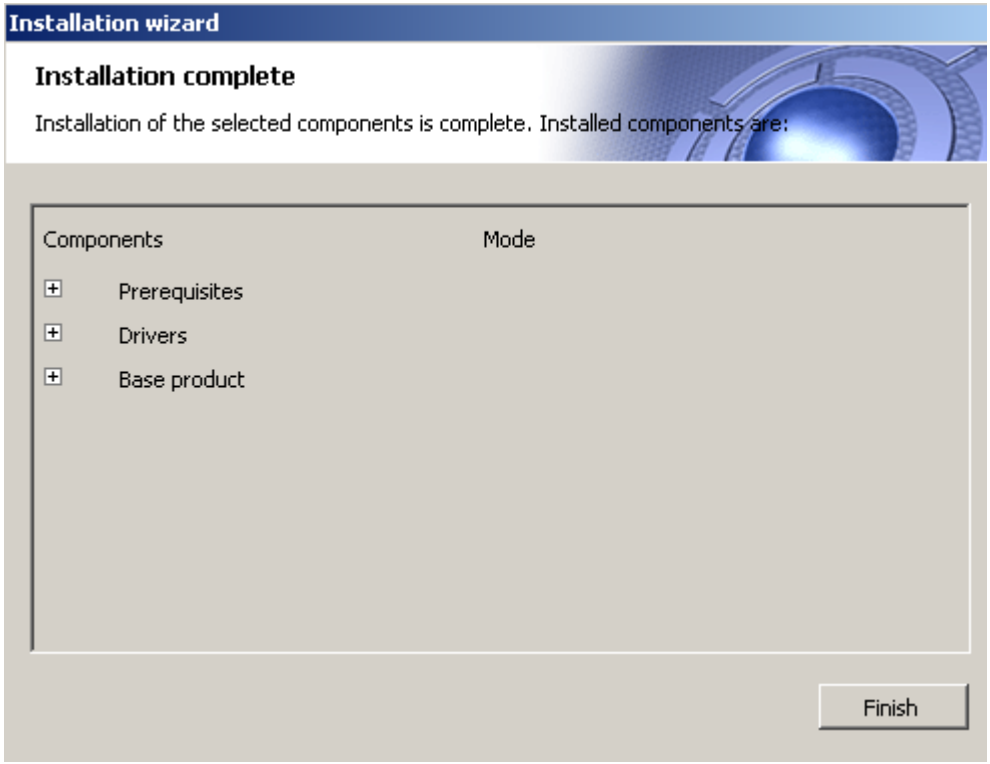


Figure 5.1—42 The “Installation complete” dialog box

23.Click the “Finish” button (Figure 5.1—42).

The Intellect with the “Workplace for monitoring” type of installation is now installed.

5.1.5 Updating INTELLECT™ software

If you install INTELLECT™ software on computer where an earlier version is used, then installation will be in the updating mode.

To update INTELLECT™ software, do the following:

1. Insert INTELLECT installation disk in the CD-ROM drive, its contents will be displayed in a dialog box (Figure 5.1—43).

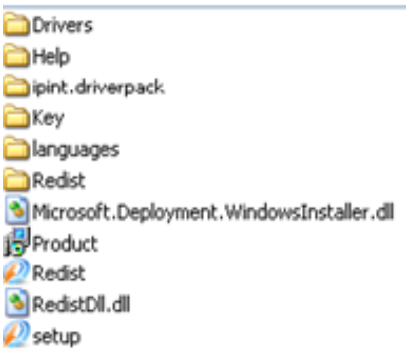


Figure 5.1—43 Contents of installation CD

2. Run the setup.exe file to start the INTELLECT™ software installation procedure.

As a result the dialog box of choosing language is displayed (Figure 5.1—44).

3. Choose the language of INTELLECT™ software installation and click “Install”.

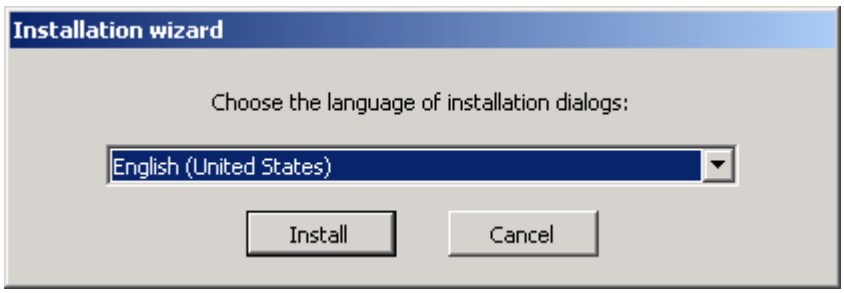


Figure 5.1—44 The dialog box of choosing language

As a result the “Type of installation” dialog box is displayed (Figure 5.1—45).

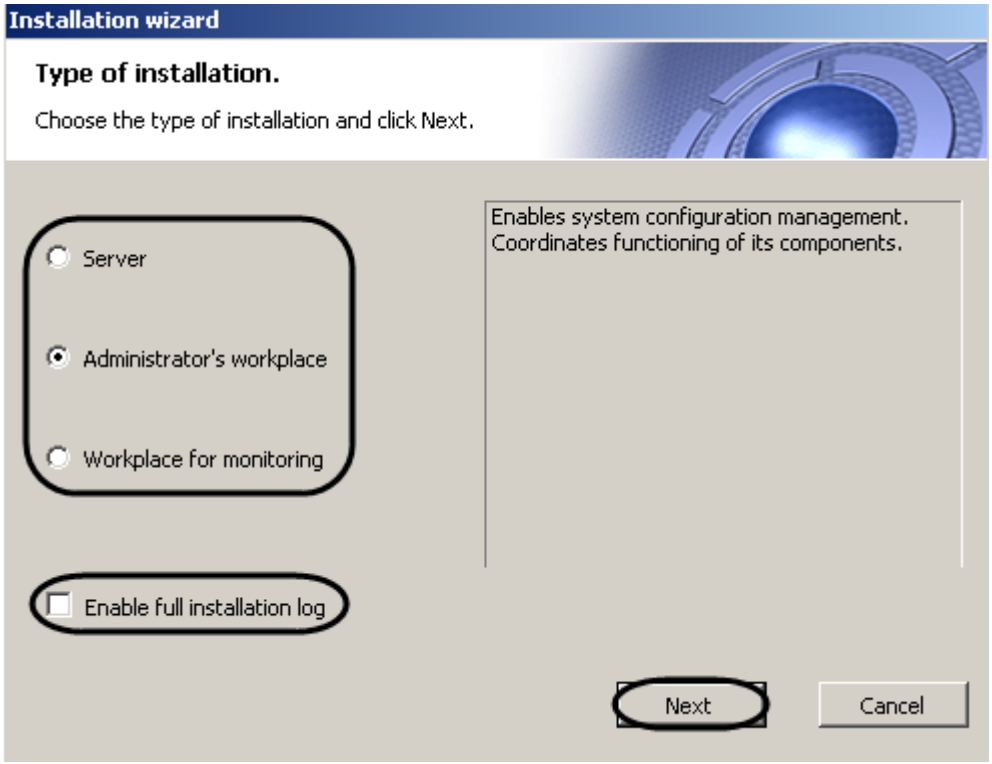


Figure 5.1—45 The “Type of installation” dialog box

4. Choose the type of installation needed (Figure 5.1—45).
5. To log all installation events, set the “Enable full installation log” checkbox (Figure 5.1—45).

Note. While installing and uninstalling the software events are logged to Intellect.log and Intellect uninstall.log correspondingly. To collect log-files, the “Support.exe” tool is to be used (see “The utility for collecting configuration data on servers and RWS for the Technical Support” section).

6. Click the “Next” button (Figure 5.1—45).

The “Selecting components for installation” dialog box is displayed (Figure 5.1—46).

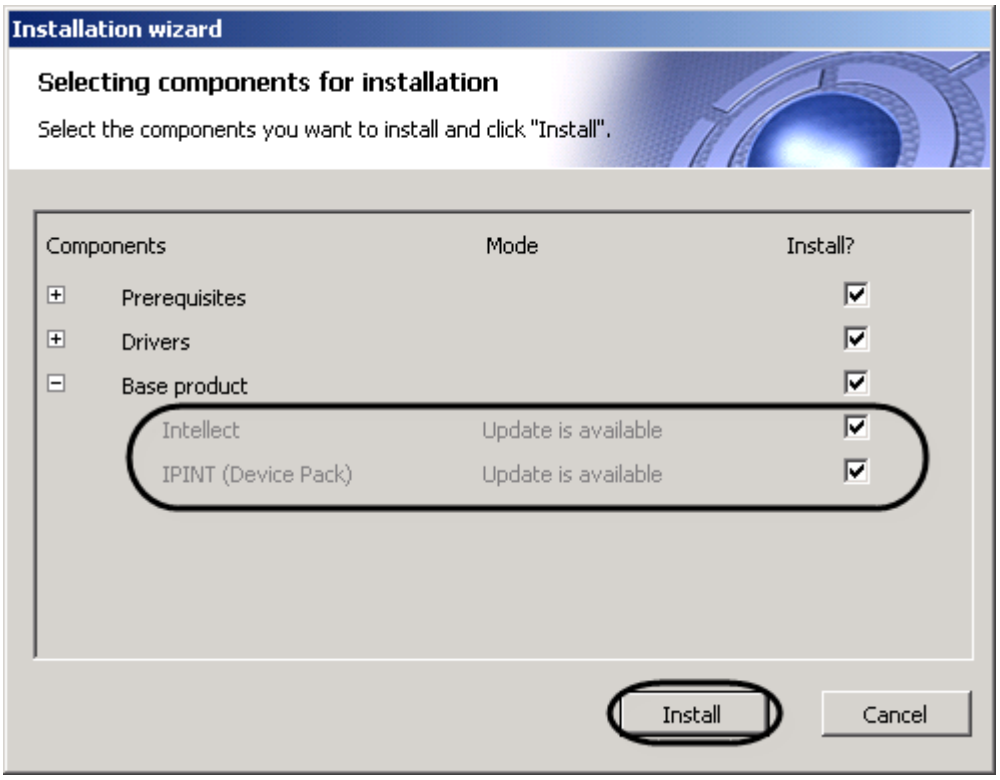


Figure 5.1—46 The “Selecting components for installation” dialog box

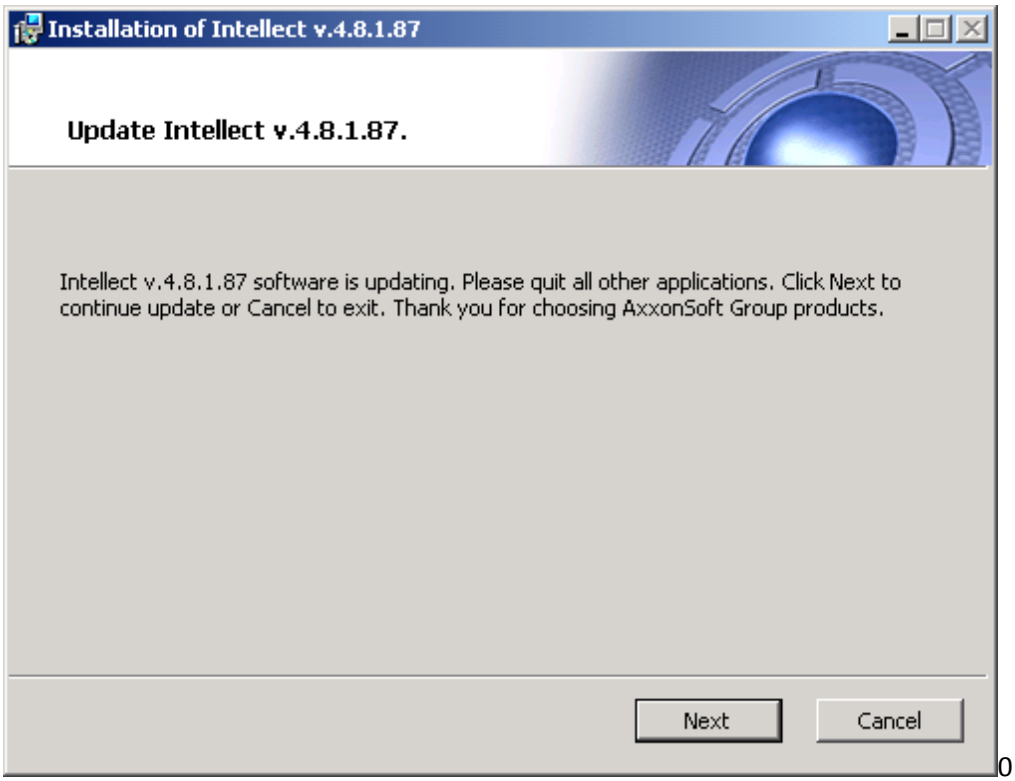
7. Set the checkboxes next to the components that are to be installed (Figure 5.1—46).

Note. All offered components are recommended to be installed.

8. Click the “Install” button (Figure 5.1—46).

The selected prerequisites and drivers will be installed.

When prerequisites and drivers are installed, the dialog box of INTELLECT update is displayed (Figure 5.1—47).



0

Figure 5.1—47 The dialog box of INTELLECT update

9. Click the “Next” button (Figure 5.1—47).

The dialog box of the type of update is displayed (Figure 5.1—48).

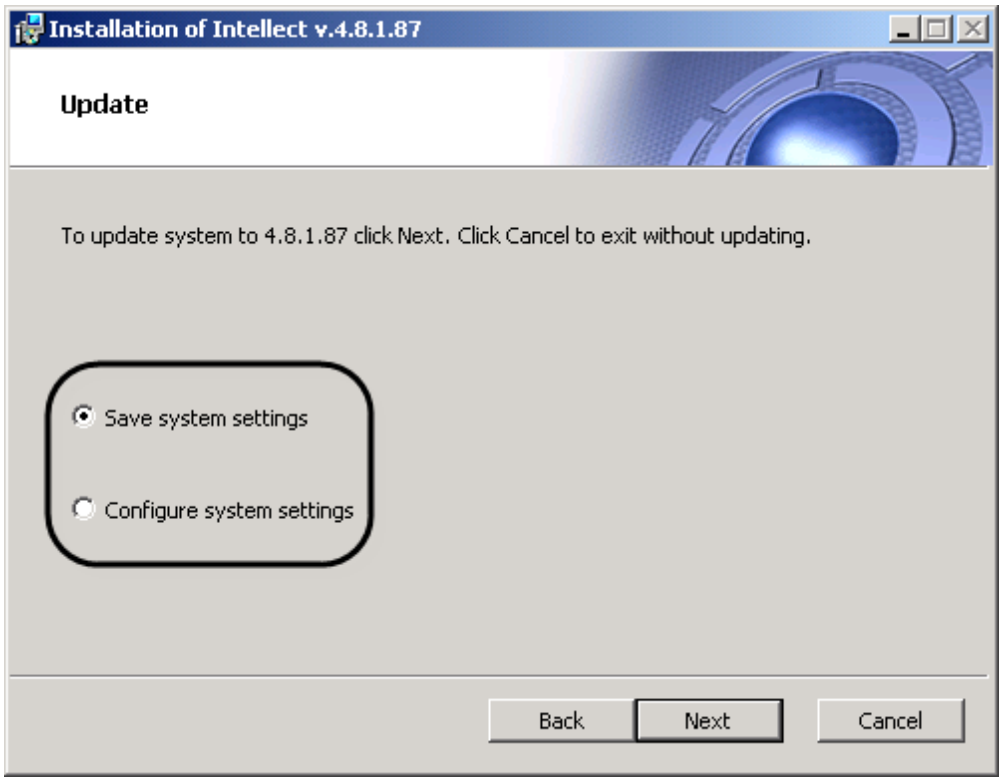


Figure 5.1—48 The dialog box of the type of update

10. Select one of the offered types of update (Figure 5.1—48). The types of update are described in Table 5.1-2.

Table 5.1-2 The types of update

The types of update	Description
Save system settings	Use of settings chosen for installation of an earlier version
Configure system settings	Switch to step-by-step system configuration. Step-by-step configuration is described in “Installation of INTELLECT™ software as a server” section.

11. Click the “Next” button (Figure 5.1—48).

When the system is configured, installation of INTELLECT™ software starts (Figure 5.1—49).

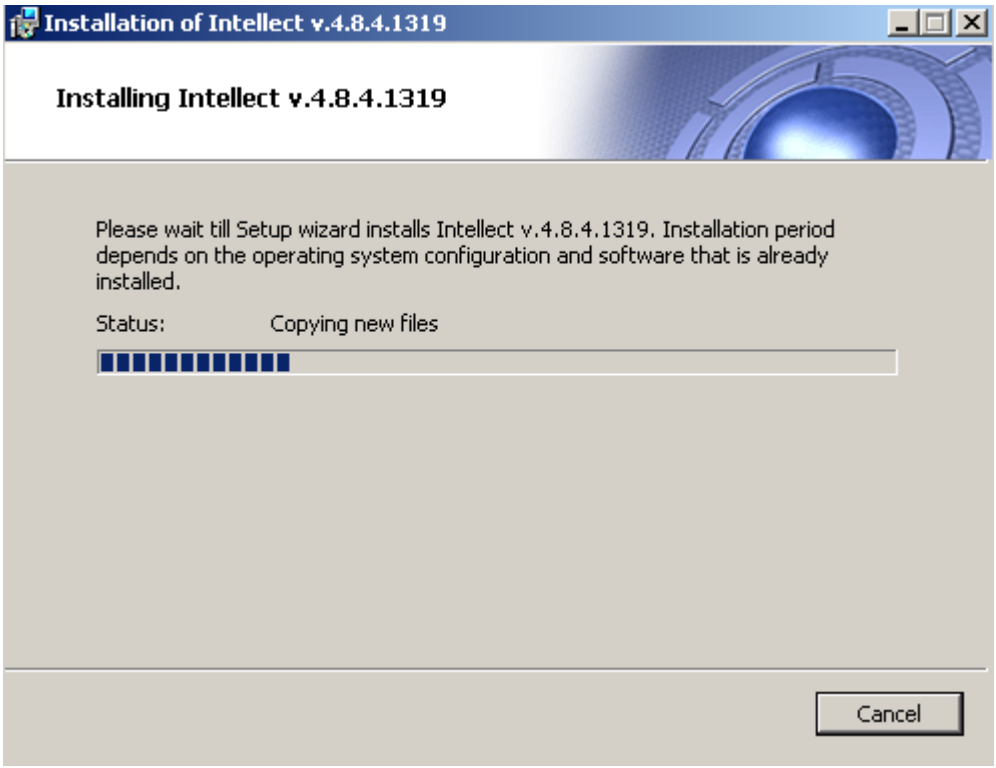


Figure 5.1—49 The dialog box of Intellect installation

The “Software Installation” dialog box is displayed (Figure 5.1—**50**).

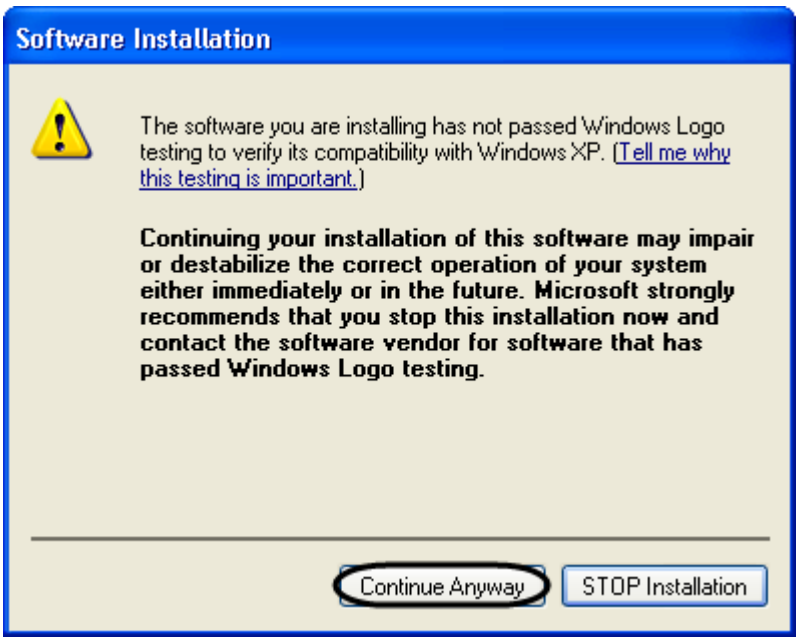


Figure 5.1—50 Software Installation dialog box

12. To continue installation, click the “Continue Anyway” button (Figure 5.1—**50**)

As a result the “Update Complete” dialog box is displayed (Figure 5.1—51).

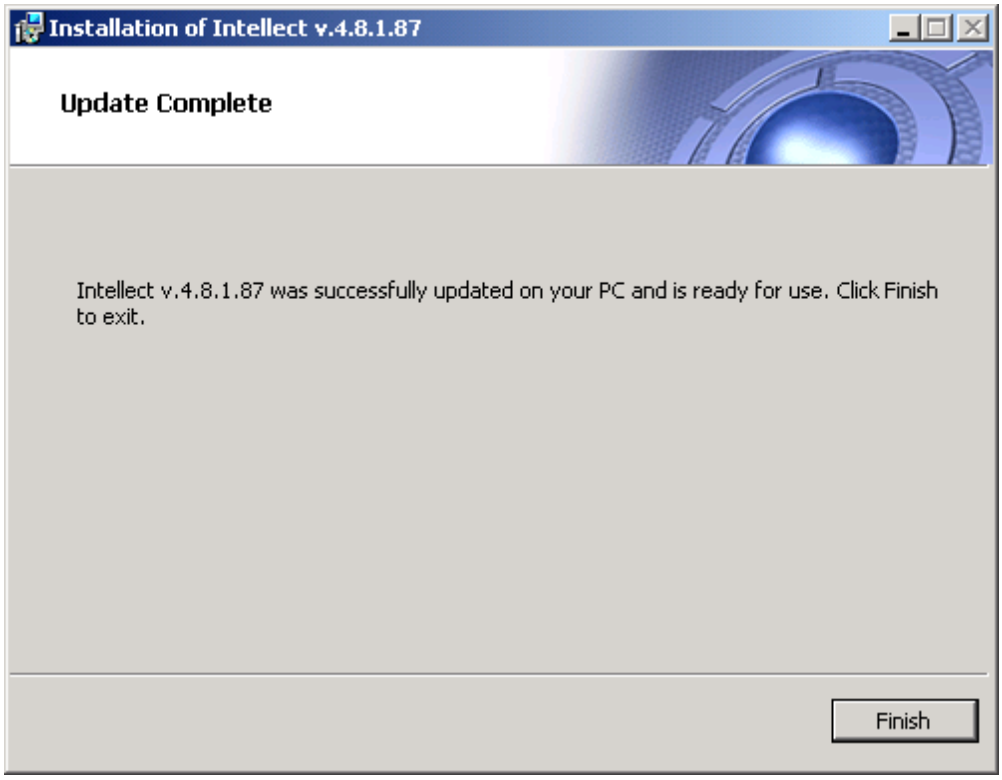


Figure 5.1—51 The “Update Complete” dialog box

13. Click the “Finish” button (Figure 5.1—51).

Note. Then the Axxon Driver Pack will be installed.

The “Installation complete” dialog box is displayed. It contains the information about INTELLECT components mode (installed or not) (Figure 5.1—52).

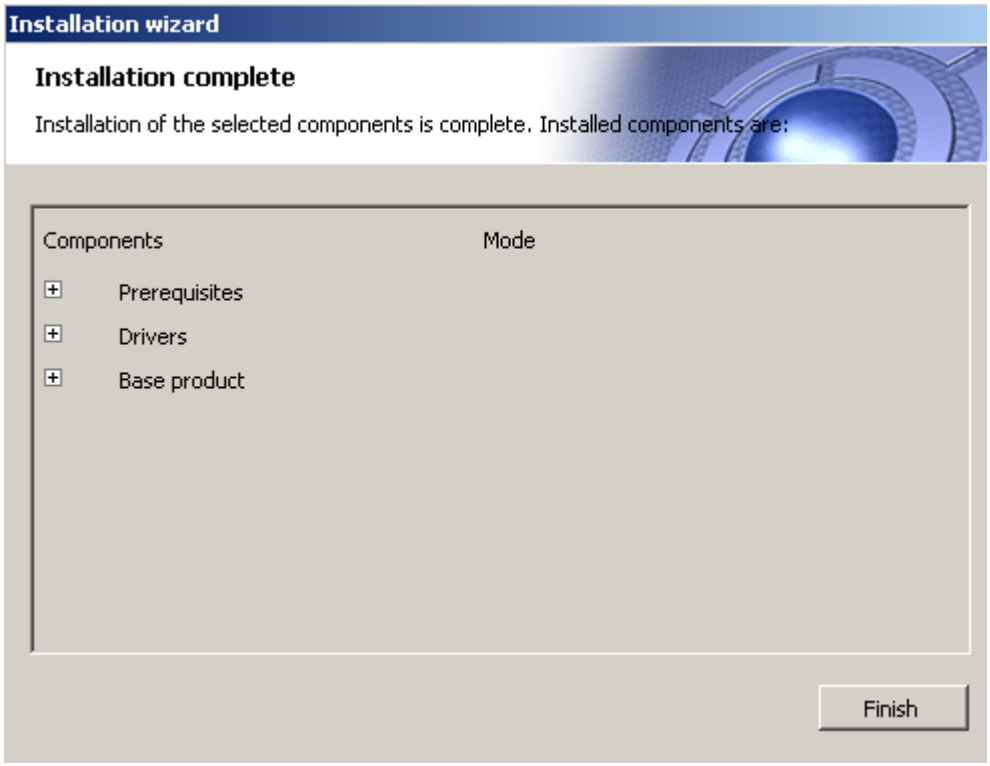


Figure 5.1—52 Installation complete

14. Click the “Finish” button (Figure 5.1—52).

The dialog box offering to restart the computer is displayed (Figure 5.1—53).

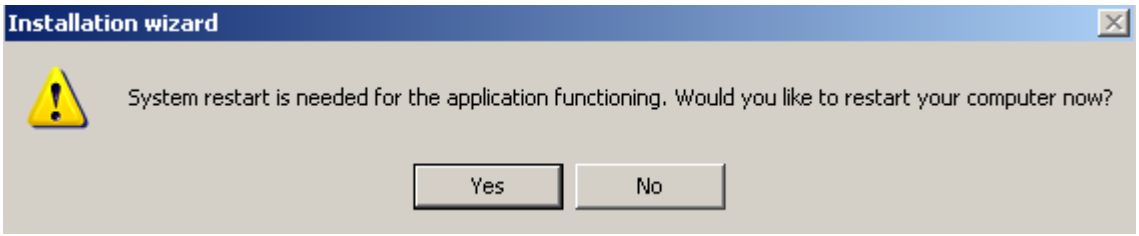


Figure 5.1—53 The dialog box of system restart

Note. It is recommended to select the option of closing the program with computer restart.

INTELLECT software is now updated.

5.1.6 Using the Product.msi and Redist.exe for INTELLECT™ software installation

Besides running Setup.exe file for the the INTELLECT™ software installation, Product.msi and Redist.exe files can be used:

1. Product.msi is designed for INTELLECT™ software installation with step-by-step configuration of main parameters such as type of installation, installation directrory etc.

Note. Product.msi is worth being used when all drivers, prerequisits and other components necessary for correct operation of INTELLECT™ have been installed.

2. Redist.exe enables selection and installation of necessary components for INTELLECT™ operation (for example drivers, prerequisits and the very product).

The use of these files allows reducing installation time of INTELLECT™ software due to less steps during installation.

5.2 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.

To repair 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 5.2—1).

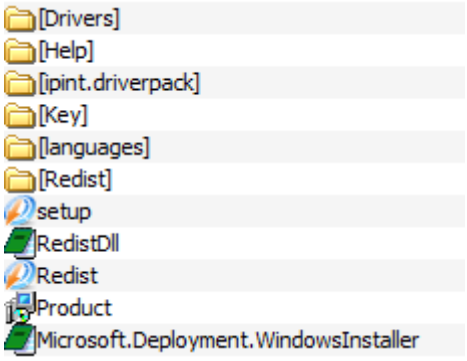


Figure 5.2—1 Contents of INTELLECT installation CD

2. Run setup.exe file, designed for running the Intellect PC install program.

As a result the “Select Action” dialog box is displayed (Figure 5.2—2).

Note. The following files may be run for repairing the Intellect PC instead of Setup.exe:

- *Product.msi – to repair the Intellect PC;*
- *Redist.exe – to install additional components.*

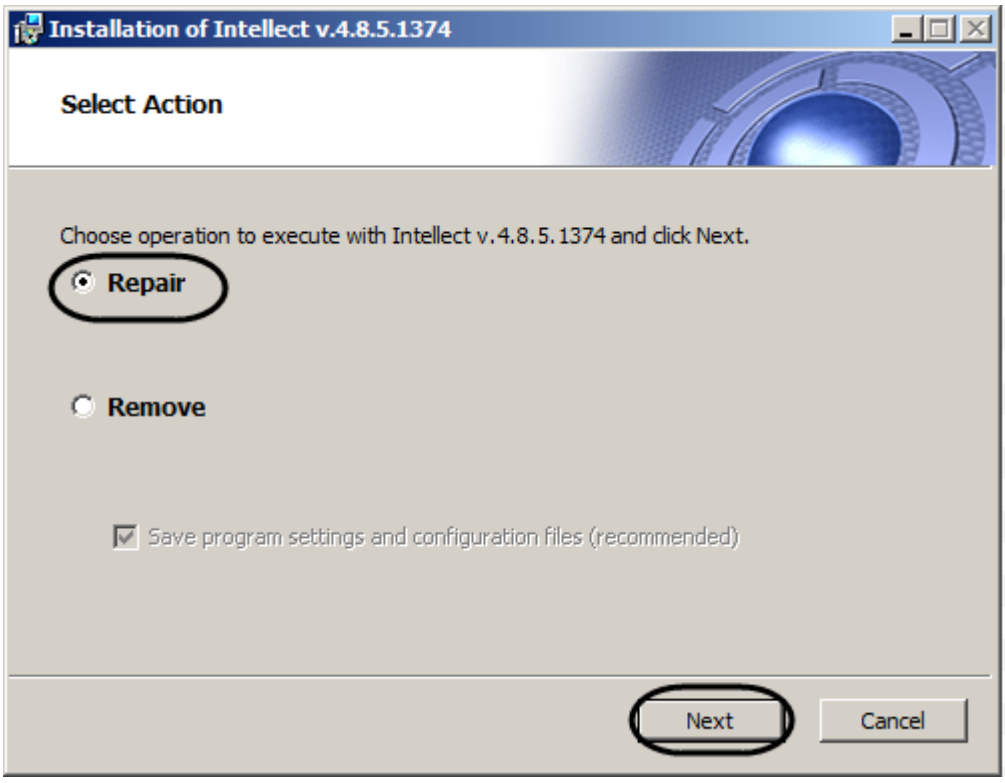


Figure 5.2—2. Re-installation type dialog box

3. To select INTELLECT™ software components repair mode, select Repair installation type and click Next (Figure 5.2—2).

The “Repairing Intellect” dialog box is displayed (Figure 5.2—3).

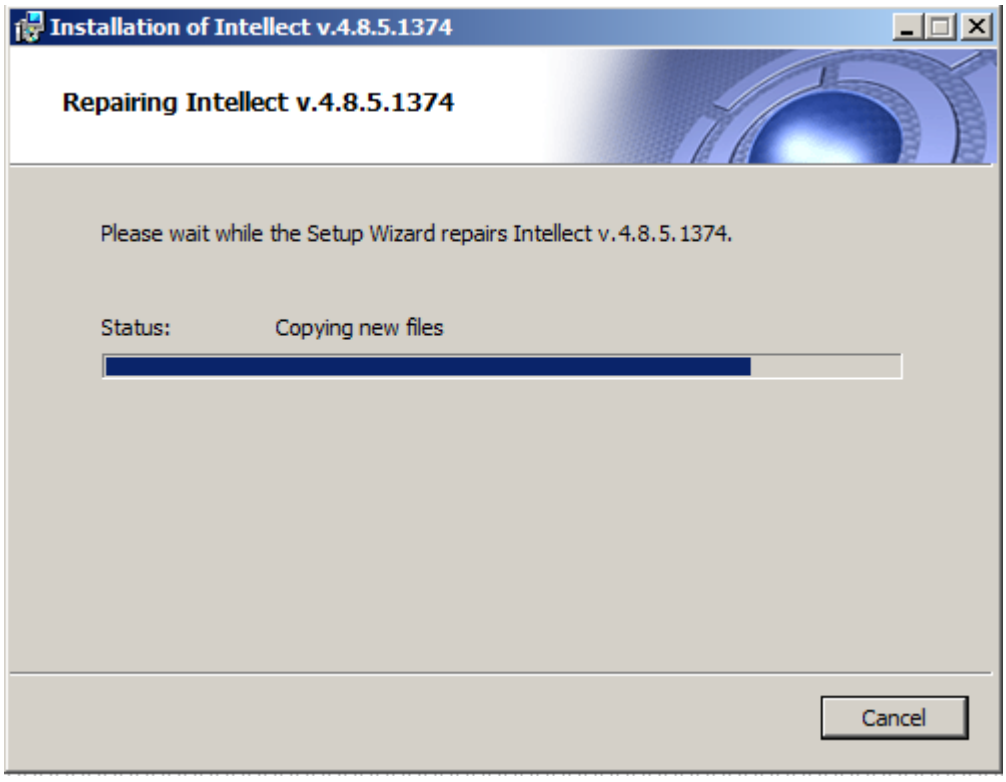


Figure 5.2—3. Dialog box displaying file copying in progress

The “Software Installation” dialog box is displayed (Figure 5.2—4).

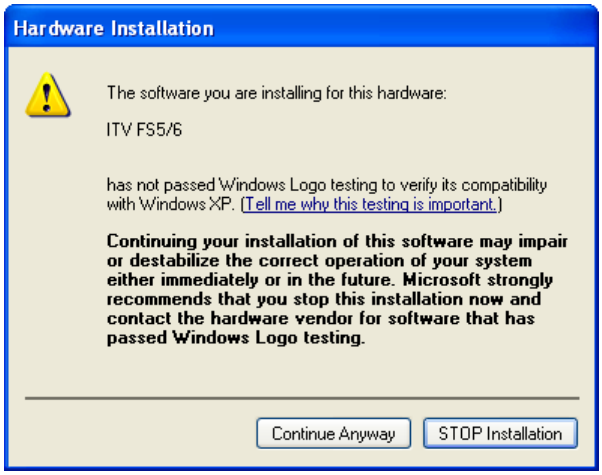


Figure 5.2—4. Driver installation dialog box

4. To continue INTELLECT™ software installation, click “Continue Anyway”.

As soon as all files are copied, the “Repair Complete” dialog box is displayed (Figure 5.2—5).

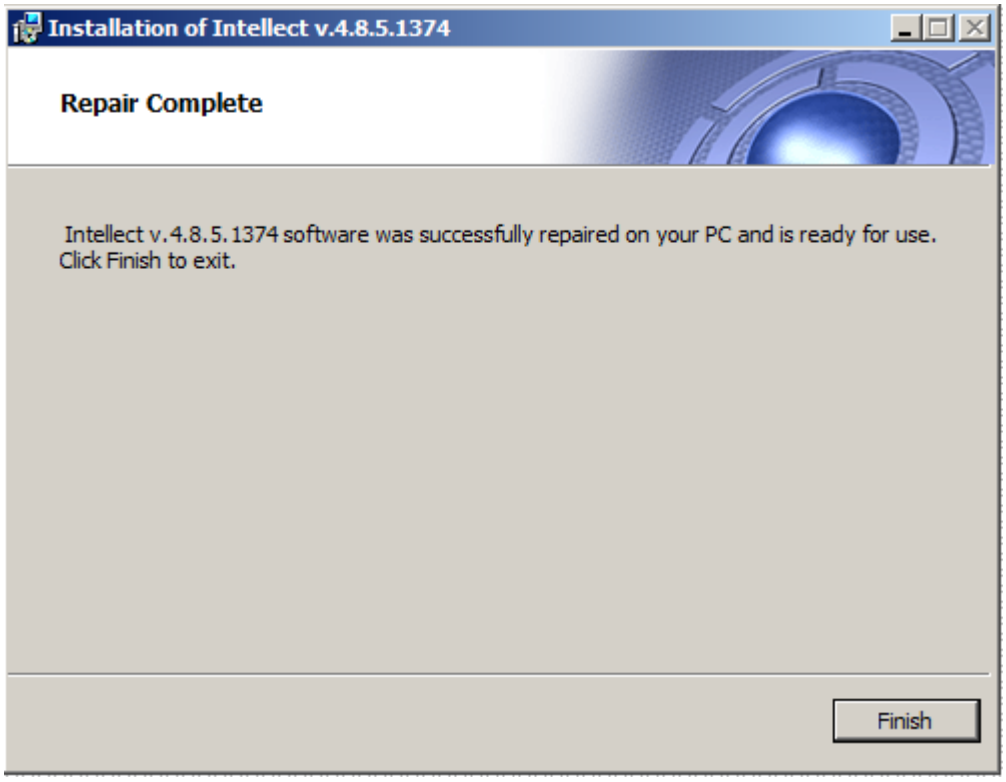


Figure 5.2—5. Re-installation finish dialog box

5. Click the “Finish” button (Figure 5.2—5).

INTELLECT™ software is now repaired.

5.3 Removing INTELLECT™ software

INTELLECT™ software installation program 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.

5.3.1 Removing INTELLECT™ software 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 Figure 5.3—1.

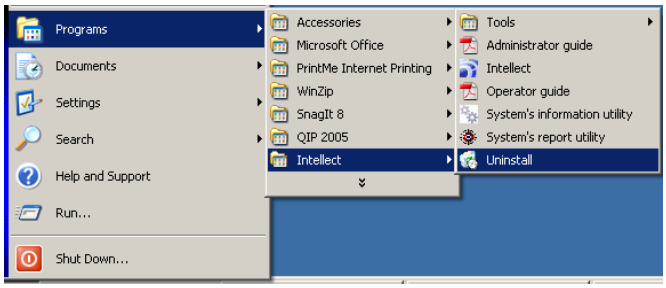


Figure 5.3—1. Launching the INTELLECT™ software uninstall process with the Start menu

As a result the “Select Action” dialog box is displayed (Figure 5.3—2).

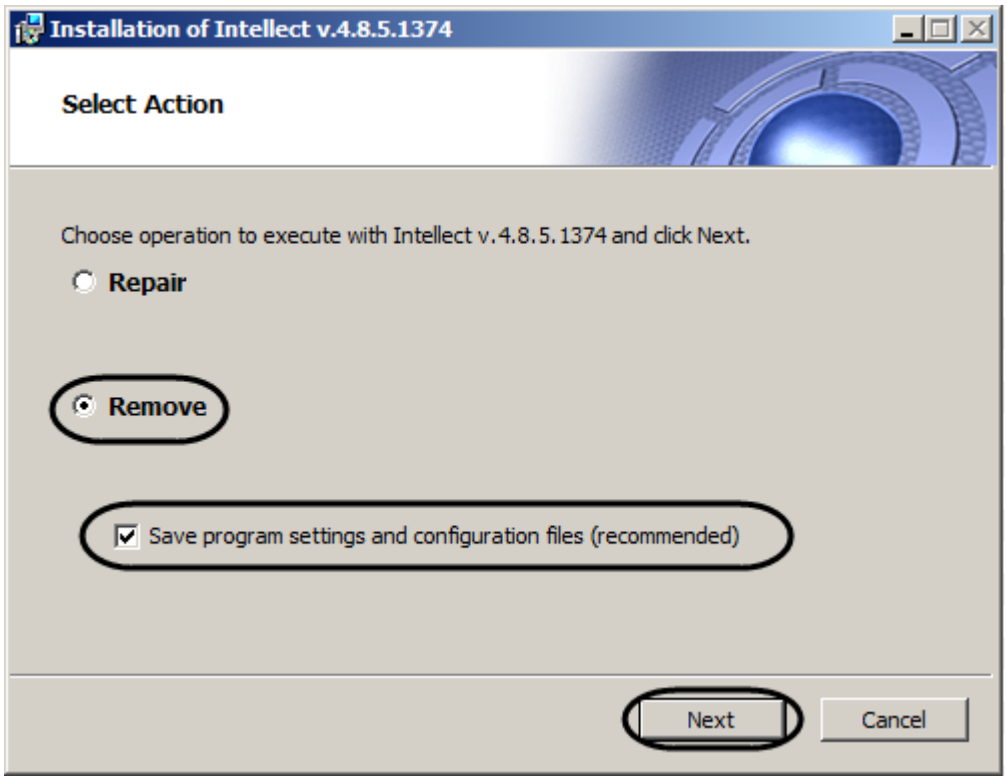


Figure 5.3—2 Remove type dialog box

2. Select “Remove” installation type (Figure 5.3—2).

3. If INTELLECT™ software settings are to be saved in the database, set the “Save program settings and configuration files (recommended)” checkbox (Figure 5.3—2).

Note. If the “sync.xml” file was changed, then after removing with saving of the configuration it will not be deleted, but the next time you install INTELLECTTM software it will be overwritten.

4. Click the “Next” button (Figure 5.3—2).

Note. Click “Cancel” to interrupt INTELLECTTM software removing.

Dialog window, displaying the deletion process of INTELLECT™ software will be displayed (Figure 5.3—3).

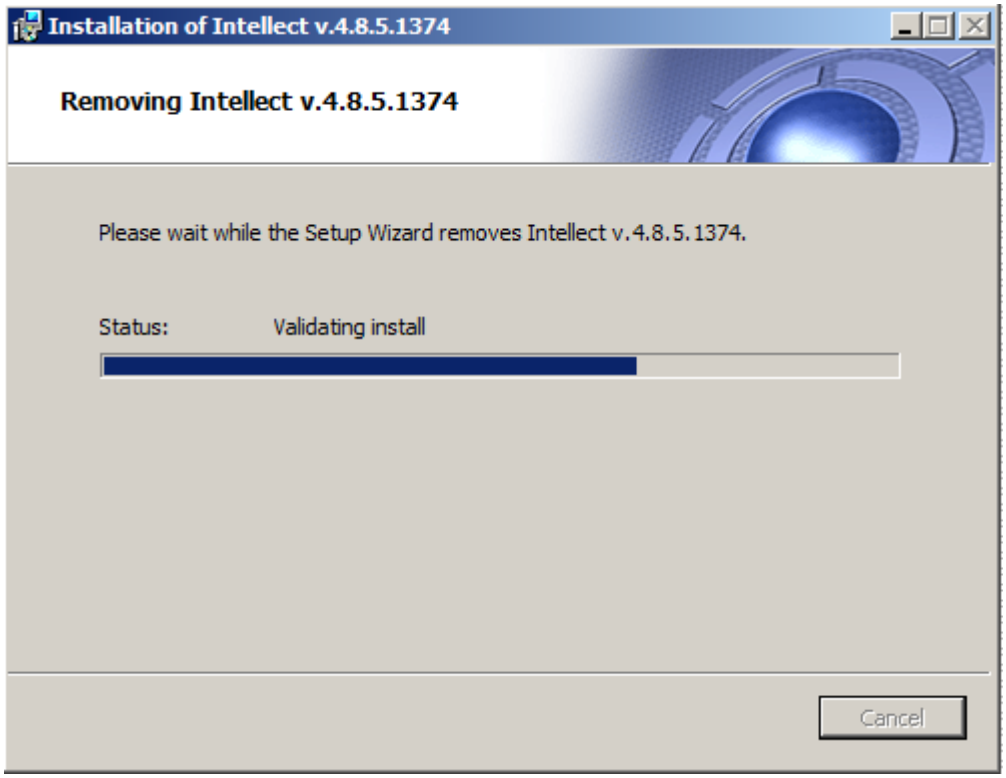


Figure 5.3—3 Intellect software deletion process

After deleting the files, message, informing about the deletion of INTELLECT™ software will be displayed (Figure 5.3—4).

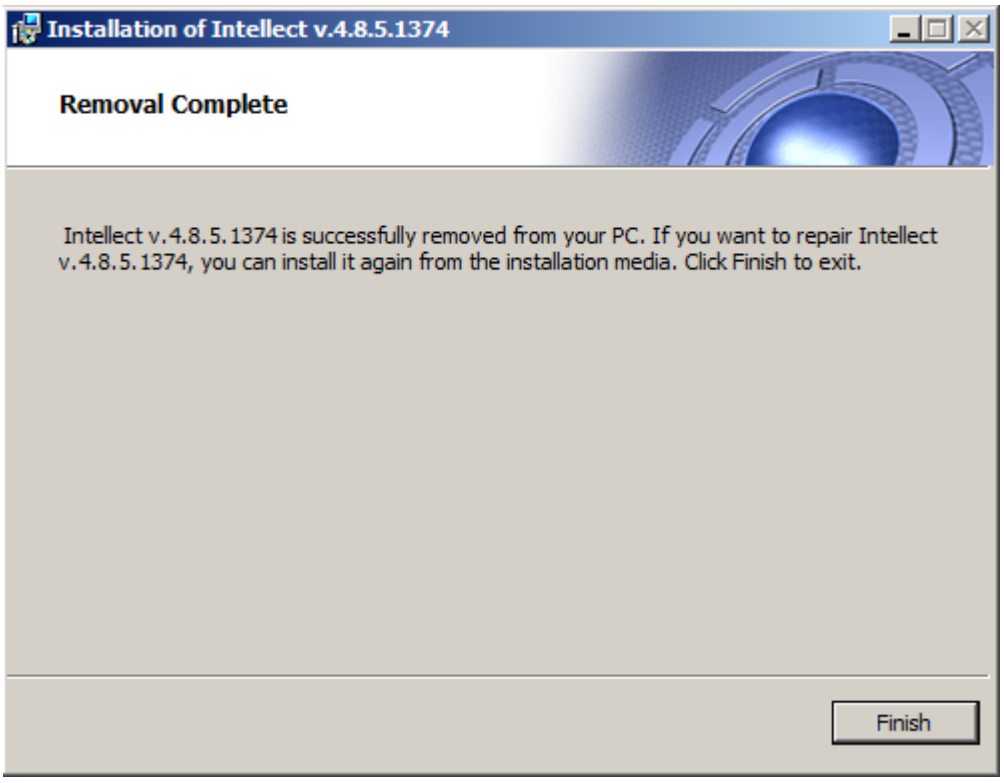


Figure 5.3—4 Intellect software deletion process

5. Click the “Finish” button.

*Note. For complete deletion of INTELLECT™ software files delete the installation catalogue and all the created Video folders for storing the audio and video recordings manually. Video (*Figure 5.3—5*).*

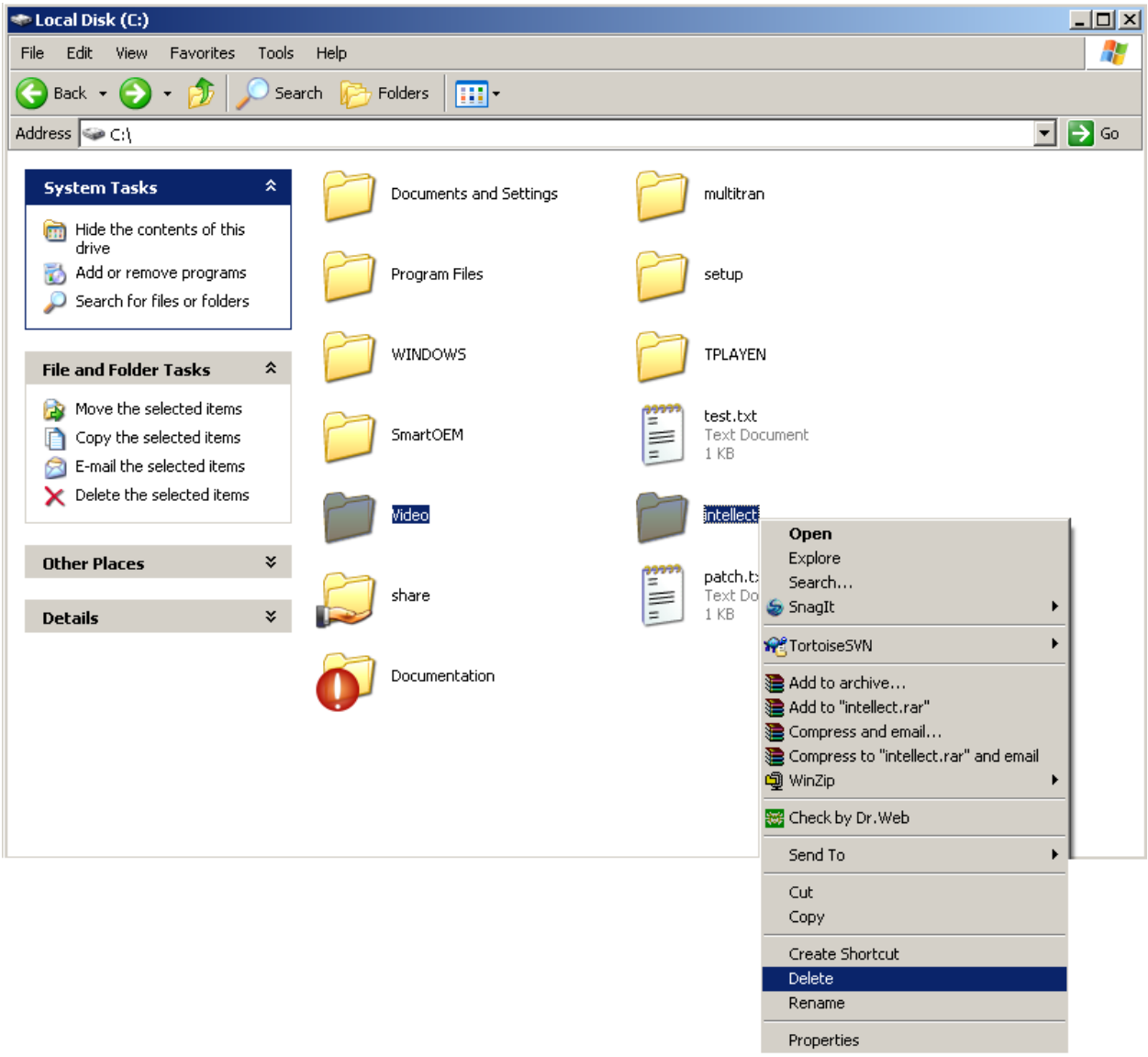


Figure 5.3—5 Deleting the catalogue and video recordings

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.

5.3.2 Removing 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 5.3—6).

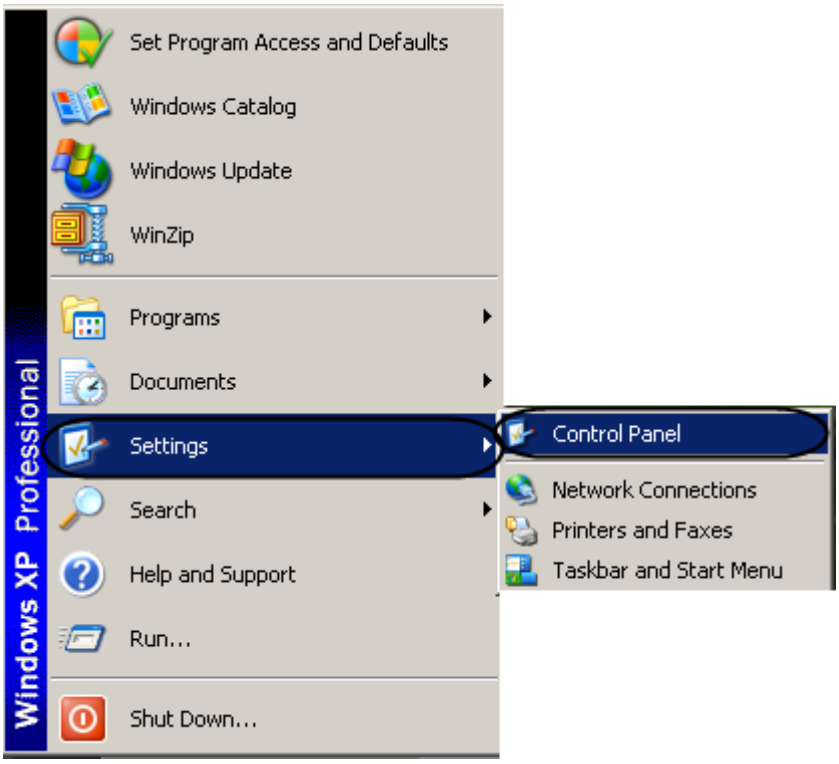


Figure 5.3—6. Opening the Control Panel window

2. Control panel dialog window will be displayed (Figure 5.3—7).

3. Select Add or Remove Programs facility in the Control Panel window.

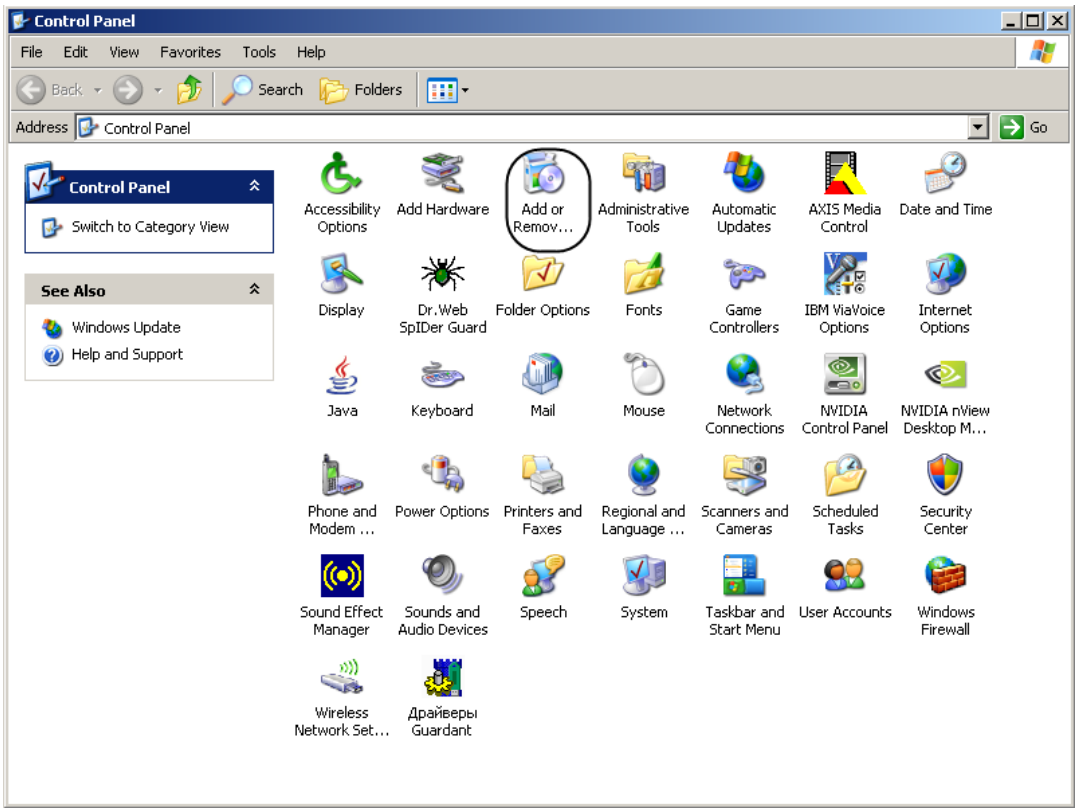


Figure 5.3—7. Control panel

Find the Intellect v.4.7.6 in the Add and Remove Programs window (Figure 5.3—8).

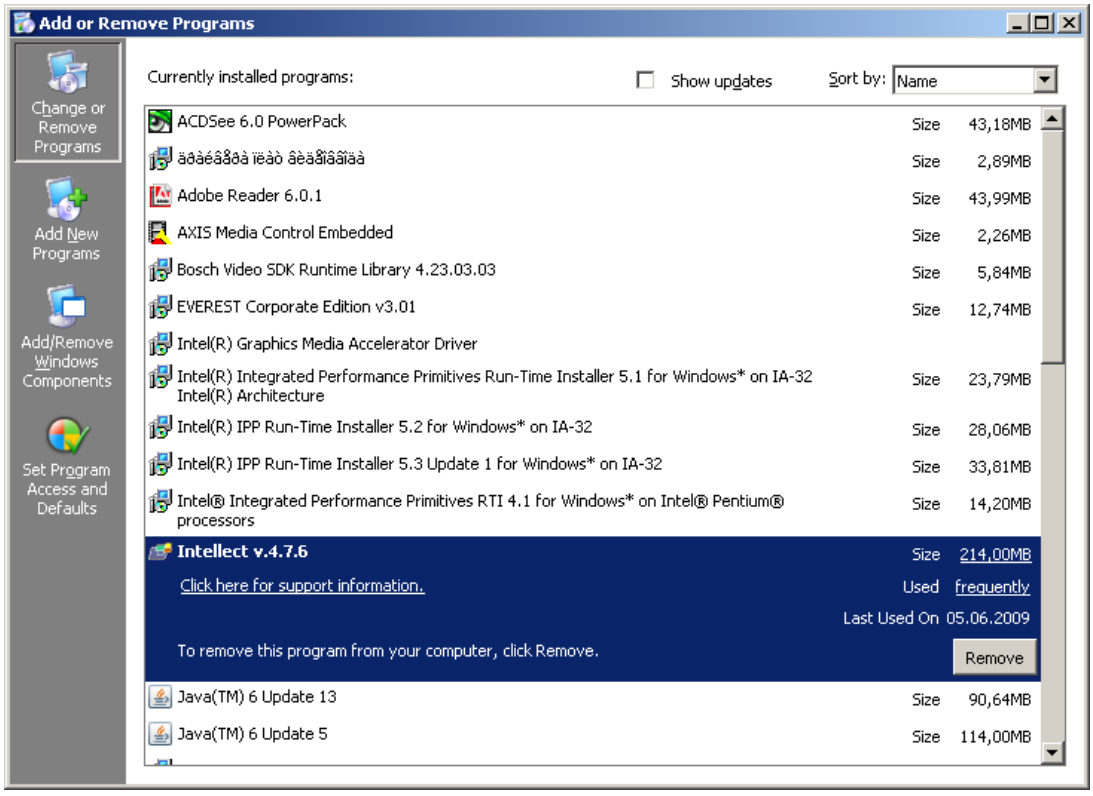


Figure 5.3—8. Add or Remove Programs

4. Click the “Remove” button next to the name of Intellect program.

As a result the “Select Action” dialog box is displayed (Figure 5.3—2).

5. Follow steps 2-5 of the instruction in section Removing INTELLECT™ software from the Start menu.

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

5.3.3 Removing INTELLECT™ software 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 5.3—9).

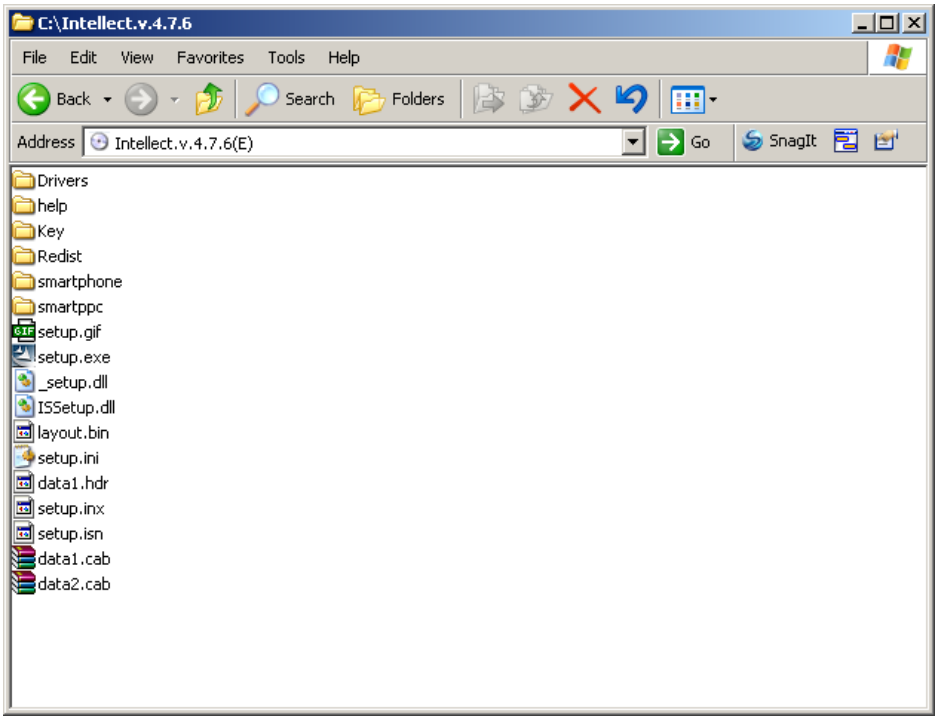


Figure 5.3—9 Interface window displaying INTELLECT installation software

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

As a result the “Select Action” dialog box is displayed (Figure 5.3—2).

3. Follow steps 2-5 of the instruction in section Removing INTELLECT™ software from the Start menu.

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

5.3.4 Removing INTELLECT™ software 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 (Figure 5.3—10).

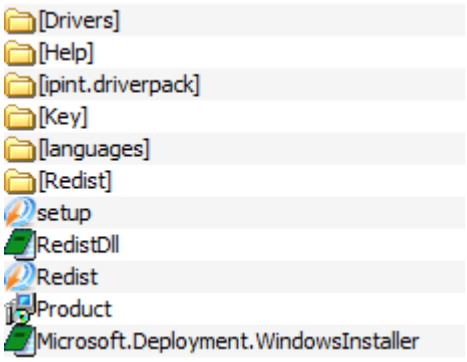


Figure 5.3—10 Contents of INTELLECT installation CD

2. Run setup.exe (Figure 5.3—10).

As a result the “Select Action” dialog box is displayed (Figure 5.3—2).

When Intellect works it will be automatically logged off (Figure 5.3—11).

Figure 5.3—11 System’s shutdown

3. Follow steps 2-5 of the instruction in section Removing INTELLECT™ software from the Start menu

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

5.4 Installing INTELLECT™ software in a hidden mode

There is possibility to run the Intellect PC in a hidden mode (without user interface).

Note. While installation program operation it may be required to restart the system. The installation will be continued automatically after the system is restart.

The redist.exe process finish in Windows task manager indicates that the program has been installed.

This installation type is performed by setting setup.exe install file parameters in the OS Windows command line. The install file parameters are given in Table 5.4-1.

Table 5.4-1 The install file parameters in the command line

The install file parameter in the command line	Description
/?	Help window call
/help	Help window call
/x	The Intellect PC deletion saving the configuration
/x/removeall	The Intellect PC deletion without saving the configuration
/uninstall	The Intellect PC deletion saving the configuration
/r	The Intellect PC repair
/repair	The Intellect PC repair
/qn	The Intellect PC installation
/quiet	The Intellect PC installation
/norestart	Disabling the auto restart of the system while it is being installed
/LANG=”ru”	Russian language selection of installation program
/LANG=”en”	English language selection of installation program
/INSTALLTYPE="Client"	Monitor workstation installation type
/INSTALLTYPE="Server"	Server installation type selection
/INSTALLTYPE="Admin"	Administrator installation type selection
/ADD="[]"	A list of components necessary for installation. Is used if a component is to be installed that is not installed on default. Possible values are given in Table 5.4-2.
/REMOVE="[]"	A list of components that should not be installed. Possible values are given in Table 5.4-2
/CMD="[commands]"	Values of functions for basic installation program. Where commands mean [Function] =\"[Value]\" or [Function] ='[Value]'. Available functions of installation program are given in Table 5.4-3

Note. In the help window of installation program there are two examples identical in functional which differ by type of parameter's entering /CMD (Table 5.4-1, parameter's value /CMD).

Table 5.4-2 Possible parameter values /ADD and /REMOVE

Architecture x86	Architecture x64
BaseIntellect	BaseIntellect
IPDriverPack	IPDriverPack
Acrobat	Acrobat
ActiveSync_x86	ActiveSync_amd64
dotnetfx35_x86	dotnetfx35_x86
IPP53_x86	IPP53_x86
JRE_x86	JRE_ amd64
MFC_8_x86	MFC_8_x86
MsXml Redist2005_x86	MsXml Redist2005_x86
SQLServer2008_x86	SQLServer2008_ amd64
WindowsInstaller_x86	WindowsInstaller_ amd64
WindowsPowerShell20_x86	WindowsPowerShell20_x amd64
Guardant_x86	Guardant_ amd64
Dotnet40	Dotnet40

Table 5.4-3 Installation program features

Installation program features	Description
CREATE_QUICKLAUNCH_SHORTCUT='1'	Create quick launch shortcut (is used on default)
CREATE_QUICKLAUNCH_SHORTCUT='0'	Do not create quick launch shortcut
CREATE_DESKTOP_SHORTCUT='1'	Create shortcut on the desktop (is used on default)
CREATE_DESKTOP_SHORTCUT='0'	Do not create shortcut on the desktop
ADDLOCAL='[]'	A list of components for installation. Available values : 1) Utils – the utilities, included in the Intellect PC< are installed 2) AxxonSoft VideoDrivers – drivers by AxxonSof company are installed; 3) Wav – voice notification files are installed. All the components are installed without ADDLOCAL='[]'

	command. Example. ADDLOCAL='Wav' –the Intellect PC and voice notification files are installed.
REMOVE='[]'	A list of components that are not required to be installed. Available values: 1) Utils – the utilities, included in the Intellect PC are not installed; 2) AxxonSoft VideoDrivers – drivers by AxxonSoft company are not installed; 3) Wav – voice notification files are not installed. All the components are installed without REMOVE='[]' command. Example. REMOVE ='Utils' – Intellect PC, divers and voice notification files are installed. The utilities are not installed.
Installation types functions «CServer» and «Administrator workstation»:	
INSTALL_AS_SERVICE='1'	Installation as a service
PATHTOKEYFILE='[%SourceDir%\Key]'	Stating the path to the key file
LANGUAGE='[en]'	Select language of the Intellect PC
SQL_AUTHTYPE='Windows'	User authentication method selection « Windows accounts»
SQL_AUTHTYPE='Sql'	User authentication method selection « SQL authentication »
SQL_USERNAME='[sa]'	Setting the user name by method «SQL authentication»
SQL_PASSWORD='[]'	Setting the password by method «SQL authentication»
General functions:	
DB_INTELLECT_NAME='[intellect]'	Stating the main database. Is not actual when SQL_AUTHTYPE='Windows'
DB_TITLES_NAME='[titles]'	Stating the titles database. Is not actual when SQL_AUTHTYPE='Windows'
SQL_INSTANCE='[(local)\SQLEXPRESS]'	Stating the database server. Is not actual when SQL_AUTHTYPE='Windows'

Example of running the Intellect PC installation program in a hidden mode:

setup.exe /quiet /LANG="ru" /INSTALLTYPE="Admin" /REMOVE="Acrobat Guardant_x86" /CMD="CREATE_QUICKLAUNCH_SHORTCUT=\"0\" INSTALL_AS_SERVICE=\"1\" LANGUAGE=\"de\" SQL_AUTHTYPE=\"Sql\" SQL_USERNAME=\"username\" SQL_PASSWORD=\"pass\" SQL_INSTANCE=\"(local)\SQLEXPRESS\" DB_INTELLECT_NAME=\"intellectNew\"

DB_TITLES_NAME=\"titlesNew\" INSTALLDIR=\"%ProgramFiles%\IntellectNew\" REMOVE=\"Wav,Utils\""

In result the installation file setup.exe will be run with following parameters:

1. Installation program will install the Intellect PC in a hidden mode (/quiet);
2. Installation program language– Russian(/LANG="ru");
3. Installation type – «Administrator workstation» (/INSTALLTYPE="Admin");
4. The following components are not installed: Adobe Acrobat, Guardant drivers. (/REMOVE="Acrobat Guardant_x86");
5. Installation is performed with following features (/CMD=):
    5.1 Without creating the quick launch shortcut (="CREATE_QUICKLAUNCH_SHORTCUT=\"0\");
    5.2 The Intellect PC is installed as a service (INSTALL_AS_SERVICE=\"1\");
    5.3 Language of installed Intellect PC is German (LANGUAGE=\"de\");
    5.4 Authentication method – «SQL authentication » (SQL_AUTHTYPE=\"Sql\");
    5.5 Login – username (SQL_USERNAME=\"username\");
    5.6 Password – pass (SQL_PASSWORD=\"pass\");
    5.7 Database server – (local)\SQLEXPRESS (SQL_INSTANCE=\"(local)\SQLEXPRESS\");
    5.8 Main database– intellectNew (DB_INTELLECT_NAME=\"intellectNew\");
    5.9 Titles database – titlesNew (DB_TITLES_NAME=\"titlesNew\");
    5.10 Installation path - %ProgramFiles%\IntellectNew (INSTALLDIR=\"%ProgramFiles%\IntellectNew\");
    5.11 Utilities and voice notification files are not installed (REMOVE=\"Wav,Utils\").

5.5 Setting up Cluster Service for Intellect server

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

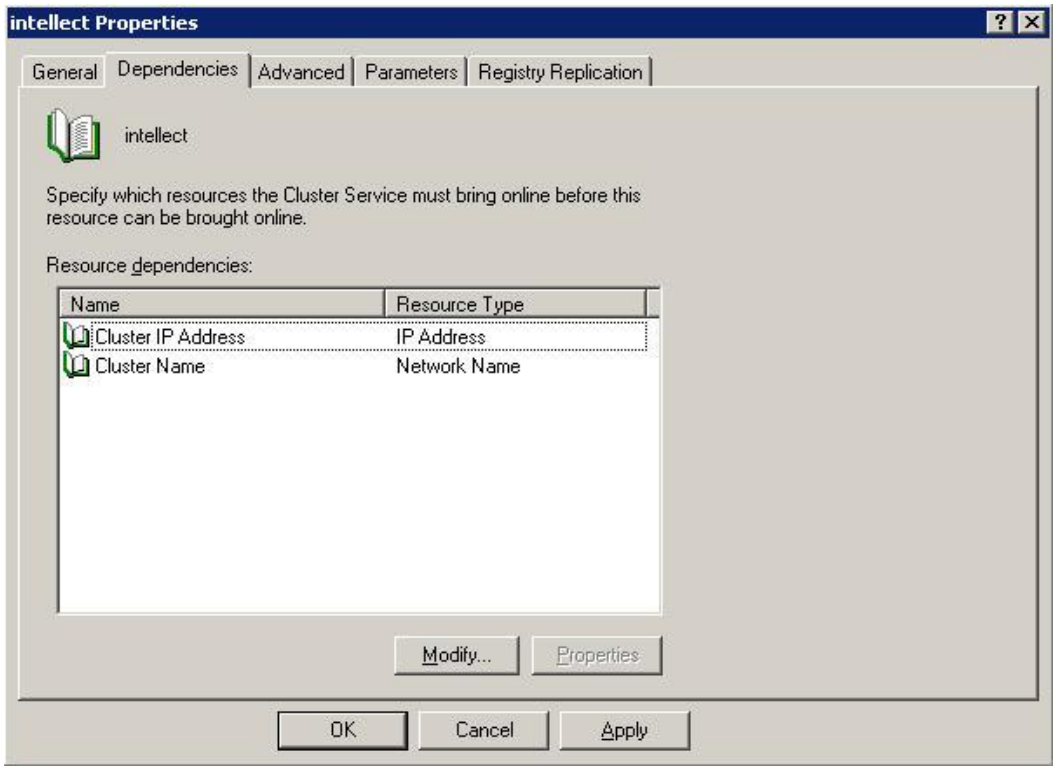


Figure 5.5—1The Dependencies tab

   a. Click the "Apply" button to save the changes

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

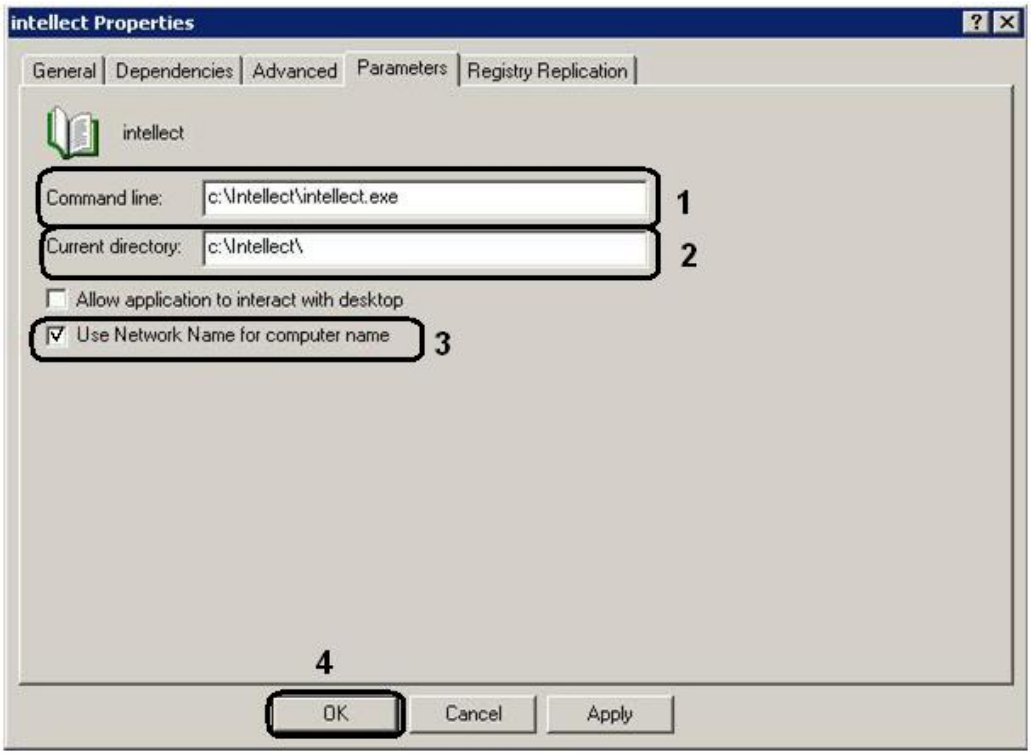


Figure 5.5—2«Parameters» tab

c. To use the network name as computer's name set the **Use Network Name for computer name** checkbox (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 Connection to Cluster** window select the **Create new cluster** item from the **Action** dropdown list (Figure 5.5—3)

Figure 5.5—3 Creating a new cluster

6.3.Click **OK** to continue

6.4. The **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.
6.6.Enter in the opened window (Figure 5.5—5):

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

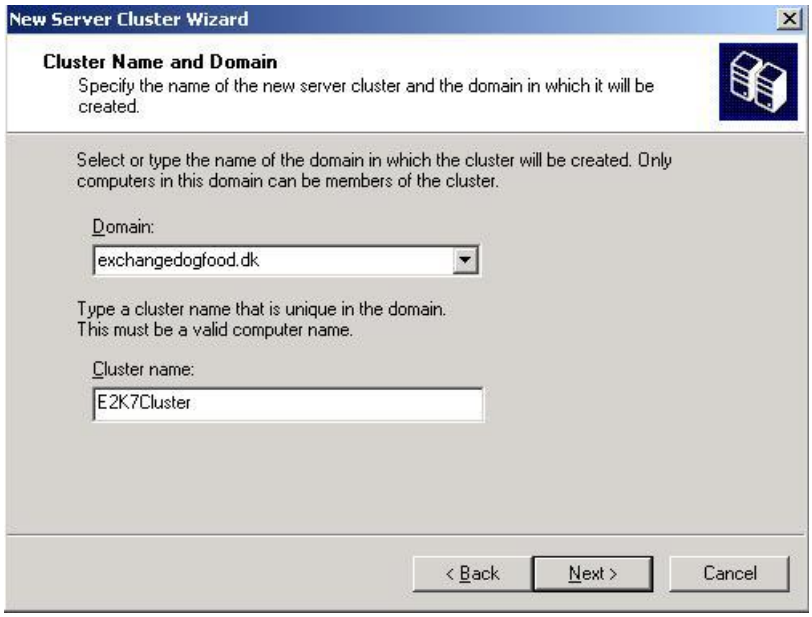


Figure 5.5—5 Domain and cluster's name

6.7. Click **Next** to continue

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

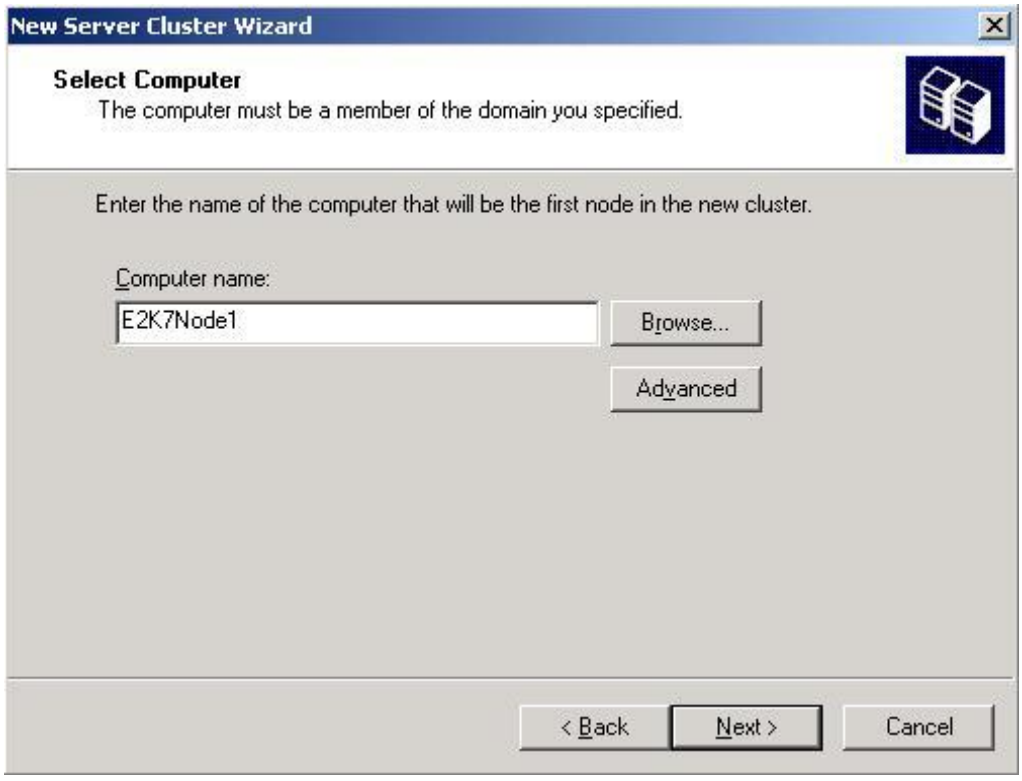


Figure 5.5—6 Adding the first node in the cluster

6.9. Click **Next** to continue

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

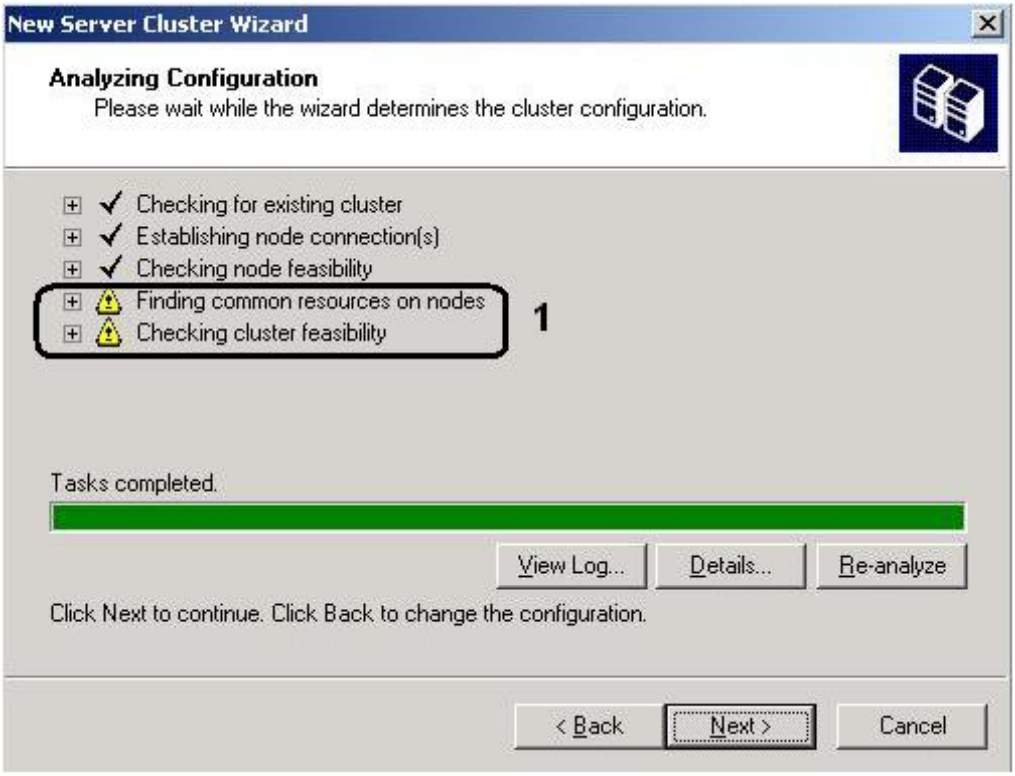


Figure 5.5—7 Analysis of cluster's configuration

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**

6.12. The window will open in result (Figure 5.5—8), where IP address should be entered in the **IP Address:** edit text field 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

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) .

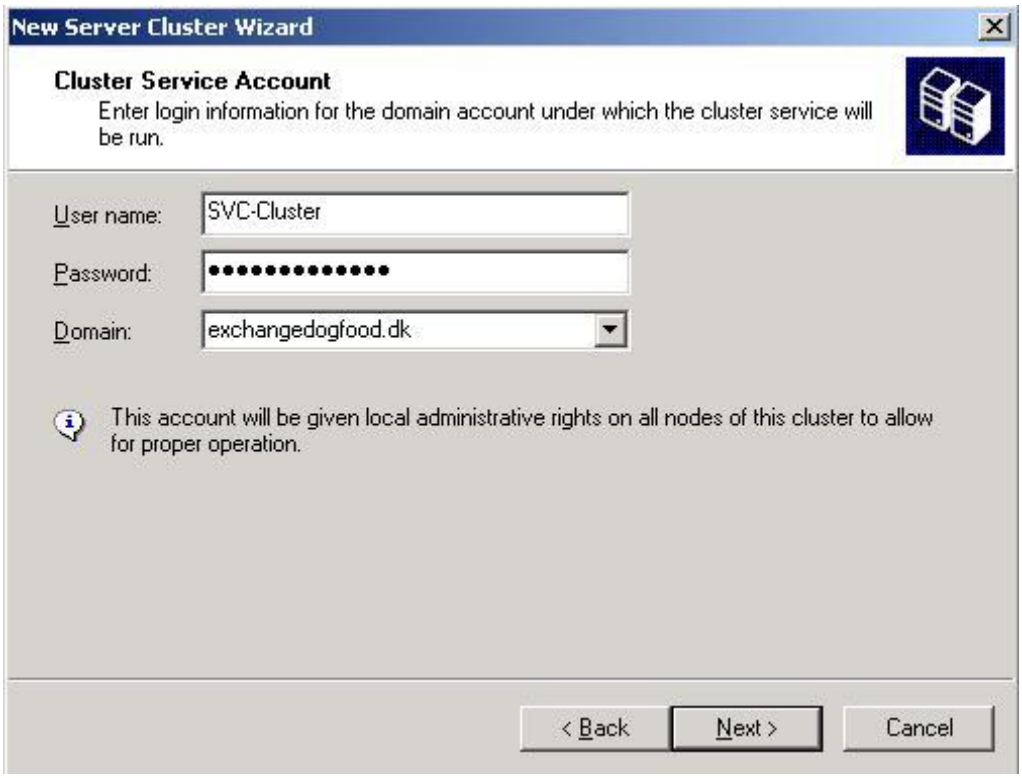


Figure 5.5—9 Cluster Service account

6.15. Click **Next** to continue

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

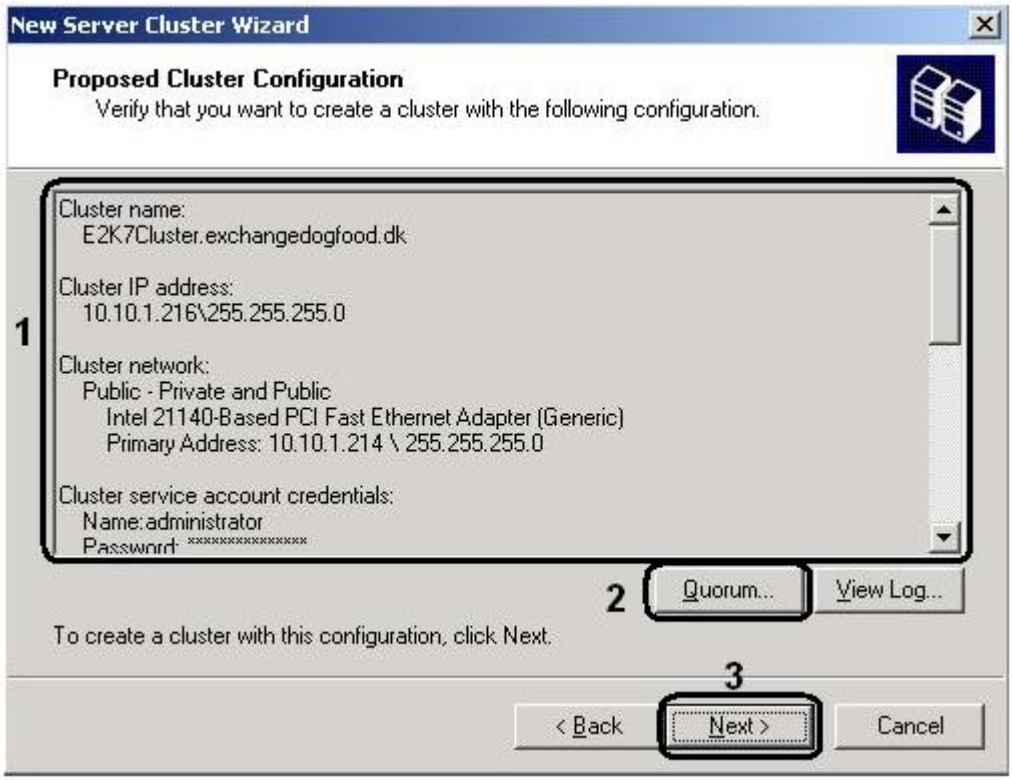


Figure 5.5—10 Cluster's settings

6.17. Then **Quorum** is to be clicked (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** is to be selected in the dropdown list.

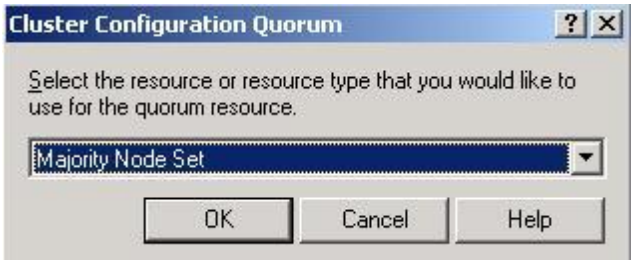


Figure 5.5—11 Setting up the resource type

6.19. Click **OK** to confirm

6.20. Click **Next** to continue (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**.

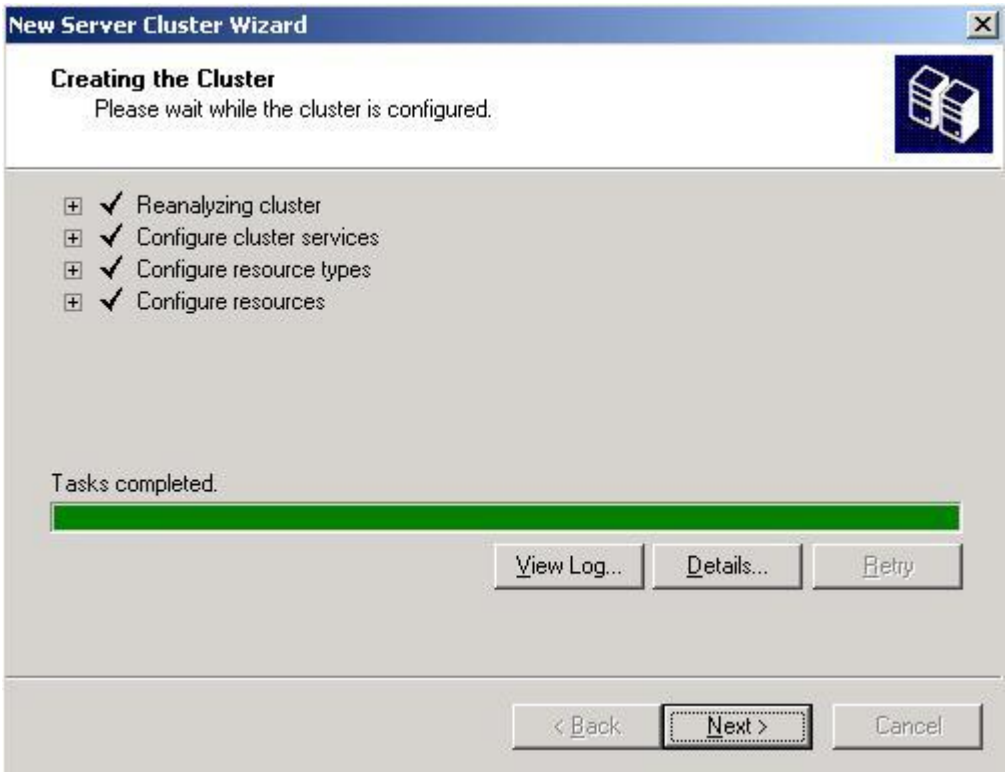


Figure 5.5—12 Creating the cluster

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.

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» (Figure 5.5—14).

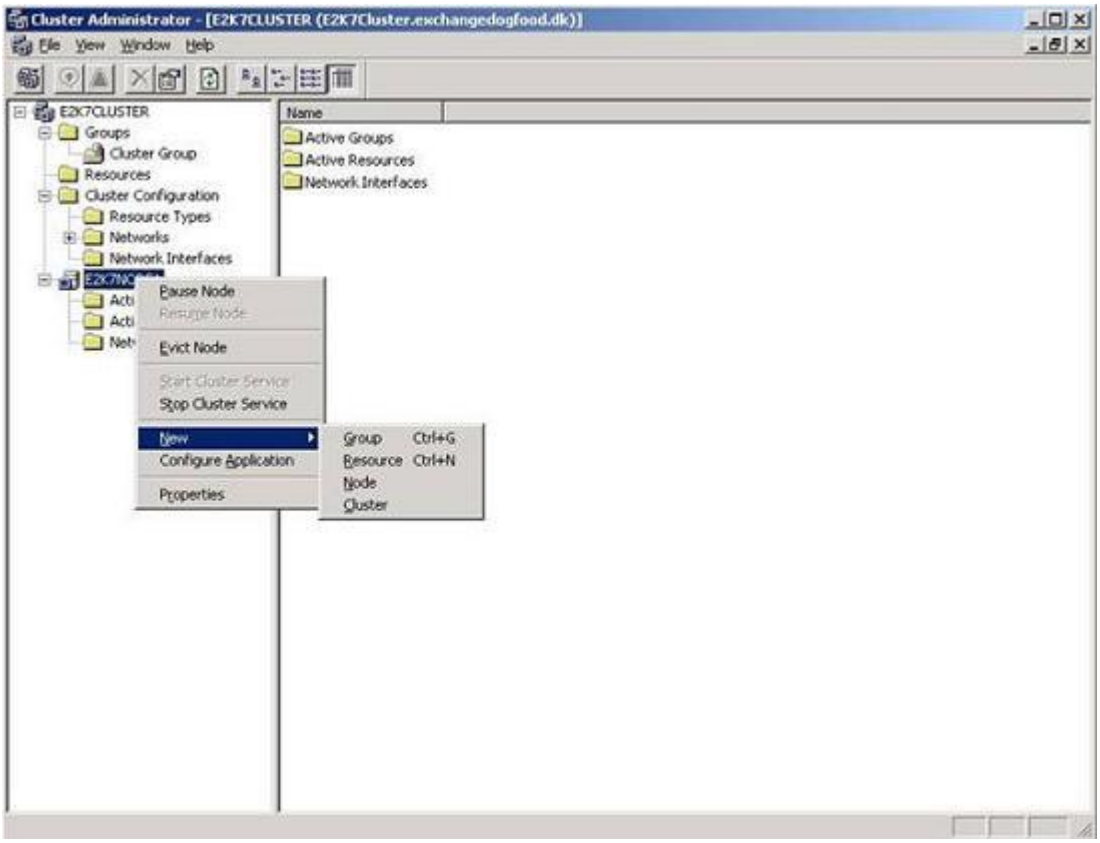


Figure 5.5—14 Adding the second node

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.

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

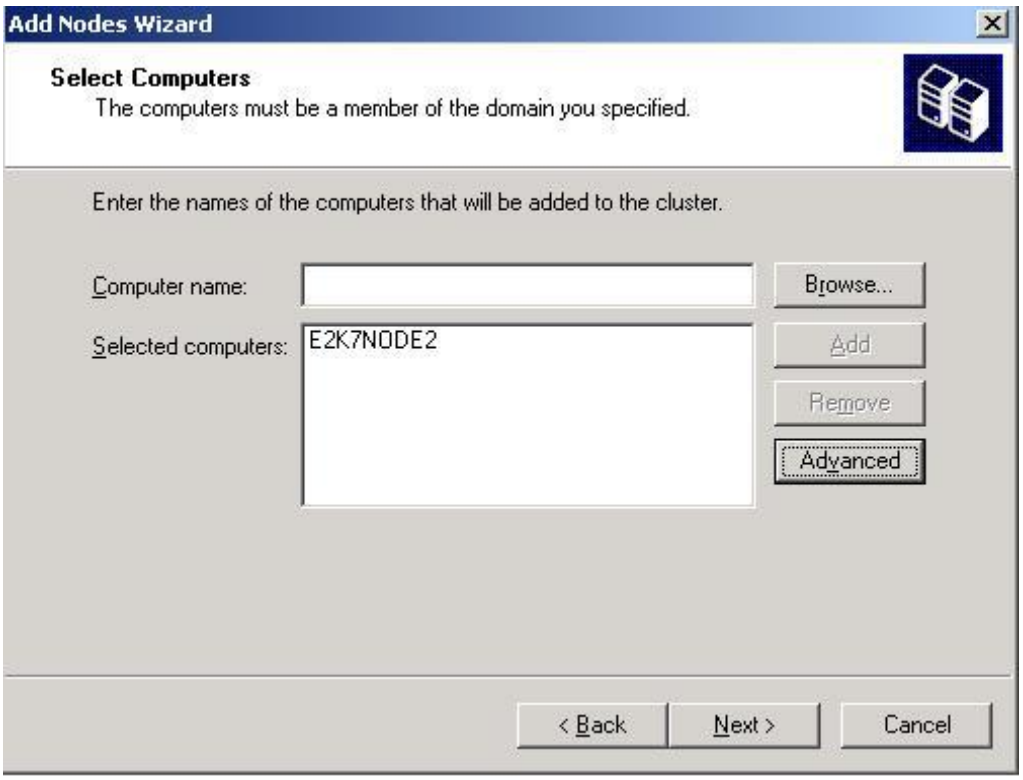


Figure 5.5—16 Entering the name of the second node

6. Click **Next** to continue.

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

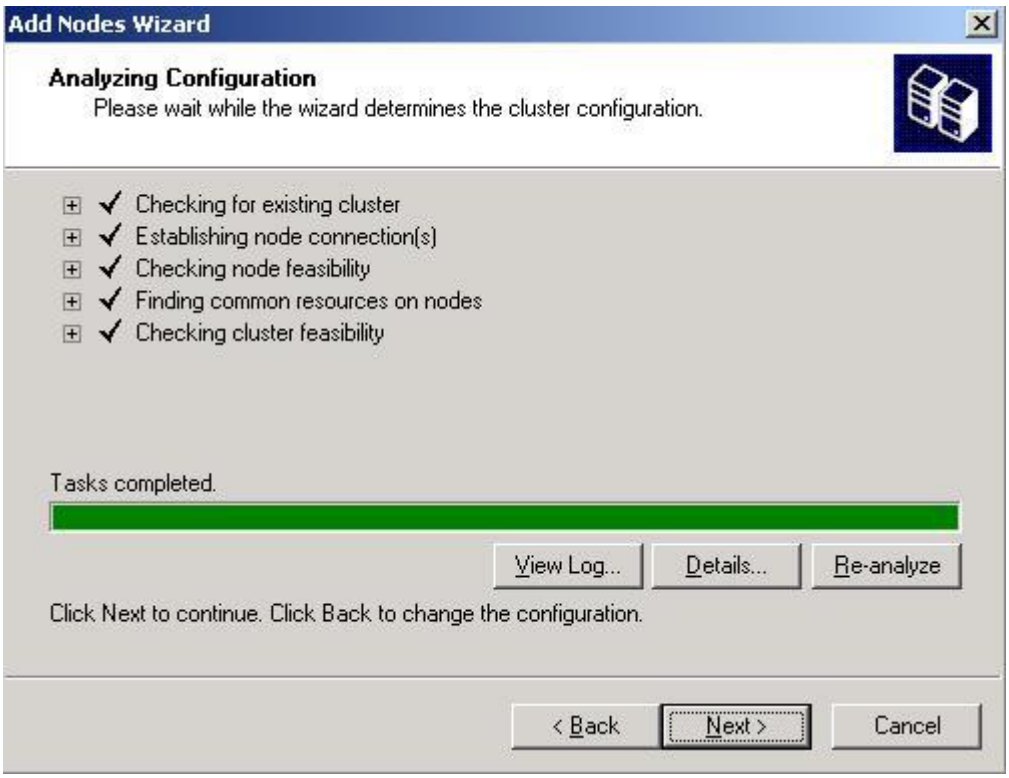


Figure 5.5—17 Cluster configuration analysis

8. Click **Next** to continue.

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 **Domain:** dropdown list (Figure 5.5—18).

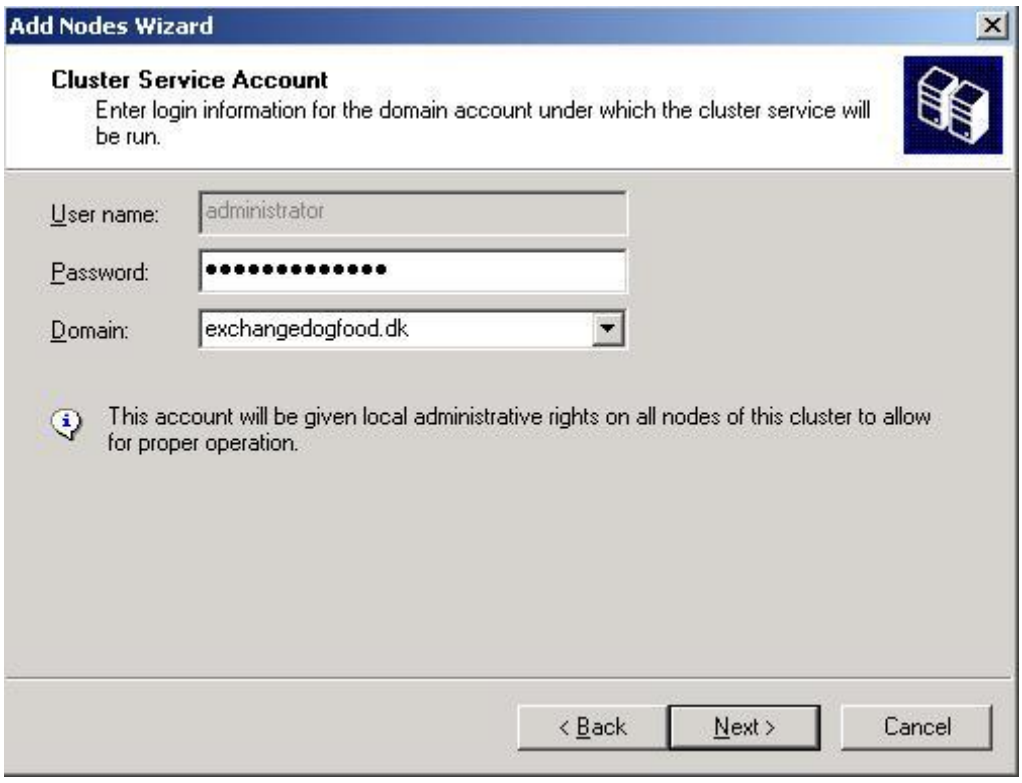


Figure 5.5—18 Entering the password of cluster service account

10. Click **Next** to continue.

11. When the second node's configuration has been checked, it is necessary to click **Next** in the opened window (Figure 5.5—19).

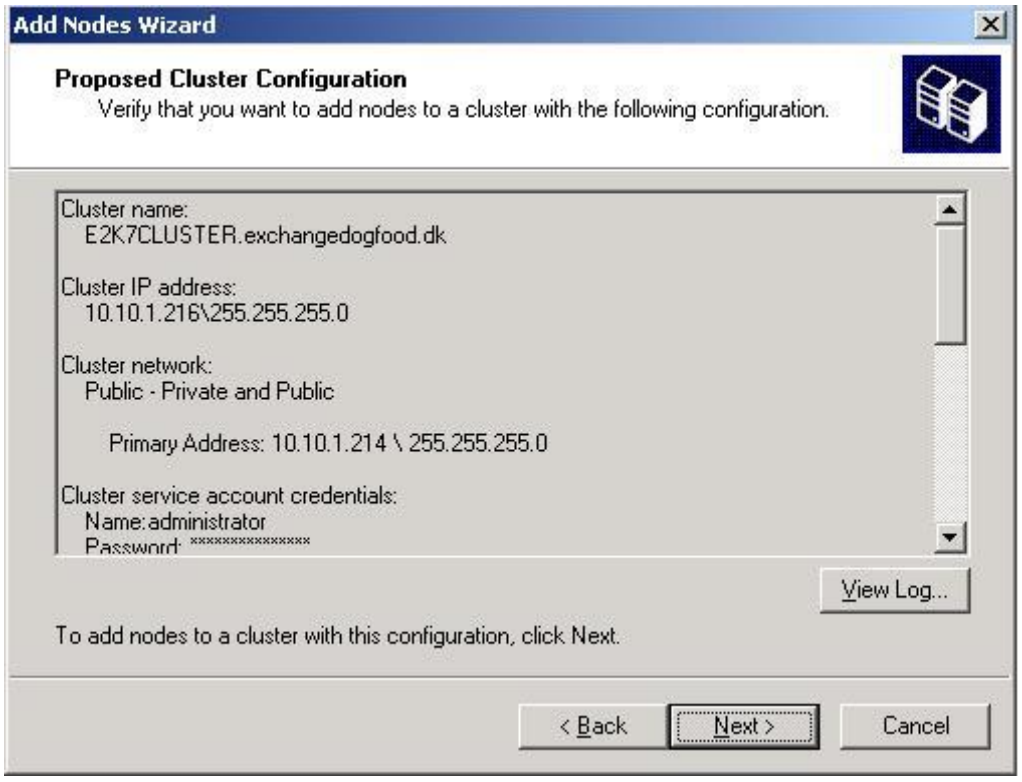


Figure 5.5—19 Cluster's second node configuration

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

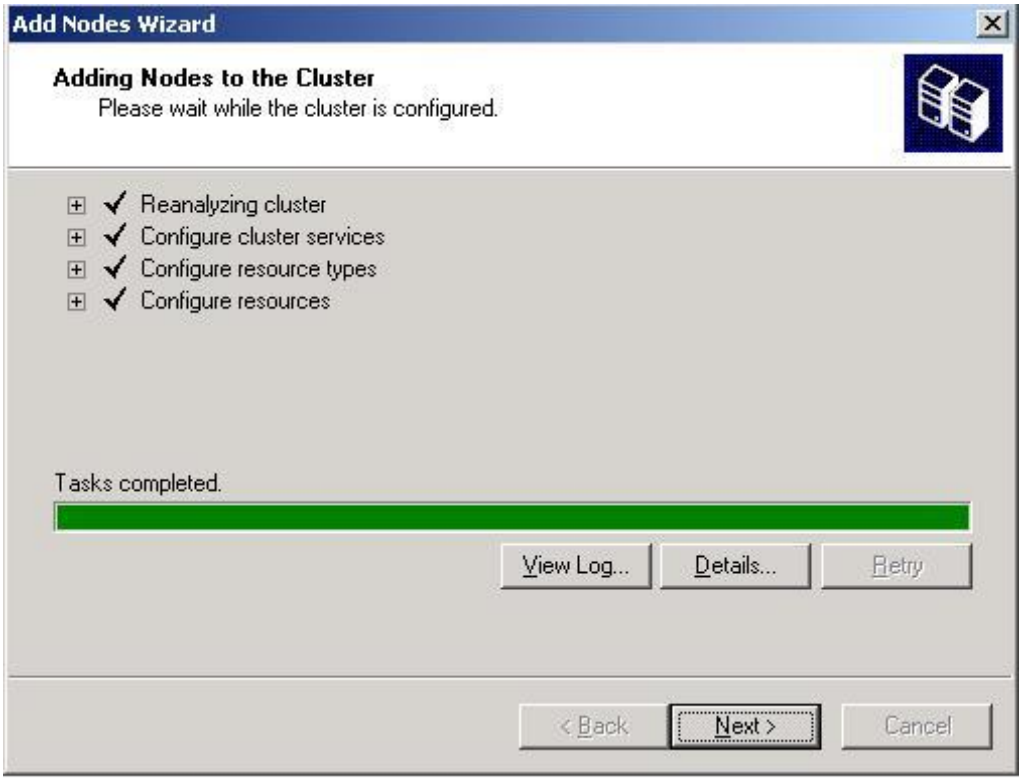


Figure 5.5—20 The cluster is set for the second node

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

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.

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

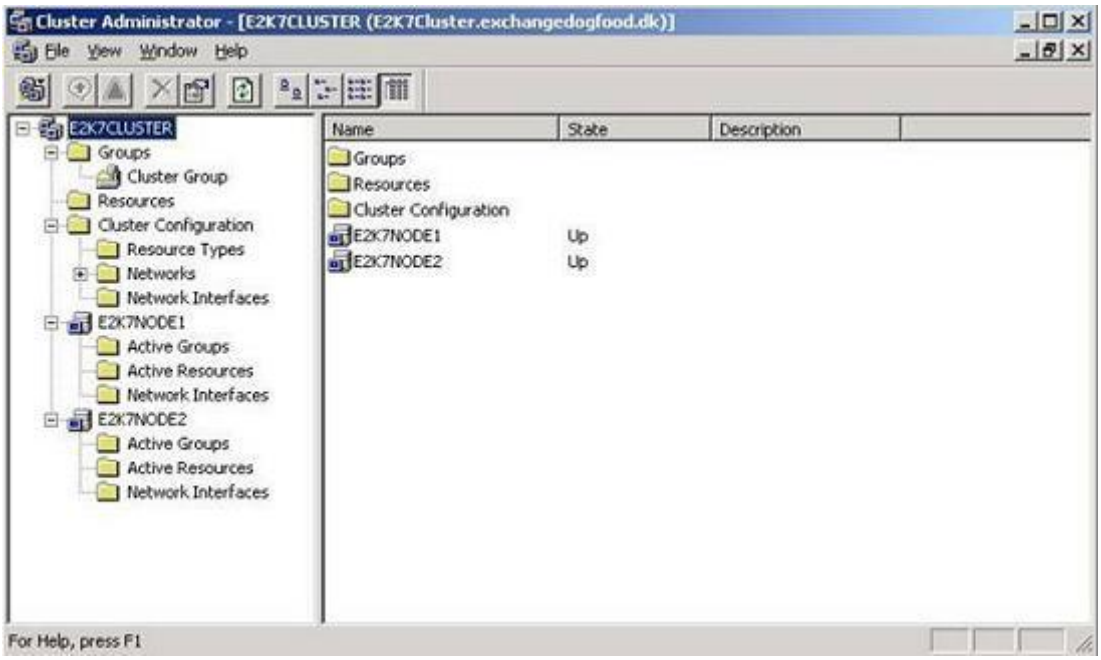


Figure 5.5—22 Two nodes of the cluster

6 Configuring system startup and shutdown

6.1 Configuration of Intellect™ software startup

6.1.1 Possible options for Intellect™ software startup

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. By entering the login and 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 entering any login and 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 startup 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).

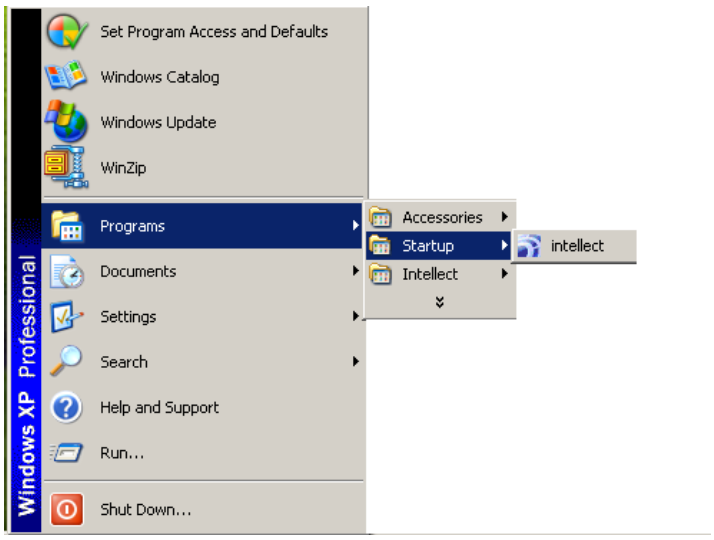


Figure 6.1—1. Example of displaying the Intellect™ software launch file icon in the Startup group of the Start menu

6.1.3 Configuring Intellect™ system automatic startup 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 shutting Intellect™ system down

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 login and 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).

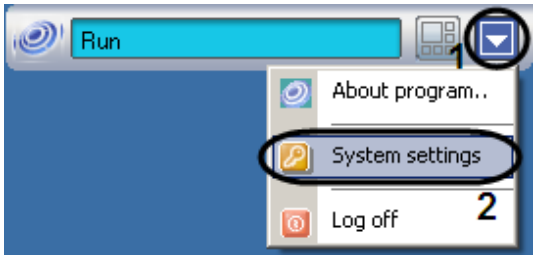


Figure 7.2—2. System settings dialog box startup

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.

Note! While changing the screen resolution it is necessary to restart the Intellect PC for dialog windows correct displaying.

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).

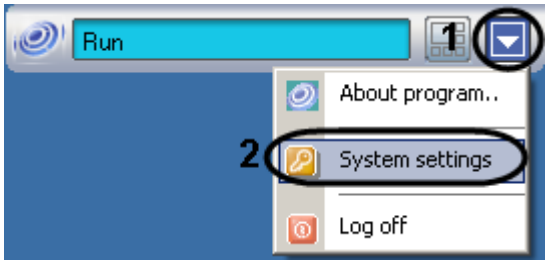


Figure 7.2—4. Selecting the System settings from the menu again

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);

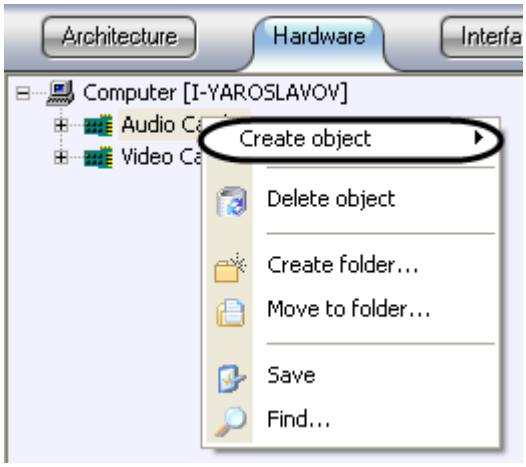


Figure 7.3—5. Selecting Create object in the Main functions menu

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

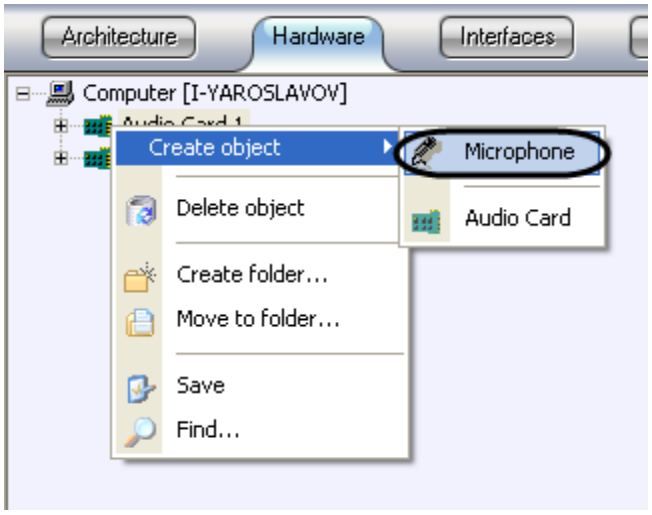


Figure 7.3—6. Selecting Microphone as a new object to create

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).

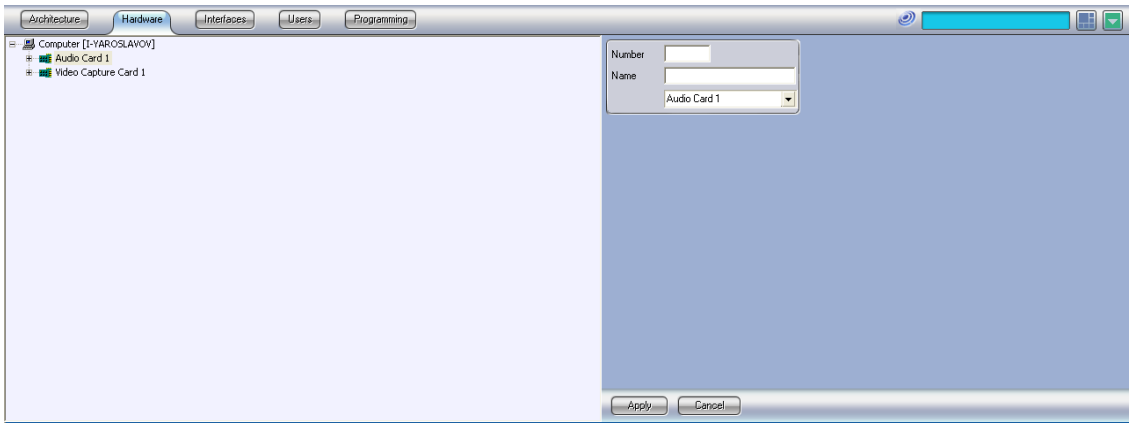


Figure 7.3—7. An identification panel

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);

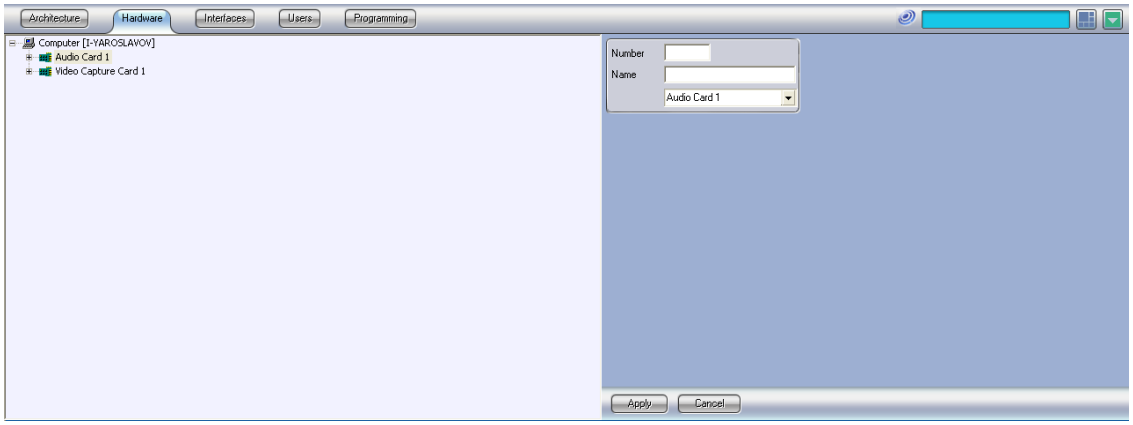


Figure 7.3—9. The Apply button

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).

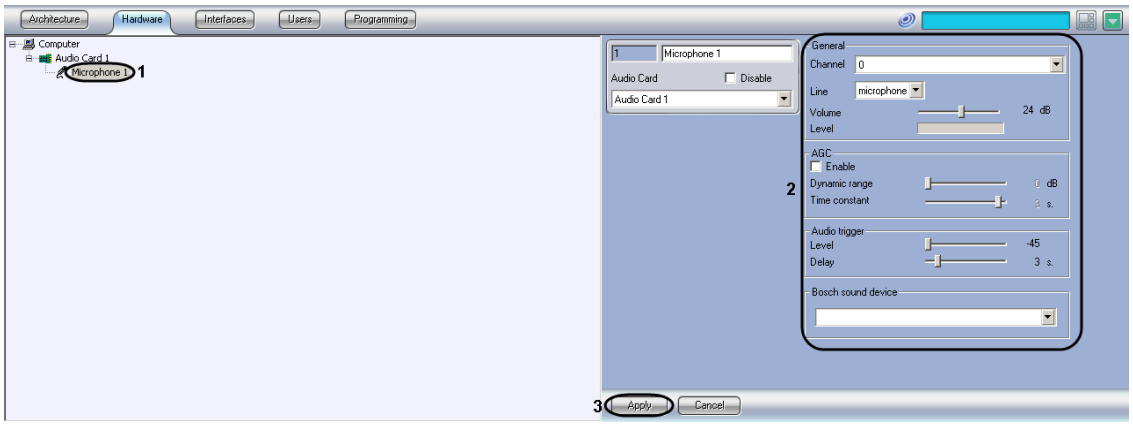


Figure 7.3—11. Object editing steps

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);

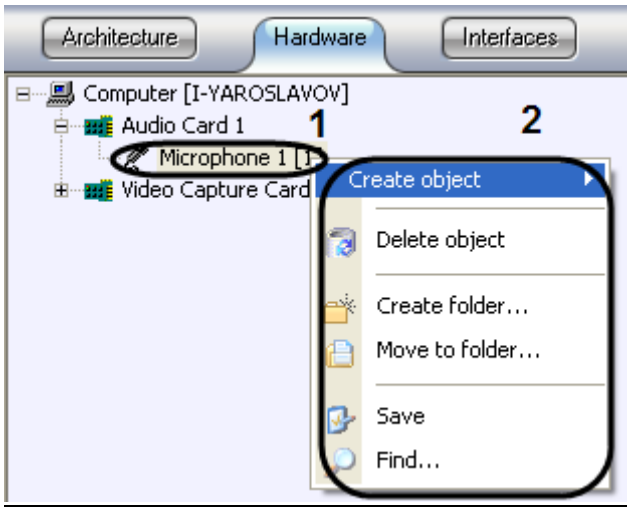


Figure 7.3—12. Selecting an object for deletion

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

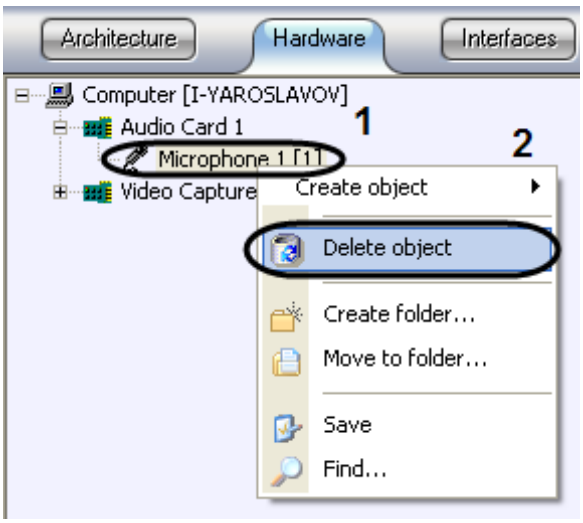


Figure 7.3—13. Selecting Delete object in the menu

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 Configuring the INTELLECT™software system with distributed architecture of the digital video surveillance system

8.2.1 General principles of designing the digital video surveillance system with distributed architecture

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 Selecting 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.

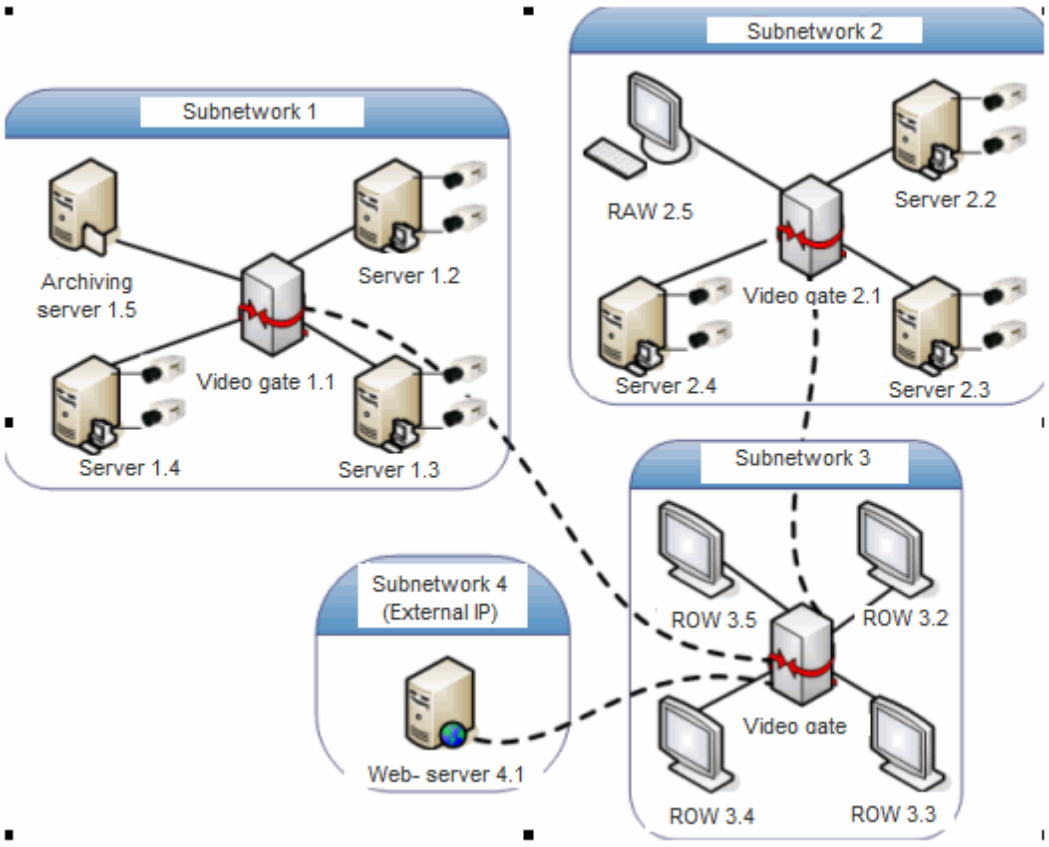


Figure 8.2—1. Example of a distributed video surveillance system

8.2.4 Synchronizing the databases of servers and remote workstations

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).

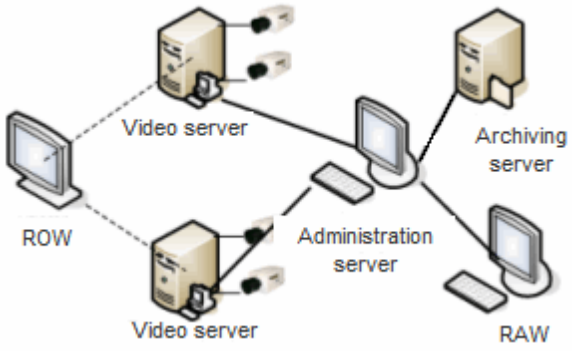


Figure 8.2—2. The simplest database synchronization

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).

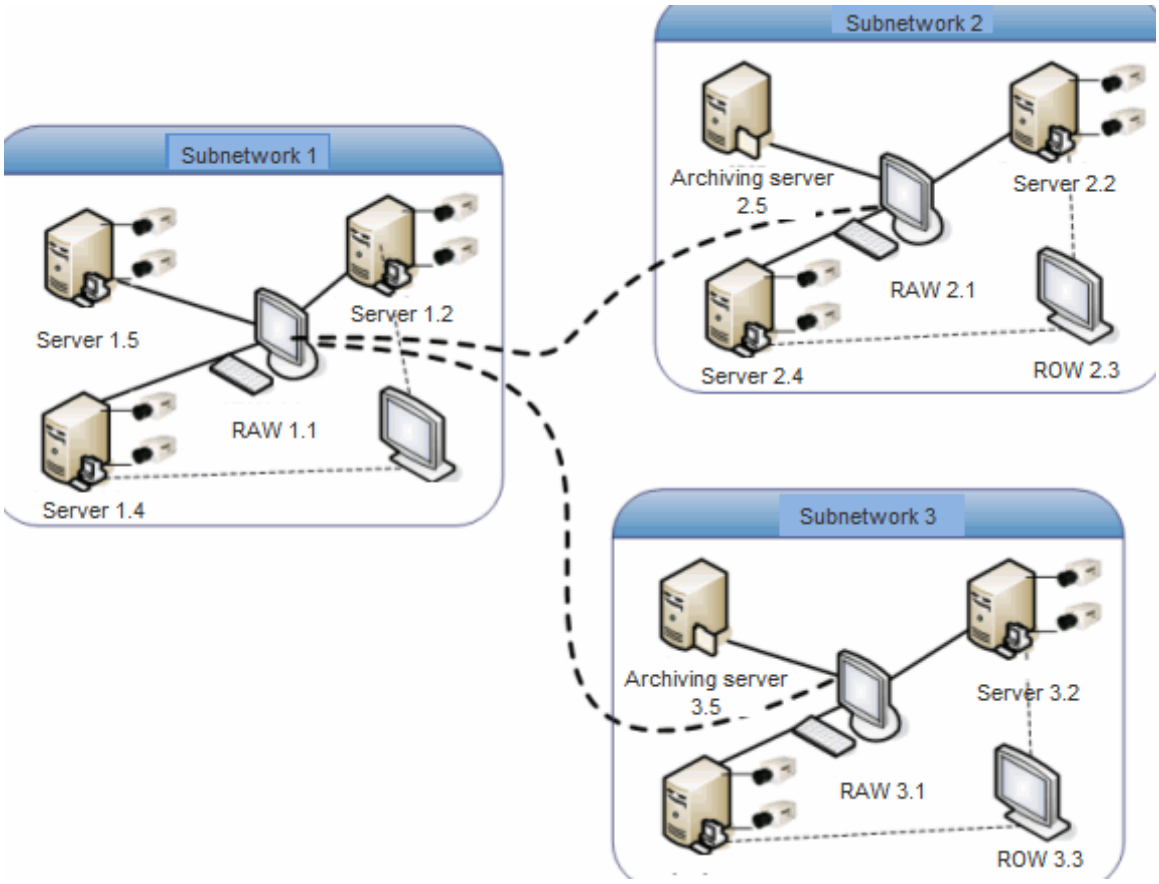


Figure 8.2—3. Example of a distributed video surveillance system with selected subnets

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).

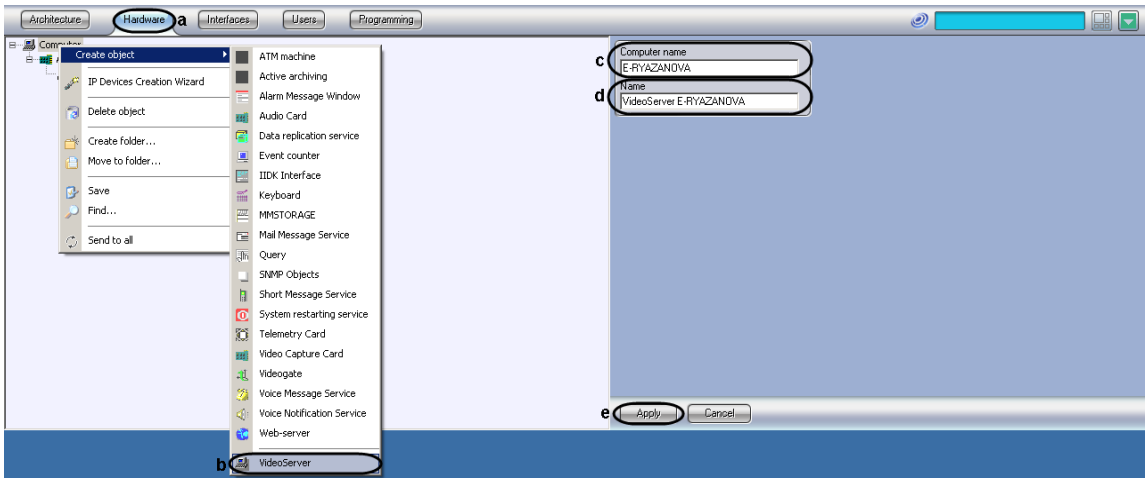


Figure 8.2—4. Server, Remote Admin Workstation or Remote Monitoring Workstation registration

    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).

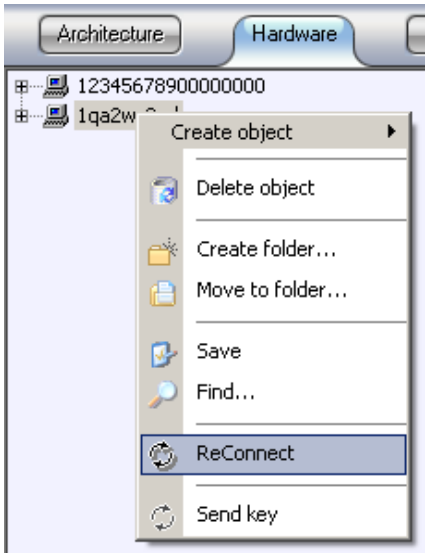


Figure 8.2—5. Forced Server, Remote Admin Workstation or Remote Monitoring Workstation connection

Registration of servers, Remote Admin Workstations and Remote Monitoring Workstations on the administering server is completed.

8.2.6 Configuring the interaction of distributed system components

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).

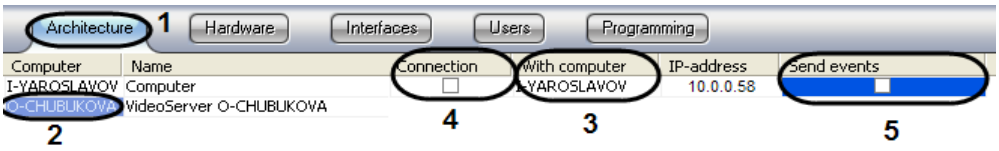


Figure 8.2—6. Settings of the distributed system components interaction

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.

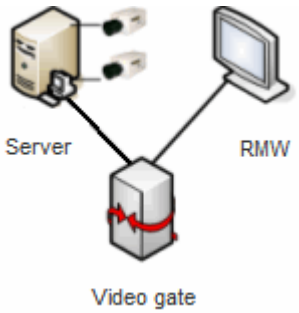


Figure 8.2—7. Server and Remote Admin Workstation connection via video gate

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).

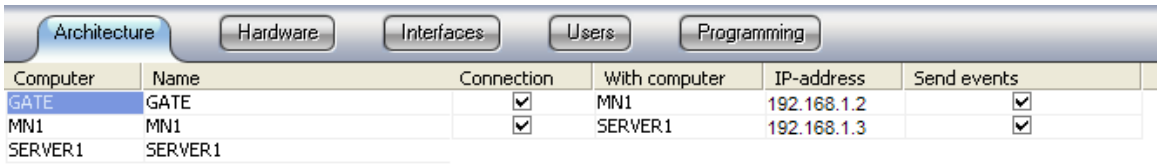


Figure 8.2—8. Interaction settings for the video gate (GATE), the server (SERVER1) and Remote Monitoring Workstation (MN1).

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).

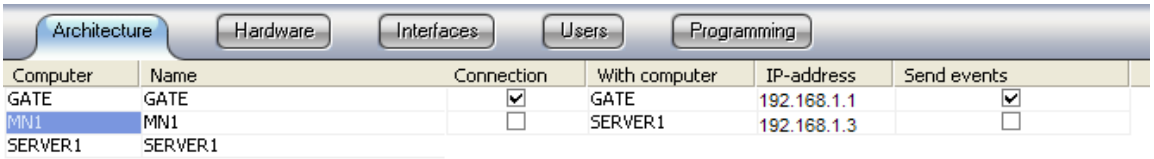


Figure 8.2—9. Interaction settings for the Remote Monitoring Workstation (MN1), the video gate (GATE) and the server (SERVER1)

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).

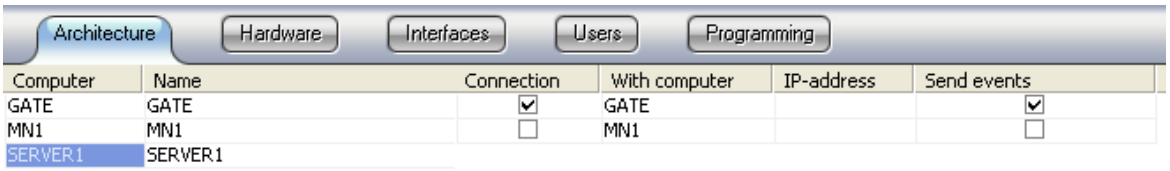


Figure 8.2—10. Interaction settings for the server (SERVER1), the video gate (GATE) and Remote Monitoring Workstation (MN1)

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.

8.2.7 Operation of distributed architecture in the failover mode

Distributed architecture can operate in the failover mode. If the connection with one of distributed system Servers fails, then this mode enables moving the configuration created under the Server to to standby Server.

Attention! In the failover mode it is recommended to store the multimedia archive on the network media in order to avoid the archive distribution between main and standby Servers (see Using the network disks section).

To configure the failover mode configure standby Servers as follows:

1. Create the **Failover** object under the **Computer** object corresponding to the standby Server in the **Hardware** tab of the **System settings** dialog box (Figure 8.2—11).

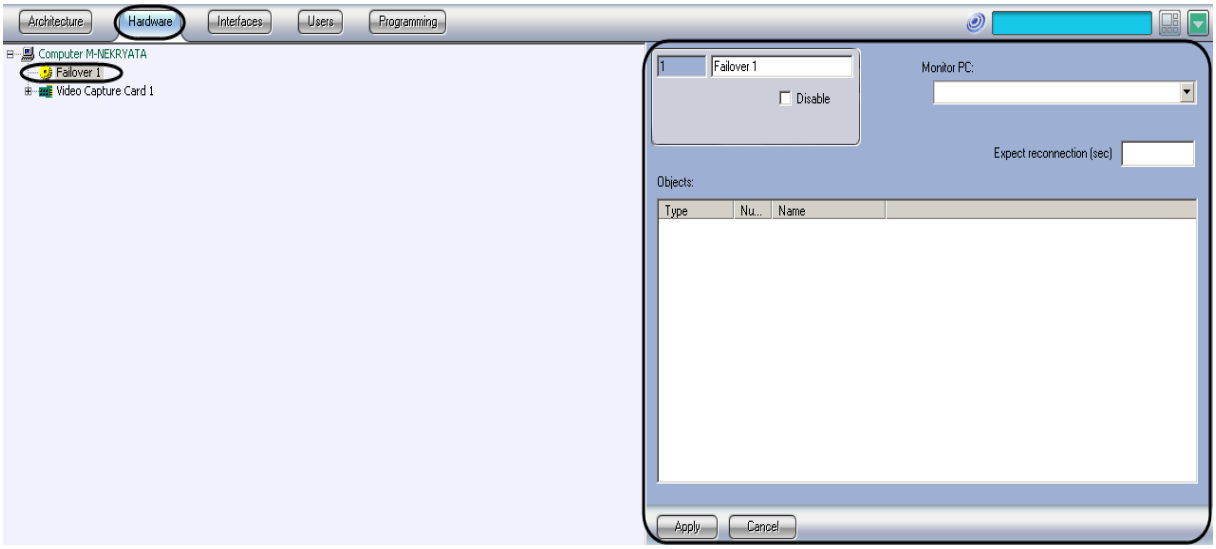


Figure 8.2—11 The Failover object

2. Go to the setting panel of the **Failover** object (Figure 8.2—12).

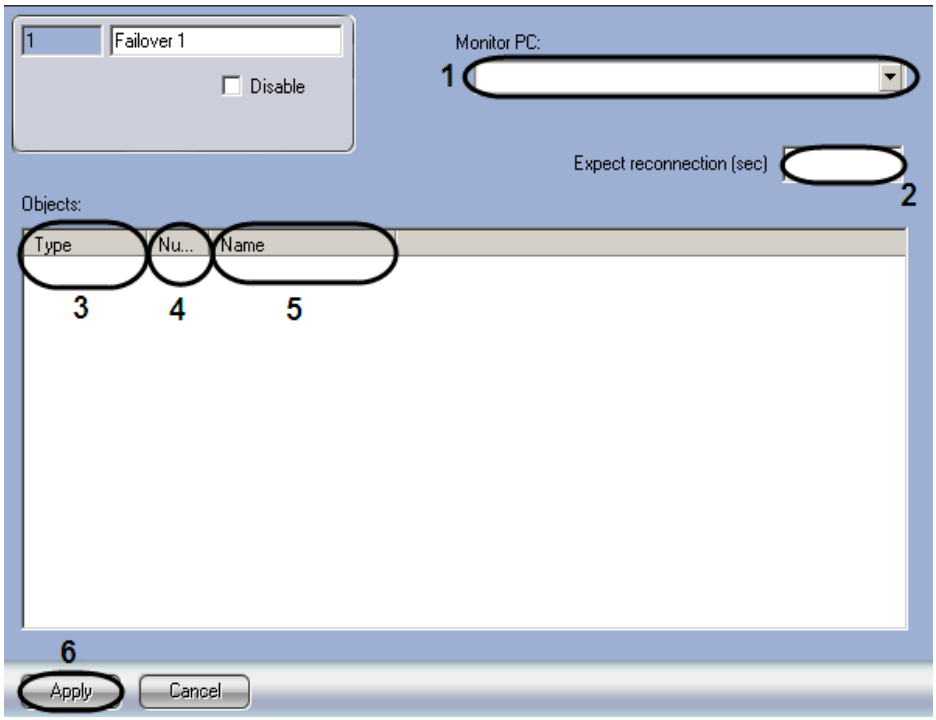


Figure 8.2—12 Configuring the failover mode

3. Select the name of **Computer** object that is to be under control in the **Monitor PC** dropdown list (Figure 8.2—12, 1).
4. In the **Expect reconnection (sec)** field specify the time period (in seconds) at the end of which configuration is moved to standby Server when the Server connection fails (Figure 8.2—12, 2).
5. Specify the list of configuration objects (that are to be moved to standby Server if connection fails) of the main Server:
   5.1. Select the object type in the **Type** dropdown list (Figure 8.2—12, 3).
   5.2. Select the object ID in the **Number** dropdown list (Figure 8.2—12, 4).
   5.3. The **Name** field is automatically filled with the name of corresponding object (Figure 8.2—12, 5).
   5.4. Repeat steps 5.1-5.3 for all objects (that are to be moved to standby Server if connection fails) in the object tree of Server under control.

   Note. To add a new line to the table click the downwards arrow on the keyboard.

   5.5. Click **Apply** (Figure 8.2—12, 6).
6. Repeat steps 1-5 for all main Servers under control of configured standby Server in the distributed system.

Configuration of the failover mode is completed.

8.2.8 Configuring time synchronization in the distributed system

Starting INTELLECT™ software up Server distributes its time to Servers connected to it. To synchronize time of system Servers with time of the Server one is to create the SyncTime parameter with **1** value in the HKEY_LOCAL_MACHINE \Software\AxxonSoft\INTELLECT registry. Synchronization can also be started by SYNC_TIME command of the SLAVE system object (details are in *INTELLECT™ software package. Programming Guide*).

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 4.8.2 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 4.8.2, 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).

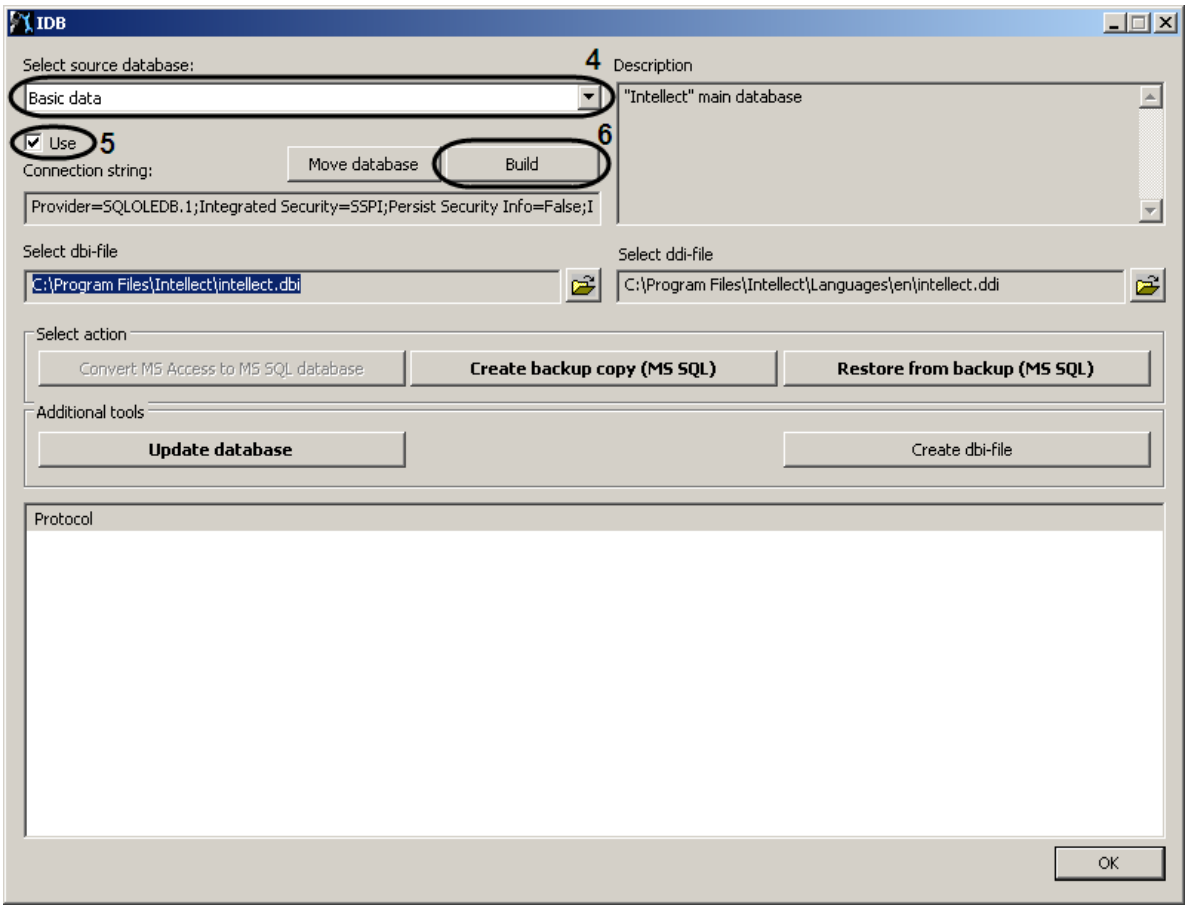


Figure 8.3—1. The idb.exe utility dialog box

4. Choose the Basic data item from the Select data source list.
5. Check the Use checkbox, if not checked before.
6. Click Build.
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).

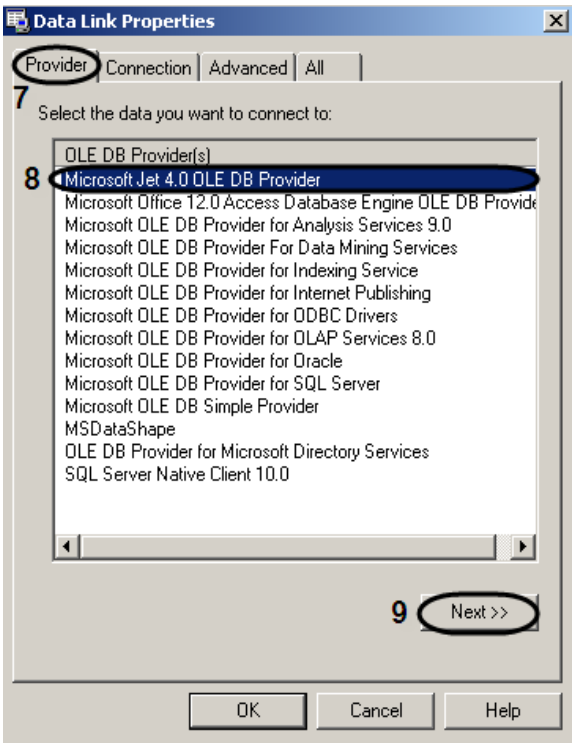


Figure 8.3—2. The "Data link properties" dialog box. The "Provider" tab

8. Select Microsoft Jet 4.0 OLE DB Provider from the OLE DB Providers list.

9. Click Next.

10. As soon as Next is clicked, the dialog box automatically takes you to Connection tab (Figure 8.3—3).

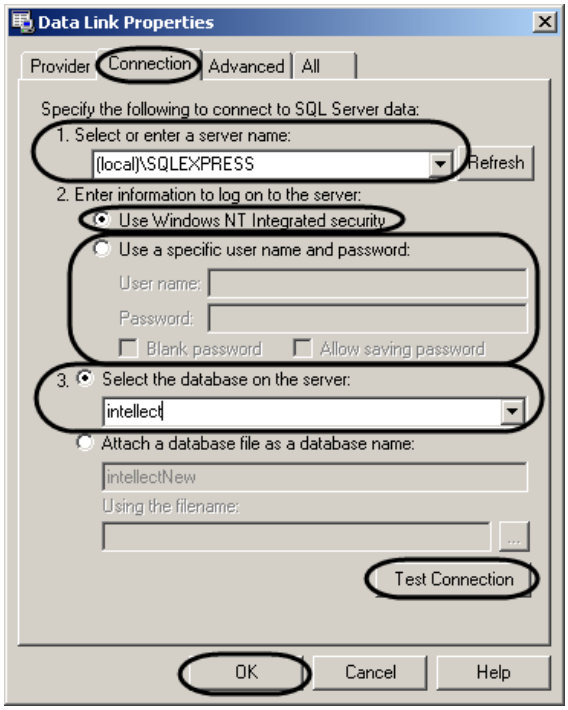


Figure 8.3—3. The "Data link properties" dialog box. The "Connection" tab

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 Test Connection.

15. If MS SQL server connection was completed, the Test connection succeeded message is displayed (Figure 8.3—4).

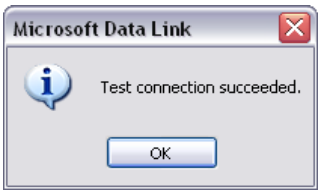


Figure 8.3—4. Database connection completion message

Click OK 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).

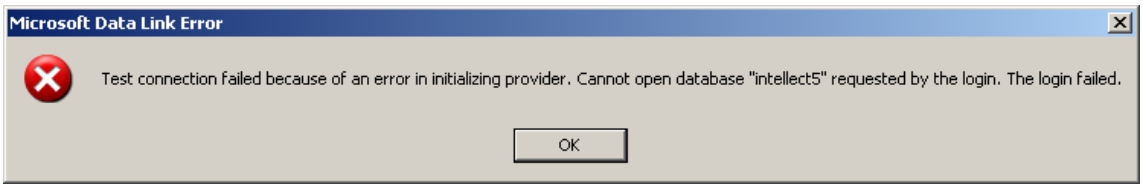


Figure 8.3—5. Example of the disabled SQL server connection message

Click OK to close the window. Then enter the correct password and try the MS SQL server connection again.

17. Click OK 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 OK 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).

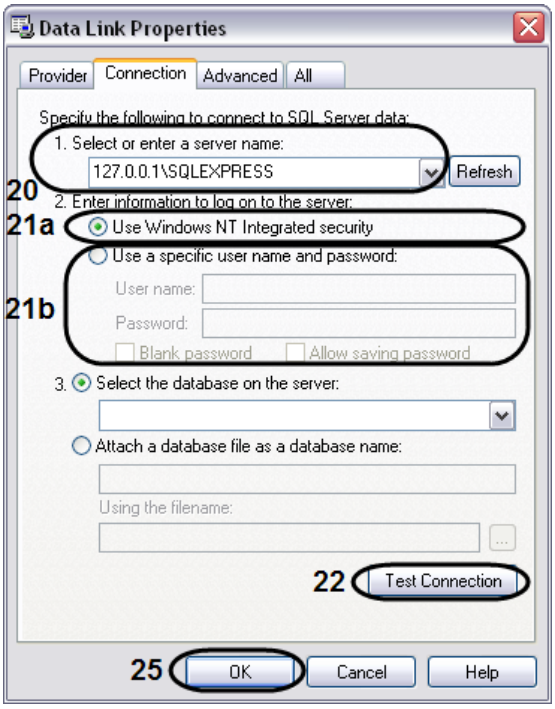


Figure 8.3—7. MS SQL server choice

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 Test Connection.

23. If MS SQL server connection was completed, the “Test connection succeeded” message is displayed (Figure 8.3—8).

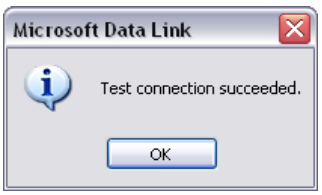


Figure 8.3—8. Database connection completion message

Click OK 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).

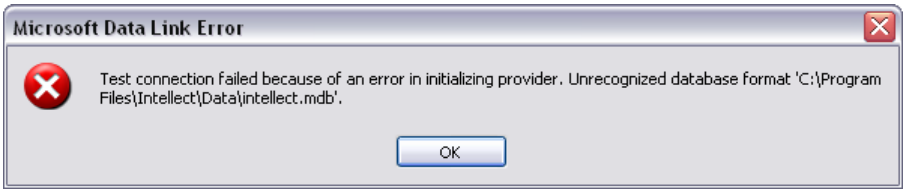


Figure 8.3—9. Example of the disabled SQL server connection message

Click OK to close the window. Then enter the correct password and try MS SQL server connection again.

25. Click OK 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 OK 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).

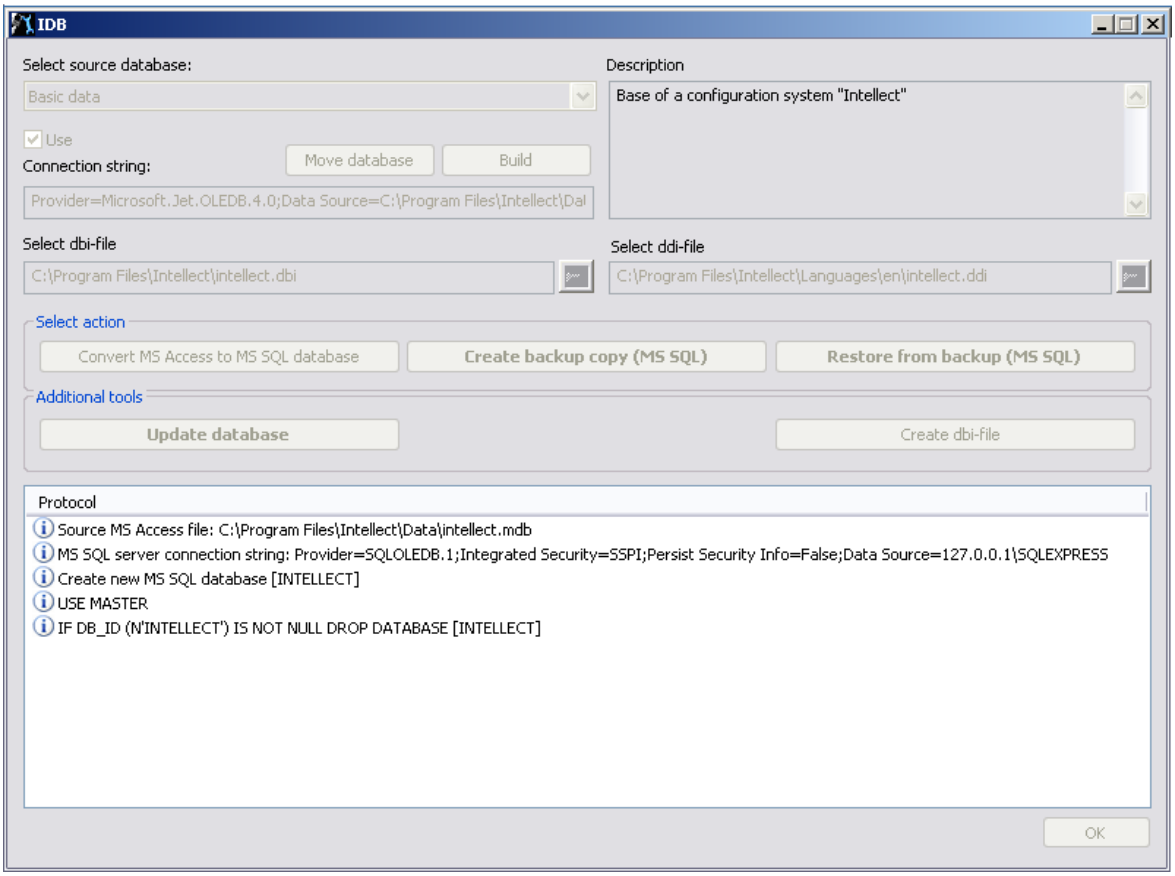


Figure 8.3—11. Displaying the messages on the database conversion progress

28. After the database conversion process is completed the request message appears: “Reset current connection to MS SQL?” «{0>.<}64{>(Figure 8.3—12).

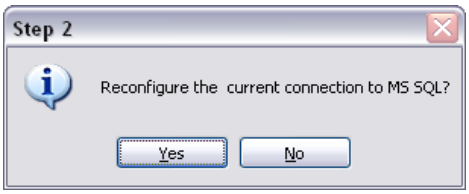


Figure 8.3—12. The “Reconfigure the current connection to MS SQL?” message

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 OK 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 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).

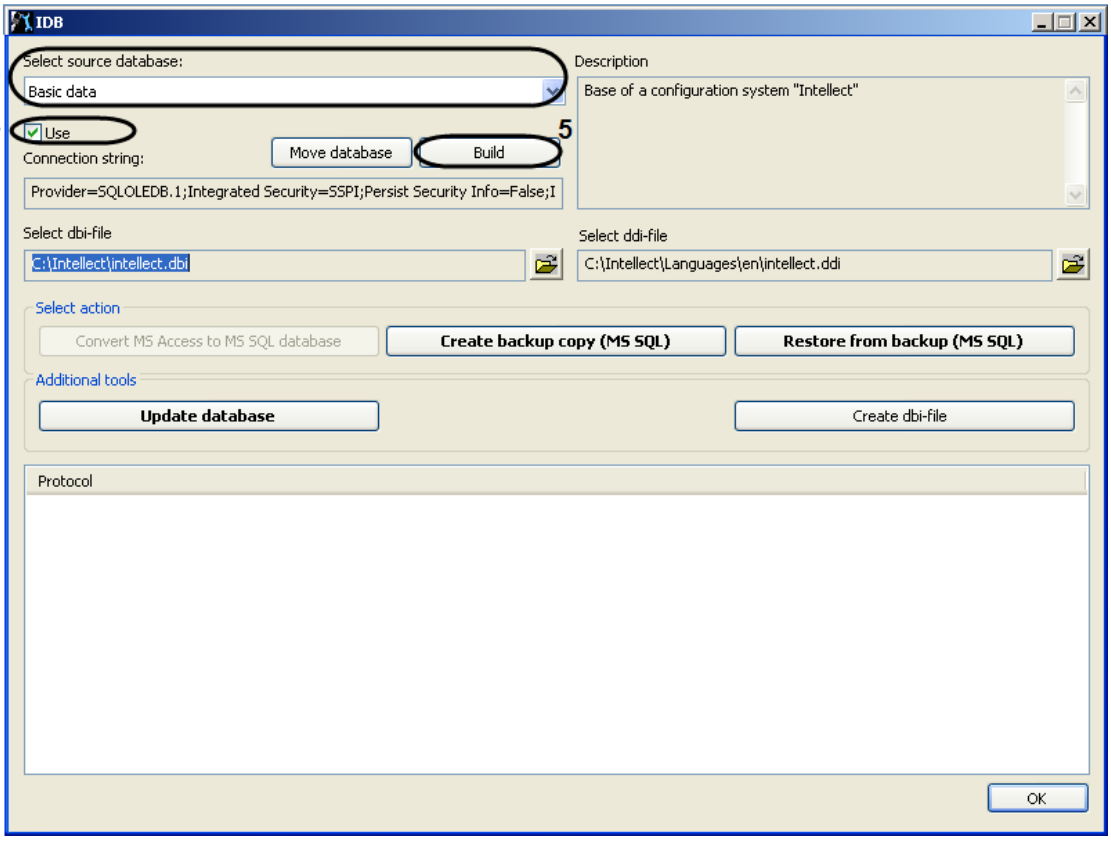


Figure 8.3—13. The idb.exe utility dialog box

3. Choose the Basic data item from the Select data source list.
4. Set the Use check , if not set before.
5. Click Build.
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).

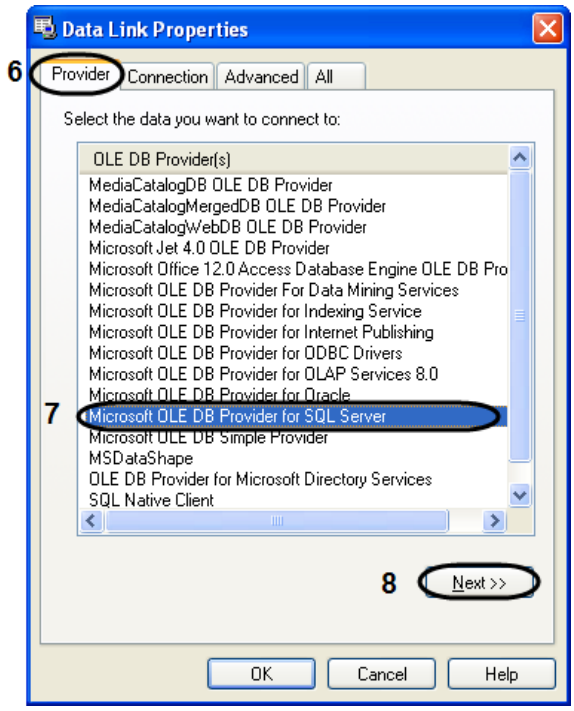


Figure 8.3—14. The "Data link properties" dialog box. The "Provider" tab

7. Select Microsoft Jet 4.0 OLE DB Provider for SQL Server from the OLE DB Providers list.

8. Click Next.

9. As soon as Next is clicked, go to the Connection tab is automatically performed (Figure 8.3—15).

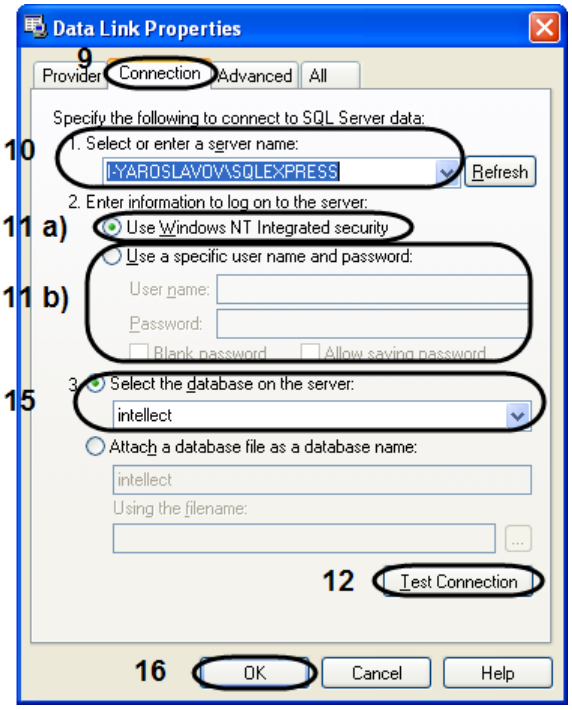


Figure 8.3—15. The "Data link properties" dialog box. The "Connection" tab

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).

Note. In case of dynamic host configuration protocol (DHCP) use for the local database, set «127.0.0.1» IP address (without using computer names and «local» value) in the "1.Select or enter a server name" in Set «127.0.0.1» value when the static IP address is use. Otherwise there is disconnection of the Intellect™ software with its local database when network cable is disconnected.

If the Intellect™ software is connected to remote database configuration at IP address (e.g., 192.168.0.68\SQLEXPRESS), you can't change and save the Intellect™ software settings when there is a network connection break.

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 Test Connection.
13. If MS SQL server connection was completed, the Test connection succeeded message is displayed (Figure 8.3—16).

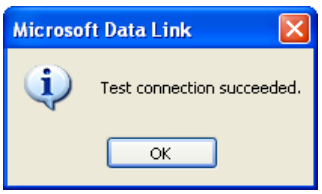


Figure 8.3—16. Database connection completion message

Click OK 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 OK 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).

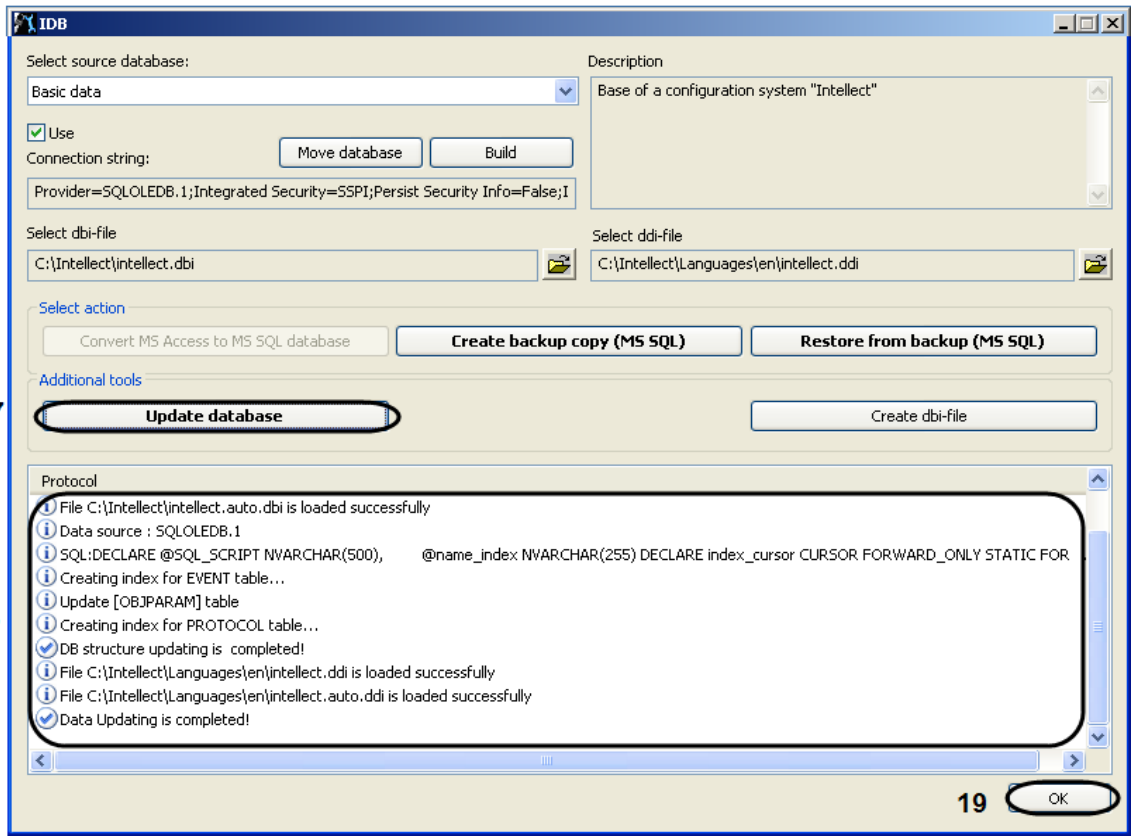


Figure 8.3—18. Database structure update

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 OK in the bottom right corner of the idb.exe utility window.

INTELLECT™ software database connection is completed.

8.3.5 Viewing INTELLECT™ software database

To view the database stored on MS SQL server do the following:

1. Start SQL Server Management Studio utility. Click ‘Start’ => ‘All Programs’ => ‘Microsoft SQL Server 2008 R2’ => ‘SQL Server Management Studio’.
2. In the Connect to Server box set parameters of connection to MS SQL server (Figure 8.3—19).

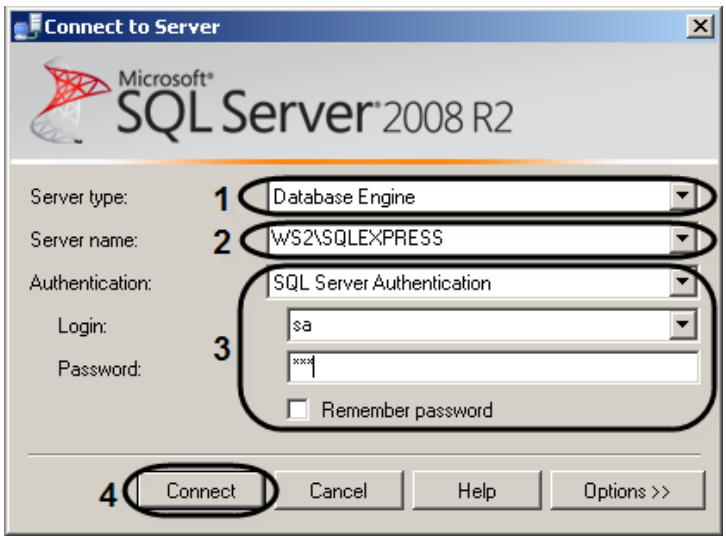


Figure 8.3—19 Connection to MS SQL server

1.1. From the Server type list select Database Engine type (Figure 8.3—19, 1).
1.2. From the Server name list select the name of MS SQL server to wich it's necessary to connect (Figure 8.3—19, 2).
1.3. From the Authentication list select authentication type used for connecton to MS SQL server (Figure 8.3—19, 3).

Note 1.The type of authentication that was selected while creating MS SQL server is specified.

Note 2. If 'SQL Server Authentication type is used then select the user from the Login list and enter the required password in the Password field (Figure 8.3—19*, 3).*

2. Click Connect in order to connect to MS SQL server. If the connection is successful then Object Explorer box will be displayed (Figure 8.3—20).

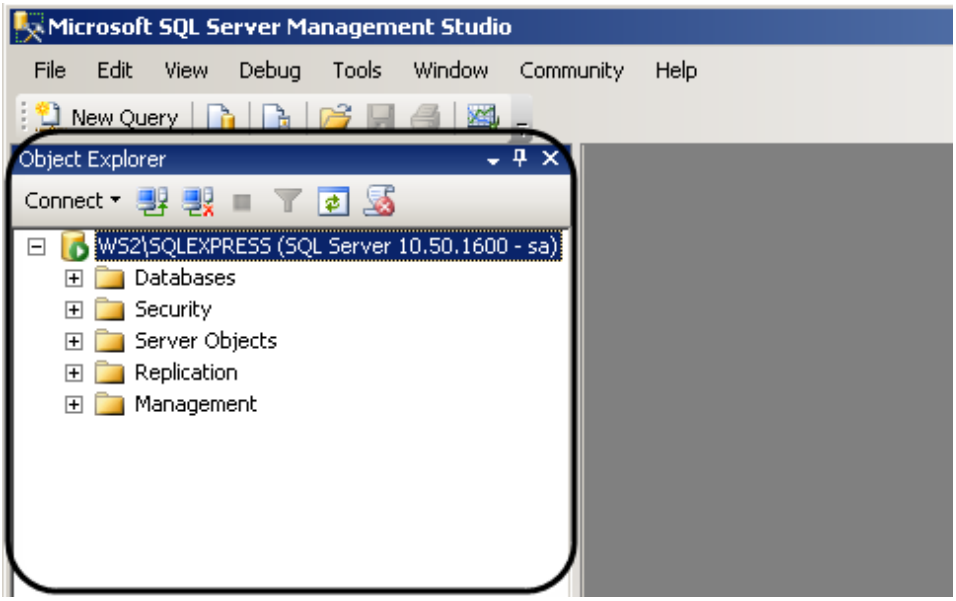


Figure 8.3—20 'Object Explorer' box

4. In 'Object Explorer' box open the embedded list of 'Databases' catalogue and go to the required database (Figure 8.3—21).

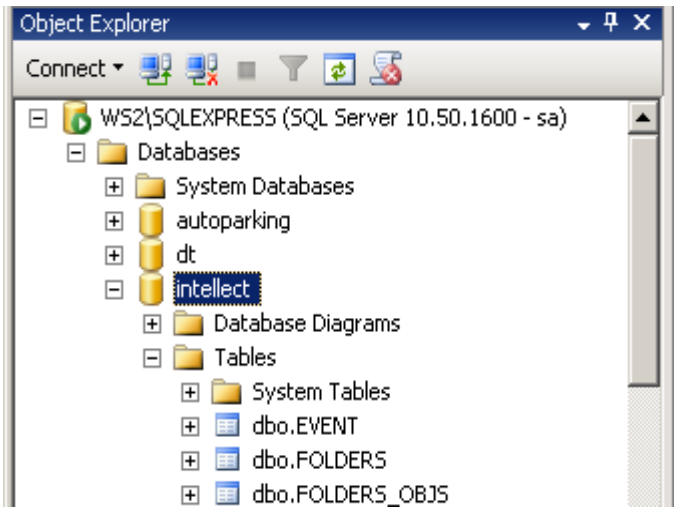


Figure 8.3—21 Selecting the database

4. In 'Tables' catalogue select the table for viewing.
5. In the contextual menu of the table select 'Select Top 1000 Rows' item (Figure 8.3—22).

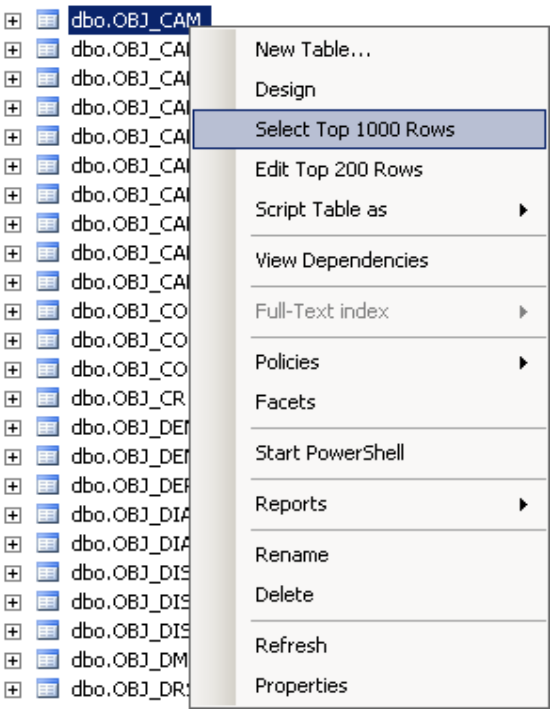


Figure 8.3—22 Contextual menu of the table

As a result the box with SQL Query on top of it and the table data selected by the query will be displayed (Figure 8.3—23).

Note 1. Using 'Select Top 1000 Rows' command one can query the latest rows entered into the table. Not more than 1000 rows respond to a query.

Note 2.One can change the quantity of rows and set of fields requested in the table by editing SQL Query. To start modified SQL Query click Execute *on the toolbar.*

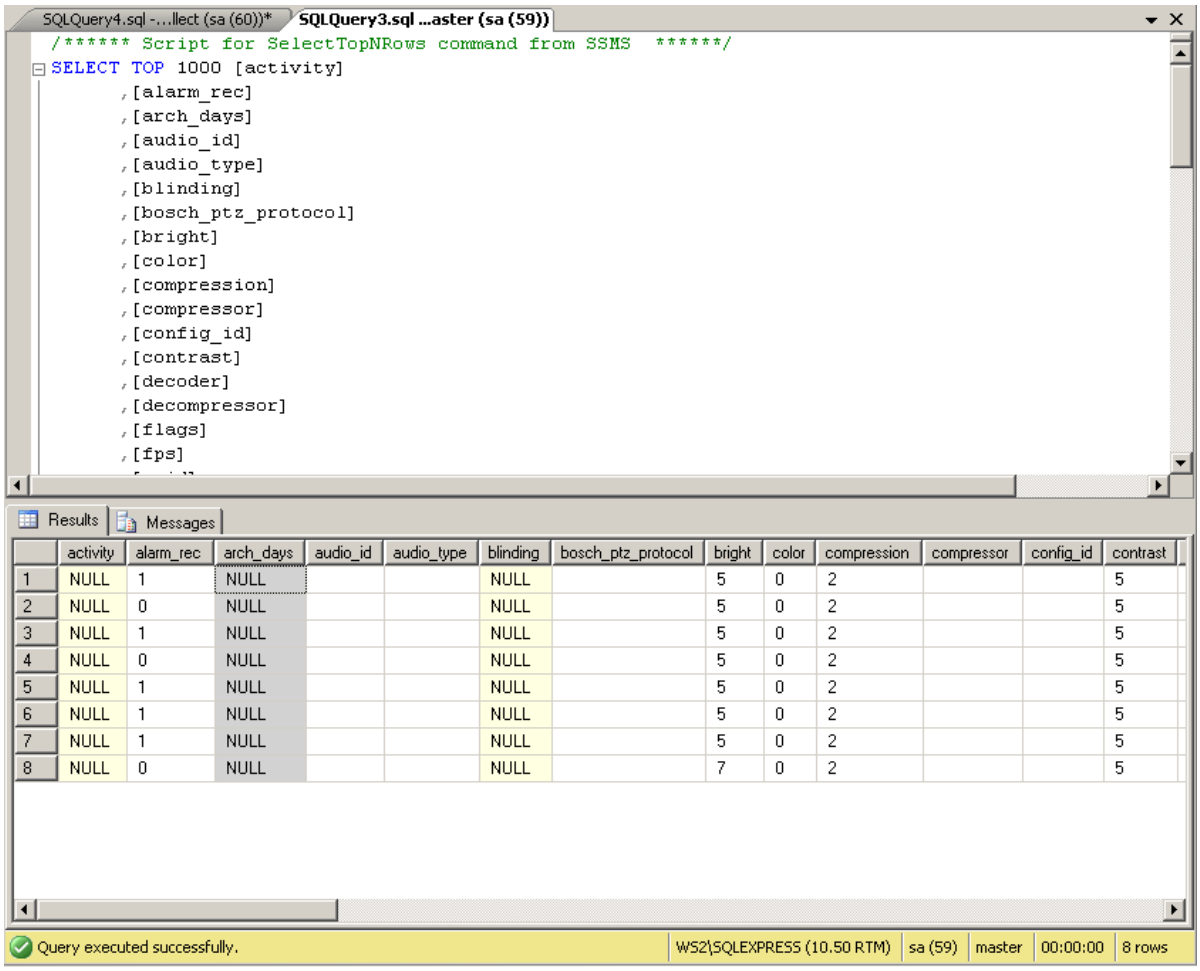


Figure 8.3—23 Query result

If one need to create his own query then select 'Script Table as' => 'SELECT To' => 'New Query Editor Window' (Figure 8.3—24) in the contextual menu and enter SQL Query in the box.

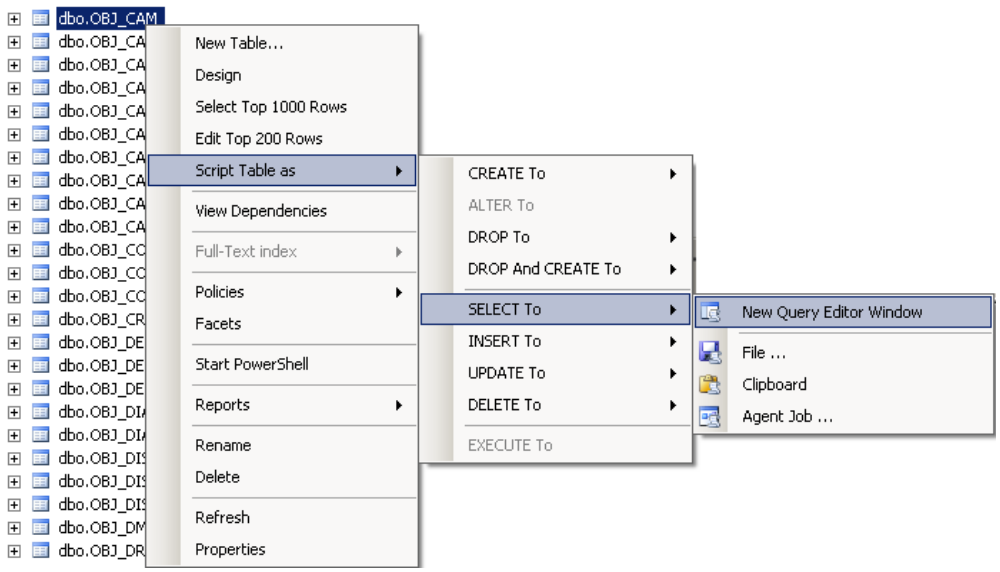


Figure 8.3—24 Creating the own query

Note. To execute the query click Execute *on the toolbar.*

Example. Select all video cameras created on the basis of video capture card 2 (Figure 8.3—25).

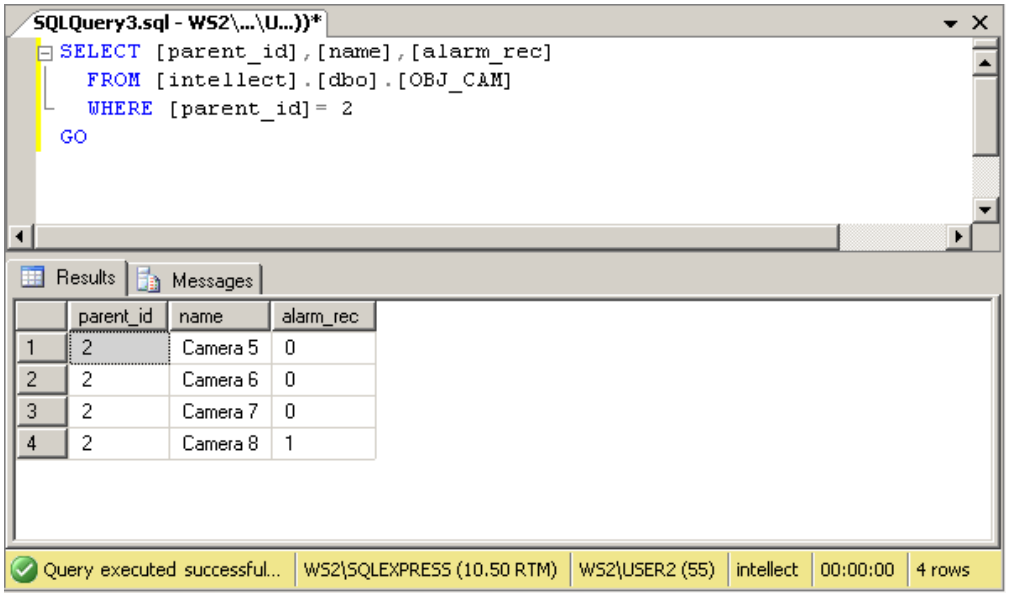


Figure 8.3—25 Query result

Viewing INTELLECT™ software database is completed.

8.3.6 Moving Intellect configuration database from MS SQL Server 2005 to MS SQL Server 2008 R2

To move configuration database from MS SQL Server 2005 to MS SQL Server 2008 R2 after INTELLECT™ update do the following:

1. Run the idb.exe utility from the Intellect installation directory (e.g., C:\Program Files\Intellect). The dialog box of the idb.exe utility is opened (Figure 8.3—26).
2. To create backup copy of Intellect configuration database click **Create backup copy (MS SQL)** (Figure 8.3—26, 1). In opened window select the folder where the configuration backup copy is to be created.

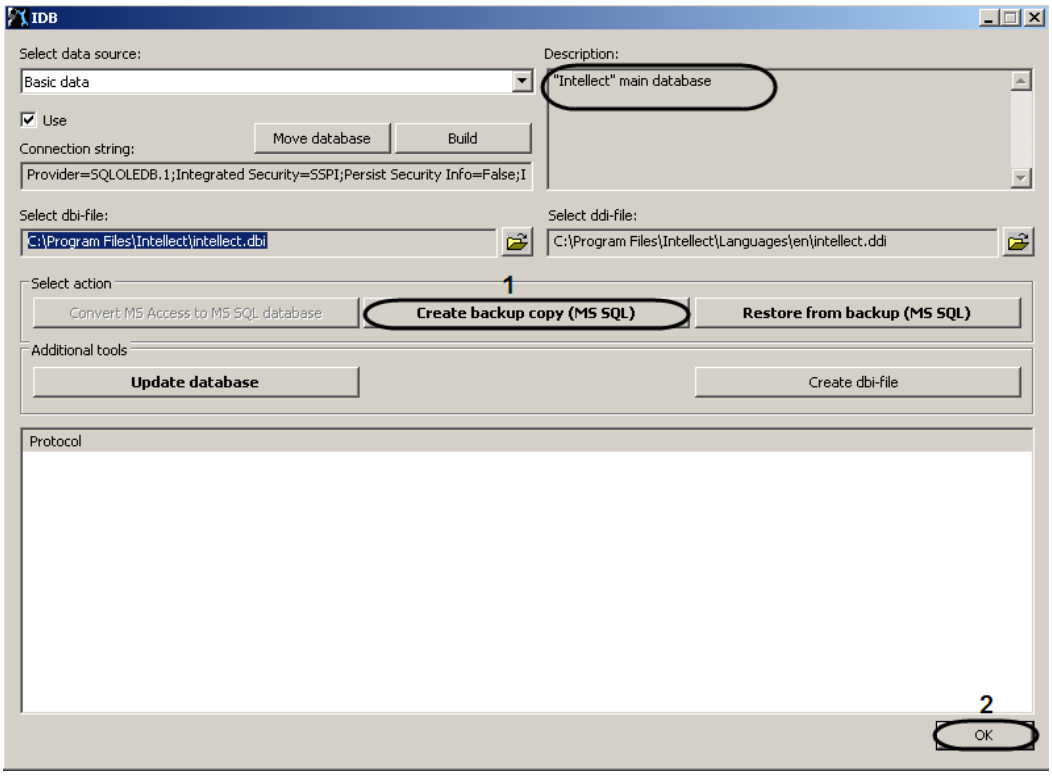


Figure 8.3—26 Creating configuration backup copy

Note. Configuration backup copy is a file with bak. extension.

3. If the configuration backup copy is created without any errors (see the protocol of the idb.exe utility), then click **OK** (Figure 8.3—26, 2). If there are some errors, then repeat 2 step or use MS SQL Server 2005 tools for creating database backup copies.
4. Remove MS SQL Server 2005 from computer.
5. Install MS SQL Server 2008 R2 (see *Appendix 5. «Microsoft SQL Server 2008 Express R2» setup* section).
6. Create an empty database.
   6.1. Run the SQL Server Management Studio utility. Click Start => All Programs => Microsoft SQL Server 2008 R2 => SQL Server Management Studio.
   6.2. Select **New Database** in the context menu of the **Databases** directory (Figure 8.3—27).

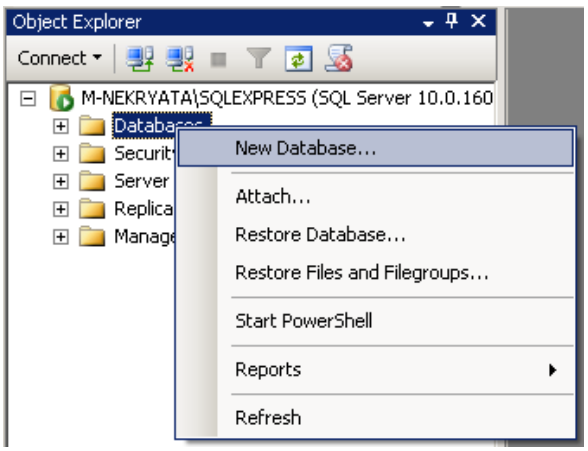


Figure 8.3—27 Context menu of the Databases directory

As the result the **New Database** window opens (Figure 8.3—28).

6.3. Type in a name of a new database in the **Database name** field (Figure 8.3—28, 1).

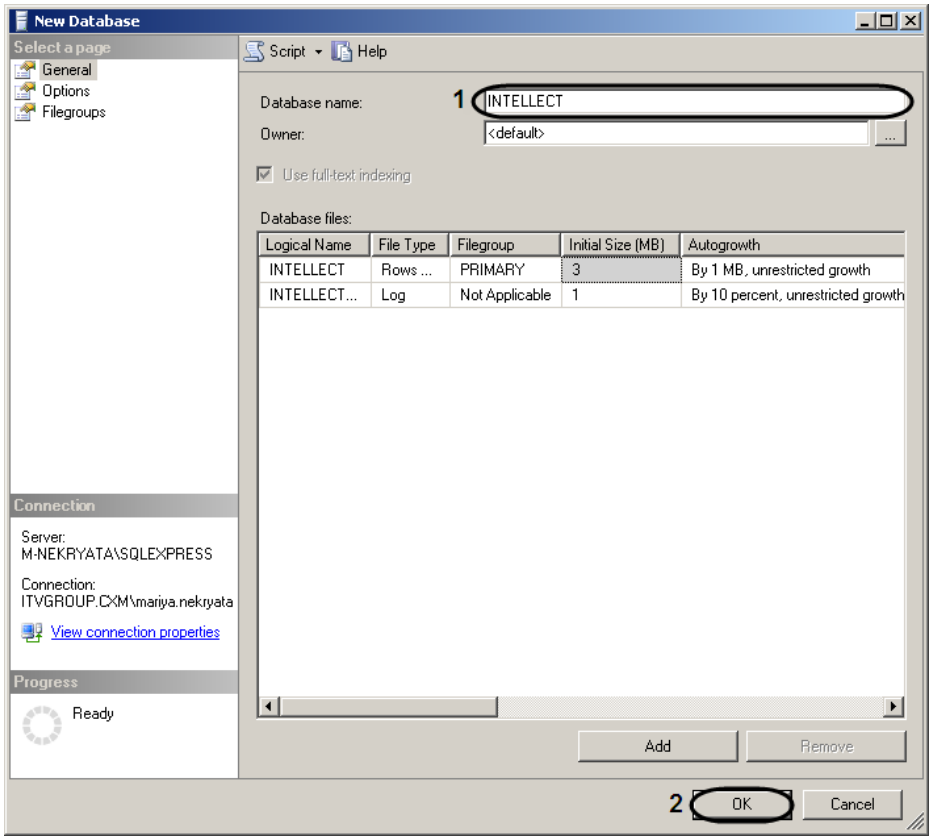


Figure 8.3—28 Creating a database in SQL Server Management Studio

6.4. Click **OK** (Figure 8.3—28, 2).

7. Connect created database to Intellect using the idb.exe utility (see 1-16 steps in *INTELLECT™ software database connection* section).
8. To restore Intellect configuration database click **Restore from backup (MS SQL)** (Figure 8.3—29, 1). Select configuration backup copy in opened window.

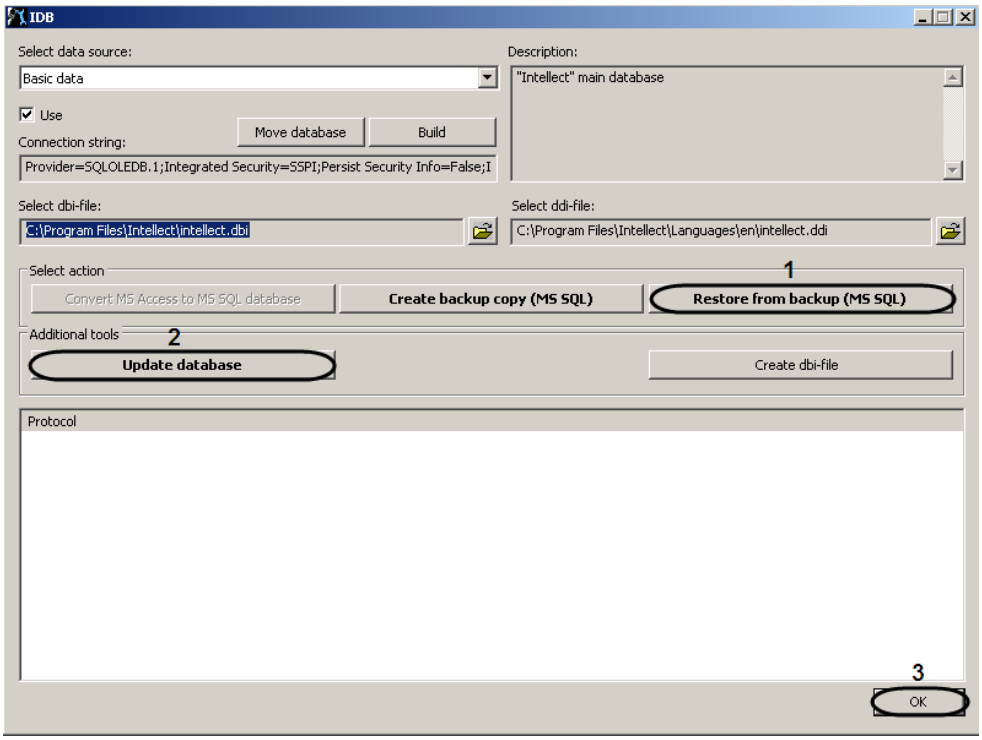


Figure 8.3—29 Restoring from backup

9. To update database click **Update database** (Figure 8.3—29, 2).
10. Click OK to shut down the idb.exe utility (Figure 8.3—29, 3).

Moving Intellect configuration database from MS SQL Server 2005 to MS SQL Server 2008 R2 is completed.

8.3.7 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. Start 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—30).

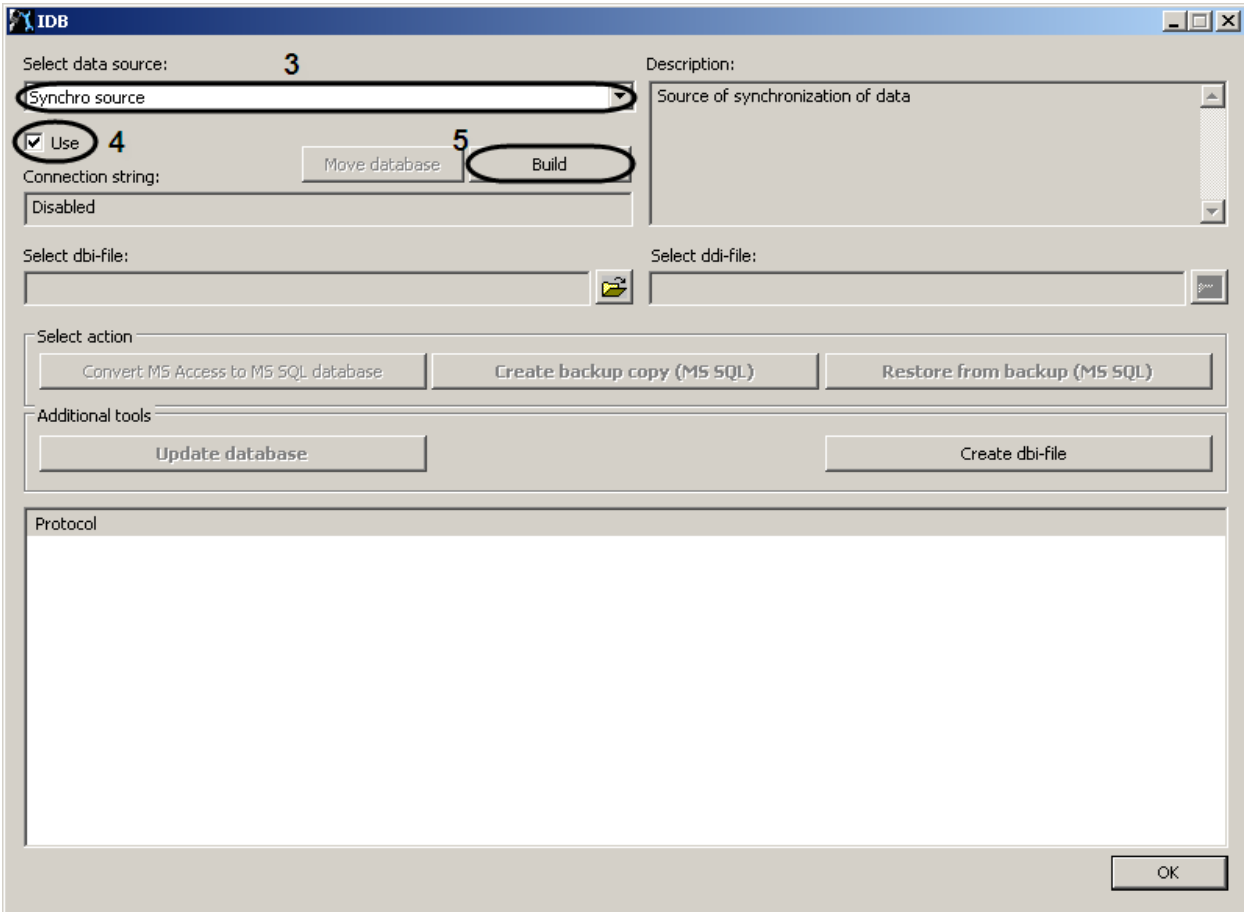


Figure 8.3—30. The idb.exe utility dialog box

3. Select the **Synchro source** item from the **Select source database** list.

4. Set the **Use** checkbox.

5. Click **Build**.

6. The **Data link properties** dialog box is displayed. Go to the **Provider** tab in the **Data link properties** dialog box (Figure 8.3—31).

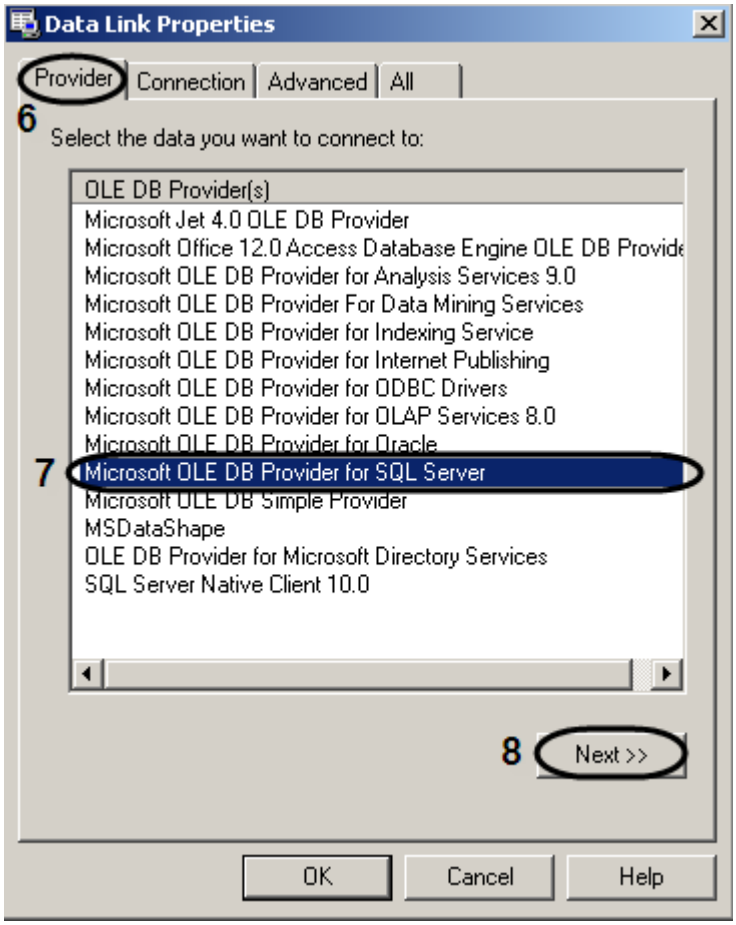


Figure 8.3—31. The Data link properties dialog box. The Provider tab

7. Select **Microsoft OLE DB Provider for SQL Server** from the **OLE DB Provider(s)** list.

8. Click **Next**.

9. As soon as the **Next** button is clicked, there is automatic going to the **Connection** tab (Figure 8.3—32).

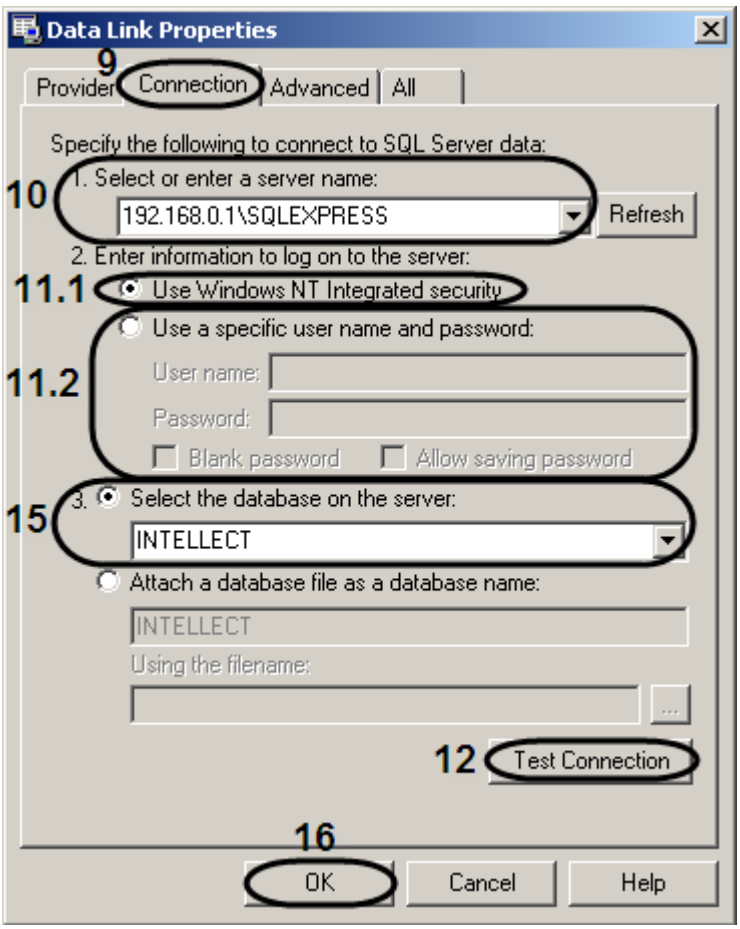


Figure 8.3—32. The "Data link properties" dialog box. The "Connection" tab

10. In the **1.Select or enter a server name** select from the list or input manually the address of MS SQL server containing the database that is to be used as a source to sync with the current database (Figure 8.3—32).
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:

11.1 If MS SQL server authentication is performed through a user's Windows OS account, switch to to the **Use Windows NT Integrated security** 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.

11.2 If MS SQL server authentication is performed through user login and password, follow the sequence:

- switch to the **Use a specific user name and password** position;

- in the **User name** 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** checkbox and enter the database access password into the **Password** field.

12. Click **Test Connection**.
13. If the MS SQL server was successfully connected, the “Test connection succeeded” message is displayed (Figure 8.3—33).

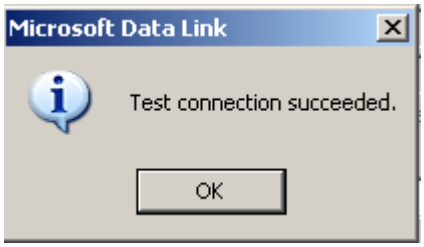


Figure 8.3—33. Database connection established message

Click **OK** 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—34).

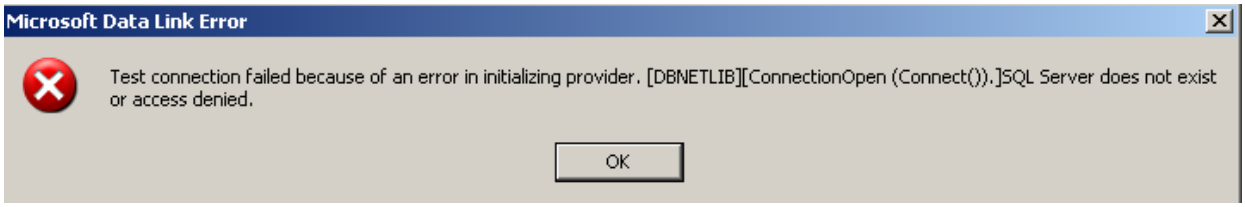


Figure 8.3—34. Example of the disabled SQL server connection message

Click **OK** to close the window. Then enter the correct password and try MS SQL server connection again.

15. From the **Select the database on the server** list choose the name of the database to be synced with the current base.
16. Click **OK** in the **Data link properties** dialog box. The window will close.
17. Click **OK** 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);
3. IP devices.

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 *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.

8.4.1.3 *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 site of AxxonSoft company: http://www.axxonsoft.com/products/axxon_enterprise/core_functionality/integration.php.

8.4.1.4 *Video signal compression and decompression*

Video signal compression is digital video processing aimed at reducing video stream size. Compression is performed according to a specific software algorithm.

INTELLECT™ software uses a specific MotionWavelet algorithm to compress video signals received from video capture cards. This algorithm allows reducing video stream size by tens of times (from 5 to 30, subject to video signal characteristics and compression rate). To compress video signals from IP-devices, standard (MPEG4) 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.

Description of decompressors is shown in the Table 8.4-1.

Table 8.4-1 Decompressors used in INTELLECT™ software

Decompressor	Description
FfmpegAllInOneDecoder	A module with a set of Ffmpeg library decoders (with an open source code). It allows converting multimedia data compressed by MPEG2, MPEG4 and Motion JPEG codecs
H264FfmpegDecoder	A decompressor of the Ffmpeg library used for converting a video signal in the H.264 format
H264DecodeBalancer	A module used for CUDA-enabled graphics cards. It automatically switches (depending on video signal parameters) between CUDA and decoders of the IPP library
H263IppDecoder H264InterlacedIppDecoder H264IppDecoder	Decompressors included into the Intel Integrated Performance Primitives (Intel IPP) library. A compression format is indicated in the decompressor name

Decompressor	Description
MPEG2IppDecoder MJPEGIpp MPEG4IppDecoder	
H264Svc2Avc	A decompressor for converting video signals in H264Sv format received from Stretch devices into H264Avc format
MxPEG Mobotix	A decompressor for converting video signals received from Mobotix devices
Motion Wavelet	A decompressor for wavelet-converting video signals
BOSCH	A decompressor for converting video signals received from BOSCH devices
Hikvision Decoder	A decompressor for converting video signals received from Hikvision devices
StreamLabs	A decompressor for converting video signals received from StreamLabs (Wavelet and MotionWavelet) devices
VWV	A decompressor for converting video signals received from VisioWave cameras

Note. When decompressors included into the Intel IPP library are in use, there can be video distortions for some resolutions. In these cases resolutions divisible by 16 are recommendedto be used (e.g, 1280x720 or 1360x768) or another decompressor is to be selected.

Compression and decompression algorithms are set on the settings panel for a “Camera” object using the “Compressor” and “Decompressor” list correspondingly (see the “Camera settings panel” section), and with the help of the advanced setup tool (see the “The setting panel of the Video subsystem section” section). The decompression algorithm set in the camera settings is used only when a video signal is displayed on a video surveillance monitor.

If the compressor/decompressor (default value) is not selected on the settings panel for a “Camera” object or the incorrect one is selected, then INTELLECT ™ software automatically selects the first compressor/decompressor in alphabetical order.

Attention! If for some reasons the automatic decompressor selection is not right, then you are to select a decompressor manually.

8.4.1.5 *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.

8.4.1.6 *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.

8.4.1.7 *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 capture cards and cameras 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.

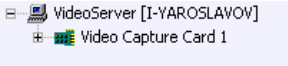


Figure 8.4—1. Example of registration of the FS-5 video capture card as a video capture device

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—2.

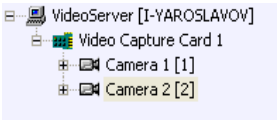


Figure 8.4—2. Registration of two cameras, connected to an FS-5 card

8.4.3 Configuring 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.

Note 1. While using Stretch VRC6004, VRC 6008, VRC 641 the input video signal (PAL or NTSC) is selected automatically dependent on cameras, connected to the card. Changing the parameter doesn’t affect card’s workability.

Note 2. While using FX116 and FX416 video capture cards restart INTELLECT™ software after changing the format of video input. Otherwise the initial settings are active.

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—3).

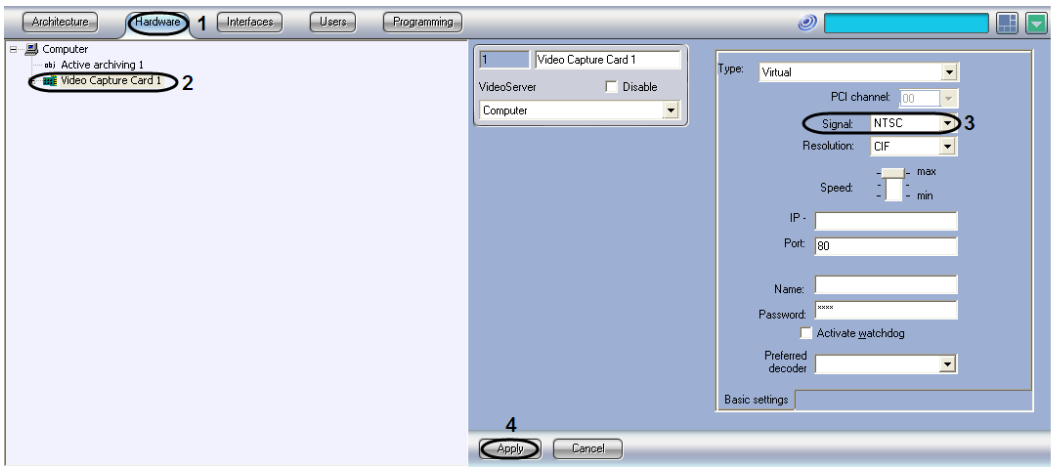


Figure 8.4—3. Choice of NTSC format

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 8.4-2).

Table 8.4-2

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—4).

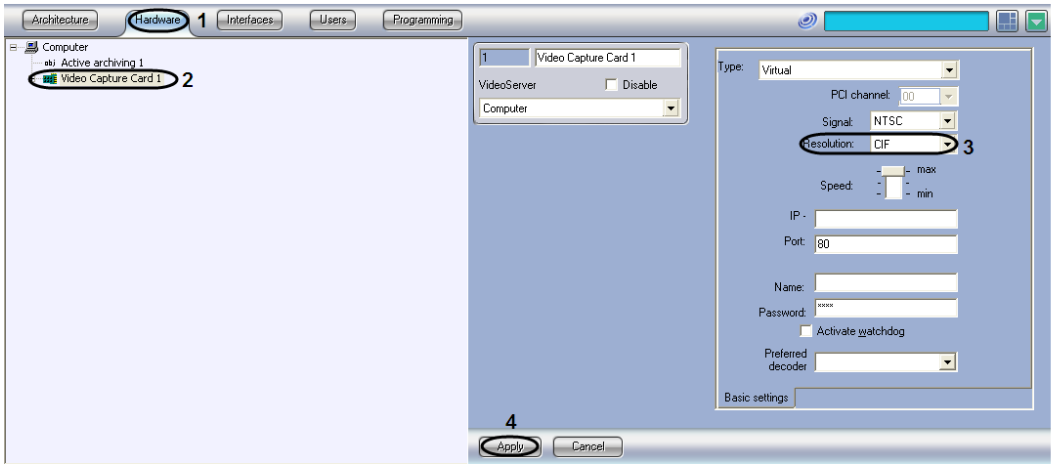


Figure 8.4—4. Resolution settings

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.*

8.4.3.1.3 Frame rate settings

8.4.3.1.3.1 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.

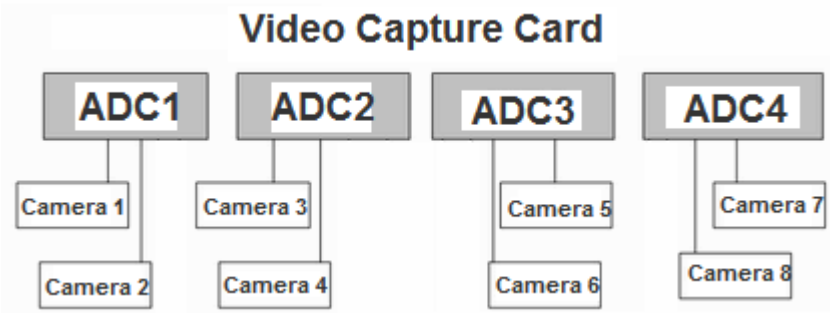
ADC resources are generally characterized by the maximum total frame rate of the video signal. Video capture card ADC resources are uniformly distributed to the assigned cameras by default. So, the more camera video signals are digitized and processed by the ADC, the lower the frame rate of the single video signal.

Reassigning of cameras to the ADCs allows to increase the frame rate for some cameras at the expense of another ones.

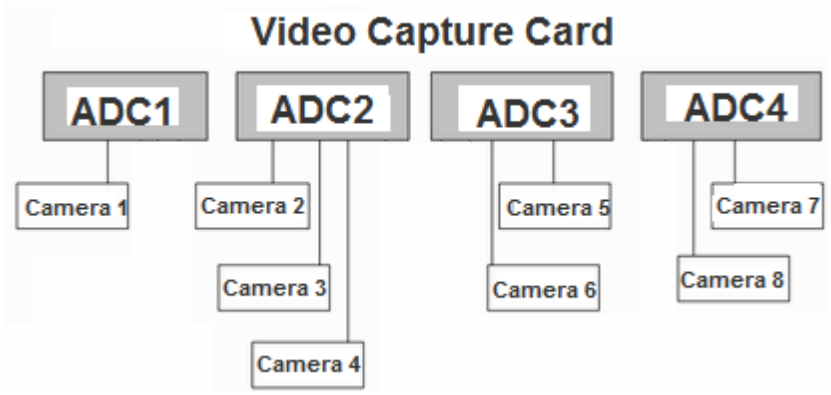
If all allowable cameras are connected to a video capture card, then only uniform distribution on ADC is possible. In this case every ADC digitizes and processes video signal from an equal number of cameras. So, the maximum frame rate is the same for all video signals (except for video signals of different 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—5.



A. Uniform camera allocation to the ADCs.



B. reassigning the cameras to the ADCs to allocate camera No1

Figure 8.4—5. 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.

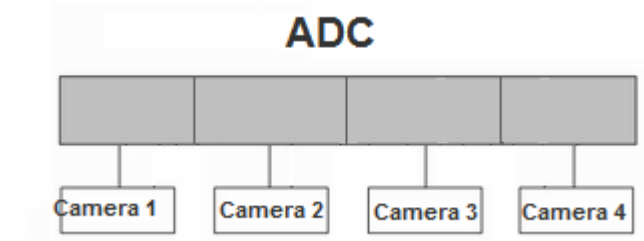
ADC resources reallocation allows to increase the frame rate for some cameras at the expense of another ones. Reallocation of resources from 1 ADC to the cameras is much less effective than camera reallocation to the ADC. Therefore this should be done only if camera reallocation to the ADC is impossible 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.

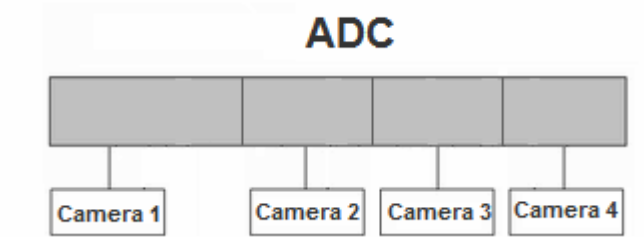
So, for a single ADC, when the frame rate of a certain camera increases, the frame rates of other cameras decrease.

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—6.



A. Uniform camera allocation on the ADC.



B. reassigning the cameras on the ADC to allocate camera No. 1.

Figure 8.4—6. An example of reallocation of resources from 1 ADC to the cameras

8.4.3.1.3.2 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.

8.4.3.1.3.3 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.

8.4.3.1.3.4 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—7).
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.

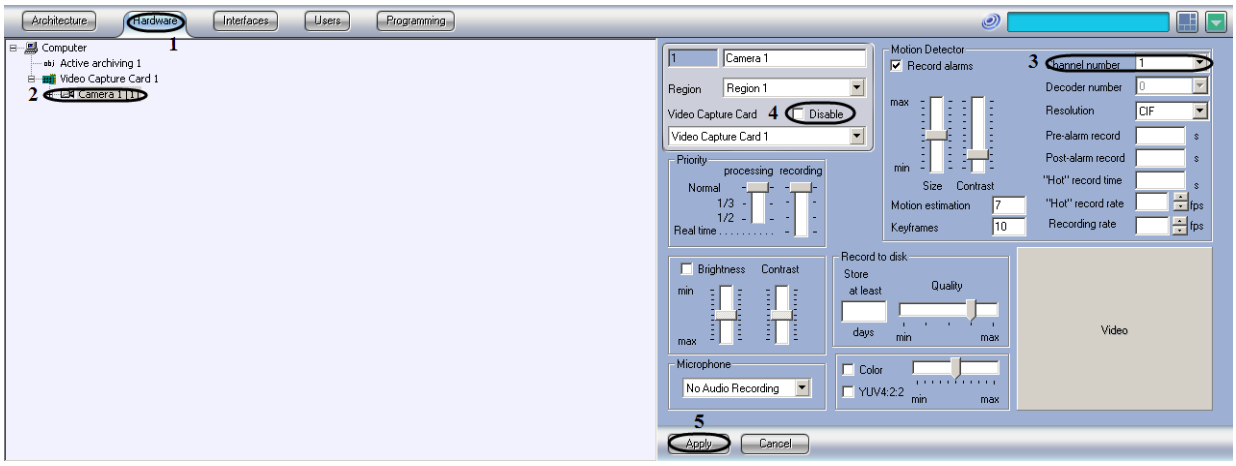


Figure 8.4—7. Switch off the “Camera” object

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—8).

Figure 8.4—8. Disabled “Camera” object in the objects tree

Video subsystem setup with switched off video capture channels is completed.

8.4.3.1.3.5 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—9).

Figure 8.4—9. Actual frame rate definition

Note. For Stretch video cards of standard compression (h264) the frame rate that is displayed on Monitor in Intellect™ software can be less than the frame rate that is indicated by the video card producer. This is due to the fact that when displaying the frame rate of video signal capture on Monitor in Intellect™ software "blank frames", that are distributed by the video card, are not taken into account. «Blanck frames» don't contain the information about the image and they are created by the video card when there are no changes in the video stream and a new video frame is the same as the previous (for example, there is no motion in the frame).

8.4.3.1.3.6 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—10).

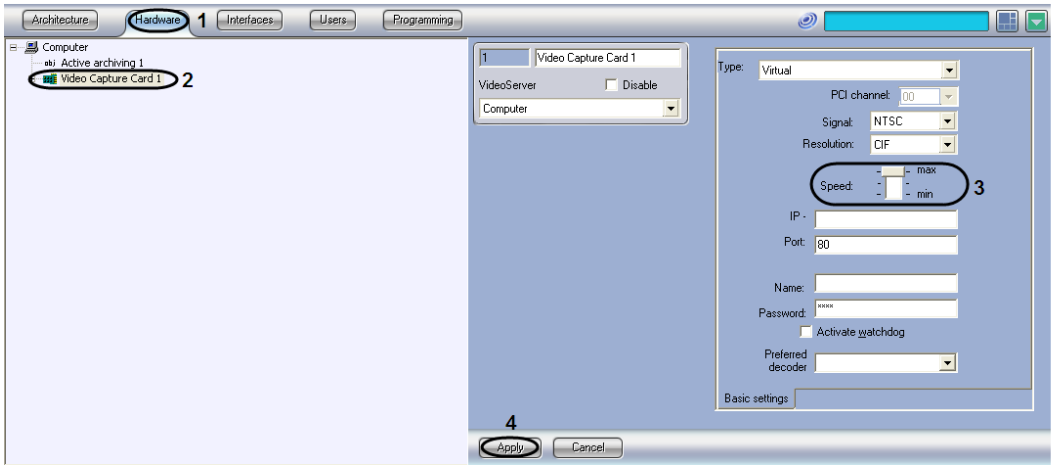


Figure 8.4—10. Changing the video signals frame scaling

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.

8.4.3.1.3.7 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.

Note. Video inputs numeration of FX4 and FX8 video capture cards doesn’t correspond to numeration of PCI channels in Intelect PC. It’s impossible to allocate video inputs to chips one after another (i.e. the first corresponds to 1 and 2 chips, the second upper inputcorresponds to 3 and 4 etc.) because OS determines it.

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—11).

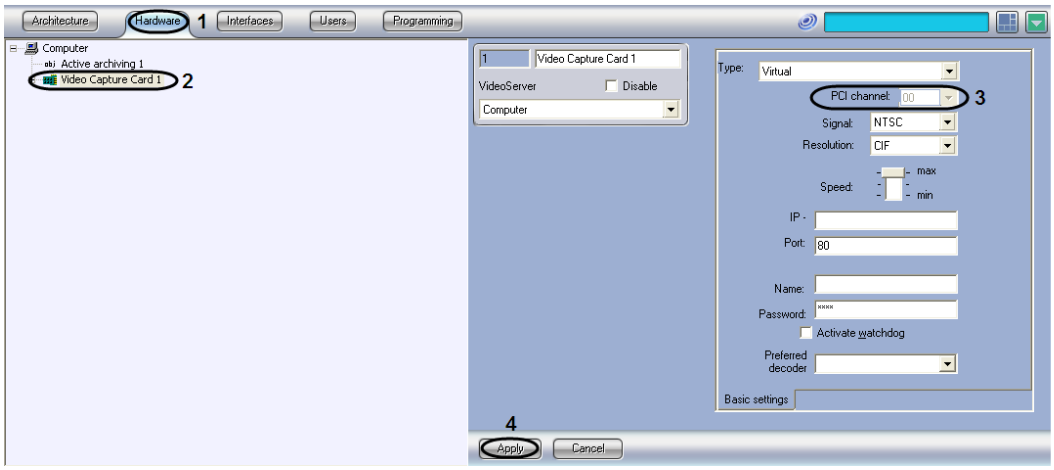


Figure 8.4—11. Video capture card’s resources allocation

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.

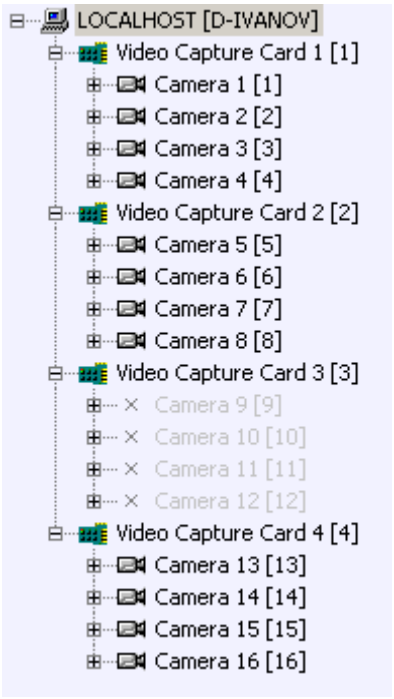
To perform this operation, move “Camera” objects to parent branches of other “Video capture card” objects. The parent “Video capture card” for a “Camera” object object is set by selecting the number of the parent object from the “Card” list of the “Camera” object settings panel. As a result the “Camera” object moves to a subdirectory of the selected “Video capture card” object.

Example 1.Video signal digitization settings with a “Live video” frame rate.

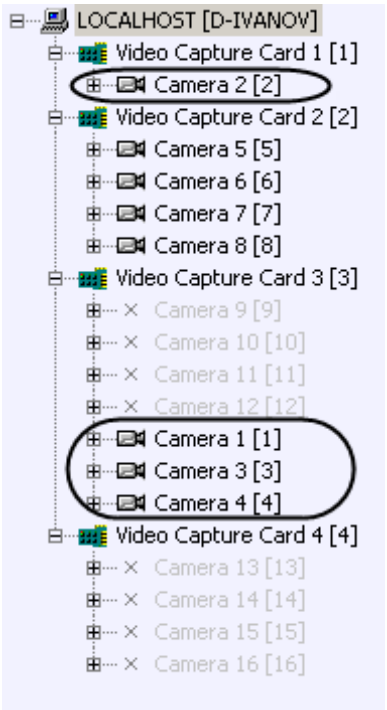
Problem. Camera No 2. The video signal should be digitized with a “Live video” frame rate.

Given. The card has 4 ADCs. They are matched to 4 “Video capture card” 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 “Video capture card 1” and “Video capture card 2” objects, is set to digitize the signals from 4 cameras. The ADCs, matched to “Video capture card 3” and “Video capture card 4” objects, are not set up to digitize signals from any cameras. An example of the objects tree is presented in Figure 8.4—12, A.



A. Initial data



B. Setup result

Figure 8.4—12. Setup example of camera 2 video signal digitization with a “Live video” frame rate

Solution. You should follow the steps:

1. Select the “Camera 1” object in the tree. The settings panel of the selected object appears.
2. Select “ Video Capture Card 3” from the “Video Capture Card” list.
3. Click the “Apply”.
4. The “Camera 1” object moves to the subdirectory of the “Video Capture Card 3” object (see Fig. Figure 8.4—12, B).
5. Repeat (1) – (4) operations for the “Camera 3” and “Camera 4” objects.
6. Select the “Video Capture Card 1” object in the tree.
7. 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 (8)- (10) operations.

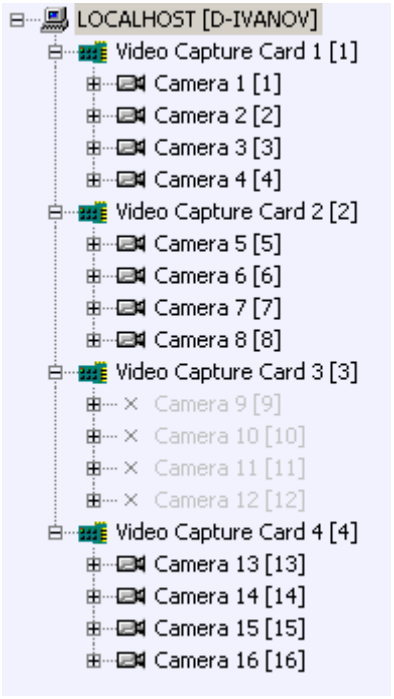
8. Click “Apply”.
9. Close the “System Setup” dialog box and restart INTELLECT™ software.
10. The frame rate of the selected camera increases up to the “Live video” rate (for information on testing the frame rate change, see the “Actual frame rate definition” section).
11. If the number of attached cameras prevents the setup of video signal digitization from one of the cameras with a “Live video” 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 “Live video” 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.

    Video capture card’s resources allocation is completed.

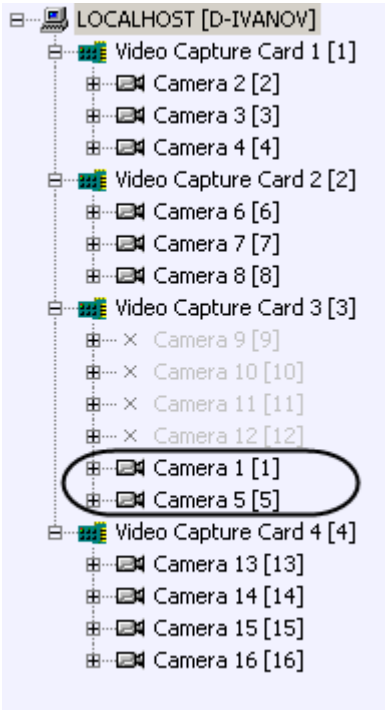
Example 2.Video signal digitization settings from 2 cameras with increased frame rate

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 “Video Capture Cards” 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. Each of the 3 ADC, matched to “Video Capture Card 1”, “Video Capture Card 2” and “Video Capture Card 4” objects, is set to digitize the signals from 4 cameras. The ADC, matched to the “Video Capture Card 3” object, is not set to digitize the signals from any camera. An example of the objects tree is presented in Figure 8.4—13, A.



A. Initial data



B. Setup result

Figure 8.4—13. Settings example of video signal digitization from cameras No. 1 and 5 with increased frame rate

Solution. You should follow the steps:

1. Select the “Camera 1” object in the tree. The settings panel of the selected object appears.

2. Select “ Video Capture Card 3” from the “Video Capture Card” list.

3. Click “Apply”.

4. The “Camera 1” object moves to a subdirectory of the “Video Capture Card 3” object (Figure 8.4—13, B).

5. Repeat (1) – (4) operations for the “Camera 5” object.

6. 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).

12. Click “Apply”.

Video capture card’s resources allocation is completed.

Note. Ways of resources allocation (given in examples) aren’t used for FS15, FX4, FX8 and FX16 video capture cards, because for these cards numbers of PCI channels (set in settings of the «Video capture card» objects) are connected with physical inputs (BNC connectors).

8.4.3.1.3.8 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.

8.4.3.1.3.9 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.

This setting is relevant only for the following video capture cards: FS5, FS6, FS8, FS16.

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—14).

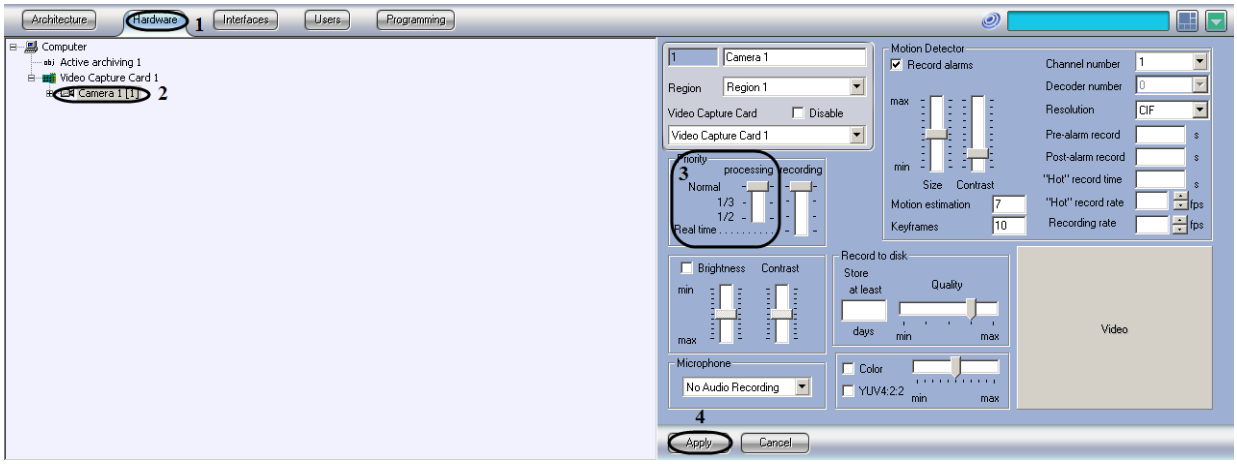


Figure 8.4—14. Change of video signal processing queue from the selected camera in the processing mode

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.

8.4.3.1.3.10 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—15).

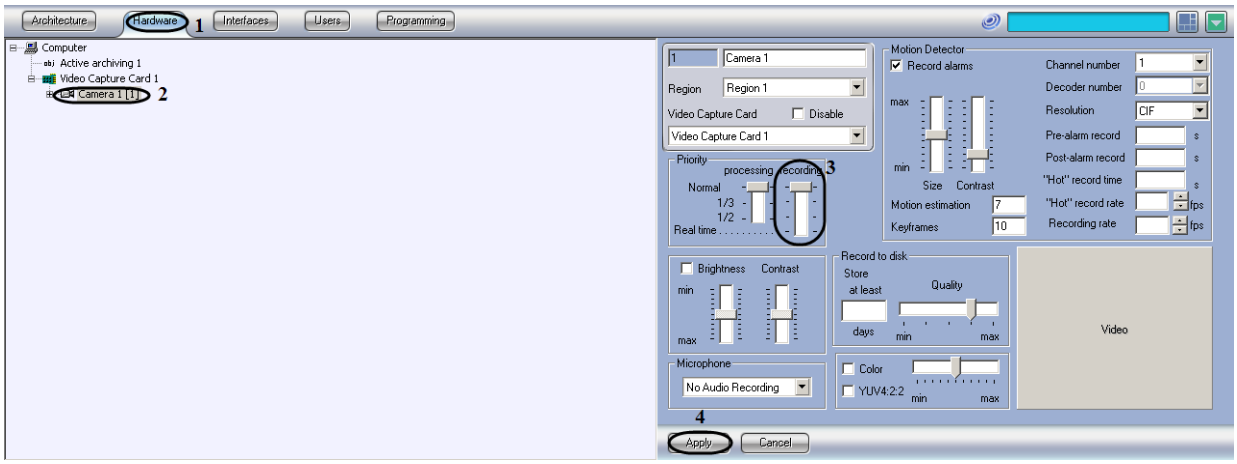


Figure 8.4—15. Change the queue of video signal processing from the selected camera in recording mode

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.

8.4.3.1.4 Brightness, contrast, color depth, color rendition format settings

8.4.3.1.4.1 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\AxxonSoft\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—16).

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—16).

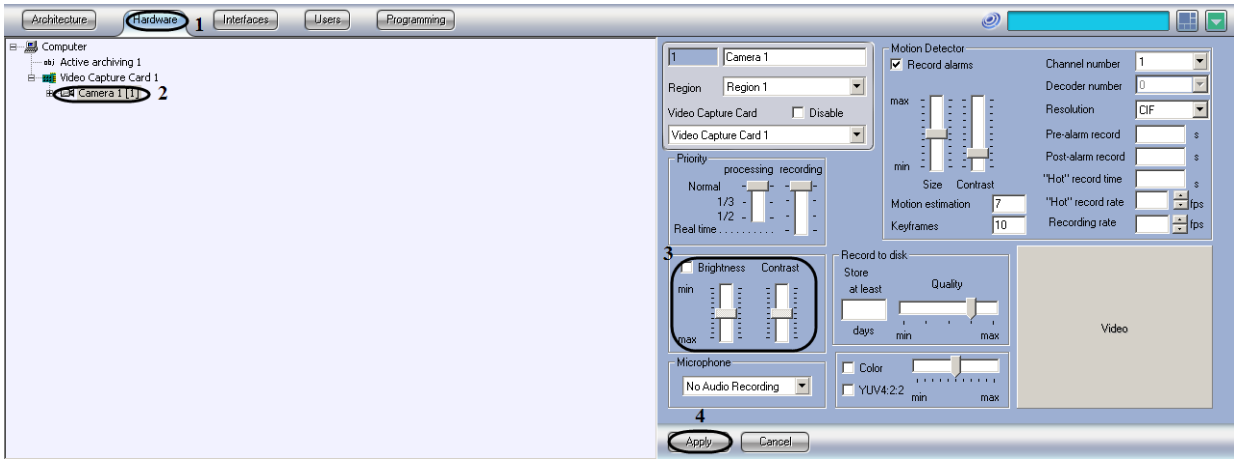


Figure 8.4—16. Brightness and contrast adjustment

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—17). In this mode manual brightness and contrast adjustment is unavailable. So, the “Brightness” and “Contrast” sliders are deactivated.

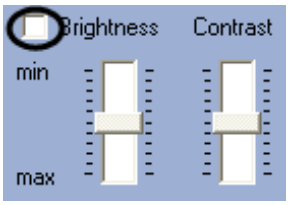


Figure 8.4—17. Auto adjustment mode is activated

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—18). In this mode image brightness and contrast settings are changed with the sliders.

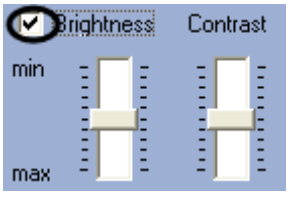


Figure 8.4—18. Manual adjustment mode is activated

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—19).

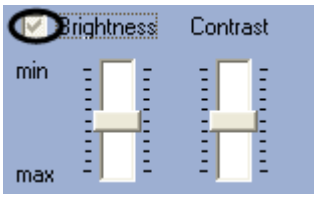


Figure 8.4—19. Manual adjustment mode with auto optimization activated

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.

8.4.3.1.4.2 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—20).

To adjust brightness and contrast, use the controls on the “Camera” object settings panel with the “Color” checkbox (Figure 8.4—20).

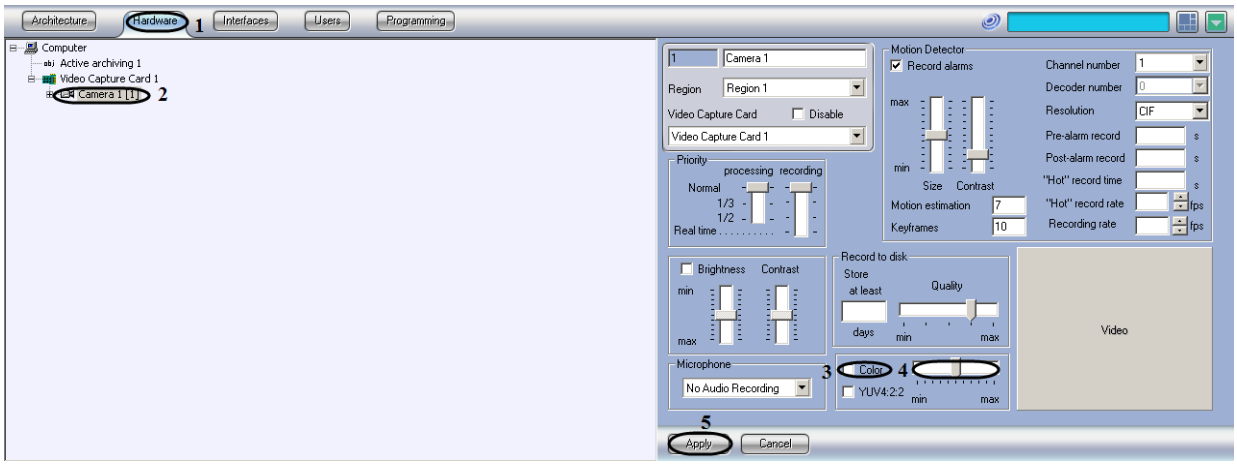


Figure 8.4—20. Color depth adjustment

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.

8.4.3.1.4.3 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—21).

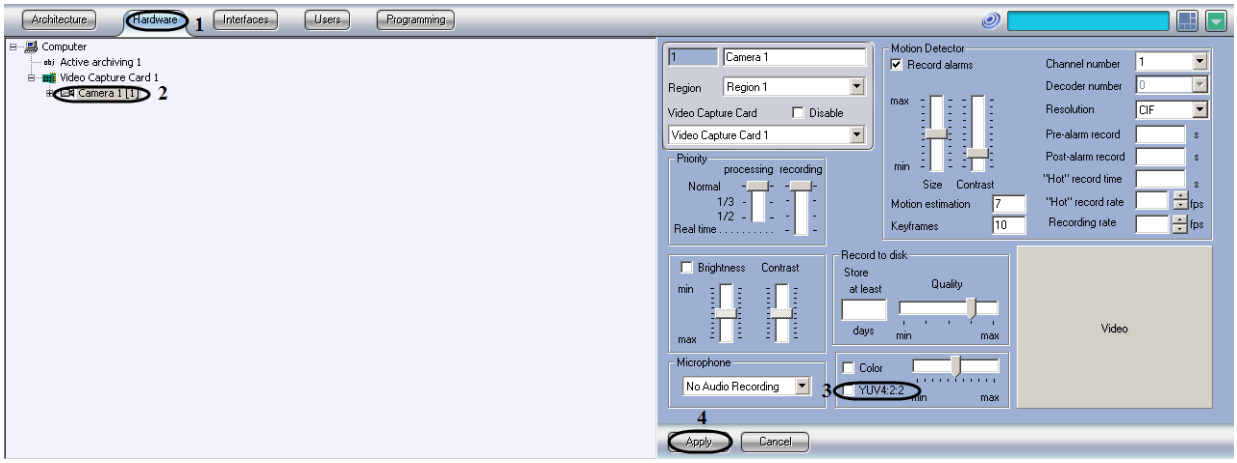


Figure 8.4—21. Selection of the YUV 4:2:2 color rendition format

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.

8.4.3.1.5 Video signal compression settings

8.4.3.1.5.1 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—22).

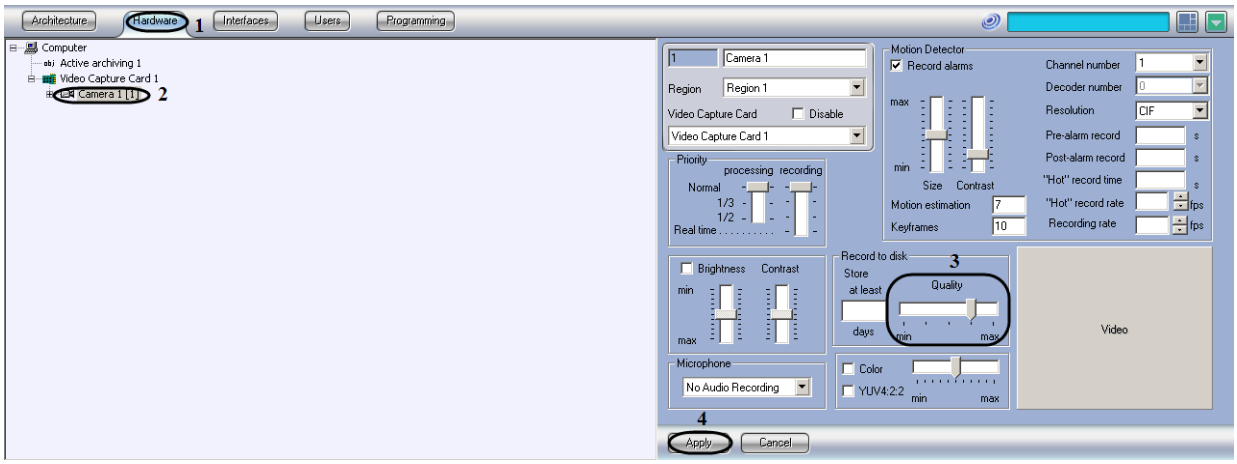


Figure 8.4—22. Video signal compression settings

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.

8.4.3.1.5.2 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—23).

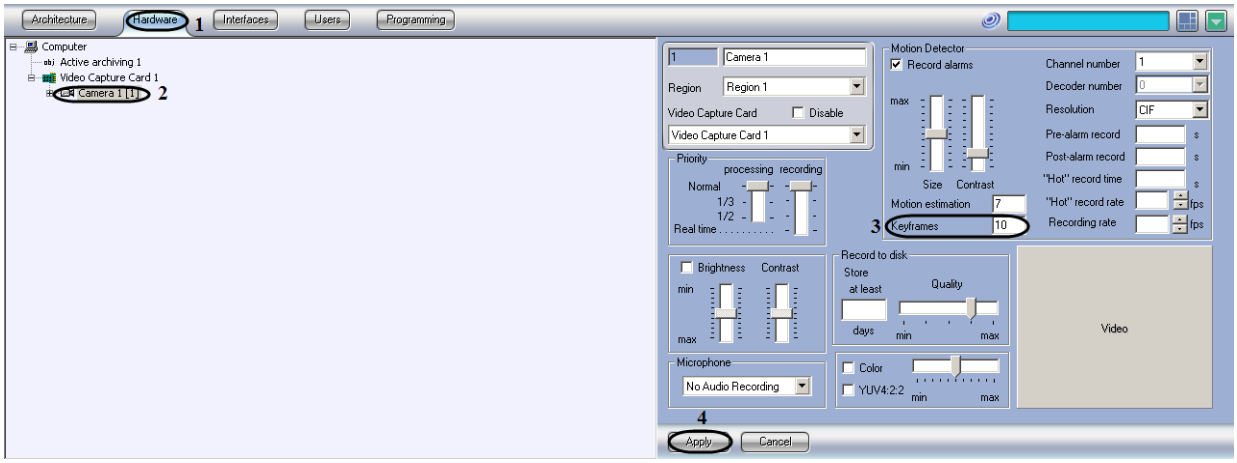


Figure 8.4—23. Keyframe rate settings

3. Enter the desired keyframe rate value in the “Keyframes” field.

4. Click the “Apply” button.

Keyframe rate setup is completed.

8.4.3.1.5.3 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—24).

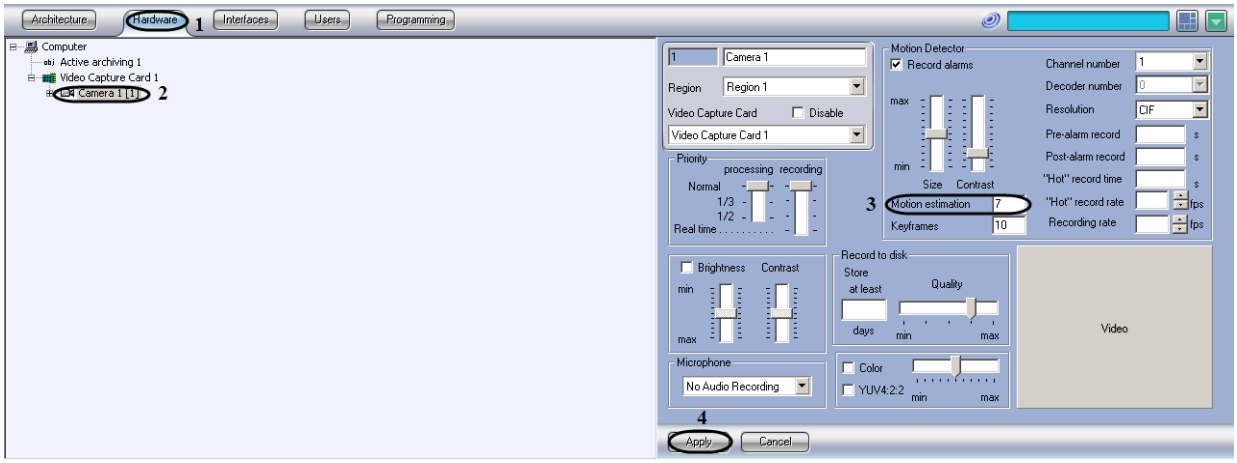


Figure 8.4—24. Delta frame generation criterion setup

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.

8.4.3.2 *Additional information on camera*

Additional information on the camera is:

1. Displayed on the video surveillance monitor over the camera name.
2. Added to the name of export file from interface monitor (AVI, BMP/JPEG) and for frame printing (details about frame export and printing are in *Intellect software package. Operator Guide*).
3. Displayed in the **Event log** window in the **Additional info** column.

To set additional information do the following:

1. Go to the **Hardware** tab in the **System settings** dialog box (Figure 8.4—25, 1).

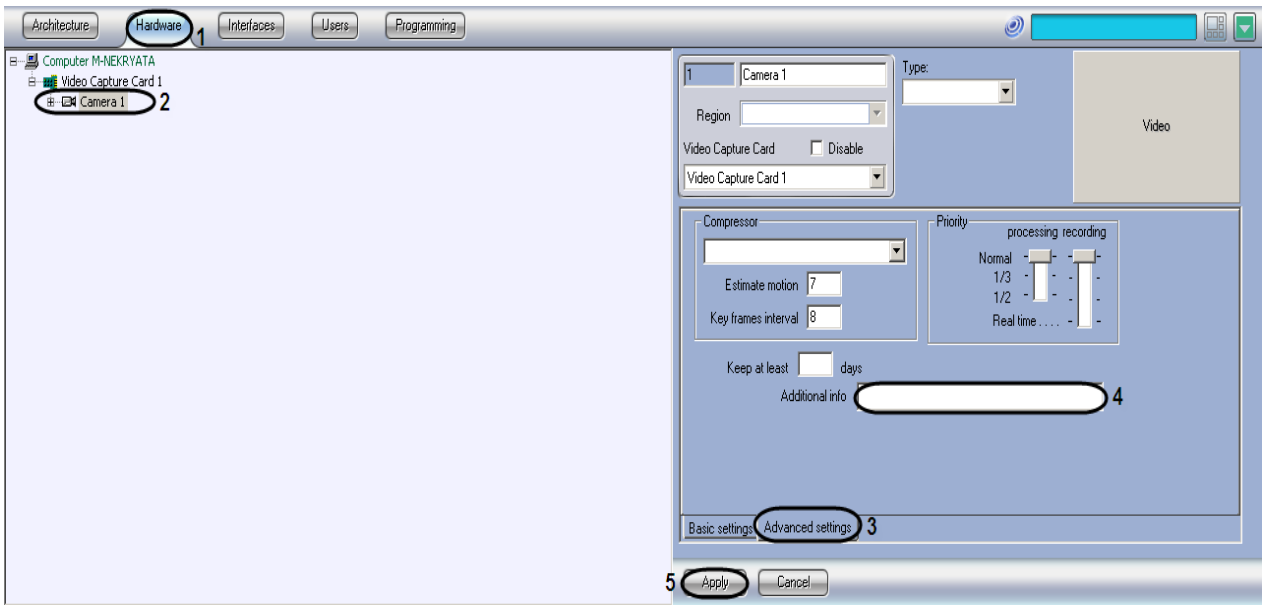


Figure 8.4—25 Additional information on camera

2. In the object tree on **Hardware** tab select the created **Camera** object corresponding to the camera under configuration (Figure 8.4—25, 2). The setting panel of the selected object is on the right.
3. Select the **Advanced settings** tab on the setting panel of the **Camera** object (Figure 8.4—25 , 3).
4. Type in additional information (not more than 100 characters) in the **Additional info** field (Figure 8.4—25, 4).
5. To save the changes click **Apply** (Figure 8.4—25, 5).

Setting additional information is completed.

8.4.4 Virtual video capture card creation and setting

You can work with virtual video capture card in Intellect software package. This way assumes that Intellect operates in test mode and consists of imitation of video stream feed to virtual video capture card by playing back ready-made video recording. The following video recordings are played back:

1. Video recordings of internal Intellect software package format;
2. AVI-files in formats for which DirectShow filters (codecs) are installed in Windows OS

Note. If only Windows Media Player 11(or its older versions) is installed on Windows OS to view video recordings, you should update it to Windows Media Player 12 or use DirectShow filters (codecs) of third-party producers.

To create and setup virtual video capture card do the following:

1. Set «Use virtual grabber» checkbox («Video subsystem» part in Tweake.exe utility) (Figure 8.4—26), having closed Intellect program beforehand.

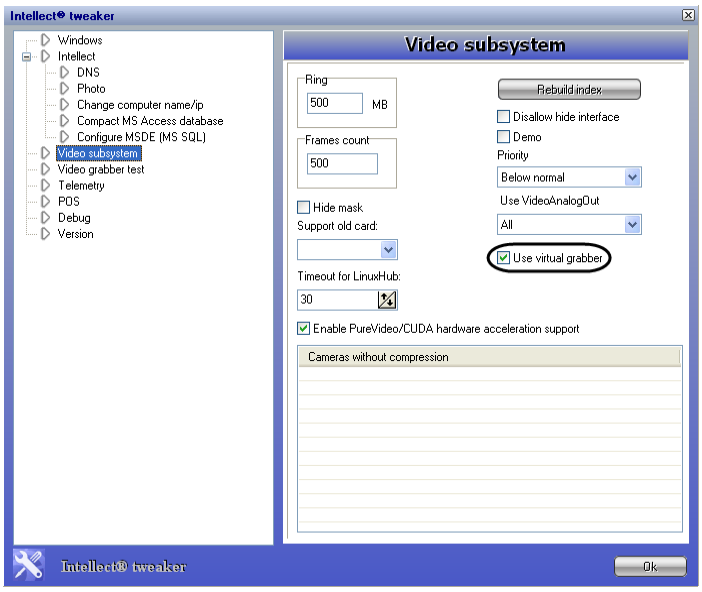


Figure 8.4—26 Video capture card presetting

2. Set video capture card type (Figure 8.4—27).

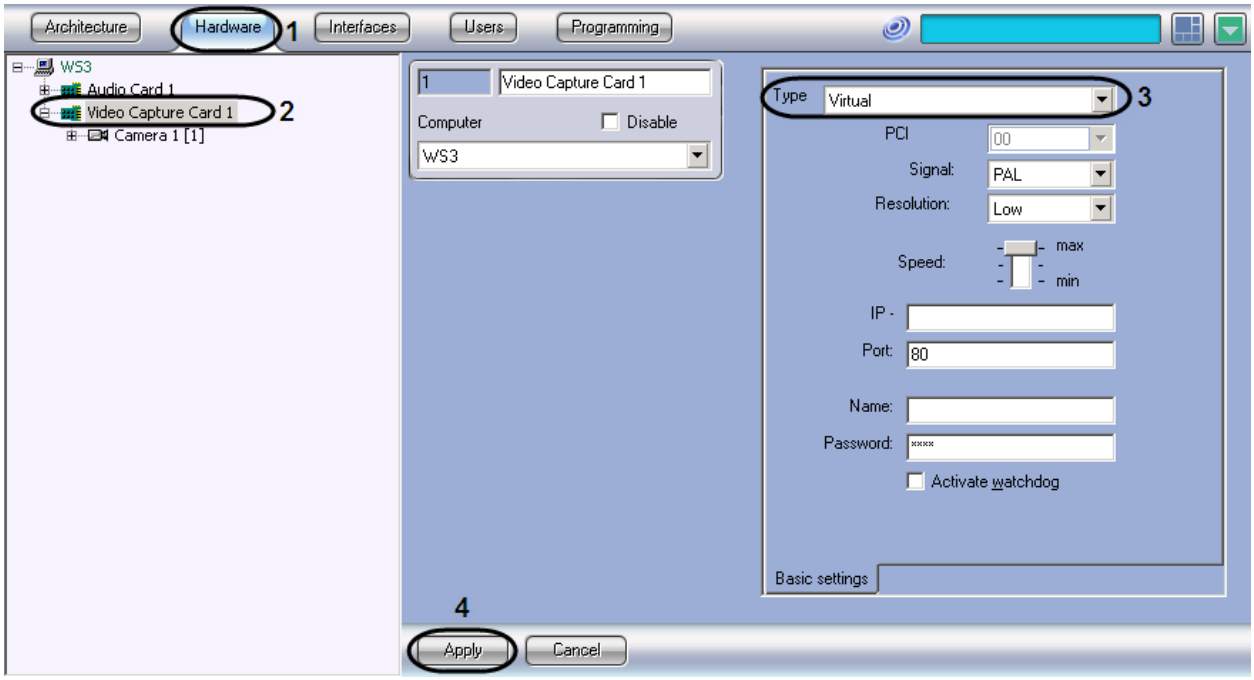


Figure 8.4—27 “Video capture card” system object setting

3. In settings of selected «Camera» system object set the storage for video recording that should be used for video signal imitation (Figure 8.4—28).

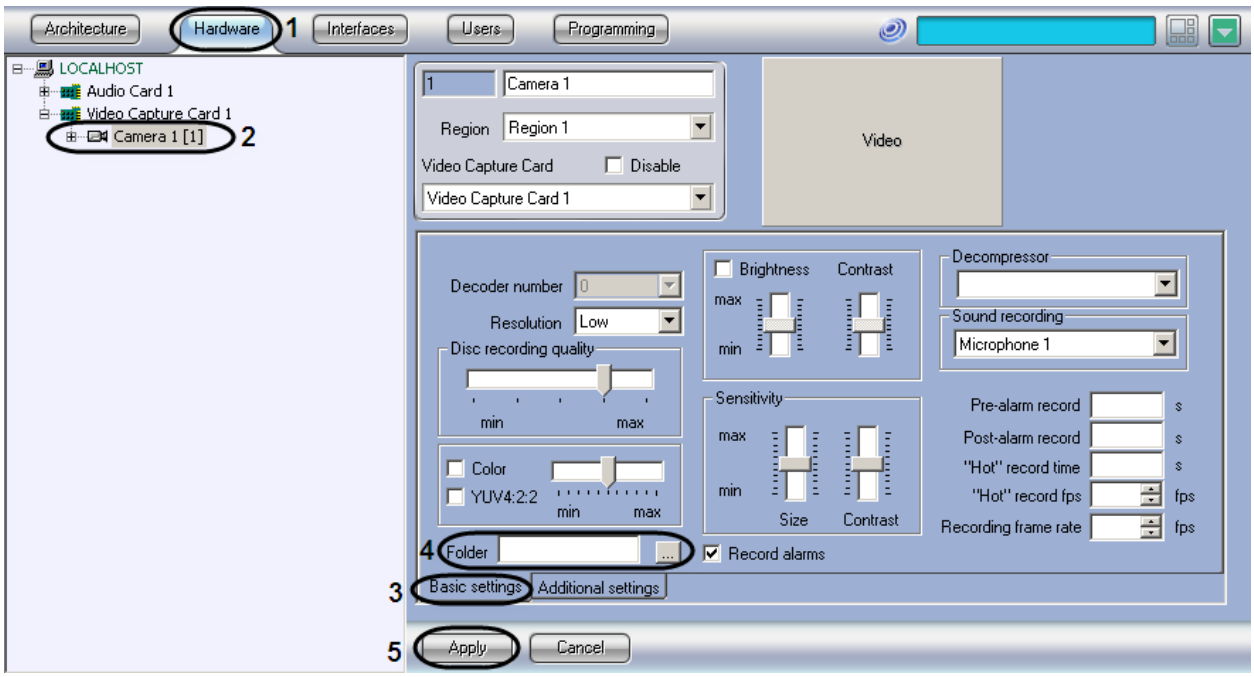


Figure 8.4—28 “Camera” system object setting

As a result video recording file from selected folder will be loop displayed. In case if there are several files in the folder they will be displayed in alphabetical order.

Attention! Selected folder mustn’t contain video recordings of internal Intellect software format and AVI-files at the same time.

8.4.5 Video signals archiving settings

8.4.5.1 *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.

Archive is a storage for the video recordings that are made in the INTELLECT™ software. Loop recording is used here. When the hardwares run out the place dedicated to archive storage, the rewriting of footprint starts. It is made on the principle of overwriting the earliest recordings (Figure 8.4—29).

Figure 8.4—29 Loop recording

Video archive is stored in the VIDEO folder on the selected system disk. Child directories with titles in «DD-MM-YY HH» (Date, Hour) format are stored in the VIDEO folder. Archive files for the current hour are situated here. Video file extension points to the number of video camera that is used for video archive (Figure 8.4—30). You can watch the files with the help of the Video surveillance window or using the converter.exe utility (if you chose the required period).

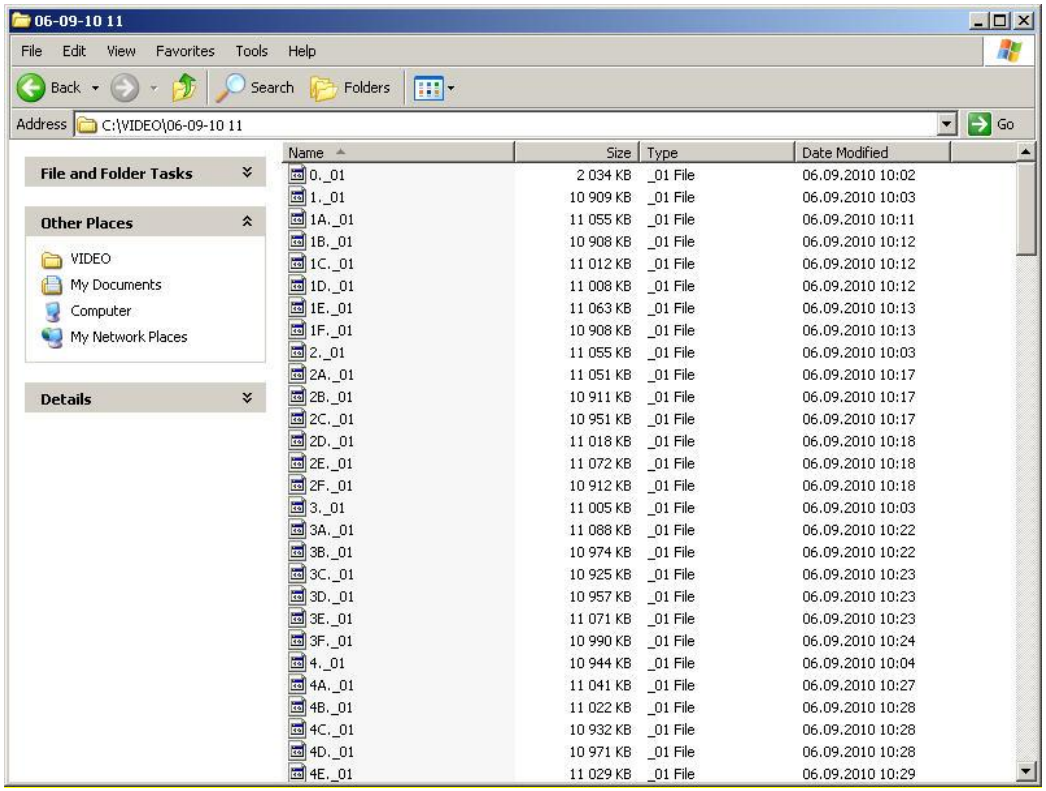


Figure 8.4—30 VIDEO folder. The example of archive storage

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—31.

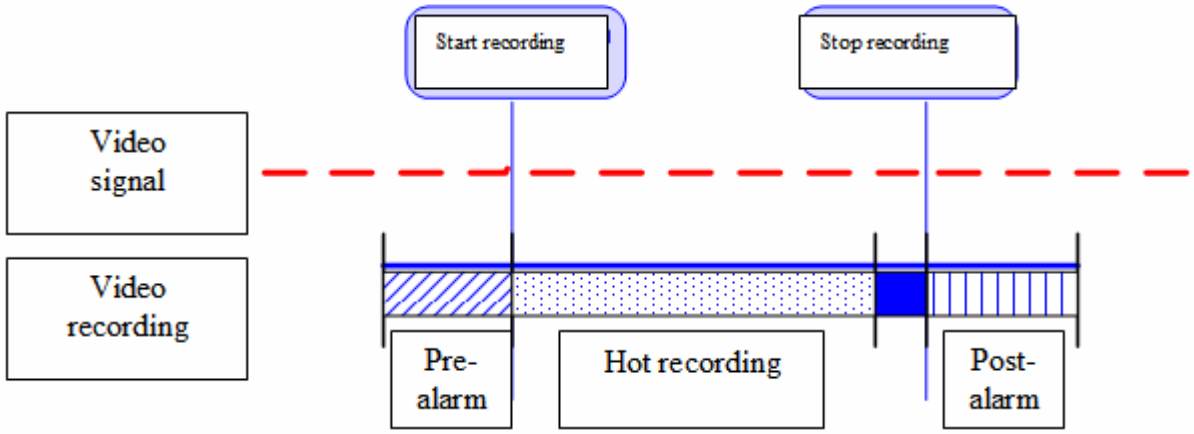


Figure 8.4—31. Expanded scheme of video recording

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 8.4-3.

Table 8.4-3

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.

8.4.5.2 *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.

8.4.5.3 *Selecting the disks 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.

To select the disks for the archive do the following:

1. Go to the **Hardware** tab in the **System settings** dialog box (Figure 8.4—32, 1).
2. Select the **Computer** object corresponding to the configured Server in the **Hardware** tab of the object tree (Figure 8.4—32, 2). The setting panel of the selected object appears in the right part of the **Hardware** tab. Each local disk available for archiving has the check of the same name in the **Disks for storing the archive** group (Figure 8.4—32, 3).

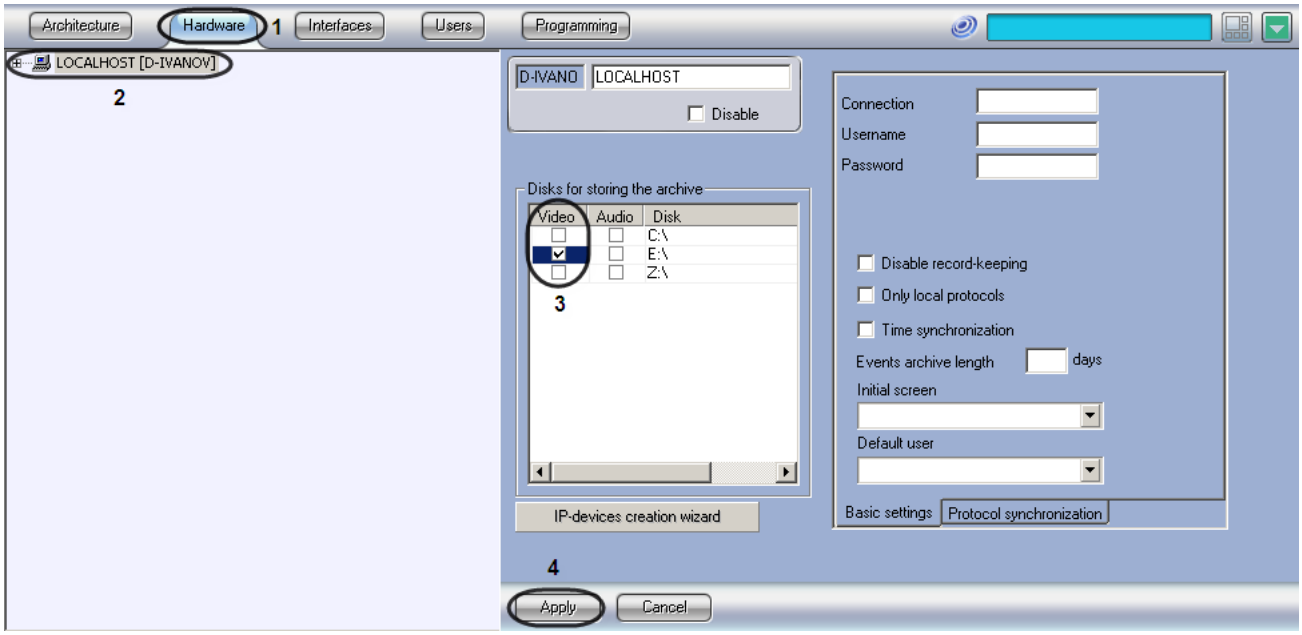


Figure 8.4—32. Selecting the disks for storing the video archive

1. Set the relevant check in the **Video** column next to the disk to be selected. Local, network and USB disks are available for storing (details on adding network discs are in *Using the network disks* section).

*Note. For the opposite result unset the check corresponding to the disk in the **Video** column (Figure 8.4—32).*

2. Click **Apply** (Figure 8.4—32, 4).

Selection of the disks for video archive storage is completed.

Note. If none disk for storing the video is selected, then there is no storing to the archive.

8.4.5.4 *Using the network disks*

To use network disks as an archive, set UNC paths to them in INTELLECT™. Details of working with network disks in INTELLECT™ installed as a Service are given in *Working with network disks of INTELLECT™ installed as a Service* section.

Attention! For Windows Vista and Windows 7 OS with connected UAC it's necessary to connect network disks through command line with Administrator's rights. The way of connecting is described in Connecting network disks in Windows Vista and Windows 7 OS section.

*Note. Access to network disks on computers with Windows Vista or Windows 7 OS can be forbidden when the user account control (UAC) is swiched on. To enable access create the **EnableLinkedConnections** key of the **DWORD** type with **1** value in the **HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System** registry. Details of working with registry keys are in Working with Windows OS registry section.*

To add a network disk by specifying the UNC path do the following:

1. Go to the last line in the disk list and click the down key (Figure 8.4—33).

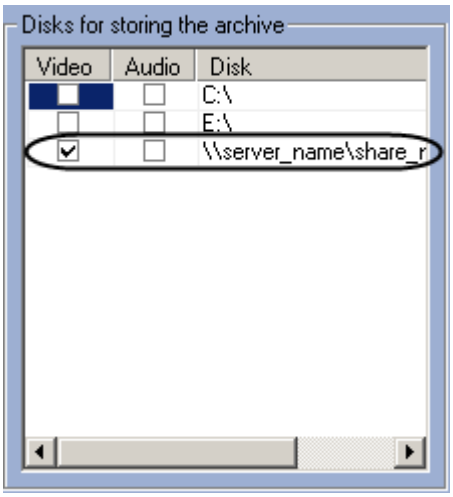


Figure 8.4—33 Specifying the UNC path to a network disk

2. Enter the path to a network disk in the appeared line in the **Disk** column (Figure 8.4—33). UNC path is set in **\\server_name\share_name** format where **server_name** is the name of file server and **share_name** is the network name of the general folder.

*Note. If there are any problems with storing video/audio archive at network disks, then use **net use** command of Windows command line:*

net use \\server_name\share_name /delete

net use \\server_name\share_name /USER:user_name

*Where **user_name** is a user that has rights to store to selected network disk. This is to be performed after every Windows OS restart.*

*Details about **net use** command are in Microsoft official documentation (www.microsoft.com).*

3. Set a checkbox for created disk in the **Video** column (Figure 8.4—33).
4. Click **Apply**.

Adding a network disk by specifying the UNC path is completed.

8.4.5.5 *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—34).

Figure 8.4—34. 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.

8.4.5.6 *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.

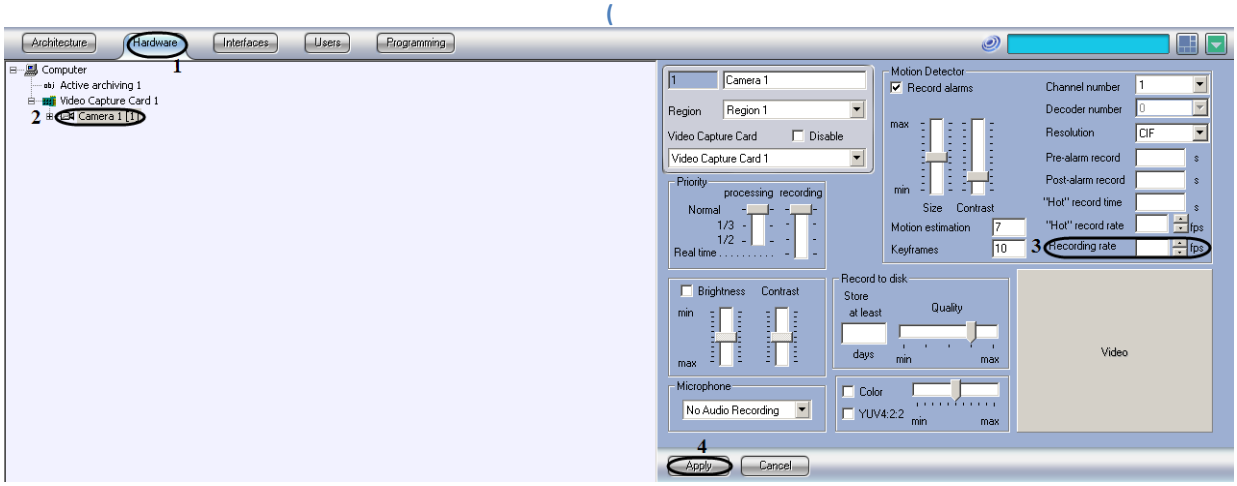
Note A. The reduction of the video recording frame rate doesn’t affect the displaying of the video signal on the server monitor and its transmission to the Remote Workstations by the network.

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 appears in the right part of the “Hardware” tab

(



2. Figure 8.4—35).

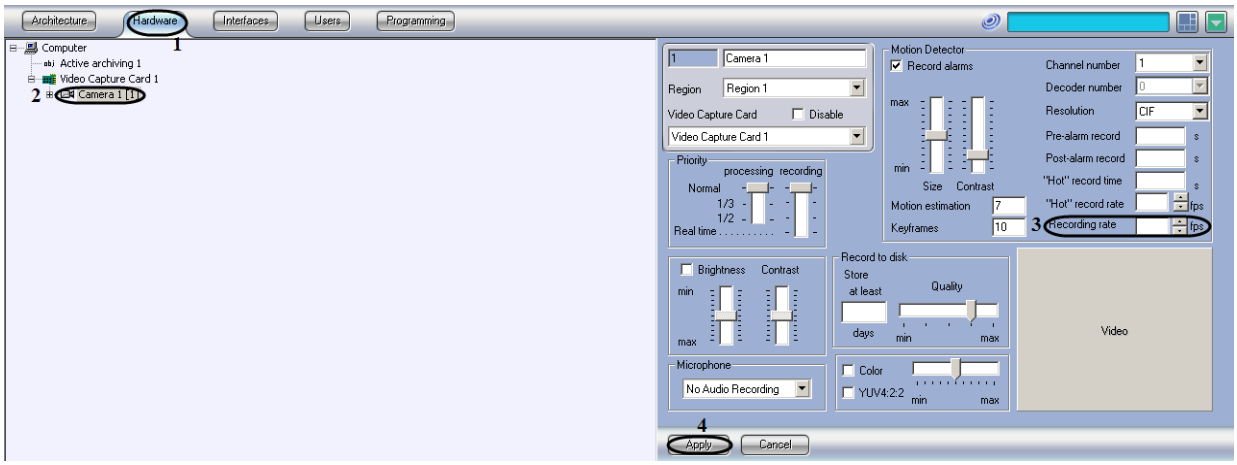


Figure 8.4—35. Frame rate reduction in recording mode

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.

8.4.5.7 *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—36).

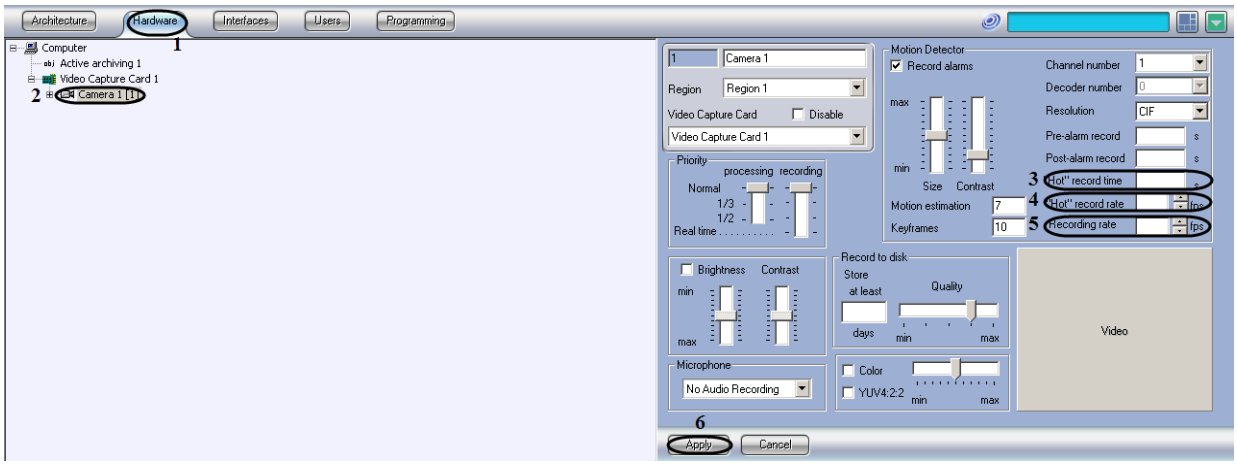


Figure 8.4—36. Hot recording mode setup

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.

Note. It’s not recommended to change “Recording rate” and “Hot record rate” parameters for H.264 codec.

8.4.5.8 *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.

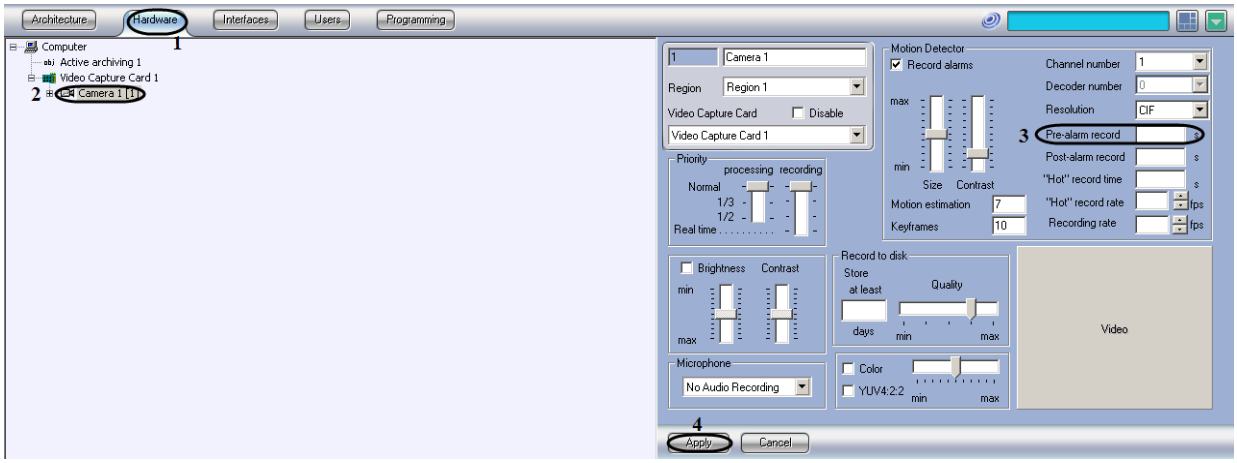


Figure 8.4—37. Pre-event recording setup

3. Enter the desired duration (in seconds) of pre-event recording in the “Pre-event” field.

4. Click the “Apply” button.

Information about variants of pre-event recording is presented in Table 8.4-4.

Table 8.4-4 Pre-event recording

Camera state	Recording initiator	Recording
On guarding	Macro	Without pre-event recording
On guarding	Manually	Without pre-event recording
On guarding	Alarm	With pre-event recording
On guarding	Program	With pre-event recording
Not on guarding	Macro	Without pre-event recording
Not on guarding	Manually	Without pre-event recording
Not on guarding	Alarm	-
Not on guarding	Program	With pre-event recording

In Intellect PC you can make pre-event recording if camera isn’t on guarding. You can do it with the help of DoReact("CAM","1","REC","rollback<1>") program; (see. «PC «Intellect»: Program manual» doc).

8.4.5.9 *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—38).

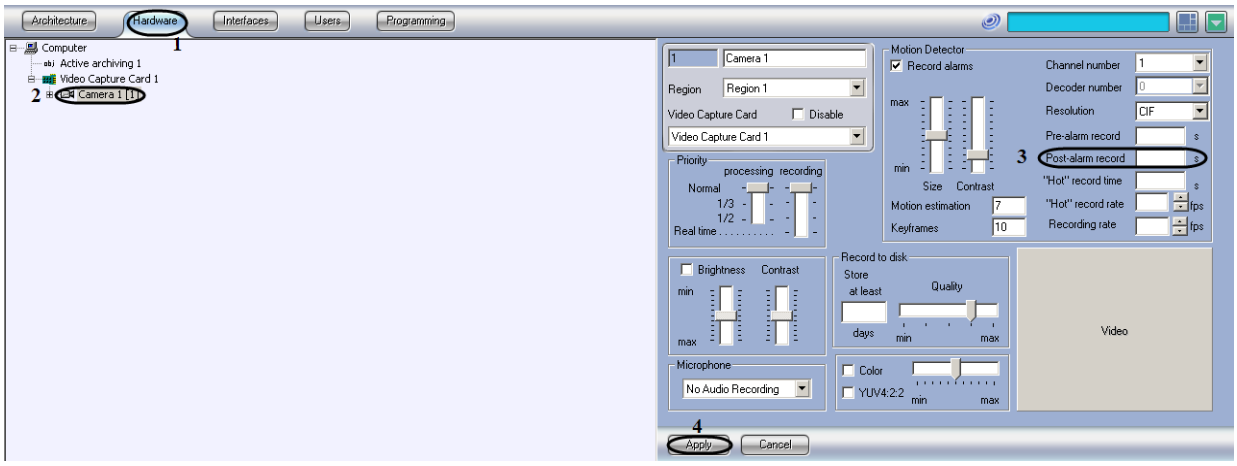


Figure 8.4—38. Post-event recording setup

3. Enter the desired duration (in seconds) of the post-event recording in the “Post-event” field.

4. Click the “Apply” button.

8.4.5.10 *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—39).

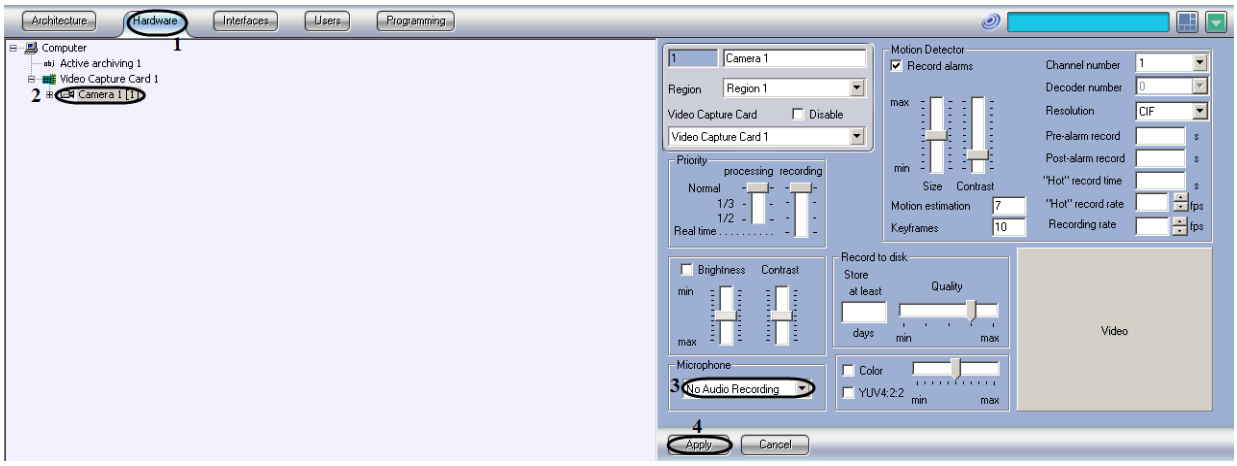


Figure 8.4—39. Audio and video synchro recording settings

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.

8.4.6 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.

8.4.7 Video signal display settings

8.4.7.1 *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 devices and microphones.

8.4.7.2 *Video monitor setup sequence*

To configure the “Monitor” object, do the following:

1. Select the screen and create the “Monotor” object for it.
2. Set the parameters of the “Monitor” interface box.
3. Select and configure cameras for displaying in the “Monitor” box.
4. Configure the camera displaying mode.
5. Select overlay type for video displaying.
6. Set the priority of PTZ device control.

8.4.7.3 *Creating of the “Monotor” object*

To create the “Monitor” object, do the following:

1. Select the required “Screen” object in the “Interfaces” tab of the “System settings” dialog box (Figure 8.4—40).

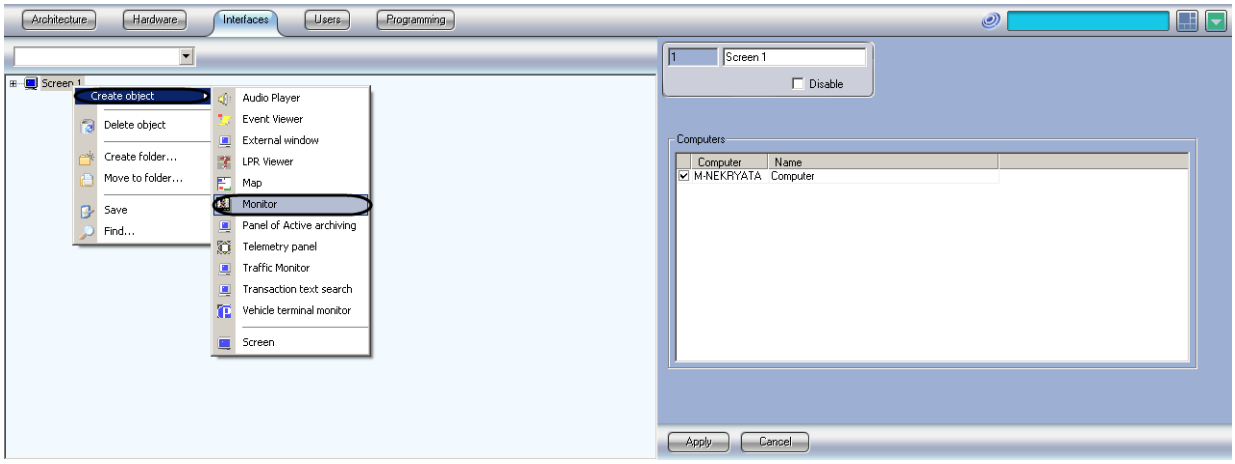


Figure 8.4—40. The “Monotor” object creation

2. Double-click the right mouse button upon the selected “Screen” object and select “Create object > Monitor” in the contextual window (Figure 8.4—40).
3. Set the number and name of the “Monitor” object and click the “Apply” button (Figure 8.4—41).

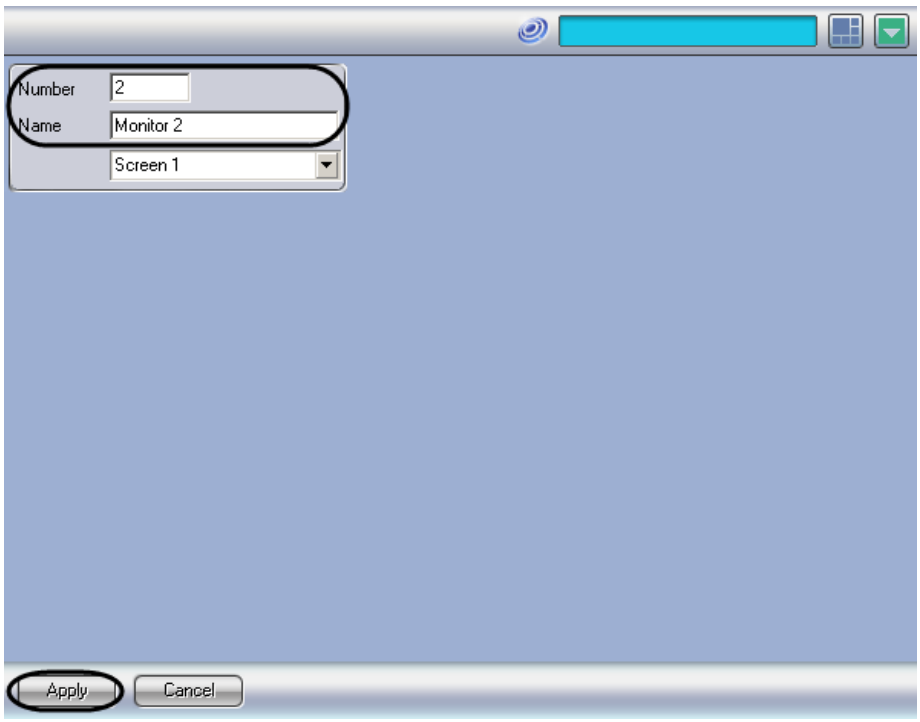


Figure 8.4—41. Setting the number and name of the “Monitor” object

Note. As a result the settings panel for the “Monitor” object will be displayed.

4. Repeat steps 1-3 for all required “Screen” and “Monitor” objects.

The “Monitor” object is now created.

8.4.7.4 *Selecting the parameters of the “Monitor” interface box*

It is possible to set the following parameters of the “Monotor” interface box:

- Window position.
- Window size.
- Toolbar (only in the “List” mode of camera’s windows displaying - see “Configuring the display mode for camera” section).

To set the parameters of the “Monitor” interface box, do the following:

1. Go to the settings panel for the “Monitor” interface object (Figure 8.4—42).

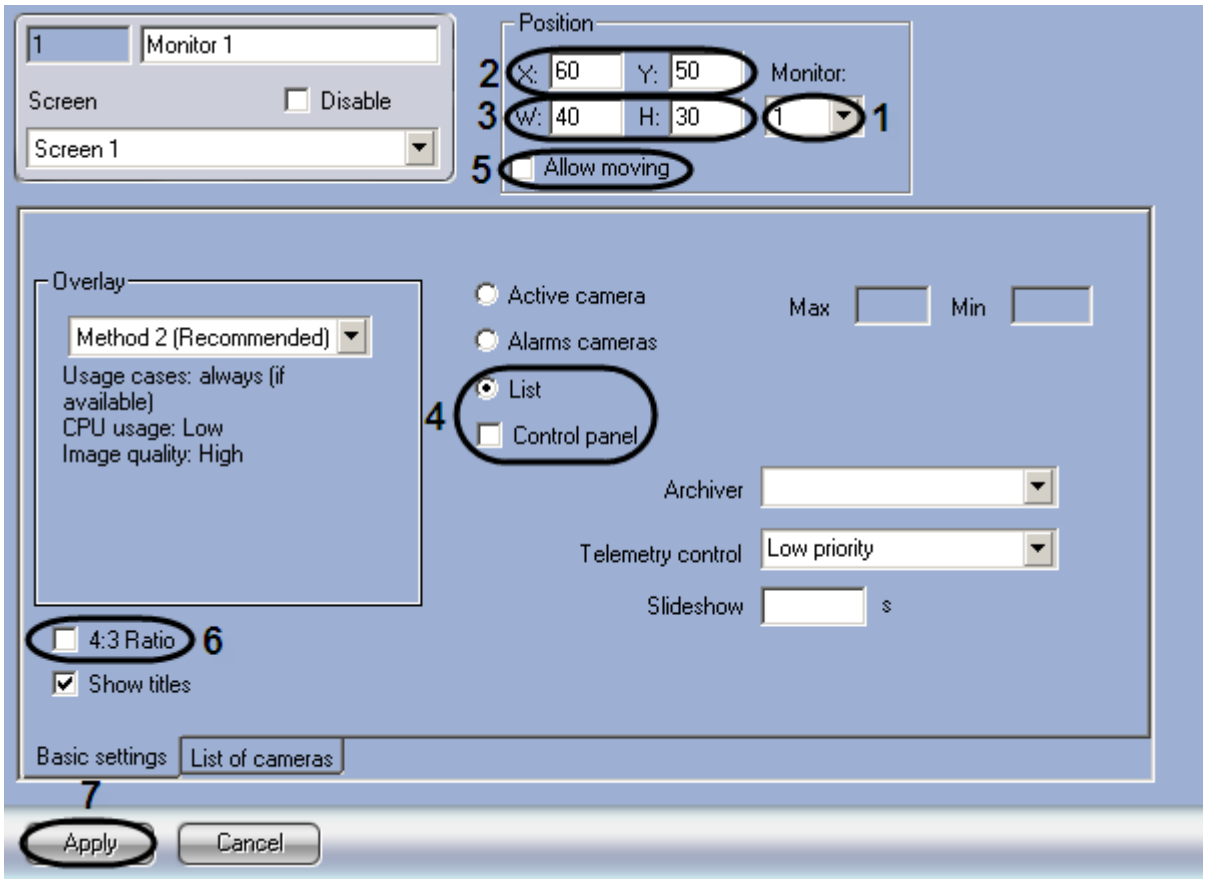


Figure 8.4—42. Setting the parameters of the "Monitor" interface box

2. In the "Monitor" drop-down list select the monitor number which coordinates are to be set further (Figure 8.4—42, 1).

3. Set coordinates of the left upper corner of the "Monitor" interface box: fields «X» (horizontal ident from the left edge of the image) and «Y» (vertical ident from the upper edge of the image) – Figure 8.4—42, 2. Coordinates are set in percentage relative to the screen size horizontally and vertically correspondingly.

4. Set the dimentions of the "Monitor" interface box: «W» (window's width) and «H» (window's height) fields – Figure 8.4—42, 3. Sizes are set in percentage relative to the screen size horizontally and vertically correspondingly.

5. To display a toolbar in the "Monitor" interface box the "List" group is to be switched in the "Basic settings" tab and the "Control panel" check box is to be set (Figure 8.4—42, 4).

Note. If the toolsbar is on, window's height «H» is automatically equal to the window's width «W».

6. If moving the "Monitor" interface box is to be enabled, set the "Allow moving" check box (Figure 8.4—42, 5).

Note. This setting is relevant only when the toolbar is in use.

7. If the ratio of width and height of the window is to be 4:3, set the "4:3 Ratio" checkbox (Figure 8.4—42, 6).

8. To save all the changes click the “Apply” button (Figure 8.4—42, 7).

The parameres of the “Monitor” interface box are now set.

8.4.7.5 *Selecting and configuring video cameras*

One can select and configure cameras for displaying in two ways:

1. Separately. The settings panel for the “Monitor” object is in use.
2. As a package. The “Add/Edit Camera Objects” dialog box is in use.

Note. Order of selecting video cameras as a package todisplay in the “Monitor” interface box is described in “Selecting and configuring video cameras as a package *” section.*

To select video cameras on the settings panel for the “Monitor” object, do the following:

1. Go to the “List of cameras” tab (Figure 8.4—43).
2. Select the number of the required camera in the drop-down list of the “Number” column (Figure 8.4—43, 1).

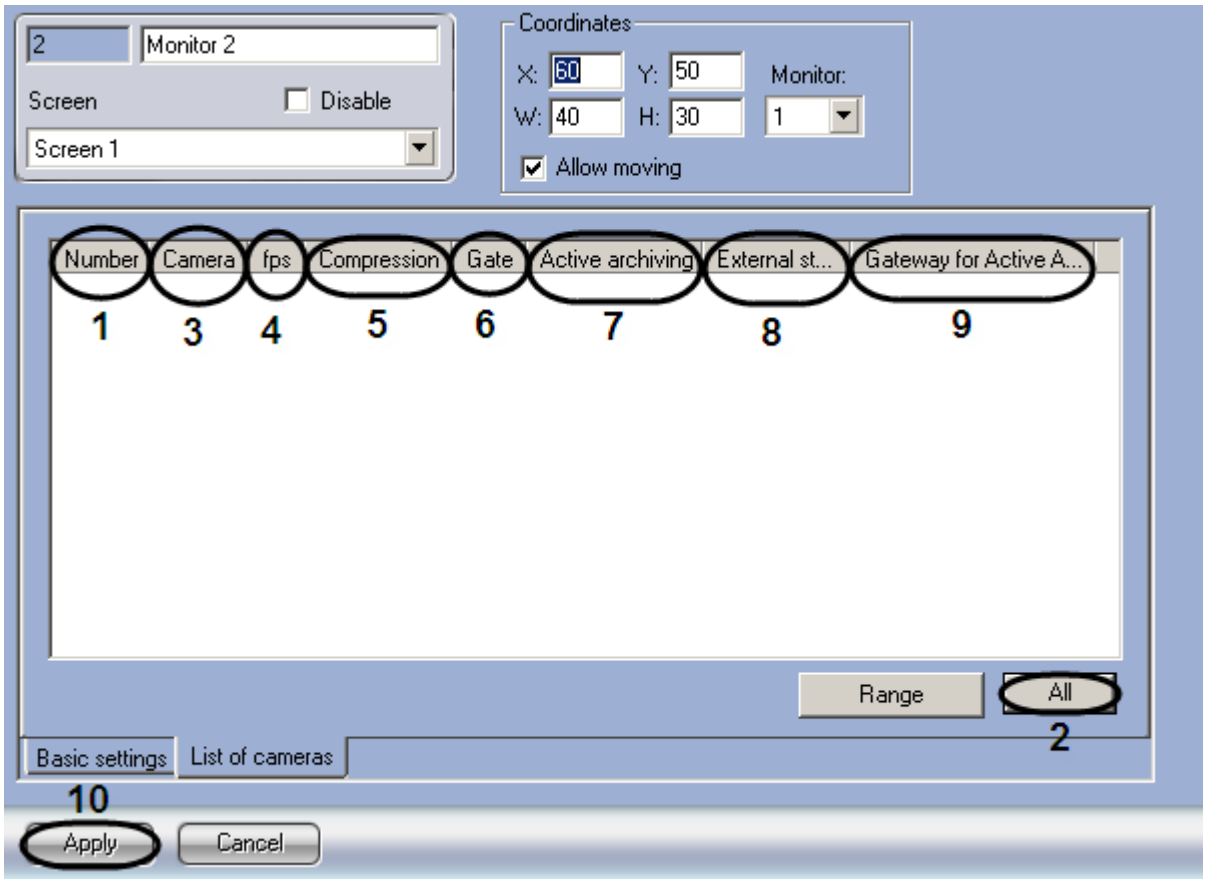


Figure 8.4—43. Selection of cameras

Note. To select all the cameras, registered in the system, click the “All” button (Figure 8.4—43*, 2).*

3. As a result the name of the selected camera is automatically displayed in the “Camera” column (Figure 8.4—43, 3).

4. If a video signal is to be thinned for its transmitting to the “Monitor” of the Client, then select the required frame rate of video signal in the drop-down list of the “fps” column (Figure 8.4—43, 4).

Attention! To set additional thinning and/or compression of video signals displayed on the “Monitor” of the Server is strongly inadvisable, as it leads to extra consumption of Server resources and worsening the image quality.

Note1. The selected “fps” value is to be less than the frame rate for video digitising by a video capture card. Otherwise the frame rate of video signal will be the same as the fps of digitising.

Note2. For correct thinning of a video stream compressed with the help of H.264 or MPEG4 codecs, the “fps” value is to be equal to keyframe rate specified in the device (IP-camera) or INTELLECT settings (see “Keyframe rate settings” section).

Note3. Four streams for a chip are processed on FX4 video capture card. If the chip processes a stream without a signal (blue screen), then total fps is 10 (4 x 2,5fps) for one chip.

5. If video compression level is to be changed for transmitting to the “Monitor” of the Client, select the required level of video signal compression in the drop-down list of the “Compression” column (Figure 8.4—43, 5). Compression level is increased from “0” (no compression) to “5” (maximum compression).

Note. If the compression level is set for the Client, a video signal on the Server is to be preliminary decompressed, that results in a great load increase on CPU of the Server.

6. If a video archive from the selected camera is to be transmitted to the “Monitor” via the “Gate” object, then select the name of this object in the drop-down list of the “Gate” column (Figure 8.4—43, 6).

7. If a video archive from the selected camera is to be transmitted to the “Monitor” from the “Active archiving” object, then select the name of this object in the drop-down list of the “Active archiving”column (Figure 8.4—43, 7).

8. If the selected video camera is used for video archive viewing from the external storage, then select the required “External storage” object in the “External storage” drop-down list (Figure 8.4—43, 8).

9. If the tansmission from the “Active archiving” object is performed via the “Gate” object, then select the name of this object in the drop-down list of the “Gateway for Active Archiver” column (Figure 8.4—43, 9).

10. Repeat steps 2-9 for all required video cameras.

11. To save all the changes click the “Apply” button (Figure 8.4—43, 10).

Video cameras on the settings panel for the “Monitor” object are now selected.

8.4.7.6 *Selecting and configuring video cameras as a package*

One can select and configure video camera parameters as a package to display them in the “Monitor” interface box.

To select video cameras as a package, do the following:

1. Go to the settings panel for the “Monitor” interface object.

2. Click the “Range” button in the “List of cameras” tab (Figure 8.4—44, 1).

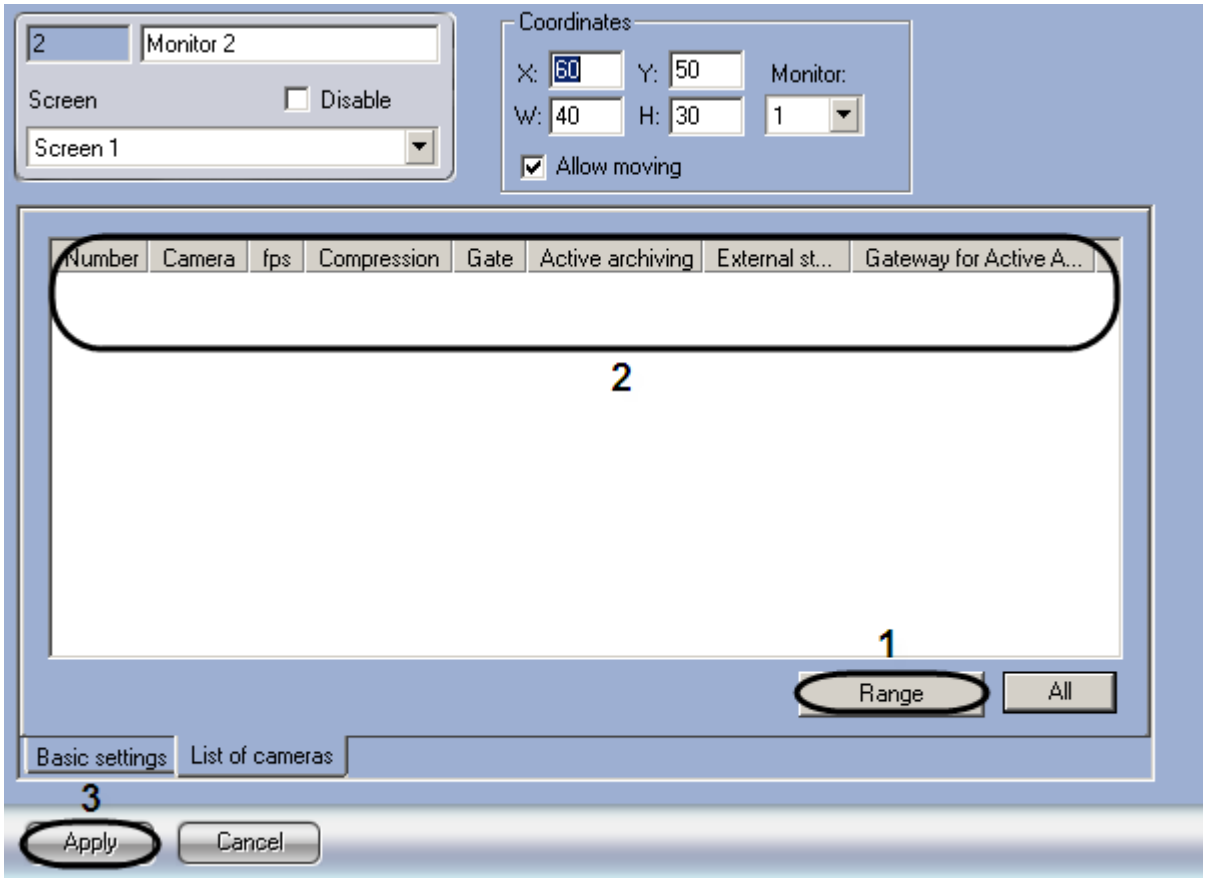


Figure 8.4—44. The “Range” button

3. As a result the “Add/Edit Camera Objects” dialog box is displayed (Figure 8.4—45).

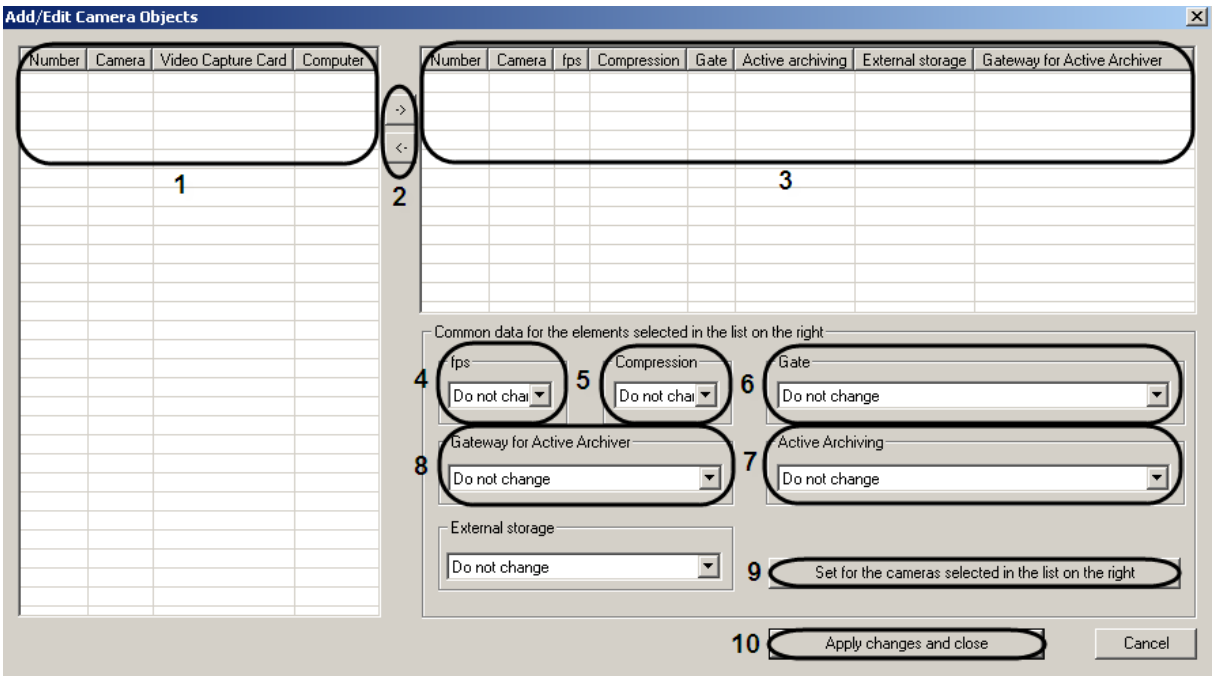


Figure 8.4—45. The "Add/Edit Camera Objects" dialog box

4. Select the required cameras in the left list of the "Add/Edit Camera Objects" box (Figure 8.4—45, 1).

5. Move the selected cameras to the right list by clicking the -> button (Figure 8.4—45, 2).

Note.The right list is the list of cameras selected for displaying in the "Monitor" interface box.

The <- button is used for inverse action, i.e. for moving the selected video cameras from the right list to the left one (Figure 8.4—45, 2).

6. As a result the selected cameras will be displayed in the list on the right of the the" Add/Edit Camera Objects" box (Figure 8.4—45, 3).

7. If it is necessary select the names of required cameras in the right list for complex editing of their parameters (Figure 8.4—45, 3).

Attention! The same parameters will be set for all selected cameras.

8. If a video signal is to be thinned for transmitting to the "Monitor" of the Client, then select the required frame rate of a video signal in the "fps" drop-down list (Figure 8.4—45, 4).

Attention! To set additional thinning and/or compression of video signals displayed on the "Monitor" of the Server is strongly inadvisable, as it leads to extra consumption of Server resources and worsening the image quality.

Note. The selected "fps" value is to be less than the frame rate for video digitising by a video capture card. Otherwise the frame rate of video signal will be the same as the fps of digitising.

The "fps", "Compression", "Gate", "Active archiving" and "Gateway for Active Archiver" settings are in the "Common data for the elements selected in the list on the right" group (Figure 8.4—45).

For correct thinning of a video stream compressed with the help of H.264 or MPEG4 codecs, the "fps" value is to be equal to keyframe rate specified in the device (IP-camera) or INTELLECT settings (see "Keyframe rate settings" section).

9. If video compression level is to be changed for transmitting to the "Monitor" of the Client, select the required level of video signal compression in the drop-down list of the "Compression" column (Figure 8.4—45, 5). Compression level is increased from "0" (no compression) to "5" (maximum compression).

Note. If the compression level is set for the Client, a video signal on the Server is to be preliminary decompressed, that results in a great load increase on CPU of the Server.

10. If a video archive from the selected camera is to be transmitted to the "Monitor" via the "Gate" object, then select the name of this object in the "Gate" drop-down list (Figure 8.4—45, 6).

11. If a video archive from the selected camera is to be transmitted to the "Monitor" from the "Active archiving" object, then select the name of this object in the "Active archiving" drop-down list (Figure 8.4—45, 7).

12. If the tansmission from the "Active archiving" object is performed via the "Gate" object, then select the name of this object in the "Gateway for Active Archiver" drop-down list (Figure 8.4—45, 8).

13. To save the set parameters, click the "Save for the cameras selected in the list on the right" button (Figure 8.4—45, 9).

14. As a result set parameters will be displayed in the list on the right of the "Add/Edit Camera Objects" box (Figure 8.4—45, 3).

15. Repeat steps 6-12 for complex editing of all required cameras.

16. To save all the canges and close the "Add/Edit Camera Objects" box, click the "Apply changes and close" button (Figure 8.4—45, 10).

17. Set camera settings will be displayed in the "List" table on the settings panel for the "Monitor" object (Figure 8.4—44, 2).

18. To save all the changes click the "Apply" button (Figure 8.4—44, 3).

Video cameras are now selected as a package.

8.4.7.7 *Configuring the display mode for camera boxes*

To display camera boxes (windows with video images) one of the following modes is in use:

1. The "Active camera" mode. Only active camera box is displayed in the "Monitor" interface box.

Note.To make camera box active, click upon it with the left mouse button.

2. The “Alarms cameras” mode. The boxes of alarm cameras are displayed in the “Monitor” interface box.

3. The “List” mode. Camera boxes are displayed in the “Monitor” box according to the selected layout.

Functions available in the “List” mode:

- Control panel;
- Slideshow.

The control panel is displayed in the the “Monitor” interface box and enable performing the following operations:

- Select the number of dislayed cameras;
- Set and use the layouts of cameras;
- Control the slideshow.

Current date and time are also displayed on the control panel.

Slideshow is used for successive close-up displaying of camera boxes on the “Monitor”. Slideshow is performed with the help of the buttons on the toolbar of the “Monitor” in two ways:

1. Manually. Buttons of switching to the previous or next camera box are in use.

2. Automatically.Switching to the next camera box is performed automatically in a set period of time.

To set the display mode for camera boxes, do the following:

1. Go to the setting panel for the “Monitor” interface box (Figure 8.4—46).

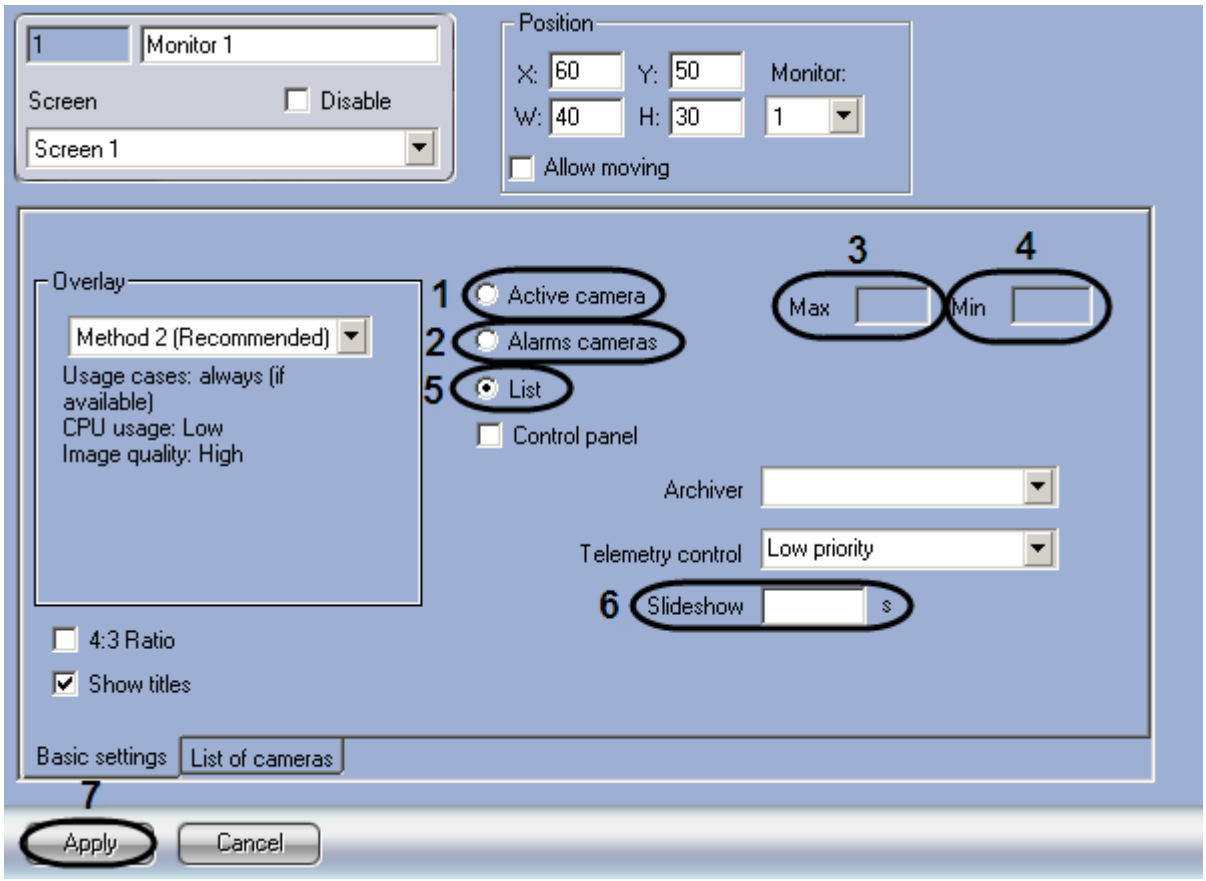


Figure 8.4—46. Setting the display mode for cameras

2. To activate the “Active camera” mode, set the “Active camera” switch in the “Basic settings” tab (Figure 8.4—46, 1).

3. To activate the “Alarms cameras” mode, set the “Alarms cameras” switch in the “Basic settings” tab (Figure 8.4—46).

4. As a result the “Max” and “Min” fields will be available. In the “Max” field specify the required maximum number of cameras boxes of which are to be displayed on the “Monitor” on the alarms registration (Figure 8.4—46, 3). If the number of alarm cameras exceeds the maximum one, then displaying of camera boxes, alarms on which have been registered earlier, is stopped.

Note.

Example. The “Monitor” object is set for operation with maximum number of alarm cameras, equal to 5. Boxes of 4 alarm cameras are displayed in the “Monitor” box. Alarms on these cameras have been registered in the following sequence: Camera 1, Camera 2, Camera 3 and Camera4. When alarm has been registered on three more cameras, seven cameras are alarmed at the same time.This exceeds a maximum acceptable number, so the displaying of Camera 1 and Camera 2 boxes is stopped.

5. In the “Min” field specify the required minimum number of cameras images of which are to be displayed on the “Monitor” even on no-alarm (Figure 8.4—46, 4). If the number of alarm cameras is less than a minimum one, then boxes of cameras alarm on which ended last of all are displayed on the “Monitor”.

Note.

Example. The "Monitor" object is set for operation with minimum number of alarm cameras, equal to 3. Boxes of 5 alarm cameras are displayed in the "Monitor" box. When alarm on 4 cameras is stopped in the consequence: Camera 1, Camera 2, Camera 3 and Camera 4, one camera is in the alarm mode. This is less than a minimum number, so Camera 3 and Camera 4 are also displayed on the "Monitor".

On no- alarm if the default value ("0") of the "Min" parameter is set, camera boxes are not displayed in the "Monitor" box.

6. To activate the "List" mode, set the "List" switch in the "Basic settings" tab (Figure 8.4—46, 5).
7. If necessary specify the required value (in seconds) of automatic slideshow for camera boxes in the "Slideshow" field (Figure 8.4—46, 6).

Note. This setting is relevant only if the toolbar is in use in the "List" mode.

8. To save all the changes click the "Apply" button (Figure 8.4—46, 7).

The display mode for camera boxes is now configured.

8.4.7.8 *Selecting the overlay mode*

Overlay is used for image processing using the "Direct X" video card and libraries, before it is displayed.

Overlay allows improving the image due to optimization of the pixel color settings. At the same time, the CPU's load is reduced, as the video image is processed with the resources of the video capture card.

There are three overlay modes in INTELLECT™ software:

1. "Method1".Video signals from cameras are processed as a single video stream.
2. "Method2 (Recommended)". Video signals from cameras are processed independently from each other.
3. "None". Video signals from cameras are not processed by a video capture card.

As a rule, the "Method2" is the optimal mode for overlay operation. This mode is supported by the most of video capture cards. If a video capture card doesn't support the chosen overlay mode, then a video signal is displayed with a big slowing-down.

Note. For correct overlay operation in INTELLECT™ software, installed as a Server, set the "0" value for the "NoDesktop" text parameter in the "HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Policies\Explorer" registry section. This parameter is for displaying icons on the user desktop.

To select an overlay mode, do the following:

1. Got to the settings panel for the "Monitor" interface object (Figure 8.4—47).

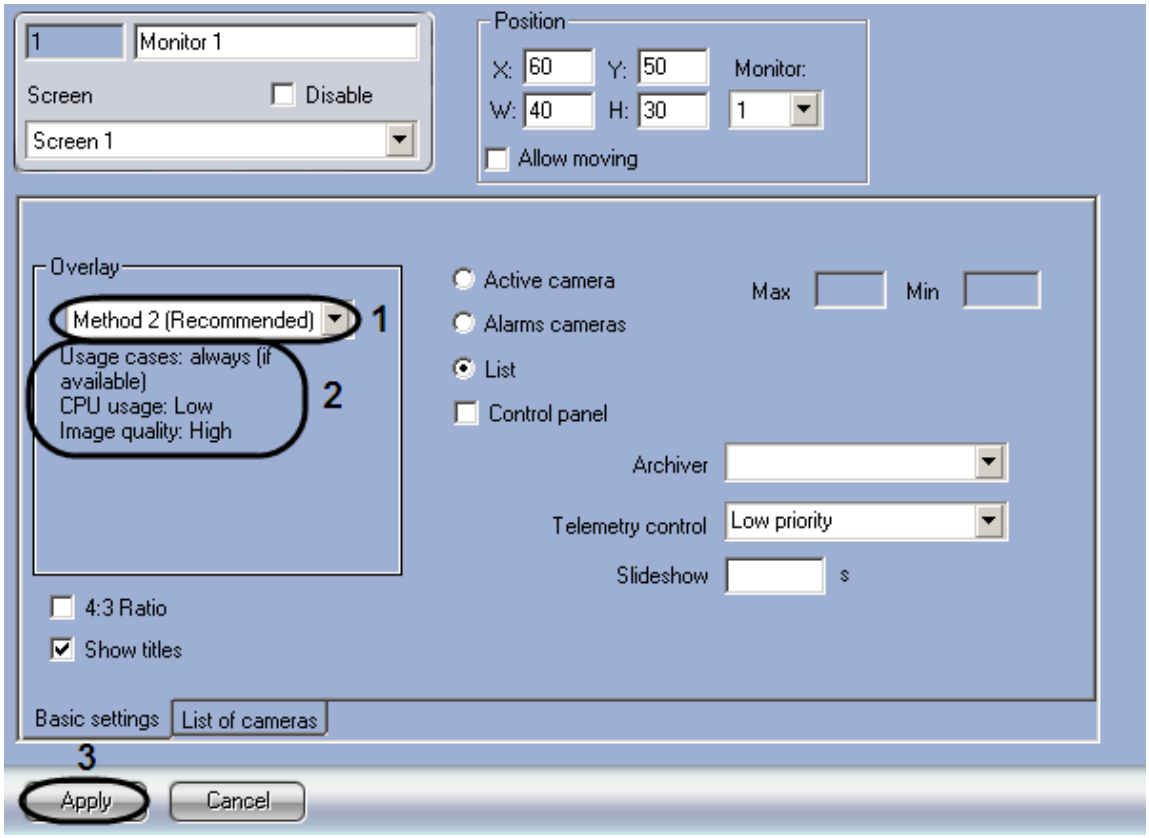


Figure 8.4—47. Selecting the overlay mode

2. Select the required overlay mode in the “Overlay” drop-down list in the “Basic settings” tab (Figure 8.4—47, 1).

Note. There is a description of the selected overlay mode in the field below the drop-down list (Figure 8.4—47, 2). If the “Method1” is selected, then the layout with simultaneous displaying of six camera boxes is unavailable.

3. To save all the changes, click the “Apply” button (Figure 8.4—47, 3).

The overlay mode is now selected.

8.4.7.9 *Setting the Telemetry control priority using the “Monitor” object*

INTELLECT™ software has an option of Telemetry control using the “Monitor” object. The control is performed with the help of a mouse or joystick.

By default, the Telemetry control option with the use of the “Monitor”object is disabled. To enable the Telemetry control option, the control priority is to be set for the “Monitor” object (see “INTELLECT Software Package. Installing and configuring security system components guide”).

To set Telemetry control priority using the “Monitor” object, do the following:

1. Go to the settings panel for the “Monitor” interface object (Figure 8.4—48).

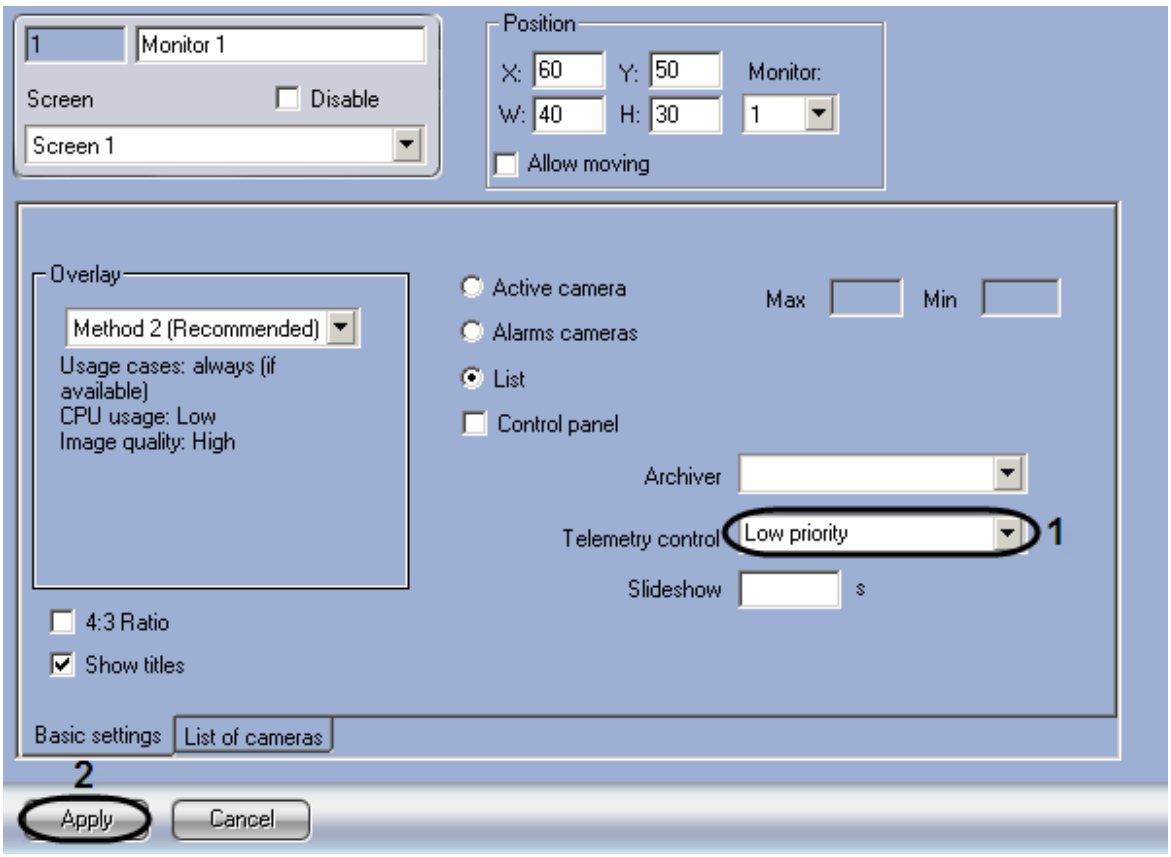


Figure 8.4—48 Setting the Telemetry control priority using the “Monitor” object

2. Select the required Telemetry control in the "Telemetry control” drop-down list in the “Basic settings” tab (Figure 8.4—48, 1).

Note. To disable Telemetry control option using the “Monitor” object, select the “Forbidden” value.

3. To save all the changes, click the “Apply” button (Figure 8.4—48, 2).

Telemetry control priority using the “Monitor” object is now set.

8.4.7.10 *Configuring the titles showing*

INTELLECT™ software has the option of showing titles for a list of cameras that are displayed in the “Monitor” interface box. This option is enabled on default.

To disable the option of titles showing, do the following:

1. Go to the settings panel for the “Monitor” interface object (Figure 8.4—49).

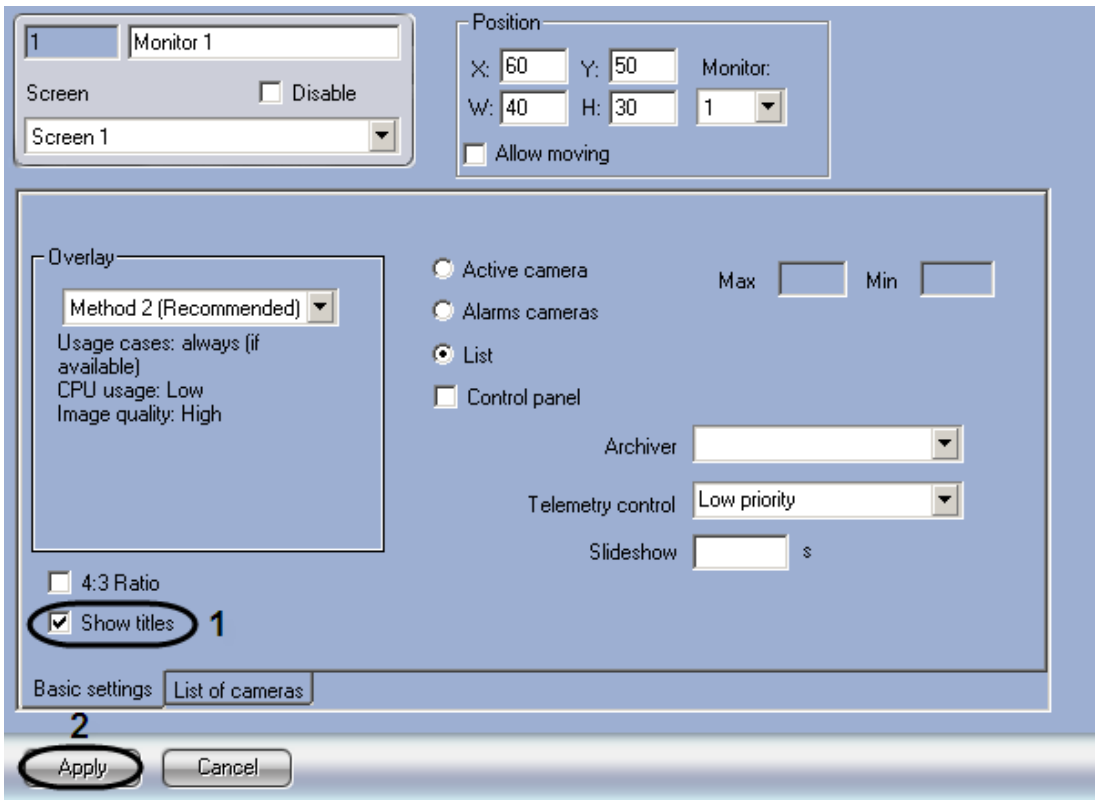


Figure 8.4—49 Configuring the titles showing

2. To disable the titles showing menu, uncheck the “Show titles” checkbox in the “Basic settings” tab (Figure 8.4—49, 1).
3. Click the “Apply” button to save the changes (Figure 8.4—49, 2).

The option of titles showing is disabled.

8.4.8 Enabling, setting up and disabling the video detectors

8.4.8.1 *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. 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.

8.4.8.2 Requirements to video parameters while working with detectors

For proper video-analytics operation do the following:

1. Camera requirements:
   - 1.1 Resolution not less than 320x240 pixels.
   - 1.2 Not less than 6 fps.
   - 1.3 Color: analytics works both with color and monochromatic images.
   - 1.4 It is not allowed to the image shift be more than 3% from the frame size due to camera vibration.
2. Light requirements:
   - 2.1 Medium light. The quality of analytics operation can be lower in case of low light (night) or over light (overexposure)
   - 2.2 No dramatic changes of light.
3. Scene and camera viewpoint requirements:
   - 3.1 Moving objects have to be visually separated from each other in the image.
   - 3.2 Background is mostly static and is not changed.
   - 3.3 Moving objects shielding by static objects (columns, trees, etc.) is minimal.
   - 3.4 Improper analytics operation is possible on the reflective surface and with sharp shadows of moving objects.
   - 3.5 Improper analytics operation is possible on extended single-colour objects.
4. Object images requirements:
   - 4.1 It is not allowed to the objects linear dimensions in the image be less than 2% from the frame size.
   - 4.2 Objects linear dimensions are not to exceed 25% from the frame size as recommended.
   - 4.3 Speed of objects movement on the image is not less than 1 pixel per second

8.4.8.3 *Enabling and configuring 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.

8.4.8.4 *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—50).

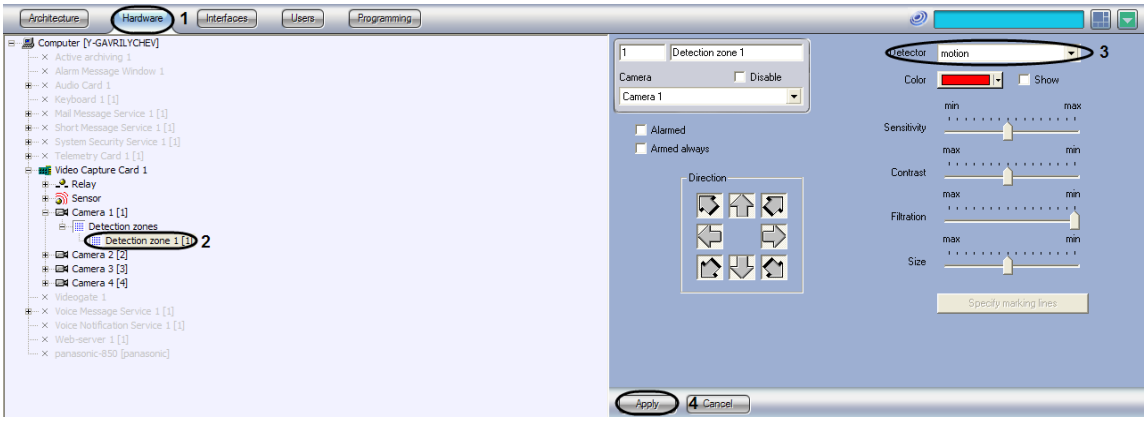


Figure 8.4—50. Detector registration

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.

8.4.8.5 *Detectors setup*

8.4.8.5.1 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” tab in the objects tree. The settings panel of the selected object appears in the right part of the “Hardware” tab (Figure 8.4—51).

4. On the “Camera” object settings panel go to the “Basic settings” tab (Figure 8.4—51).

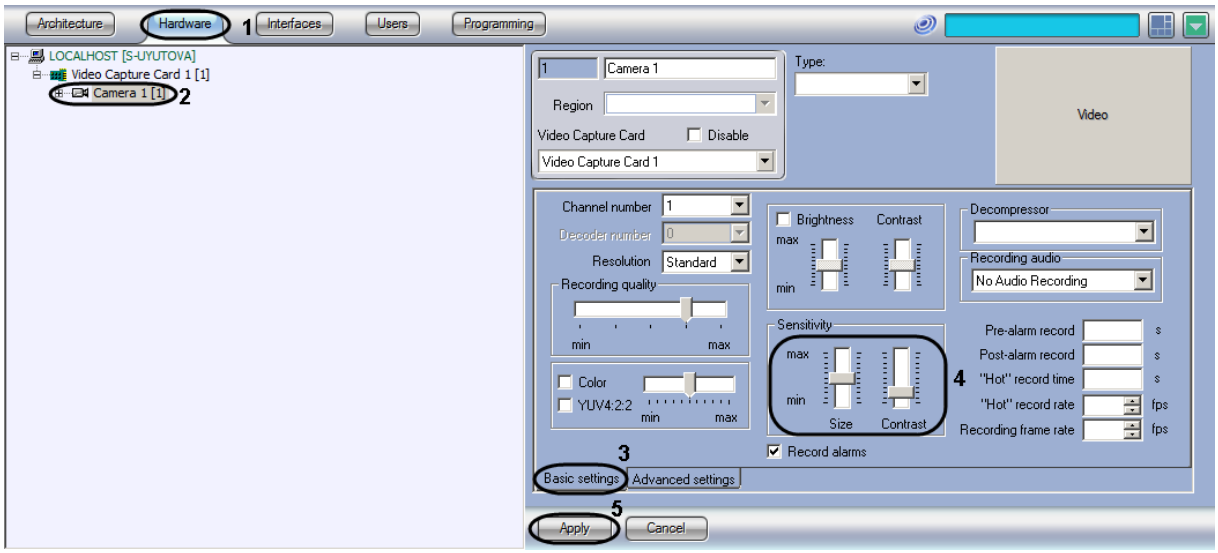


Figure 8.4—51. Main motion detector setup

5. 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.

6. 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 more probable. In most cases the default “Contrast” setting (the average value) is sufficient.

7. Click the “Apply” button.

Main motion detector setup is completed.

8.4.8.5.2 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—52).

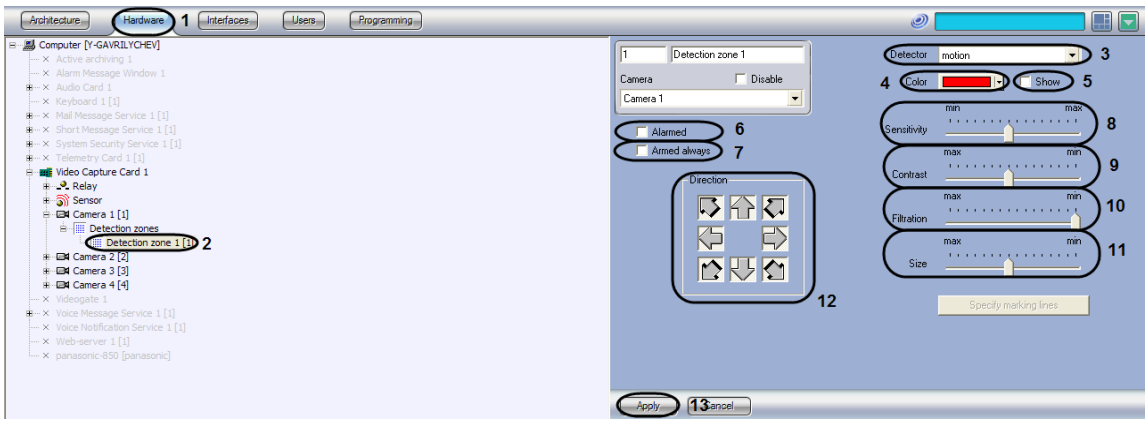


Figure 8.4—52. Motion detector setup

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.

8.4.8.5.3 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—53).

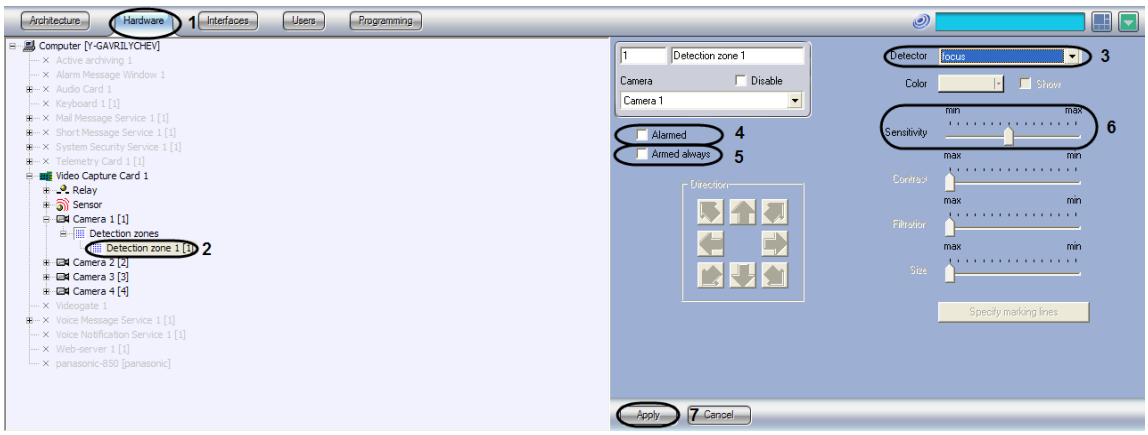


Figure 8.4—53. Focusing detector setup

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.

8.4.8.5.4 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—54).

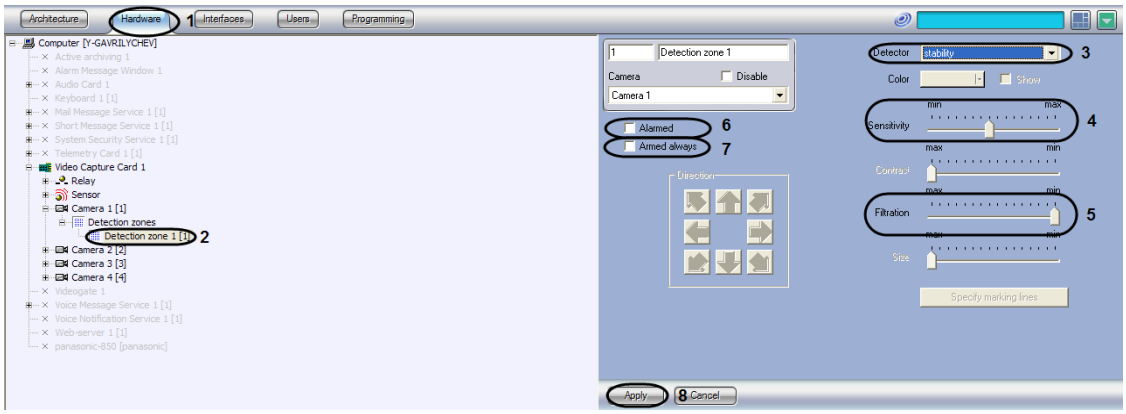


Figure 8.4—54. Setup of the stability detector

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.

8.4.8.5.5 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—55).

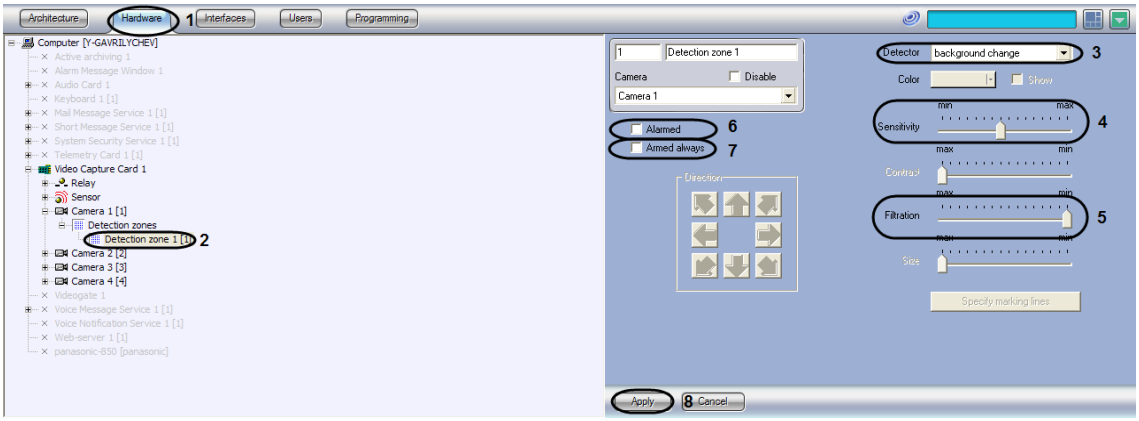


Figure 8.4—55. Setup of the background change detector

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.

8.4.8.5.6 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—56).

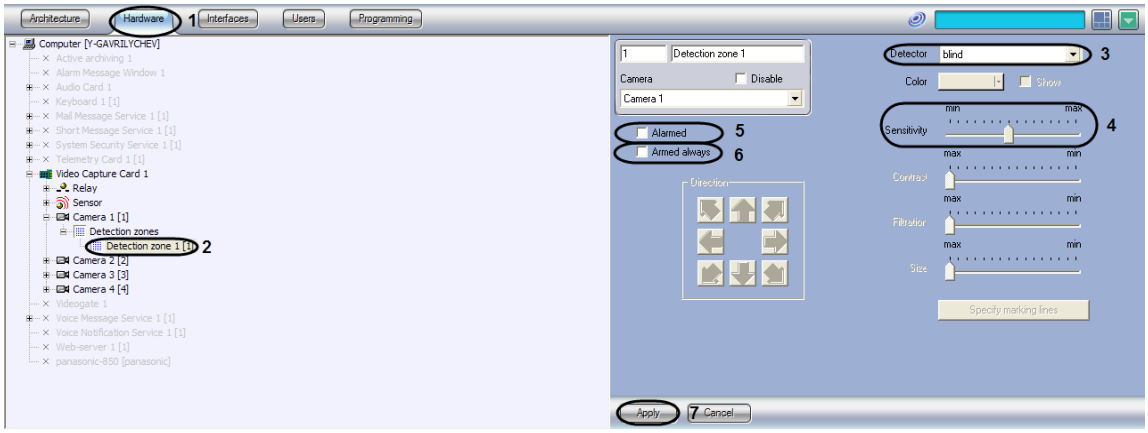


Figure 8.4—56. Blind detector setup

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.

8.4.8.5.7 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—57).

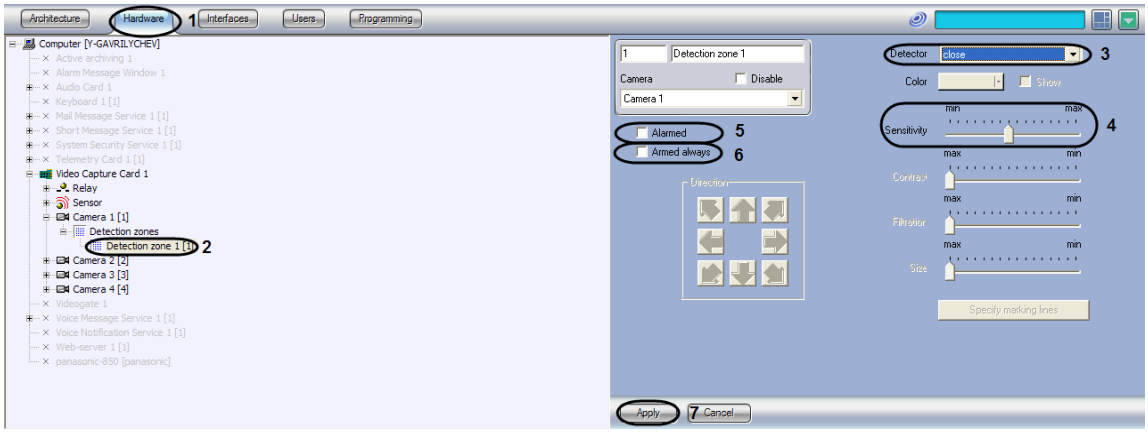


Figure 8.4—57. Lens blocking detector setup

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.

8.4.8.5.8 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—58, 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—58, 2).

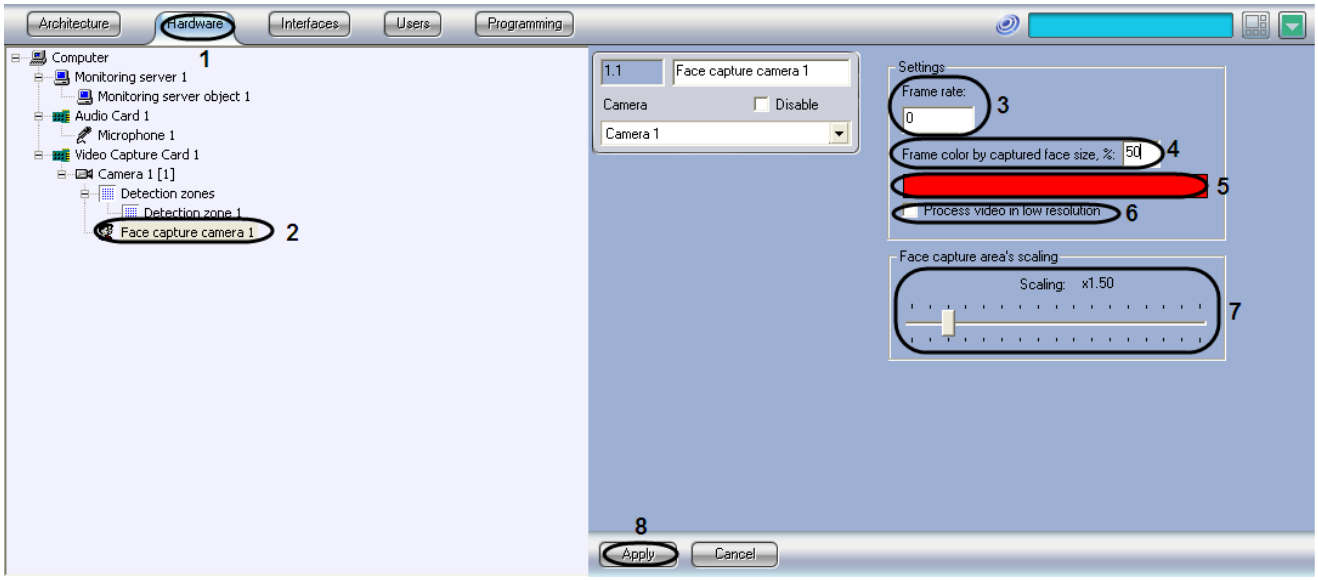


Figure 8.4—58 Face detector setup

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—58, 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—58, 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—58, 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—58, 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—58, 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—58, 8).

Face detector setup is completed.

8.4.8.5.9 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—59).

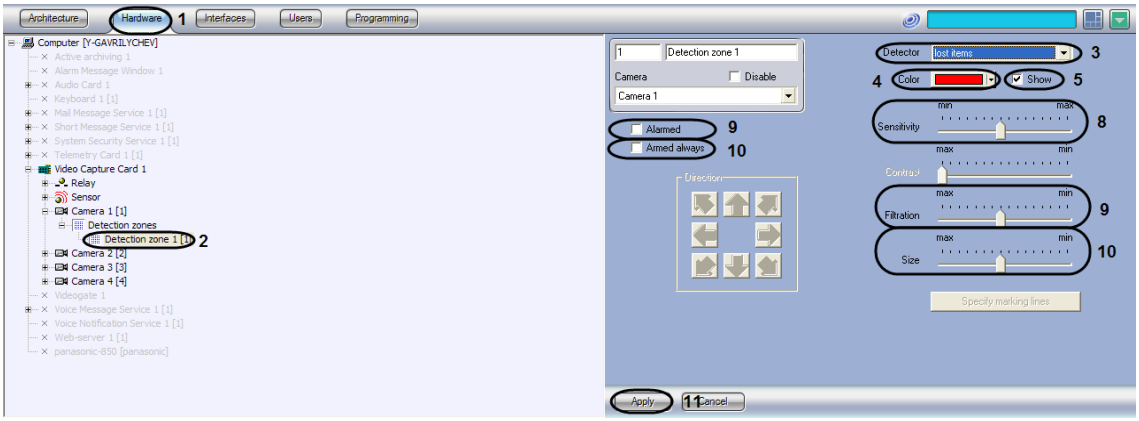


Figure 8.4—59. Lost items detector setup

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.

8.4.8.5.10 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—60, 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—60, 2).

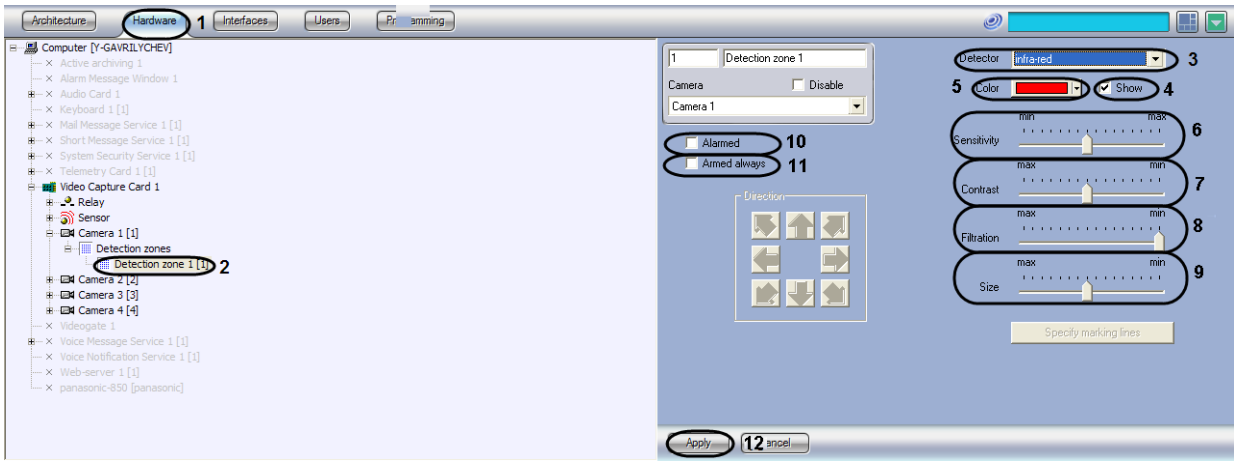


Figure 8.4—60. Set up of the infrared detector

3. Connect the infrared detector (see the “Detectors connection” section) or select a motion detector, registered earlier (Figure 8.4—60, 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—60, 4).
5. To change the border color for outlining the moving make a left mouse click over the field Color (Figure 8.4—60, 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—60, 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—60, 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—60, 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—60, 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—60, 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—60, 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—60, 12).

Infrared detector setup is completed.

8.4.9 Setting up object's panoramic view by means of Scene object

Panoramic view window is designed for creating and using the panoramic image, composed from several cameras' view fields. Setting up the panoramic view window is performed by Scene object settings panel.

The Scene object setup is performed in the following way:

1. Select a screen and create the Scene object.
2. Set the parameters of the "Scene" interface box.
3. Select and setup cameras for displaying in the Scene window

Note. Working with Panoramic view window is described in detail in "INTELLECT™ software: Operator's Guide".

8.4.9.1 *Creating the Scene object*

To create the Scene object do the following:

1. Select the required Screen object on the Interfaces tab of System settings dialog window (Figure 8.4—61).

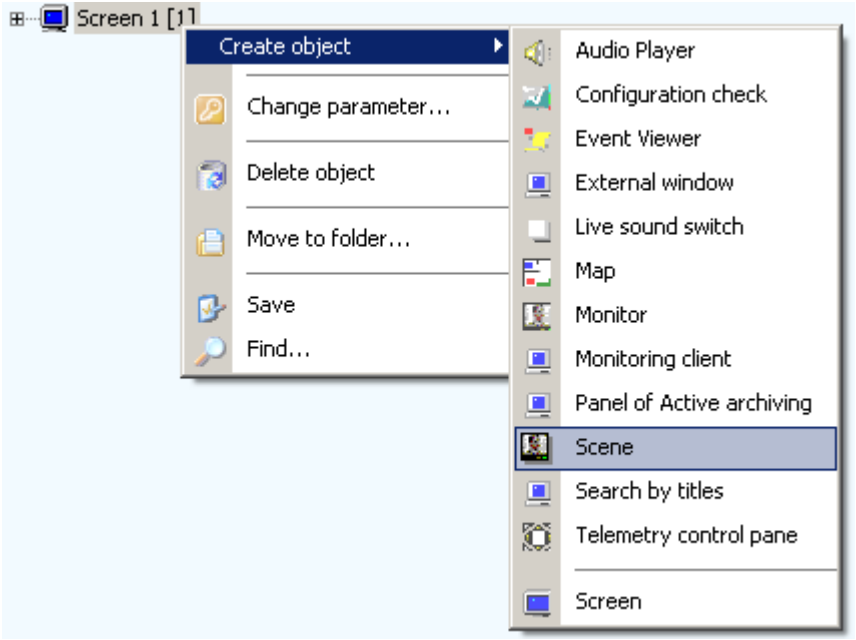


Figure 8.4—61 Creating the Scene object

2. Make a right mouse click upon the selected Screen object and select «Create object» ⇒ «Scene» in the appeared contextual menu (Figure 8.4—61).
3. Set the name and number of Scene object in the appeared window and then click Apply button.

Note. Scene object settings panel will be displayed as a result.

4. Repeat steps 1-3 for all required Screen and Scene objects.

Creating the Scene object is completed.

8.4.9.2 *Setting the parameters of the "Scene" interface box*

Setting the parameters of the "Scene" interface box is done in the following way:

1. Go to Scene object settings panel (Figure 8.4—62).

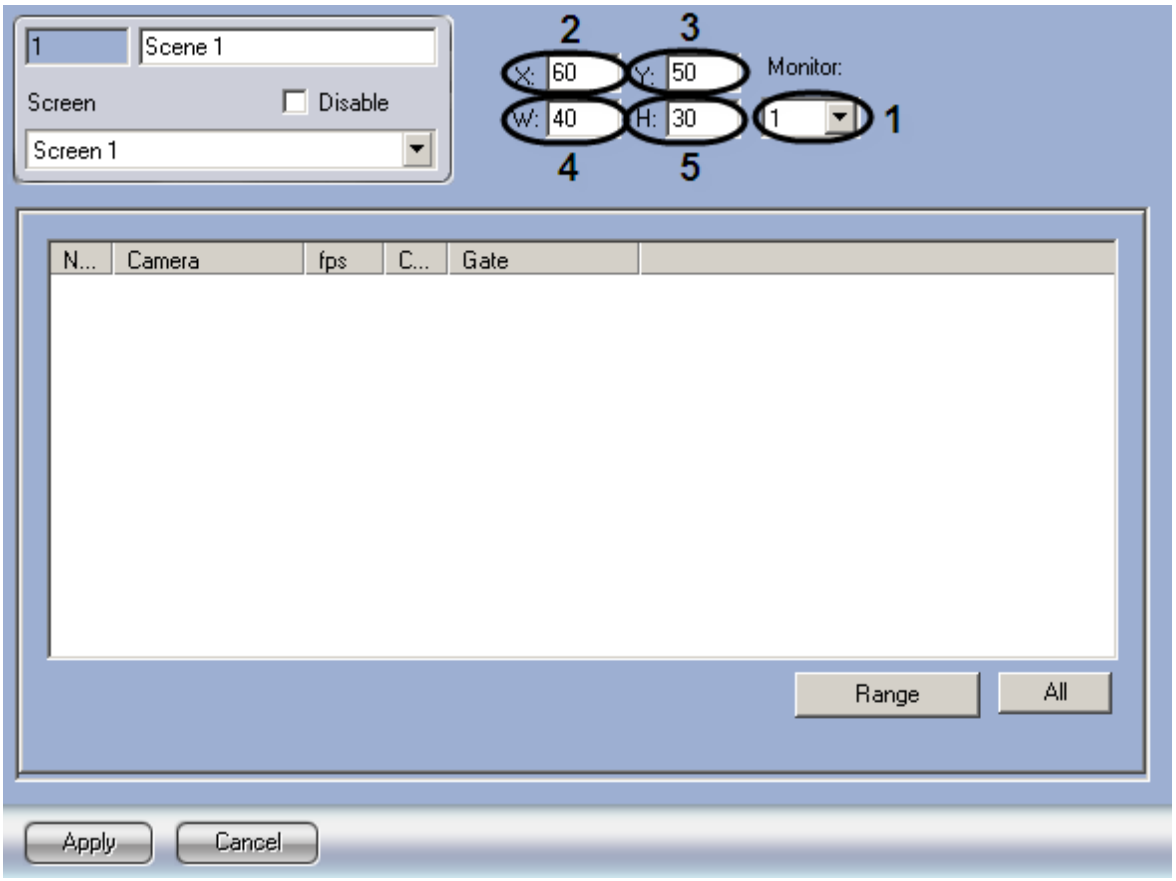


Figure 8.4—62 Setting the parameters of the "Scene" interface box

2. Select the number of physical monitor on which screen there will be displayed the panoramic view from the Monitor dropdown list (Figure 8.4—62, 1).
3. Set the coordinates of left upper corner in the "Scene" interface box: fields«X»(horizontal shift from the left image border) and «Y» (vertical shift from the upper image border) – see Figure 8.4—62, 2-3. The coordinates are given in percentage according to vertical and horizontal screen size.
4. Set the sizes of the "Scene" interface box: fields«W» (window's width) and «H» (window's height) – Figure 8.4—62, 4-5. The sizes are given in percentage according to vertical and horizontal screen size.
5. Click Apply to save the changes.

Setting the parameters of the "Scene" interface box is completed.

8.4.9.3 *Cameras selection and setup*

One can select and setup cameras for displaying in the interface box by two ways:

1. Separately. The Scene object settings panel is used.
2. In a complex way. Add/edit cameras dialog window is used.

To select a camera on the Scene object settings panel do the following:

1. Go to the Scene object settings panel (Figure 8.4—63).
2. Select the number of required camera from the Number dropdown list (Figure 8.4—63, 1).

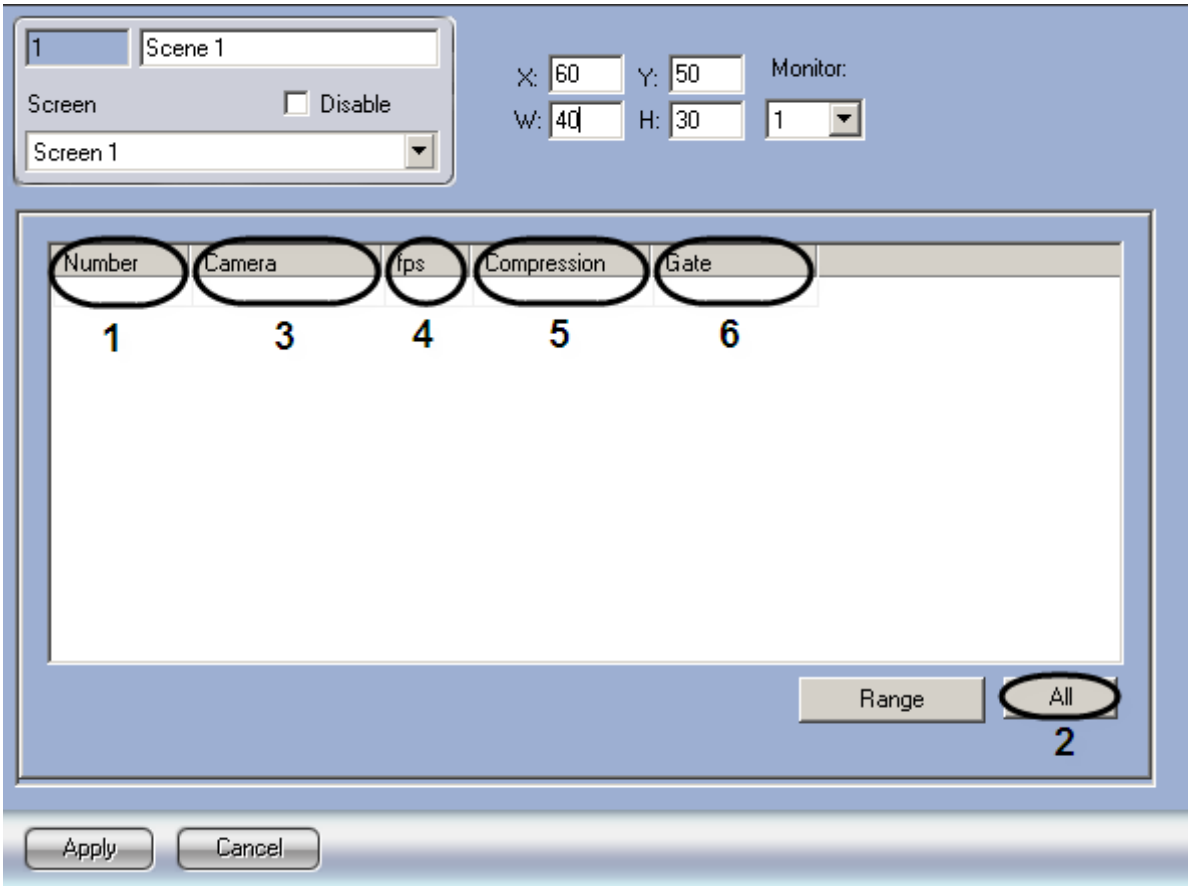


Figure 8.4—63 Cameras selection

Note. To select all the cameras, registered in the system, click All button(Figure 8.4—63, 2).

3. The name of selected camera will automatically be displayed in the Camera column (Figure 8.4—63, 3)
4. If a signal has to be thinned, the required fps should be selected from the fps dropdown list (Figure 8.4—63, 4).

Note. It's not recommended to change «fps» value while using H.264 codec

5. If a compression level of video signal has to be changed, the required compression level has to be selected from the Compression dropdown list (Figure 8.4—63, 5). The compression level increases from «0» (no compression) to «5» (maximum compression).
6. If the archive from the selected camera has to be transmitted via Gate object, select the name of this object from the Gate dropdown list (Figure 8.4—63, 6)
7. Repeat steps 2-6 for all the required cameras.

Note. To add a new camera go to the last linein the selected cameras list and click "↓".

8. Click Apply to save the changes.

Cameras selection on the Scene object settings panel is completed.

There is possibility to select and edit parameters of cameras for displaying in the "Scene" interface box in a complex way.

Complex cameras selection is performed in the following way:

1. Go to the Scene object settings panel and click Range button (Figure 8.4—64, 1)

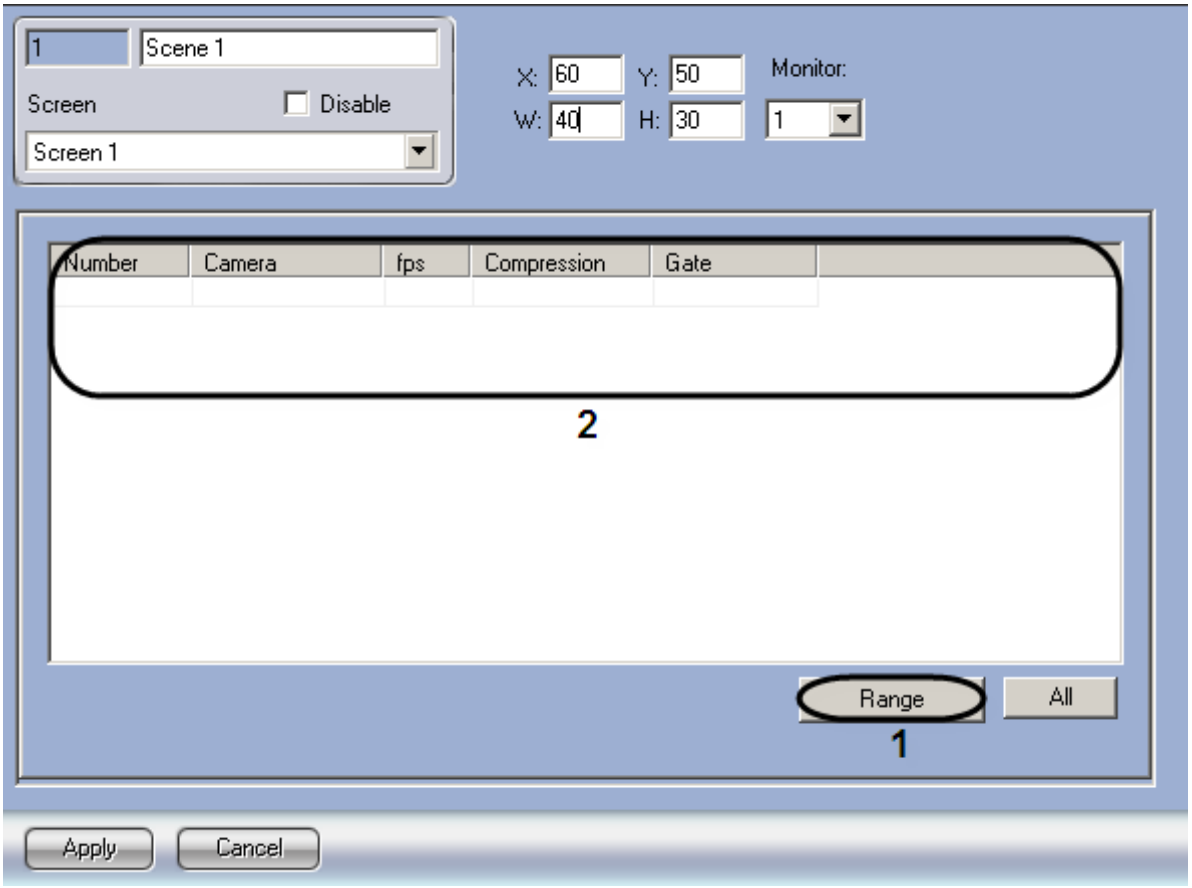


Figure 8.4—64 Range button

2. Add/edit cameras dialog window will open as a result.

Note. Add/edit cameras dialog window is described in section «Selecting and configuring video cameras as a package *».*

3. Cameras settings, set in the Add/edit cameras dialog window will be displayed on the Scene object settings panel (Figure 8.4—64, 2).
4. Click Apply to save the changes.

Complex cameras selection is completed.

8.4.10 Configuring forensic search in an archive

8.4.10.1 *General information*

The forensic search in an archive is a search of video recordings in the archive using video recording metadata. The forensic search of video recordings in an archive is performed by object parameters that get into the field of video camera vision, e.g. in the direction of the object motion.

For the forensic search video parameters are to meet the same requirements as Requirements to video parameters while working with detectors (see the “Requirements to video parameters while working with detectors” section).

For the forensic search in Intellect software package the following tools are used: «Line Crossing» and «Motion in the Area» that are available in the video surveiilance window. Working with these tools is described in details in the “Intellect software package: Operator’s Guide” manual.

To implement the functionality of the forensic search in Intellect software package it is necessary to create and configure the following objects:

1. VMDA metadata storage;
2. Tracker.

It is possible to create VMDA detectors on the base of the “Tracker” object. When they trigger the information about objects that caused this action is recorded in the VMDA metadata storage. Correspondingly if VMDA detectors are configured, it will be possible to find only video recordings of detectors triggering while the forensic search in an archive.

8.4.10.2 *Creating and configuring VMDA metadata storage*

VMDA metadata storage stores object trajectories covered by a camera. Information that is stored in the VMDA metadata storage is used for the forensic search in an archive.

To configure the VMDA metadata storage, do the following:

1. Go to the “Hardware” tab in the “System settings” dialog box (Figure 8.4—65, 1).
2. Create the “VMDA metadata storage” object on the base of the “Computer” object in the object tree. The settings panel for the created object appears in the right part of the “Hardware” tab (Figure 8.4—65, 2).

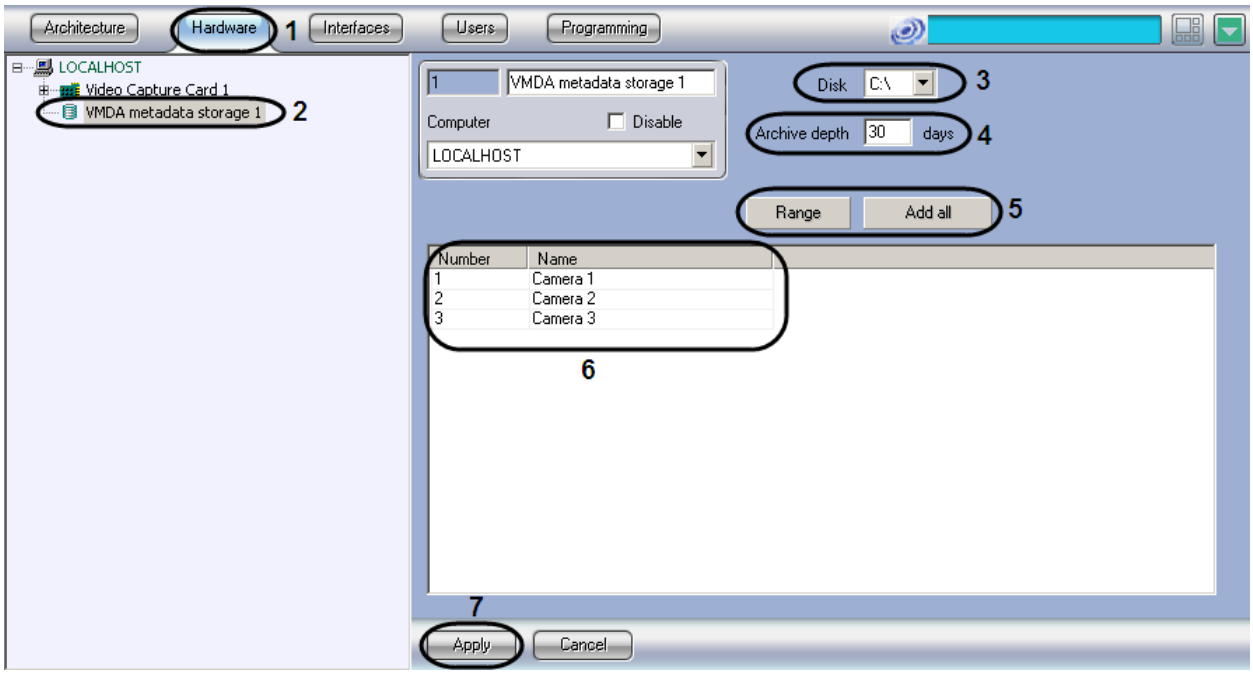


Figure 8.4—65 The “VMDA metadata storage” creation and configuration

3. In the “Disk” drop-down list, select the disk for saving the archive (Figure 8.4—65, 3).

   Note. The archive will be saved on the selected disk in the “VMDA” folder.

Attention! Storing the data to the VMDA metadata storage may be very computer-intensive. The following actions are to be performed for correct system operation:

1. ***Create the "VMDA metadata storage" object on a separate Server.***
2. ***Enable disc caching by means of redundant array of independent disks or OS.***

4. In the "Archive depth" field, set the time period (in days) of storing the archive (Figure 8.4—65, 4).
5. Select cameras metadata from which is to be saved in a created storage. To select all cameras registered in the system click the "Add all" button or click the "Range" button to go to the "Add/Edit Camera objects" window (Figure 8.4—65, 5).

As a result all selected cameras are displayed in the table (Figure 8.4—65, 6). One can edit the list of selected cameras in the table.

6. To save the changes, click the "Apply" button (Figure 8.4—65, 7).

The VMDA metadata is now created and configured.

8.4.10.3 *Creating and configuring the "Tracker" object*

The "Tracker" object is designed for motion detection and saving video recordings to VMDA metadata storage.

To configure the "Tracker" object, do the following:

1. Go to the "Hardware" tab in the "System settings" dialog box (Figure 8.4—66).
2. Select the "Camera" object in the object tree of the "Hardware" tab (Figure 8.4—66).
3. Create the "Tracker" object on the base of the "Camera" object. The settings panel for the created object appears in the right part of the "Hardware" tab (Figure 8.4—66).

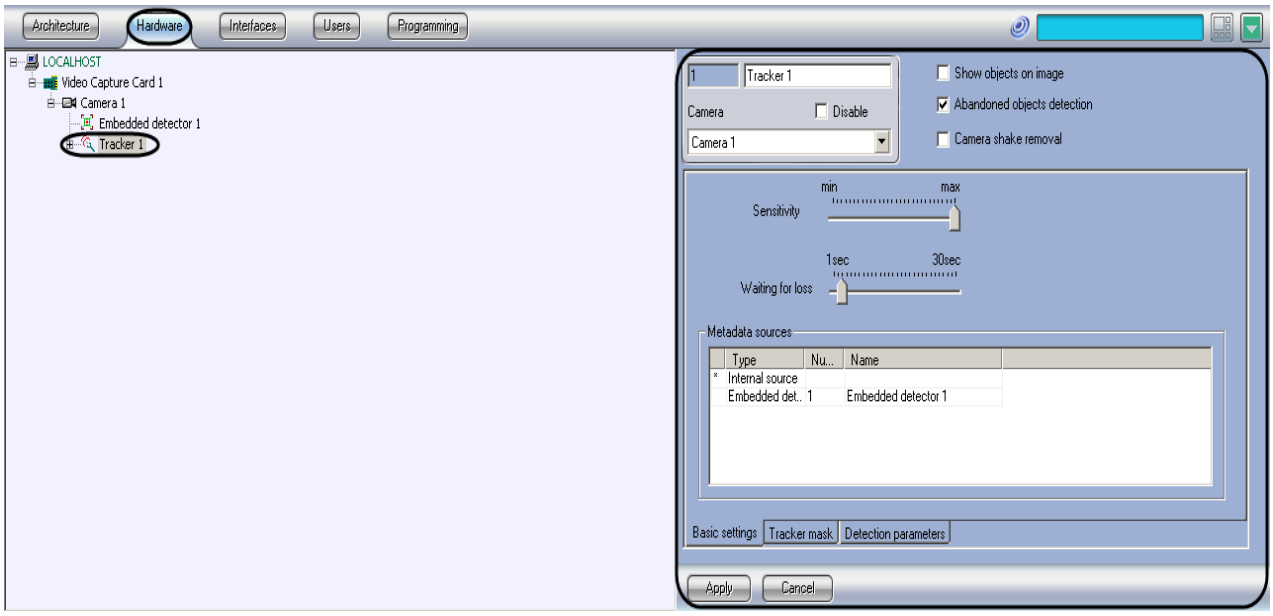


Figure 8.4—66 The Tracker object

4. Set the "Show objects on image" checkbox (Figure 8.4—67, 1) if the objects are to be selected on the preview screen (Figure 8.4—68).

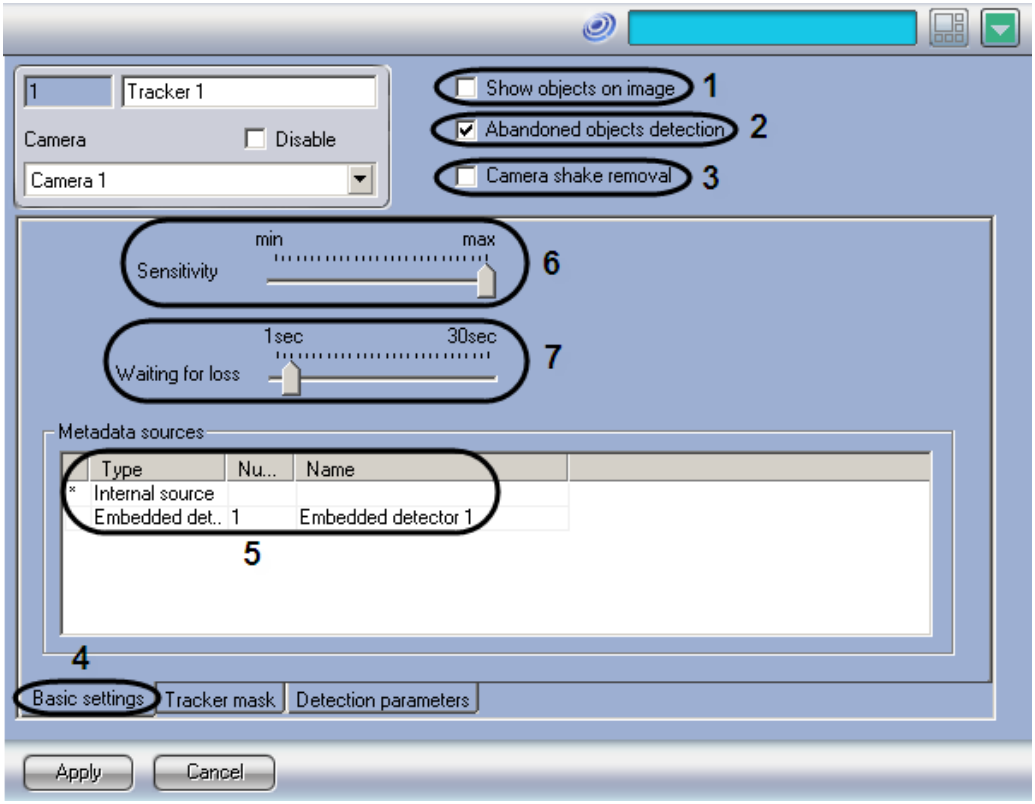


Figure 8.4—67 Configuring the “Tracker” object

Figure 8.4—68 Selecting the objects

5. To allow VMDA detectors monitoring abandoned objects in area covered by the camera set the “Abandoned objects detection” checkbox (Figure 8.4—67, 2).

Note. If there is no need to monitor abandoned objects in area covered by the camera, disable the "Abandoned objects detection" option to reduce Server load. Disabling this option you disable detectors configured to monitor abandoned objects.

6. If the camera is installed on the moving object, then set the "Camera shake removal" checkbox to stabilize the image and reduce detector's errors (Figure 8.4—67, 3).

Attention! When the "Camera shake removal" option is active, the Server load increases.

7. Go to the "Basic settings" tab (Figure 8.4—67, 4).
8. In the "Metadata sources" table, set checkboxes next to objects used for metadata creation (Figure 8.4—67, 5):
   - Internal source. VMDA detectors are used as metadata source (see *Creating and configuring VMDA detectors* section).
   - Embedded detector. Metadata goes from detectors embedded in the camera (see *Embedded detectors* section).
9. Set the value of the "Sensitivity" parameter by moving the slider to the required position (Figure 8.4—67, 6). The parameter value corresponds to minimal value of moving object's averaged brightness on which the detector will trigger only to its motion, not to video signal noise (including snow, rain, etc.).

Note. If the slider is in the left end position, then the value of the "Sensitivity" parameter is selected automatically.

10. Set the "Waiting for loss" slider into position corresponding to time when the object stops moving and is considered to be active and the detector is still tracking it (Figure 8.4—67, 7). If the object is motionless for a longer period than the value which has been set, then the object is considered to be "lost".

Note. If the "lost" object starts moving it is considered as a new one.

11. To disable analysis in the area covered by the camera click the "Set mask" button in the "Tracker mask" tab and specify the area in the preview field (Figure 8.4—69).

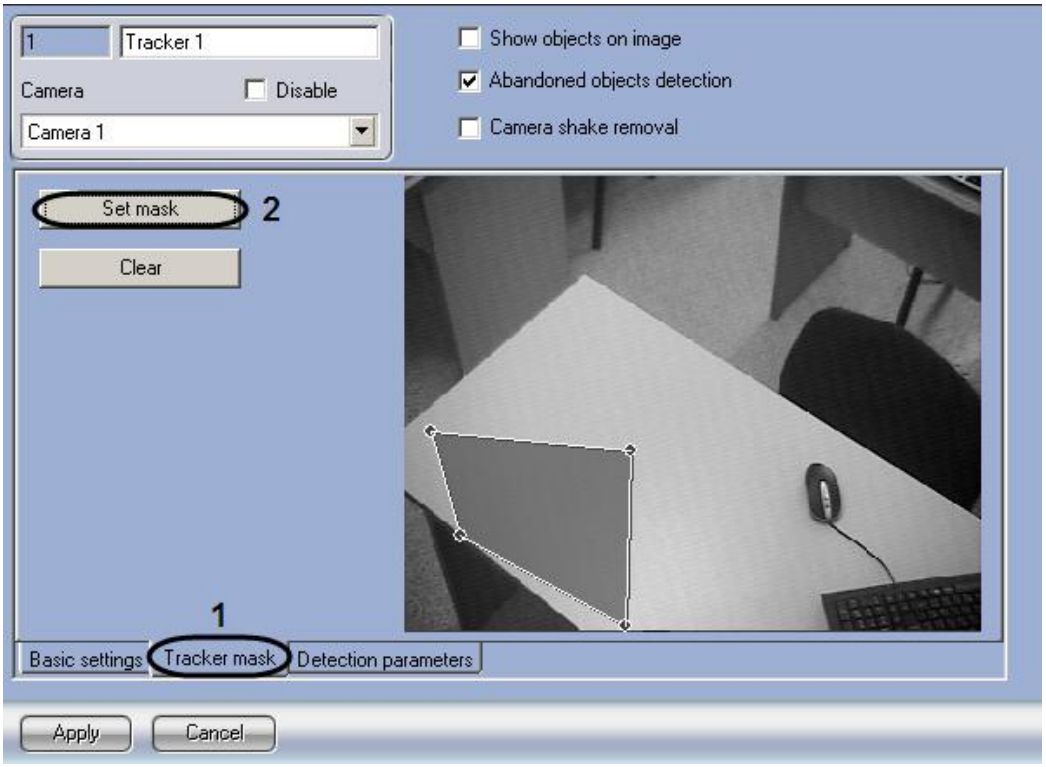


Figure 8.4—69 Disabling analysis in the area

12. To set the minimal and maximal sizes of detected object do the following:

12.1 Go to the “Detection parameters” tab (Figure 8.4—70, 1).

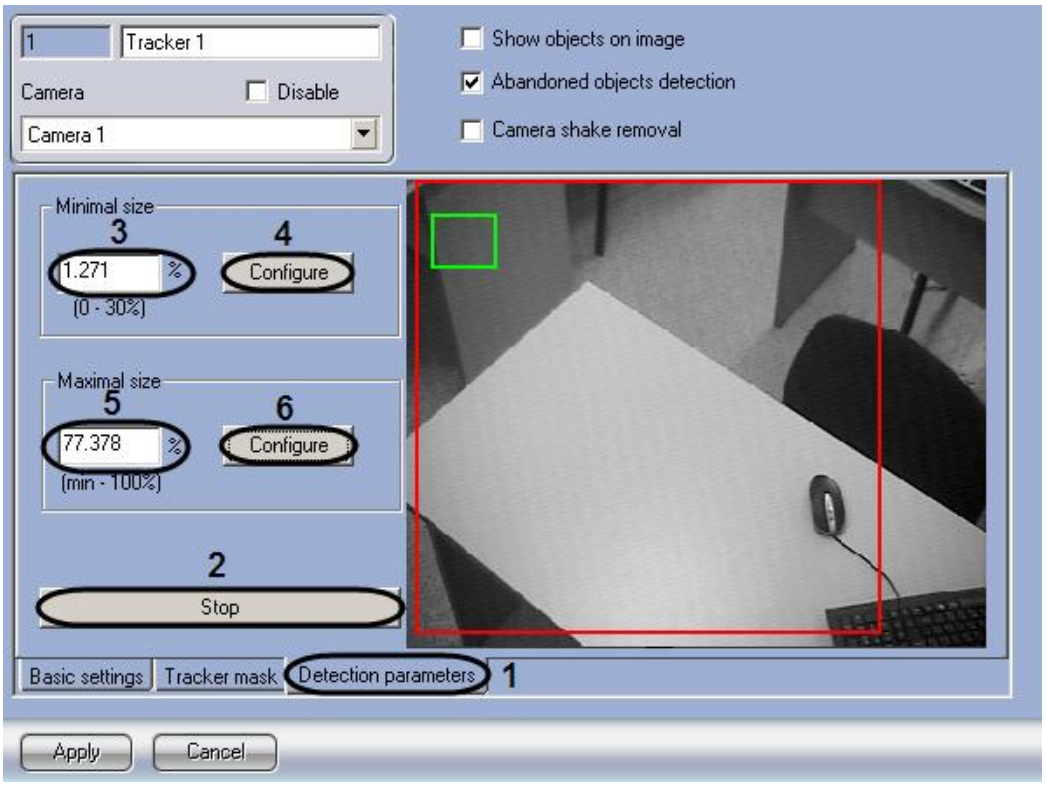


Figure 8.4—70 Setting the sizes of detected object

12.2 To stop playback in the preview, click the “Stop” button (Figure 8.4—69, 2).

Note. To resume playback, click the "Resume playback" button (Figure 8.4—71).

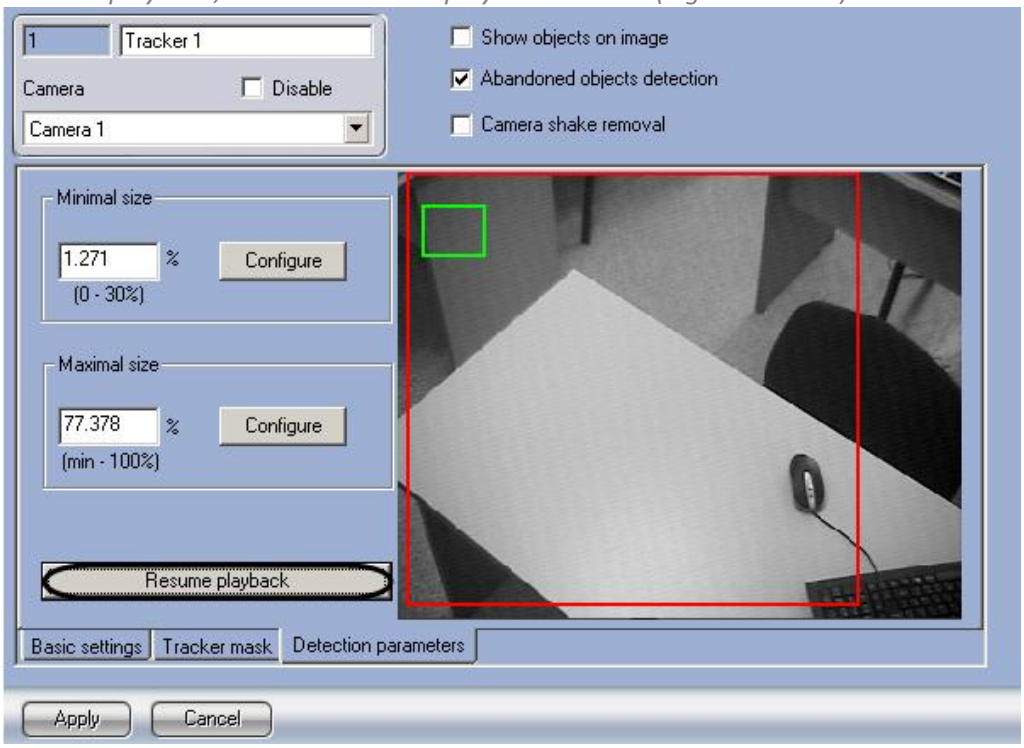


Figure 8.4—71 The "Resume playback" button

12.3 Specify the minimal size of detected object in the "Minimal size" group (Figure 8.4—70, 3) or click the "Configure" button and specify the size in the preview area (Figure 8.4—70, 4).

Note. Range of values of the "Minimal size" parameter varies from 0 to 30% relatively the frame size.

b. Specify the maximal size of detected object in the "Maximal size" (Figure 8.4—70, 5) or click the "Configure" button and specify the size in the preview area (Figure 8.4—70, 6).

Note. Maximal size is to be bigger than the minimal one and not more than 100%. If the maximal size is the same as the minimal, then there is no detection.

13. To save the changes, click the "Apply" button.

The "Tracker" object is now created and configured. During video signal recording in VMDA metadata storage the information about all objects in camera coverage will be recorded.

8.4.10.4 *Creating and configuring VMDA detectors*

VMDA detectors are detectors that trigger and the information about objects that caused this action is recorded in VMDA metadata storage.

To create a "VMDA detector", do the following:

1. Go to the "Hardware" tab in the "System settings" dialog box (Figure 8.4—72).
2. Select the "Tracker" object in the objects tree of the "Hardware" tab.

3. Create the “VMDA detection” object on the base of the “Tracker” object. The settings panel for the created object appears on the right of the “Hardware” tab (Figure 8.4—72).

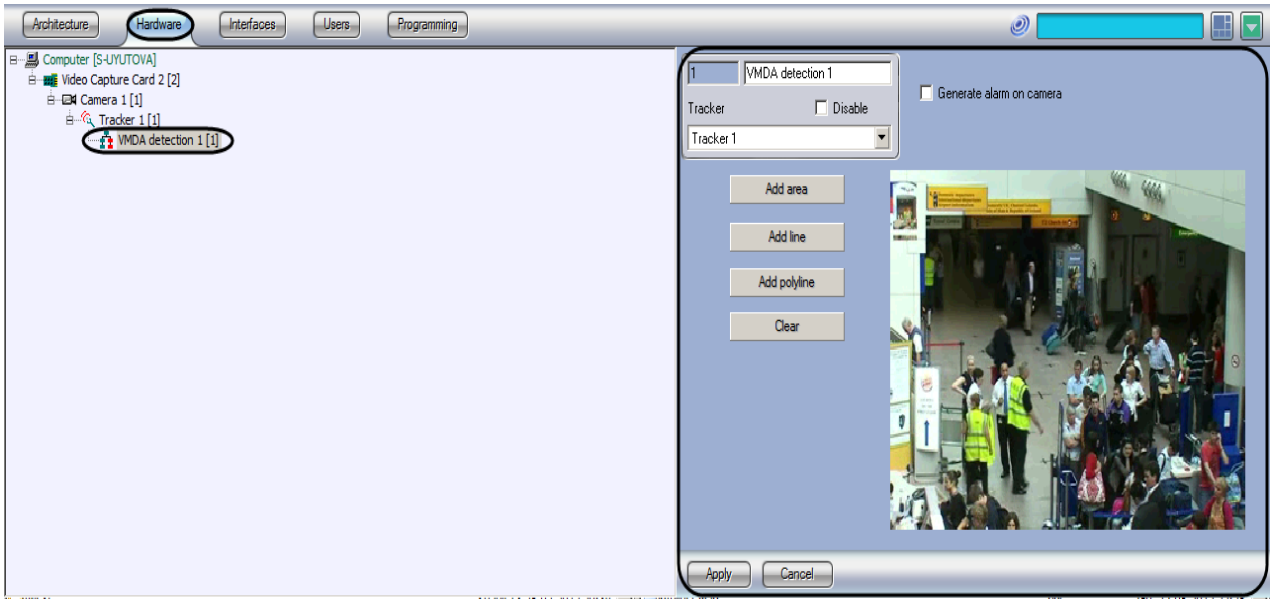


Figure 8.4—72 The “VMDA detection” object

*Note. Video from the camera on the baase of which the “VMDA detection” object is created is displayed in the “Video” field (*Figure 8.4—72*).*

The “VMDA detection” is now created. Information only about the objects that triggered detector action is recorded in the VMDA metadata storage.

Attention! Creating VMDA detection on IP cameras, do not forget about information in the “Requirements for IP devices of audio and video input” section.

8.4.10.4.1 Cross line detector configuration

A cross line detector is a VMDA detector that triggers when the trajectory of an object that is in the camera coverage and crosses a virtual line.

To configure a cross line detector, do the following:

1. Go to the settings panel for a “VMDA detection” object (Figure 8.4—73).

Figure 8.4—73 A cross line detector configuration

2. Select a line type (direct or polyline) the crossing of which leads to a detector triggering. Only one line can be added. The first line will be deleted if there is an attempt to add a second one.
    2.1 If a detector is to trigger while crossing a direct line, click the “Add line” button (Figure 8.4—73, 1).
    2.2 If a detector is to trigger while crossing a polyline, click the “Add polyline” button (Figure 8.4—73, 2).
3. In the “Video preview” field (Figure 8.4—73, 4), set the end point of the line, by clicking left mouse button, which crossing leads to a detector triggering (Figure 8.4—74).

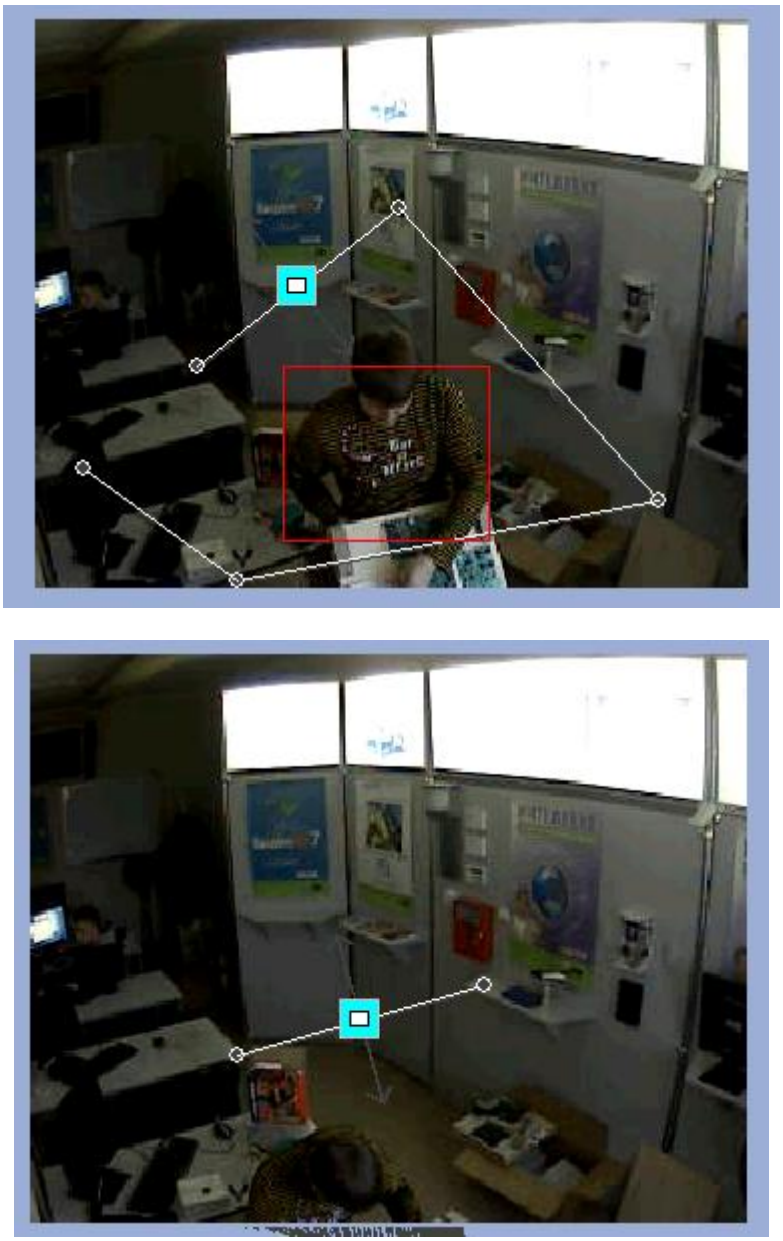


Figure 8.4—74 A cross line detector

4. Make necessary operations with a line. Line operations are shown in Table 8.4-5.

Table 8.4-5 Line operations

Operation	Result
Left mouse click in the video surveillance window	Creation of a line's end point
Hover to an end point and holding the left button pressed move the mouse	Shift of a line's end point
Hover to an end point and click the right mouse button	A line's deletion

5. To select object type for which the detector will be enabled, click the symbol. Available object types are in the Table 8.4-6.

Table 8.4-6 Object types

Symbol	Type	Purpose
	Any object	Detector triggers when the line is crossed by any object
	Man	Detector triggers when the line is crossed by a man
	Vehicle	Detector triggers when the line is crossed by a vehicle

6. By clicking the left mouse button upon one of the grey arrows, set the object's direction across the line by which the detector will trigger. The arrow will be colored white (Figure 8.4—75).

Figure 8.4—75 Selection of an object's direction for a detector triggering

Note 1. It is necessary to set at least one object's direction across the line.

Note 2. If both directions are set, the detector will trigger at any line crossing by an object.

7. If the alarm is to be generated when the detector triggers, set the "Generate alarm on camera" checkbox (Figure 8.4—73, 5).
8. To save the changes, click the "Apply" button (Figure 8.4—73, 6).

*Note. To clear the preview field from a visual elemnt (line), click the "Clear" button (*Figure 8.4—73*, 3).*

A cross line detector is now configured.

8.4.10.4.2 Motion in the Area detector configuration

A motion in the area detector is a tracker detector that operates when the object (objects) makes some actions in a virtual area that is in the camera coverage.

To configure a motion in the area detector, do the following:

1. Go to the settings panel for a “VMDA detection” object (Figure 8.4—76).

Figure 8.4—76 Area detector setup

2. Click the “Add area” button (Figure 8.4—76, 1).
3. In the “Video preview” field (Figure 8.4—76, 3), set, by one by one clicking left mouse button, nodal points of the area which state is to be analysed (Figure 8.4—77).Only one area can be added. If there is an attempt to add a second area, the first one will be deleted.

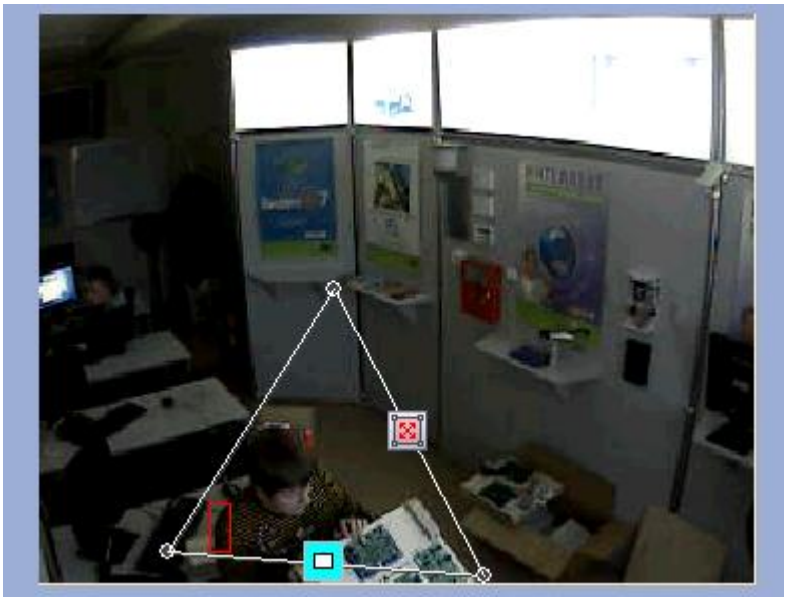


Figure 8.4—77 Motion in the area detector

4. Make necessary operations with a line. Line operations are shown in Table 8.4-7.

Table 8.4-7 Area operations

Operation	Result
Left mouse click in the video surveillance window	Area's nodal point addition
Hover to a nodal point and holding the left button pressed move the mouse	Area's nodal point shift
Hover to a nodal point and press right mouse button	Line deletion. If there are three nodal points the whole area will be deleted

5. To select an object type for which the detector will trigger, click the symbol. Available object types are given in Table 8.4-8.

Table 8.4-8 Object types

Symbol	Type	Purpose
	Any object	Detector triggers while dealing with any object
	Man	Detector triggers while dealing with any man
	Vehicle	Detector triggers while dealing with any vehicle

6. To select a detector type, click the symbol. Available detector types are given in Table 8.4-9.

Table 8.4-9 Detector types

Symbol	Type	Purpose
	Any motion in the area	Detector triggers due to any motion in the area
	Entrance into the area	Detector triggers due to object's entrance into the area
	Exit from the area	Detector triggers due to the exit of object from the area
	Appearance in the area	Detector triggers due to the object's appearance in the area
	Disappearance in the area	Detector triggers due to the object's disappearance in the area
	Stop in the area	Detector triggers due to the object's stop in the area
	Staying in the area more than 10sec	Detector triggers due to the object's staying in the area more than 10sec
	Left item	Detector triggers due to the item left in the area

7. If the alarm is to be generated when the detector triggers, set the "Generate alarm on camera" checkbox (Figure 8.4—76, 4).
8. To save the changes, click the "Apply" button (Figure 8.4—76, 5).

*Note. To clear the preview field from a visual element (area), click the "Clear" button (*Figure 8.4—76*, 2).*

A motion in the area detector is now configured.

8.4.11 Embedded detectors

At the moment of writing the documentation the build-in analytics of Axis, Sony cameras, Stretch cards (if it is supported-see reference manual concerning these devices) has been integrated into the Intellect software complex.

Note. Build-in analytics of the following cameras and cards are available in the Intellect PC at the moment of writing the documentation: Axis M1031-W, Axis M7001, Axis Q1921, Sony SNC-DM110, Sony SNC-RX570P, Sony SNC-RZ50P, Stretch VRC-6004, Stretch VRC-6008, Stretch VRC-6416.

This section contains an example of build-in detectors auto setup. One should consult with reference manual while setting up build-in detectors of special devices manually.

8.4.11.1 *Creating embedded detectors*

To create build-in detectors do the following:

1. With the help of IP creation wizard create IP devices that support build-in analytics.

2. In result the created objects will be displayed in the objects tree together with build-in detectors (Figure 8.4—78).

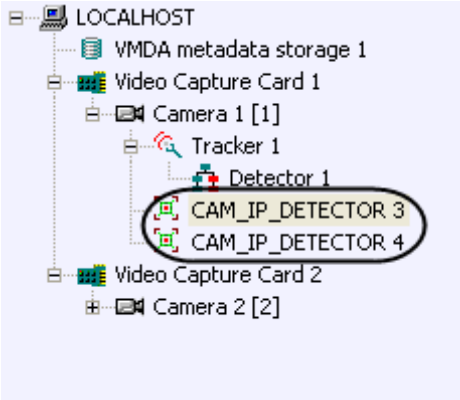


Figure 8.4—78 Build-in detectors creation

Build-in detectors creation is completed.

8.4.11.2 *Embedded detectors setup*

Follow the steps to setup build-in detectors:

1. Go to the Build-in detector object's setting panel (Figure 8.4—79).

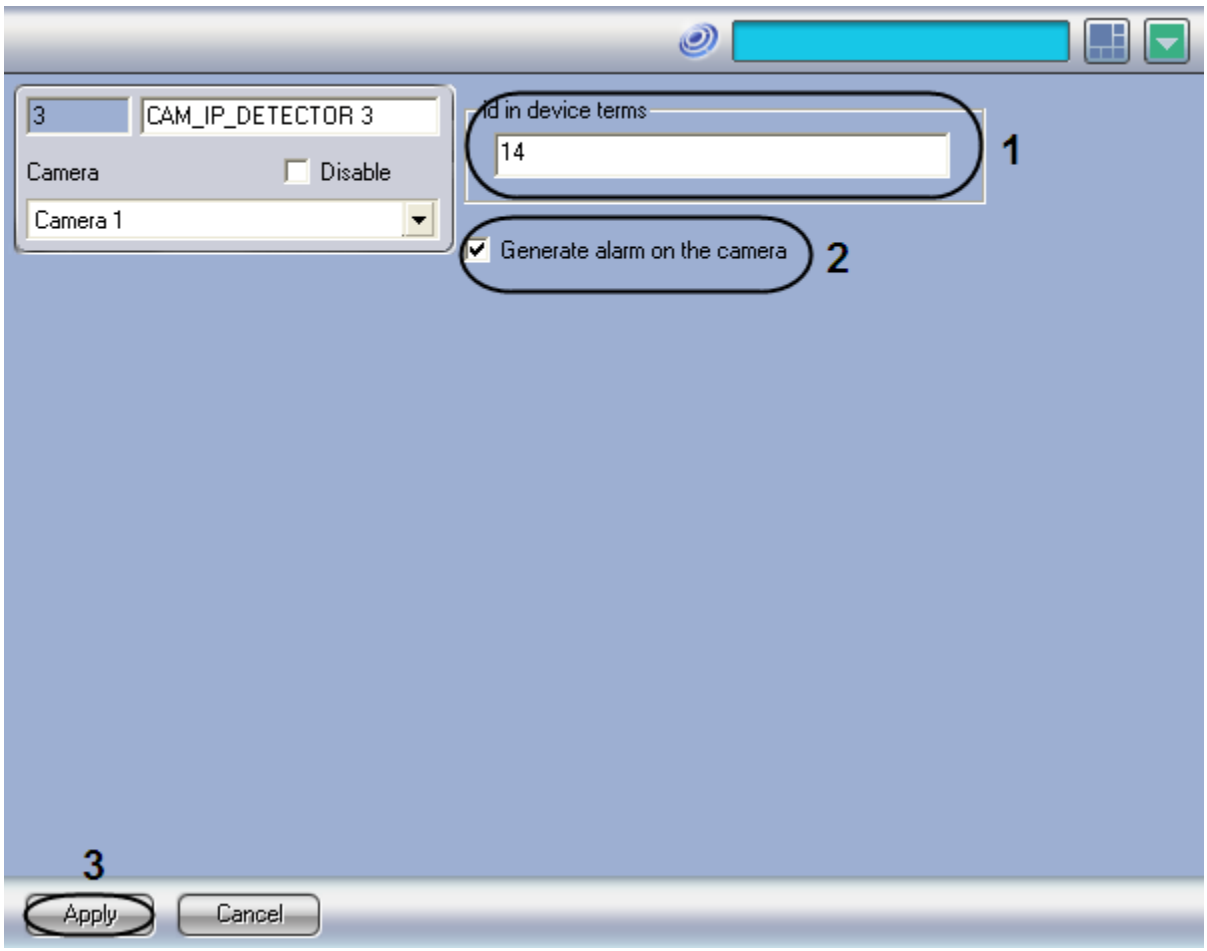


Figure 8.4—79 Build-in detectors setup

2. In the field id in device terms there is set a detector code in the device (camera, card) (Figure 8.4—79, 1). For the purpose of detector's correct operation it is recommended to leave this field unchanged.
3. Set the checkbox Generate alarm on the camera if the alarm has to be generated on the camera by detector's response (Figure 8.4—79, 2).
4. Click Apply to save the changes (Figure 8.4—79, 3).

Build-in detectors setup is completed.

8.5 Configuring video viewing from fish-eye cameras

8.5.1 General information

A module for viewing video from fish-eye cameras is for:

1. Viewing video from several fisheye cameras;
2. Viewing archive from each camera;
3. Converting video into one of the following formats:
   3.1. Single View (virtual telemetry);
   3.2. 360° Panorama;
   3.3. Panorama 2*180°;

A Module enables using one of the following video converters with different video formats:

1. Sentry converter enables converting video into following formats:
   1.1. Single View.
   1.2. 360° Panorama.
2. Vivotek converter enables converting video into following formats:
   2.1. Single View.
   2.2. 360° Panorama.
   2.3. Panorama 2*180° with the camera on the ceiling or on the floor.
3. Immervision converter enables converting video into following formats:
   3.1. Single View.
   3.2. Panorama 2*180° with the camera on the ceiling or on the floor.
   3.3. 360° Panorama with the camera on the wall.

8.5.2 Configuring the Fisheye camera monitor interface object

To start working with the module for viewing video from fish-eye cameras configure the "Fisheye camera monitor" interface object as follows:

1. Create the "Fisheye camera monitor" object based on the "Screen" object in the interface tab of the "System Settings" dialog box (Figure 8.5—1, 1)

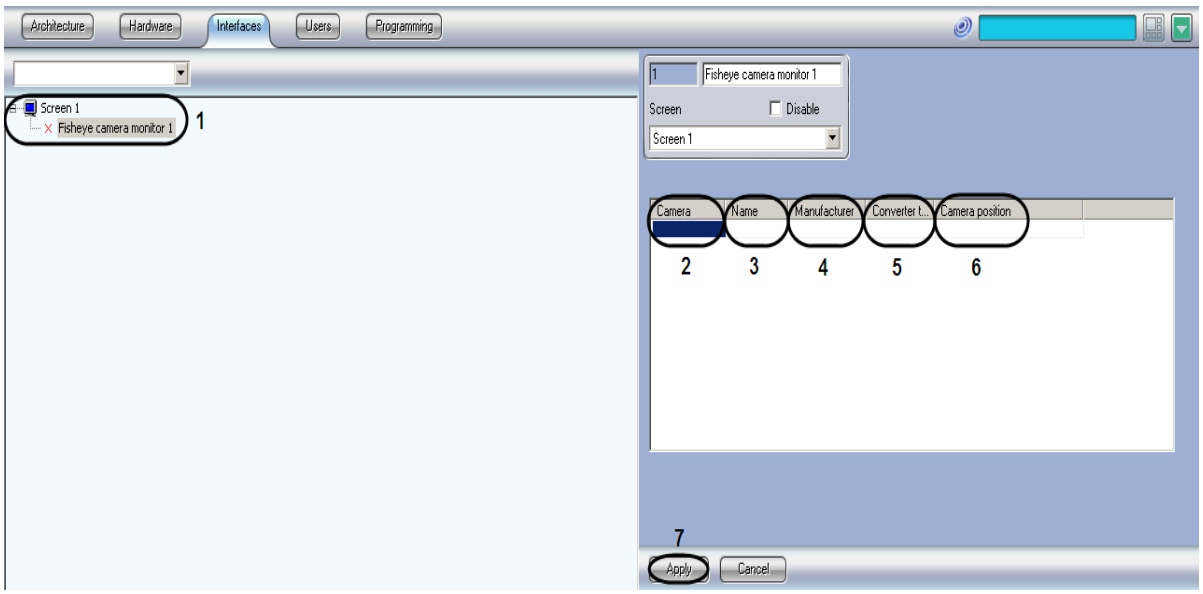


Figure 8.5—1 Configuring the Fisheye camera monitor object

2. In the “Camera” drop-down list select the number of a fisheye camera, video from which is to be processed (Figure 8.5—1, 2).
3. Left-clicking the “Camera” field it is automatically filled with the name of the selected camera (Figure 8.5—1, 3).
4. Left-clicking the “Manufacturer” field it is automatically filled with the type of video capture card on the base of which the “Camera” object is created (Figure 8.5—1, 4).
5. In the “Converter type” drop-down list select the type of a converter (Figure 8.5—1, 5).
6. In the “Camera position” drop-down list select the value corresponding to the position of the selected camera (Figure 8.5—1, 6).
7. To save all the changes click the “Apply” button (Figure 8.5—1, 7).

Viewing video and archive from the fisheye camera is carried out in the “Fisheye camera monitor“ box. For more details of its operation see *INTELLECT™ software package. Operator’s Guide* manual.

The “Fisheye camera monitor” interface object is now configured.

8.6 Configuring the access to the archive in external storage

8.6.1 General information

One can view video archive from embedded storage of IP devices (NVR video recorders) in INTELLECT™ software package.

Note.Video is not recorded to external storage in INTELLECT™ software package.

*Access to video archive of external storage is configured using the **External storage** object. Viewing video from external archive is carried out in the **Video surveillance** box. The details of its operation are given in INTELLECT™ software package. Operator’s Guide manual.*

8.6.2 Creating the External storage object

To create the **External storage** object do the following:

1. Go to the **Hardware** tab in the **System settings** dialog box (Figure 8.6—1, 1).

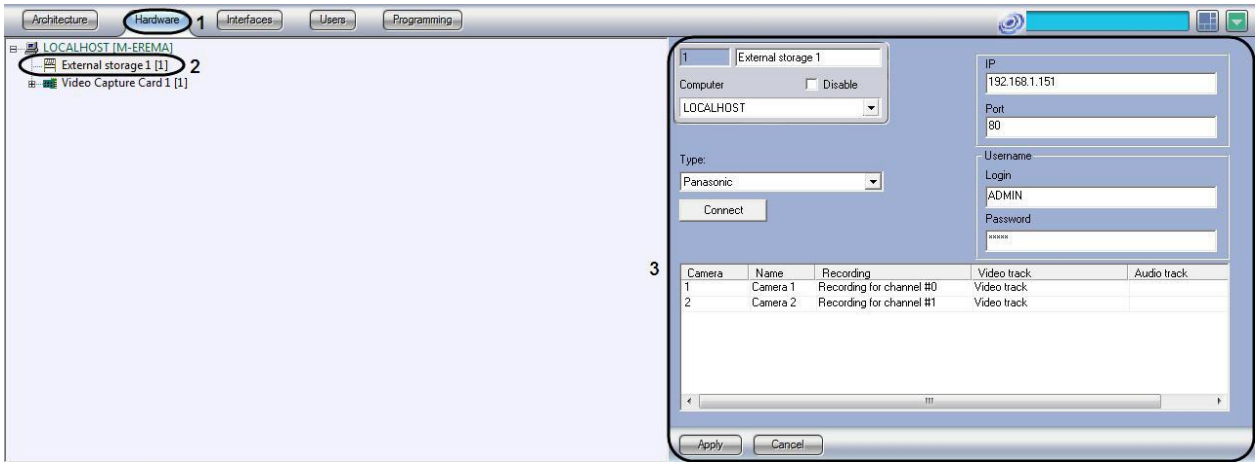


Figure 8.6—1 Creating the External storage object

2. Create the **External storage** object in the object tree of the **Hardware** tab (Figure 8.6—1, 2). In the right part of the **Hardware** tab the setting panel of the selected object is displayed (Figure 8.6—1, 3).

After this one can continue configuring the connection to external storage (see *Configuring the connection to external storage* section) and set the list of cameras to access the external storage (see *Setting the list of cameras to access the external storage* section).

Creation of the External storage object is completed.

8.6.3 Configuring the connection to external storage

To configure the connection to external storage in INTELLECT™ software package do the following:

1. Go to the setting panel of the **External storage** object (Figure 8.6—2).

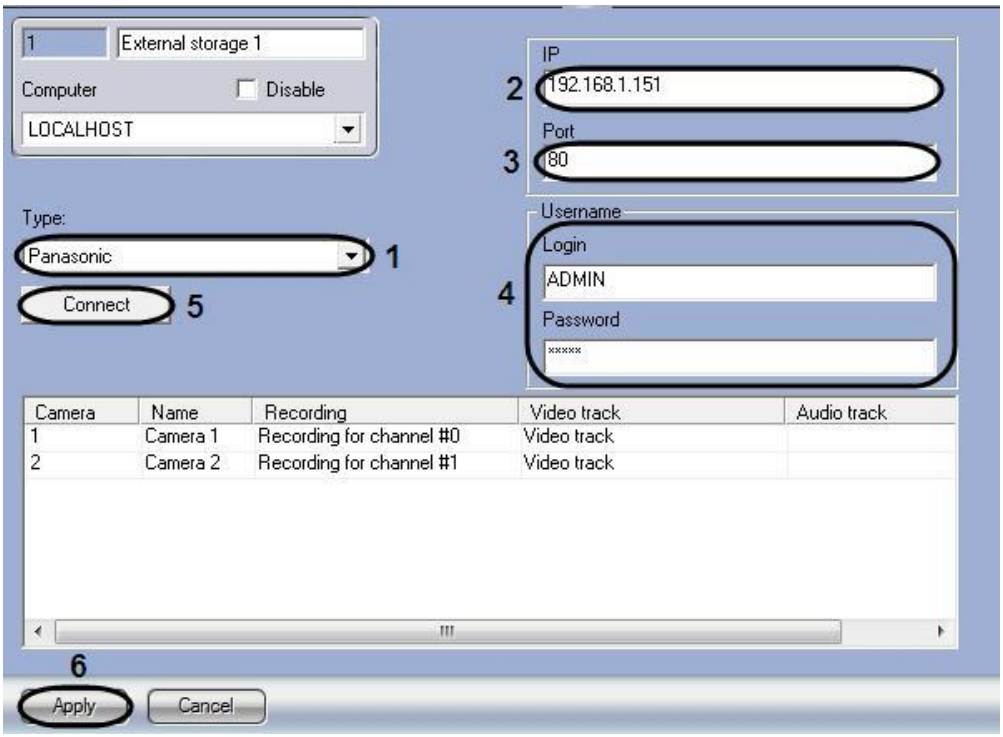


Figure 8.6—2 Configuring the connection to external storage

2. From the **Type** dropdown list select the interfacing protocol for the connected device (Figure 8.6—2, 1).
3. In the **IP** field specify the IP address of the device with external storage (Figure 8.6—2, 2).
4. In the **Port** field specify the port for device connection (Figure 8.6—2, 3).
5. In corresponding fields of the **Username** group specify the login and password to connect to external storage (Figure 8.6—2, 4).

Note. Login and password depend on device settings. See default login and password in reference documentation on manufacturer's device.

6. Click **Connect** (Figure 8.6—2, 5). If the device is connected then one can set the list of cameras for playing back video from the external storage archive and match the number of camera in INTELLECT™and external storage from which the video is to be received (see *Setting the list of cameras to access the external storage* section).
7. To save all the changes click **Apply** (Figure 8.6—2, 6).

Configuration of the connection to external storage is completed.

8.6.4 Setting the list of cameras to access the external storage

One can configure several cameras to view video from the external storage. Each camera is configured for one channel of the device with external storage.

If one camera is selected for viewing video from several external storages, then the archive is viewed only from the archive that is matched with camera while the **Monitor** object is configured (see *Selecting and configuring video cameras* section).

To set the list of cameras to access the external storage do the following:

1. Go to the setting panel of the **External storage** object (Figure 8.6—3).

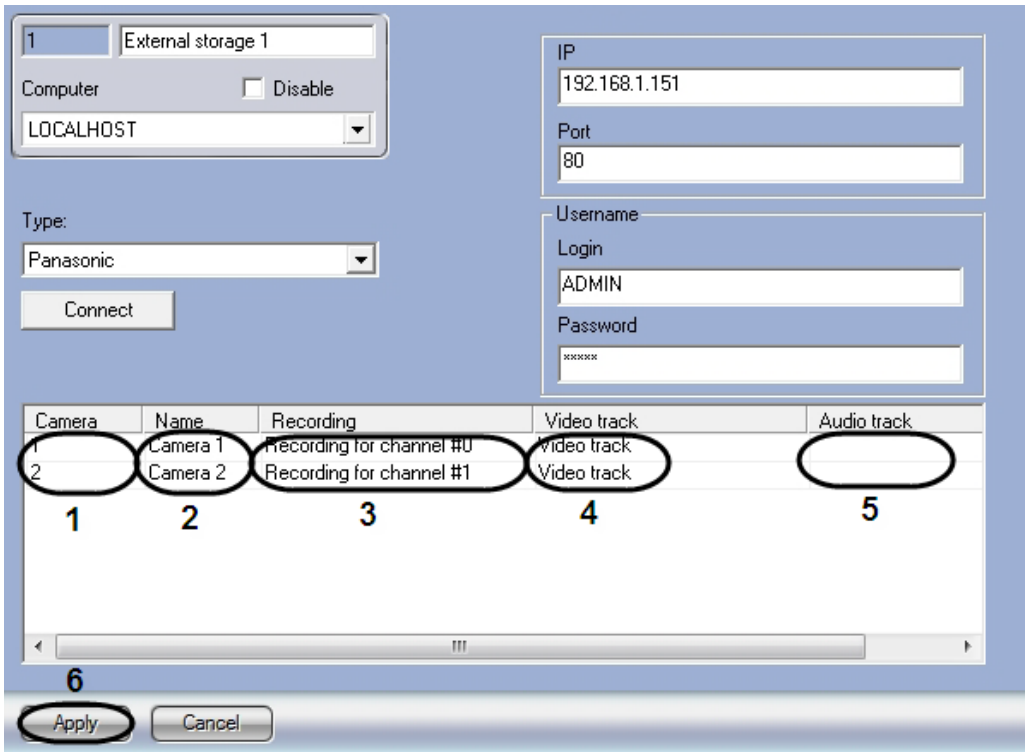


Figure 8.6—3 Setting the list of cameras to access the external storage

2. In the **Camera** column specify the number of the camera used for video archive viewing (Figure 8.6—3, 1).
3. Double left click in the **Name** field (Figure 8.6—3, 2). This field is automatically filled with the name of selected camera.
4. In the **Recording** column specify the channel of the device with external storage that will be used by camera (Figure 8.6—3, 3).

Note. Recording names are received from the device with external storage and are not changed in INTELLECT™.

5. In the **Video track** column specify the video channel within selected recording (Figure 8.6—3, 4).

Note. Names of video tracks are received from the device with external storage and are not changed in INTELLECT™.

6. In the **Audio track** column specify the audio channel within selected recording (Figure 8.6—3, 5).
7. Repeat steps 2-6 for all cameras that are to be used for viewing the archive from the external storage.
8. To save all the changes click **Apply** (Figure 8.6—3, 6).

Setting the list of cameras to access the external storage is completed.

8.7 Configuring telemetry

In digital video surveillance system PTZ devices are used for extension of video surveillance area by mechanical rotation of the camera. Detailed description of connection and configuration of PTZ

devices is given in *INTELLECT™ software package. Installing and configuring security system components guide* manual.

8.8 Audio subsystem setup

8.8.1 General information on audio subsystem setup

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.

8.8.1.1 *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.

8.8.1.1.1 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.

8.8.1.1.2 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.

8.8.1.1.3 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 site of AxxonSoft company: http://www.axxonsoft.com/products/axxon_enterprise/core_functionality/integration.php.

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.

8.8.1.1.4 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 site of AxxonSoft company:
http://www.axxonsoft.com/products/axxon_enterprise/core_functionality/integration.php.

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.

8.8.1.2 *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.

8.8.1.3 *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.

8.8.1.4 *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.

8.8.1.5 *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.

8.8.2 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 8.8—1.

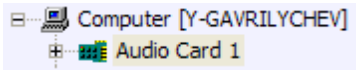


Figure 8.8—1. Example of FS-5 video capture card registration as an audio capture device

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 8.8—2.

Figure 8.8—2. Anexample of registration of 2 microphones, connected to an FS-5 card

8.8.3 Setup of audio signals digitization and processing

8.8.3.1 *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 8.8—3).

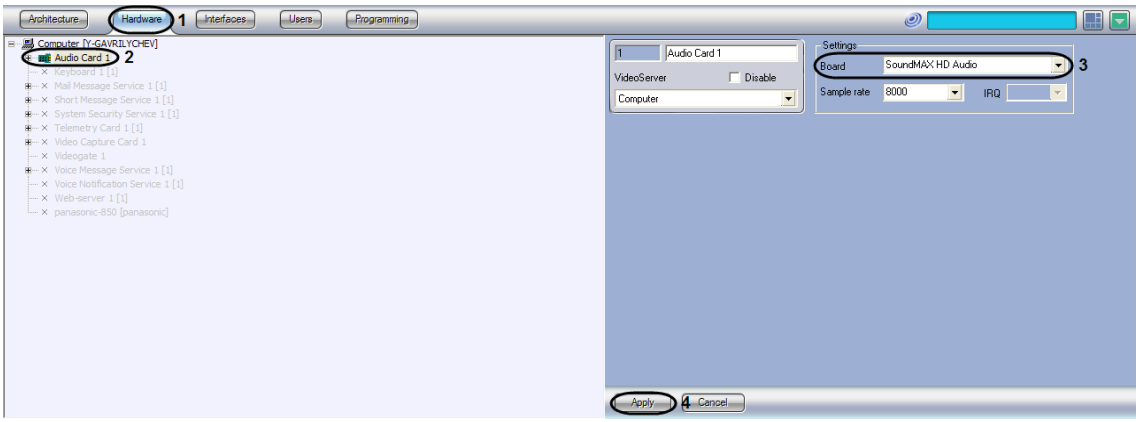


Figure 8.8—3. Audio signals sample rate settings

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.

8.8.3.2 *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 8.8—4).

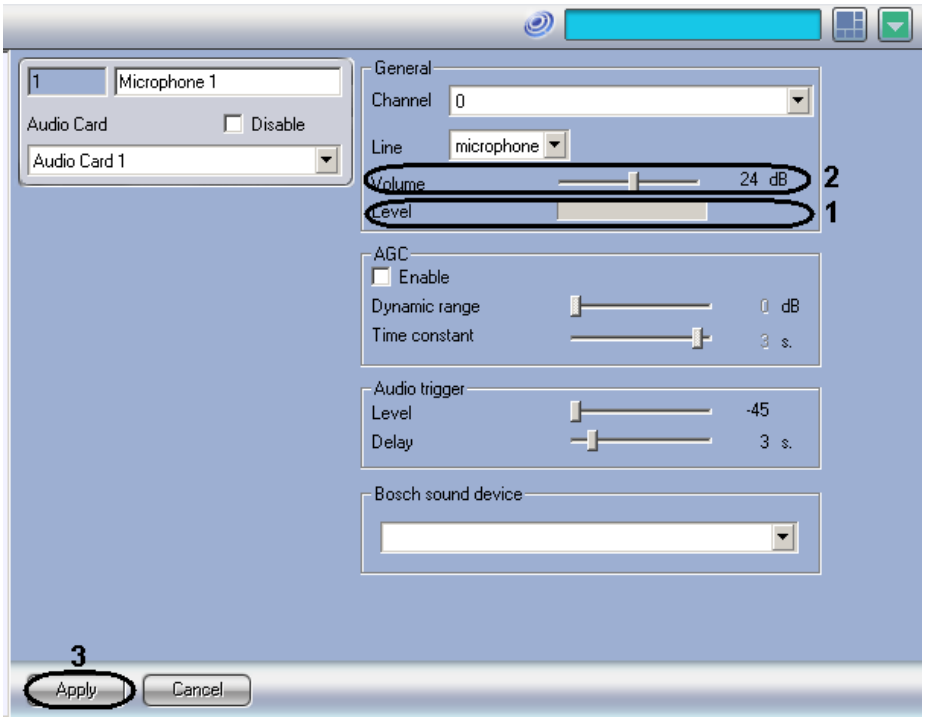


Figure 8.8—4. Set up of audio signal volume amplification

2. Feed the audio signal with to the microphone. Power level of incoming signal will be displayed on the indicator Level (Figure 8.8—4, 1).

3. When necessary set the slider Volume to the position, corresponding to the required value of amplification (Figure 8.8—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 8.8—4, 3).

Set of audio signal volume amplification is completed.

8.8.3.3 *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 8.8—5).

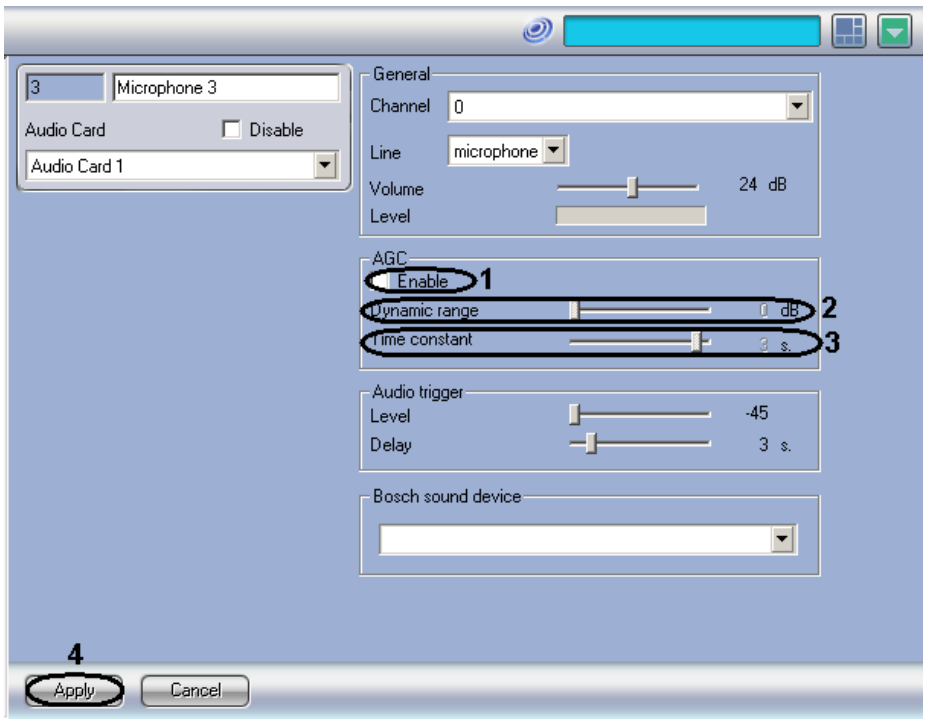


Figure 8.8—5. Setting up the automatic gain control of the audio signal

2. Set the “Enable” checkmark in the “AGC” group (Figure 8.8—5).
3. As a result, sliders in the “AGC” group Dinamic range and Time constant are activated (Figure 8.8—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 8.8—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 8.8—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 8.8—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.

8.8.4 Setup of audio signals recording

8.8.4.1 *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).

8.8.4.2 *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 8.8—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 8.8—6,4).

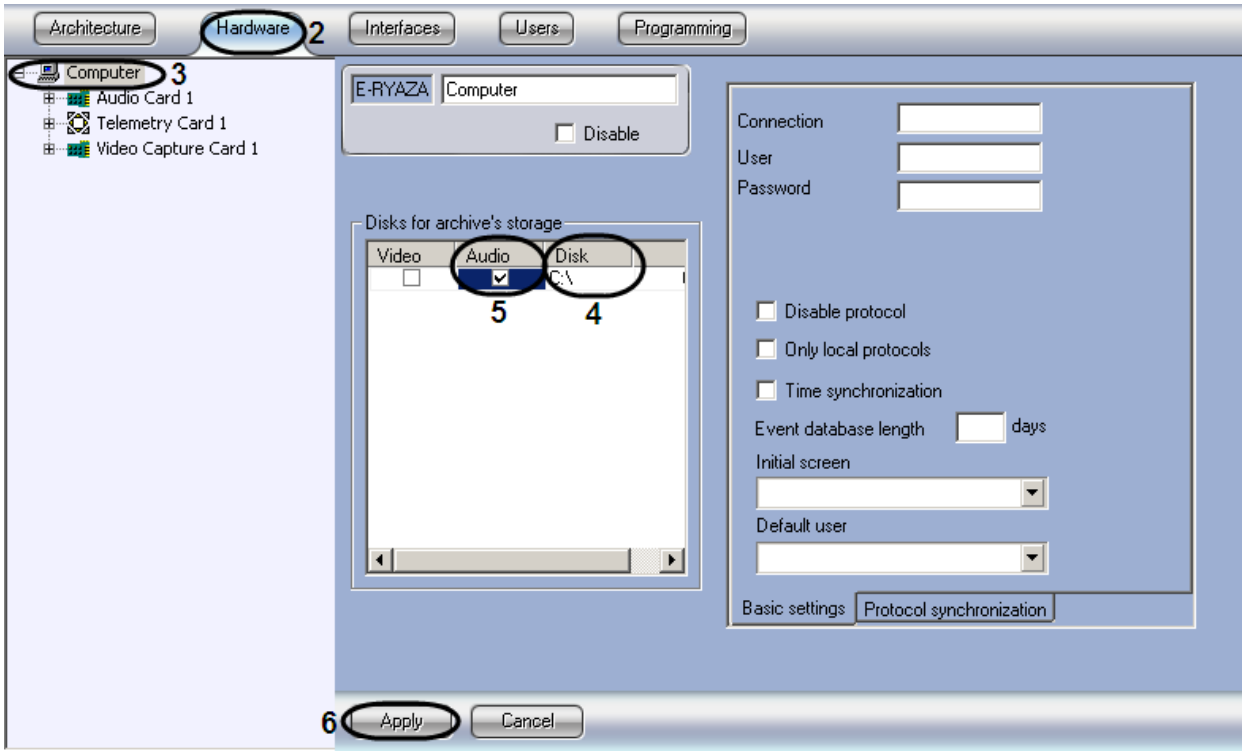


Figure 8.8—6. Selecting the discs for audio archive storage

3. 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.). Local, net and USB discs are available for storing.
4. To add a net disc via UNC paths do the following:

    4.1 Go to the last line in the disc list and click the down key (Figure 8.8—7).

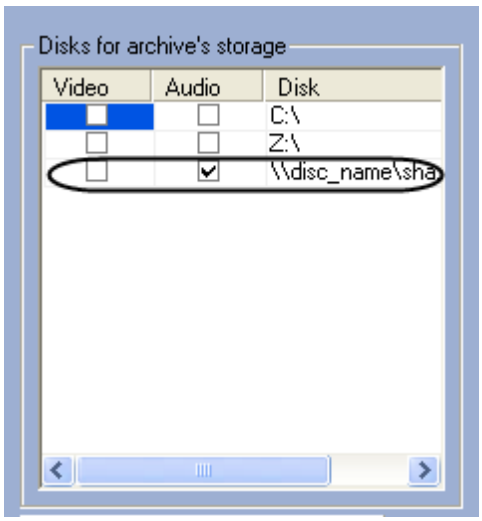


Figure 8.8—7 Setting the UNC path to a net disc

4.2 Enter the path to a net disc in the appeared line (Figure 8.8—7). UNC path is set in the format «\\server_name\share_name», where «server_name» is the name of file server and «share_name» is the net name of general folder.

4.3 Set a checkbox in the Video column for created disc (Figure 8.8—7).

5. Click the “Apply” button (Figure 8.8—6,6).

Selecting the discs for audio archive storage is completed.

8.8.4.3 *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 8.8—8).

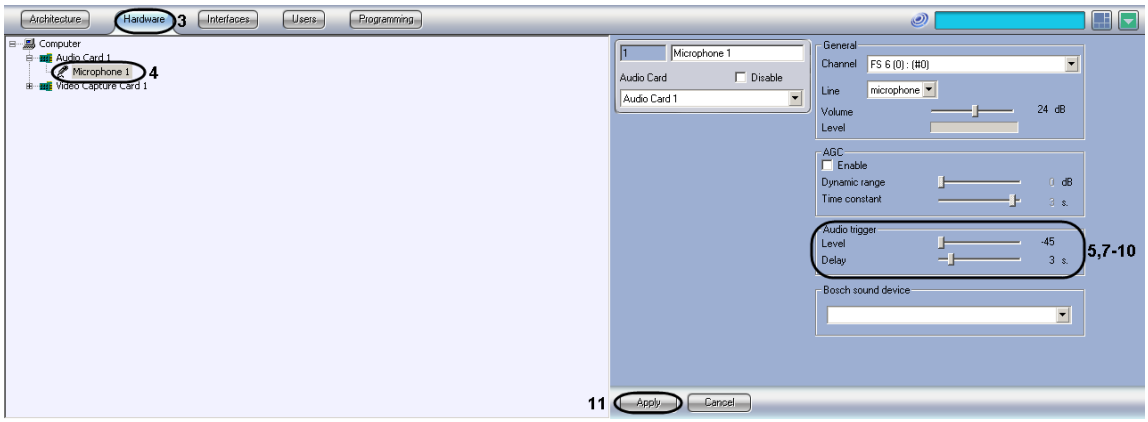


Figure 8.8—8. Setup of sound activated recording

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.

8.8.4.4 *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 settings panel of the “Camera” system object (Figure 8.8—9).

2. From the dropdown list Microphone select the name of the required microphone object(Figure 8.8—9,1).

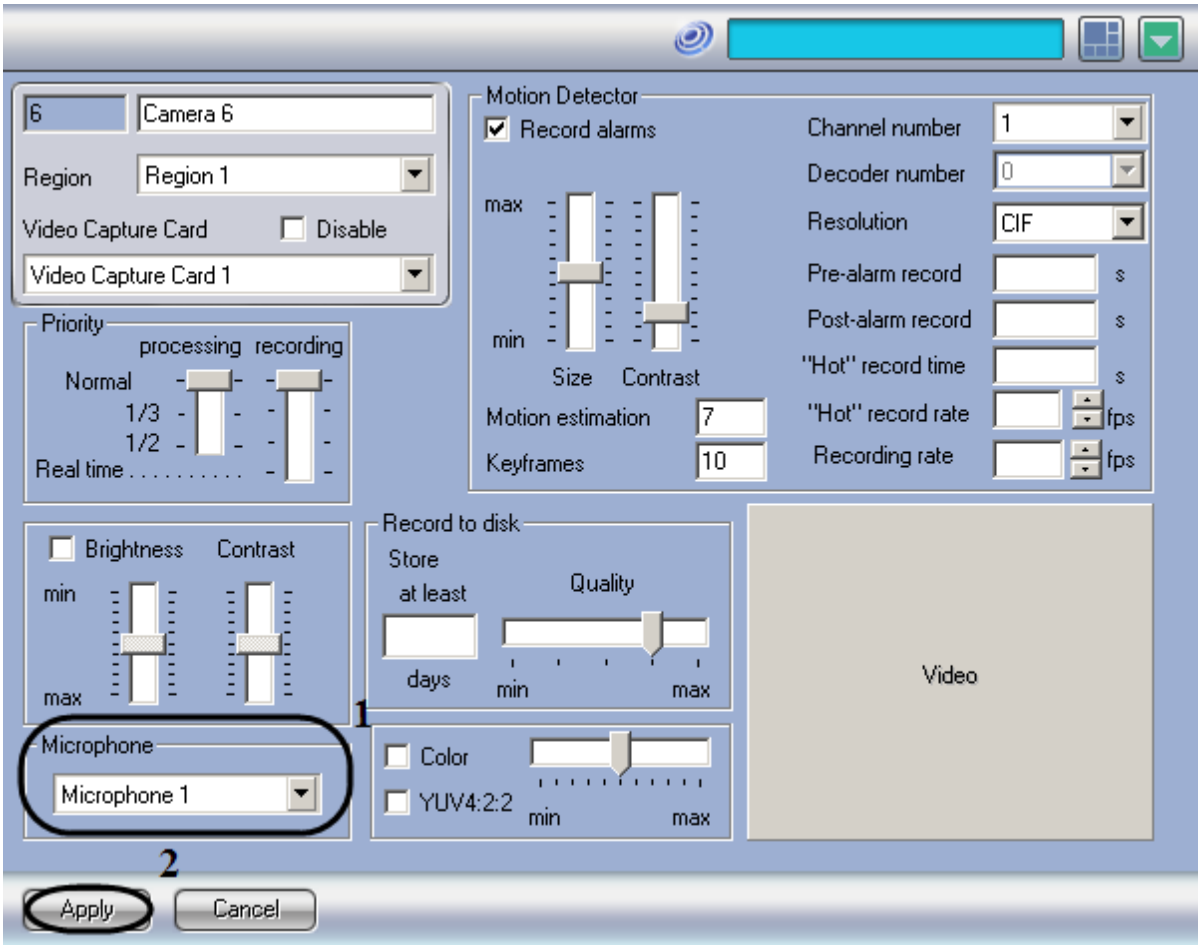


Figure 8.8—9. Settings of the audio and video synchro recording option

3. Click the “Apply” button to save all the changes(Figure 8.8—9,2).

Camera and microphone setup for audio and video synchro recording is completed.

8.8.5 Configuring Audio Analytics

8.8.5.1 *General information*

The INTELLECT ™ software package features integrated audio analytics, which are supplied in the form of a pack of detection tools made by Audio Analytic Ltd. Audio analytics allow for automatically analyzing the audio signal received by INTELLECT ™ software from connected microphones and recognizing sounds of different types. The type of sounds detected depends on the audio analytics that are used.

The INTELLECT ™ software package includes the following types of audio analytics:

1. Shattered glass detection. The glass break analytics has been designed to allow detection of the four main types of glass found in buildings: laminated glass, mirror glass, reinforced glass, and armored glass. The following detection tools are available:

1.1. "Tempered Glass Break Detector". A sample of the tempered glass breaking sound is available here.

1.2. "Wire Laminated Plate Glass Detector". A sample of the wired glass breaking sound is available here. A sample of the laminate glass breaking sound is available here. A sample of the plate glass breaking sound is available here.

Note. It is recommended to select both of these detection tools for general glass break detection.

1.3. "Risco RG-65 Vitron Glass Break Simulator". This detects the specific sound of the Risco RG-65 glass break simulator being used in plate glass mode, and is intended for use by installers to test for correct operation of the analytics after installation. It should only be enabled during test mode and should be disabled during normal operation. A sample of the sound recognized by the detection tool is available here.

2. Car alarm sound detection. The following detection tools are available, matching the standard car alarm signals used in Europe and North America:
   2.1 "Clean Sawtooth". A sample of this signal can be found here.
   2.2 "Fuzzed Sawtooth". A sample of this signal can be found here.
   2.3 "Reverse Sawtooth". A sample of this signal can be found here.
   2.4 "Single Tone". A sample of this signal can be found here.
   2.5 "Toned". A sample of this signal can be found here.
   2.6 "Tophat". A sample of this signal can be found here.
   2.7 "Two Tone". A sample of this signal can be found here.

Note. It is recommended to select all seven car alarm detection tools for general car alarm detection to ensure that any type of car alarm is detected.

3. Agression detection. Agression is characterized by change of voice timbre, pitch and intonation. A sample of this signal can be found here.

Attention! For proper functioning of audio analytics, you are advised to set a sample rate of 16,000 Hz or over. To set the sample rate, go to the configuration panel for the "Audio Card" object (see the section Audio card settings panel). Audio analytics functionality is not guaranteed at sample rates lower than the one indicated.

The output of the detection tools is a display of events (in the "Event Viewer") that match the trigger start times and end times of the detection tool.

8.8.5.2 *How to configure audio analytics:*

Configure audio analytics in the following order:

1. Create an "Audio Analytics" object;
2. Set a type of analytics;
3. Configure the audio detection tools.

8.8.5.3 *Creating an "Audio Analytics" object*

An "Audio Analytics" object is based on the "Microphone" object, in the "Hardware" tab of the "System Settings" dialog box (Figure 8.8—10).

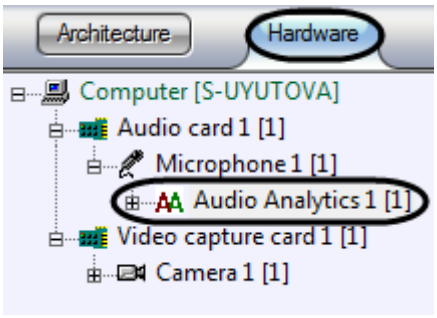


Figure 8.8—10 An Audio Analytics object

8.8.5.4 *Specifying the type of analytics*

The type of analytics determines the type of signal that is analyzed. The choice of a type of analytics determines the type of detection tools that will be used.

To configure the type of analytics in the INTELLECT ™ software package, create the corresponding object based on the “Audio Analytics” object in the “Hardware” tab of the “System Settings” dialog box.

To specify a type of audio analytics:

1. Right-click on an “Audio Analytics” object in the object tree (Figure 8.8—11).

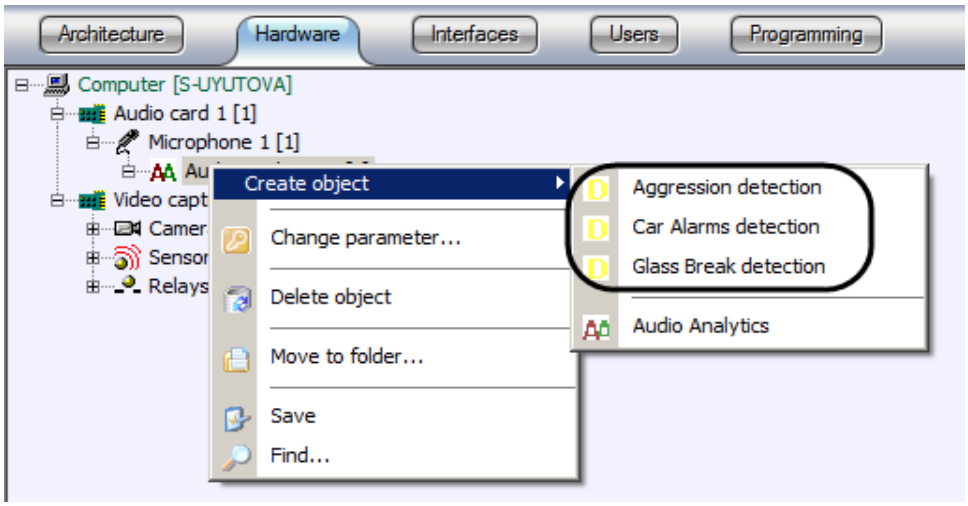


Figure 8.8—11 Creating a detection object

2. In the feature menu select an object that corresponds to the type of audio analytics (Figure 8.8—11).
    a. “Car Alarms detection” – detection of car alarm sound;
    b. “Glass Break detection” – detection of broken glass sound;
    c. “Agression detection” – detection of aggression sound.
3. Set the number and name of a detector (Figure 8.8—12, 1).

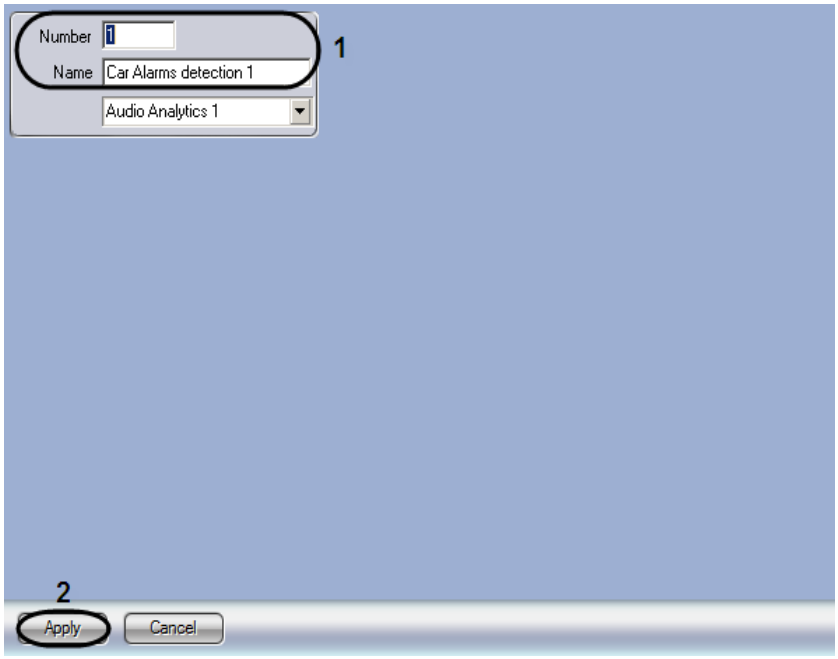


Figure 8.8—12 Specifying the object name and number

4. To complete the object creation, click the “Apply” button (Figure 8.8—12, 2).

The type of analytics has now been specified.

8.8.5.5 *Configuring an audio detector*

To configure an audio detector in the INTELLECT ™ software package, go to the settings panel for an object corresponding to the detection tool. This object is based on an “Audio Analytics” object, in the “Hardware” tab of the “System Settings” dialog box (Fig. 8.8—1).

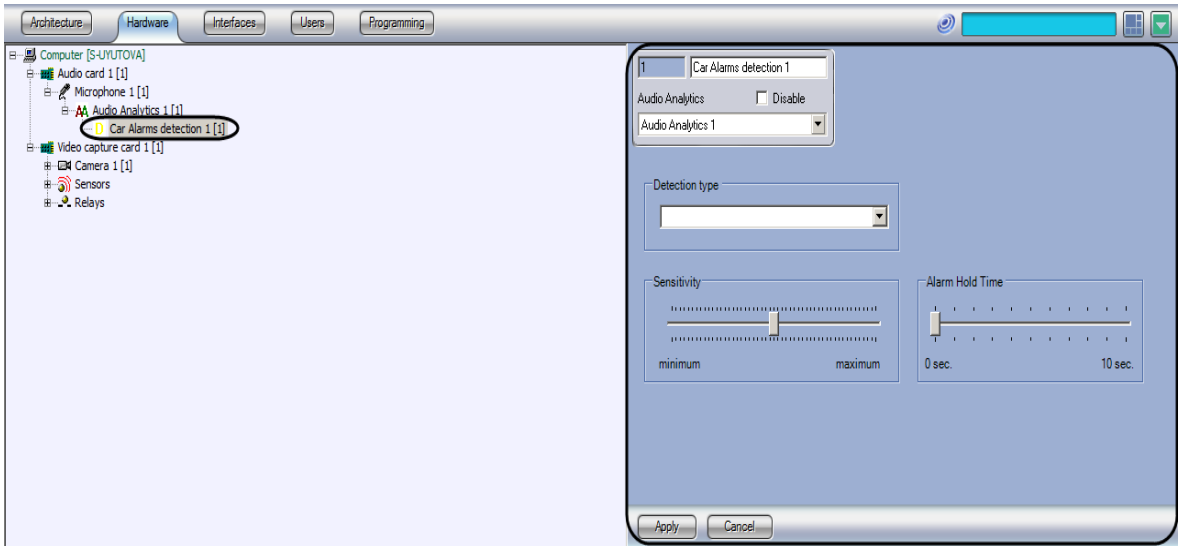


Fig. 8.8—1 A Car Alarms detection object

An audio detection tool is configured as follows:

1. Go to the settings panel for a “Detection” object (Fig. 8.8—2).

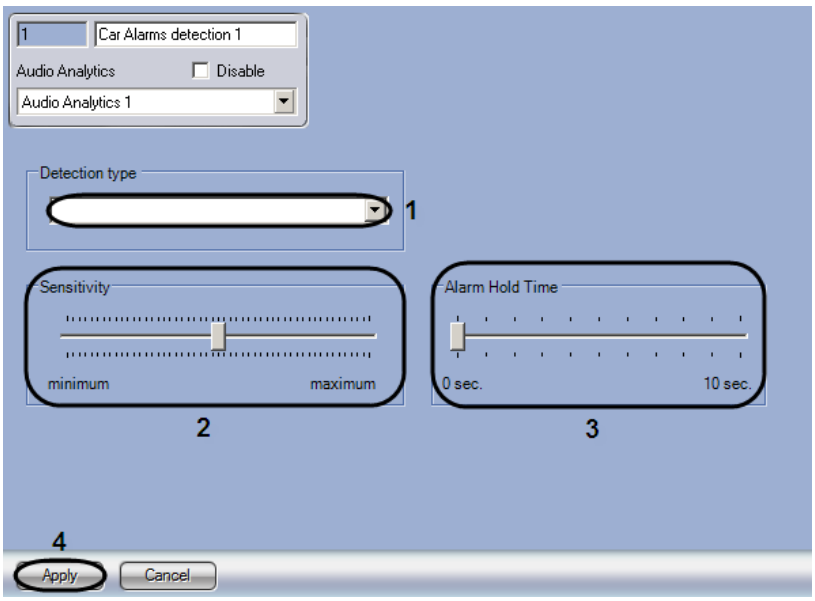


Fig. 8.8—2 Configuring a detector tool

2. In the “Detection type” drop-down list, select a type of detector tool (see Fig. 8.8—2, 1).

Note 1: If the type of a functioning detection tool that has already been configured has been changed, you must configure its sensitivity again.

Note 2: The types of detection tools that are available depend on the chosen type of audio analytics.

3. “Sensitivity” represents the threshold which is used for comparison during analysis of the incoming signal. When an audio detector type is selected a default detection sensitivity will be automatically set. Under most circumstances this default value will give acceptable performance. If circumstances require this detection sensitivity to be changed, for example high background noise, then set the “Sensitivity” value by moving the corresponding slider as needed (Fig. 8.8—2, 2).

To determine the optimal “Sensitivity” value, test the detection tool for false triggers. When the “Sensitivity” value is increased, there is a greater likelihood that the detector will be falsely triggered by audio signal static. When the “Sensitivity” value is decreased, there is a lower likelihood that the necessary sounds will be correctly recognized by the detection tool.

4. To configure the “Alarm Hold Time”, move the slider as appropriate. This time is the number of seconds by which the detection tool will be delayed from returning to the normal state after the alarm ends (see Fig. 8.8—2, 3).

Configuration of the “Alarm Hold Time” allows avoiding "fragmentation" of an alarm event into several events, when a detection tool goes into an alarm state several times in a short period because of a low-level input signal.

5. To save the changes in INTELLECT ™ software, click the “Apply” button (see Fig. 8.8—2, 4).

The audio detection tool is now configured.

8.8.5.6 *Sample macros for audio analytics*

When a detection tool is triggered, a "Event Start" event is sent to the system; when it ends, an "Event End" event is sent. These events can be handled by:

1. JScript scripts (for more about creating scripts, see the document INTELLECT ™ software Package: Programmer's Guide (JScript))
2. Programs made in the programming language built into INTELLECT ™ software (for more information, see the document INTELLECT ™ software Package: Programmer's Guide)
3. Macros (see the section Creating and using macros)

Sample macros. When the detection tool is triggered, start writing from camera 1. When the trigger has ended, stop writing.

Create two "Macro" objects and set their parameters as shown in the table (Table 8.8—1).

Table 8.8—1 Macro parameters

No.	Events		Actions	
	Object	Event	Object	Action
1	Detector 1 (see Fig. 8.8—3, 1)	Event beginning (see Fig. 8.8—3, 2)	Camera 1 (see Fig. 8.8—3, 3)	Start recording (see Fig. 8.8—3, 4)
2	Detector 1 (see Fig. 8.8—4, 1)	Event ending (see Fig. 8.8—4, 2)	Camera 1 (see Fig. 8.8—4, 3)	Stop recording (see Fig. 8.8—4, 4)

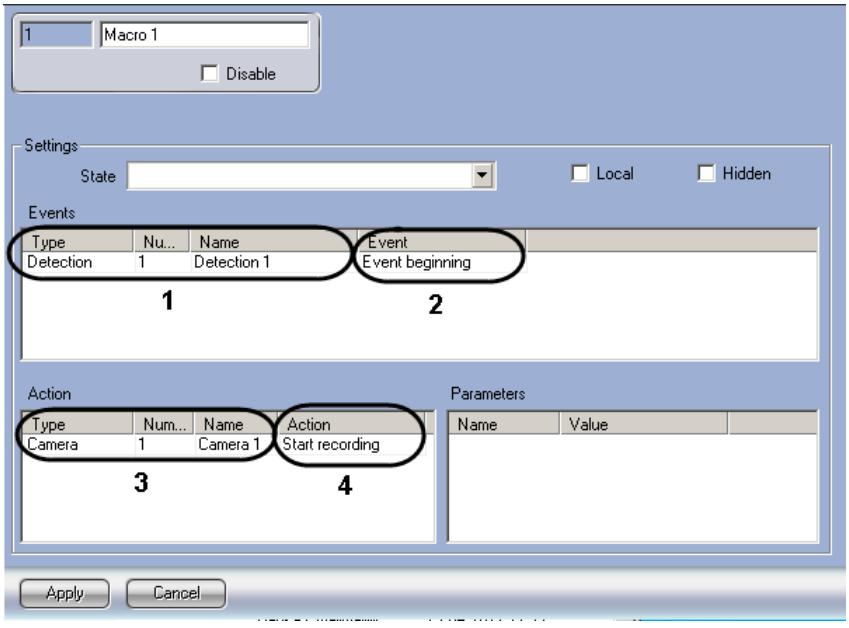


Fig. 8.8—3 The settings panel for the Macro 1 object

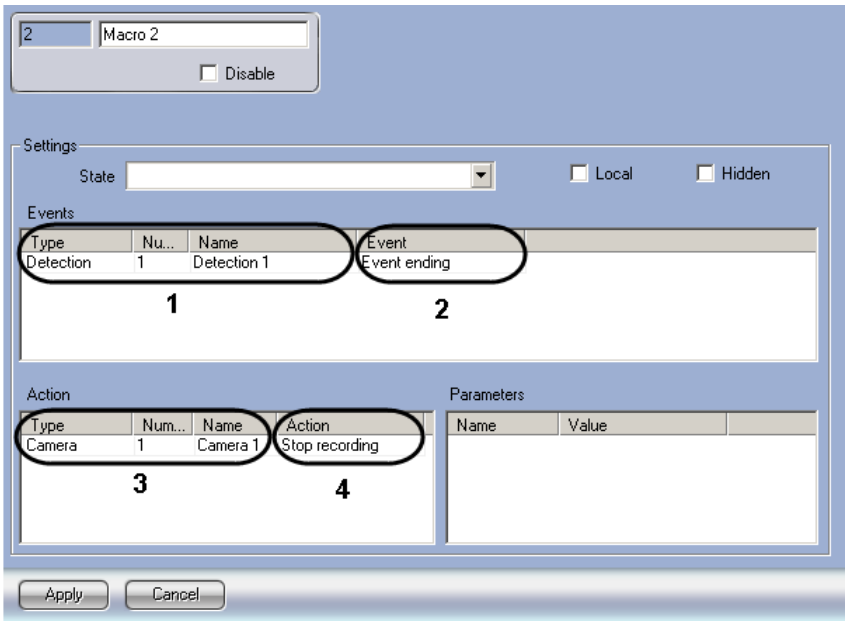


Fig. 8.8—4 The settings panel for the Macro 2 object

Note. It's also possible to use other types of actions besides recording video from cameras. For example the following ones:

1. *The "Play audio file" action of the "Audio player" object for audible alarm alert to operator.*
2. *The "Add camera" action of the "Monitor" object for displaying the camera associated with the microphone at which the detection tool has triggered.*

8.8.6 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 8.8—13).

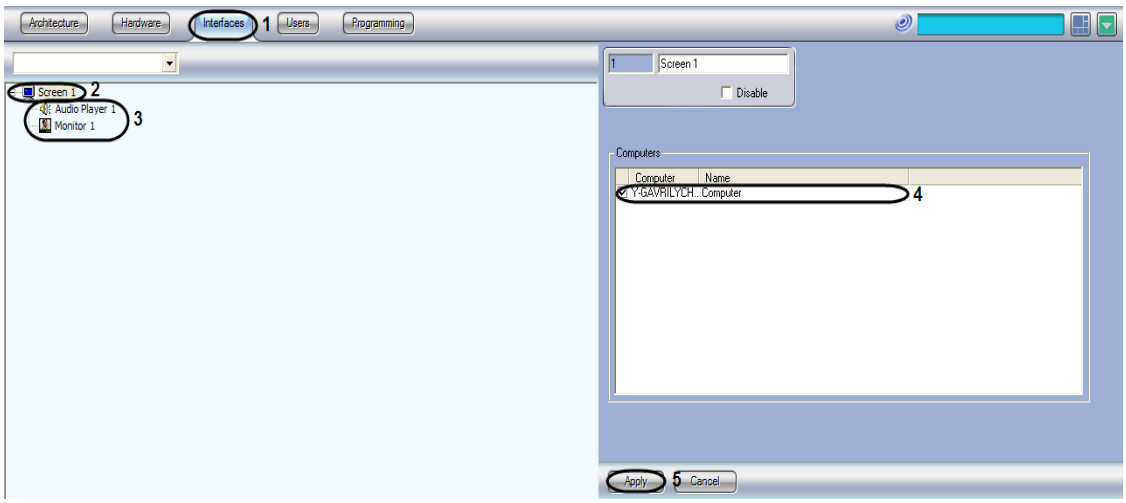


Figure 8.8—13. Setup of audio signal transmission to Remote Workplaces and videoservers

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.

8.8.7 Setup of audio playback

INTELLECT™ software provides an audio playback using «Playback card» object. «Playback card» object combines dynamics objects in case it has several channels. You can direct sound from the microphone to the dynamic using audio (see 8.8.11 part of this manual), macrocommand or script switch.

8.8.7.1 *Creating and setting of “Playing card” object*

«Playing card» object is registered on the basis of «Computer» object on «Hardware» tab in «System settings» dialog window (Figure 8.8—14).

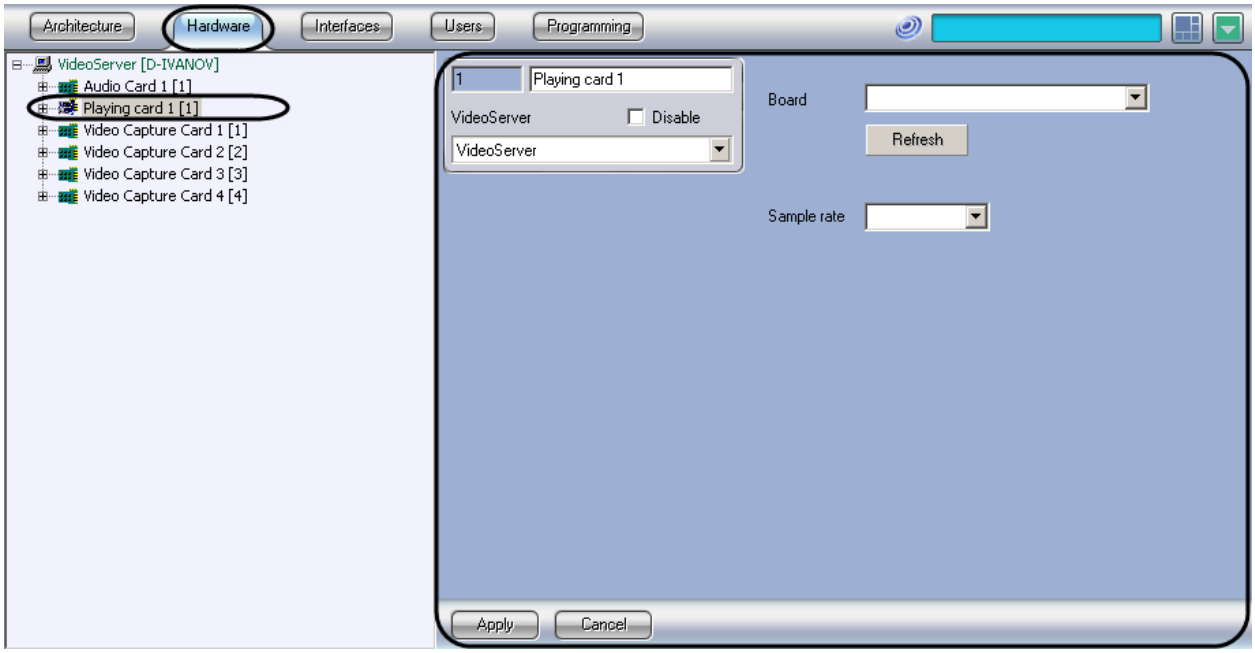


Figure 8.8—14. Creating the «Playing card» object

To set « Playing card» object do the following:

1. Go to the setting panel of « Playing card» object (Figure 8.8—15).

Figure 8.8—15. Setup of the «Playing card» object

2. Select the type of audio digitization device in «Board» dropdown list (Figure 8.8—15, 1).

Note. SoundBlaster, ADC video card, audio digitization USB devices, IP cameras digitization devices are used as audio digitization devices.

3. Select the frequency of audio digitization in «Sample rate» dropdown list (Figure 8.8—15, 3).

4. To save the changes click «Apply» (Figure 8.8—15, 4).

Note. «Refresh» button is for returning to previous settings of audio digitization device if new settings were not saved (Figure 8.8—15, 2).

Setting of «Playing card» object is completed.

8.8.7.2 *Creating and setting of "Speaker" object*

The **Speaker** object is an audio playback device.

The **Speaker** object is registered under the **Playing card** object on the **Hardware** tab in the **System settings** dialog window (Figure 8.8—16).

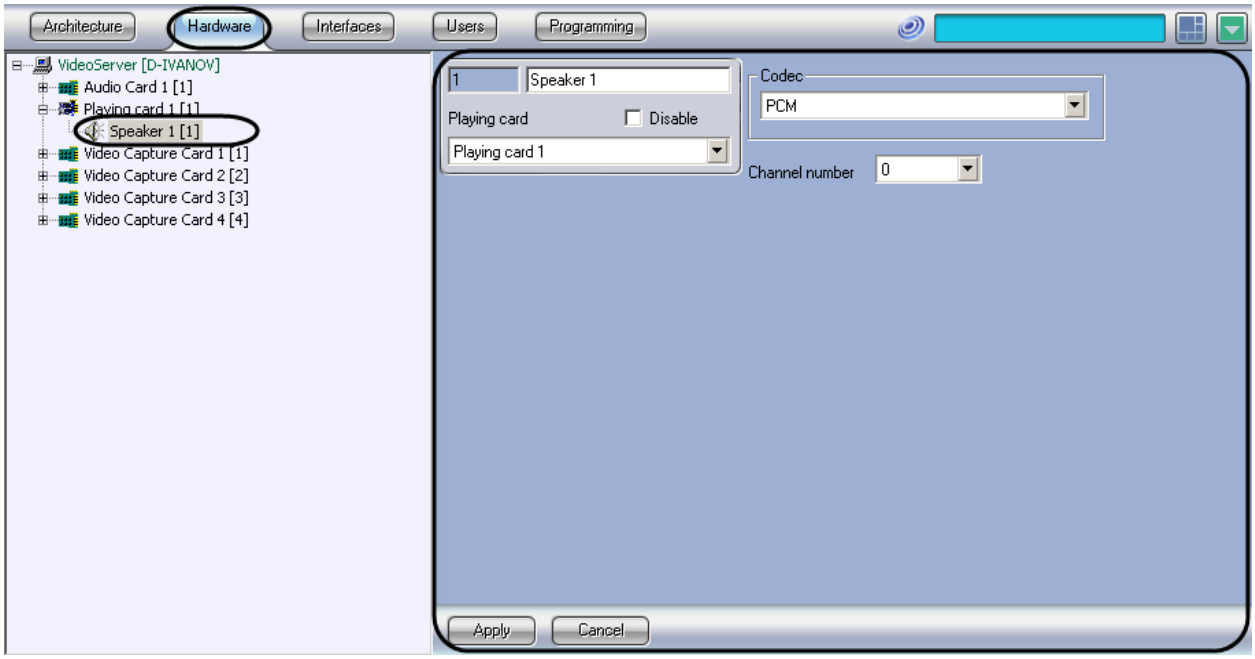


Figure 8.8—16. Creating the «Speaker» object

To configure the **Speaker** object do the following:

1. Go to the setting panel of the **Speaker** object (Figure 8.8—17).

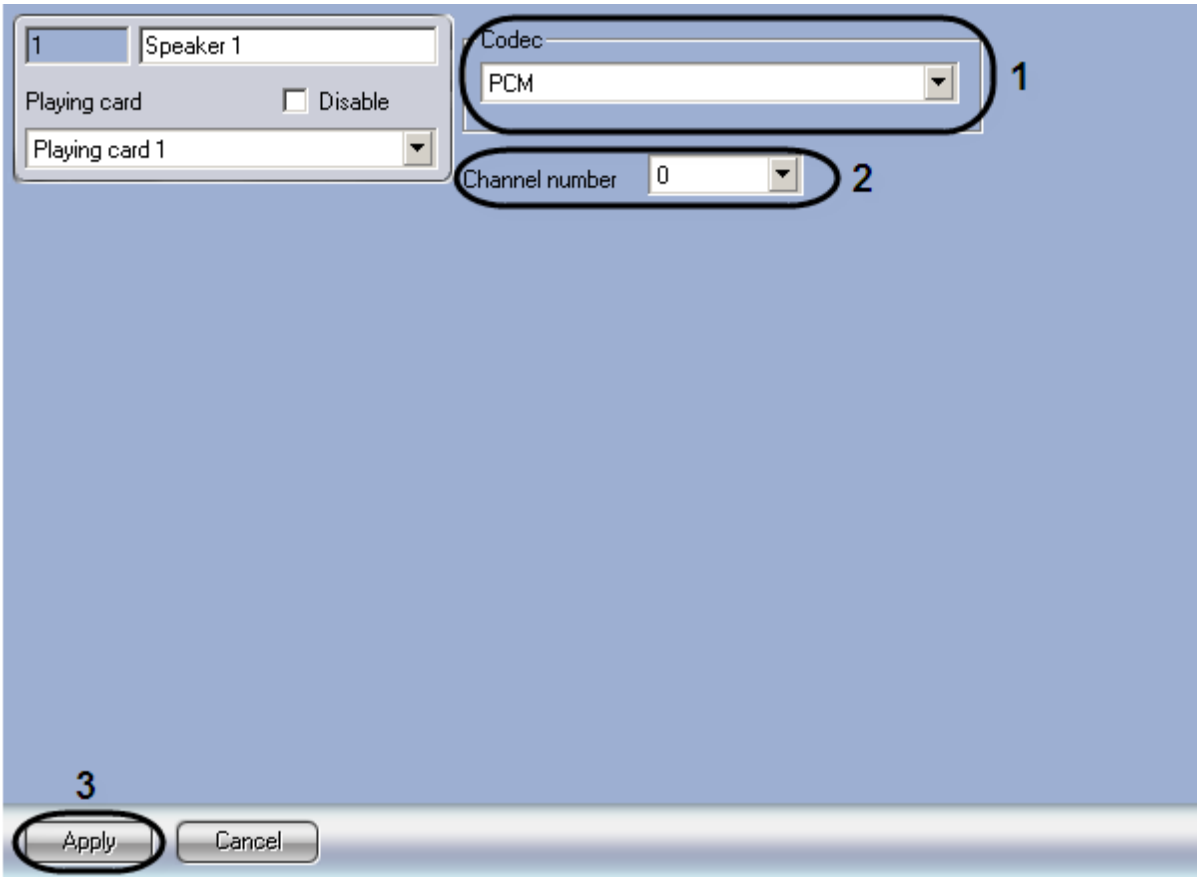


Figure 8.8—17. Setup of the «Speaker» object

2. Select the coding format of reproductible audio signal in the **Codec** dropdown list (Figure 8.8—17, 1).
3. Select channel number of speaker connection in sound card from the list of the same name (Figure 8.8—17, 2).
4. To save the changes click **Apply** (Figure 8.8—17, 3).
5. Select the **Operator's speacker:** object from the list on the setting panel of the **Computer** object (Figure 8.8—18).

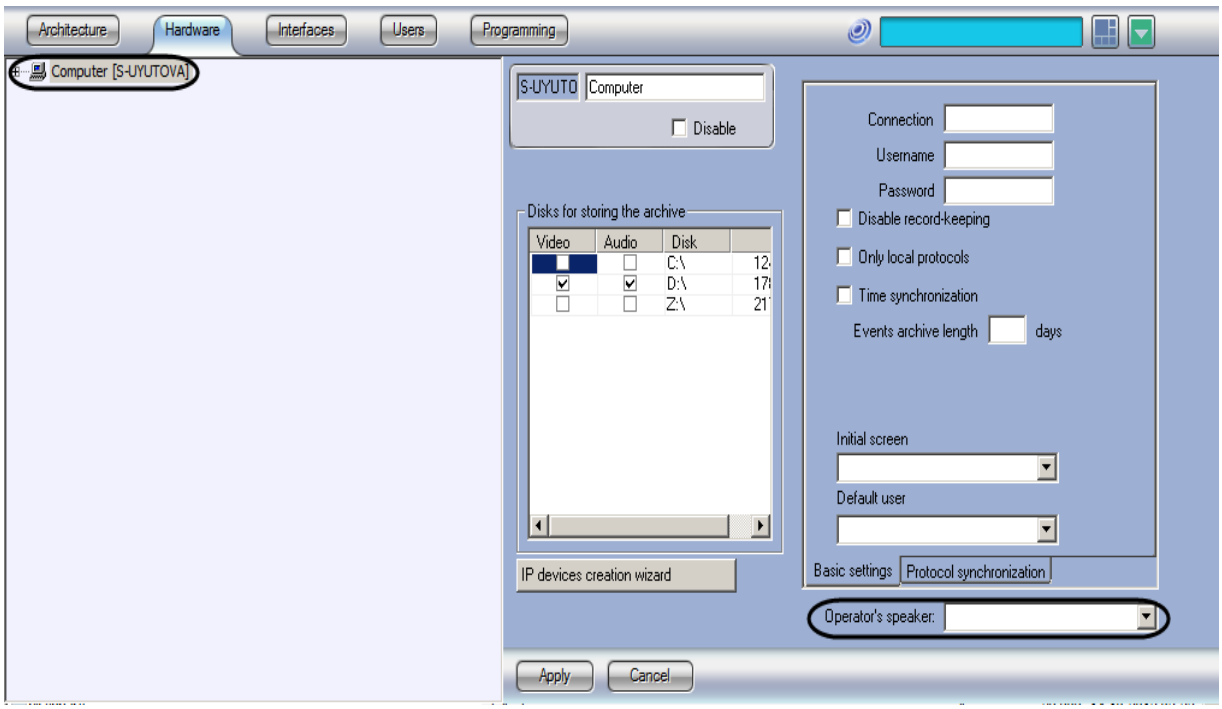


Figure 8.8—18 Specifying the speaker to computer

*Note. Several **Speaker** objects can be configured in the system. When the speaker is changed over using the **Operator's speaker** list, then Intellect is to be restarted on the computer where it is in use.*

6. Click **Apply**.

Setting the **Speaker** object is completed.

8.8.8 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.

8.8.9 Setup of audio signals playback by the Audio player

8.8.9.1 *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.

8.8.9.2 *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 8.8—19).

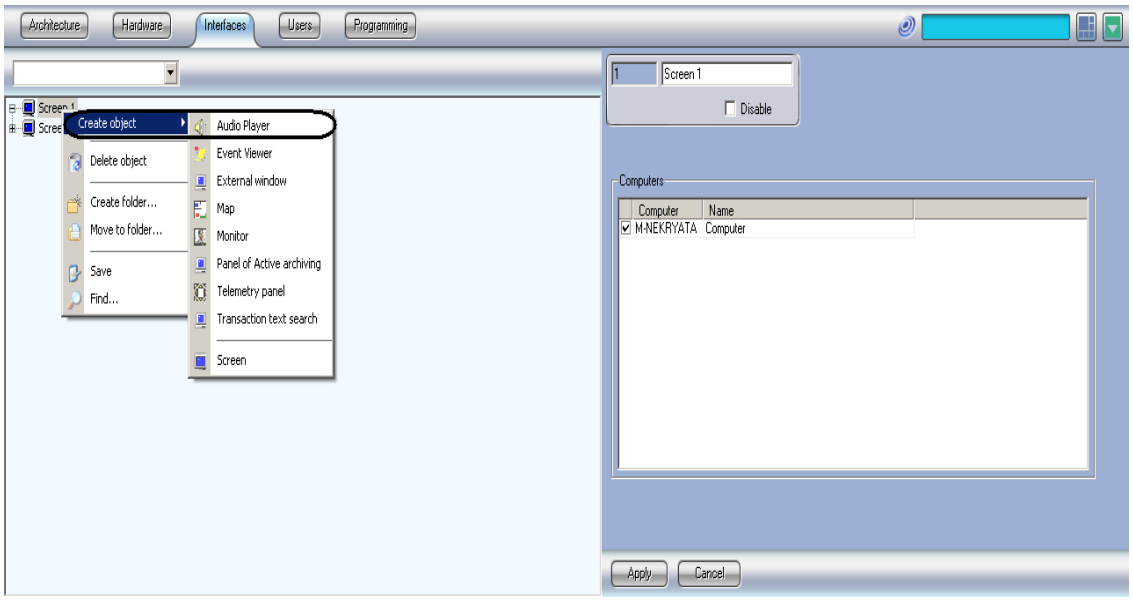


Figure 8.8—19. Creating the Audio player object

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 8.8—19, 1).

3. In the window, that will open, set the name and number of the object Audio player and then click Apply button (Figure 8.8—20).

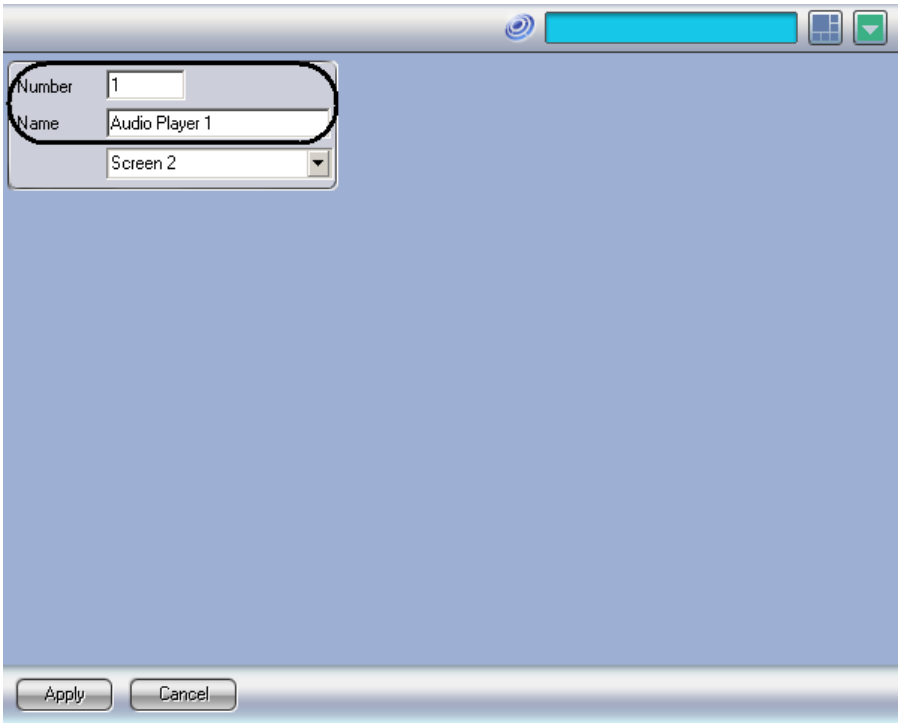


Figure 8.8—20. Setting up the number and name of the Audio player object

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.

8.8.9.3 *Setting the parameters of the "Audio player" interface box*

To set the parameters of the "Audio player" interface box,do the following:

1. Go to the settings panel of the "Audio player" interface box (Figure 8.8—21).

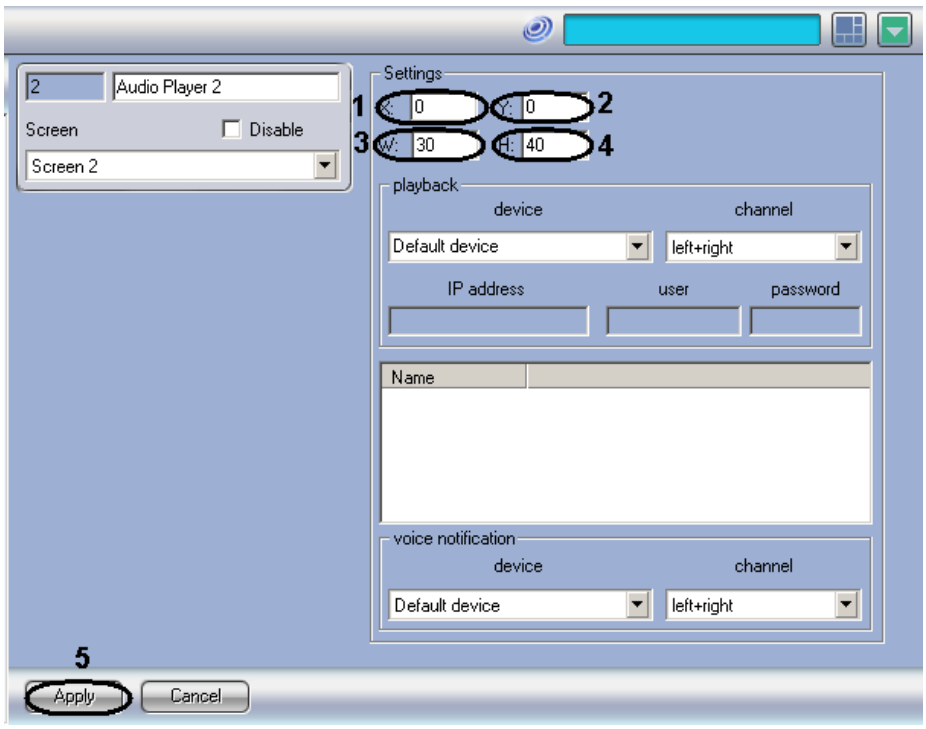


Figure 8.8—21. Setting the parameters of the "Audio player" interface box

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 8.8—21-Coordinates are given in percentage in relation to screen size horizontally and vertically.

3. Set the dimensions of the "Audio player" interface box: fields «W» (window's width) and «H» (window's height) – Figure 8.8—21, 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 8.8—21, 5).

Setting the parameters of the "Audio player" interface box is completed.

8.8.9.4 *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 8.8—22).

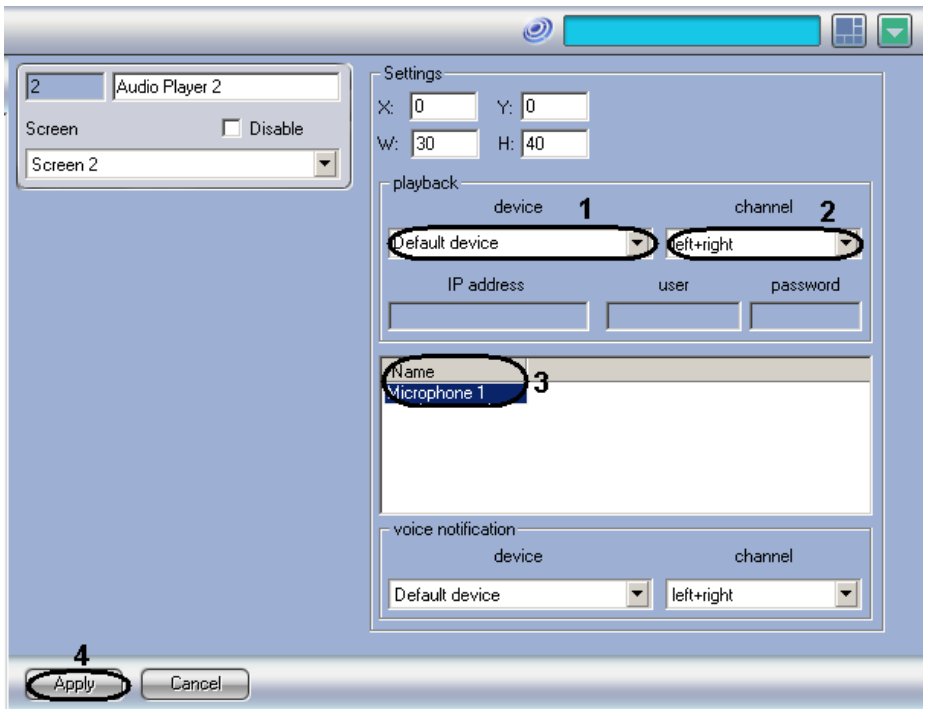


Figure 8.8—22. Setting up the recording and playback of audio signals from the microphones

2. From the dropdown list Device of Playback group select the required device of audio signals backup (Figure 8.8—22, 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 8.8—22, 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 8.8—22, 3).

5. Repeat step 4 for all the required Microphone objects.

6. Click Apply button to save all the changes (Figure 8.8—22, 4).

Setting up the recording and playback of audio signals from the microphones is completed.

8.8.10 Setting up the voice notification

It is possible to transmit voice notification with the registration of alarms by main motion detectors of cameras.

When motion detector works, audio file which is situated in Wav subdirectory in INTELLECT™ software root directory, is played. The files have .wav extension and are called cam_alarm_N, where N is a number of a video camera.

*Note. By default INTELLECT™ software provides 16 audio files for 16 cameras, respectively. You can add your own audio file if the number of cameras is greater one specified by default. It's enough to move a new audio file (wav format required) to a Wav subdirectory and change its name to: cam_alarm_N, where N is a number of a video camera (> 16). If there is no file with name corresponding to camera, then there is a standard sound of Windows OS - **Ding**.*

Before setting up the voice notification it's necessary to make sure that the following conditions are carried out:

1. Standard sound card is installed on the required computer (also integrated into the motherboard);
2. The devices of audio signals playback (dynamics and headphones) are connected to audio outputs of the sound card.

Setting up the voice notification is carried out in two ways:

1. Using «Audio player» object;
2. Using «Sound notification» object.

It's recommended to use only one variant.

8.8.10.1 *Setting up the voice notification using «Audio player» object*

To set up the voice notification using «Audio player» object do the following:

1. Go to the setting panel of «Audio player» object (Figure 8.8—23).

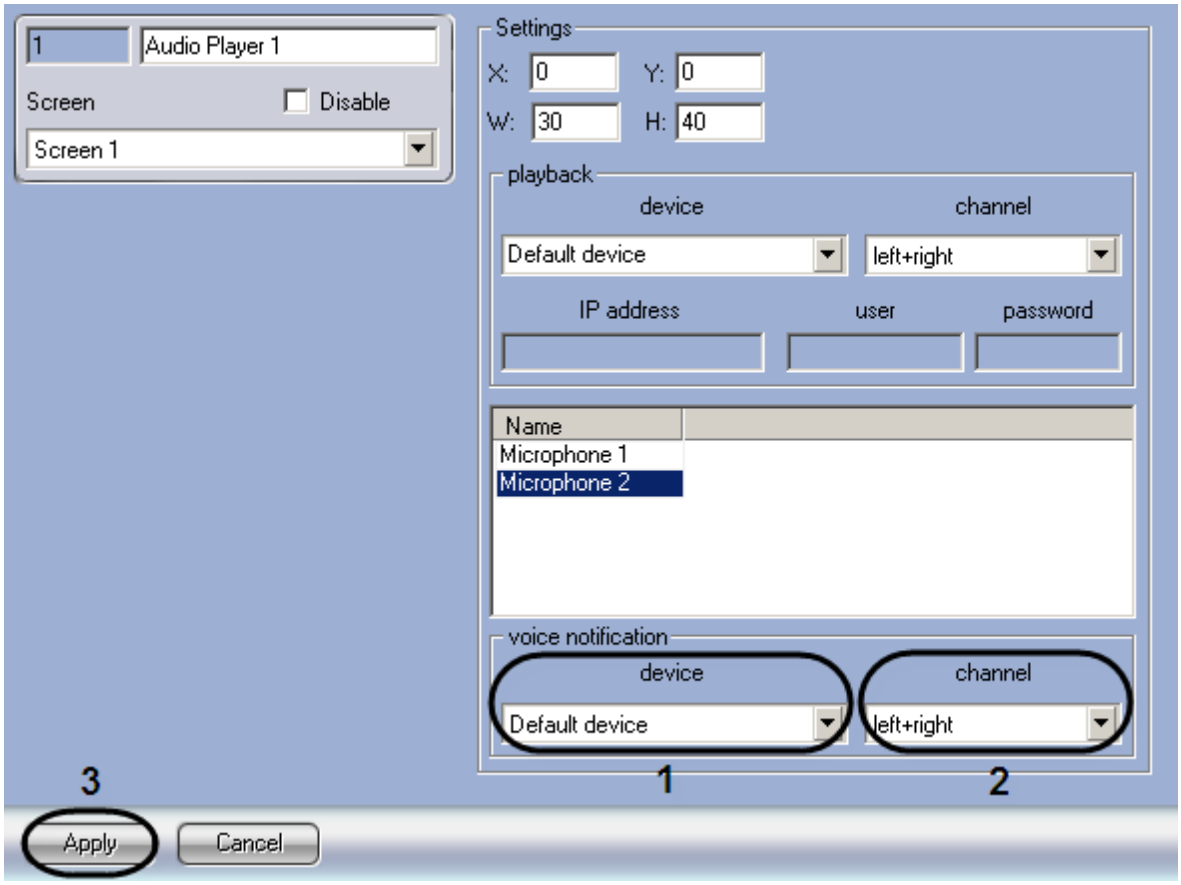


Figure 8.8—23. Setting up the voice notification

2. Select required voice notification device in «Device» dropdown list of «Voice notification» group (Figure 8.8—23, 1).

Note.

Standard sound card corresponds to «Default device».

To switch the voice notification off select «Switch off».

3. Select required voice notification channel in «Channel» dropdown list of «Voice notification» group (Figure 8.8—23, 2).
4. Click «Apply» button to save all the changes (Figure 8.8—23, 3).

Setting up the voice notification using «Audio player» object is completed.

8.8.10.2 *Setting up the voice notification using Sound notification object*

To set up the voice notification using «Sound notification» object do the following:

1. Create «Sound notification» object on the basis of «Computer» object in «Hardware» tab of «System setting» dialog box (Figure 8.8—24).

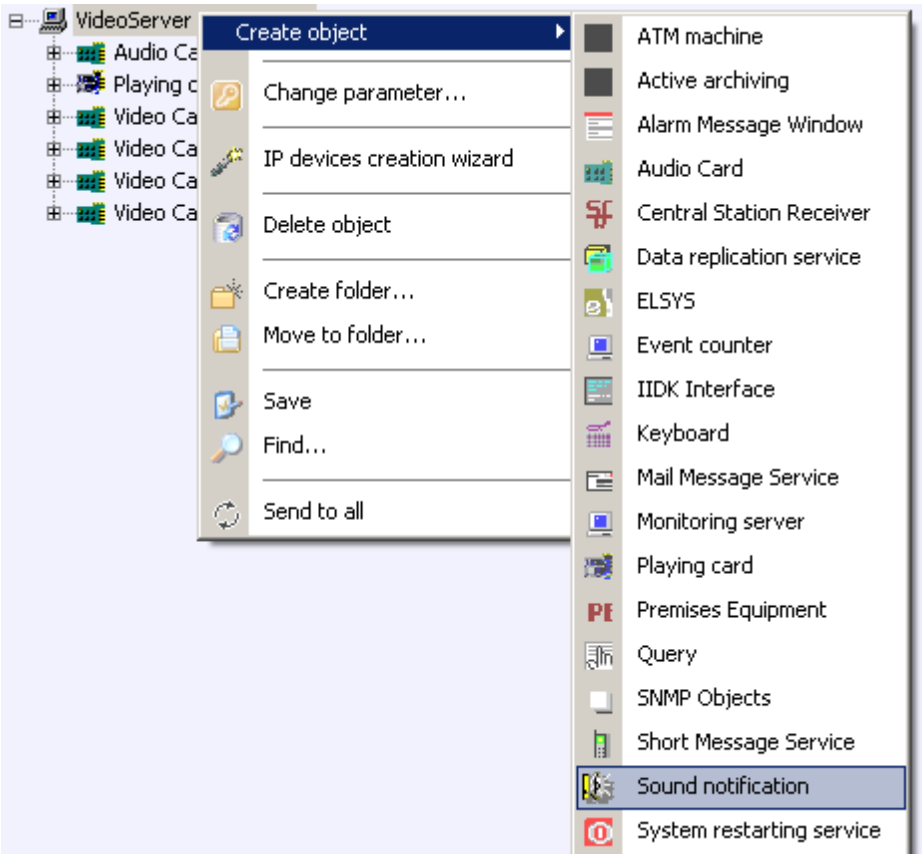


Figure 8.8—24. Creating the «Sound notification» object

2. Go to the setting panel of «Sound notification» object (Figure 8.8—25).

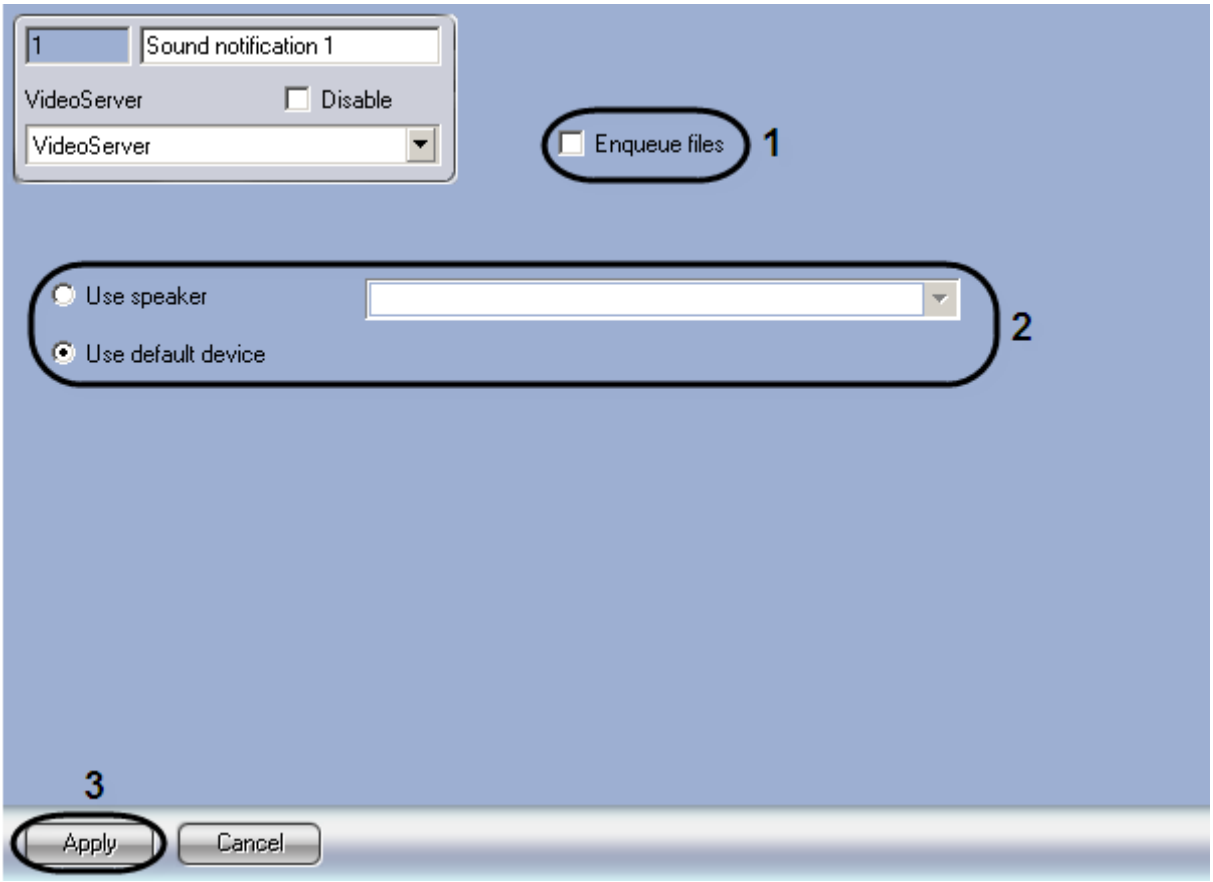


Figure 8.8—25. Setting panel of «Sound notification» object

3. If it's necessary, set «Enqueue files» check box in order to play alarm sound notification files that appear simultaneously one after another (Figure 8.8—25, 1).
4. If the voice notification device is a standard sound card, set the switch into «Use default device» mode. Otherwise set the switch into «Use speaker» mode and select the voice notification device in the dropdown list (Figure 8.8—25, 2).
5. Click «Apply» button to save all the changes (Figure 8.8—25, 3).

Setting up the voice notification using «Sound notification» object is completed.

8.8.11 Setting up the sound switch

You can direct audio signal that arrives from any sound source (microphone) to any sound detector (speaker) in order to play it back in INTELLECT™ software. «Live sound switch» is used for that.

8.8.11.1 *Creating and setting up «Live sound switch» object*

The «Live sound switch» object is created on the basis of «Screen» object in «Interfaces» tab of «System setting» dialog box (Figure 8.8—26).

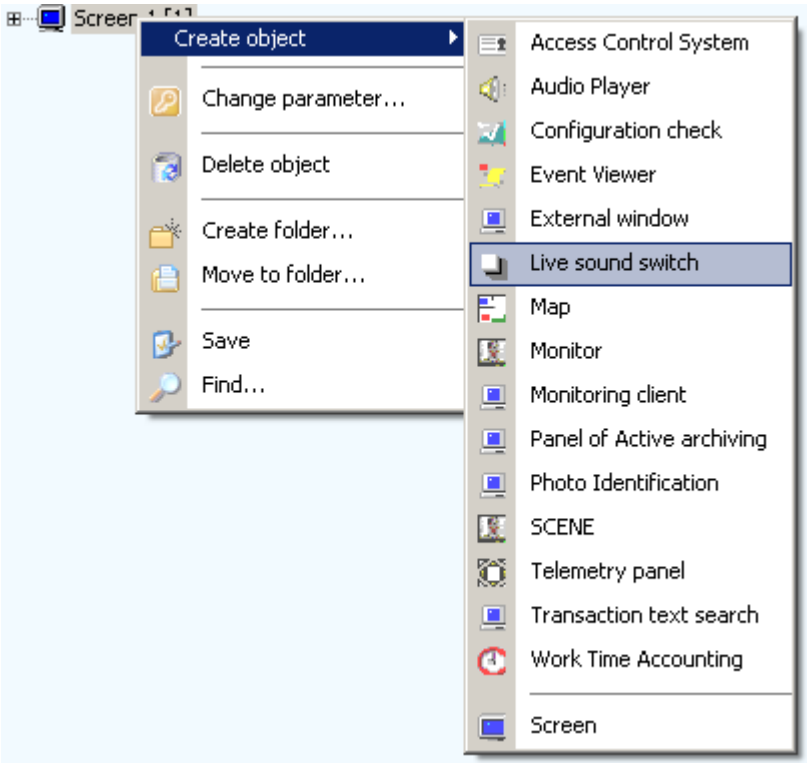


Figure 8.8—26. Creating the «Live sound switch» object

To set up the «Live sound switch» object do the following:

1. Go to the setting panel of the «Live sound switch» object (Figure 8.8—27).

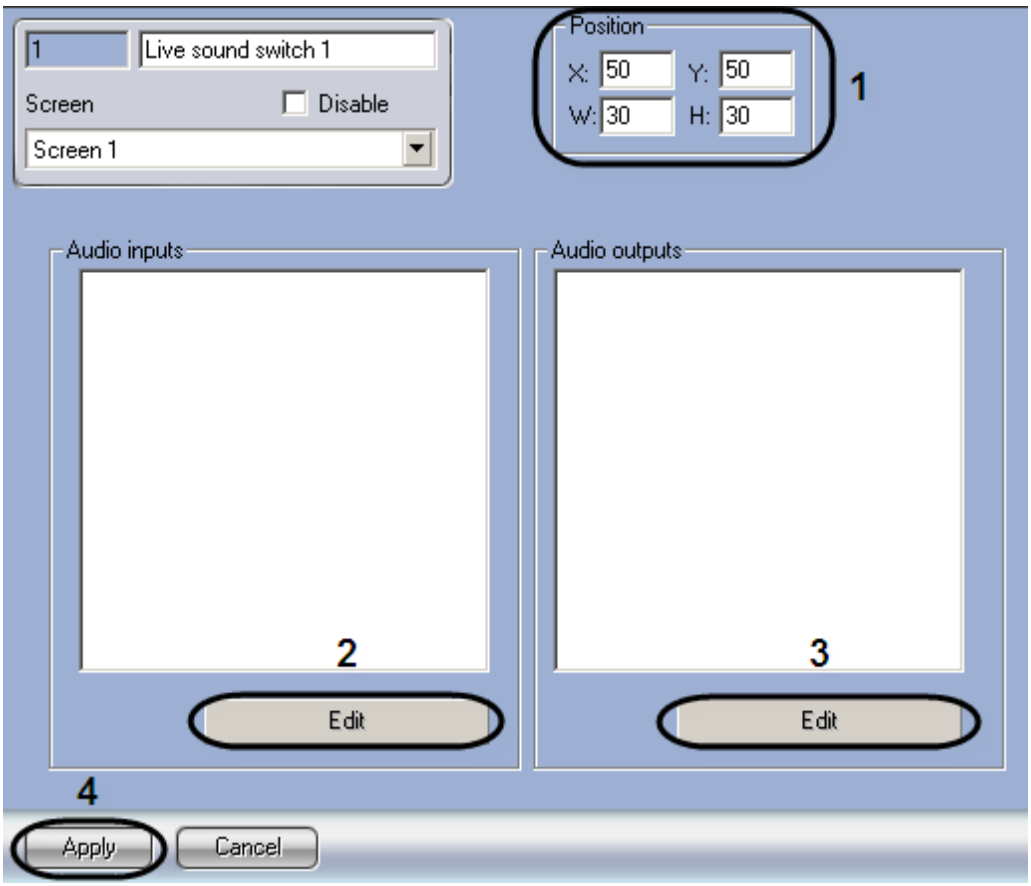


Figure 8.8—27. The setting panel of the «Live sound switch» object

2. To set the position of the «Live sound switch» object dialog box, set a value of the position data of the left upper corner in «X:», «Y:» fields and value of width and height of the box in «W:», «H:» fields (Figure 8.8—27, 1).
3. To add sound sources click «Edit» in «Audio inputs» (Figure 8.8—27, 2).

The window of sound sources list editing is displayed (Figure 8.8—28).

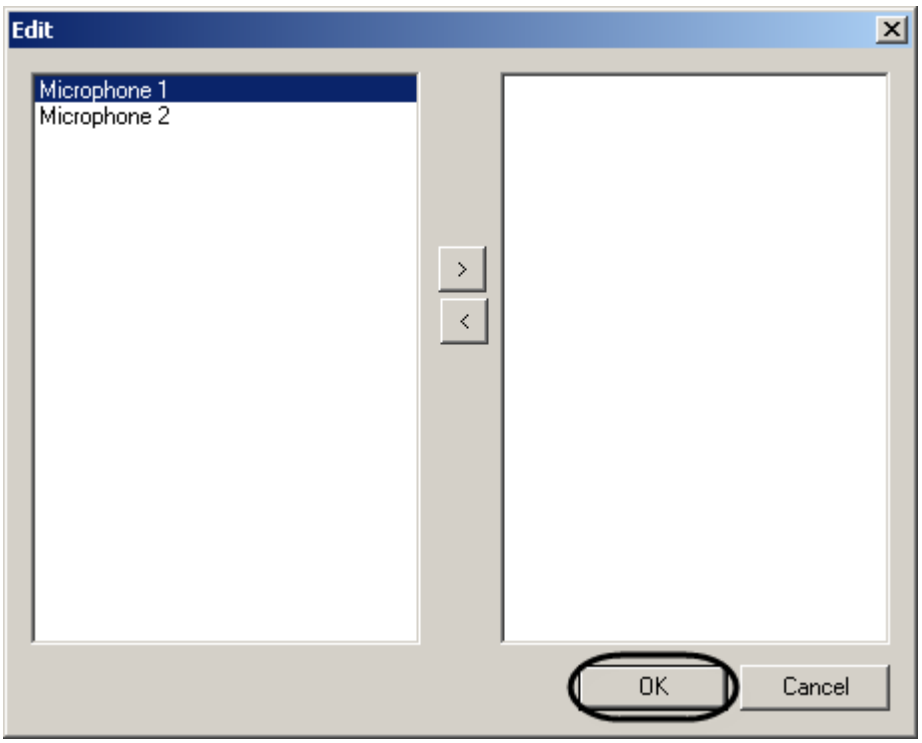


Figure 8.8—28. The window of sound sources list editing

4. Select the required sound sources in the left listand click (Figure 8.8—28).

   As a result the selected sound sources are moved to the right list.

Note. To remove the sound sources from the right list select them and click *(Figure 8.8—28).*

5. Click «OK» to save the changes (Figure 8.8—28).
6. To add the sound detectors click «Edit» in «Audio outputs» (Figure 8.8—27, 3). The sound detectors adding is made by analogy with sound sources adding (item 4-5).
7. Click «Apply» to save all the changes (Figure 8.8—27, 4).

The dialog box of the «Live sound commutator» object is displayed (Figure 8.8—29).

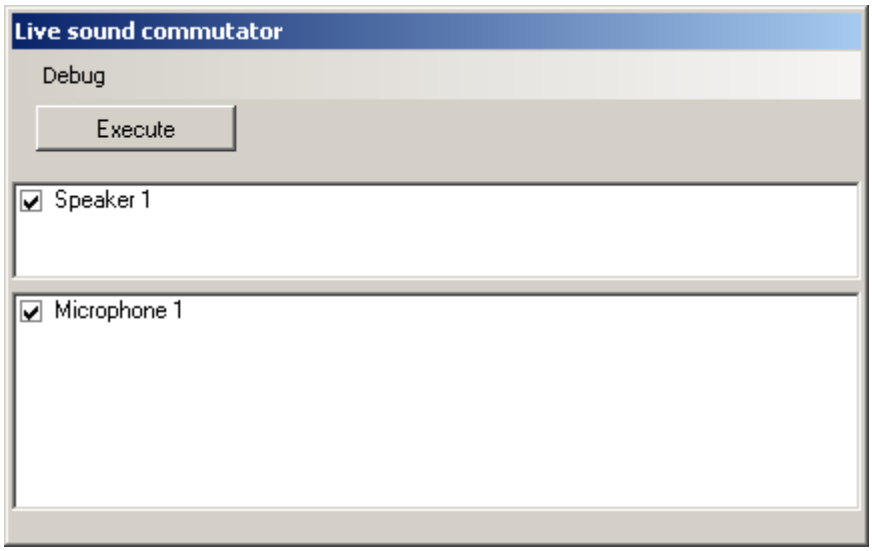


Figure 8.8—29. The dialog box of the «Live sound commutator» object

Setting up the «Live sound commutator» object is completed.

8.8.11.2 *Working with the «Live sound switch» object*

Working with the «Live sound switch» object is carried out in the dialog (Figure 8.8—30) the following way:

1. Set the check boxes against the microphones from which you want to receive the sound (Figure 8.8—30, 1).

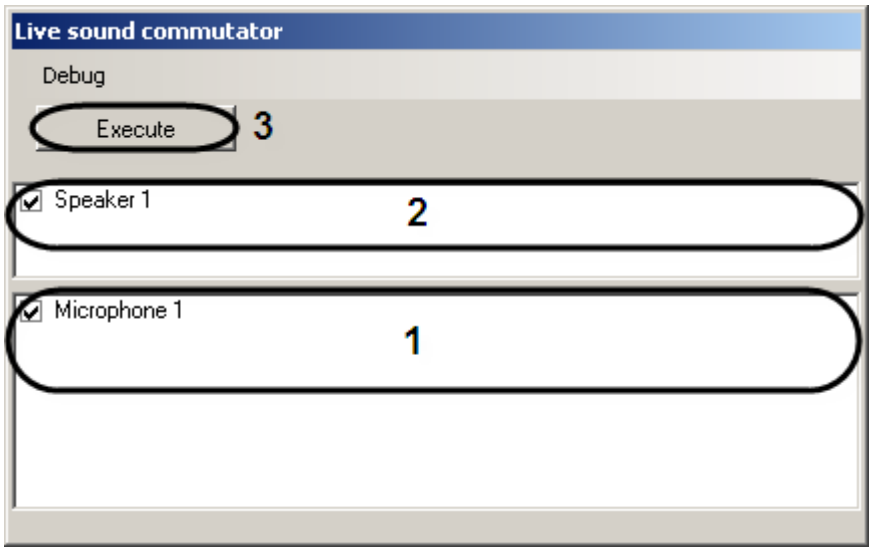


Figure 8.8—30. The dialog box of the «Live sound commutator» object

2. Set the check boxes against the speakers on wich the sound should be played (Figure 8.8—30, 2).
3. Click «Execute» (Figure 8.8—30, 3).

As a result the sound from selected microphones will go to the selected speakers.

Note. Sound in the speaker is mixed (overlayed) if several microphones are selected.

8.8.12 Features of standard sound card use

8.8.12.1 *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.

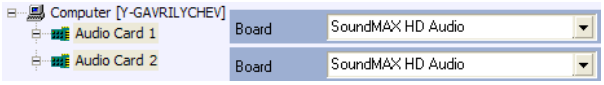
The audio signal sampling rate range depends on the audio card type. The INTELLECT™ software system sampling rate range, available to the installed card, is bounded by the 48 kHz maximum value.

8.8.12.2 *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 8.8—31).

A.at single standard sound card registration



B. at registration of two standard sound cards of the same type

Figure 8.8—31. 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 8.8—32.

Figure 8.8—32. 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 8.8—32. Examples of “Microphone” object settings with one and two FS-5 video capture cards, registered in the INTELLECT™ system, are shown in Figure 8.8—33 and Figure 8.8—31 correspondingly.

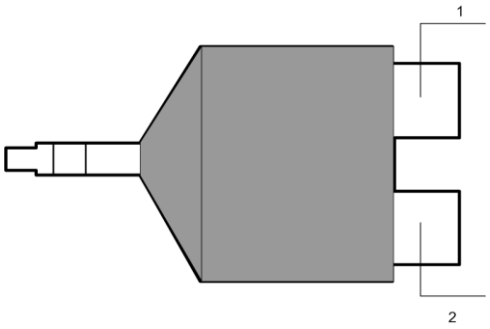
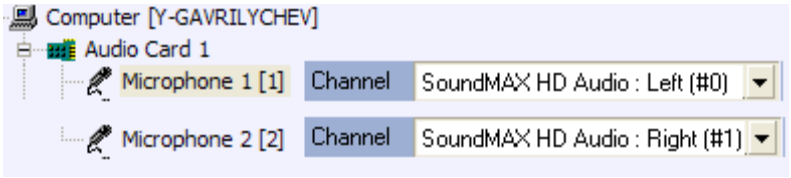
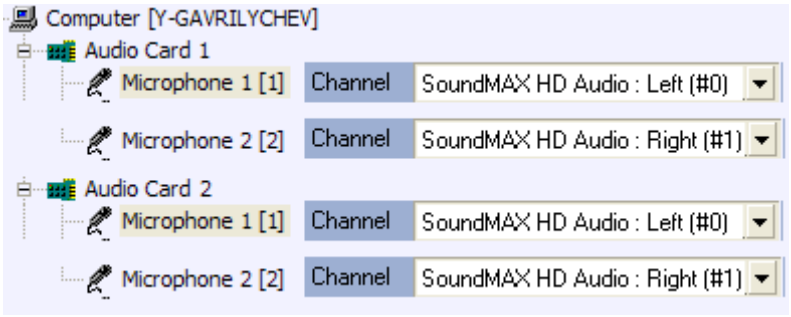


Figure 8.8—33. Mini jack 2xRCA adapter numbering layout



A.for a single standard sound card



B. for two standard sound cards

Figure 8.8—34. Examples of “Microphone” object settings

8.8.13 Using multi-channel audio capture devices

8.8.13.1 *General information on multi-channel audio capture devices*

Multi-channel audio capture devices are PCI cards (for example, MidiMan Delta, Comart Hera, Olha9P) 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 site of AxxonSoft company:
http://www.axxonsoft.com/products/axxon_enterprise/core_functionality/integration.php.

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.

8.8.13.2 *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 8.8—35).

Figure 8.8—35. 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 8.8—36.

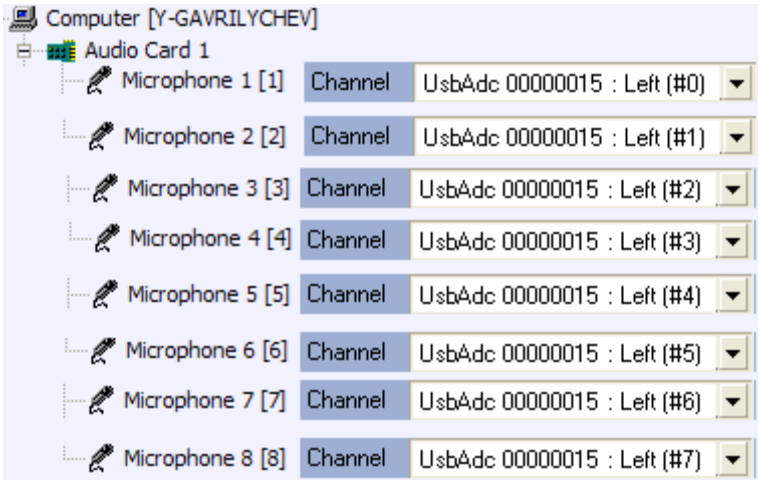


Figure 8.8—36. The hardware tree segment at registration of a Eholot USB-32 multi-channel audio capture device and 8 microphones

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 8.8—36.

8.8.14 Using IP-devices

8.8.14.1 *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 site of AxxonSoft company:
http://www.axxonsoft.com/products/axxon_enterprise/core_functionality/integration.php.

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.

8.8.14.2 *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 8.8—37).

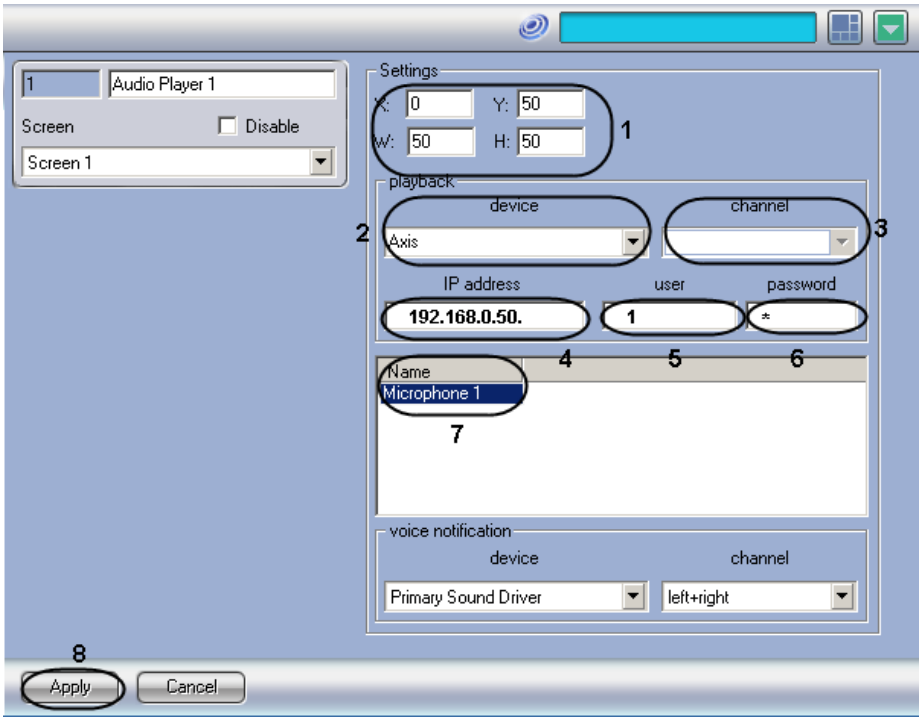


Figure 8.8—37. Setup example of audio signals' playback with the help of Audio Player

1. Enter the settings of the "Audio player" interface box (Figure 8.8—37, 1).
2. Select the required IP-device from the dropdown list Device (Figure 8.8—37, 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 8.8—37, 3).
4. In the field IP address enter the IP address of the selected IP-device (Figure 8.8—37, 4).
5. If necessary enter user name and password in the fields User and Password to connect to the selected IP-camera (Figure 8.8—37, 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 8.8—37, 7).
7. Repeat step 7 for each selected microphone object.
8. Click the "Apply" button to save all the changes. (Figure 8.8—37,8).

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 "Audio player" interface box.*

«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.

8.8.14.3 *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 8.8—38, Table 8.8-1.

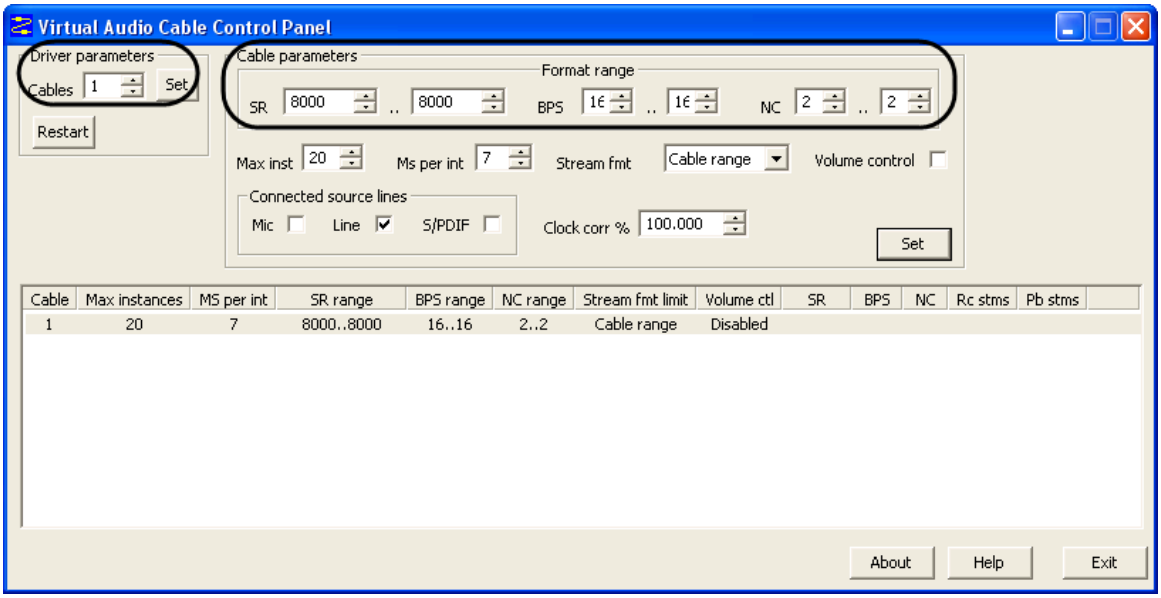


Figure 8.8—38. Example of setting up the Virtual Audio Cable for transmitting the audio signals to IP-device Bosch

Table 8.8-1

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 8.8—39, 1)

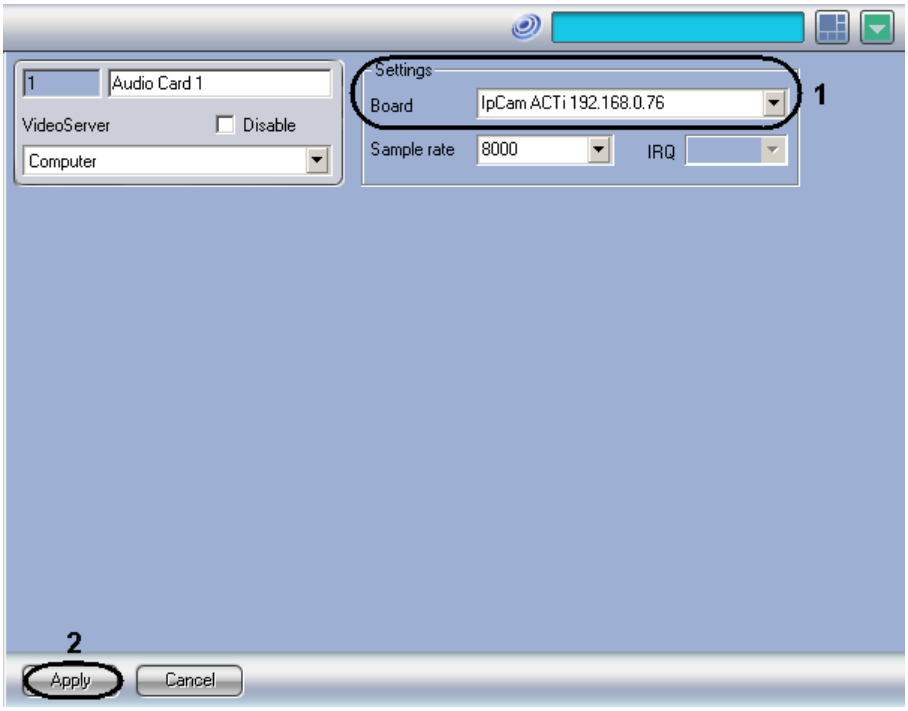


Figure 8.8—39. Setting up sound card Bosch

5. To save the changes click Apply button (Figure 8.8—39, 2).

6. Create Microphone object on the base of this object and go to its settings panel (Figure 8.8—40, Registration of audio input device and microphones in the Intellect program complex).

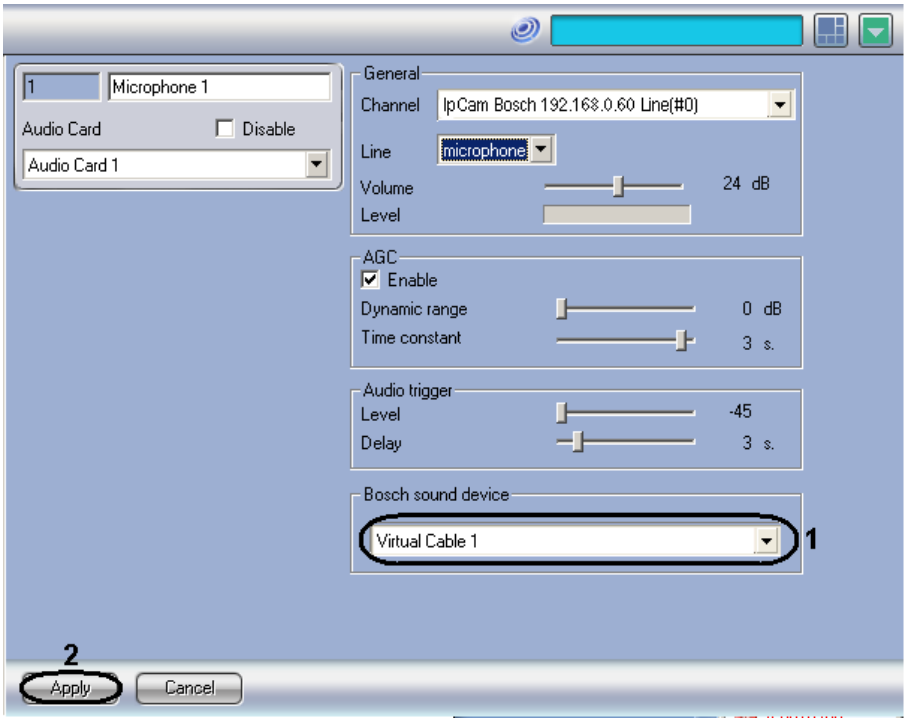


Figure 8.8—40. Selection of Bosh sound device

7. From the dropdown list Bosh sound device select the value Virtual Cable (Figure 8.8—40, 1).

8. To save the changes click Apply button (Figure 8.8—40, 2).

9. Go to the settings panel of the Audio player interface object(Figure 8.8—41, Setting up the audio signals playback with the use of Audio player).

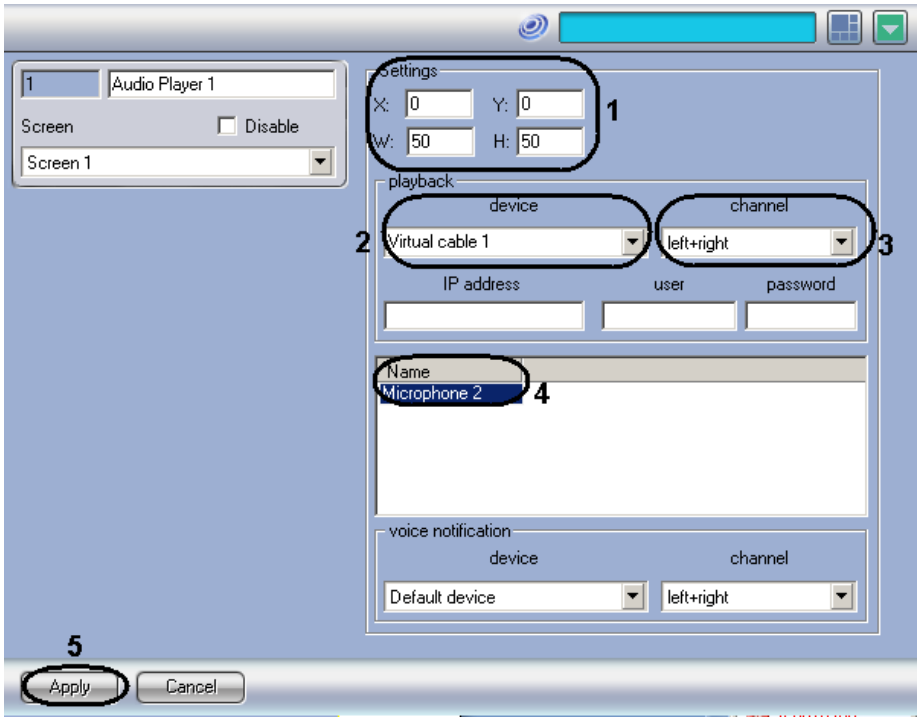


Figure 8.8—41. Setting up Audio player object for transmitting audio signal to IP-device Bosch

10. Set the coordinates and size of the “Audio player” interface box (Figure 8.8—41, 1).
11. From the dropdown list Device select the value Virtual Cable (Figure 8.8—41, 2).
12. From the dropdown list Channel select the required chanal of audio signals playback (Figure 8.8—41, 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 8.8—41, 4).
14. Repeat step for all the required Microphone objects.
15. To save the changes click Apply button (Figure 8.8—41, 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 “Audio player” interface box.*

8.8.14.4 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. 8.8-1).

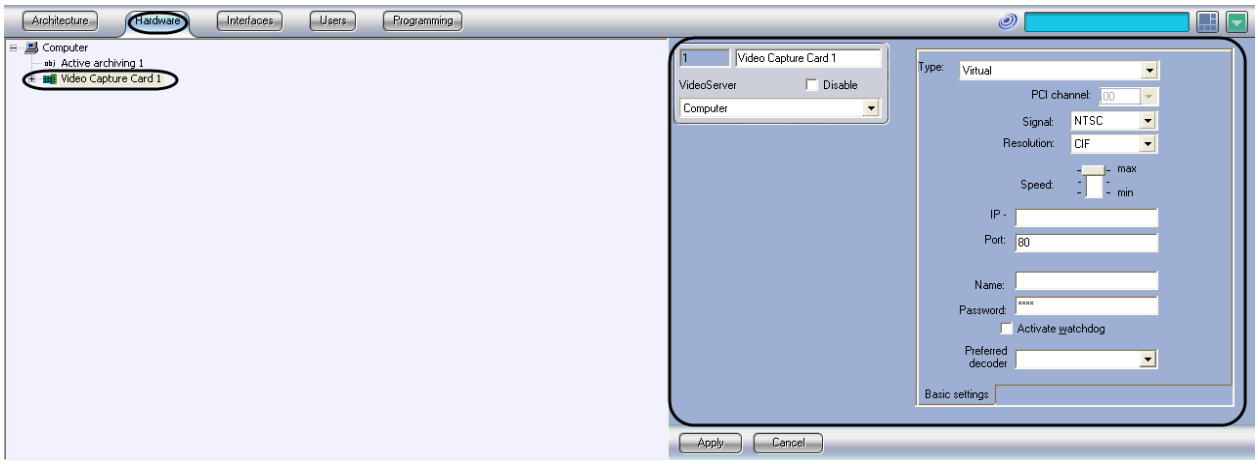


Fig. 8.8-1 Creating the Video capture card object

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. 8.8-2, 1).

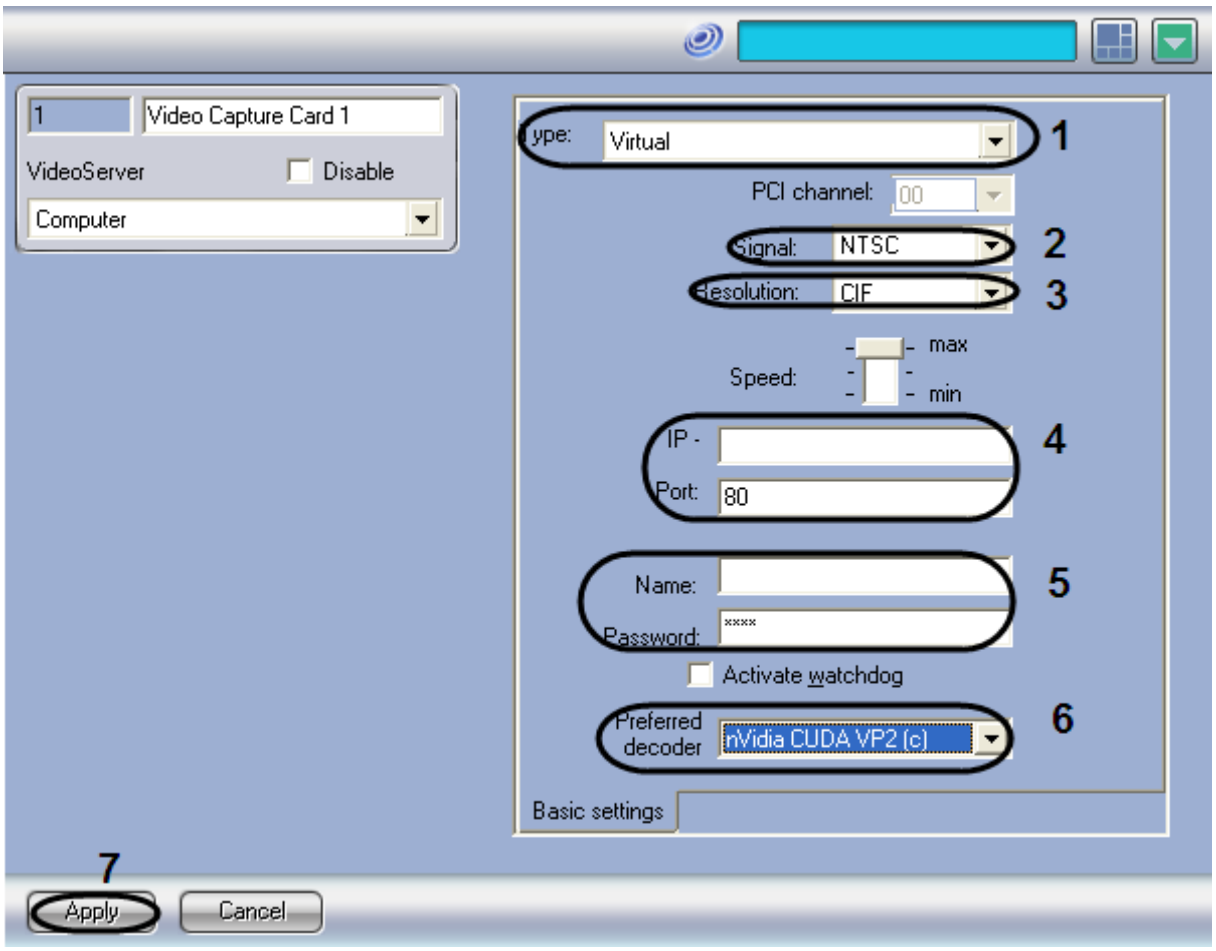


Fig. 8.8-2 Setting up the Video capture card to IP-camera

3.2. Select the value «PAL» from the dropdown list Signal (Fig. 8.8-2, 2).

3.3. Set the Standard resolution in the dropdown list Resolution (Fig. 8.8-2, 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. 8.8-2, 4).

3.5. If necessary set the login and password in the fields «Name: » and «password: » (Fig. 8.8-2, 5).

3.6. Select the preferred decoder for the selected type of video capture card from the list Preferred decoder (Fig. 8.8-2 , 6), containing the following variants: nVidia CUDA VP2(c), Stretch (c), ffMPEG lib, Intel IPP (c).

Note. Using Stretch decoder correct operation is guaranteed only with stream h264, received from the video capture card Stretch. Decoding the stream h264, received from devices by other vendors, is not guaranteed.

3.7. To save the changes click Apply button (Fig. 8.8-2, 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. 8.8-3).

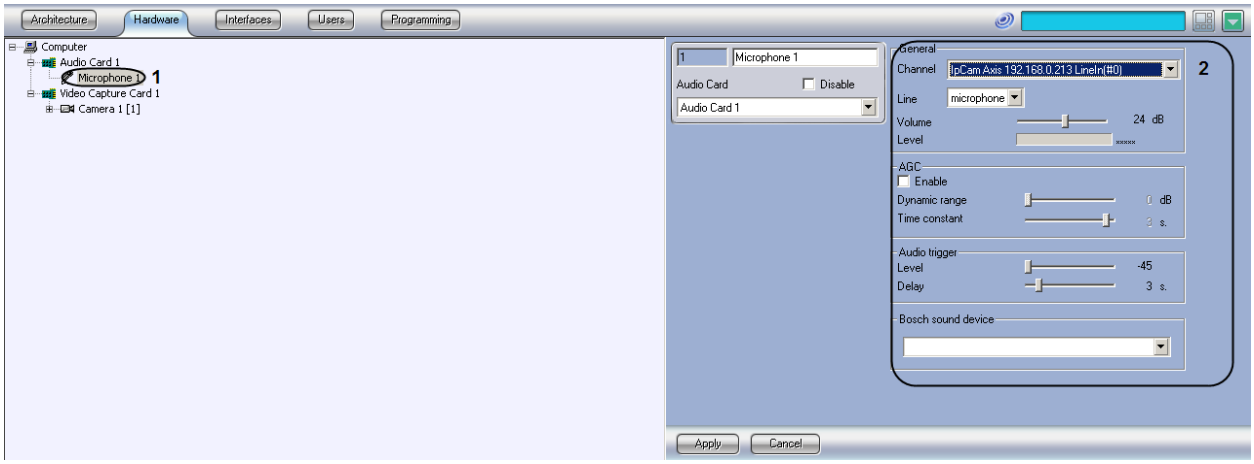


Fig. 8.8-3 Creating the Microphone object

6.1. From the dropdown list Channel select the channel, relating to the selected IP-camera, «IpCam…LineOut(#1)» (Fig. 8.8-4, 1).

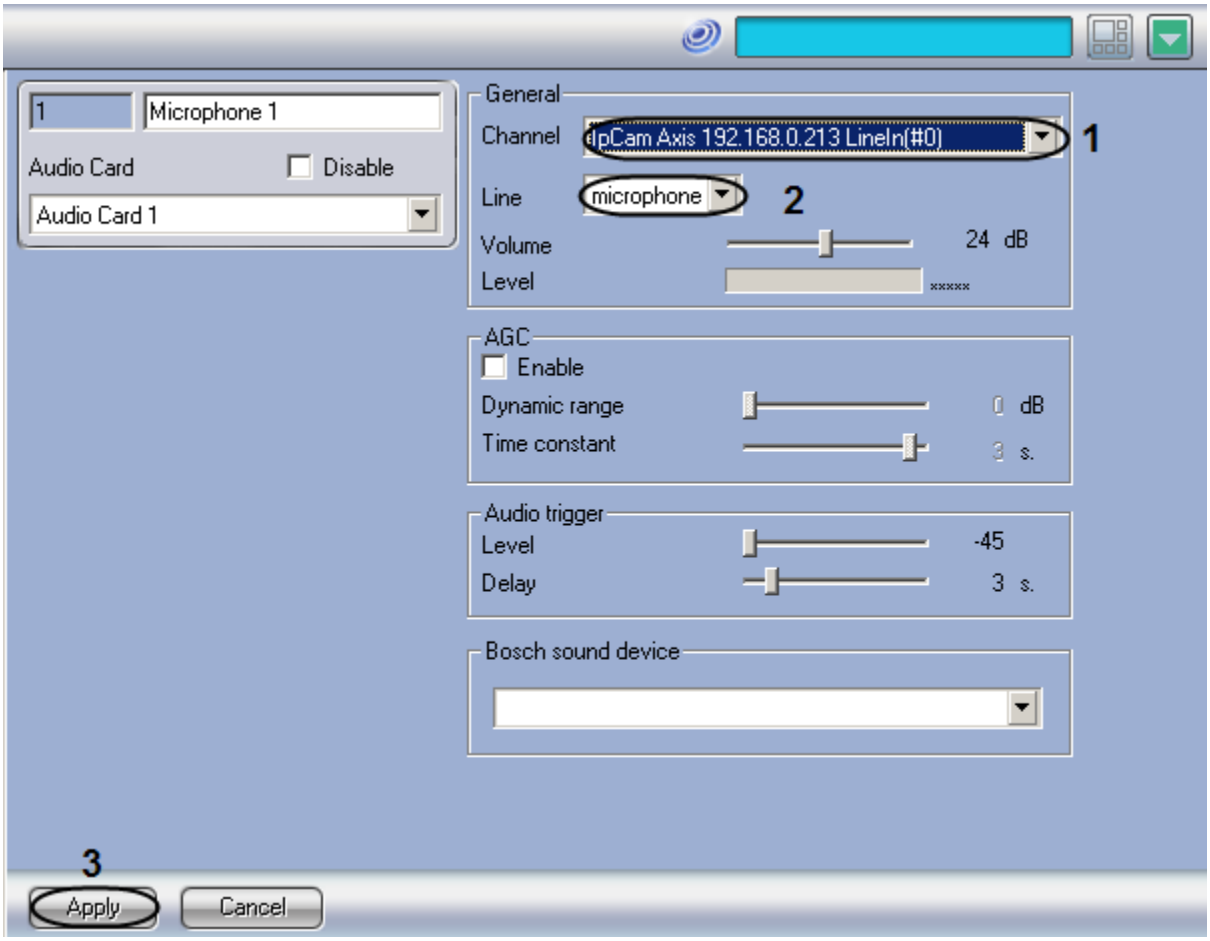


Fig. 8.8-4 Setting up the Microphone to IP-camera

6.2. Select the microphone value from the Line dropdown list (Fig. 8.8-4, 2).

6.3. Click Apply button to save the changes (Fig. 8.8-4, 3).

7. Create Camera's speaker object on the basis of camera object (Fig. 8.8-5)

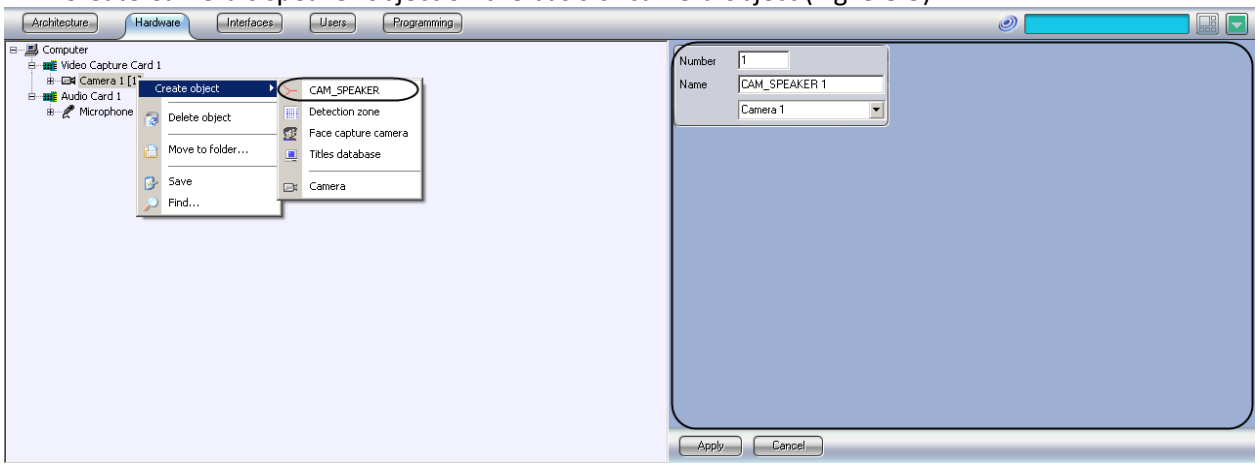


Fig. 8.8-5 Creating the Camera's speaker object

8. Go to Camera's speaker settings panel (Fig. 8.8-6).

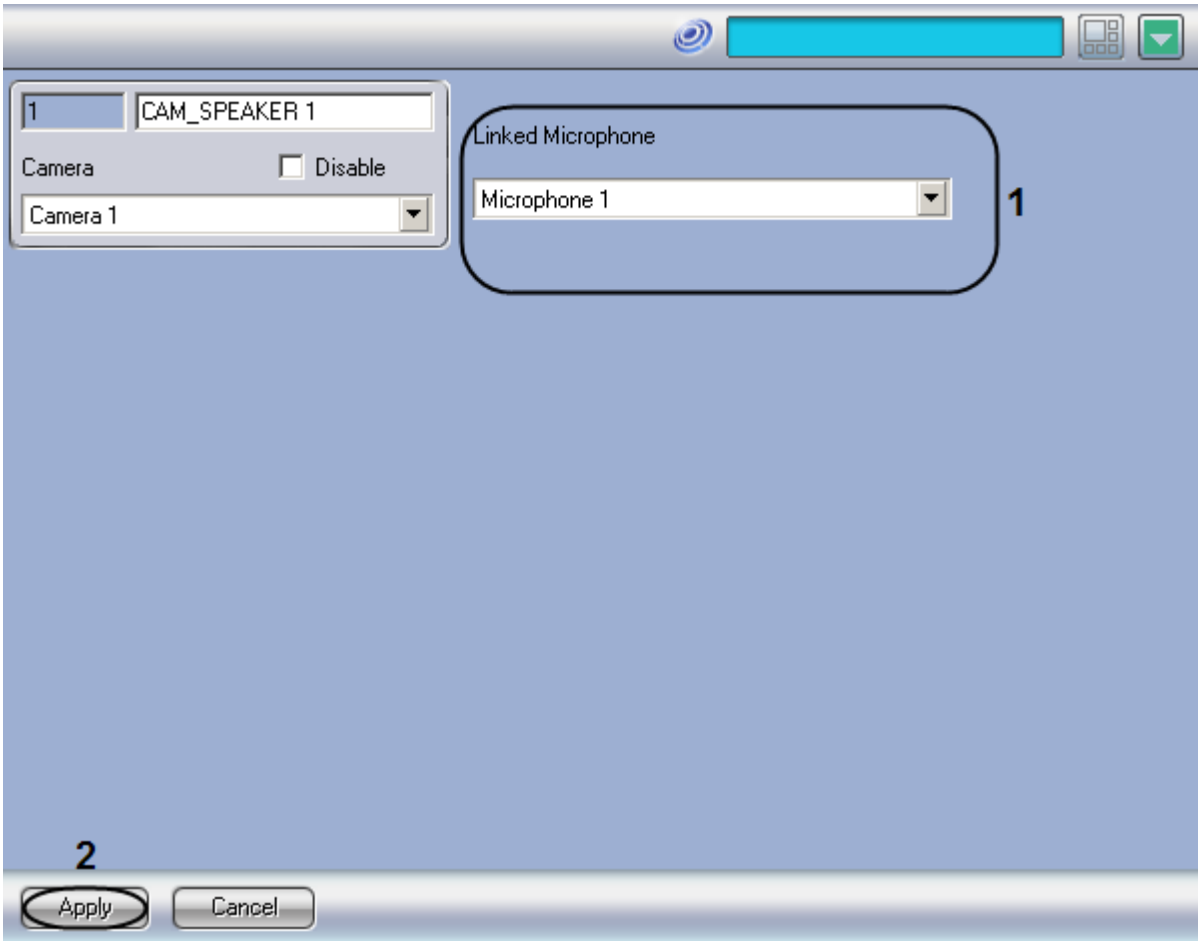


Fig. 8.8-6 Setting up the Camera's speaker object

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. 8.8-6, 1).

8.2. Click Apply button to save the changes (Fig. 8.8-6, 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. 8.8-7).

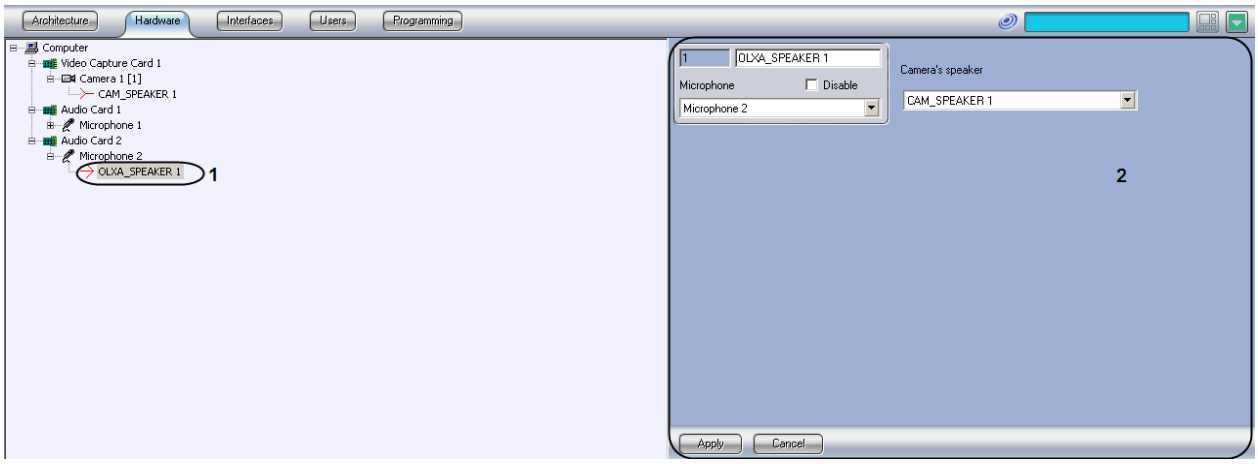


Fig. 8.8-7 Creating the object Olxa_Speaker

12. Go to the settings panel of Olxa_Speaker object (Fig. 8.8-8):

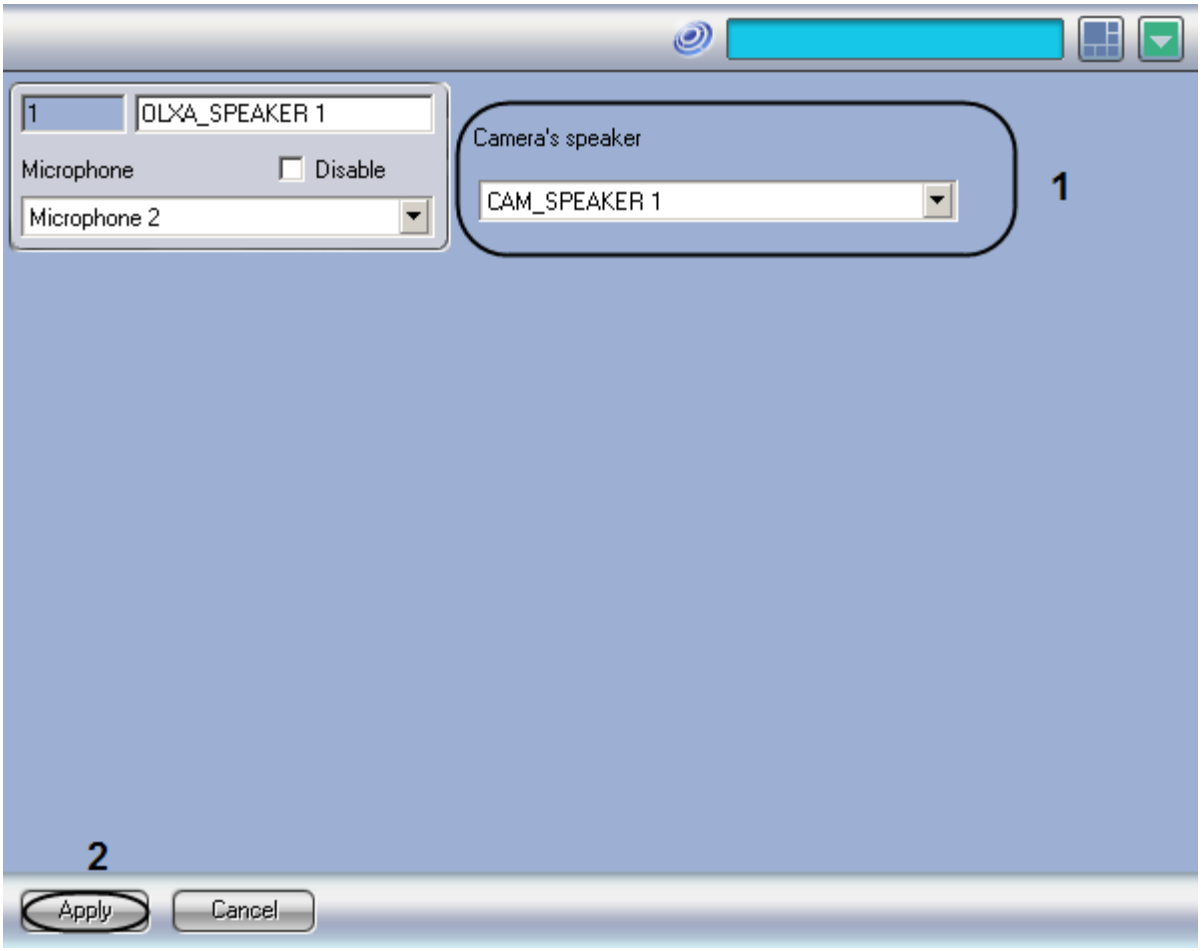


Fig. 8.8-8 Setting up the object Olxa_speaker

12.1. Select the previously created camera'speaker from the dropdown list Camera's speaker (Fig. 8.8-8,1).

12.2. Click Apply button to save the changes (Fig. 8.8-8,2).

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. 8.8-9, 1).

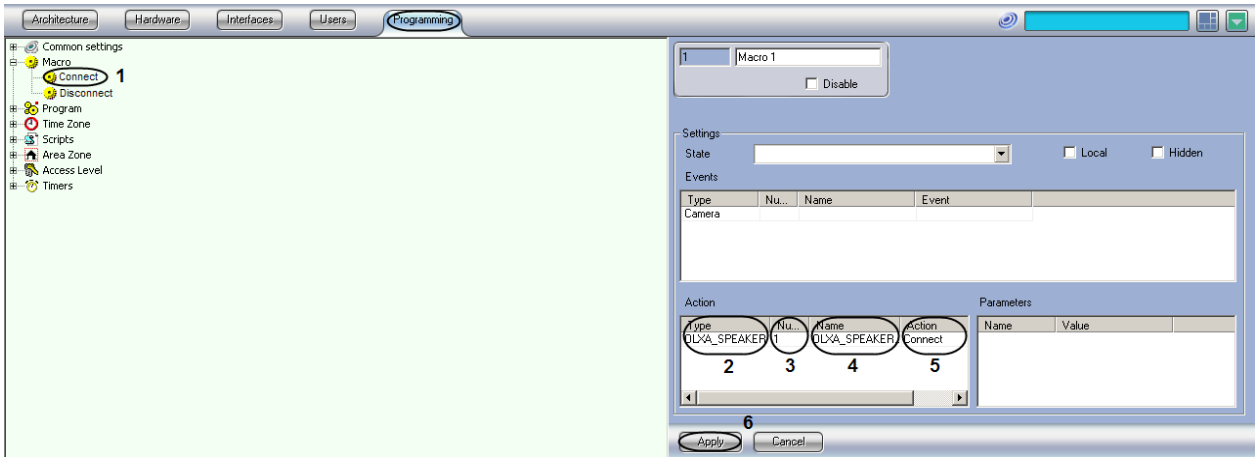


Fig. 8.8-9 Creating and setting up the Macros

14.1. Select the object Olxa_Speaker from the list in the Type column (Fig. 8.8-9, 2).

14.2. Select the object number Olxa_Speaker that will be connected on command (Fig. 8.8-9, 3).

14.3. Select the object name (Fig. 8.8-9, 4).

14.4. Select the Connection action (Fig. 8.8-9, 5).

14.5. Click Apply button to save the changes (Fig. 8.8-9, 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. 8.8-9, 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.

8.9 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 AxxonSoft 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 see http://www.axxonsoft.com/resources/documentation.php.

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.

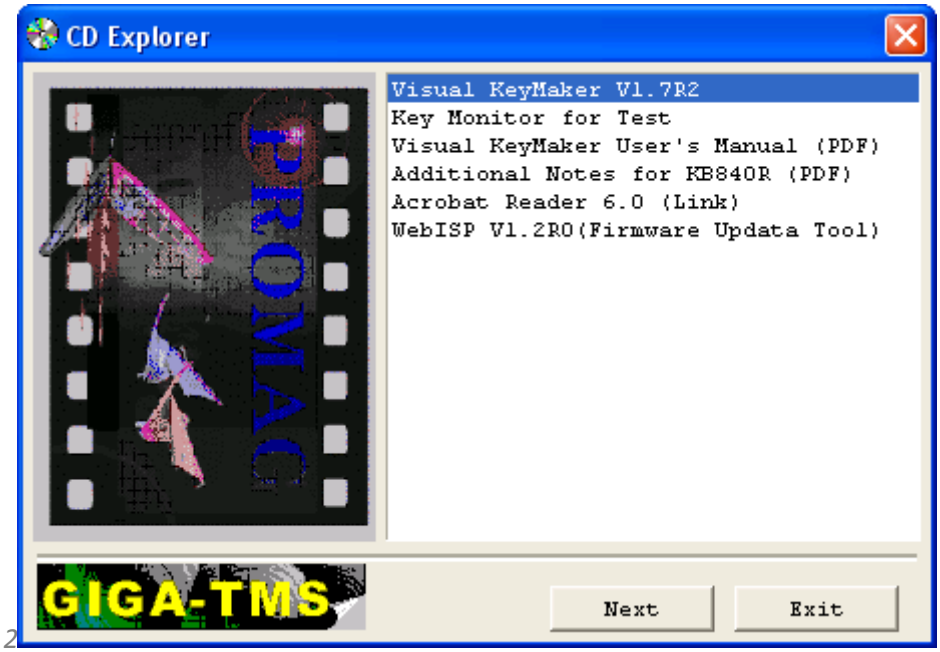


Figure 8.9—3. CD Explorer

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).

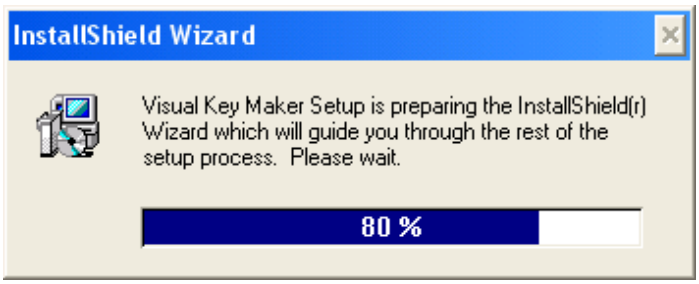


Figure 8.9—4. Preparation to run InstallShield Wizard

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).

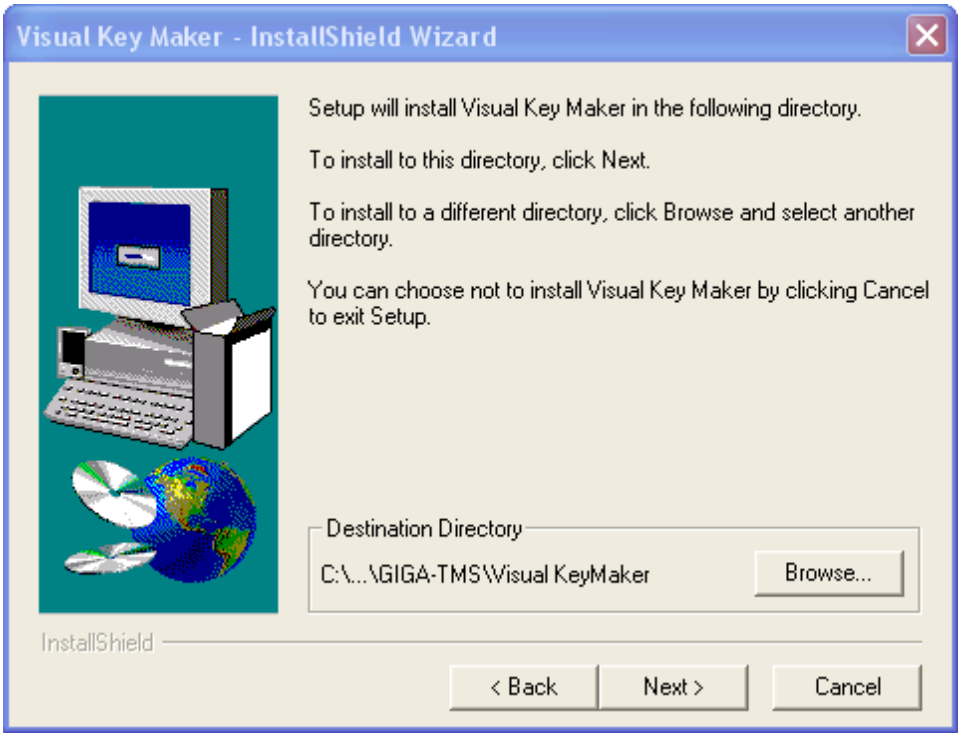


Figure 8.9—6. «Visual KeyMaker» installation directory

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).

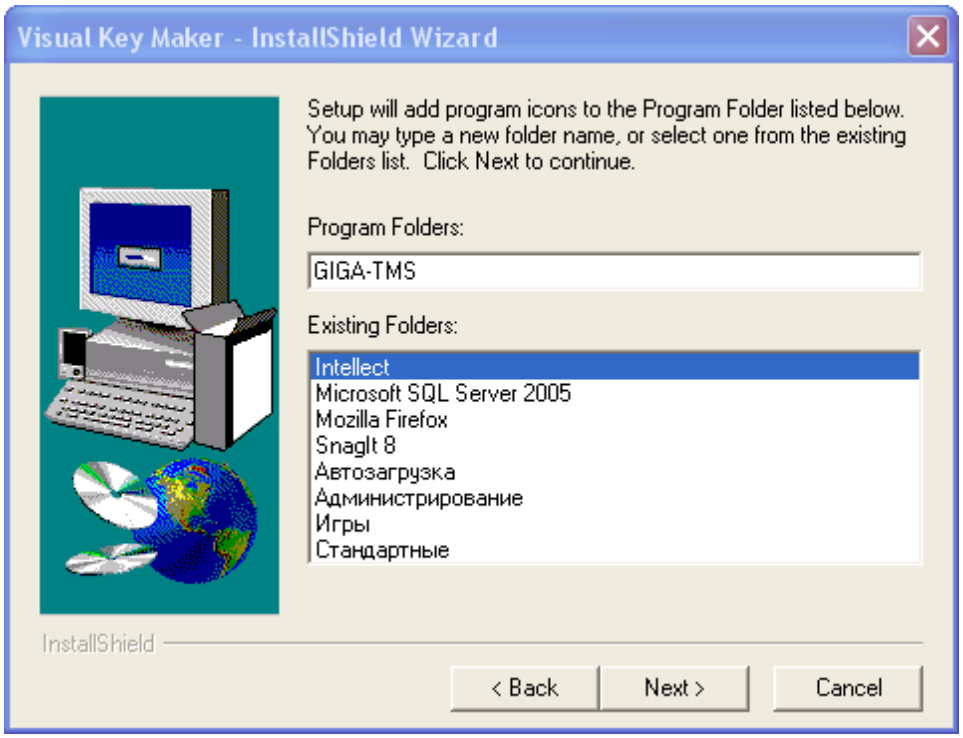


Figure 8.9—7. Name of folder, created in Windows OS Start menu

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).

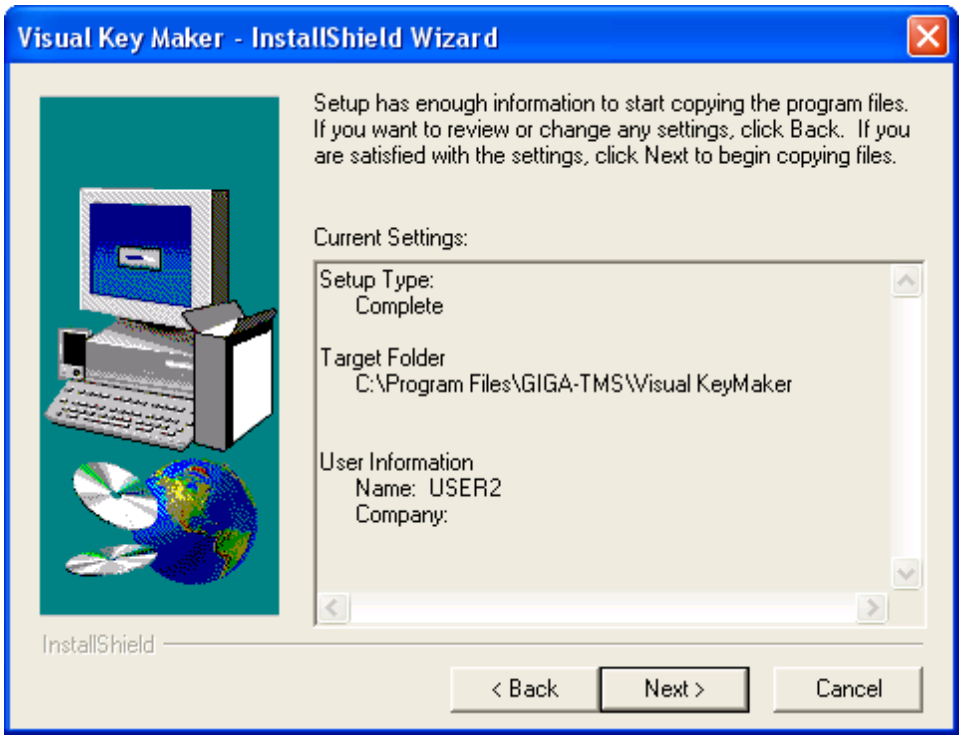


Figure 8.9—8. Checking installation parameters

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).

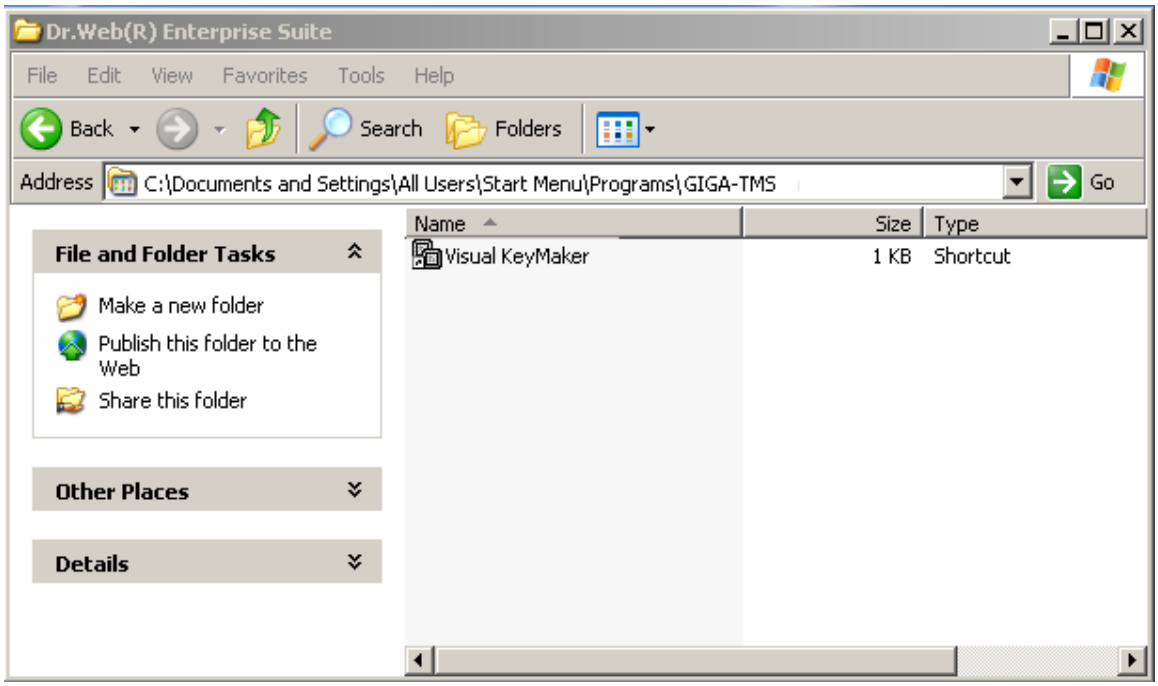


Figure 8.9—9. Folder in OS Windows Start menu

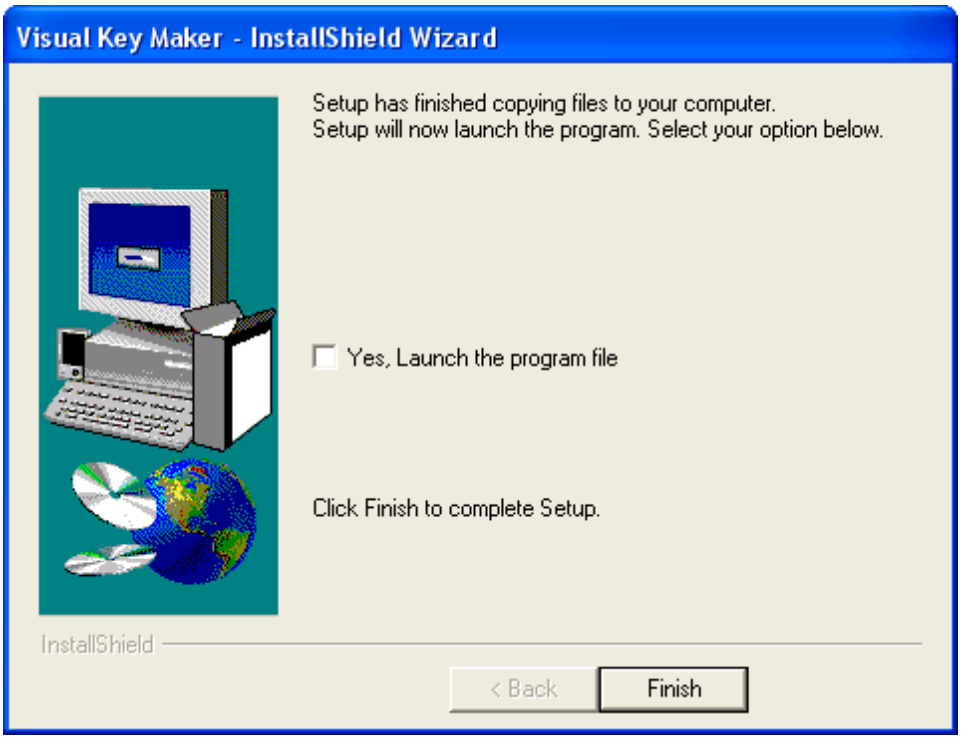


Figure 8.9—10. Ending the installation

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.

- As a result the "Visual KeyMaker" interface box 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 box (Figure 8.9—12).

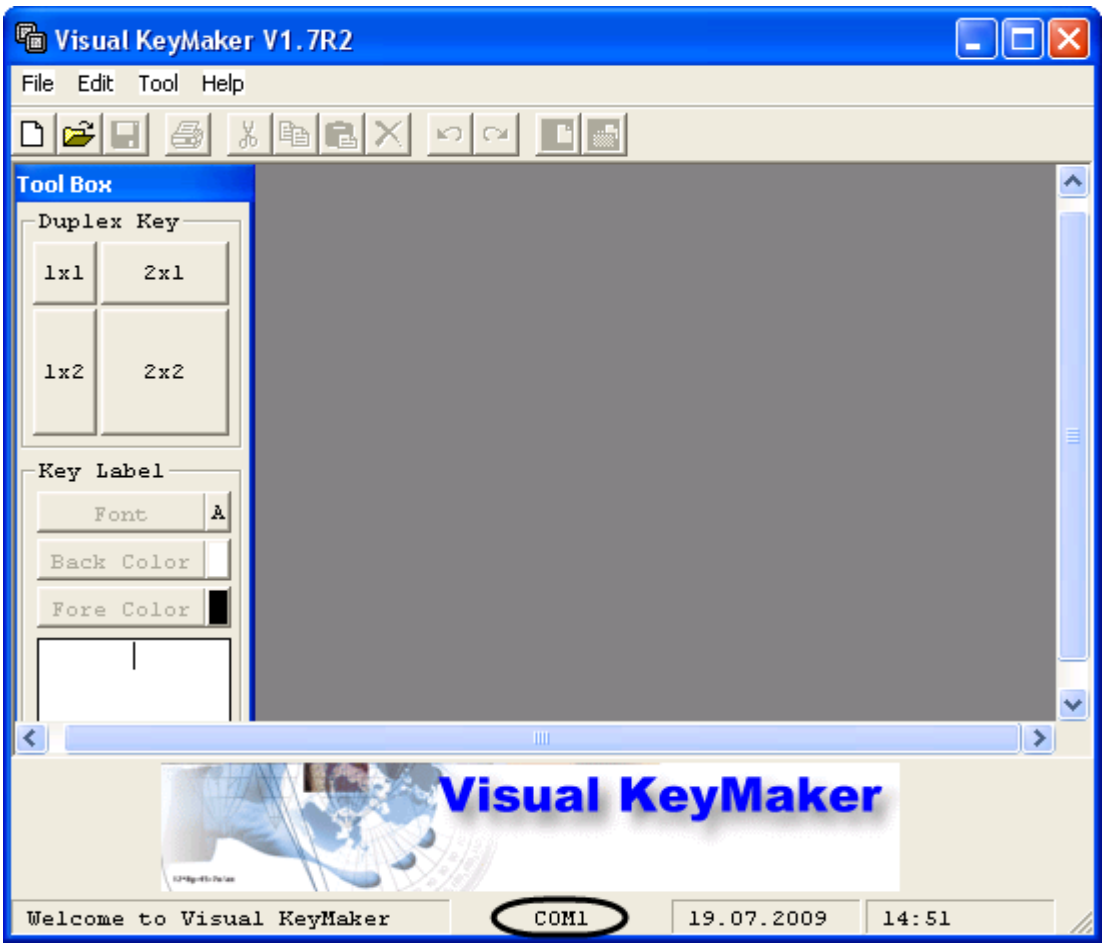


Figure 8.9—12. «Visual KeyMaker»program interface

- 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 AxxonSoft 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.

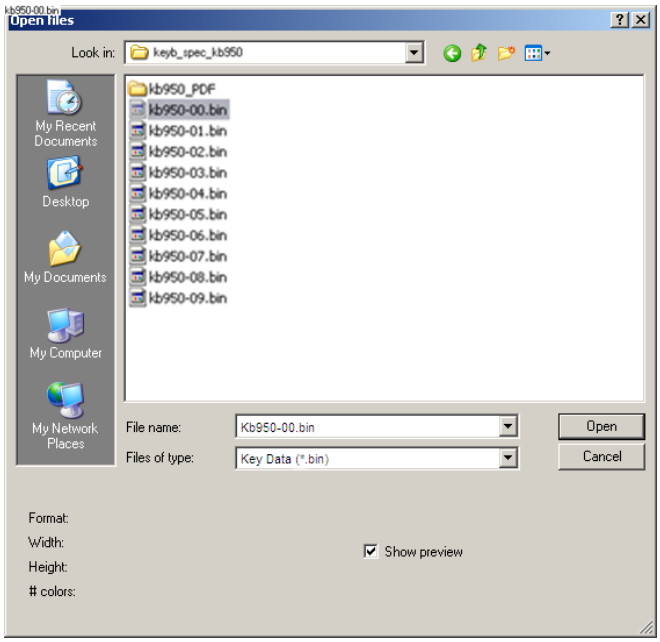


Figure 8.9—13 Selection of settings file for programming

- In result settings for programming the Special keyboard device will be displayed in the "Visual KeyMaker" interface box (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).*

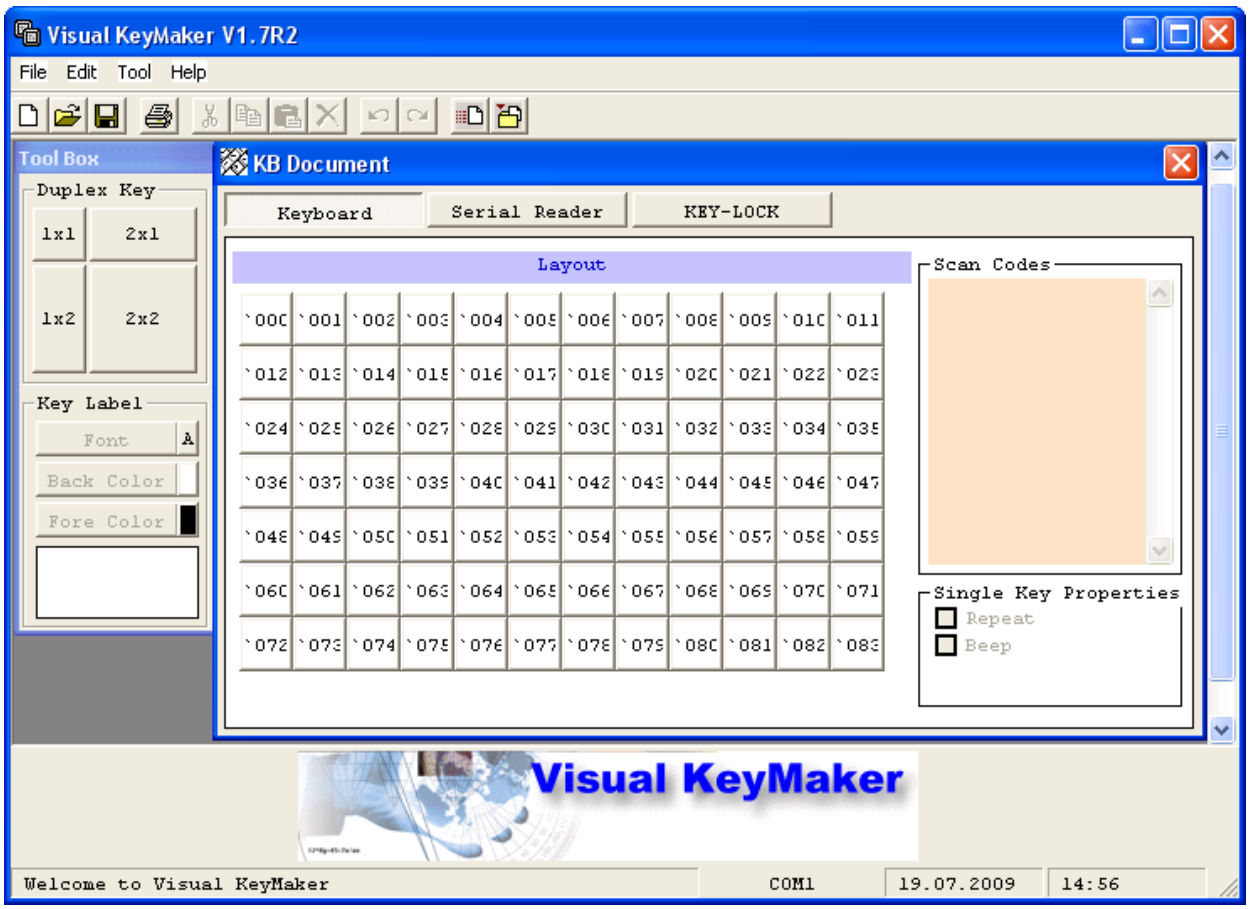


Figure 8.9—14. Settings for programming

- 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.

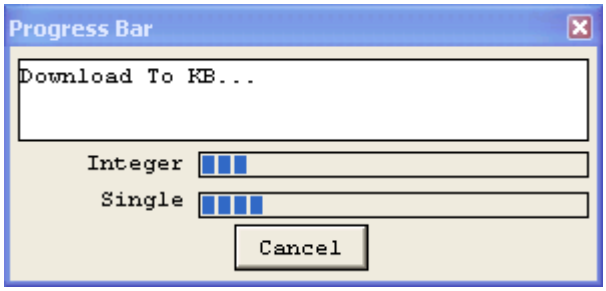


Figure 8.9—15. Indicator of command's execution

- After successful operation «Download Reader Settings to KB OK» will open. Click «OK» to close the window.

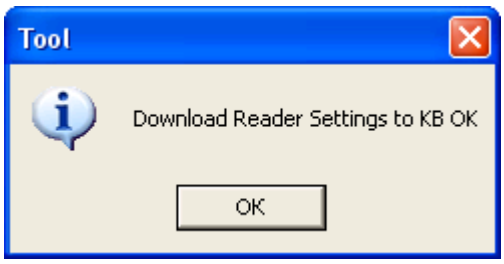


Figure 8.9—16. Closing the programming

- 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).

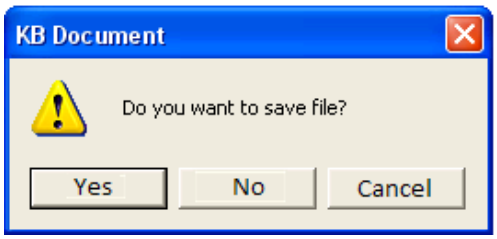


Figure 8.9—17. Exit without saving the layout

- 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.

8.9.3 "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).

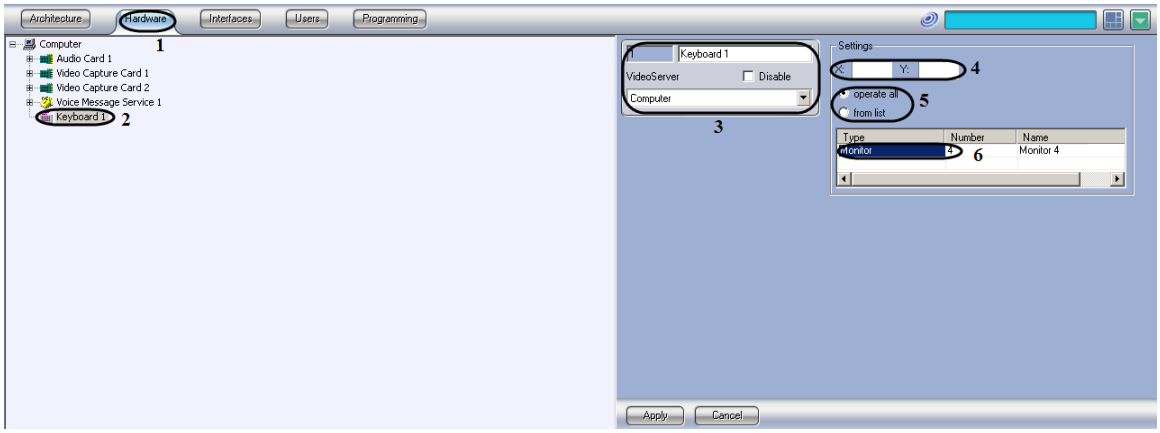


Figure 8.9—18 Settings panel of Special keyboard system object

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 box (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.

8.9.4 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».

8.9.4.1 *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».

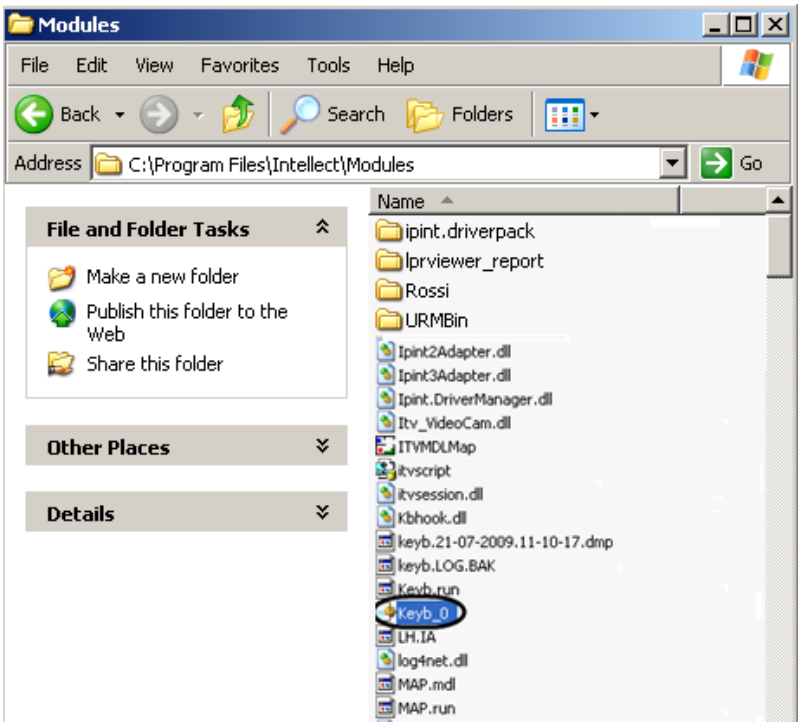


Figure 8.9—19. Location of keyb_0.ini file

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.

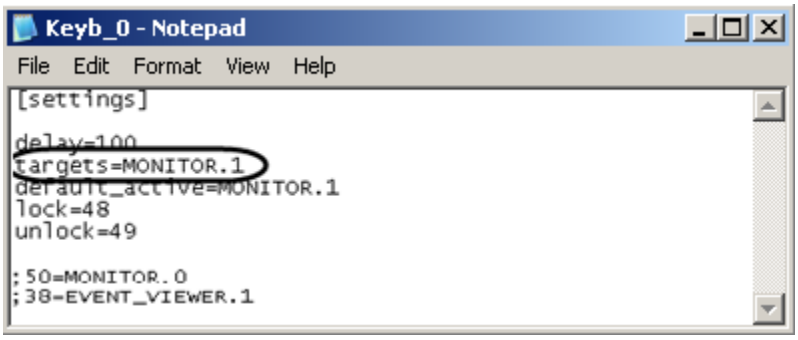


Figure 8.9—20. The content of «keyb_0.ini» file

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 AxxonSoft. The given layout should be printed, cut the symbols and put them to the keys of the Special keyboard device.

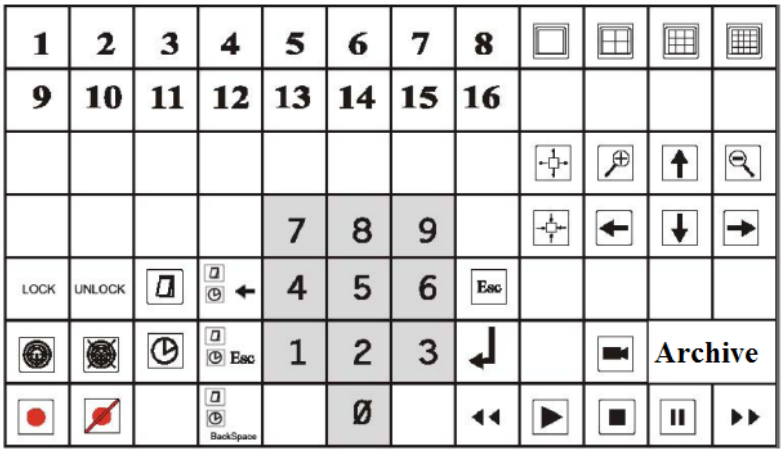


Figure 8.9—21. Special keyboard device layout with the use of standard ini-file

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)).

8.9.4.2 *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 AxxonSoft 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.

8.9.4.3 *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)

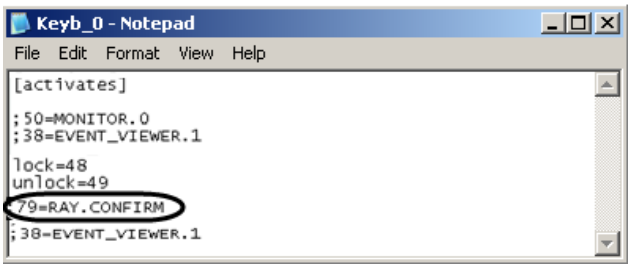


Figure 8.9—23. Editing ini-file

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.

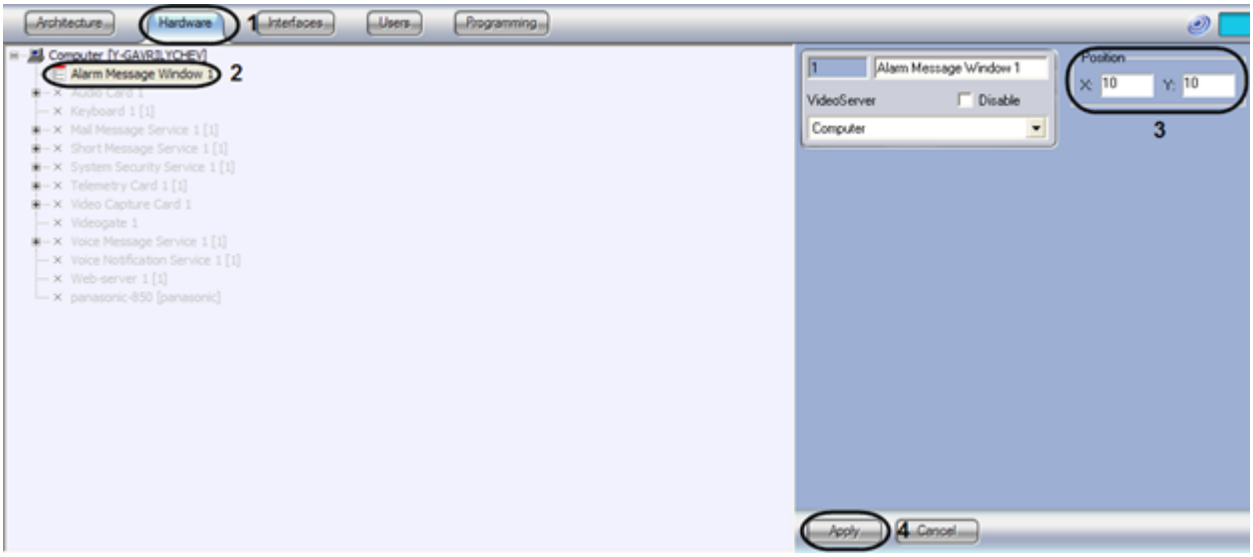


Figure 8.10—1. Creating and setting up the Alarm Message object

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.

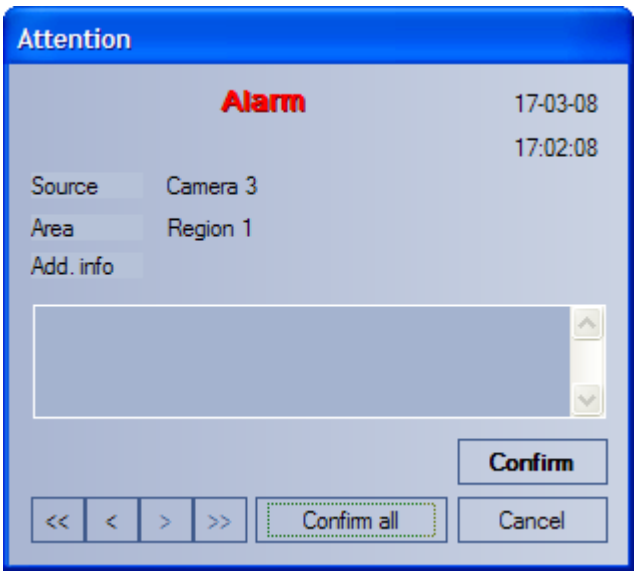


Figure 8.10—2. General view of the Alarm Message window

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.

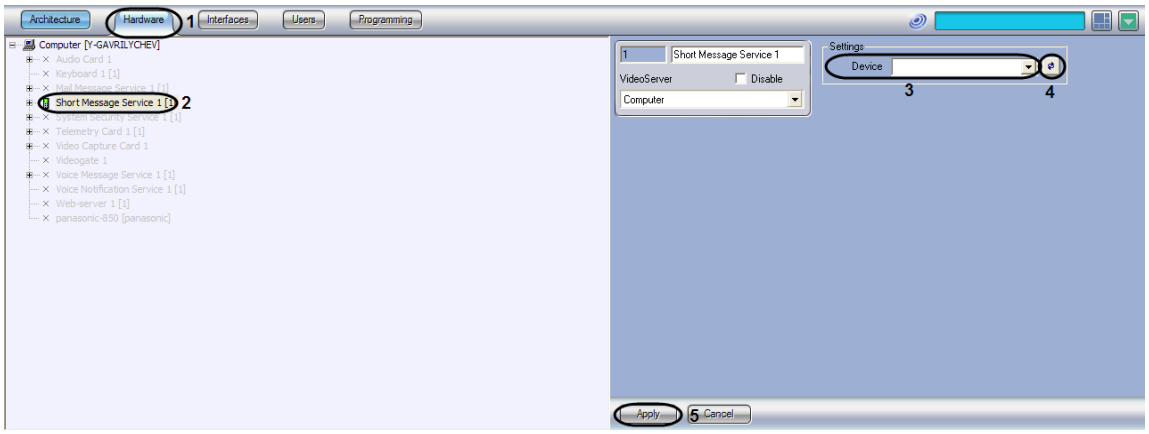


Figure 8.10—3. Creating and setting up the Short Message Service object.

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.

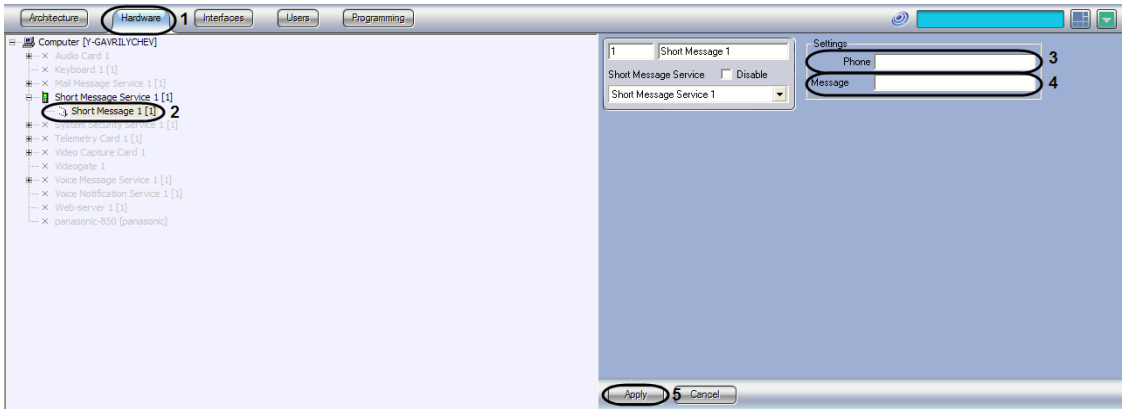


Figure 8.10—4. Creating and setting up the Short Message object

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.

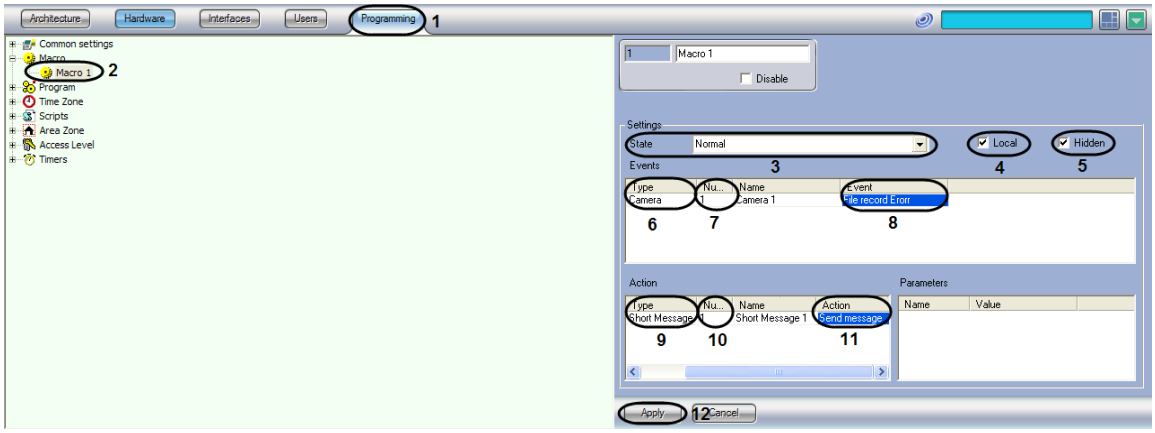


Figure 8.10—5. Creating and setting up the macro for sending the short message

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.

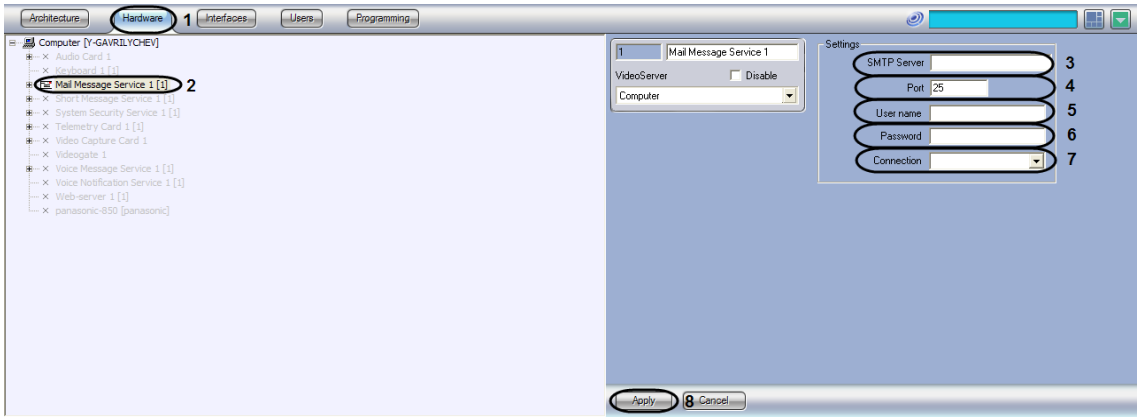


Figure 8.10—6. Creating and setting up the Mail Message Service object

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.

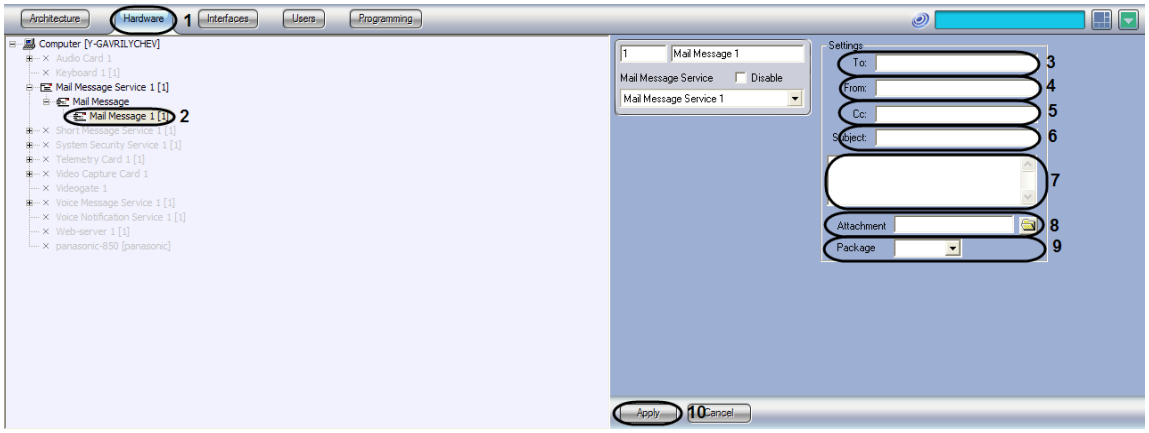


Figure 8.10—7. Setting up the Mail Message object

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.

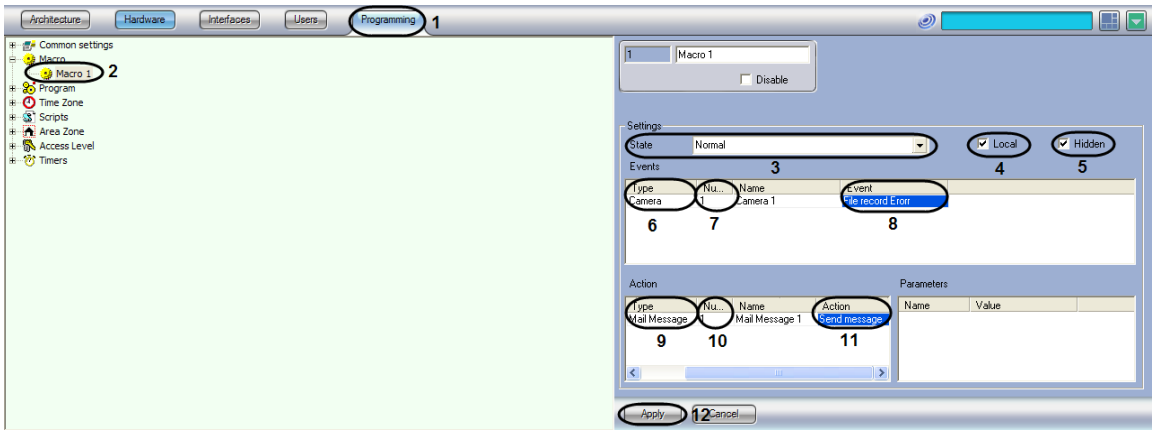


Figure 8.10—8. Creating and setting up the macro for sending the e-mail message

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.

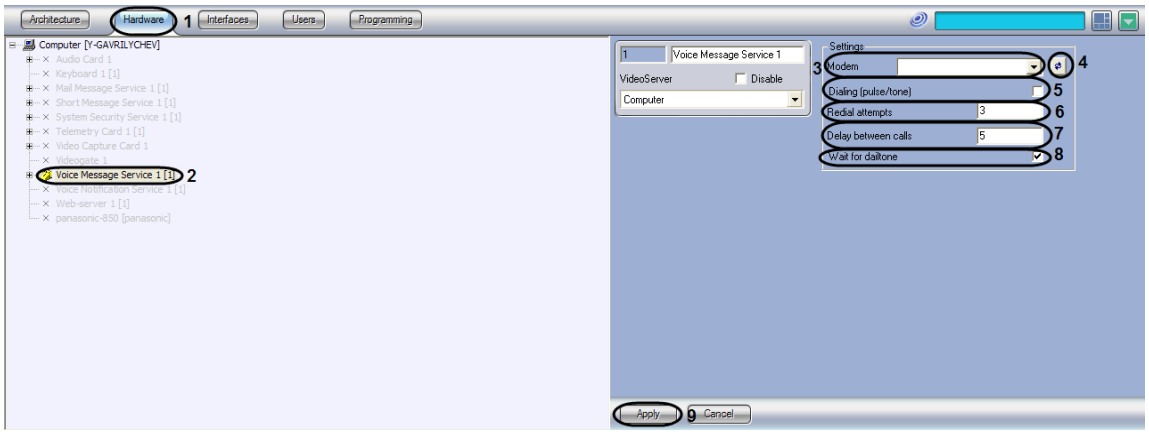


Figure 8.10—9. Setting up the Voice Message Service object

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.

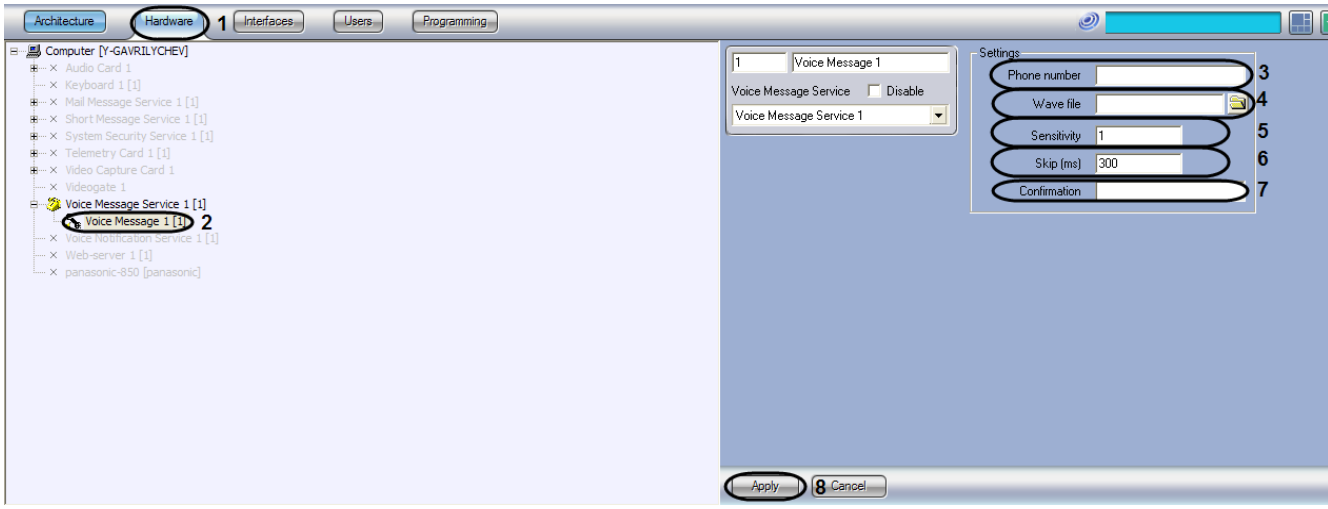


Figure 8.10—10. Setting up the Voice Message object

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.

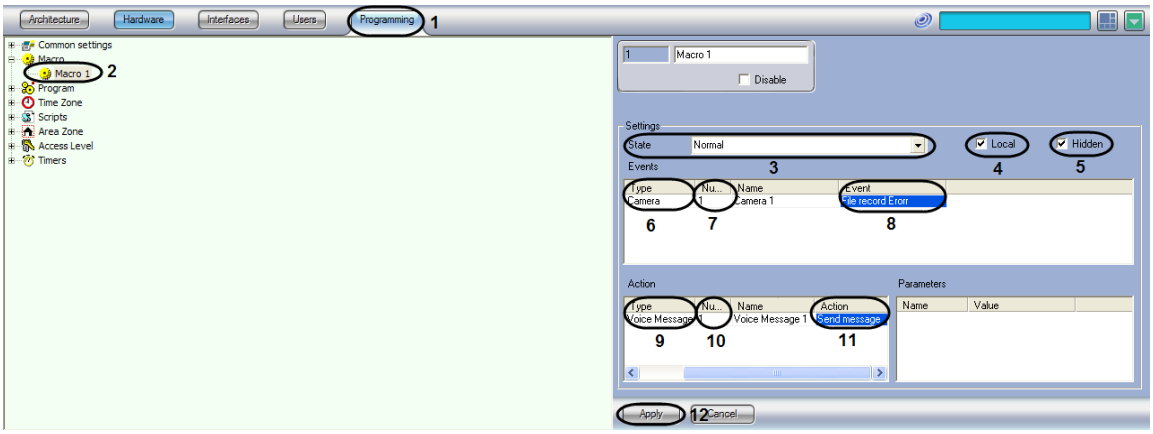


Figure 8.10—11. Creating and setting up the macro for sending the voice message

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.

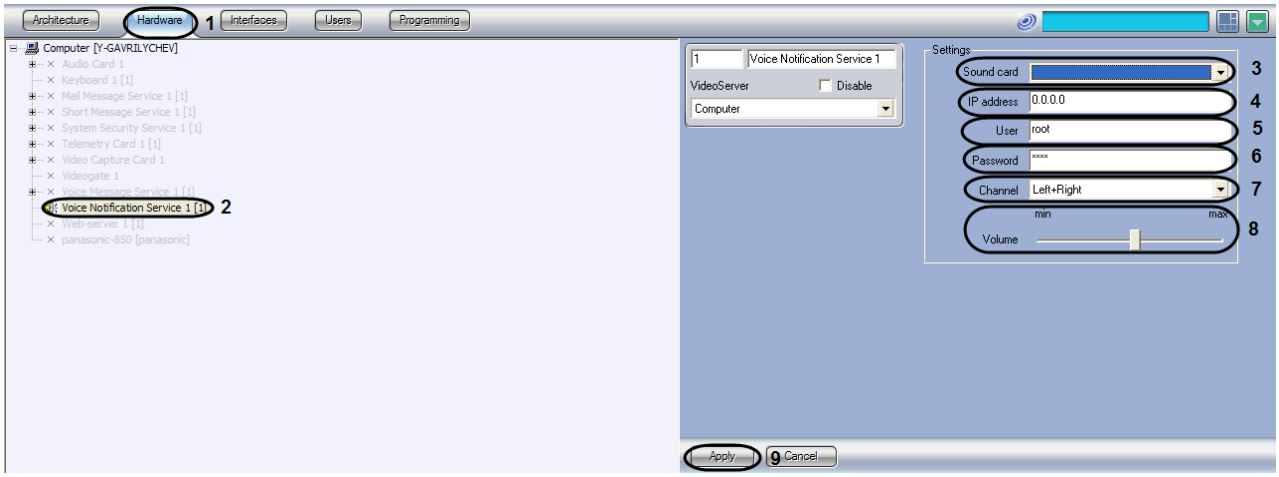


Figure 8.10—12. Setting up the Voice Notification Service object

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.

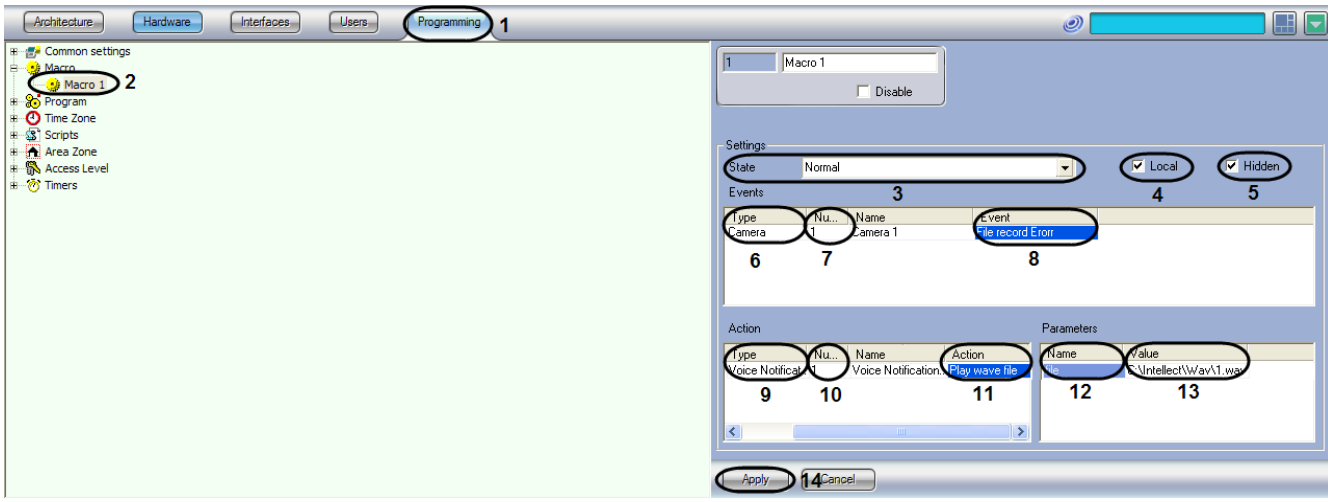


Figure 8.10—13. Creating and setting up the macro for sending the voice notification

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 Configuring 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).

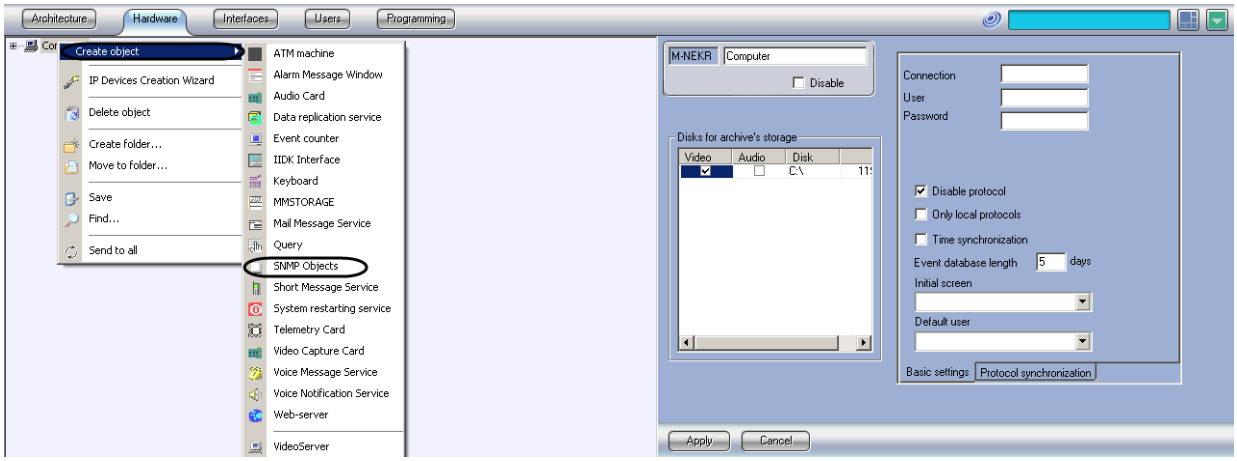


Figure 8.11—1. Creating the SNMP object

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).

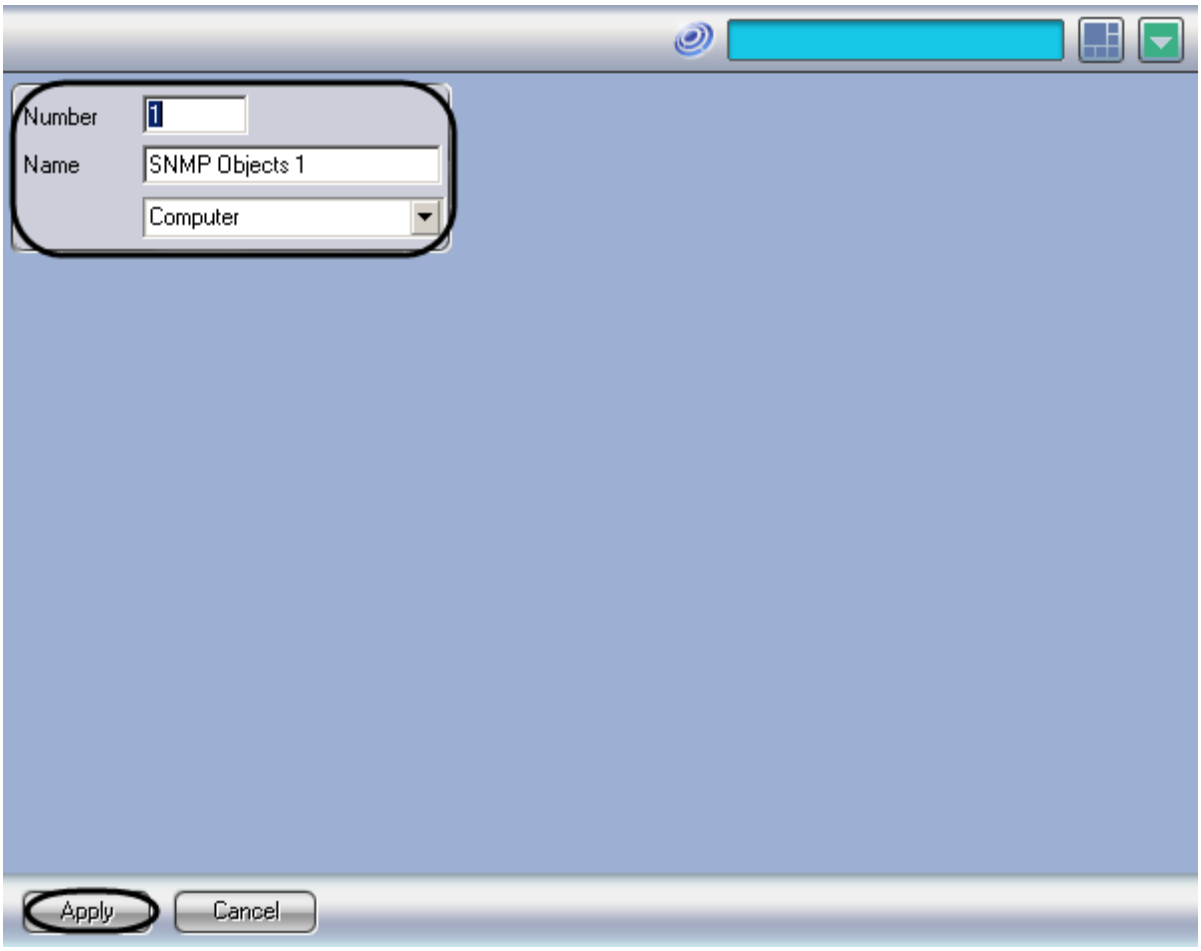


Figure 8.11—2. Setting the number and name of «SNMP objects» object

4. Select the created object «SNMP objects» on the tab Hardware of System settings dialog window (Figure 8.11—3).

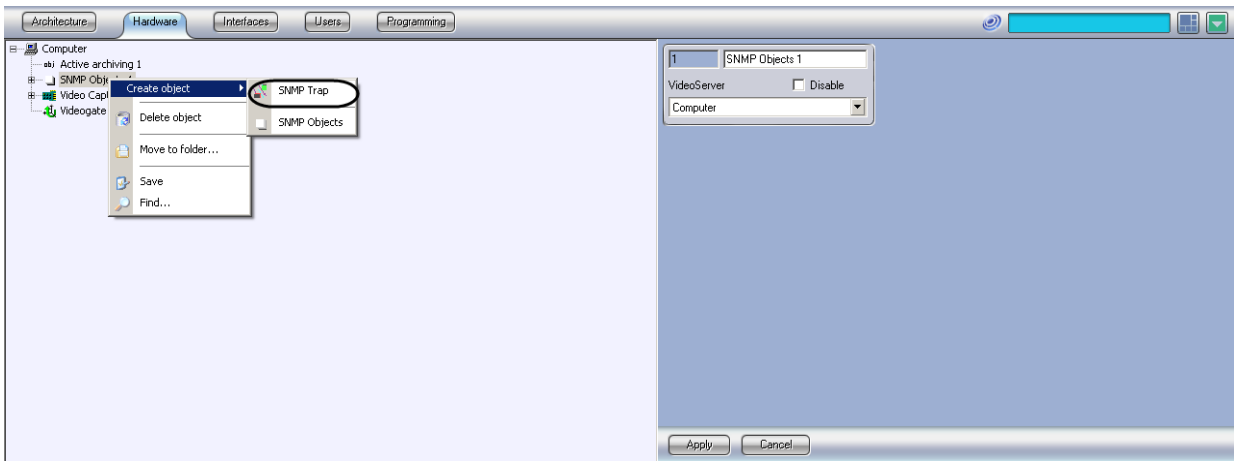


Figure 8.11—3. Creating the SNMP trap object

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).

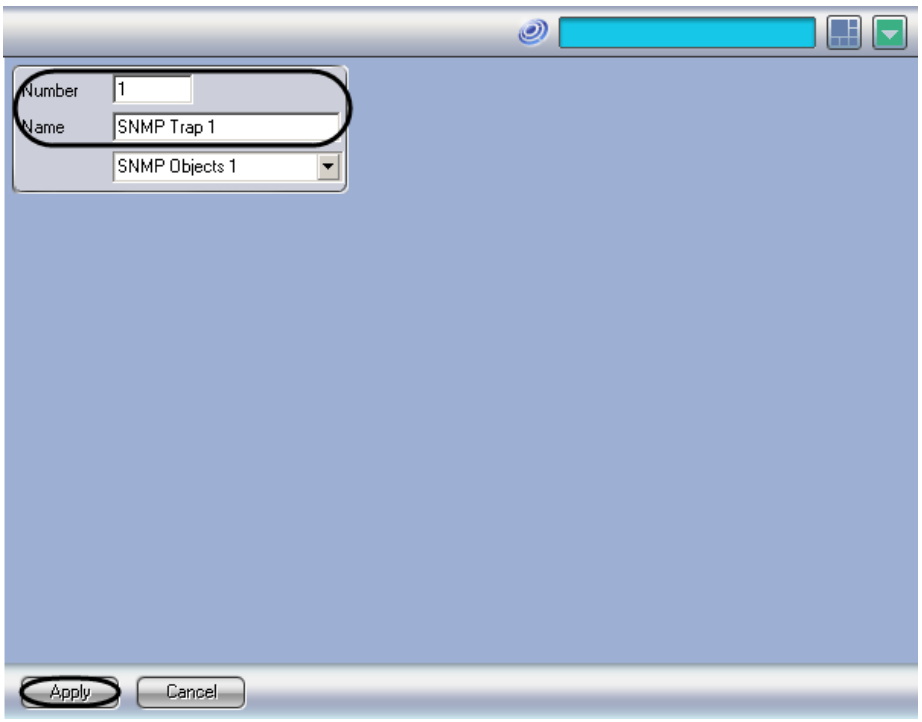


Figure 8.11—4. Setting the number and name of SNMP trap object

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).

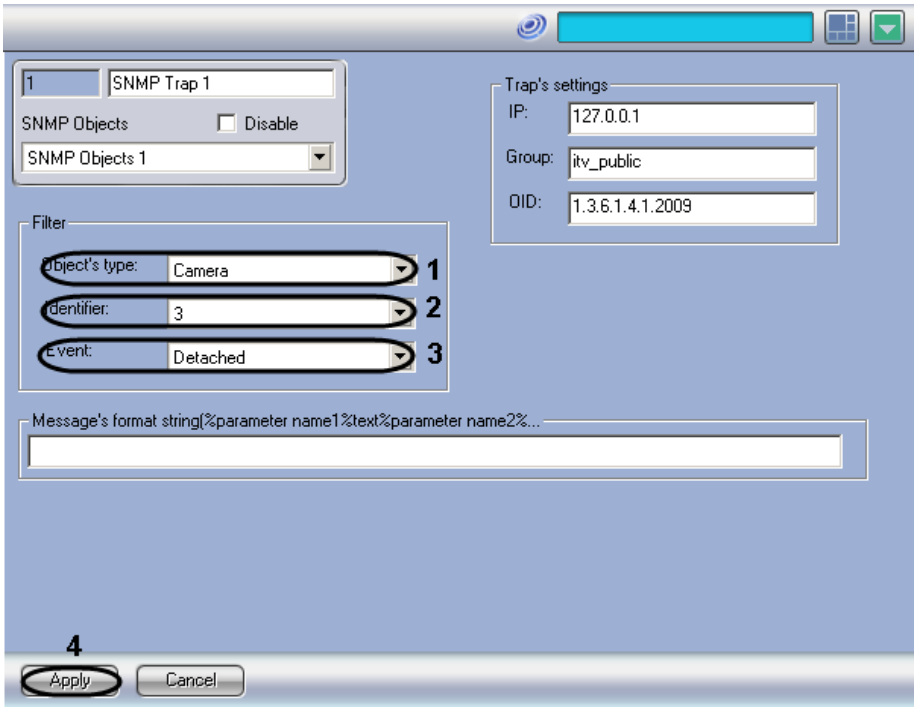


Figure 8.11—5. Setting up the events filter for transmitting to SNMP-agent

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 Configuring 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).

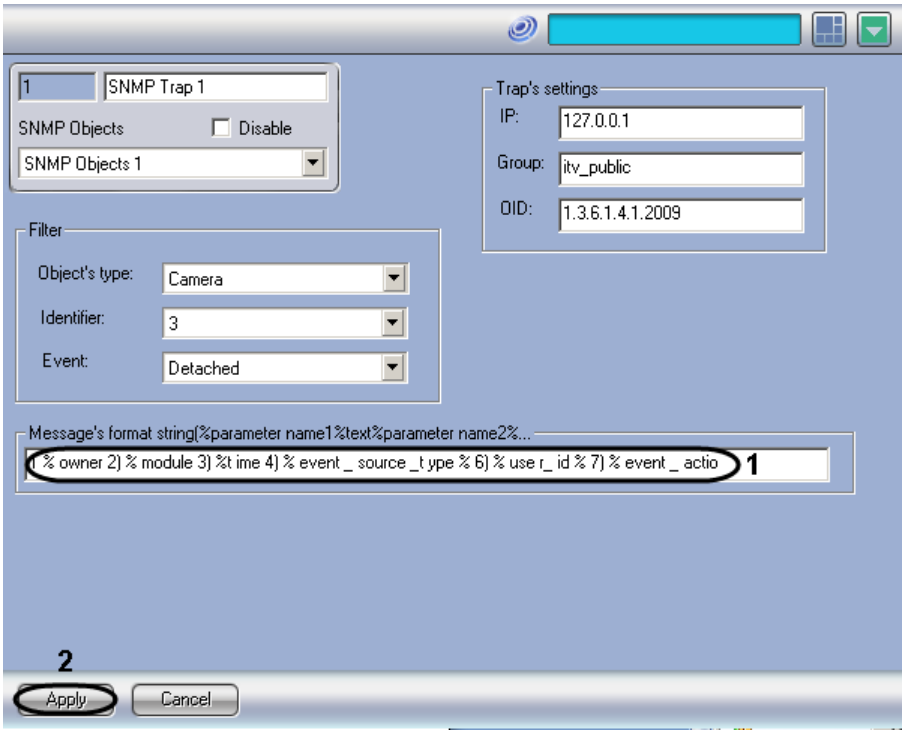


Figure 8.11—6. Setting up the message conversion into SNMP format

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.

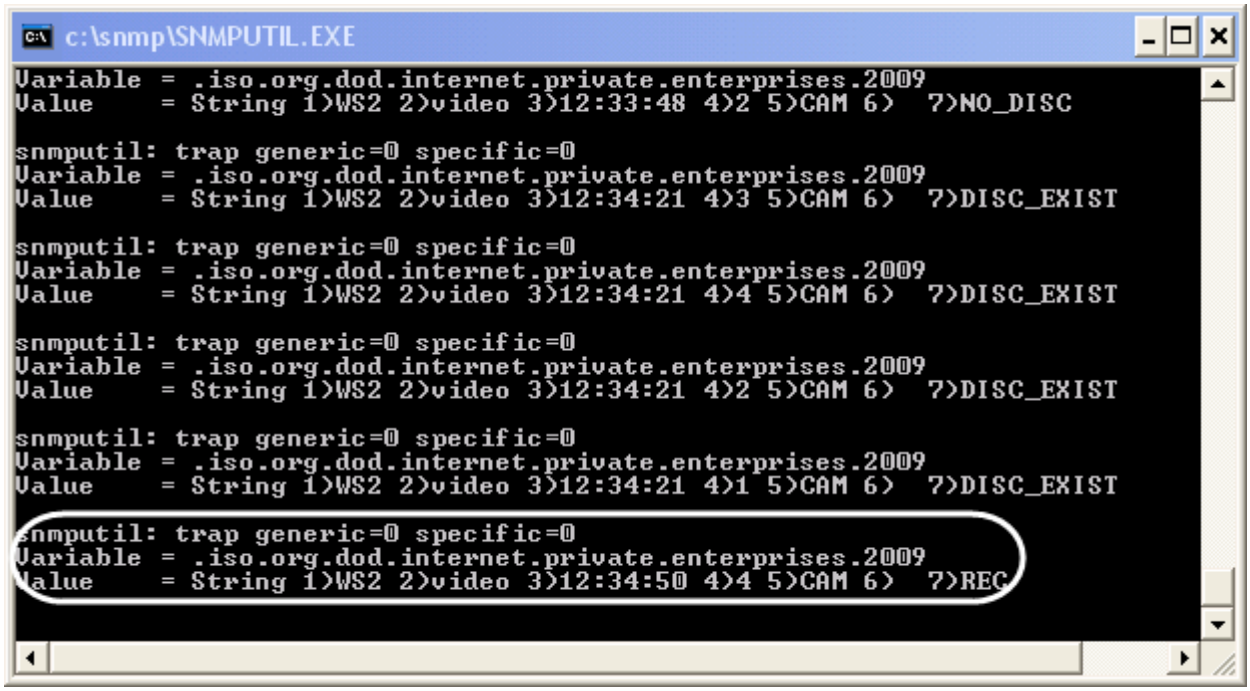


Figure 8.11—7. Example of SNMP-message

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).

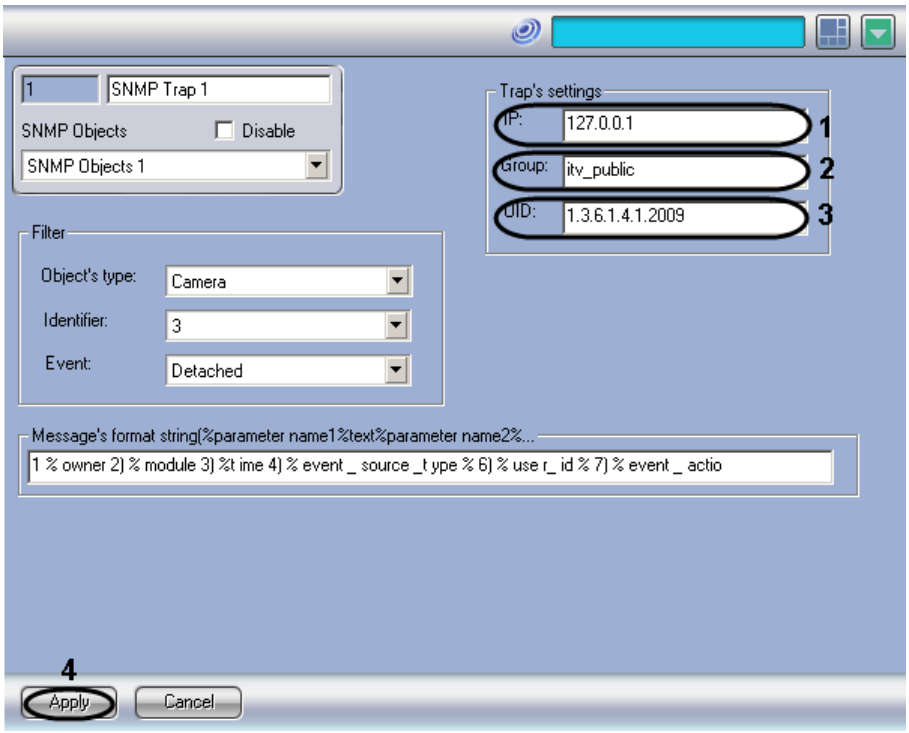


Figure 8.11—8. Setting up the trap with SNMP- message

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 Configuring 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).

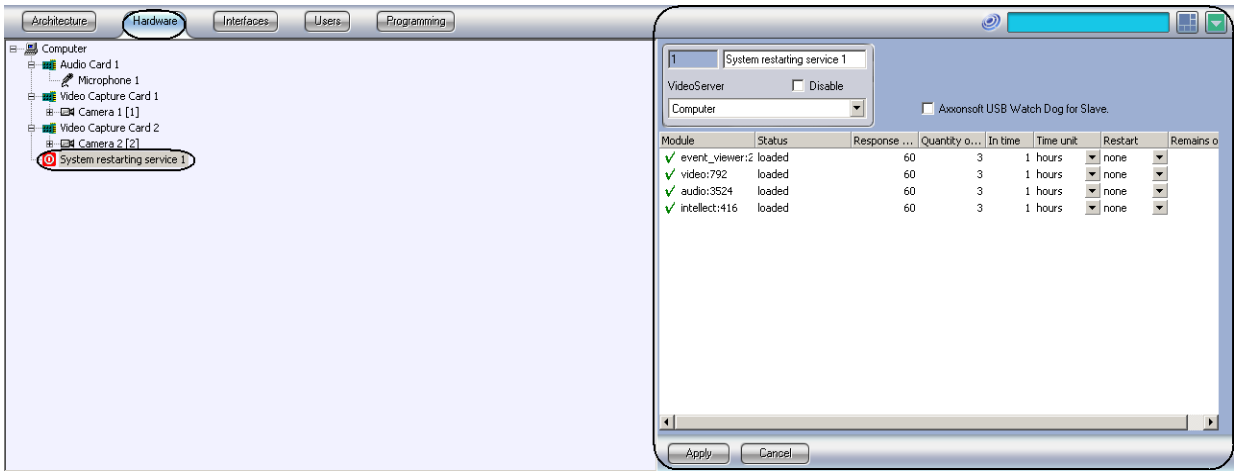


Figure 8.12—1. Setting up the object «System restarting service»

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 AxxonSoft USB Watch Dog for Slave 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 AxxonSoft USB Watch Dog (see. Connection of automatic check of servers «USB Watchdog»'s operation).

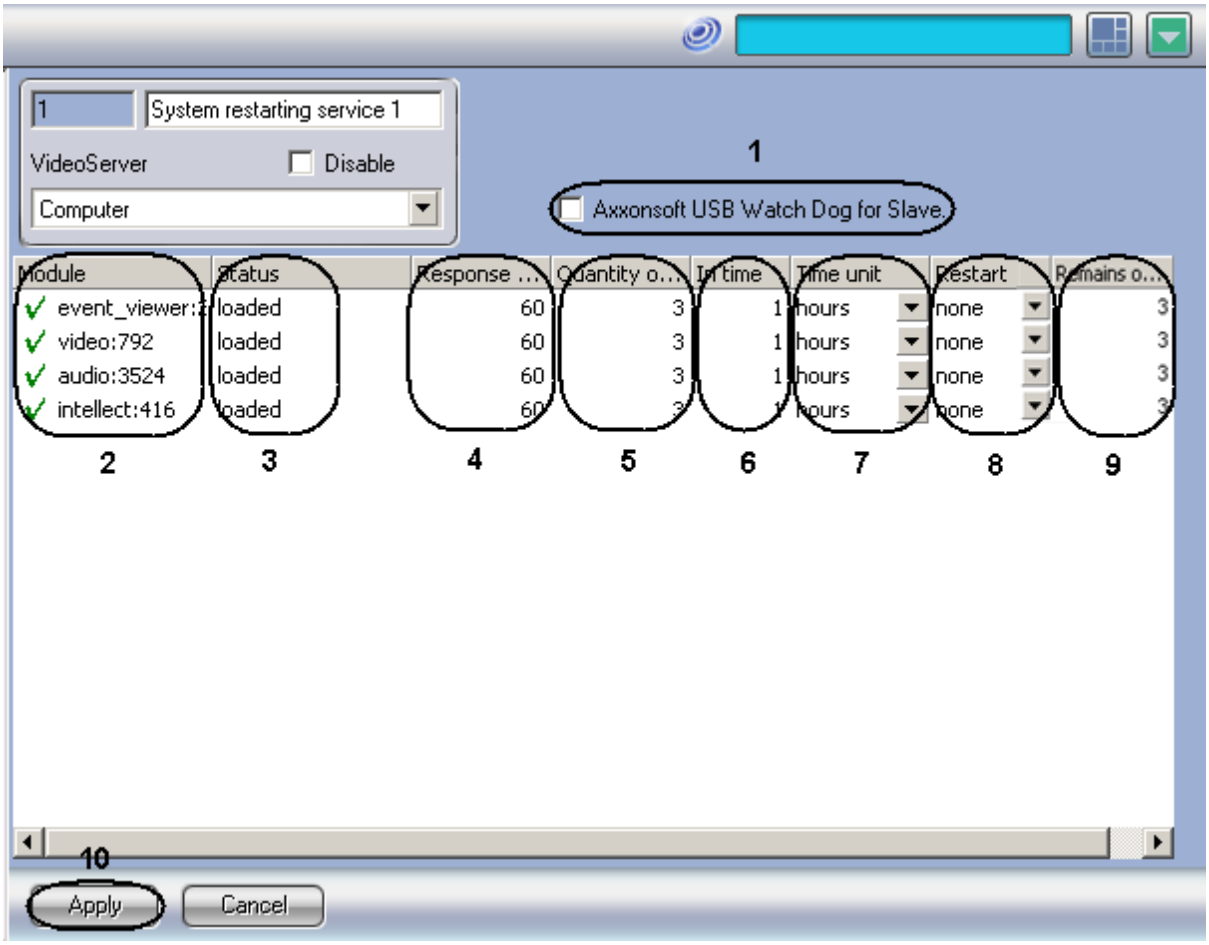


Figure 8.12—2. Setting of modules' operation control

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 Configuring the Videogate module

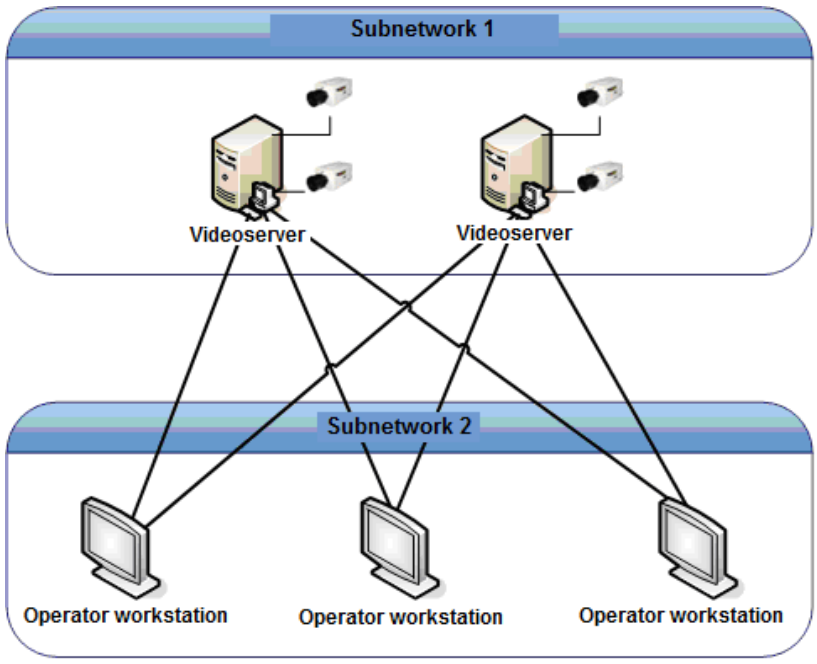
8.13.1 General information

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:

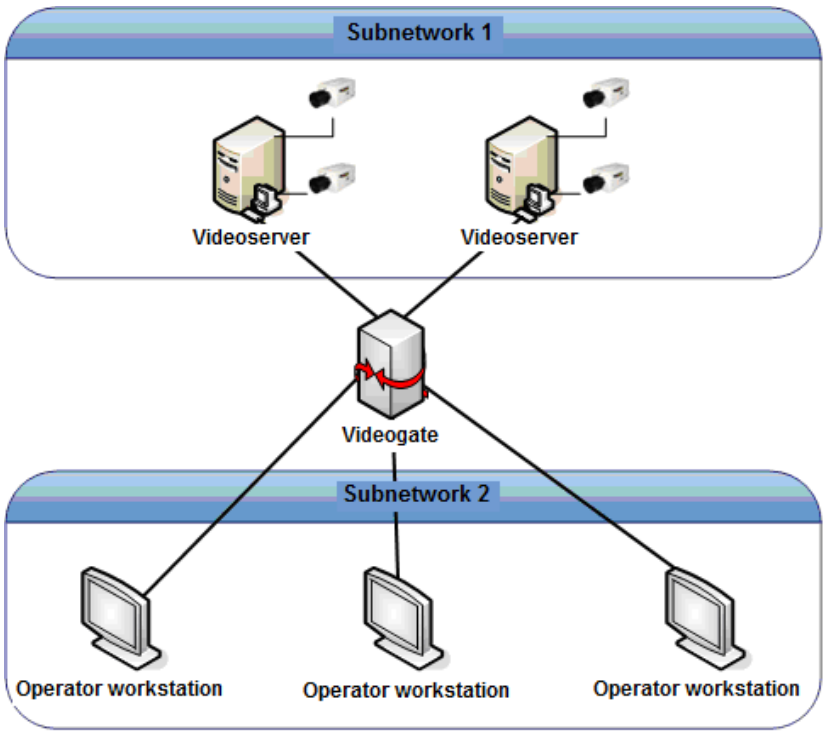
1. Technical limitations leading to the servers being connected by low band channels and the clients using a high band connection. For example, the servers may be distributed over a large area, while the clients are located in one room of the monitoring center.

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).

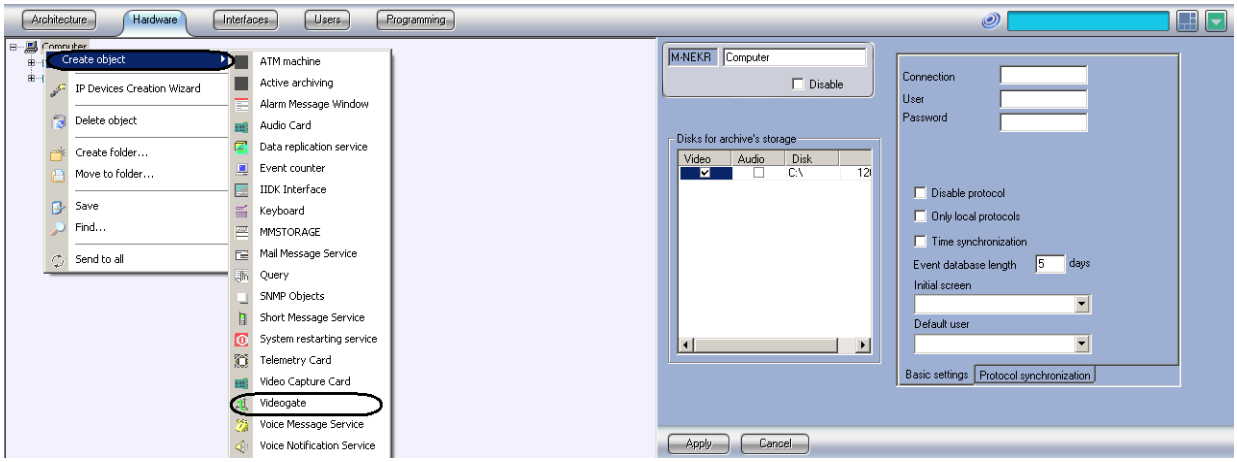


Figure 8.13—2. Setting up the Videogate module

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).

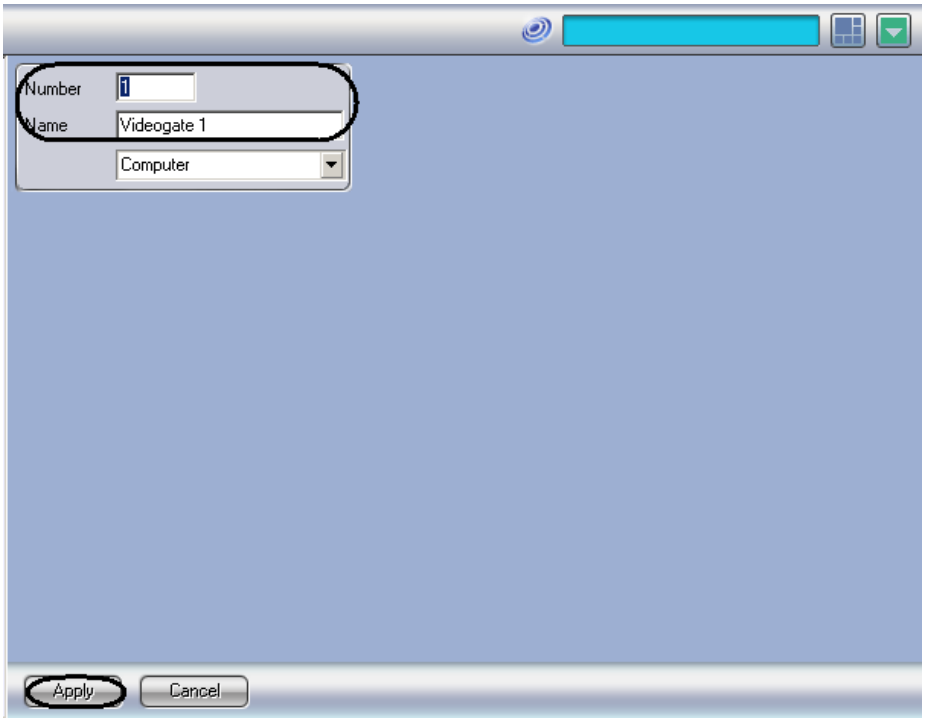


Figure 8.13—3. Setting the number and name of Videogate object

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).

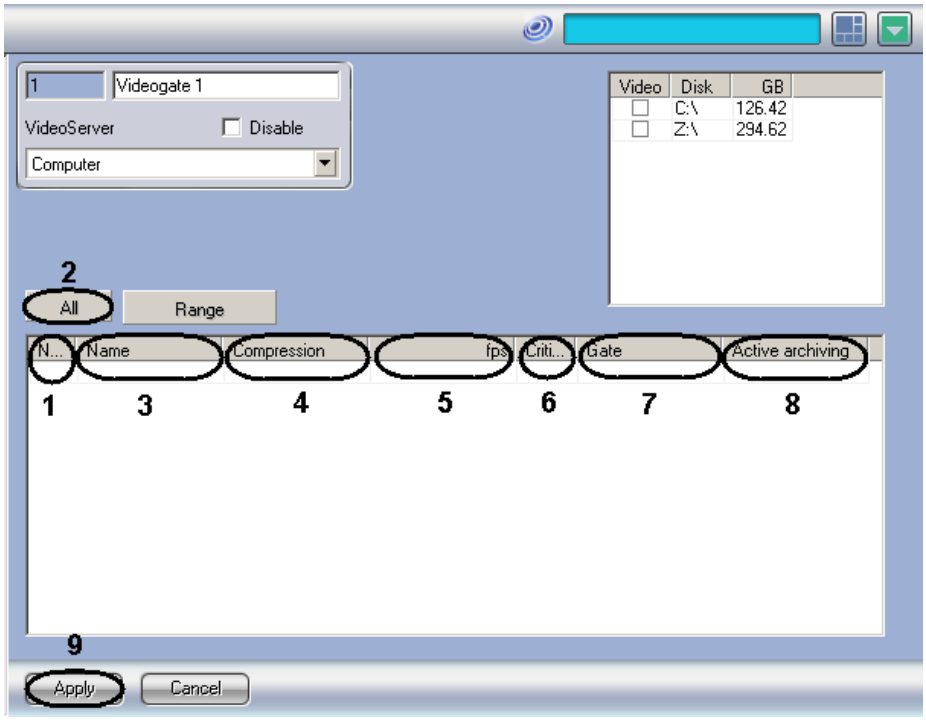


Figure 8.13—4. Selection of video cameras

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).

Note1. 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.

Note2. It's not recommended to chnge «fps» value while using H.264 codec.

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).

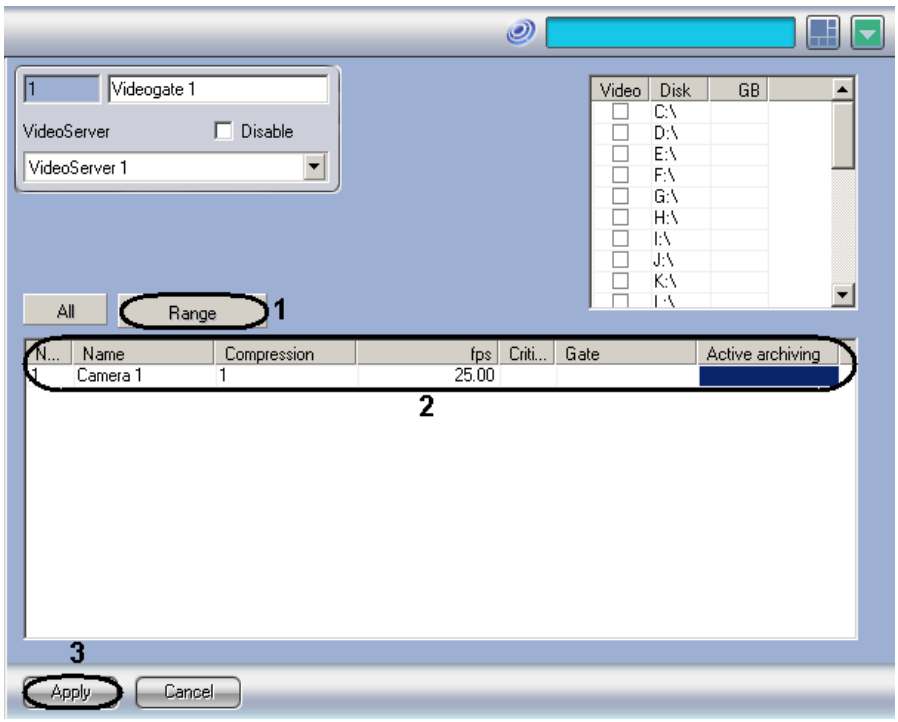


Figure 8.13—5. Range button

2. In result a dialog window Add/edit cameras will open (Figure 8.13—6).

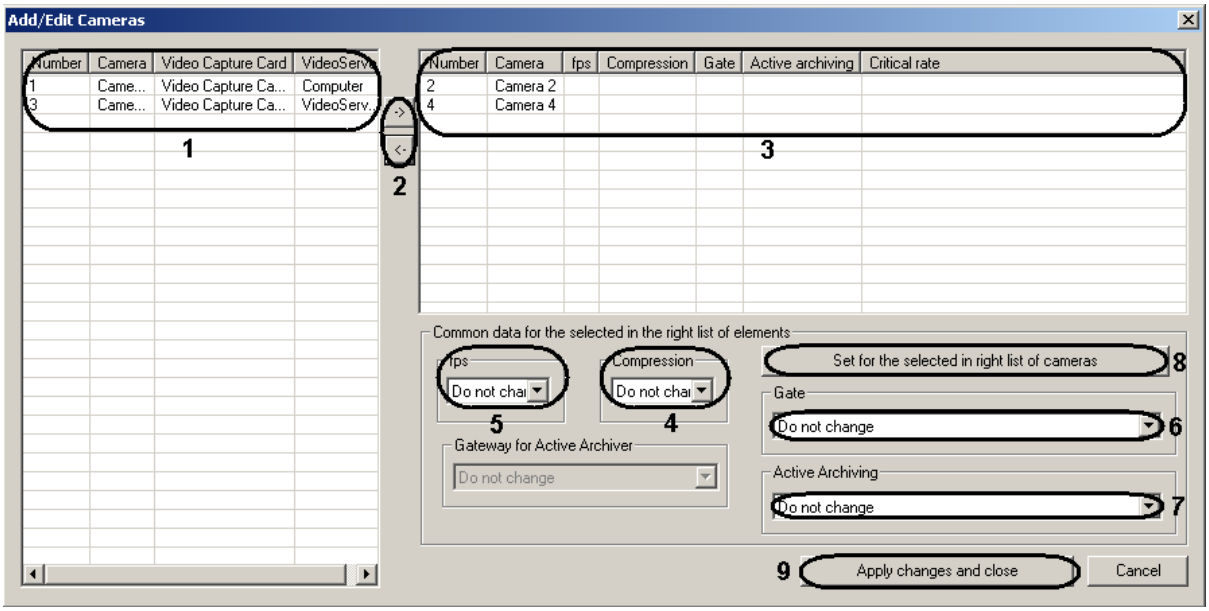


Figure 8.13—6. Add/edit cameras dialog window

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).

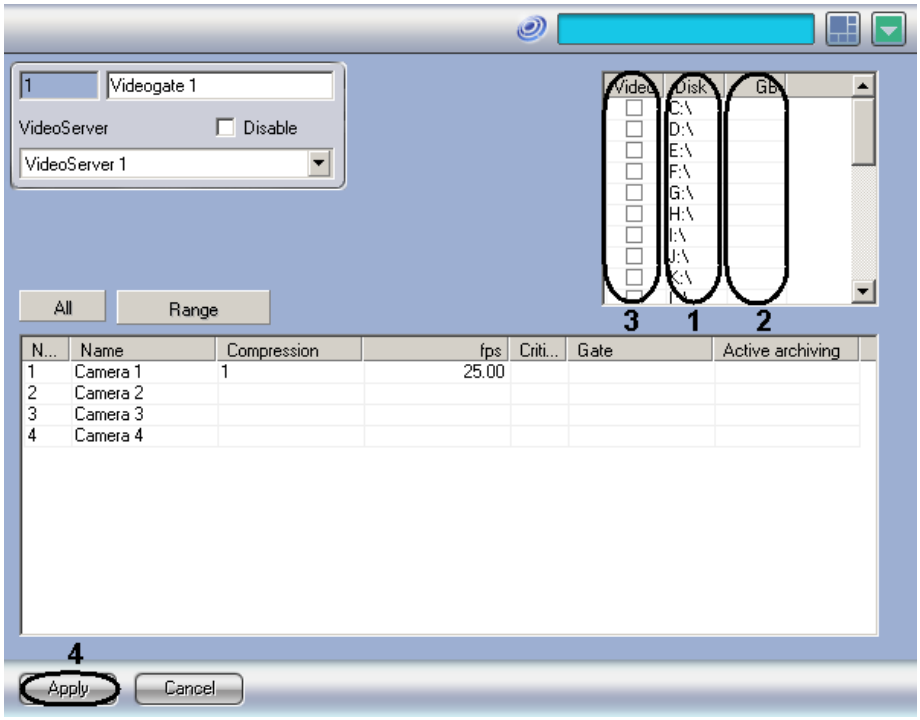


Figure 8.13—7. Selection of diskd for for storing the archive of Videogate module

2. Names of local (net, USB) disks, accessible for archive of Videogate module are given in the column Disk (Figure 8.13—7, 1).

Attention! For Windows Vista and Windows 7 OS with connected UAC it's necessary to connect net discs through command line with Administrator's rights. The way of connection is described in Connecting network disks in Windows Vista and Windows 7 OS part.

Note. To use net disks as an archive, set UNC paths to them in Intellect PC. Details of working with net disks in Intellect PC that is installed a s a Service are described in "Working with network disks of INTELLECT™ installed as a Service".

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 add a net disc via entering the UNC path, do the following:
   5.1 Go to the last line in the Disc list and click Down key (Figure 8.13—8).

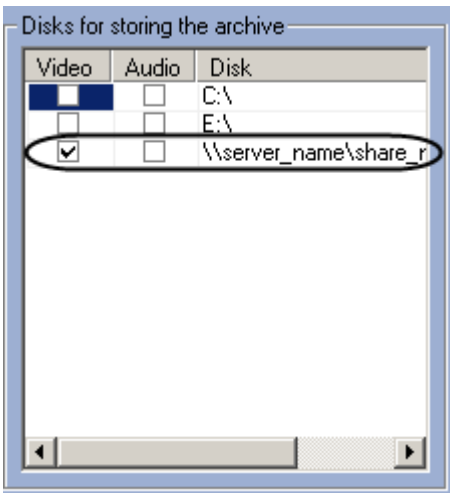


Figure 8.13—8 Entering the UNC path to a net disc

5.2 Enter the path to a net file in the appeared line in Disc column (Figure 8.13—8). UNC path is set in format «\\server_name\share_name», where «server_name» is file server's name and «share_name» is net name of generalfolder.

5.3 Set the checkbox for created disc in Video column (Figure 8.13—8).

6. 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—9).

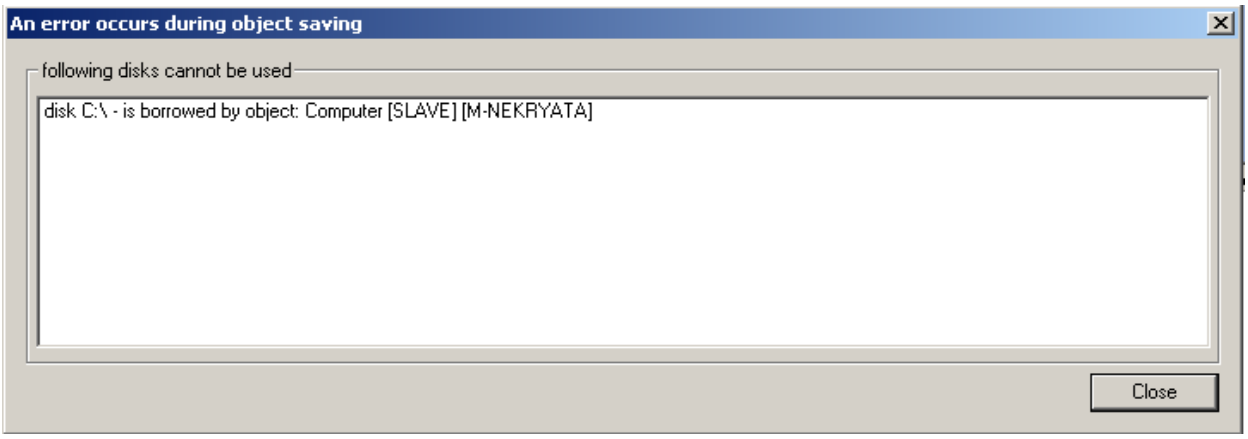


Figure 8.13—9. Error window

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 Configuring 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. To record the audio archive together with the video archive configure the ***Active audio archive*** *object (see Configuring the Active audio archive module section).*

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 Configuring 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. A remote workstation, where the active archiving is installed, is to have data about servers archive so that the video archive being copied uniformly from specified cameras. For this the remote workstation gets data about archive indexes from the server once in 30 seconds. After system restarting, data exchange is stopped until the “Active archiving” is started.

The “Active Archiving” module is configured by an “Active Archiving” system object. When the “Active Archiving” object is created, an “Active audio archive” object with the same identifier is created automatically.

8.14.2.1 *Configuring the “Active Archiving” object*

To configure the “Active Archiving” object, do the following:

1. Create the “Active Archiving” object on the base of the “Computer” system object;
2. Select and configure cameras to copy the video archive to the “Active Archiving”;
3. Set the parameters of video archive transmission over LAN;
4. Select disks to store the “Active Archiving” module.
5. Configure the video archive scaling when it is copied to the “Active Archiving”;
6. Configure the schedule of video archive copying to the “Active Archiving”;
7. Configure the “Panel of Active Archiving” 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 “Hardware” tab of “System settings” dialog box (Figure 8.14—1, 1).

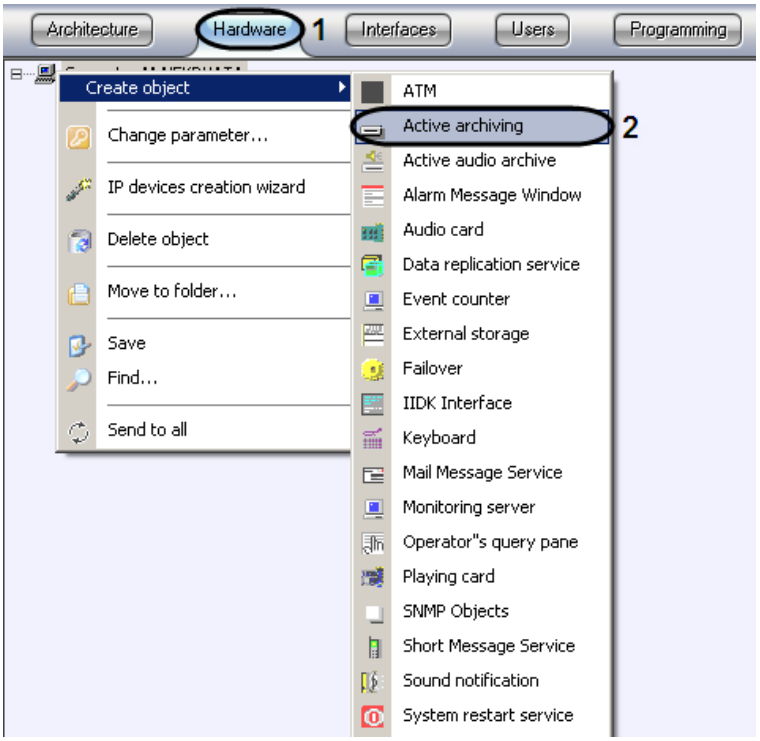


Figure 8.14—1. Creating the “Active Archiving” object

2. Click right mouse button upon the selected “Computer” object and select “Create object” ⇨ “Active Archiving” in the contextual menu (Figure 8.14—1, 2).

3. In the appeared window set the number and name of the “Active Archiving” object and then click the “Apply” button (Figure 8.14—2).

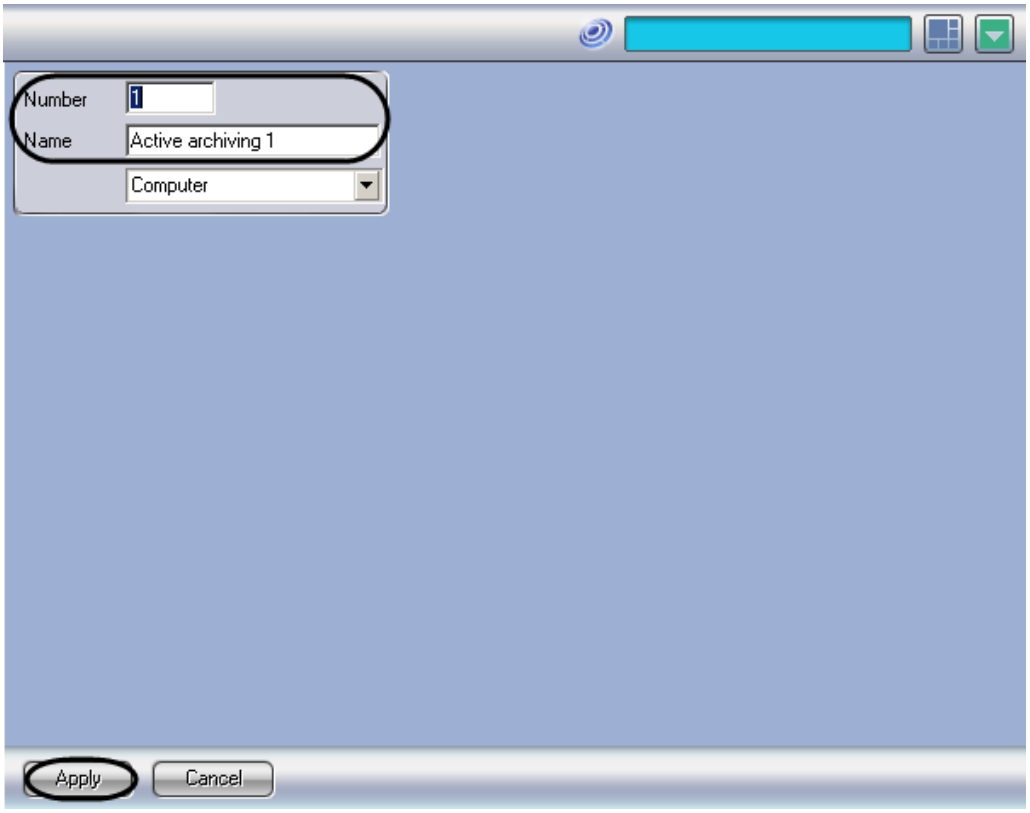


Figure 8.14—2. Setting the number and name of the “Active Archiving” object

Note. The settings panel for the “Active Archiving” object is displayed as a result.

4. Repeat steps 1-3 for all required “Computer” and the “Active Archiving” objects.

The “Active Archiving” object is now created.

8.14.2.3 *Selecting and configuring the cameras*

There are two ways to select and configure cameras for copying the video archive to the “Active Archiving”:

1. Separately. The settings panel for the “Active Archiving” object is in use.
2. Integrated selection. The “Add/Edit cameras” dialog box is in use.

Note. The order of cameras’ complex selection for copying the video archive to the “Active Archiving “is described in the “Integrated selection of cameras” section.

To select cameras on the settings panel for the “Active Archiving” object, do the following:

1. Go to the settings panel for the “Active Archiving” system object (Figure 8.14—3).
2. In the “Number” column of the “CAmeras” group, select the name of the required video camera (Figure 8.14—3, 1).

Note. To select all the cameras registered in the system, click the “All” button (Figure 8.14—3, 2).

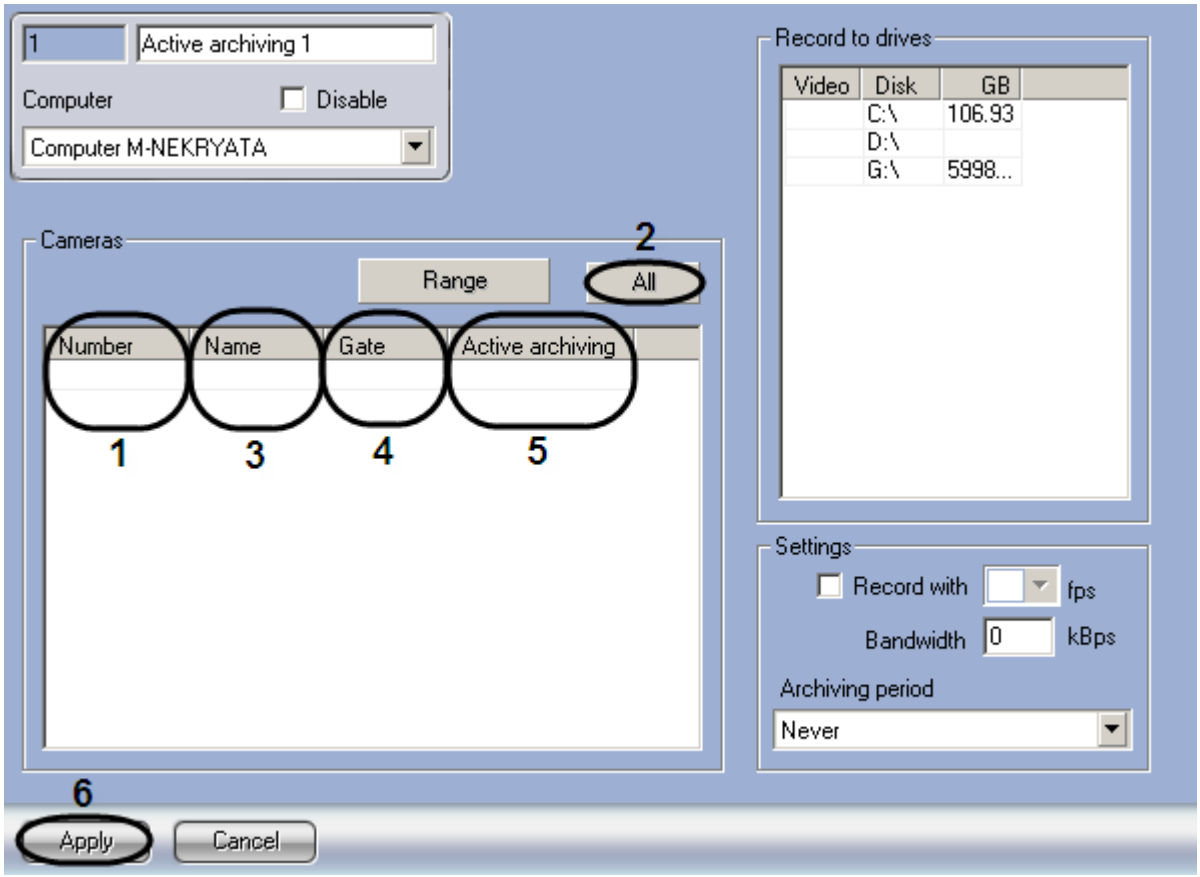


Figure 8.14—3. Selecting the cameras

3. As a result the name of the selected camera is automatically displayed in the “Name” column of the “Cameras” group (Figure 8.14—3, 3).

4. If a video archive is to be transmitted from the selected camera through a “Videogate” object, then select the name of this object from the “Gate” drop-down list (Figure 8.14—3, 4).

5. If a video archive from the selected camera is to be transmitted from another “Active archiving” object, select the name of this object in the “Active archiving” drop-down list (Figure 8.14—3, 5).

6. Repeat steps 2-5 for all the cameras.

7. To save all the changes, click the “Apply” button (Figure 8.14—3, 6)

The cameras on the settings panel for the “Active Archiving” object are now selected.

8.14.2.4 *Integrated selection of cameras*

There is an opportunity of integrated selection and editing of cameras’ parameters for copying the video archive to the “Active Archiving”.

Integrated selection can be performed in the following way:

1. Go to the settings panel for the “Active Archiving” system object, click the “Range” button in the “Cameras” group (Figure 8.14—4, 1).

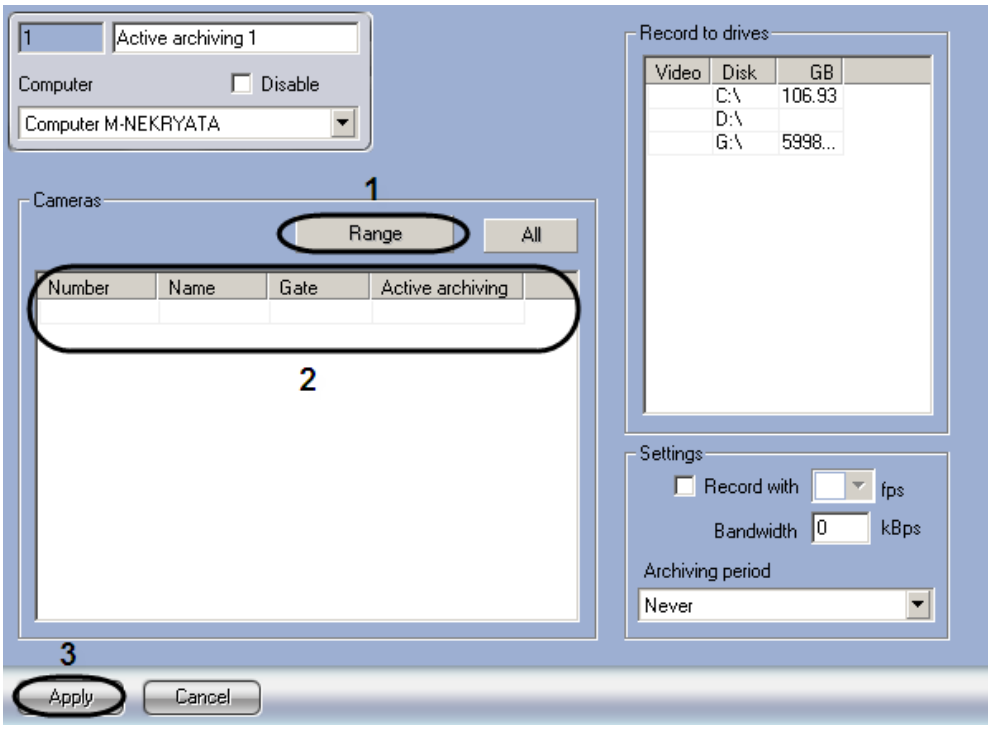


Figure 8.14—4. The “Range” button

2. As a result the “Add/Edit Camera Objects” dialog box opens (Figure 8.14—5).

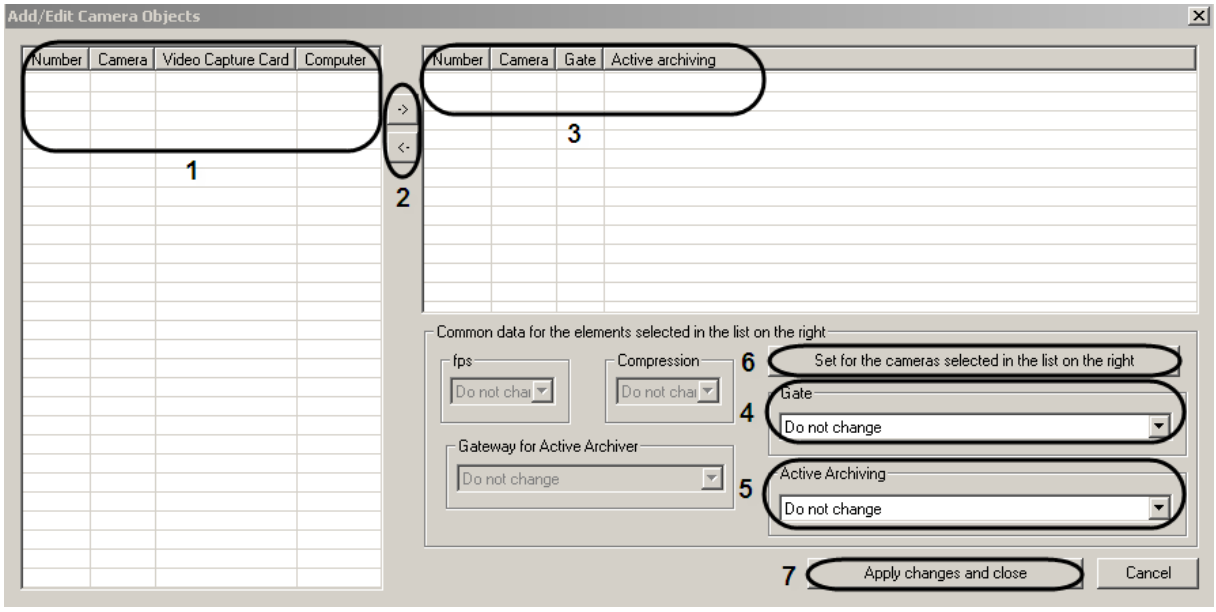


Figure 8.14—5. The “Add/Edit Camera Objects” dialog box

3. Select the required cameras in the left list of the “Add/Edit Camera Objects” box (Figure 8.14—5, 1).

4. Move the selected cameras to the right list by clicking the button (Figure 8.14—5, 2).

Note.The list on the right is the list of cameras selected for copying the video archive to the “Active Archiving”.

The button is used for reverse action that is for moving the selected video cameras from the right list to the left one (Figure 8.14—5, 2).

5. As a result the selected cameras are displayed in the right list of the “Add/Edit Camera Object” box (Figure 8.14—5, 3).

6. If it is necessary in the right list select the names of required cameras for complex editing their parameters (Figure 8.14—5, 3).

Note. For all the selected cameras the same parameters will be set.

7. If a video archive is to be transmitted from the selected camera through a “Videogate” object, then select the name of this object from the “Gate” drop-down list (Figure 8.14—5, 4).

Note. The “Gate” and “Active Archiving” settings belong to the “Common data for the elements selected in the list on the right” group (Figure 8.14—5).

8. If a video archive from the selected camera is to be transmitted from another “Active archiving” object, select the name of this object in the “Active archiving” drop-down list (Figure 8.14—5, 5).

9. To save the parameters, click the “Set for the cameras selected in the list on the right” button (Figure 8.14—5, 6).

10. As a result the set parameters are shown in the list on the right of the “Add/Edit Camera Objects” box (Figure 8.14—5, 3).

11. Repeat steps 6-9 for complex editing of all the required cameras.

12. To save the changes and close the “Add/Edit Camera Objects” box, click the “Apply changes and close” button (Figure 8.14—5, 7).

13. Camera settings are shown in the “Cameras” table on the settings panel for the “Active Archiving” object (Figure 8.14—4, 2).

14. To save all the changes, click the “Apply” button (Figure 8.14—4, 3).

Integrated selection of video cameras is now over.

8.14.2.5 *Setting the parameters of video archive transmission over LAN*

There is a “Bandwidth” parameter in the settings of the “Active Archiving” system object. This parameter limits the overall bandwidth over LAN.

By default the bandwidth is not set. This means the data is transferred so that the local networks, or the videoserver resources, are loaded to the maximum. To reduce the network and Server load, set the bandwidth parameters.

To set the bandwidth parameters, do the following:

1. Go to the settings panel for the “Active Archiving” system object.

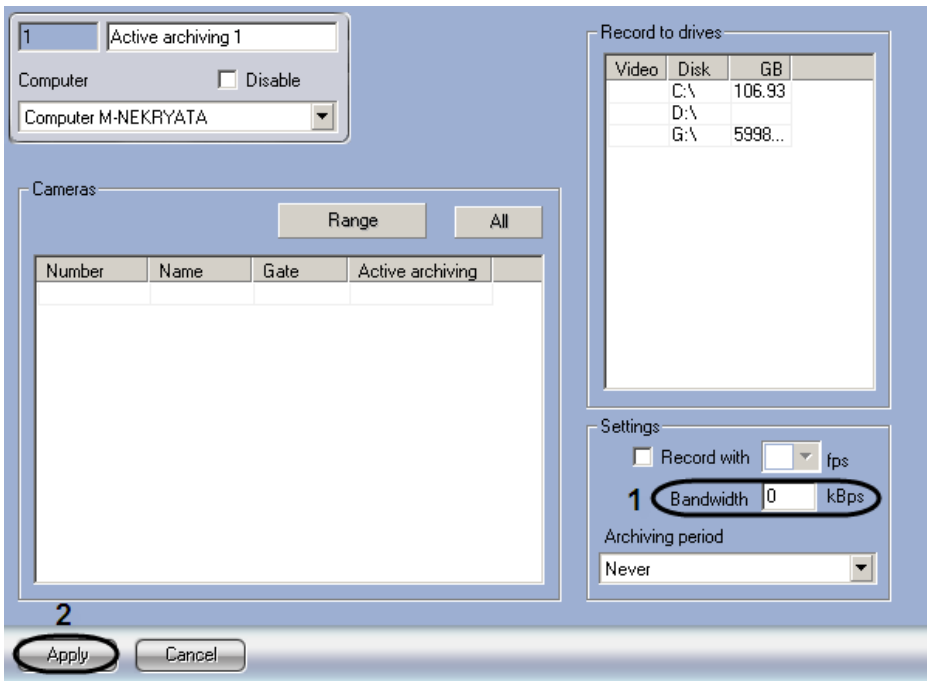


Figure 8.14—6. Setting the bandwidth parameters

2. In the “Bandwidth” field, enter the value (kBps) of maximum speed for video archive’s transmission over LAN (Figure 8.14—6, 1).

3. To save the changes, click the “Apply” button and restart INTELLECT™ software (Figure 8.14—6, 2).

The parameters of video archive transmission over LAN are now set.

8.14.2.6 *Selecting drives to store the archive of the “Active Archiving” module*

In INTELLECT™ software the backup copy of the video archive for the “Active Archiving” module is stored to local and network drives and to connected USB storage. Backup files are stored in the “VIDEO” folders on these drives.

By default backup archiving is disabled.

To select drives to store the archive of the “Active Archiving” module, do the following:

1. Got to the settings panel for the “Active Archiving” system object (Figure 8.14—7).

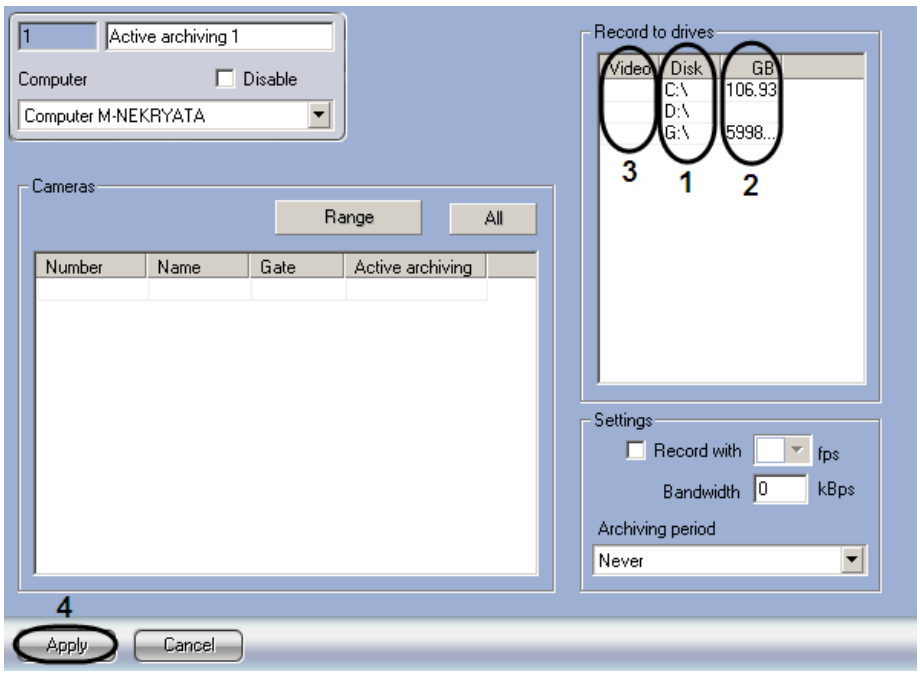


Figure 8.14—7. Selecting drives to store the archive of the "Active Archiving" module

2. Names of local (net, USB) drives available for storing the archive of the "Active Archiving" module are given in the "Disk" column of the "Record to drives" table (Figure 8.14—7, 1).

   Attention! It is necessary to connect net discs via a command line with Administrator's rights for Windows Vista and Windows 7 OS with enabled UAC. The way of UAC enabling is described in the "Connecting network disks in Windows Vista and Windows 7 OS" section.

   Note. To use net disks for a backup archive, set UNC paths to them in INTELLECT™ software. Details of working with net disks in INTELLECT™ software (installed as a Service) are given in "Working with network disks of INTELLECT™ installed as a Service" section.

3. Free space on drivers (in Gb) is given in the "GB" column (Figure 8.14—7, 2).

4. In the "Video" column, set the checkboxes for drives, selected for storing the archive of the "Active Archiving" module (Figure 8.14—7, 3).

5. To add a net disk by giving the UNC path, do the following:

5.1 Go to the last line in the "Disk" list and click the down key (Figure 8.14—8).

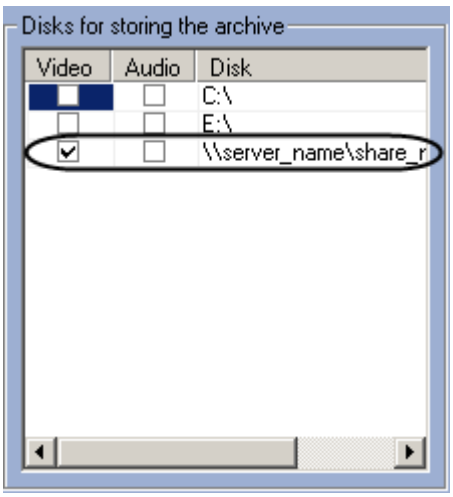


Figure 8.14—8 Specifying the UNC path to a net disc

5.2 Specify the path to a net file in the appeared line in the “Disk” column (Figure 8.14—8). The UNC path is set in the “\\server_name\share_name” format, where the “server_name»” is the name of file server and the “share_name” is the net name of general folder.

5.3 In the “Video” column, set the checkbox for the created disk (Figure 8.14—8).

6. To save the changes, click the “Apply” button (Figure 8.14—7, 4).

The drives for storing the archive of the “Active Archiving” module are now selected.

Note. If no drives have been selected, the “Active Archiving” backup is disabled.

8.14.2.7 *Configuring the scaling of the video archive*

Video signals can be scaled before they are copied to a backup archive of the “Active archive” module.

Note 1. Scaling is performed only with the use of Motion Wavelet codec in the “Active archive”, the size of fragment is shrinking. 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 and MxPeg.

If the scaling rate is 25 fps, the videois processed at a lower rate for the first minute (~12 fps).

The maximum allowable scaling rate for MxPeg codec is 12 fps.

By default, a signal is copied from the server to the active archive without scaling.

To configure the scaling of video archive frames while copying them to the “Active Archiving”, do the following:

1. Go to the settings panel for the “Active Archiving” system object (Figure 8.14—9).

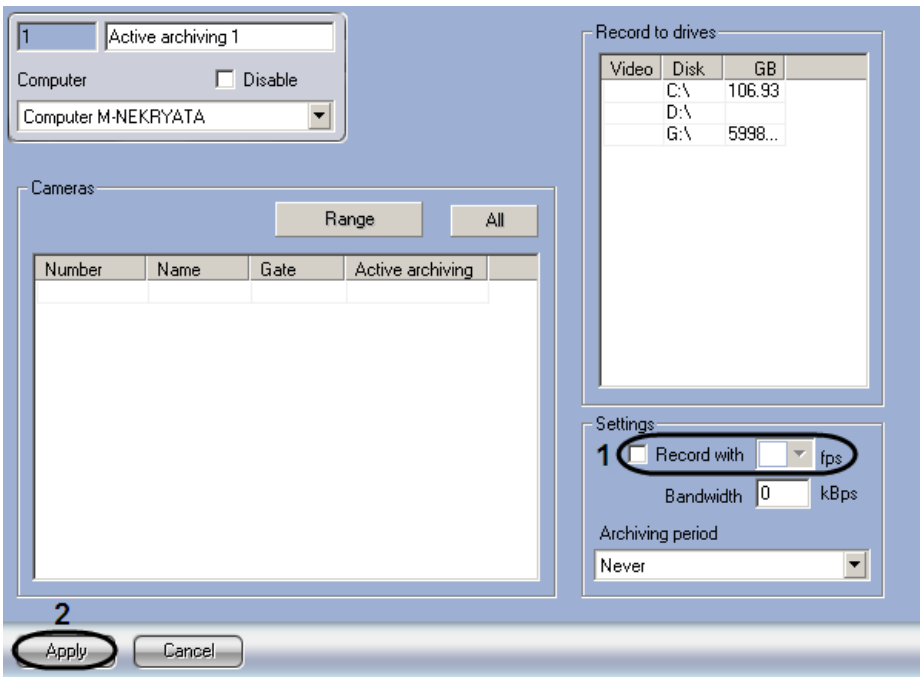


Figure 8.14—9. Configuring the scaling of video archive while copying it to the “Active Archiving”

2. To enable the video archive scaling, set the “Record with ___ fps” checkbox in the “Settings” group (Figure 8.14—9, 1).

3. In the “Record with ___ fps” drop-down list, select the required frame rate of video archive for transmitting to the “Active Archiving” (Figure 8.14—9, 1).

Note1. The selected “Record with ___ fps” value is to be less than frame rate of video signal digitized by a video capture card. Otherwise the frame rate of a video signal will be the same as 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. A real value of framerate may be different from that one, indicated in the “Record with ___ fps” drop-down list.

4. To save the changes, click the “Apply” button (Figure 8.14—9, 2)

Video scaling is now configured.

8.14.2.8 *Configuring the schedule of the video archive copying*

The “Active Archiving” module can be started in two ways:

1. Automatically. Due to the schedule of copying on the settings panel of the “Active Archiving” system object.

2. Manually. With the help of the “Panel of Active Archiving” interface object.

The process of automatic video archive copying is implemented starting with the latest recordings of video fragments. By default the automatic copying of video archive is not configured.

To configure the schedule of video archive's copying to the “Active Archiving”, do the following:

1. Go to the settings panel for the “Active Archiving” system object (Figure 8.14—10).

2. In the “Archiving period” drop-down list, select the required time zone (time period) of the “Active Archiving” module start (Figure 8.14—10, 1).

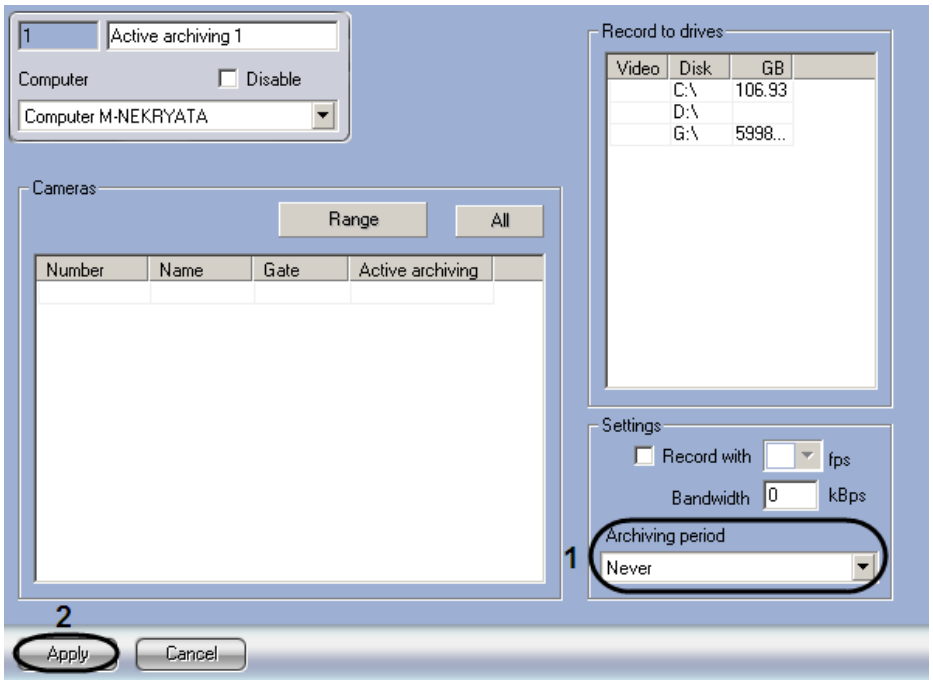


Figure 8.14—10. Configuring the schedule of video archive copying to the “Active Archiving”

3. To save the changes, click the “Apply” button (Figure 8.14—10, 2).

The schedule of video archive copying to the “Active Archiving” is now configured.

To start the archive backup manually, set the beginning and the ending dates of the archive to be copied and click the “Start” button (Figure 8.14—11).

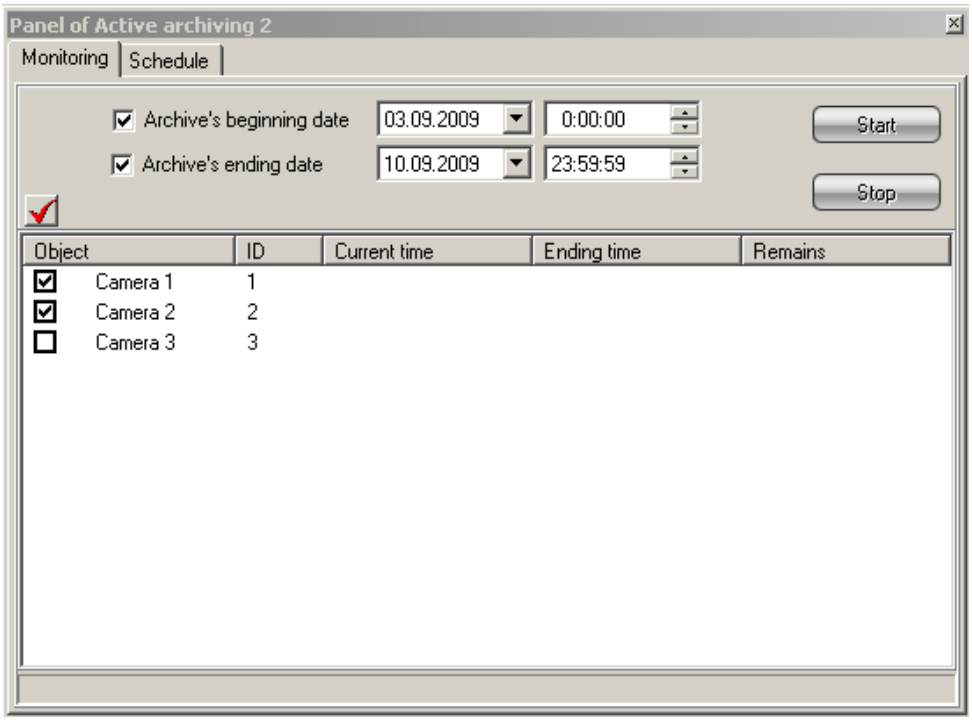


Figure 8.14—11. Starting the “Active Archiving” module with the help of the “Panel of Active archiving” object

8.14.2.9 *Configuring the “Panel of Active archiving” object*

The “Panel of Active archiving” interface object is designed for configuring the Panel of Active archiving, which is used for starting the backup archiving, changing its parameters and monitoring the backup process.

To configure the main parameters of the “Panel of Active archiving” object, do the following:

1. Go to the “Interfaces” tab in the “System Settings” dialog box (Figure 8.14—12, 1)
2. Select the “Panel of Active archiving” object in the object tree of the “Interfaces” tab (Figure 8.14—12, 2). The settings panel for this object opens on the right of the “Interfaces” tab.

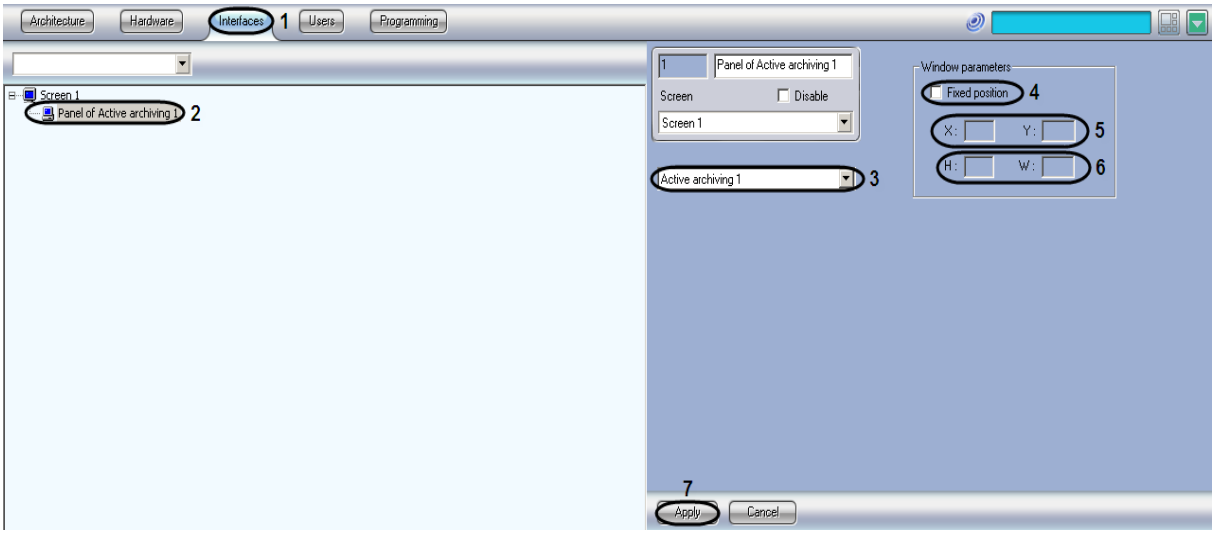


Figure 8.14—12. The settings panel for the “Panel of Active archiving” object

3. In the object list, select that “Active Archiving” object for which this panel is to be created (Figure 8.14—12, 3).
4. To set the exact position of the “Panel of Active archiving” box on the screen, set the “Fixed position” checkbox (Figure 8.14—12, 4).

As a result the “X”, “Y”, “W” and “H” fields are available for editing.

5. Specify “X” and “Y” coordinates of the upper left corner of the box, in percentage of the corresponding screen dimensions (Figure 8.14—12, 5).
6. Specify the width (W) and height (H) of the window, in percentage of the corresponding dimensions of the screen (Figure 8.14—12, 6).
7. Click the “Apply” button (Figure 8.14—12, 7).

The “Panel of Active archiving” interface object is now configured.

8.14.3 Configuring the Active audio archive module

The “Active audio archive” program module is designed to create a backup copy of audio archive recorded synchronously with a video archive. When the “Active audio archive” program module is in

use the audio archive recorded synchronously with the video archive from selected cameras included into digital video monitoring system is copied to a storage selected while configuring the “Active archiving” module (see *Selecting drives to store the archive of the “Active Archiving” module* section). Copying is performed synchronously with a video archive copying.

Configuration of the “Active audio archive” is performed using the “Active audio archive” system object. The “Active audio archive” object is created automatically while creating the “Active archiving” object (Figure 8.14—13).

Note. Deleting the “Active archiving” object the “Active audio archive” object is deleted automatically.

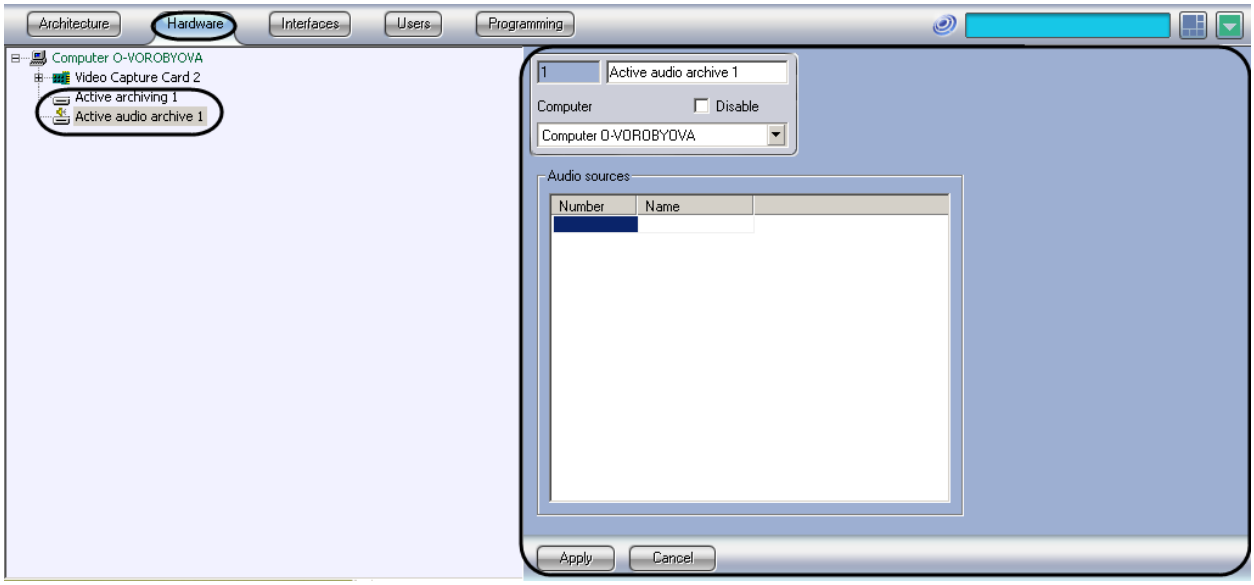


Figure 8.14—13 The Active audio archive object

To configure the “Active audio archive” do the following:

1. Go to the settings panel for the “Active audio archive” object (Figure 8.14—14).

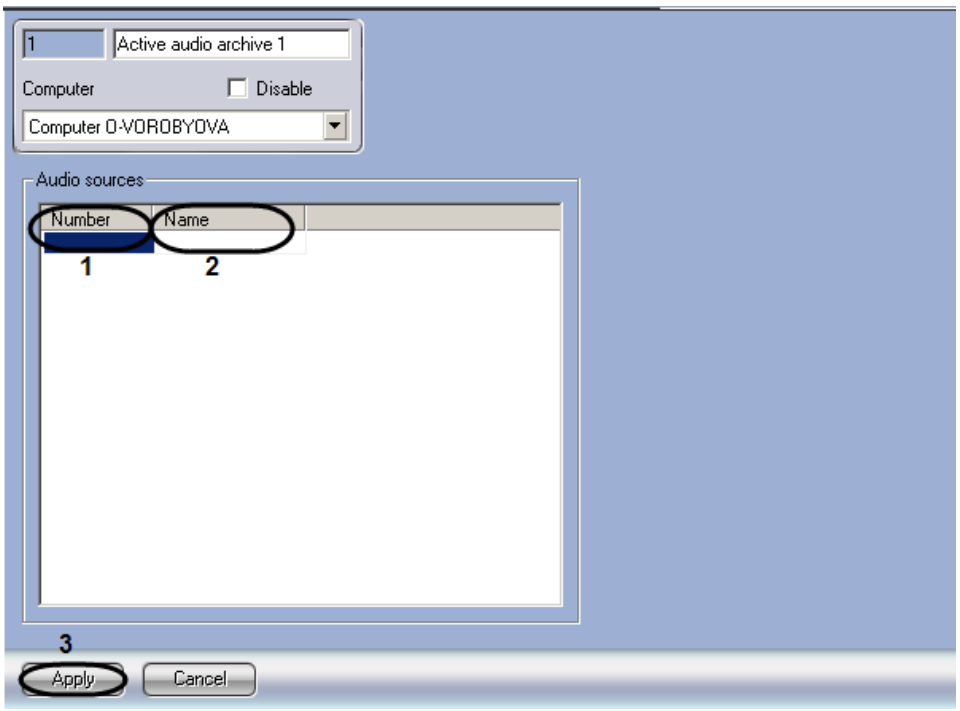


Figure 8.14—14 Configuring the Active audio archive object

1. In the “Number” drop-downlist, select the id of a microphone related to the camera the archive from which is to be moved to the backup archive (Figure 8.14—14, 1).
2. Left-click in the “Name” field. It will be automatically filled with the name of selected microphone (Figure 8.14—14, 2).
3. Repeat steps 2-3 for all required microphones.
4. Click the “Apply” button.

The “Active audio archive” module is now configured.

8.15 Replicating archive from unconnected servers using the removable storage

8.15.1 Order of archive replication from unconnected servers

It is possible to receive video and audio archive from unconnected Servers in the Intellect software using the removable storage. Records over a specified period are copied from the Source-Server to the Target-Server while replicating archive.

Archive replication is performed in the following order:

1. Configure the **Data replication service** object on the Target and Source;
2. Configure the Target object tree for data replication;
3. Create a query file on the Target using the schedule.exe utility;
4. Copy the archive from the Source to a removable storage;

5. Restore the archive from a removable storage on the Target.

8.15.2 Configuring the Data replication service object

Data replication service is configured on the setting panel of the **Data replication service** object. This object is created under the **Computer** object in the **Hardware** tab of the **System settings** dialog box (Figure 8.15—1).

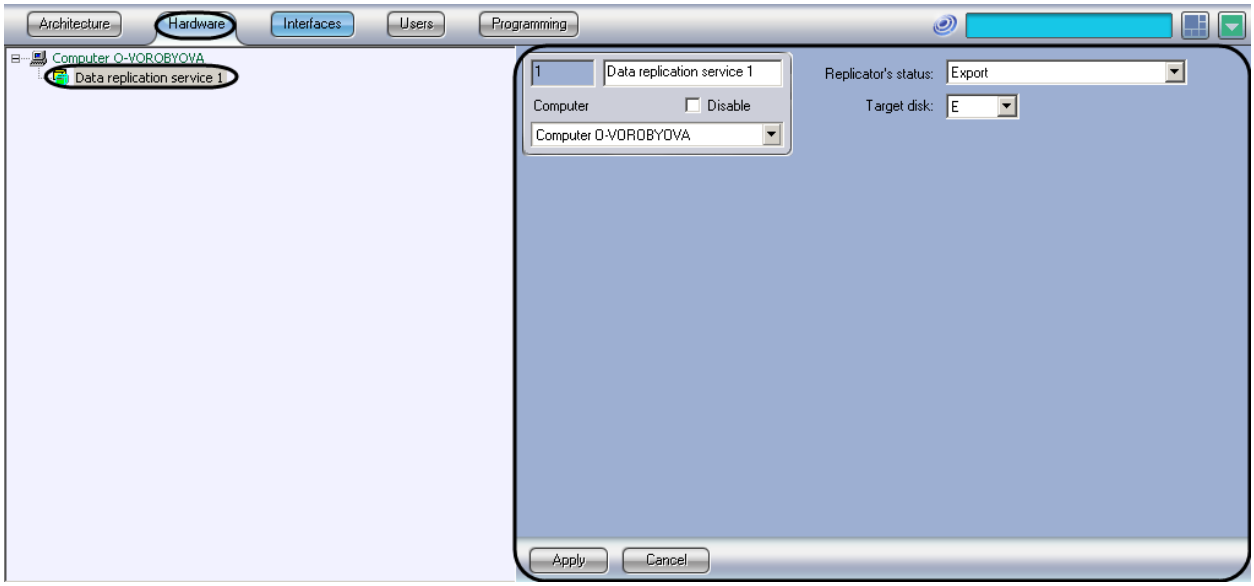


Figure 8.15—1 The Data replication service object

To configure the data replication service do the following:

1. Go to the settings panel of the **Data replication service** object (Figure 8.15—2).

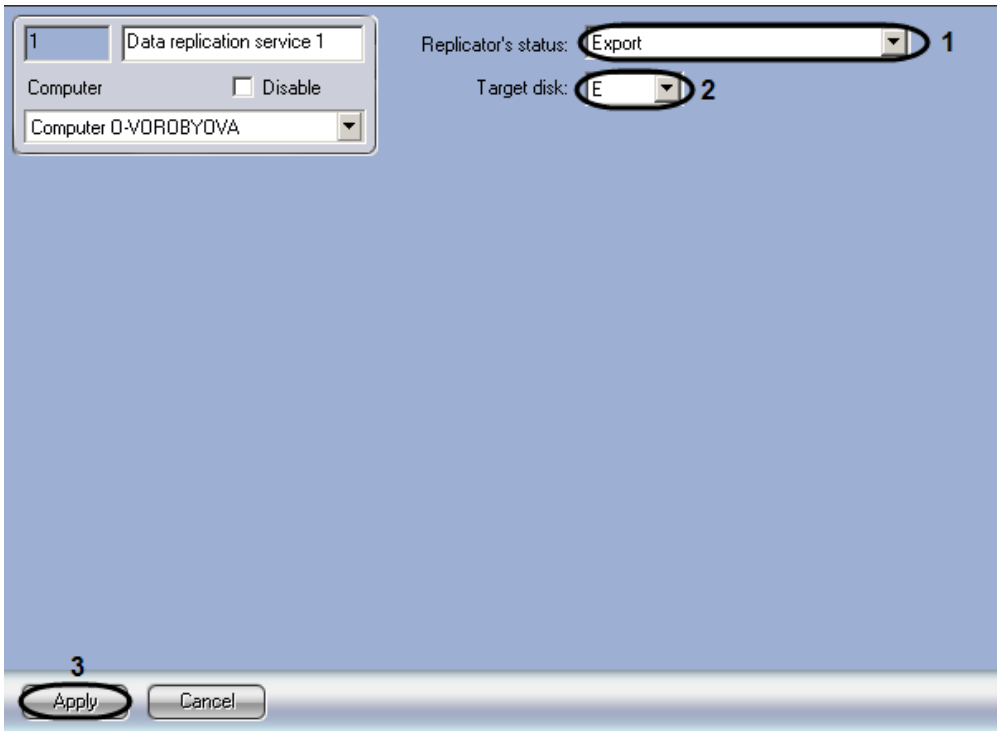


Figure 8.15—2 Configuration of the Data replication service object

2. In the **Replicator's status** dropdown list select the **Export** value if the Server is an archive Source or the **Target** value if the Server is a target (Figure 8.15—2, 1).

3. In the **Target disk** dropdown list select the name of removable storage used for archive transfer (Figure 8.15—2, 2).

4. Click **Apply** (Figure 8.15—2, 3).

Configuration of the data replication service is completed.

8.15.3 Configuring the Target object tree for data replication

For proper replication operation the following objects are to be created in the object tree of the Target objects:

1. In the **Hardware** tab of the **System settings** dialog box create the **Computer** objects with the names corresponding to the names of Sources from which the archive records are to be copied (Figure 8.15—3).

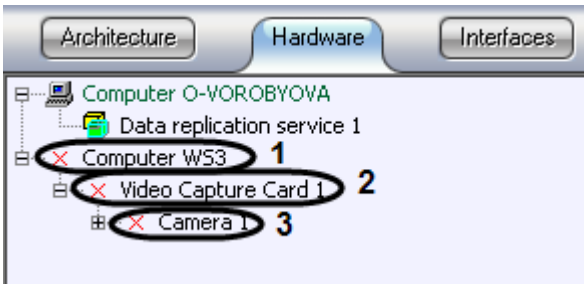


Figure 8.15—3 Configuration of Target object tree

2. Under the **Computer** object create the **Video Capture Card** objects with the names corresponding the same on Sources (Figure 8.15—3, 2).

3. Under the **Video Capture Card** objects create the **Camera** objects with numbers corresponding to the camera numbers the archive records from which are to be copied from Sources (Figure 8.15—3, 3).

*Note. The **Camera** and **Video Capture Card** objects will be disabled because there is no connection between Source and Target.*

Configuration of the Target object tree is completed.

8.15.4 Creating the query file

The query file specifies Sources, cameras and time periods for archive replication. This file is created on the Source. To create the query file the following conditions are to be met:

1. Users are created in the INTELLECT™ (see *User registration and removal* section).

2. Corresponding rights are assigned to users (see *Registration of users' rights* section).

3. At least one **Camera** object is created in the Target hardware tree.

The query file is created using the *schedule.exe* utility (see *The shedule.exe utility for creating a replication query file* section).

8.15.5 Copying the archive from the Source

To copy the archive from the Source do the following:

1. Connect the removable storage with a query file to the Target.
2. The *replication.exe* file located in the root of removable storage is run automatically (Figure 8.15—4).

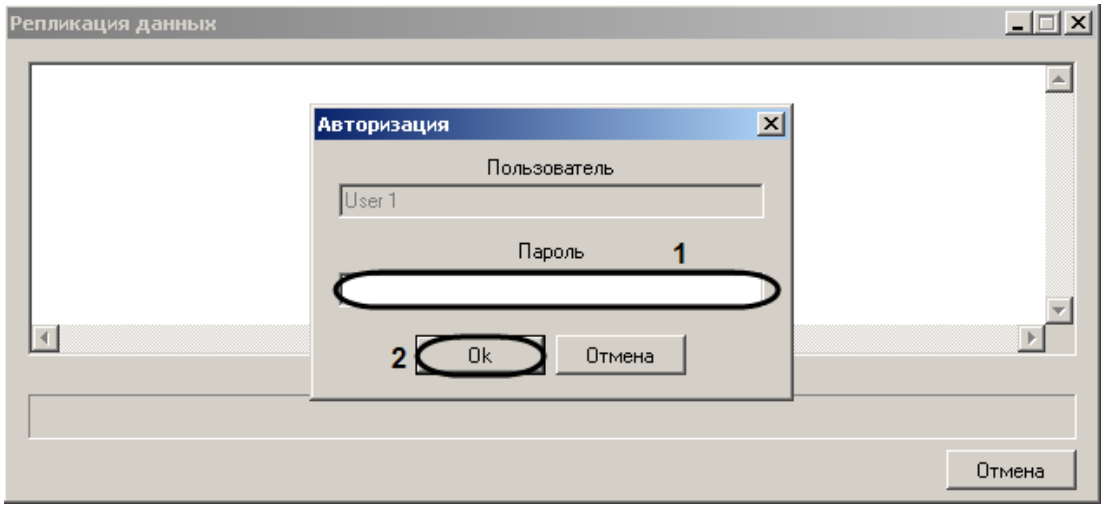


Figure 8.15—4 Access to the archive copying on the Source

Note. If the query file is not run automaticall, then run it from the command line with the ***-pack*** *parameter (Figure 8.15*—5*).*

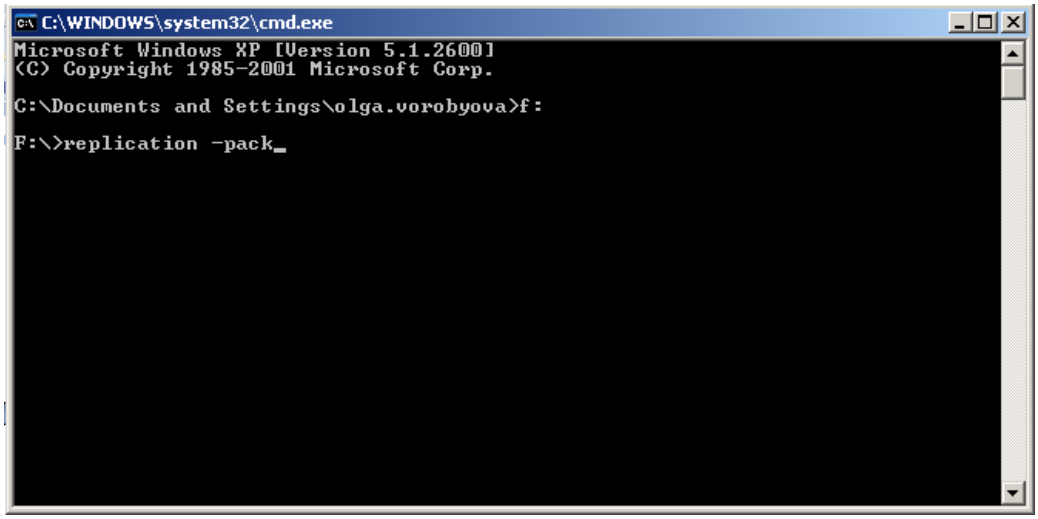


Figure 8.15—5 Running replication from the command line

3. In the **Authorization** window enter the password of user who makes the replication (Figure 8.15—6, 1).

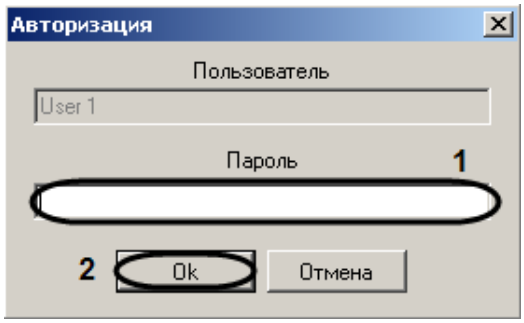


Figure 8.15—6 Entering the password for replication

4. Click **OK** (Figure 8.15—6, 2).

5. Wait when the data copying is complete (Figure 8.15—7).

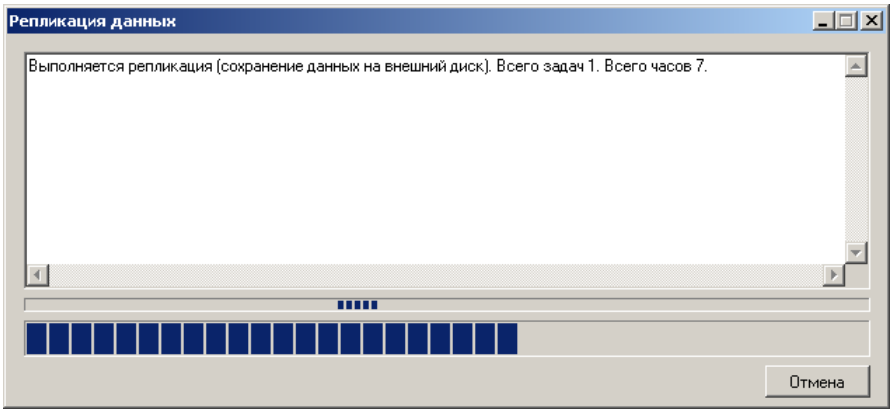


Figure 8.15—7 Archive copying

6. Click **Exit**.

Requested part of the archive is copied to a removable storage and located in the **IntellectBackup/Computer_name** directory. Files of log replication with the .LOG extension are located in the **IntellectBackup** directory.

Removable storage is automatically removed when the copy is complete.

Archive copying from the Source is completed.

8.15.6 Restoring the archive on the Target

When the archive is restored data is copied from the removable storage to the Target.

To restore the archive do the following:

1. Connect the removable storage to the Target.

2. Run the request file from the command line with the **–unpack –d:disk_with_archive** parameters (Figure 8.15—8).

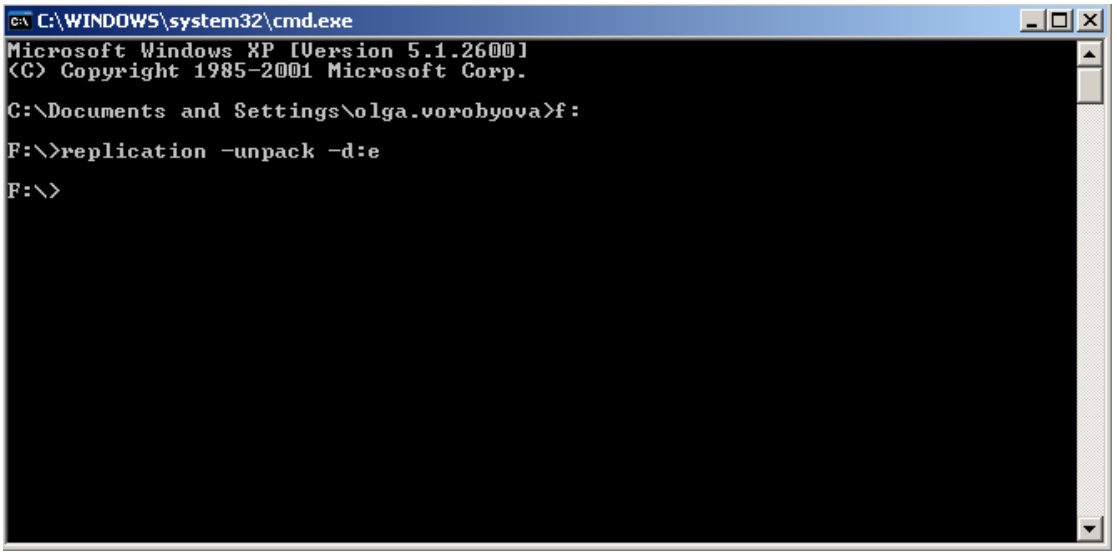


Figure 8.15—8 Running the archive restoring on Target

3. Wait when the data copying is complete.
4. Click **Exit** (Figure 8.15—9).

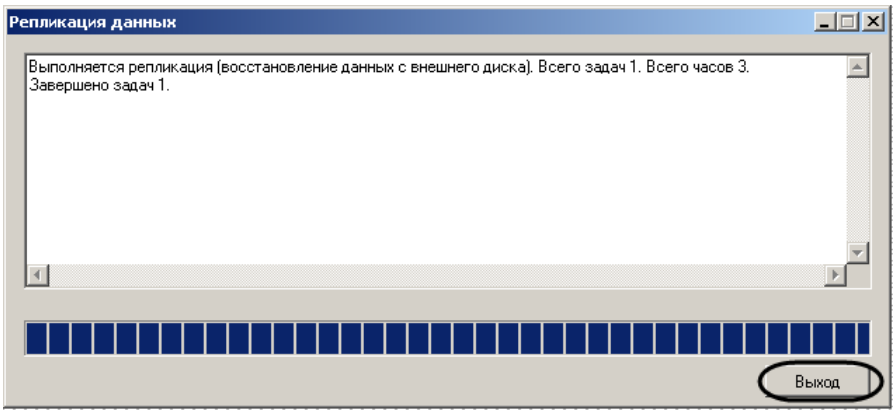


Figure 8.15—9 Completing the archive restore

The archive restoring on the Target is completed.

8.16 Configuring the Web-server module

8.16.1 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.

8.16.2 System requirements

The Web-server module stable opration requires Java Runtime Environment version 1.6. 7 or higher (mentioned software is included into the Intellect PC installation package) and browser Internet Explorer version 8.0 and higher (this software is available free of charge).

8.16.3 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.*

8.16.4 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.

8.16.5 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 8.16—1). By default, the Web-server is on. If the Web-server is off, turn it on before starting the setup procedure.

Figure 8.16—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.

8.16.6 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.

8.16.6.1 *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 8.16—2).

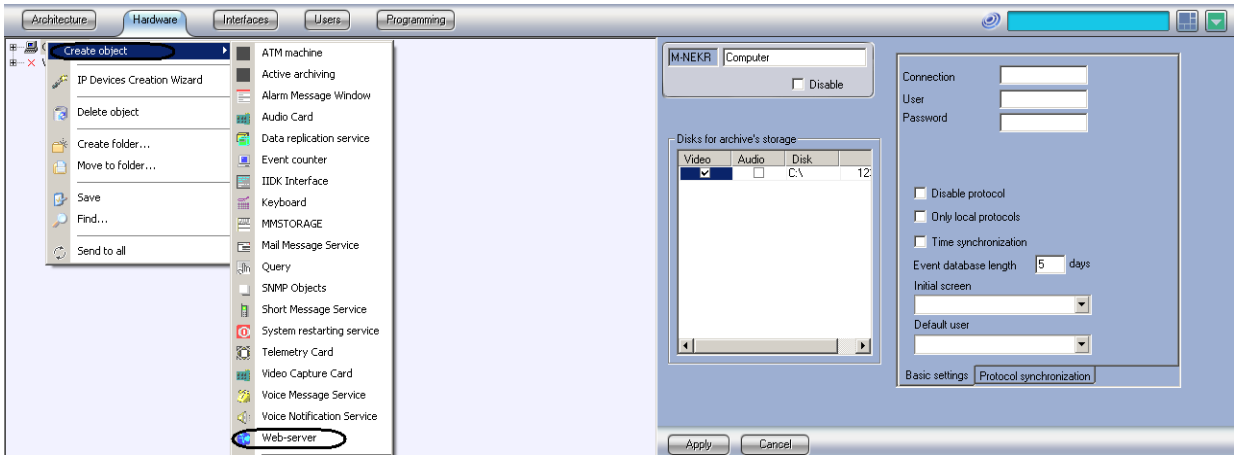


Figure 8.16—2. Creation of the Web-server object

2. Make a right mouse click upon the selected Computer object and select «Create object» ⇨ «Web-server» in the contextual menu (Figure 8.16—2, 1).

3. Set the number and name of Web-server object and then click Apply button (Figure 8.16—3).

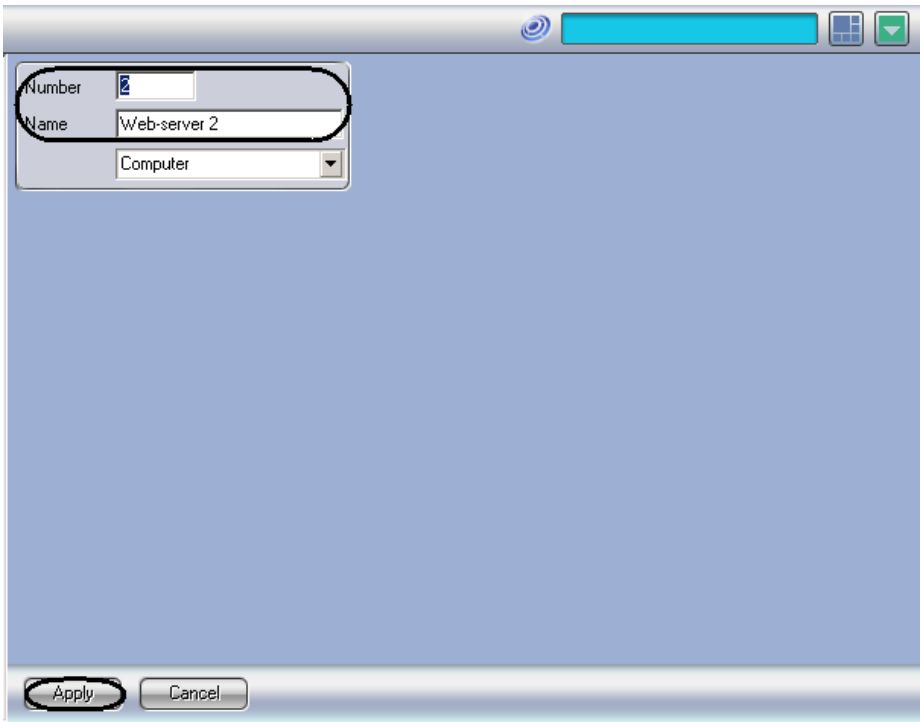


Figure 8.16—3. Setting up the name and number of the Web-server object

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.

8.16.6.2 *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 8.16—4, 3).

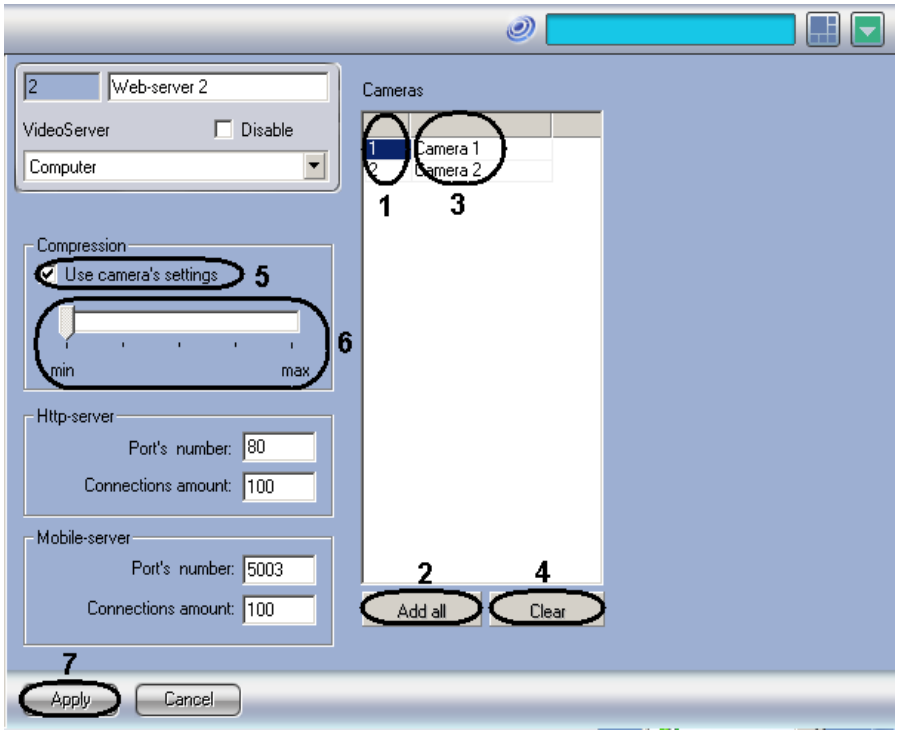


Figure 8.16—4. Selection and set up of cameras for displaying on the Web-server home page

1. Select the number of the required camera from the dropdown list in the Camera table (Figure 8.16—4, 1).

Note. To select all the cameras, registered in the system click Add all button (Figure 8.16—4, 2).

2. The name of the selected camera will be automatically displayed in the table Cameras (Figure 8.16—4, 3).

3. Repeat steps 2-3 for all the required cameras

Note. To clear Cameras table click Clear button (Figure 8.16—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 8.16—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 8.16—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 8.16—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 8.16—5, 1).

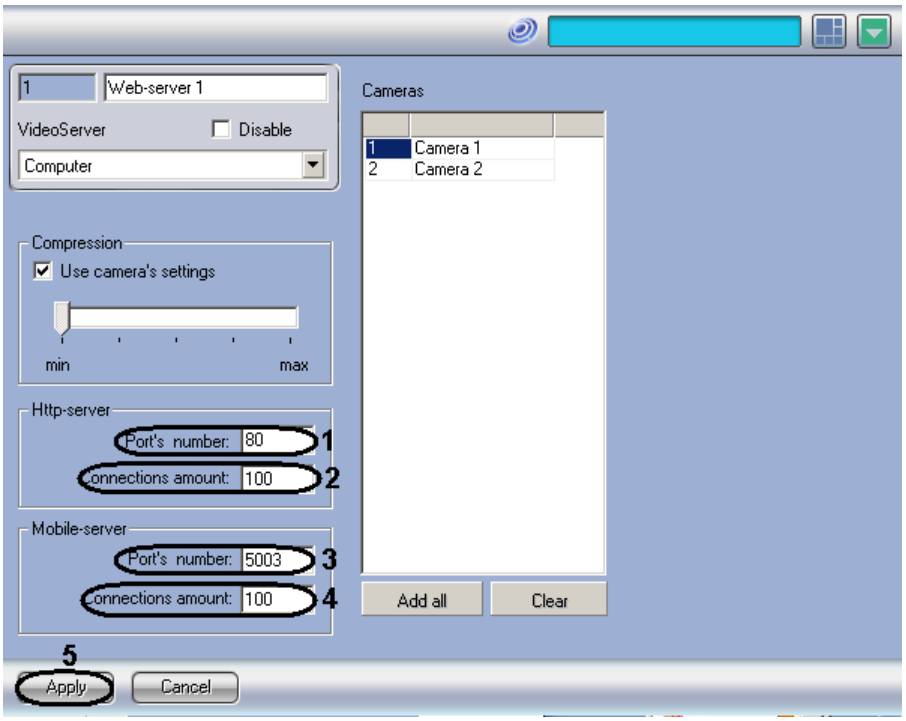


Figure 8.16—5. Setting the parameters of clients' connection to the Web-server

1. Enter the maximum permissible amount of simultaneous connections to Http-server in the field Connections amount (Figure 8.16—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 8.16—5, 3).

3. In the field Connections amount of Mobile-server group enter the maximum permissible amount of simultaneous connections to Mobile-server (Figure 8.16—5, 4).

4. To save all the changes press Apply button.

Setting the parameters of clients' connection to the Web-server is completed.

8.16.7 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 8.16-1 shows the available Java applet parameters.

Table 8.16-1

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	Specifies the source of the video feed port number for the applet to use:

Parameter name	Possible values	Default value	Description
		index.htm	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	- by default, this line is not included in index.htm	The path to index.html on the HTTP server, in case of a 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.

Parameter name	Possible values	Default value	Description
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.

8.16.8 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=AxxonSoft WebServer client*detach=Cable detached from the camera…*disable=Camera is off…* …….>

with

<param name="messages" value="name=AxxonSoft 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.

8.16.9 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.

8.16.10 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.

8.17 Configuring the rtsp Server module

The “rtsp Server” object is used for transmitting video from Server to remote workplaces via the RTSP protocol. Use of the RTSP protocol allows viewing video from IP cameras and video archive on remote clients using video players that support this protocol.

Attention! Transmitted video stream is to be compressed using H.264, MPEG4 or MJPEG codecs.

To create and configure the “rtsp Server” object, do the following:

1. In the context menu of the “Computer” object select “Create object => rtsp Server”.
2. Specify the name and ID of the object in the opened panel (Figure 8.17—1).

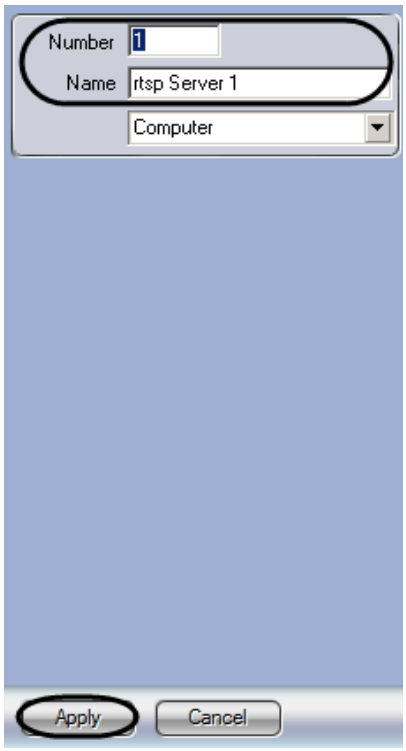


Figure 8.17—1 Creating the rtsp Server object

3. Click the “Apply” button to create the object (Figure 8.17—1).
4. Open the setting panel of the “rtsp Server” object (Figure 8.17—2). For this select the created object in the Intellect object tree.

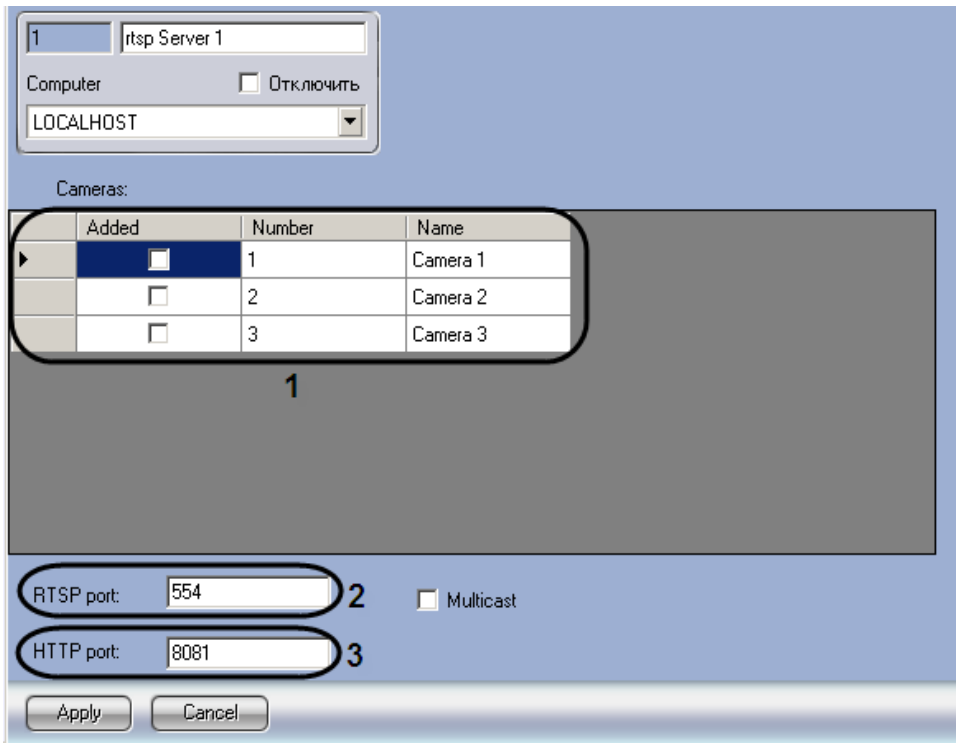


Figure 8.17—2 Setting panel of the rtsp Server object

5. In the “Cameras” table set the checkboxes next to video cameras video from which is to be displayed (Figure 8.17—2, 1).

Note. To select several cameras at the same time, mark lines in the table and then holding down the “Ctrl” key on the keyboard click the unchecked box in on of the marked lines (Figure 8.17—3).

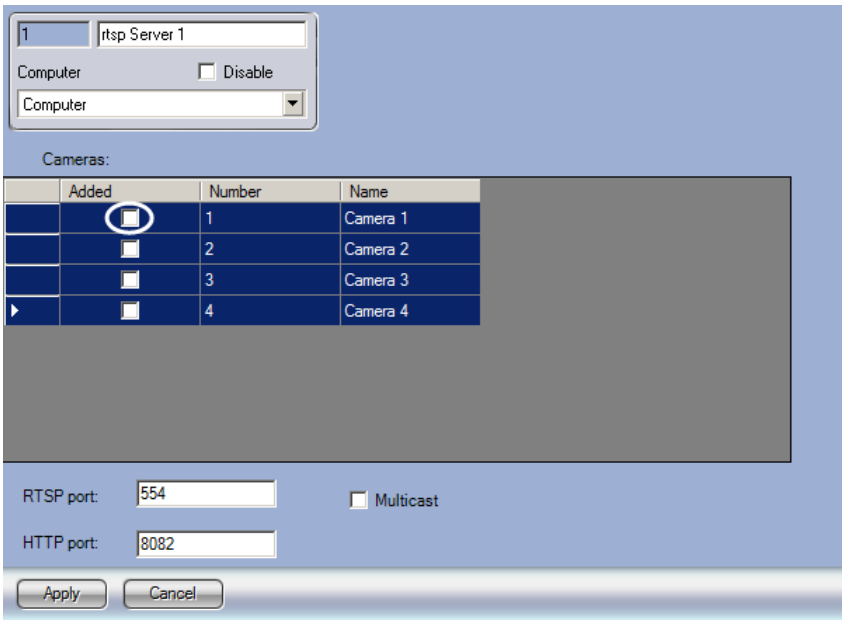


Figure 8.17—3 Simultaneous selection of several cameras for video transmission

As a result all selected lines will be set checked.

To uncheck several boxes at the same time, do the same, but click the checked box after the selection of the lines.

6. In the “RTSP port” field specify the port by which the video is transmitted (Figure 8.17—2, 2).
7. In the “HTTP port” field specify the port that is to be used for transmitting video by http-protocol.
8. To distribute transmitted signal among different rtsp-ports set the “Multicast” checkbox (Figure 8.17—4, 1). In the “Cameras” table the “Port” column is displayed. Every video camera is to have a data transmission port (Figure 8.17—4, 2).

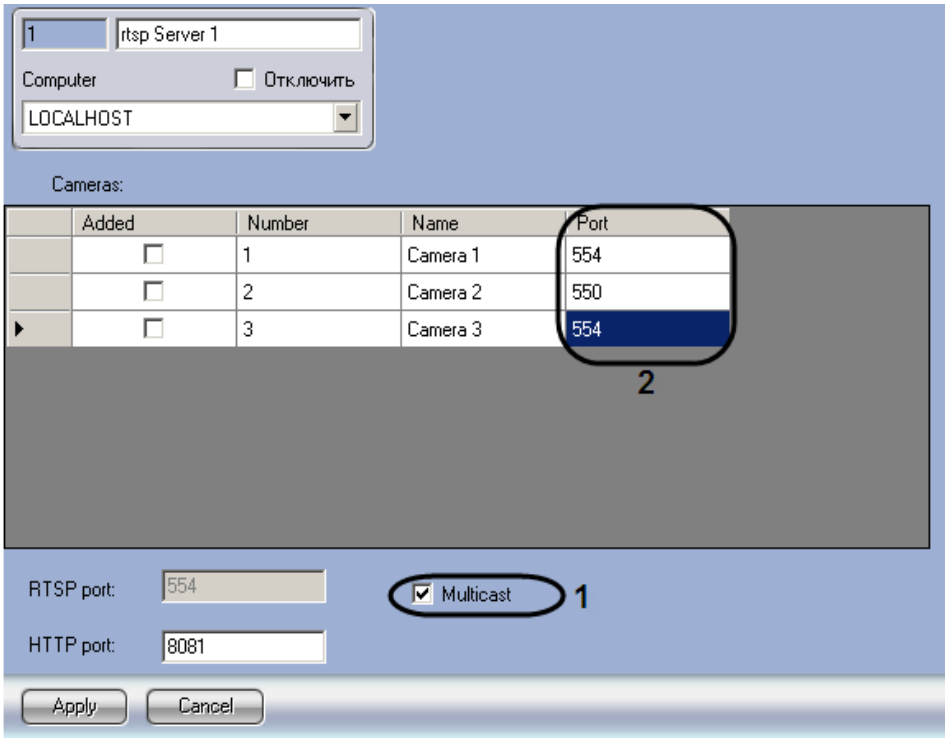


Figure 8.17—4 Activating the Multicast mode

Note. Use of the “Multicast” mode allows decreasing Server load due to reduction of transmitted data.

9. Click the “Apply” button to save the changes.

The rtsp Server is now configured.

To connect to Server and display video in the video player that supports RTSP protocol specify the address of data source in the format given in Table 8.17-1.

Table 8.17-1 Format of address specifying

Address	**Example**	**Description**
rtsp://Server IP address[:Port]**/**CameraN№	rtsp://192.168.0.3/1	Viewing video from Camera 1
rtsp:// Server IP address[:Port]**/archive?id=** CameraN№ **&time_begin=**yyyy.mm.dd-hh:mm:ss**&&time_end=** yyyy.mm.dd-hh:mm:ss	rtsp://192.168.0.3:554/archive?id=1&time_begin=2011.11.11-11:11:11&&time_end=2011.11.11-11:12:00	Viewing video archive from Camera 1

Note. If 554 port is in use (value by default) it can be not specified in the address line.

Figure 8.17—5 shows the example of viewing video from the Server.

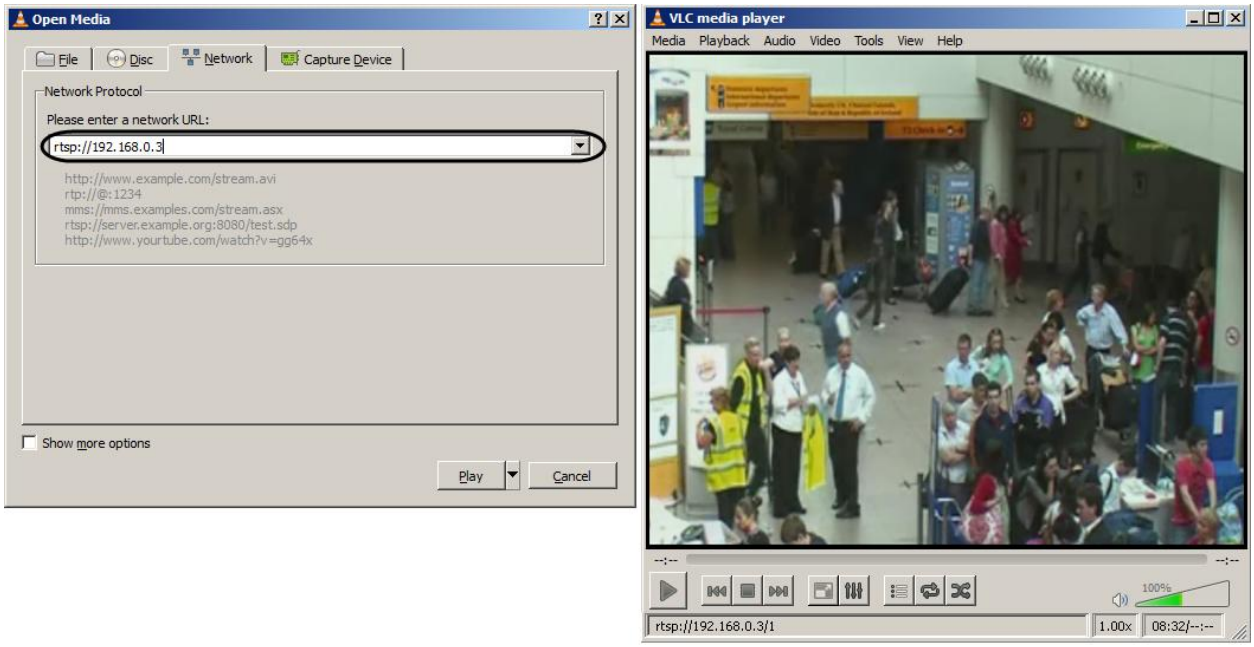


Figure 8.17—5 Viewing video stream from the Server

8.18 Counting the system events

8.18.1 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 box 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.

8.18.2 Event Counter setup

The Events Counter is set up in the following steps.

Creating the Event Counter

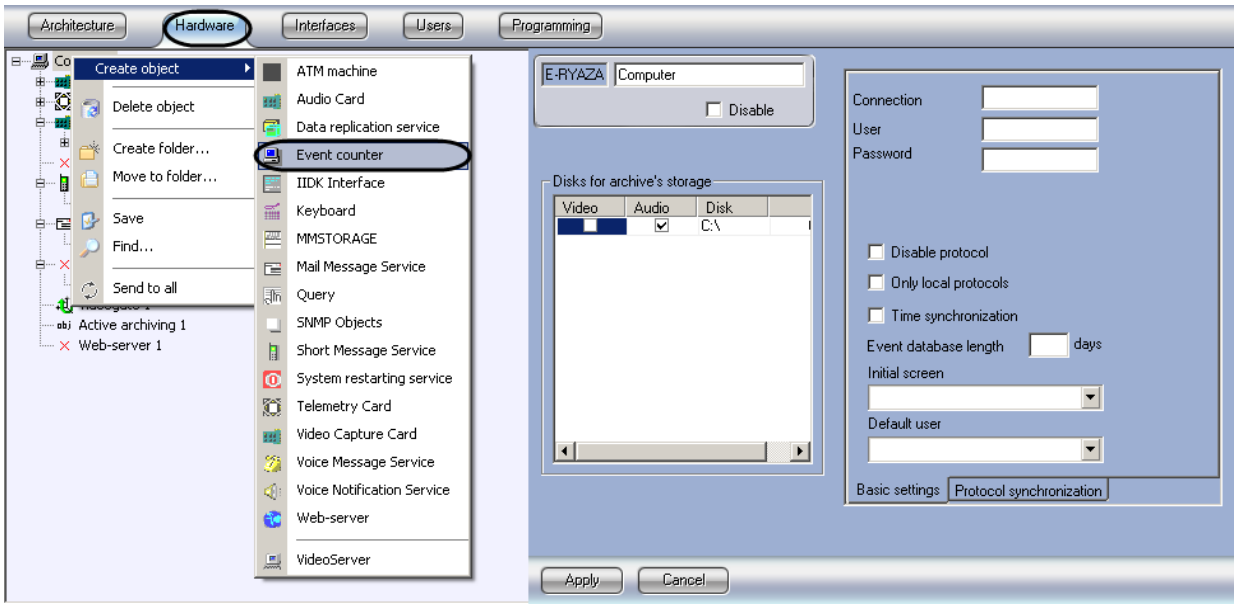


Figure 8.18—1. The Events Counter creation

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.

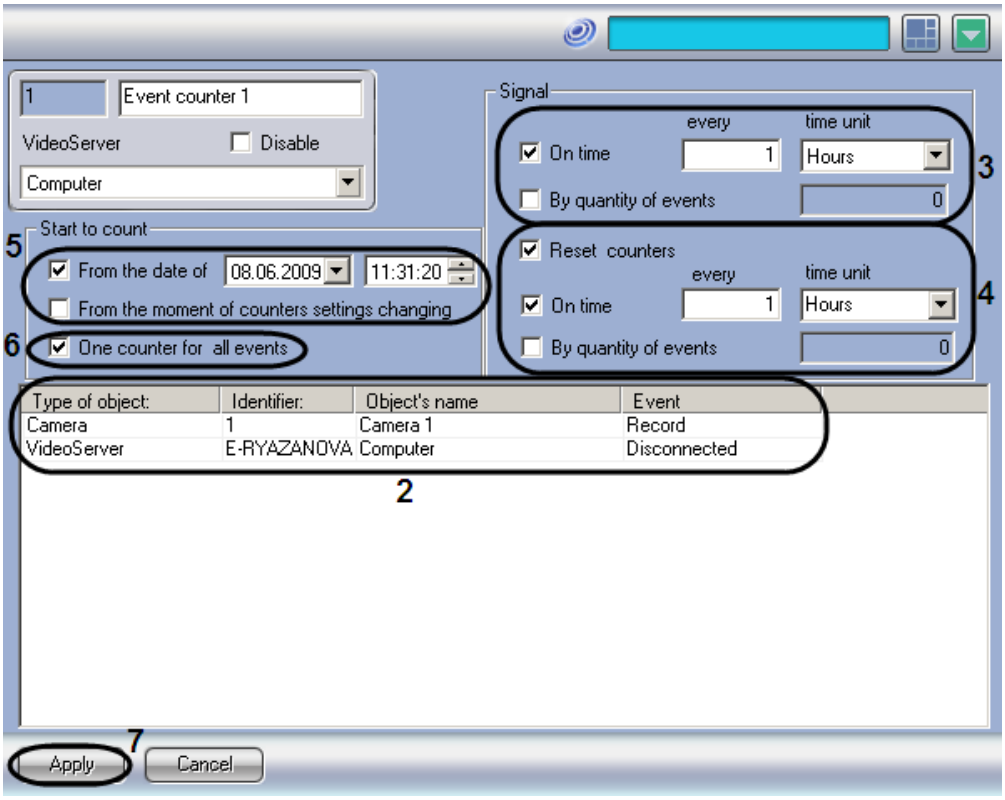


Figure 8.18—2. The Events Counter setup

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

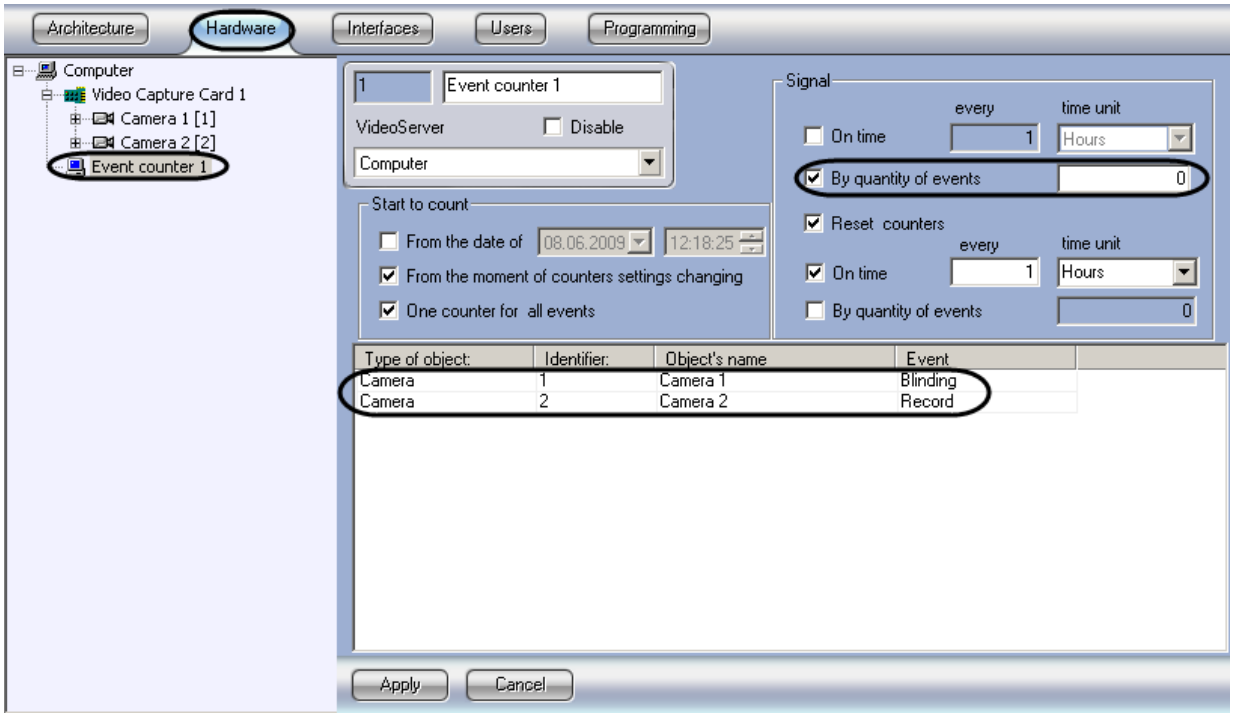
Click Apply to save the settings.

The Events counter has been set up.

8.18.3 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 8.18—3 shows an example of using a counter in a macro.



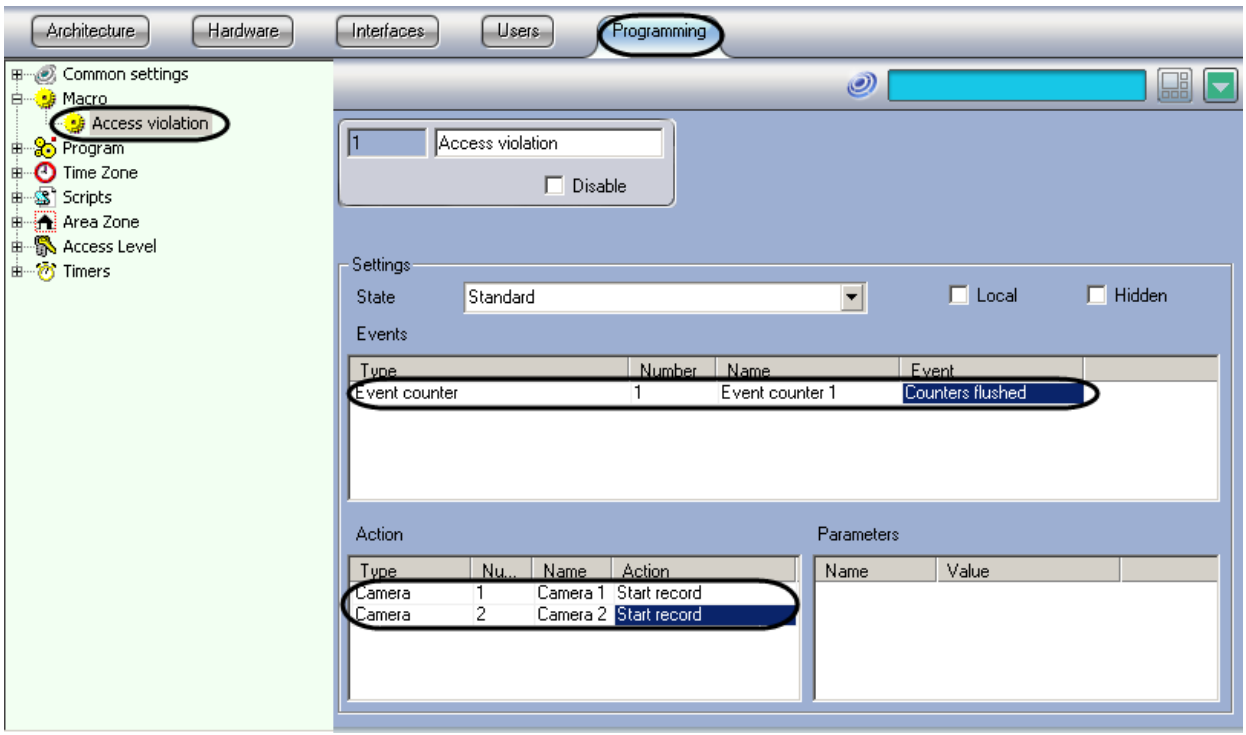


Figure 8.18—3. An example of the counter usage

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.

8.19 Configuring the Event Viewer

8.19.1 Configuring the “Event Viewer” interface object

8.19.1.1 *Order of configuring the “Event Viewer” interface object*

The “Event viewer” object is a child-object of the “Screen” interface object and is used for displaying information about registered events in the interface box. Events may be registered both locally and on the computers in the distributed system.

Note. Events transmission among computers is set in the “Architecture” tab in the “Systems Settings” dialog box (see the “Configuring the interaction of distributed system components” section).

The “Event viewer” interface object is created and configured in the “Interface” tab of the “System Settings” dialog box (Figure 8.19—1).

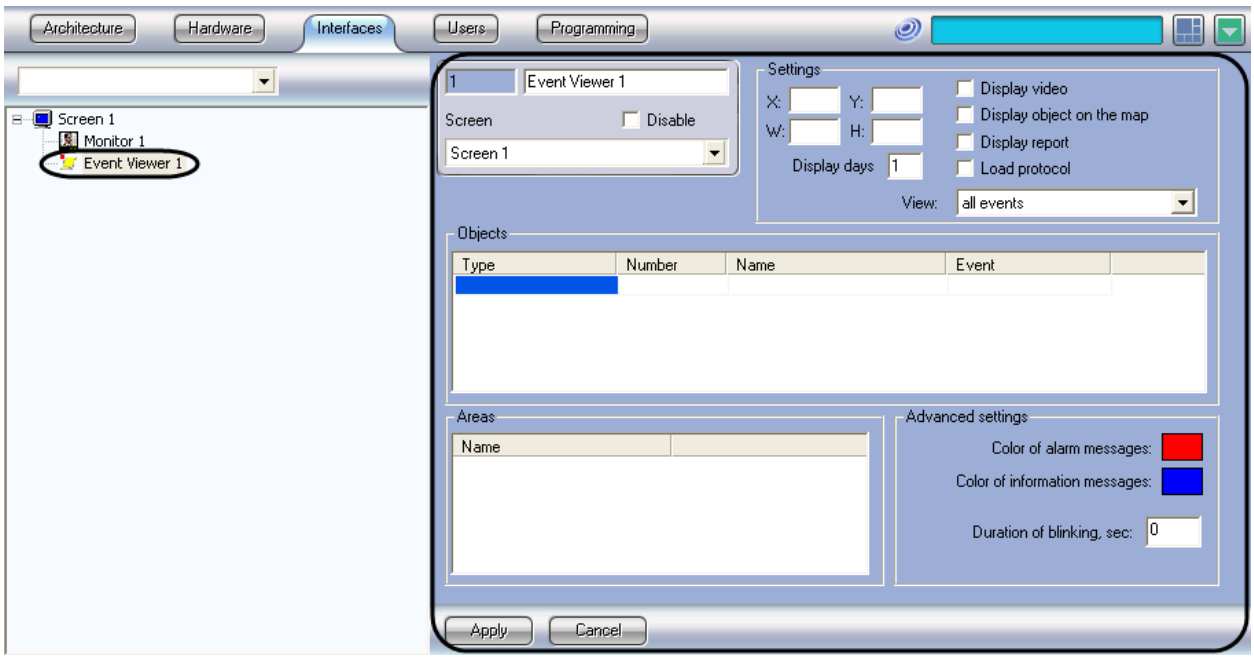


Figure 8.19—1. Configuring the “Event Viewer” object

To configure the “Event viewer” interface object, do the following:

1. Choose the events, which information should be logged to the “Events viewer” interface object in case of its registration in the system.
2. Set the parameters of the event viewer.
3. Configure the displaying of the “Event viewer” interface box.

8.19.1.2 *Events selection*

To select the events that are to be logged in the “Events viewer” interface object, do the following:

1. In the drop-down list of the “Type” column in the “Objects” tab select the type of an object for which the required event may be logged (Figure 396-2, 1). If the field is empty, the “Events viewer” will display all the events for all the objects in the system.

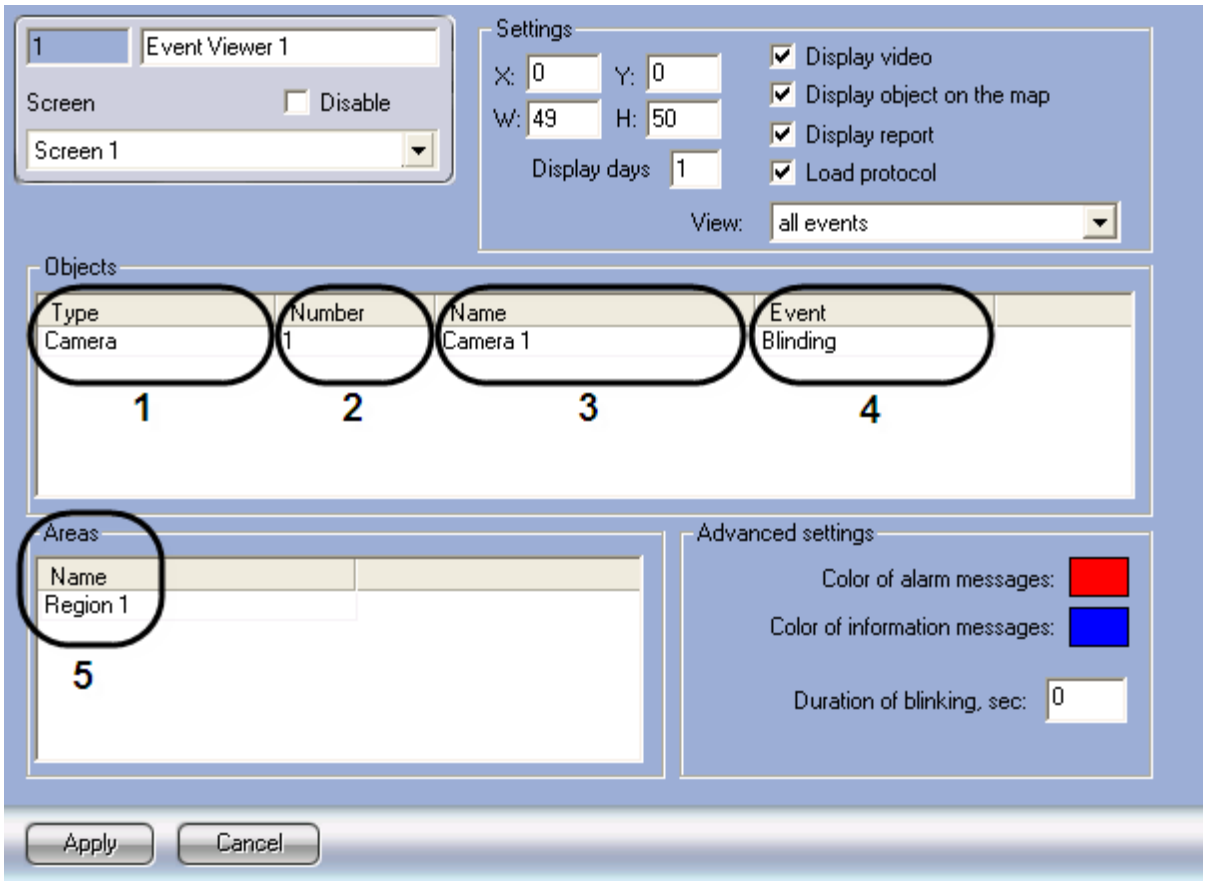


Figure 8.19—2. Event selection for logging in the Events viewer

Note. Activation of the drop-down list in the "Objects" tab and in the "Areas" list is made by LMC upon the corresponding cell. Detailed description of actions with tabs and lists is in the Objects settings panel.

2. In the drop-down list of the "Number" column in the "Objects" tab specify the ID for an object of the type selected in step 1(Figure 8.19—2, 2). If the field is empty, the interface «Events viewer» will log all the events of the specified type.

3. Object name is set automatically on the basis of the values selected in step 1-2 and displayed in the "Number" column in the "Objects" tab (Figure 8.19—2, 3). You can not edit the "Name" column.

4. In the drop-down list of the "Event" column in the "Objects" tab specify the required event for the selected object in step 1-2 (Figure 8.19—2, 4). If the field is empty, the interface «Events viewer» will log all the events of the specified type.

5. In the "Areas" table select the region which object's events are to be logged (Figure 8.19—2, 5). If the objects are identified (see step 2) or no region is set, then the events are logged without object's belonging to any region.

6. Repeat steps 1-5 for all required objects and regions.

7. Click the «Apply» button to save all the changes.

Events for logging to the "Events viewer" interface object are now selected.

8.19.1.3 *Event viewer parameters*

To set the event viewer parameters, do the following:

1. In the “Display days” field set the number of days to display the events in the “Event viewer” interface box (Figure 8.19—3, 1).

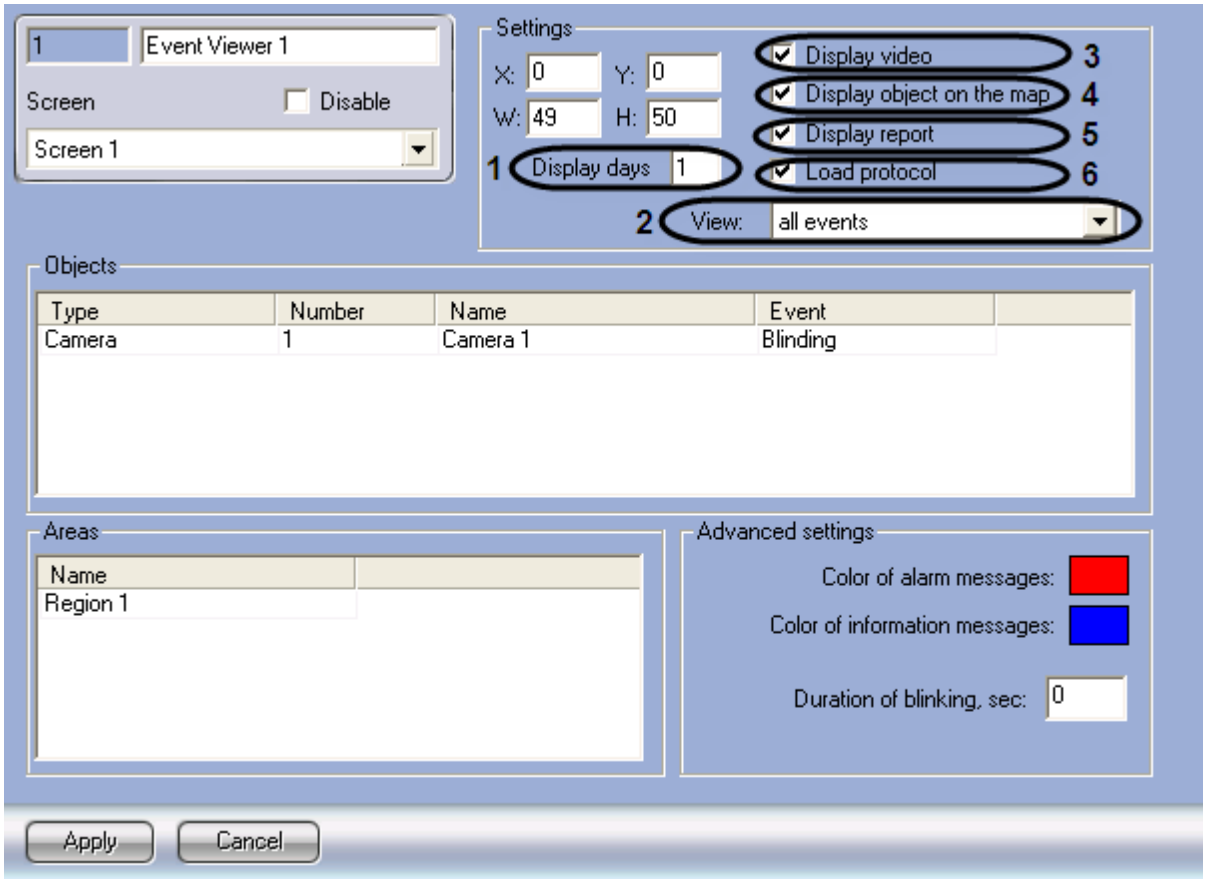


Figure 8.19—3. Setting the Event Viewer parameters

2. If it is necessary to display only one latest event or all latest events in “Event Viewer” interface box, select “One latest” or “All events” in the “View:” list (Figure 8.19—3, 2).

Note1. If “All events” is selected and the event is repeated for the object, there is time changing of present event recording and a new recording line is not created.

Note2. By default all events are displayed in the “Event Viewer” interface box.

3. Set the “Display video” checkbox to enable viewing the video recordings from the “Event viewer” interface box (Figure 8.19—3, 3). Viewing the events of the “Record on disk” type of the “Camera” objects is only possible.

4. Set the “Display object on the map” checkbox to enable viewing the logged events on the map (Figure 8.19—3, 4).

5. Set the “Display report” checkbox to enable creating a printed report about events in the “Events viewer” interface box for a specified time period (Figure 8.19—3, 5).

6. If the last 1000 logged events are to be displayed in the “Event Viewer” interface box, then set the “Load protocol” checkbox (Figure 8.19—3, 6).

Note. When the “Load protocol” checkbox is set, the system loads last events without any filters i.e. the events of those objects that have been deleted without giving a source (the name of a deleted object is not displayed)can be displayed. Such operation of the “Event Viewer” allows the extra control over system objects.

7. Click the “Apply” button to save all the changes.

Event viewer parameters are now set.

8.19.1.4 *Parameters of displaying the “Event Viewer” interface box*

To set up displaying the “Event viewer” interface box, do the following:

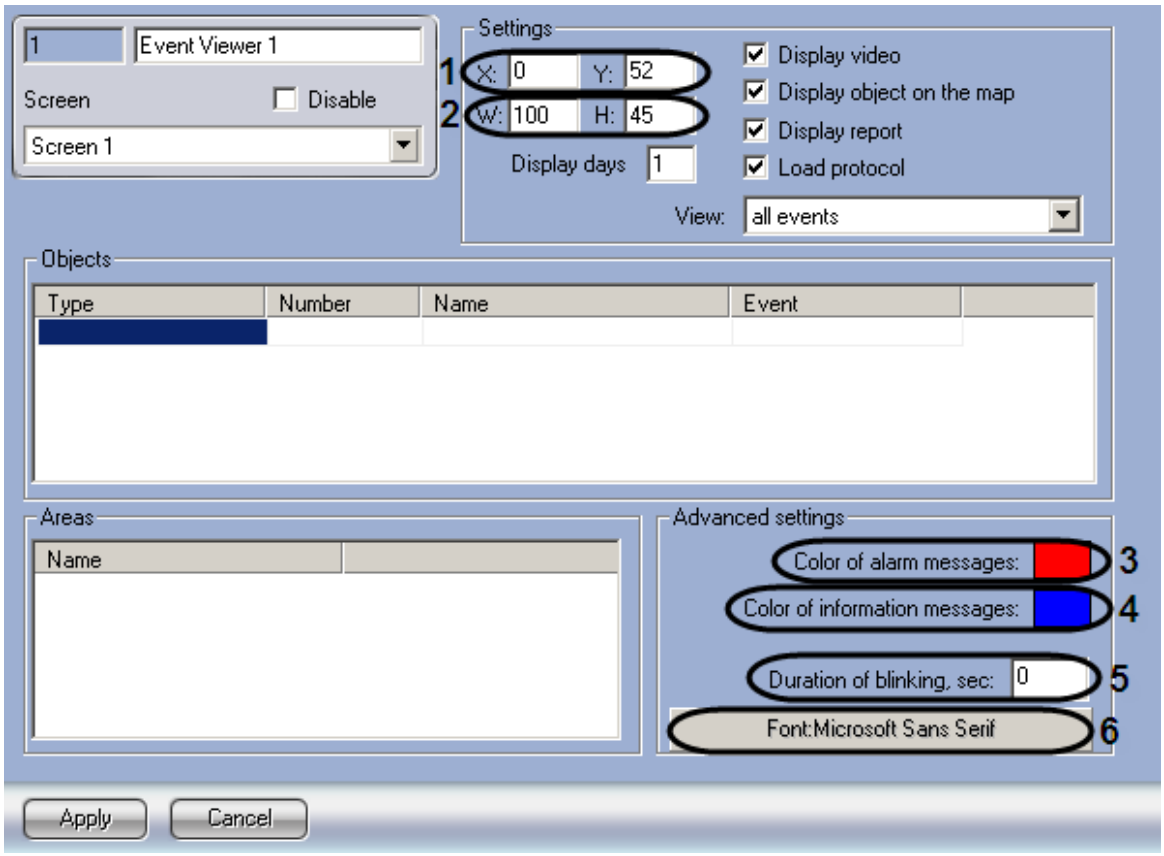


Figure 8.19—4. Parameters of displaying the “Event viewer” interface box

1. Set the X (horizontally indented from screen’s left border) and Y (vertically indented from screen’s upper border) coordinates of the upper left corner of the “Event Viewer” interface box (Figure 8.19—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” interface box: window’s width «W» and window’s height «H» (Figure 8.19—4, 2). Dimensions are set as a percentage of the corresponding screen dimensions horizontally and vertically as follows.

3. Set the color of alarm messages in the “Event Viewer” interface box (Figure 8.19—4, 3).For this double-click upon the “Color of alarm messages” field. Standard Windows dialog box will open, select the required color and click “OK”.

4. Specify the color of information messages in the “Event Viewer” interface box (Figure 8.19—4, 4). For this double-click upon the “Color of information messages” field. Standard “Color” Windows dialog box will open, select the required color and click “OK”.

5. Enter the duration of blinking for alarm messages in seconds in the “Duration of blinking, sec” field of the “Event Viewer” interface box (Figure 8.19—4, 5).

6. Set the font of messages disolayed in the “Event Viewer” interface box. For this click the “Font: current font” button (Figure 8.19—4, 6). Standard “Font” Windows dialog box will open, set the font and click “OK”.

7. Click the “Apply” button to save all the changes.

Parameters of displaying the “Event viewer” interface box are now set.

8.19.1.5 *Configuring the “Event Viewer” database*

The “Event Viewer” database is used for storing data about events registered in the system. The “Event Viewer” database is configured by means of the settings panel of the “Computer” system object (Figure 8.19—5).

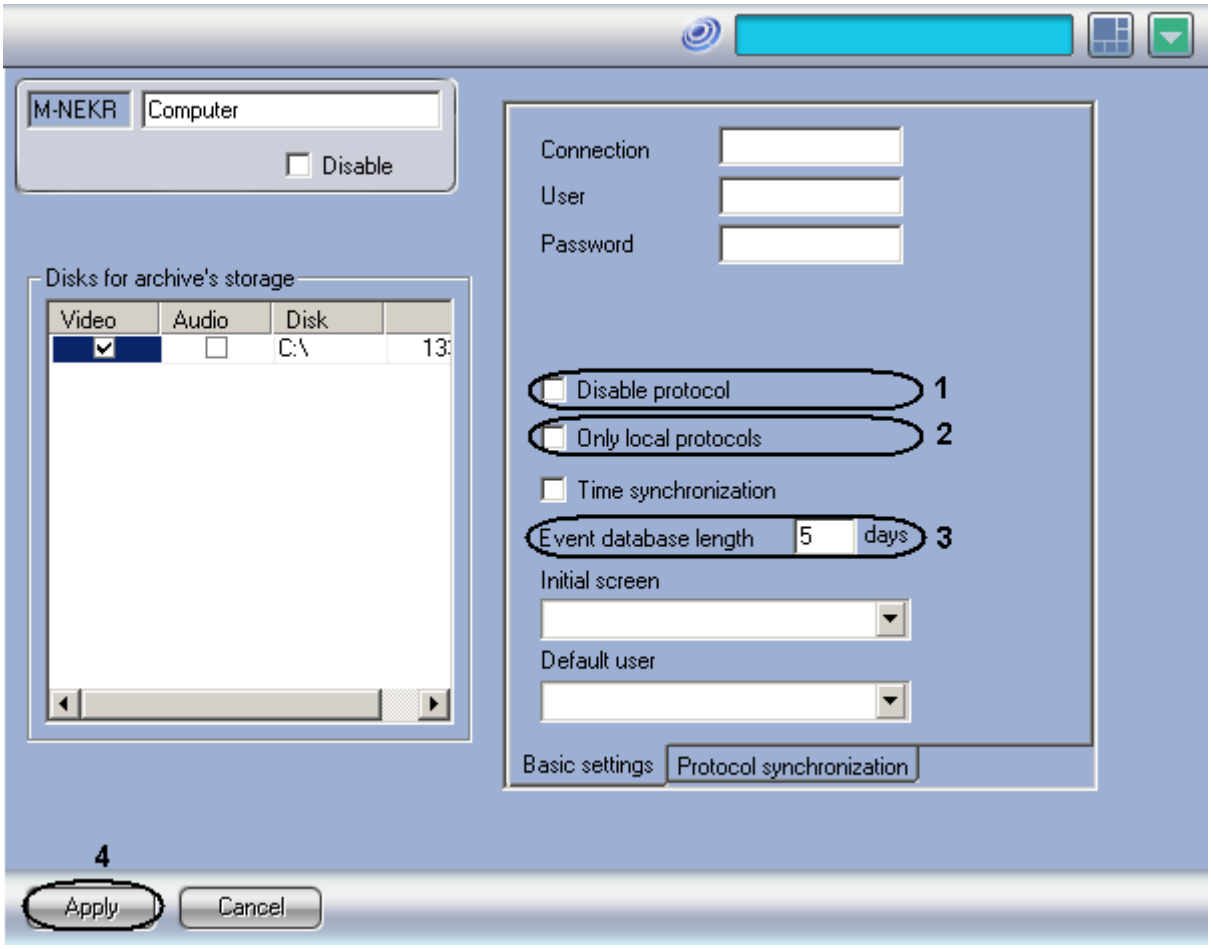


Figure 8.19—5. Configuring the “Event Viewer” database

To configure the “Event Viewer” database, do the following:

1. To disable events recording to the “Event Viewer” database set the “Disable protocol” checkbox (Figure 8.19—5, 1).

2. Set the “Only local protocols” checkbox in case when only events registered on this computer should be logged to the database (Figure 8.19—5, 2).

3. In the “Event database length” specify the time period for storing the event archive in the “Event Viewer” database (Figure 8.19—5, 3).

4. Click the “Apply” button to save all the changes (Figure 8.19—5, 4).

Note. Steps 1 and 3 are for configuring events viewing in the system of distributed configuration.

The “Event Viewer” database is now configured.

Note. The tweaki.exe utility can also be used to configure events viewing (see the “The setting panel of the Intellect section”).

8.19.2 Configuring the “Operator protocol” interface object

The “Operator protocol” object is for processing events from security system objects and searching in an event archive.

The “Operator protocol” object performs the following features:

1. Displaying the events registered by the security system objects in the interface box.
2. Assigning a status (type) to a registered event.
3. Adding a comment to an event.
4. Recording events to an archive.
5. Searching events in an archive.
6. Viewing video of an event.
7. Escalating non-processed events to an operator protocol of a higher level.

8.19.2.1 *Creating the “Operator protocol” object*

To create the “Operator protocol” object, do the following:

1. Select the “Interfaces” tab in the “System Settings” dialog box (Figure 8.19—6, 1).

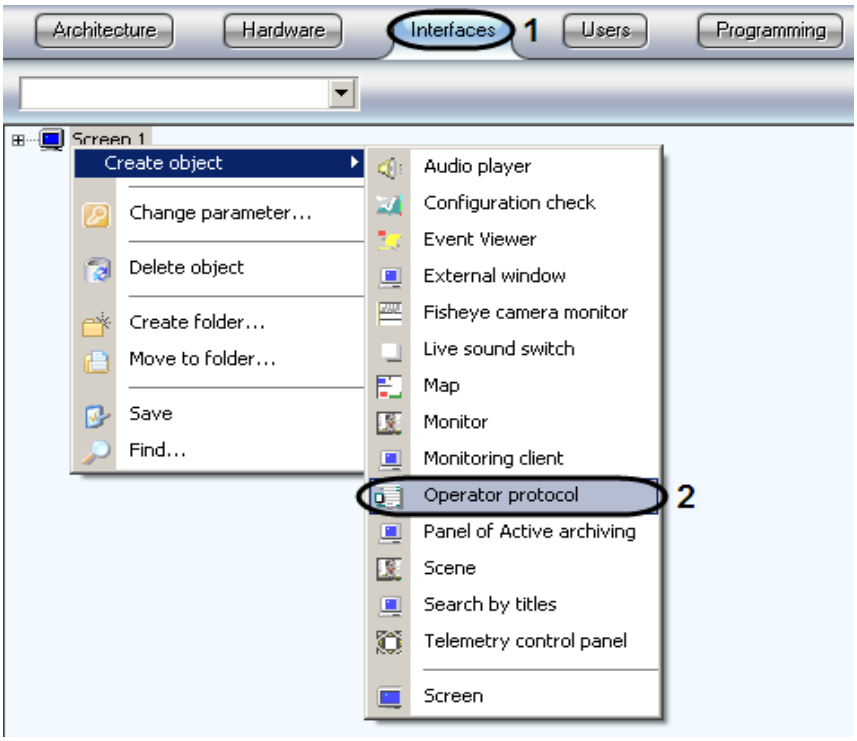


Figure 8.19—6 Creating the “Operator protocol” object

2. In the context menu of the “Screen” object on which the created object is to be based, select the “Operator protocol” item in the “Create object” submenu (Figure 8.19—6, 2).
3. Set the number and name of the created object (Figure 8.19—7, 3).

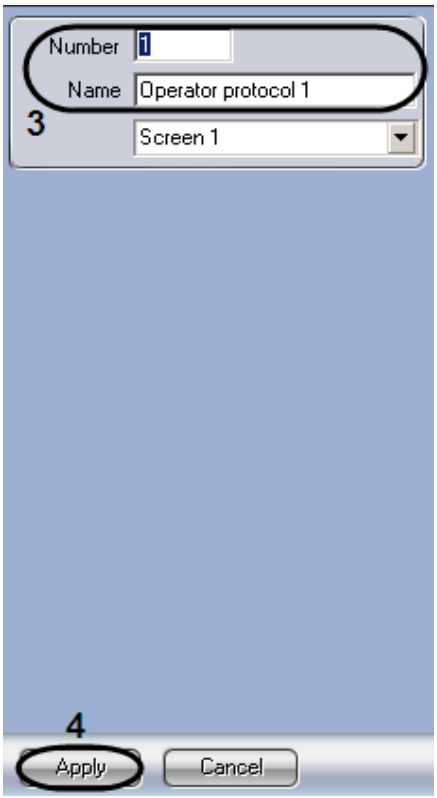


Figure 8.19—7 Specifying the number and name of the “Operator protocol” object

4. To create an object, click the “Apply” button (Figure 8.19—7, 4).

As a result the settings panel for the “Operator protocol” is displayed.

8.19.2.2 *Configuring the “Operator protocol” object*

To configure the “Operator protocol” object, do the following on the settings panel of the object:

1. Configure displaying of the “Operator protocol” interface box.
   1.1. Set the X (horizontally indented from screen’s left border) and Y (vertically indented from screen’s upper border) coordinates of the upper left corner of the “Operator protocol” interface box. Coordinates are set as a percentage of the corresponding screen dimensions horizontally and vertically as follows (Figure 8.19—8, 1).
   1.2. Set the dimensions of the “Operator protocol” interface box: window’s width «W» and window’s height «H». Dimensions are set as a percentage of the corresponding screen dimensions horizontally and vertically as follows (Figure 8.19—8, 2).
   1.3. Set the “Allow moving” checkbox if the layout and size of the “Operator protocol” interface box are to be changed manually (Figure 8.19—8, 3).
2. In the “Chief’s interface” drop-down list, select the “Operator protocol” object to which events are to be transmitted at the end of a set time period (Figure 8.19—8, 4).
3. In the “Map” drop-down list, select the pre-created “Map” object for event monitoring (Figure 8.19—8, 5).
4. In the “Monitor” list, select the pre-created “Monitor” object for viewing video of events (Figure 8.19—8, 6). Selected monitor can be used only for viewing an archive after the first call from the “Operator protocol” box.
5. In the “Wait for the operator’s response” field specify the time period at the end of which an event will have the “Non-processed event” type or it will be escalated (Figure 8.19—8, 7).
6. If new events are to be added to the end of the current events list, set the “New events at the end” checkbox (Figure 8.19—8, 8).
7. In the “Keep ___ events” field, set the maximum of events displayed in the “Operator protocol” interface box (Figure 8.19—8, 9).

Attention! The number of events displayed in the “Operator protocol” interface box influences the main memory capacity. If 100 non-processed events are displayed in the interface box, then the “Operator protocol” module can use up to 200 Mb of main memory. When the value of the “Keep ___ events” parameter is increased, the main memory capacity is also increased.

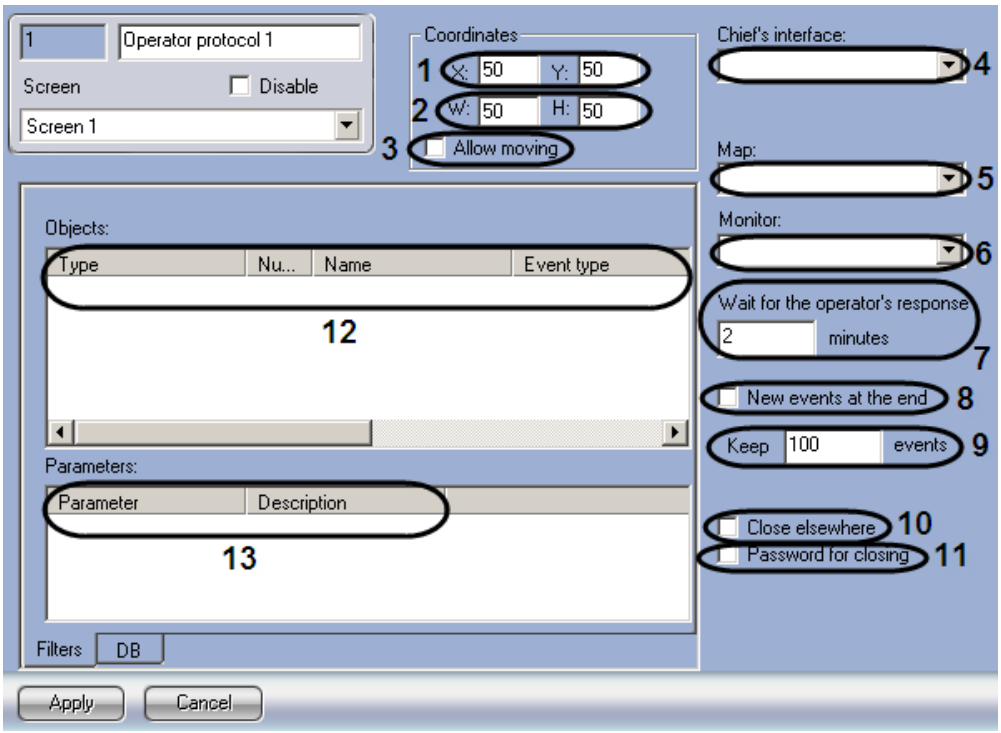


Figure 8.19—8 The settings panel of the "Operator protocol" object

8. If after processing an event in one of operator protocols it is to be removed from other operator protocols, set the "Close elsewhere" checkbox (Figure 8.19—8, 10).
9. If the processing of all events is to be confirmed with a password, set the "Password for closing" checkbox (Figure 8.19—8, 11).
10. In the "Objects" table, specify the objects the events from which are to be received and processed (Figure 8.19—8, 12).
    10.1. In the list of the "Type" column, select the object type.
    10.2. In the list of the "Number" column, select the object id. The object name will be set automatically. If the object number is not specified, then events from all objects of selected type will be transmitted to the protocol.
    10.3. In the list of the "Event type" column, select events that are to be displayed in the protocol box. If the event type is not specified, then all events registered by the selected object will be transmitted to the protocol. Only alarm and informative events are in this drop-down list.

Note. In the "param_dic" field, advanced settings of an event are specified. These settings are to be displayed in the "Operator protocol" interface box. Use the "Parameters" table to fill in this field (see step 12).

10.4 If the processing of an event is to be confirmed with a password, select the "Yes" value in the "Request password" drop-down list. If there is no need to confirm the processing with a password, select the "No" value in this drop-down list.

Note. If the processing of all events is to be confirmed with a password, set the "Password for closing" checkbox (Figure 8.19—8, 11).

10.5 In the “Region” drop-down list, select the “Section” object corresponding to the object.

11. Repeat actions described in step 10 for all required objects. To add a line, go to the last line of the table and click the “↓” key.

Note. To remove the lines from the table, use the “Ctrl + Del” key combination.

12. In the “Parameters” table, specify additional settings for an object event. These settings are to be displayed in the “Operator protocol” interface box (Figure 8.19—8, 13).
    12.1. In the “Parameter” field, set the parameter name. To specify the parameters, use a debug box or a ddi file.
    12.2. In the “Description” field, set a short description of the parameter.
13. In the “DB” tab, configure the connection to the database server (Figure 8.19—9, 5).

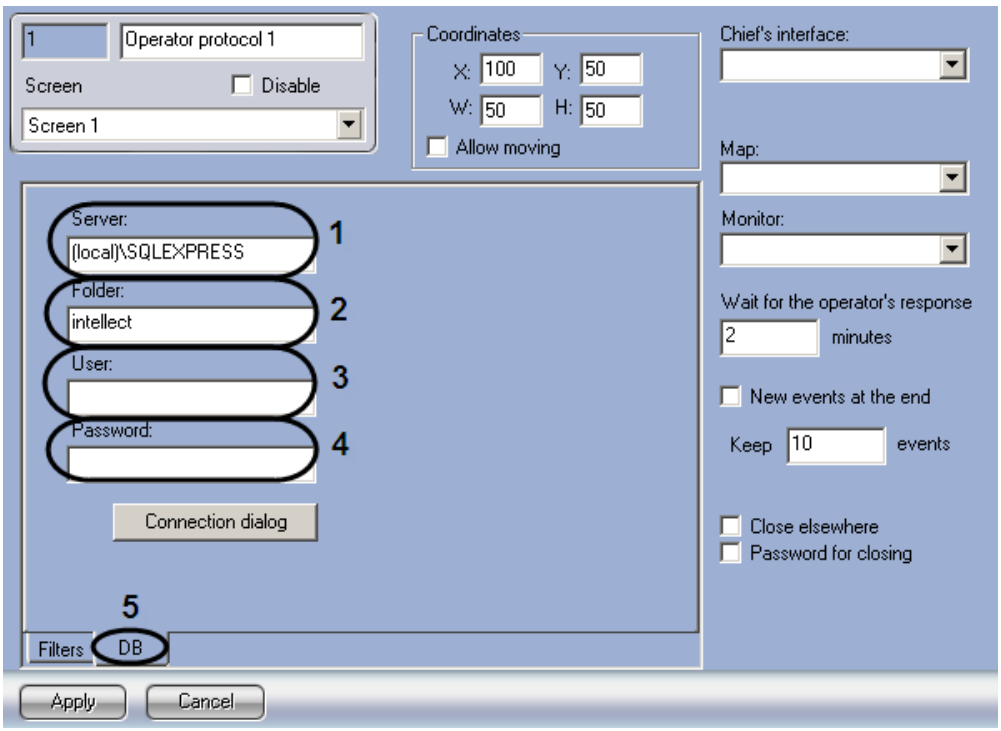


Figure 8.19—9 The settings panel for the “Operator protocol” object. The “DB” tab

Note. Parameters, set at INTELLECT ™ software installation, are used by default to connect to the database server.

14.1 In the “Server” field, set the name of the database server to connect to (Figure 8.19—9, 1).
14.2 In the “Folder” field, set the name of the database to store events (Figure 8.19—9, 2).
14.3 In the “User” field, set the username for the authorization on the database server (Figure 8.19—9, 3).
14.4 In the “Password” field, set the password for the authorization on the database server (Figure 8.19—9, 4).
15. To save the settings, click the “Apply” button.

The “Operator protocol” object is now configured.

8.19.2.3 *Configuring the database server connection in an online mode*

To configure the database server connection in an online mode, do the following:

1. Go to the “DB” tab on the settings panel for the “Operator protocol” object (Figure 8.19—10, 1).

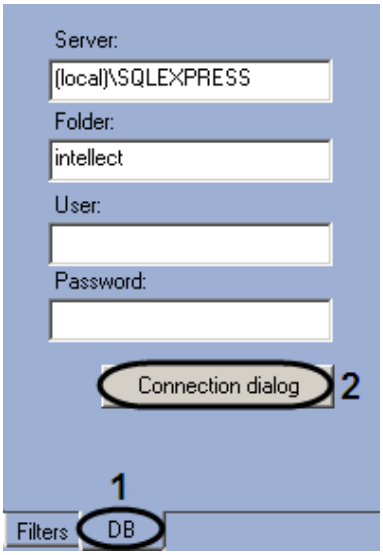


Figure 8.19—10 Going to the database server connection in an online mode

2. Click the “Connecting dialog” button (Figure 8.19—10, 2).

The “SQL Server Login” dialog box will be displayed (Figure 8.19—11).

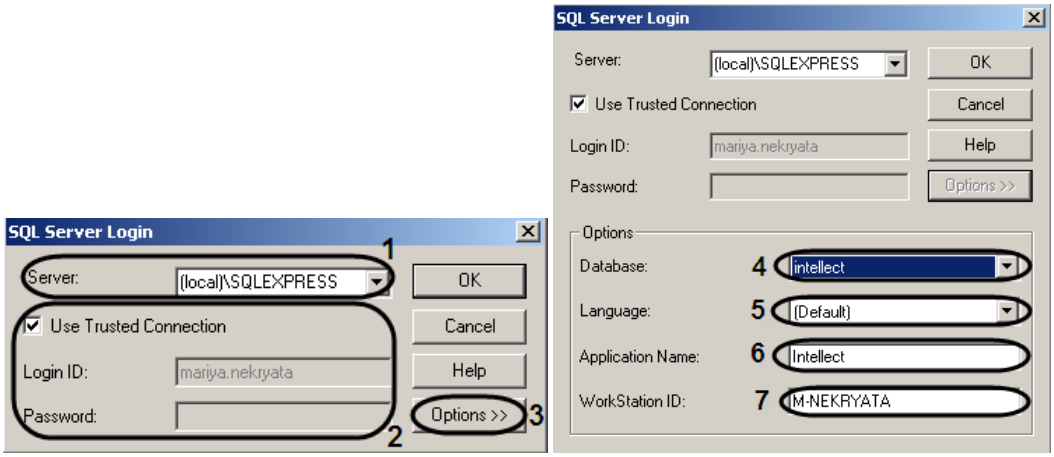


Figure 8.19—11 The “SQL Server Login” dialog box

3. In the “Server” list, specify the SQL Server to connect to (Figure 8.19—11, 1).

Note. If the required SQL Server is in the”Server” list, then there is no need to further configure the connection.

4. If you need to specify the login and password to authorize the SQL Server, then set the “Use Trusted Connection” checkbox unchecked (Figure 8.19—11, 2). As a result the “Login ID” and “Password” fields are available for editing.

Note. If the "Use Trusted Connection" checkbox is set, then the authorization on the SQL Server will be provided using Windows account information.

5. To set advanced connection options, click the "Options >>" button (Figure 8.19—11, 3).

    5.1. In the "Database" drop-down list, select the database to store events (Figure 8.19—11, 4).
    5.2. In the "Language" list, select the language of SQL system messages (Figure 8.19—11Figure 8.19—11, 5).
    5.3. In the "Application Name" field, set the application name ("Intellect" by default) (Figure 8.19—11, 6).
    5.4. In the "WorkStation ID" field, set the computer name ("WindowsID" by default) (Figure 8.19—11, 7).

To save the settings, click "OK".

Note. To view the supplemental information about the "SQL Server Login" dialog box, click the "Help" button.

The database server connection is now configured.

8.20 Configuring the interactive map for object state indication and controlling the objects

8.20.1 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.

8.20.2 Configuring the interactive map

8.20.2.1 *Setup procedure*

To configure interactive map do the following:

1. Create and set the "Map" interface object

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.

8.20.2.2 *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 8.20—1).

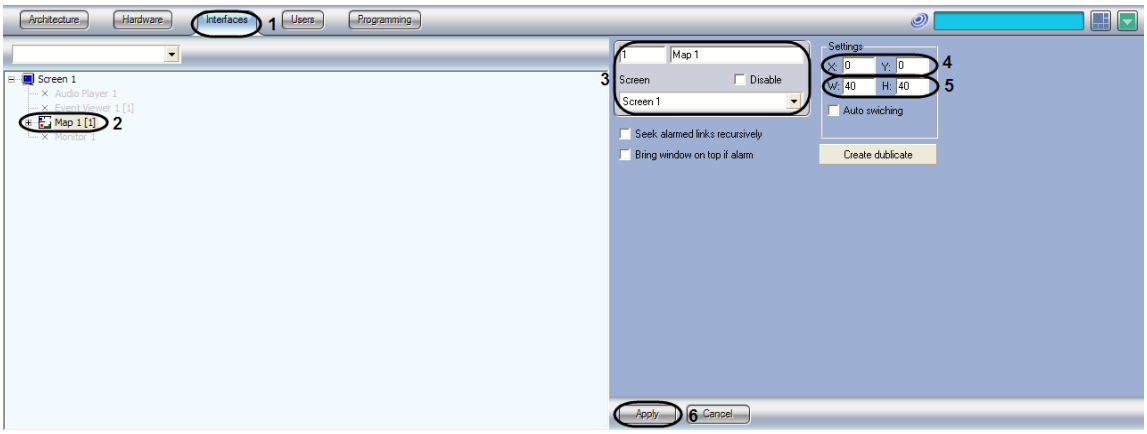


Figure 8.20—1. The Map object settings panel

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.

8.20.2.3 *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 8.20—2).

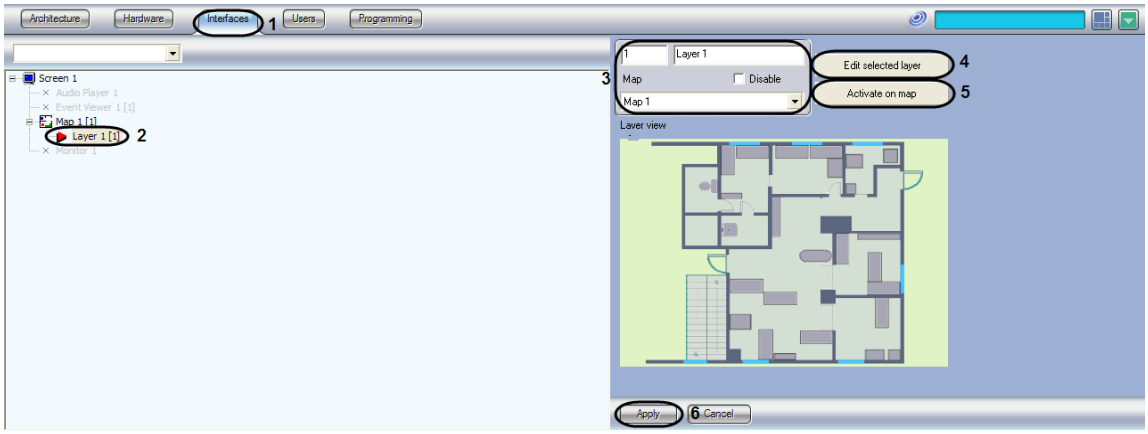


Figure 8.20—2. The Layer object settings panel

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 8.20—3).

Figure 8.20—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 8.20—4).

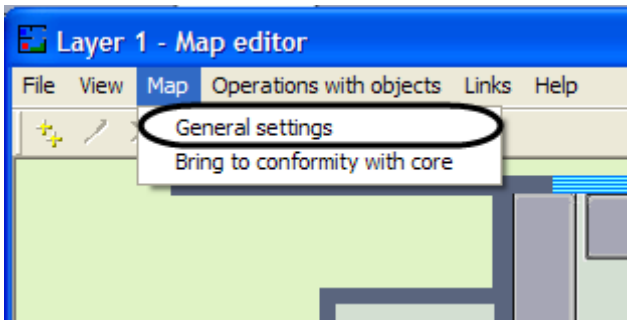


Figure 8.20—4. General Settings menu item in the Map Editor

A dialog box will open allowing to choose the image file for the layer (Figure 8.20—5).

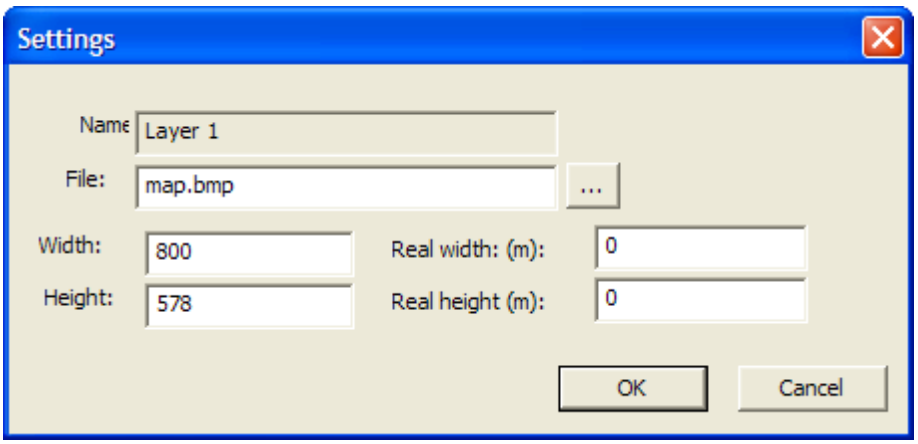


Figure 8.20—5. Settings dialog box for the image being attached to the layer

This dialog box can also be accessed from the Set Background item of the context menu of the map area (Figure 8.20—6).

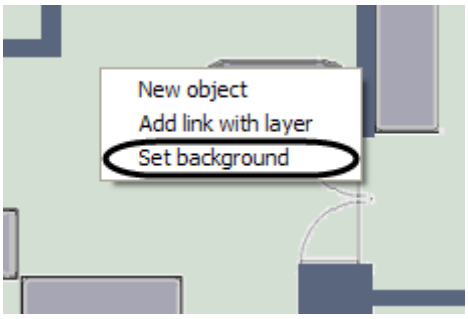


Figure 8.20—6. Selecting the Set Background item

Press the ... button in the Settings dialog box (Figure 8.20—7).

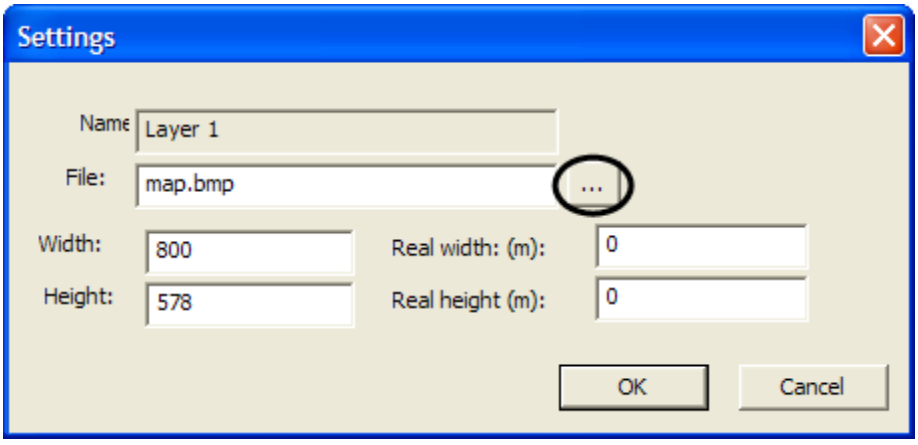


Figure 8.20—7. Browsing for the file to attach

A standard dialog box will open allowing to choose the image file for the layer (Figure 8.20-).

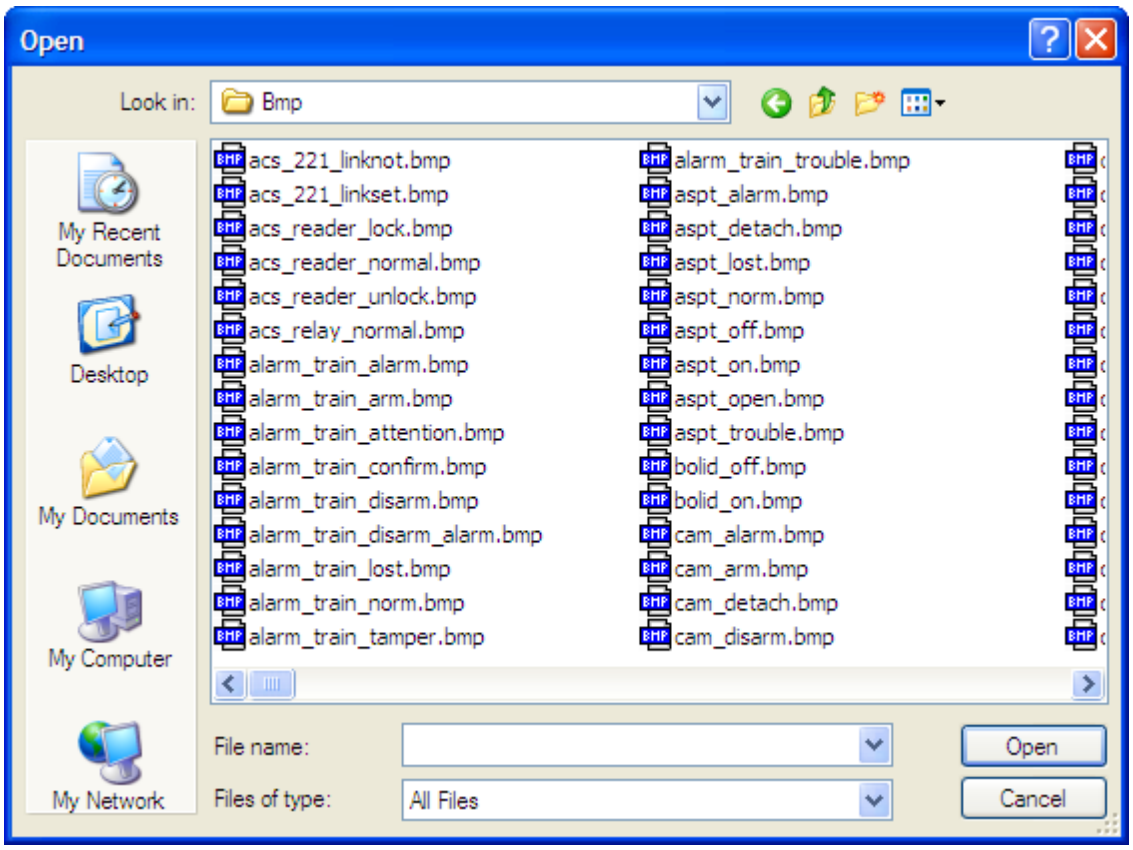


Figure 8.20-8. Standard dialog box allowing to choose the file to be used as a guarded area plan

Open a BMP file and click the Open button.

Specify the size of the image in pixels (Figure 8.20—8).

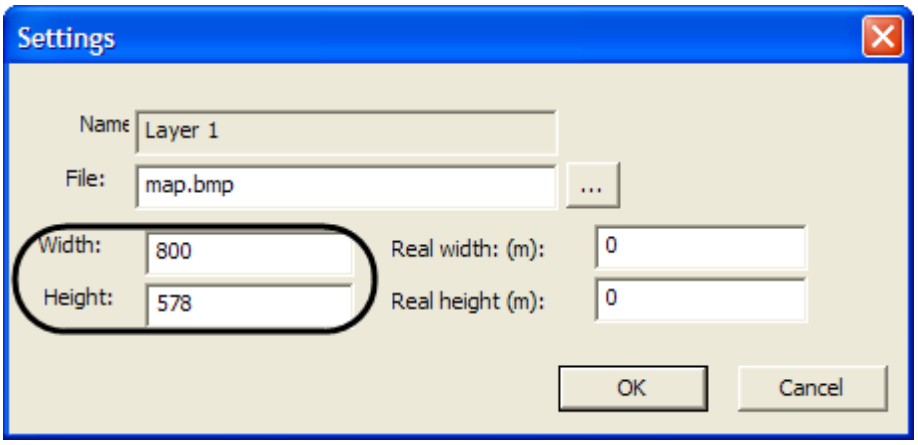


Figure 8.20—8. Image size in pixels

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 8.20—9).

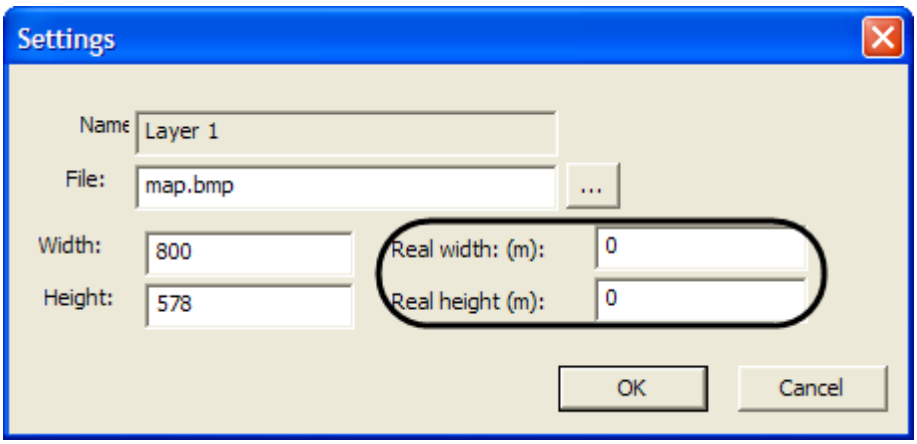


Figure 8.20—9. Area width and height

2. Click the OK button to apply all changes.

The Map Editor will display the new graphical plan of the guarded area.

8.20.2.4 *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).

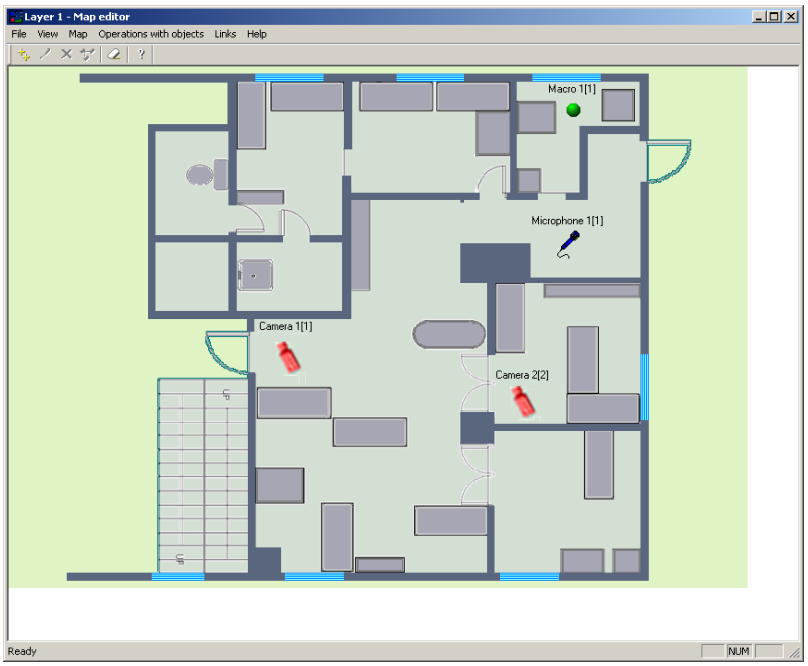


Figure 8.20—10. Map reader

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 8.20—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).

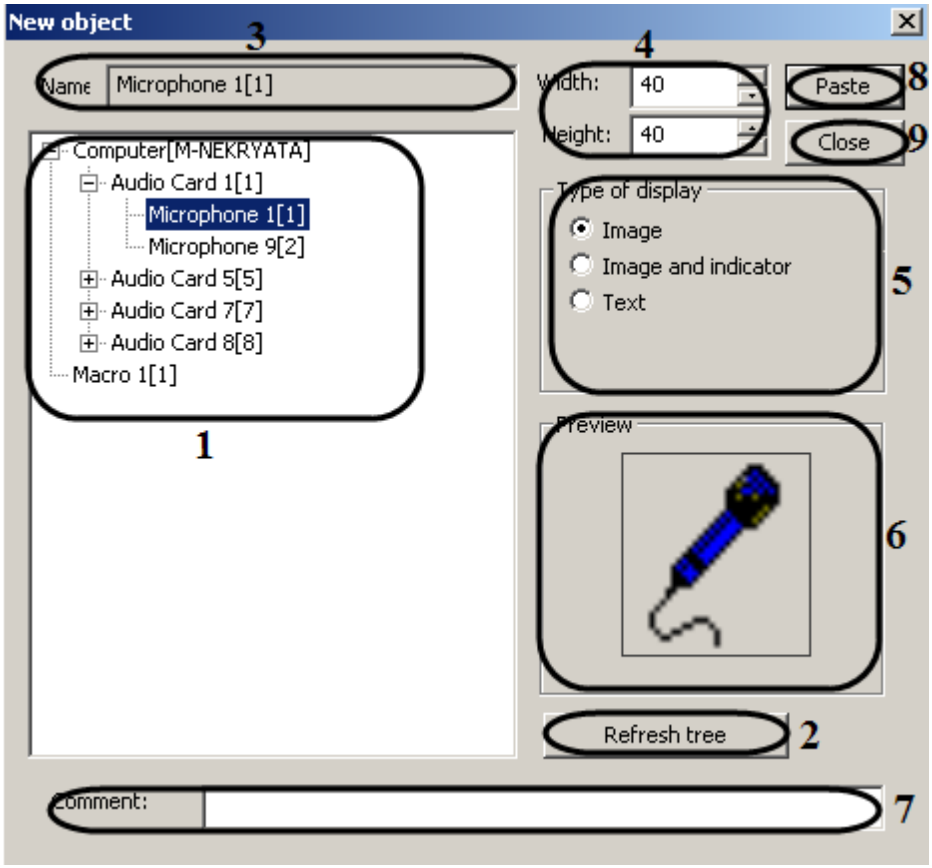


Figure 8.20—11. Adding new object

- . Select the required object in the objects tree of dialog window «New object» (Figure 8.20—11, 1)

Note. In case when objects tree should be refreshed, click «Refresh tree» button (Figure 8.20—11, 2).

- In result of operation in the field «Name», name of the selected object is automatically displayed (Figure 8.20—11, 3).

- Set the dimensions of object's symbol: fields «Width» (symbol's width) and «Height» (symbol's height) – See. Figure 8.20—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 8.20—11, 5, Table 8.20-1)

Table 8.20-1

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 8.20—11, 6)

- Set additional information about the object if necessary in the field «Comment» (Figure 8.20—11, 7).
- Click «Paste» button to attach object to the layer of interactive map (Figure 8.20—11, 8).
- Repeat steps2-7 for all the required objects.
- Click «Close» button to close «New object» dialog window (Figure 8.20—11, 9).

Attachment of objects to the layers of interactive map is over.

8.20.2.5 *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 8.20-2).

Table 8.20-2

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 8.20—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).

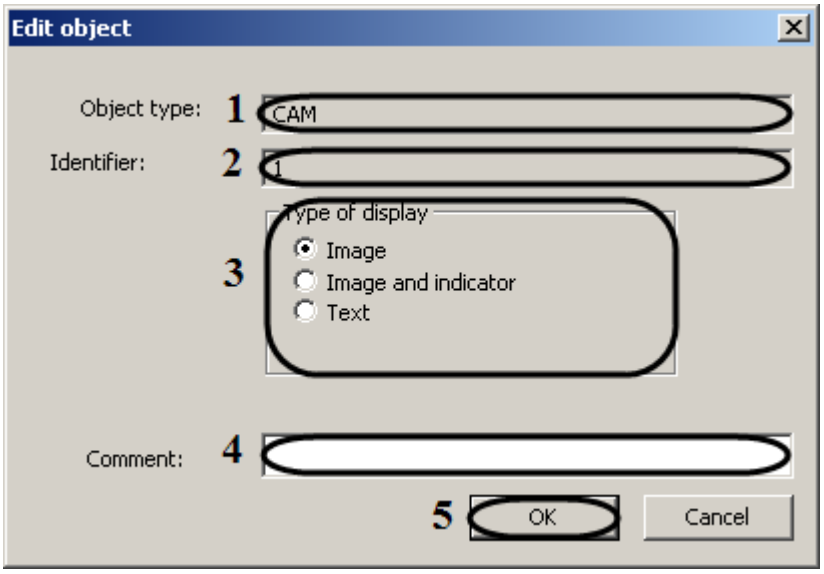


Figure 8.20—12 Edit object dialog window

3. The type of the selected object is automatically displayed in the field «Object's type» (Figure 8.20—12).

4. Identification number of the selected number is automatically displayed in the field «Identifier» (Figure 8.20—12)

5. Change the type of object's displaying with the help of the switch Displaying type when necessary (Figure 8.20—12, Table 8.20-3)

Table 8.20-3

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 8.20—13)

7. To save the changes click «OK» (Figure 8.20—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»

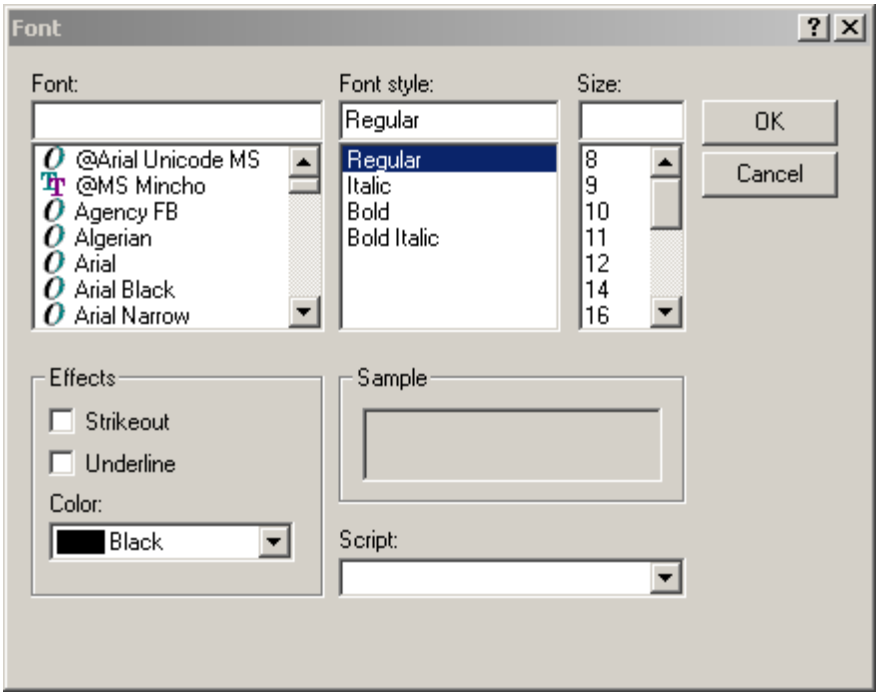


Figure 8.20—13 Font standard dialog window

10. In the opened dialog window set the required font parameters (Figure 8.20—13)
11. Click Ok to save the changes (Figure 8.20—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 8.20—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 8.20—14, 3)

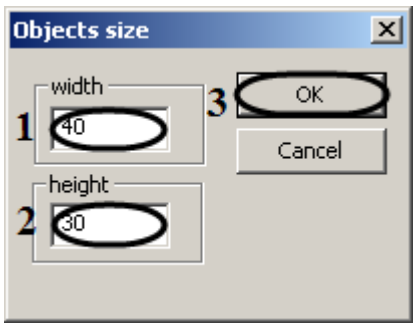


Figure 8.20—14 Objects sizes dialog window

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 8.20—15. To set the coordinates in pixels the switch should be set to In pixels position. (Figure 8.20—15), to set the coordinates in meters – the switch should be set to In meters position (Figure 8.20—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.

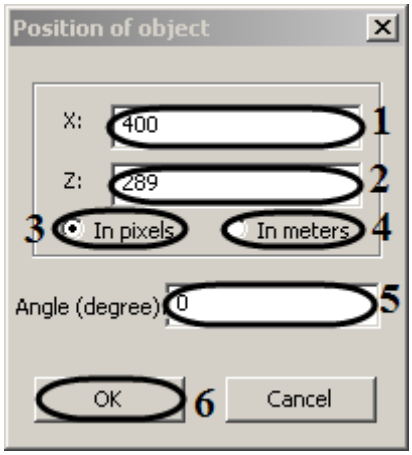


Figure 8.20—15 Object's position dialog window

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 8.20—15).

2.5. To save the applied changes click OK (Figure 8.20—15)

*Note. In case when at least one coordinate oversteps the bounds of the map, message window will be displayed (*Figure 8.20—16*). Click OK and then repeat step 3.*

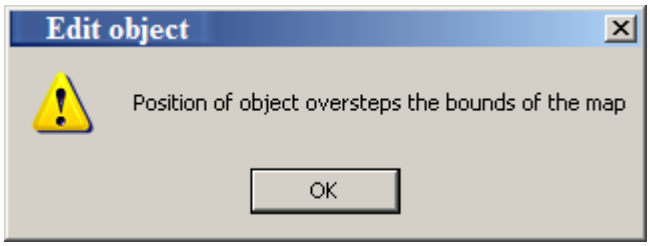


Figure 8.20—16 Message window

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 8.20—17) and release the mouse.

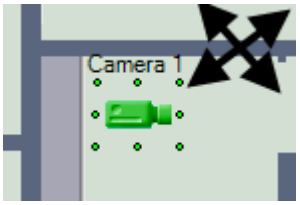


Figure 8.20—17. Dragging the object over the map using the mouse

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 8.20—18).

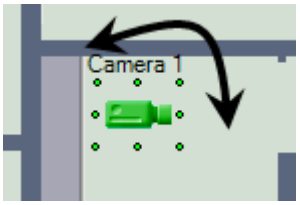


Figure 8.20—18. Rotating the object over the map using the mouse

8.20.2.6 *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 8.20—19).

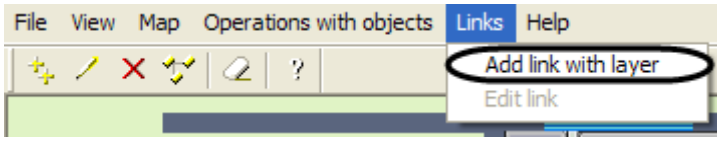


Figure 8.20—19. Menu item for adding a link to another layer

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 8.20—20).

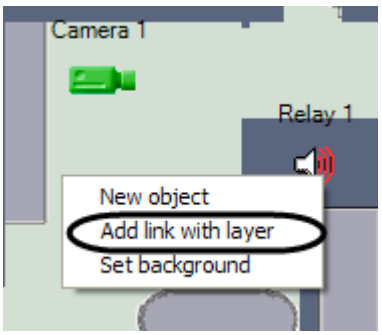


Figure 8.20—20. Opening the Link with Layer window from the map context menu

2. In the Link with Layer window, select the layer to link the current layer to (Figure 8.20—21).

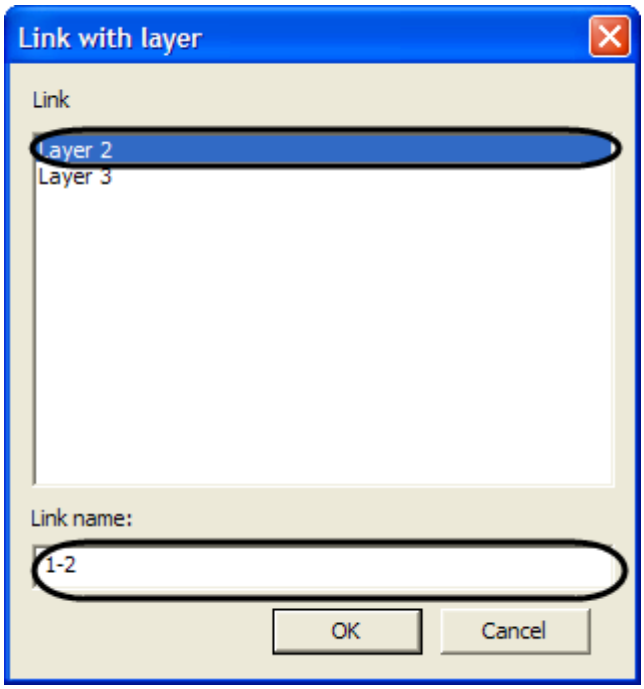


Figure 8.20—21. Link with Layer window

Enter the name for this link in the Link Name field (Figure 8.20—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 8.20—22).

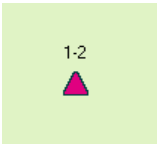


Figure 8.20—22. The link symbol

8.20.3 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 8.20—23). The Map window will now open on top of other windows in case of alarm registration.

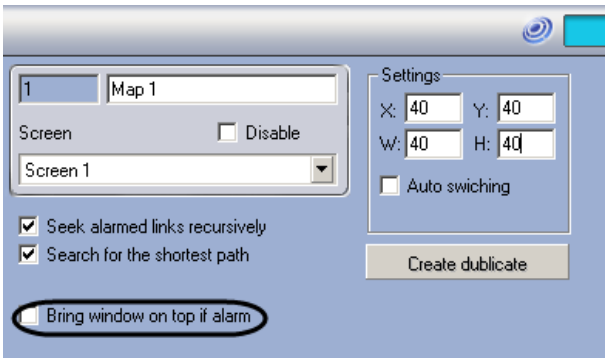


Figure 8.20—23. The Bring Window on Top upon Alarm checkbox

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 8.20—24).

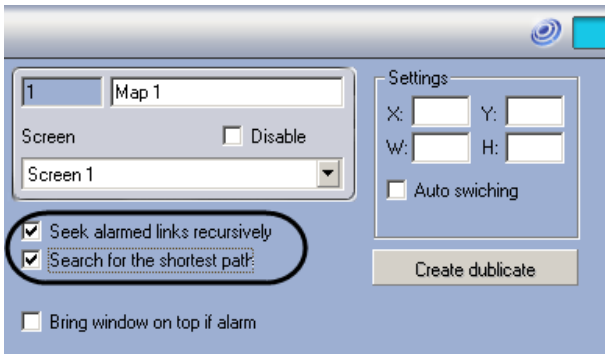


Figure 8.20—24. Setting the Seek Alarmed Links Recursively and the Seek Shortest Path checkboxs

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.

8.21 Configuring the user interface

8.21.1 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’s 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. External window;
3. Map;
4. Monitor;
5. Telemetry control panel;
6. Panel of Active archiving;
7. Search by titles;
8. Event Viewer;
9. Operator protocol.

The following windows are created on the base of the “Computer” object and pop up on the “Screen”:

1. Alarm Message Window.
2. Operator’s query window.

8.21.2 Creating the screens

Screen creation is an important stage of the surveillance system design as it is the main working instrument of the Operator.

The screen is created in the “Interfaces” tab and includes the following stages:

1. Creating objects (interface components) on the base of the “Screen” object in the “Interfaces” tab (see “General information on video subsystem settings” section).

2. Placing the interface components on the screen in relation to each other (see “Placing the interface components on the screen” section).

8.21.3 Placing the interface components on the screen

To place an interface component on the screen, its position (Figure 8.21—1, 1) and window size (Figure 8.21—1, 2) are to be specified. To enable the user to move the windows across the screen, set the “Allow moving” checkbox (Figure 8.21—1, 3).

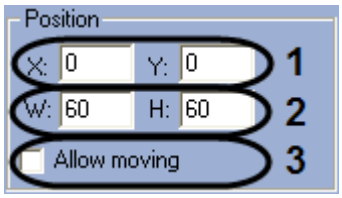


Figure 8.21—1. Basic placing parameters

When several monitors are connected to a computer, coordinates of an object depend on placing monitors to one another. Figure 8.21—2 shows how coordinates of the object depend on monitor position. The number of current monitor is selected in the “Monitor” drop-down list on the settings panle for the interface object.

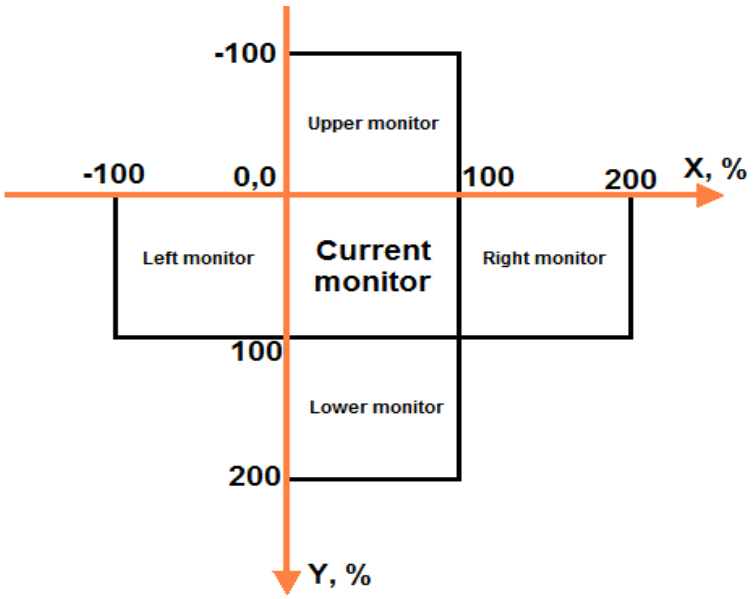


Figure 8.21—2 Coordinates of objects when several monitors are in use

Note. To enter “-“ sign in “X” or “Y” field, copy it from a text file and use the paste command in a required field.

The size of some components (Telemetry control panel, etc.) is fixed. In this case the corresponding fields are not shown.

Note. The “Telemetry control panel” can also be shown semi-transparent (see “Settings panel of the Telemetry control panel” section).

Popup windows (Alarm Message and Operator’s query) have no placing settings. They are displayed on top of other windows and can be moved to any place on the screen using the mouse.

8.21.4 Assigning the screens to the operator workstations

To configure the access of several operator workstations to the same interfaces, the corresponding screens are to be assigned to these workstations.

The screens can be assigned to workstations on the settings panel of the “Screen” object. Figure 8.21—3 shows the configuration 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.

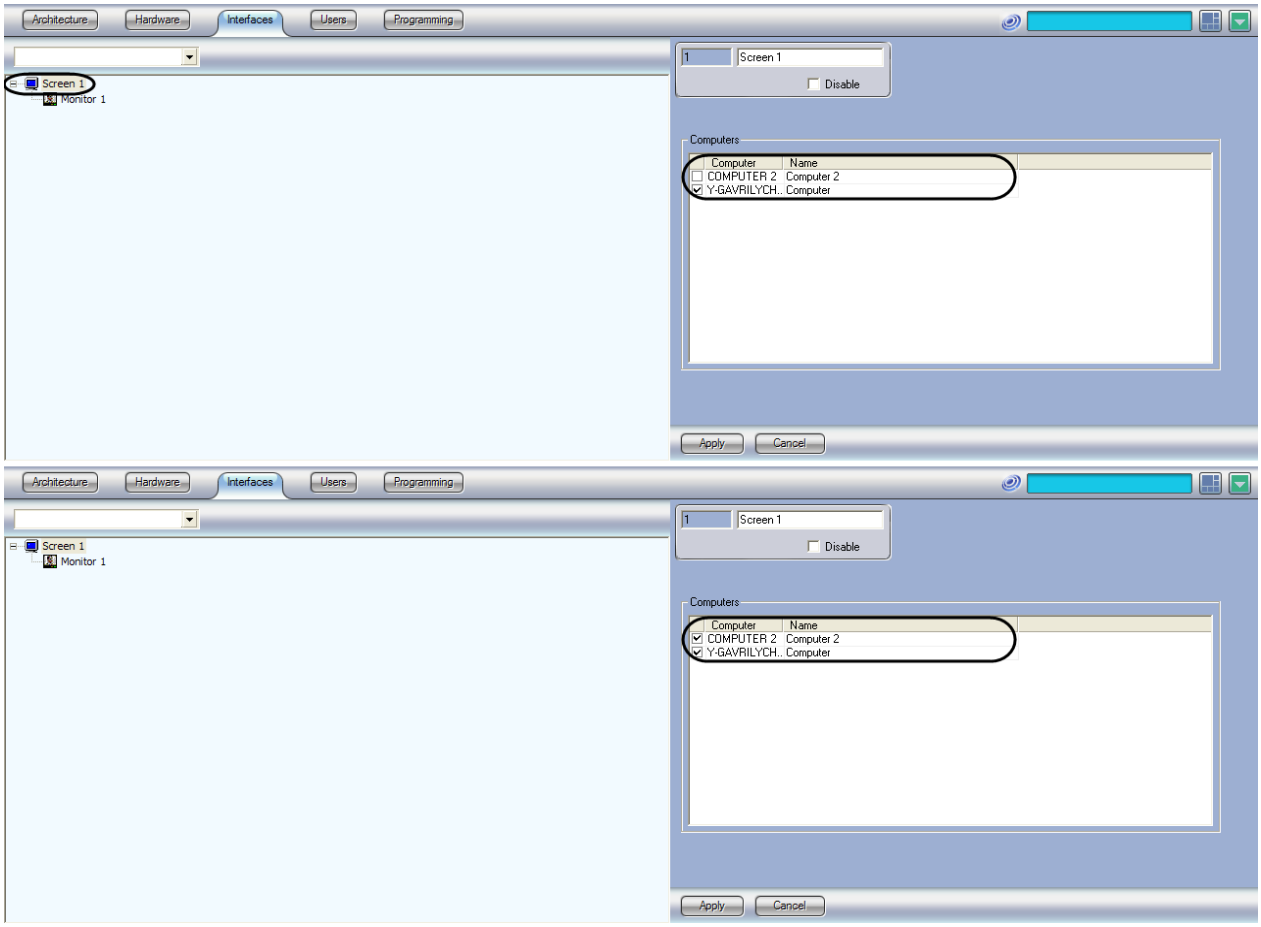


Figure 8.21—3. Assigning the screens to workstations

8.21.5 Examples of the user interface configuration

Figure 8.21—4 shows an example of the user interface components placed on the screen. Corresponding coordinates are given in the Table 8.21-1.

Table 8.21-1

	Interface component	X, %	Y, %	W, %	H, %
1	Monitor	0	0	50	50
2	Panel of Active archiving	54	0	53	51
3	Search by titles	0	50	35	47
4	Event Viewer	66	50	50	50

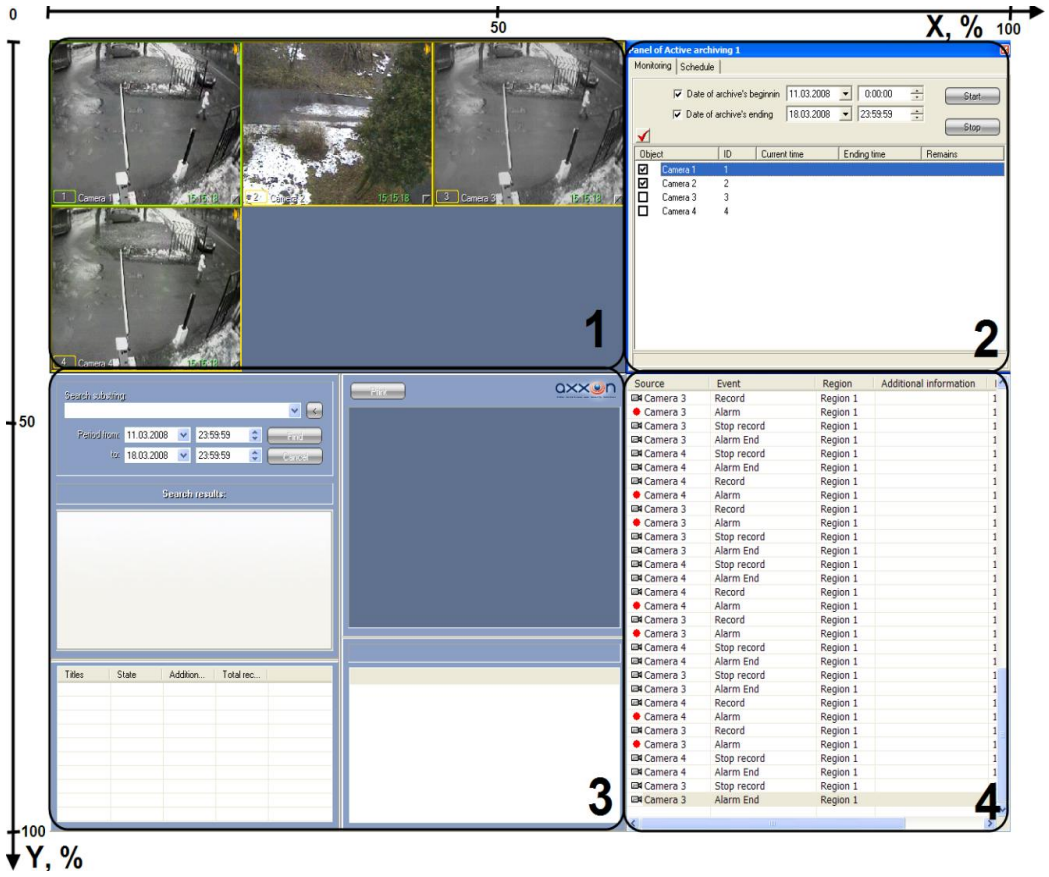


Figure 8.21—4. An example of the interface components placing

8.22 Rights administration

8.22.1 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.

8.22.2 User registration and removal

8.22.2.1 *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.

8.22.2.2 *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.

8.22.2.3 *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 8.22—1).

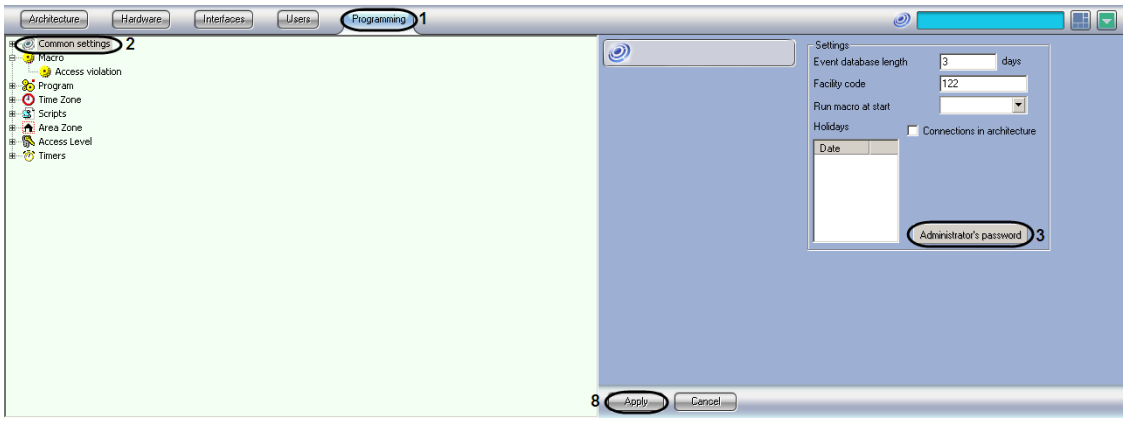


Figure 8.22—1. Common Settings panel

3. Click the Administrator's Password button.

4. The Set Password window will open (Figure 8.22—2).

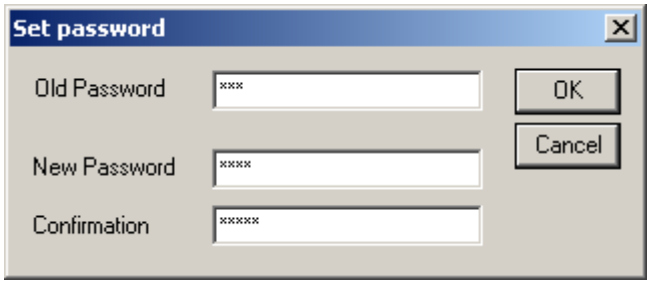


Figure 8.22—2. The Set Password window for setting the administrator password

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.

8.22.2.4 *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 8.22—3).

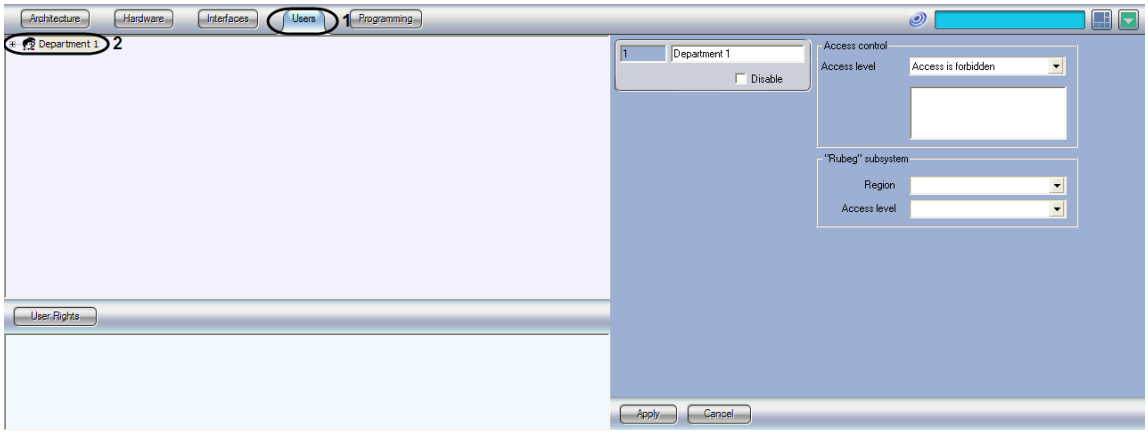


Figure 8.22—3. Department account registration

This completes registration of the department account.

8.22.2.5 *Registration of operator accounts*

To register operator accounts, the “User” objects are to be created.

An individual account is to be created for each operator. To register an operator account, do the following:

1. Open the “Users” tab in the “System Settings” dialog box.
2. Create a “User” object under the “Department” object in the object tree.

The created object appears in the object tree, and the settings panel for this object opens on the right side of the “System Setting” dialog box.

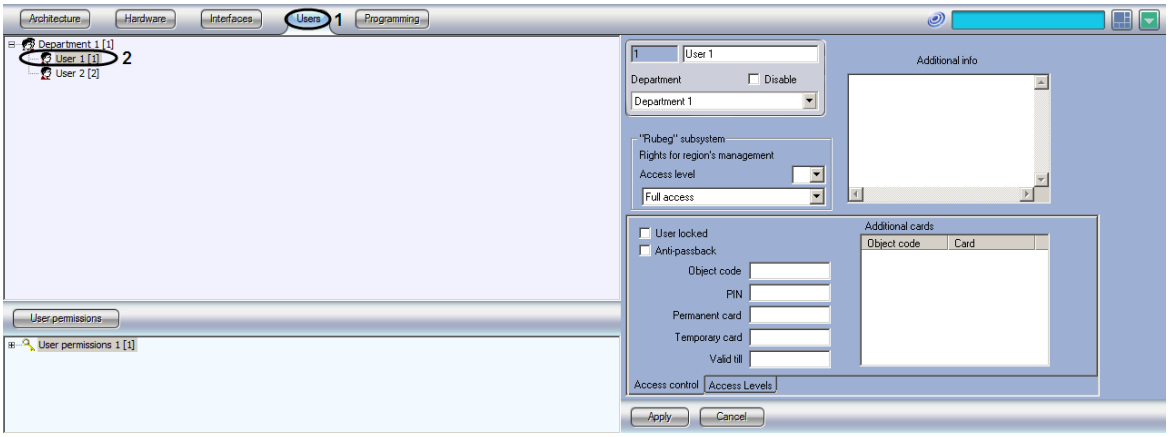


Figure 8.22—4. Registration of an operator account

The operator account is now registered.

Note. The settings on the settings panel for the “User” object are used to configure the access control system (see the “Configuring the “Access mode” module” document).

8.22.2.6 *Removing user accounts*

The removal procedure depends on the user category.

To remove operator accounts, delete the corresponding “User” 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, specify the current Administrator password in the “Old Password” field and then clear the “New Password” and “Confirmation” fields in the “Set Password” box (Figure 8.22—5).

Figure 8.22—5. Removing the administrator password

8.22.3 Registration of users' rights

8.22.3.1 *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 8.22—6).

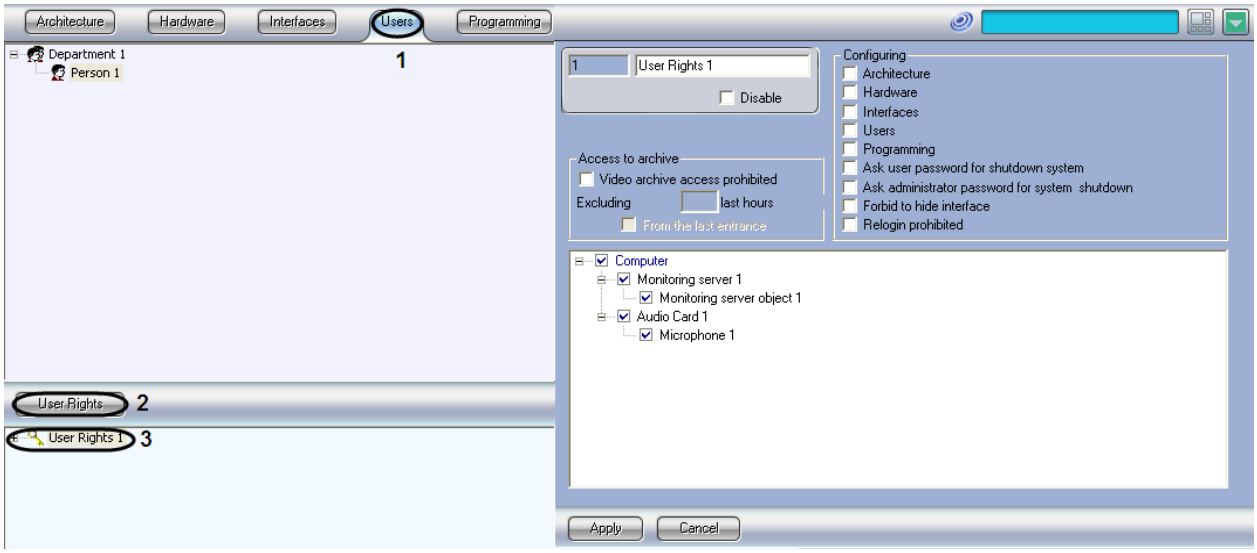


Figure 8.22—6. Registration of operator rights

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.

8.22.3.2 *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 8.22—7).

Figure 8.22—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 8.22—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.

8.22.3.3 *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 8.22—8).

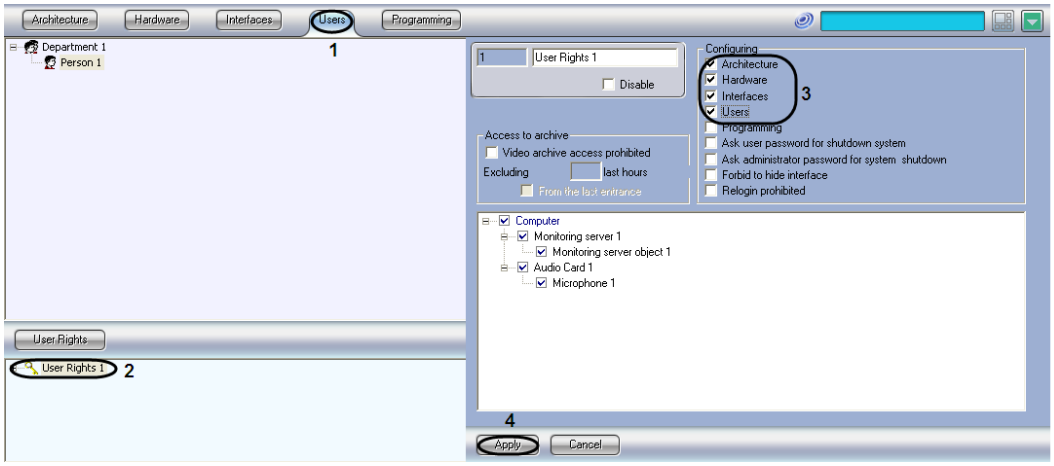


Figure 8.22—8. The settings panel of the User Rights object

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.

8.22.3.4 *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 8.22—9).

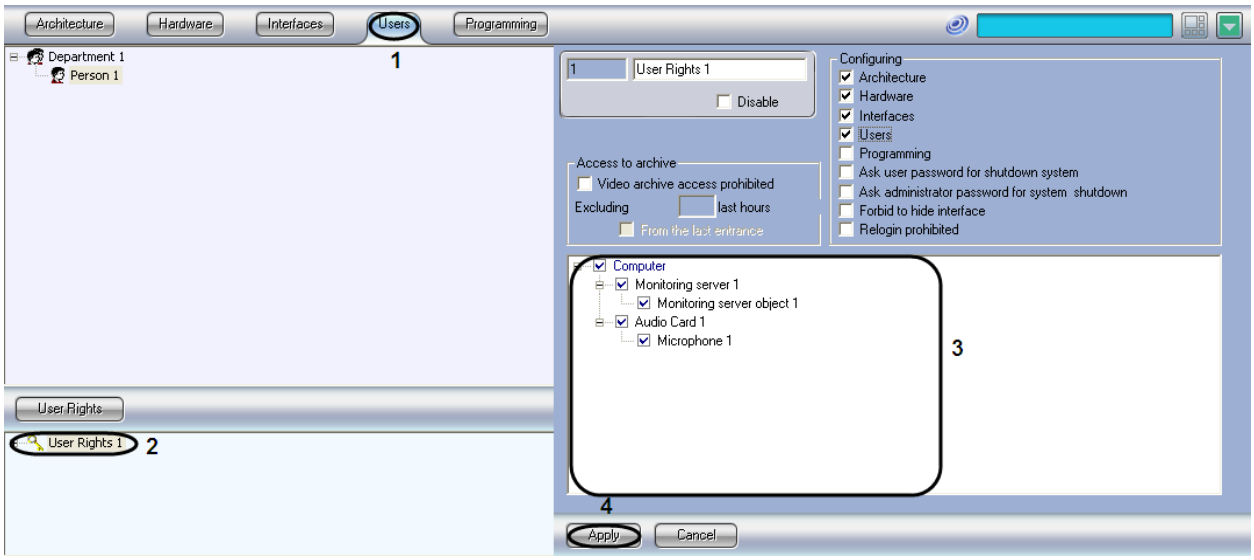


Figure 8.22—9. The settings panel of the User Rights object

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 8.22—9, 3).

3. Correspondence of mark type to Operator rights is given in Table 8.22-1.

Table 8.22-1

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.

8.22.3.5 *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 8.22—10).

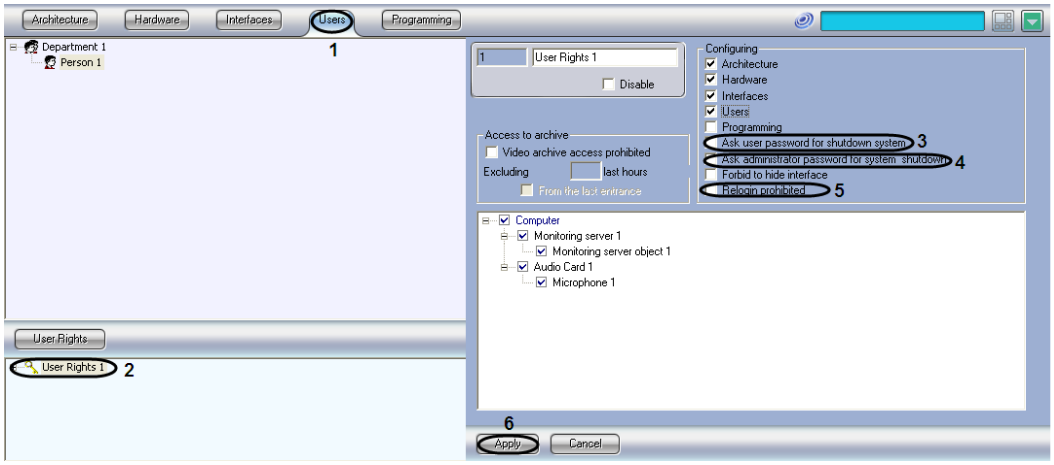


Figure 8.22—10. The settings panel of the User Rights object

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.

8.22.3.6 *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 8.22—11).

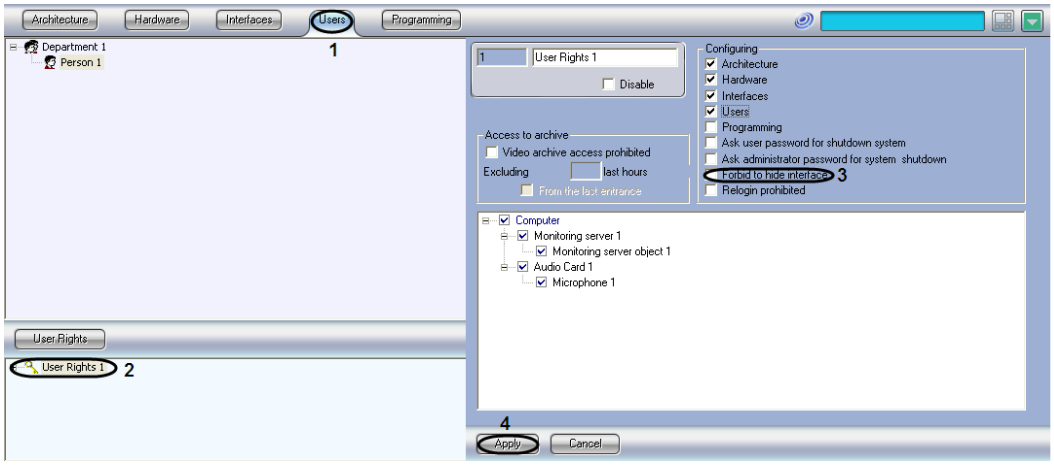


Figure 8.22—11. The settings panel of the User Rights object

3. Check the Forbid to Hide Interface checkbox.
4. Press the Apply button.

This completes the process of forbidding the hiding of all interface components.

8.22.3.7 *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 8.22—12).

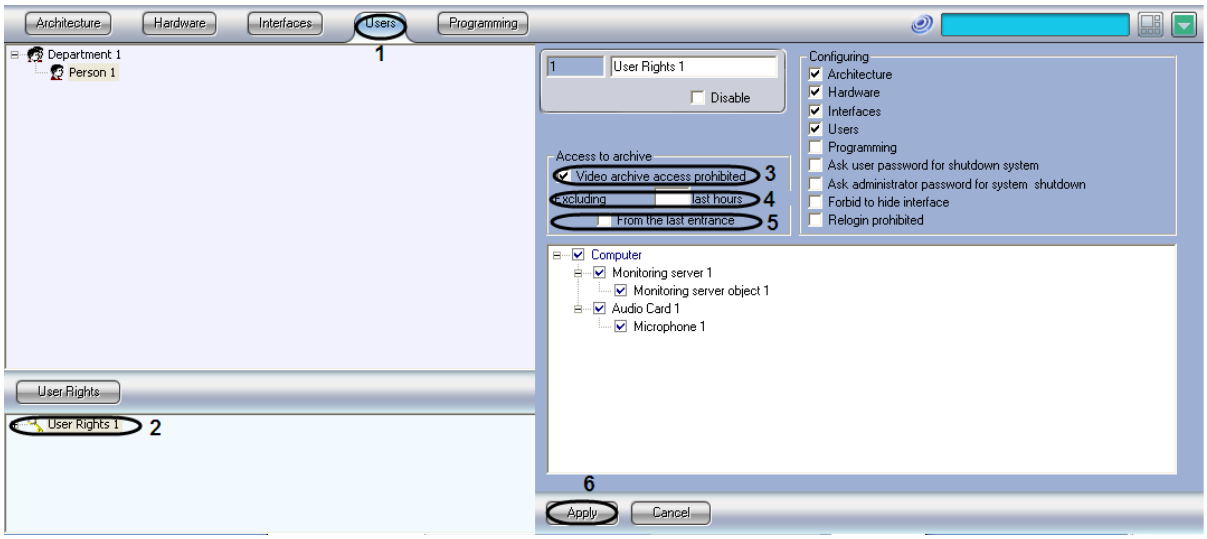


Figure 8.22—12 The settings panel of the User Rights object

3. Check the Video archive access prohibited checkbox (Figure 8.22—12,3).

4. Enter the number of hours, available for viewing in the field «Excluding last hours» (Figure 8.22—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 8.22—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 the “Apply” button (Figure 8.22—12, 6).

Forbidding the operator from playing the archives is completed.

8.22.3.7.1 Limiting access to archive playback

To limit access for Operator to playback the archive, do the following:

1. Go to the “Users” tab in the “System Settings” dialog box (Figure 8.22—13, 1).
2. In the object tree that is below the “User permissions” button in the the “Users” tab, select an object with the same name as the permissions to be changed (Figure 8.22—13, 2).

The settings panel for the “User permissions” object is displayed in the right part of the “System Settings” dialog box.

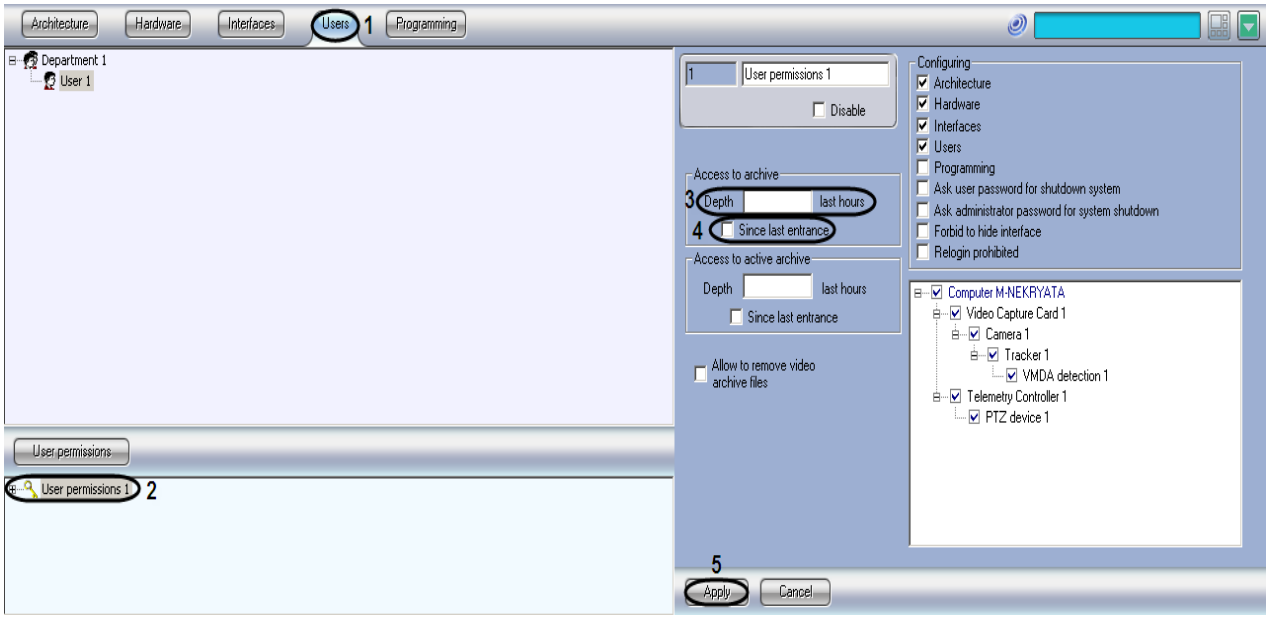


Figure 8.22—13 The settings panel for the “User permissions” object

3. Specify the number of hours for viewing in the “Depth ___ last hours” field (Figure 8.22—13, 3).

Note 1. The number of last video archive hours for viewing is to be whole.

Note 2. Input the “0” value in the “Depth ___ last hours” field todisable access to the archive.

4. If the hours since the last entrance to the system are counted, set the “Since last entrance” checkbox (Figure 8.22—13, 4). If the hours are to be counted since the current moment, then leave the the “Since last entrance” box unchecked.

Note. If the “Since last entrance” box is checked and the number of hours for viewing is specified, then last hours are counted till the registration moment.

5. Click the “Apply” button (Figure 8.22—13, 5).

The access to archive playback is now limited.

8.22.3.7.2 Limiting access to active archive playback

To limit access for Operator to playback the active archive, do the following:

1. Go to the “Users” tab in the “System Settings” dialog box (Figure 8.22—14, 1).
2. In the object tree that is below the “User permissions” button in the the “Users” tab, select an object with the same name as the permissions to be changed (Figure 8.22—14, 2).

The settings panel for the “User permissions” object is displayed in the right part of the “System Settings” dialog box.

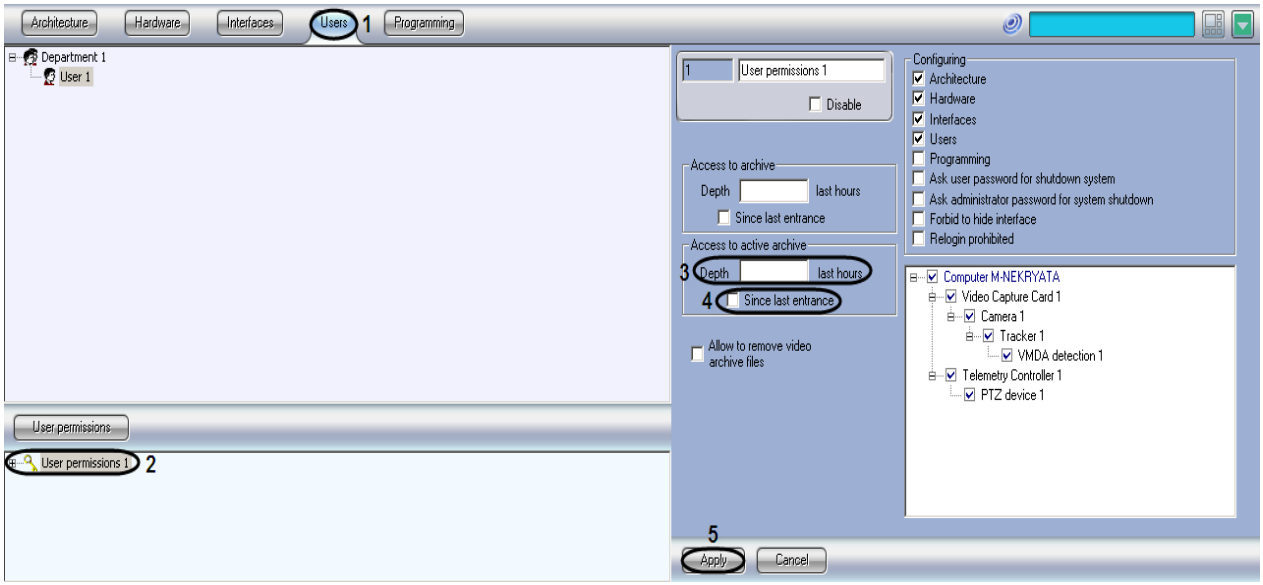


Figure 8.22—14 The settings panel for the “User permissions” object

3. Specify the number of hours for viewing in the “Depth ___ last hours” field (Figure 8.22—14, 3).

Note 1. The number of last video archive hours for viewing is to be whole.

Note 2. Input the “0” value in the “Depth ___ last hours” field todisable access to the active archive.

4. If the hours since the last entrance to the system are counted, set the “Since last entrance” checkbox (Figure 8.22—14, 4). If the hours are to be counted since the current moment, then leave the the “Since last entrance” box unchecked.

Note. If the “Since last entrance” box is checked and the number of hours for viewing is specified, then last hours are counted till the registration moment.

5. Click the “Apply” button (Figure 8.22—14, 5).

The access to active archive playback is now limited.

8.22.3.7.3 Permission to remove archive video files

To allow the Operator to remove archive (both main and active) video files, do the following:

1. Go to the “Users” tab in the “System Settings” dialog box (Figure 8.22—15, 1).
2. In the object tree that is below the “User permissions” button in the the “Users” tab, select an object with the same name as the permissions to be changed (Figure 8.22—15, 2).

The settings panel for the “User permissions” object is displayed in the right part of the “System Settings” dialog box.

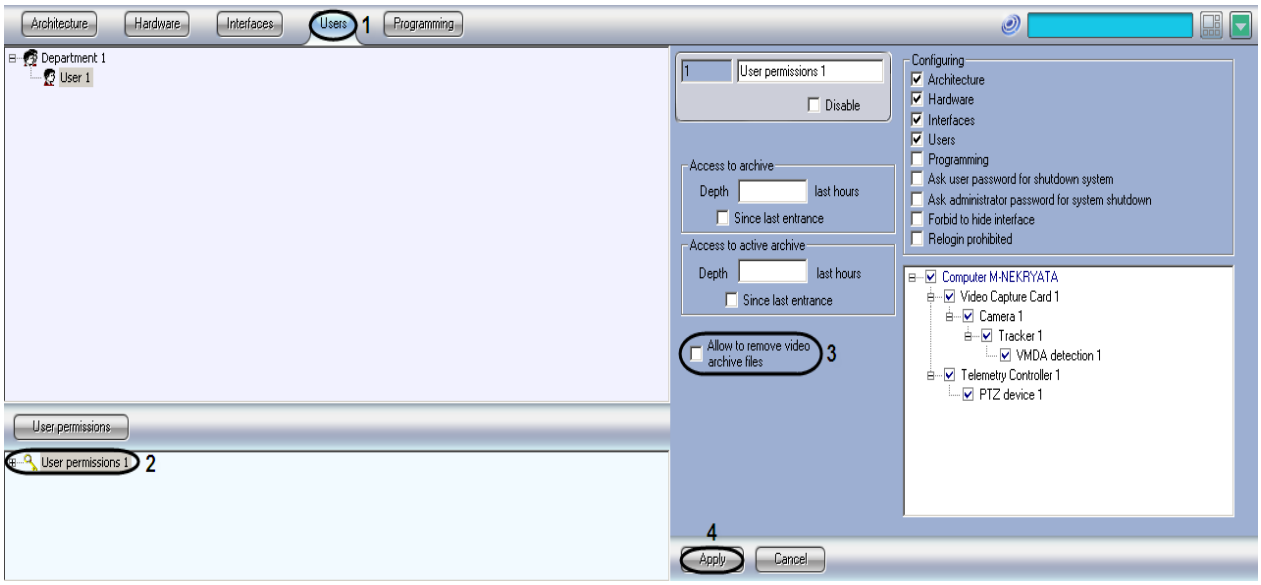


Figure 8.22—15 Prohibition to remove video archive files

1. To allow an Operator remove video archive files, set the “Allow to remove video archive files” checkbox (Figure 8.22—15, 3). If the Operator is not allowed to remove video archive files, leave this box unchecked.
2. To save the changes in INTELLECT ™ software, click the “Apply” button (Figure 8.22—15, 4).

An Operator now can remove video archive files.

8.22.4 Assigning rights and passwords to operators for authorization in the Intellect

In the Intellect PC user accounts are stored separately from operator accounts. The same rights may be assigned to several operators. But the operator may be assigned only single rights.

To assign rights and passwords to the operator for authorization in the Intellect do the following:

1. Open the Users tab in the System Settings window. (Figure 8.22—16, 1).
2. Select an object, corresponding to rights account that has to be assigned to the operator, in the object tree under the User Rights button (Figure 8.22—16, 2).
3. Call for a contextual menu by clicking right mouse button upon the selected object User rights (Figure 8.22—16, 3). Select Add to rights in the menu.

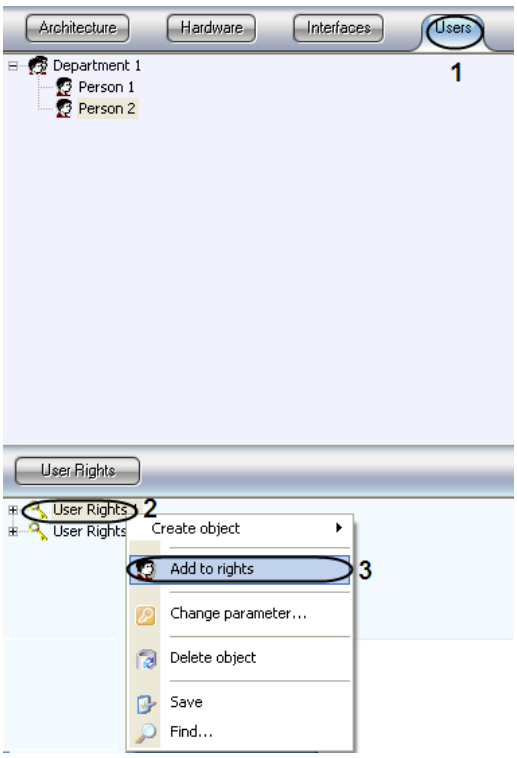


Figure 8.22—16 Assigning access rights to the operator

4. Add user dialog window will be displayed (Figure 8.22—17).

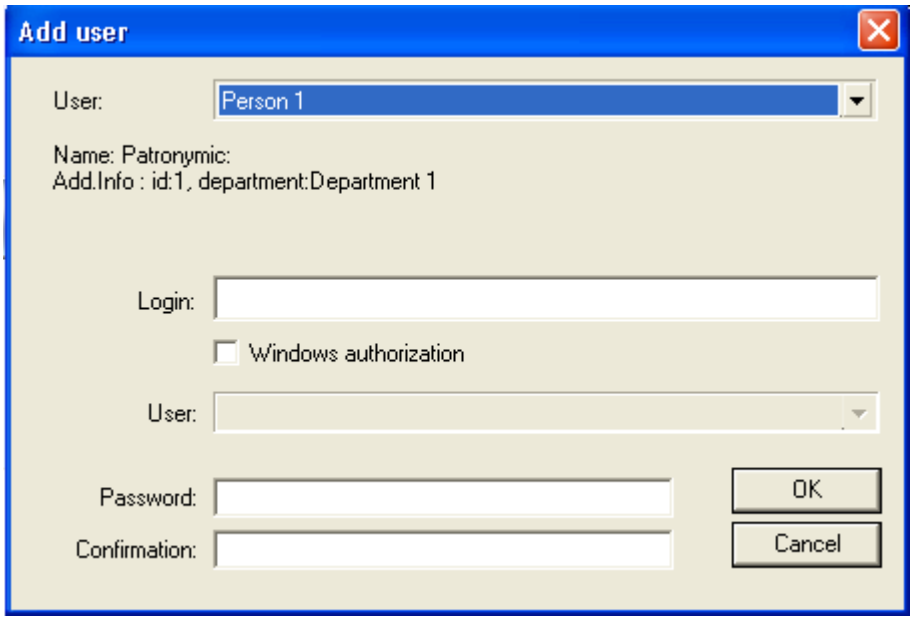


Figure 8.22—17 Add user dialog window

5. Select the account name registered for operator from User list (Figure 8.22—17).
6. Enter the login that will be assigned to operator for authorization in the Intellect PC in the Login field (Figure 8.22—17).
7. Enter the password that will be assigned to operator for authorization in the Intellect PC in the Password field (Figure 8.22—17).

Note. If the password has not been entered the operator won't be assigned access rights.

8. Enter the operator password one mote time in the Confirmation field (Figure 8.22—17).
9. Click OK(Figure 8.22—17).
10. In the branch of User rights object there will be displayed the object of a single account registered for Operator (Figure 8.22—18).

Figure 8.22—18 Example of User object displaying

This completes the process of assigning the rights and passwords to the operator for authorization in the Intellect PC.

8.22.5 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 8.22—19).

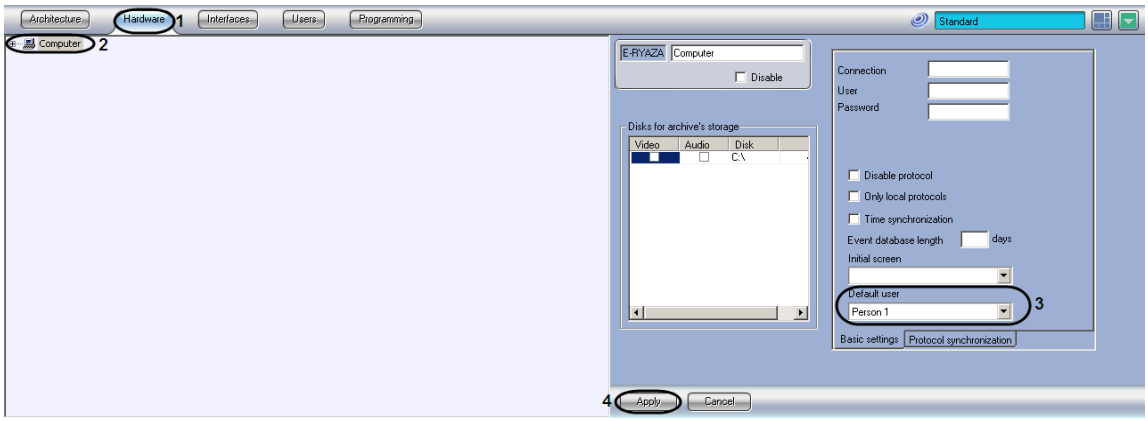


Figure 8.22—19. Setting up the initial user

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.

8.23 Creating and using macros

8.23.1 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.

8.23.2 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 8.23—1).
   b. Specify the name of the Macro object.
   c. Press the Apply button.

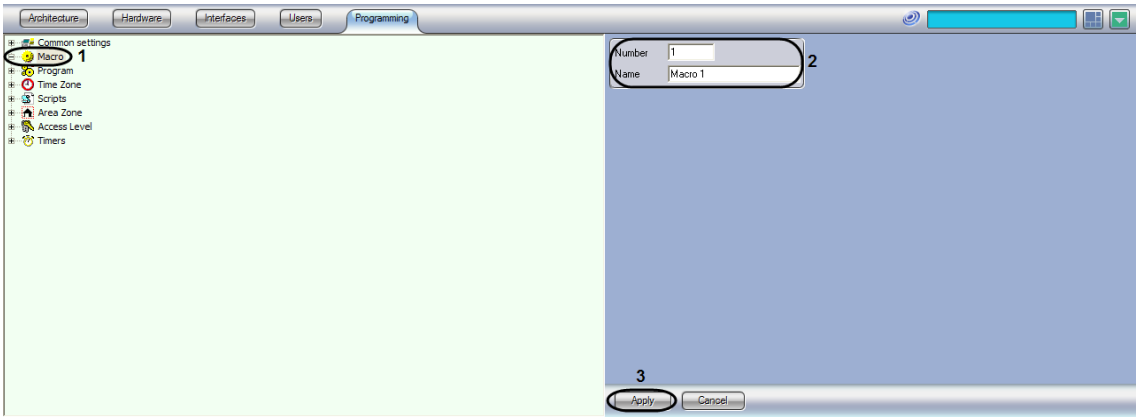


Figure 8.23—1. Creating the Macro object

After the Macro object is created, its settings panel opens (Figure 8.23—2).

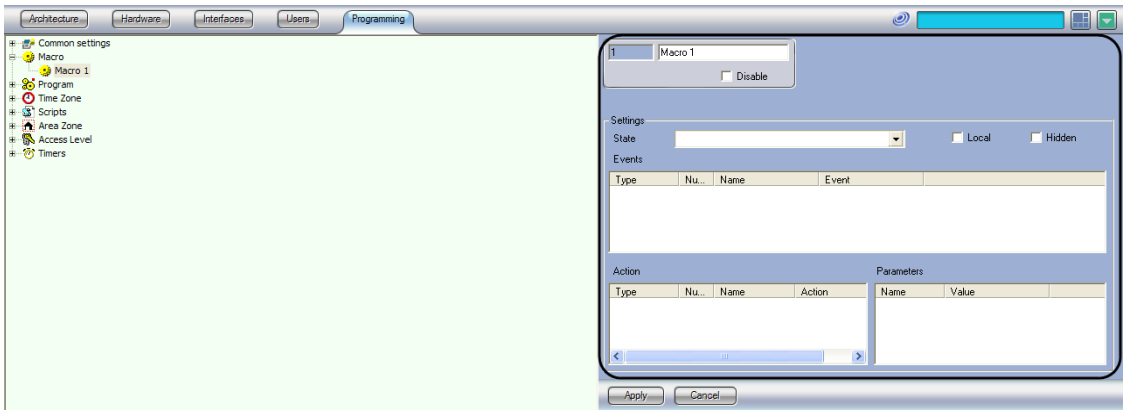


Figure 8.23—2. The Macro object is created

b. Specify the parameter values (Figure 8.23—3). Table 17 gives the description of the parameters.

Table 8.23-1

№	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

№	Name	Field type	Description	Format	Default value	Value range
						Type column, enter its name here.
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.

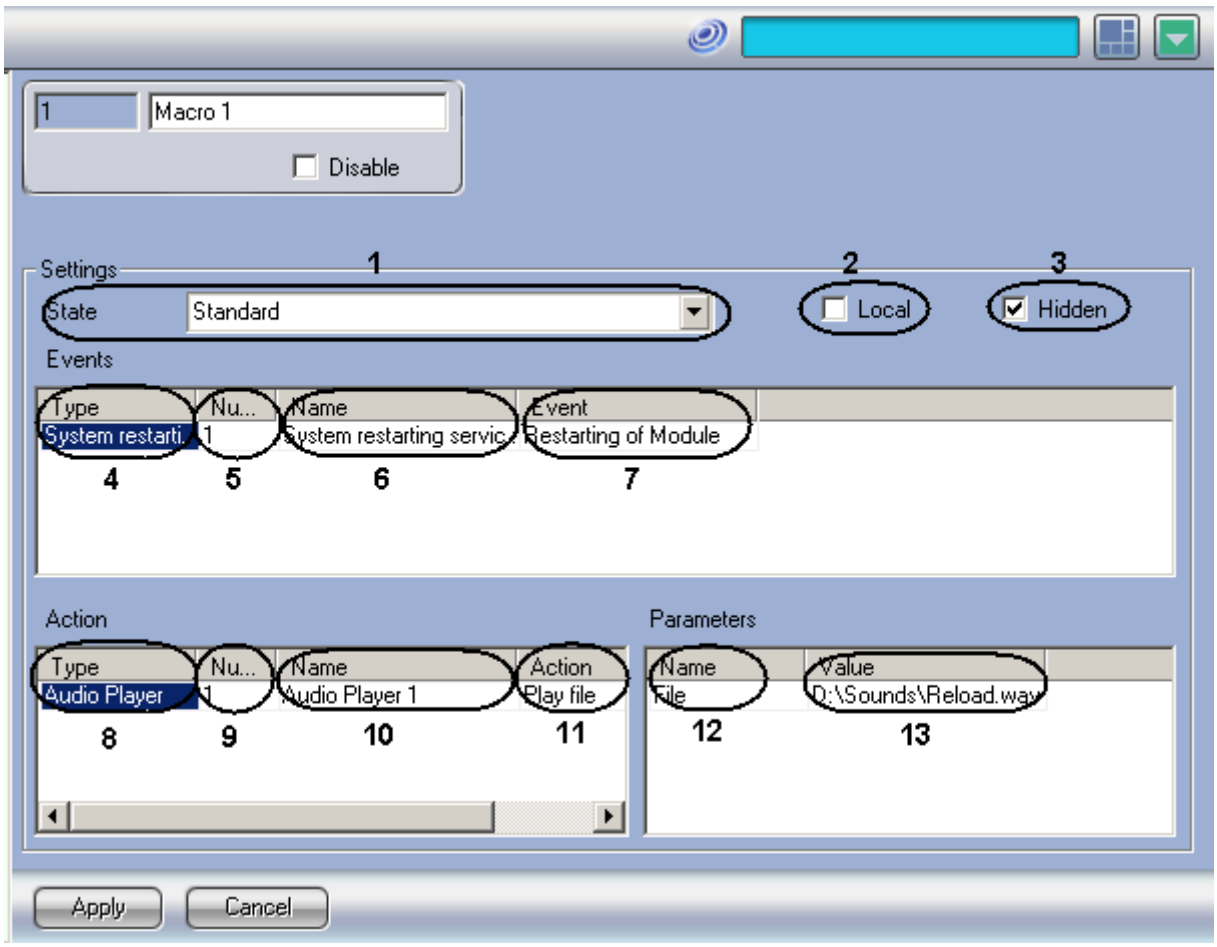


Figure 8.23—3. The Macro object is set up

c. Click the Apply button to save the settings.

8.23.3 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 8.23—4).

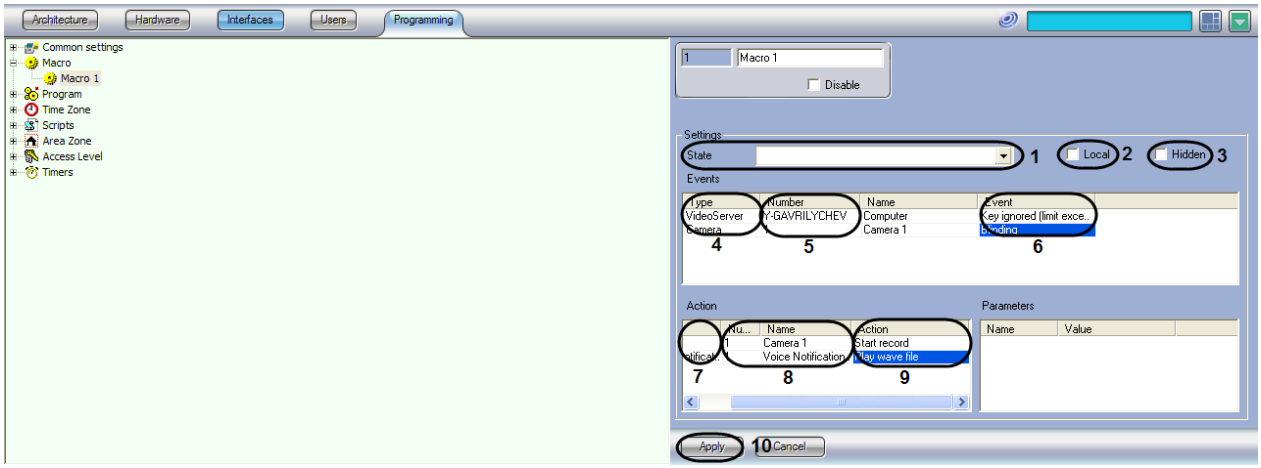


Figure 8.23—4. Setting up the macro

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 8.23—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.

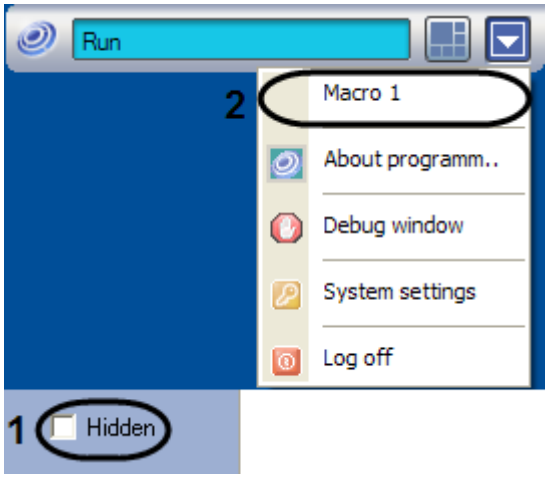


Figure 8.23—5. Manual macro activation

Manual activation of the macro is indicated by the tick next to the macro name in the Run menu (Figure 8.23—6).

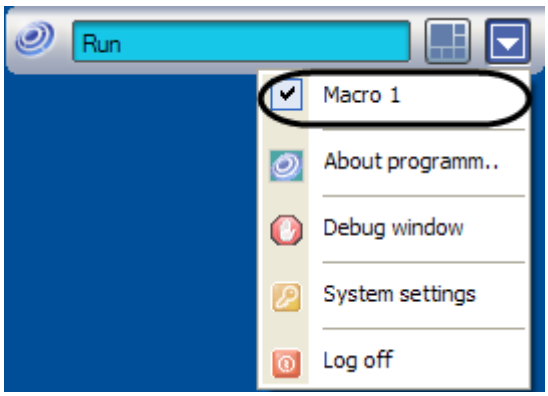


Figure 8.23—6. Manual activation of the macro

8.24 Creating and using time zones

8.24.1 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.

8.24.2 Creating and setting up time zones

To create a Time Zone object, do the following:

1. Open the Programming tab (Figure 8.24—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.

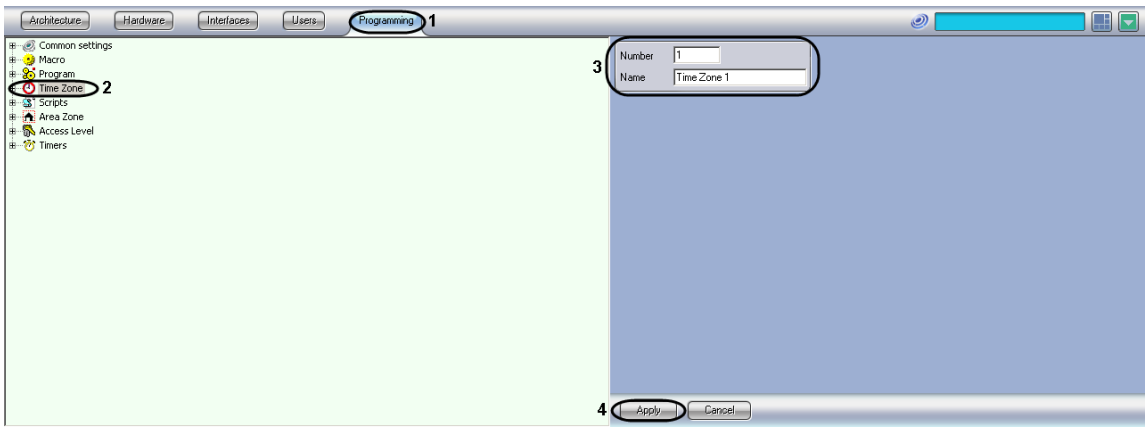


Figure 8.24—1. Creation of the Time Zone object

The Time Zone object will appear in the object tree (Figure 8.24—2).

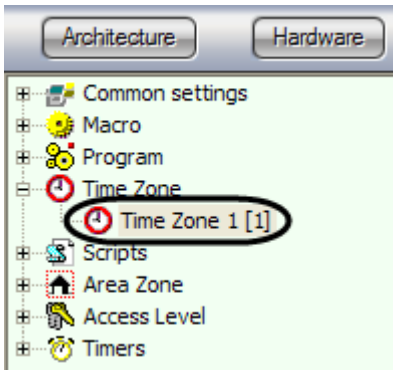


Figure 8.24—2. The Time Zone object is created

To set up the Time Zone object, specify the values of the following parameters (Figure 8.24—3 and Table 8.24-1).

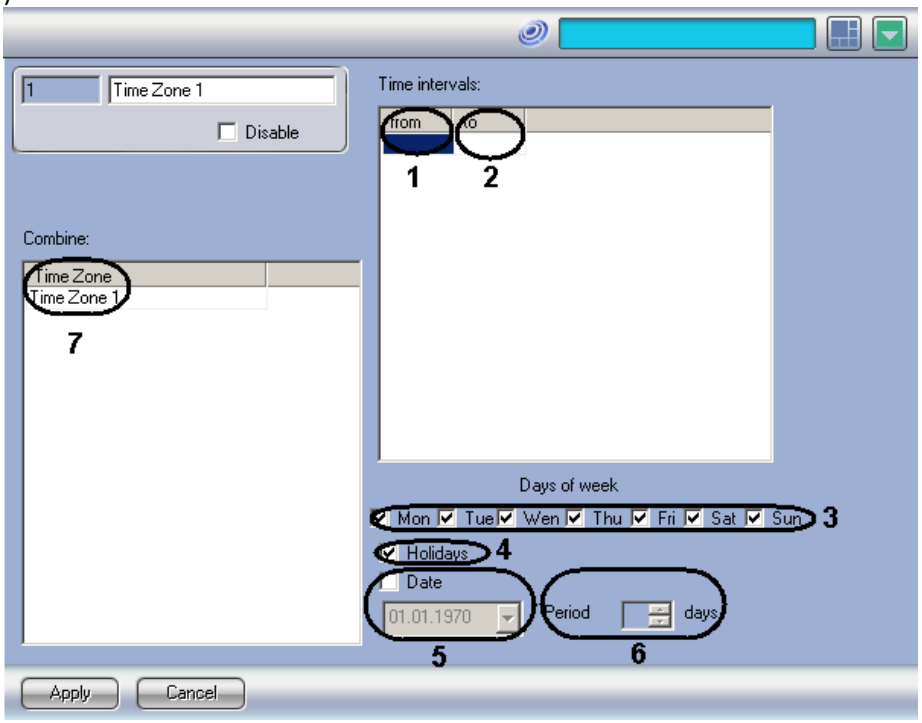


Figure 8.24—3. Setting up the Time Zone object

Table 8.24-1

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	Checkbox	Adds days to the timetable. The days of the week are added separately for each time	-	No	Checked – the day of the week is included in the timetable. Not checked – the

No	Parameter name		Field type	Description	Format	Default value	Value range
	Thu Fri Sat Sun			interval.			day of the week is 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. (see Figure 8.24—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.

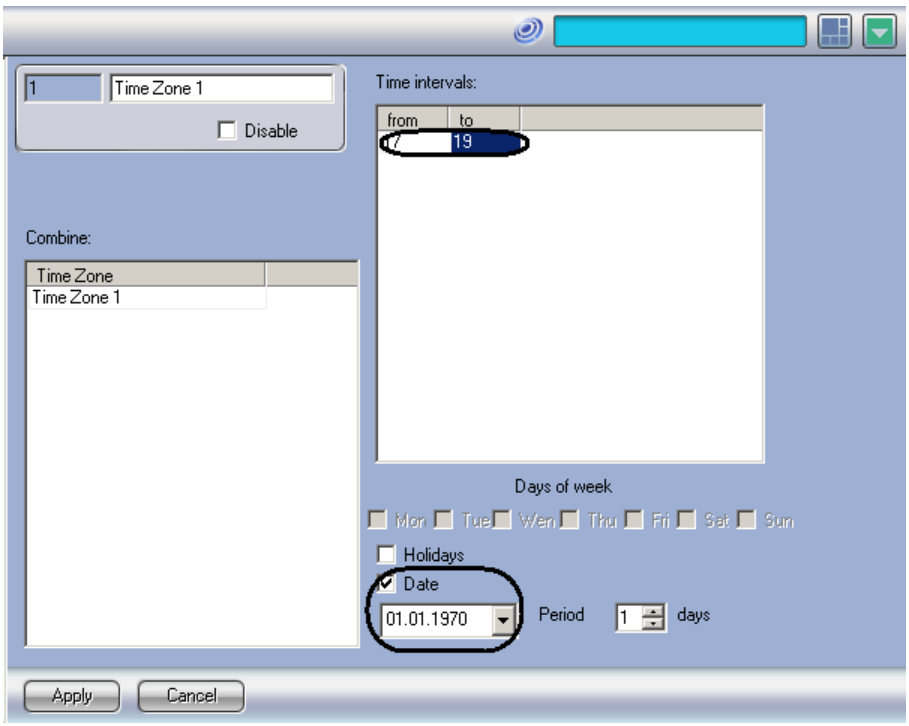


Figure 8.24—4. Additional time zone settings panel

To create the holidays list, do the following:

1. Open the Programming tab (Figure 8.24—5).

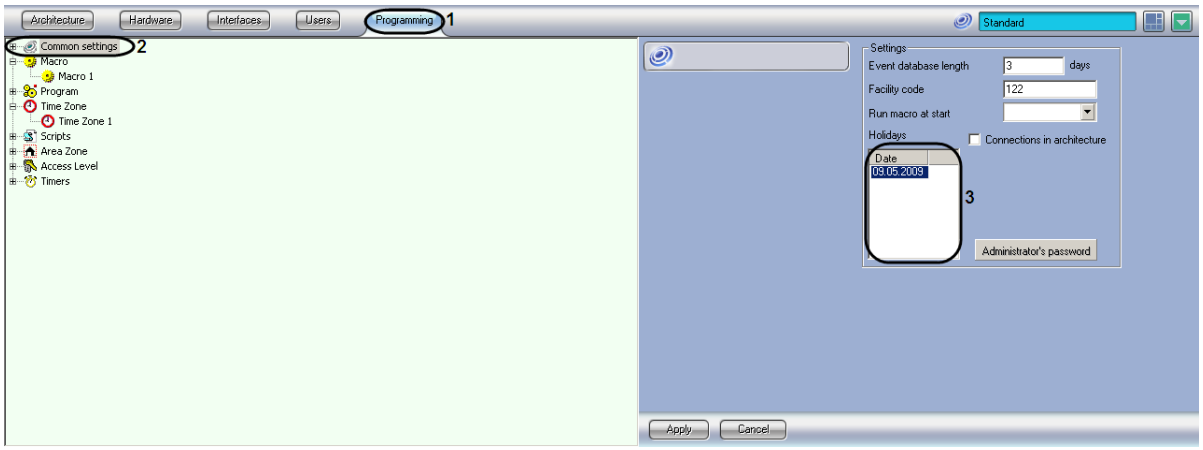


Figure 8.24—5. Creating the Holidays list

2. Select the General Settings object.

3. Enter the holiday date in the following format: DD.MM.YYYY.

4. Press the Apply button.

8.24.3 Examples of time zones usage

Example 1. Consider two microinstructions which work together and allow to record a video within the time zone limits (Table 8.24-2).

Set the event and actions values in Micro setting window that is given in the table.

Table 8.24-2

№	Event	Action
1	Time Zone 1 start (Figure 8.24—6, 1)	Begin recording from Camera 1 (Figure 8.24—6, 2)
2	Time Zone 1 end (Figure 8.24—7, 1)	End recording from Camera 1 (Figure 8.24—7, 2)

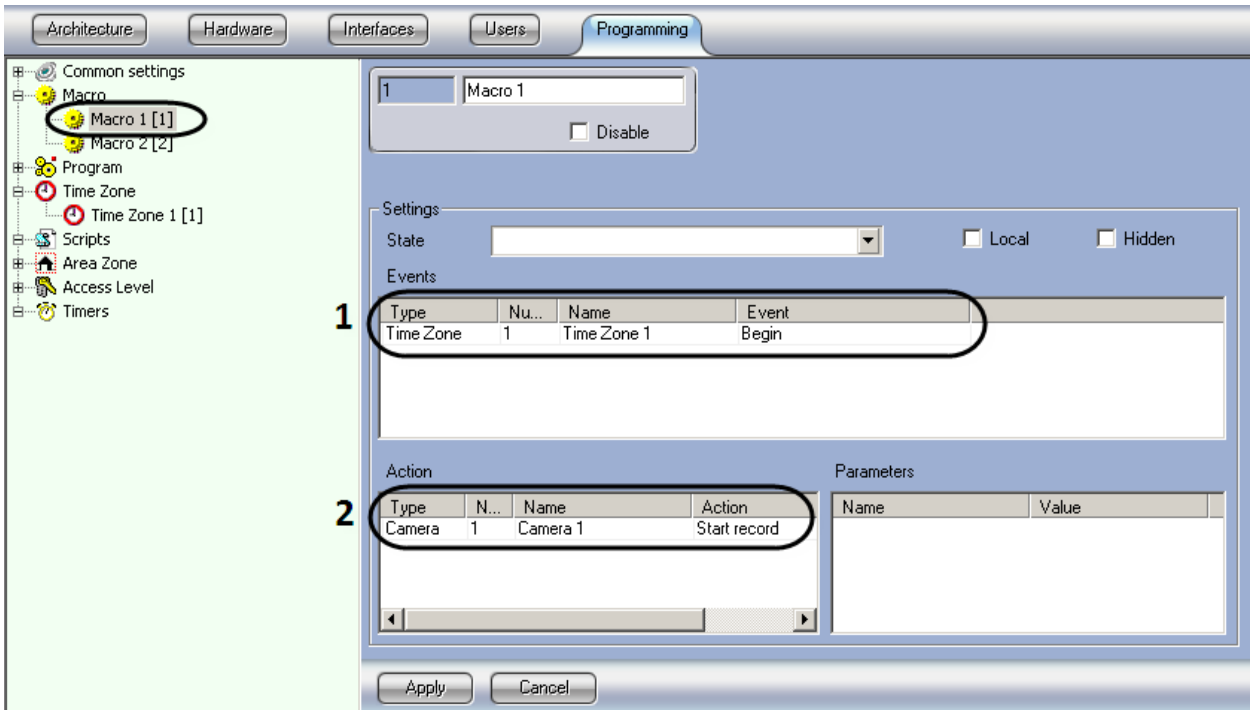


Figure 8.24—6. Example of a macroinstruction with a time zone. Time zone begining

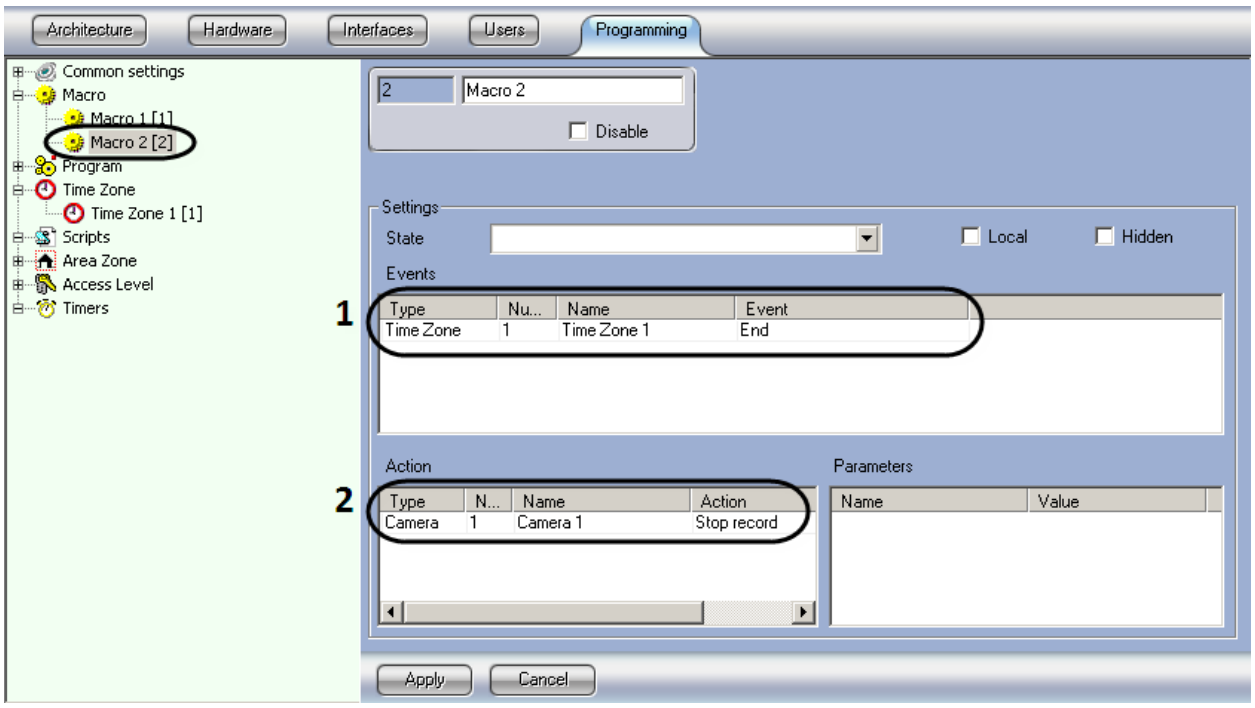


Figure 8.24—7 Example of a macroinstruction with a time zone. End zone ending

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 8.24—8).

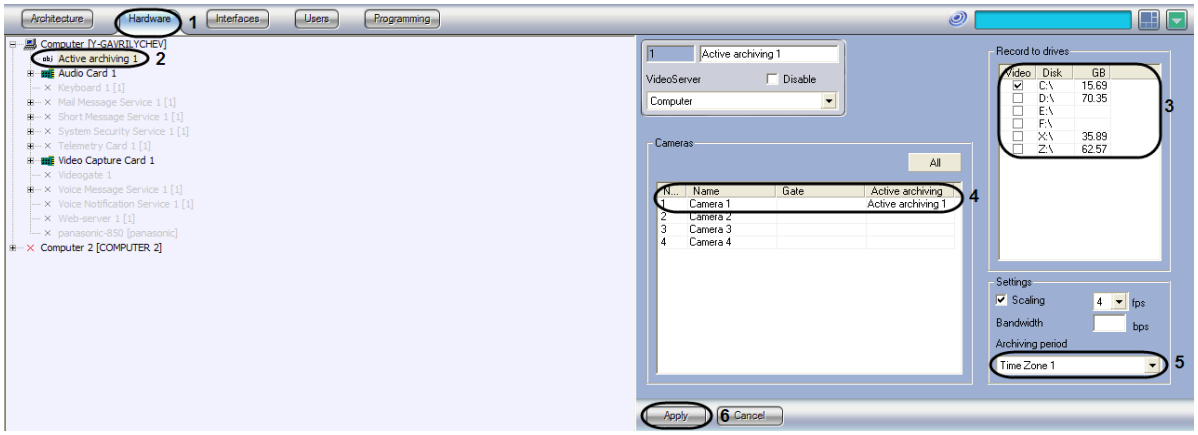


Figure 8.24—8. An example of an Active Archiving object with a time zone

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.

8.25 The Timer object creation and usage

8.25.1 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.

8.25.2 The Timer object creation and setup

To create a Timer object, do the following:

1. Open the Programming tab (Figure 8.25—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.

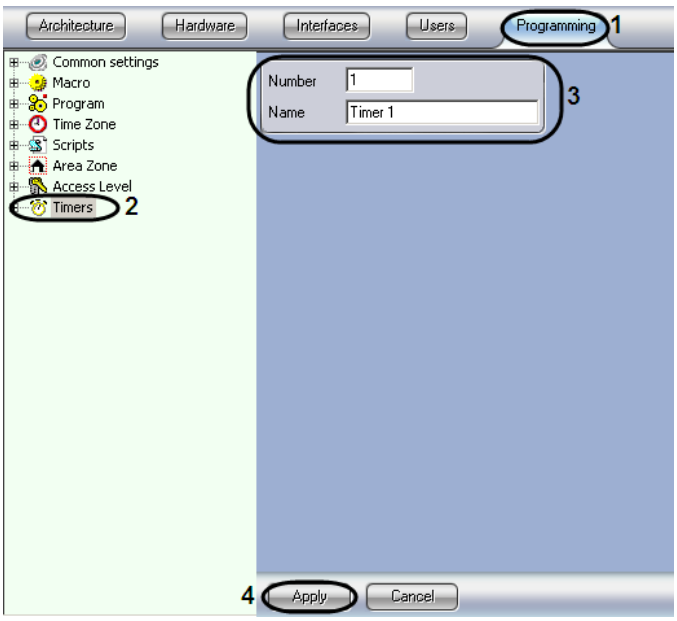


Figure 8.25—1. Creating a Timer object

The Timer object will appear in the object tree (Figure 8.25—2).

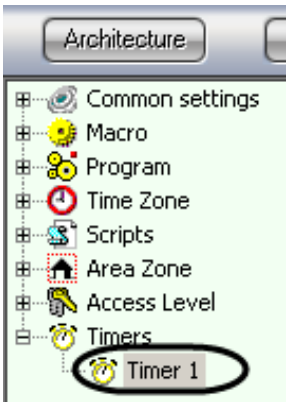


Figure 8.25—2. The Timer object has been created

To set up the Timer object, do the following:

a. Select the Timer object in the object tree (Figure 8.25—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 8.25—3, 2) and the exact time (hour, minute, second) in the corresponding fields (Figure 8.25—3, 5);

2. select the exact date (year, month, day) from the corresponding fields (Figure 8.25—3, 4) and the exact time (hour, minute, second) in the corresponding fields (Figure 8.25—3, 5).

c. Check the Holidays checkbox to take into account the holidays set in the General Settings (Figure 8.25—3, 3).

d. Click the Apply button.

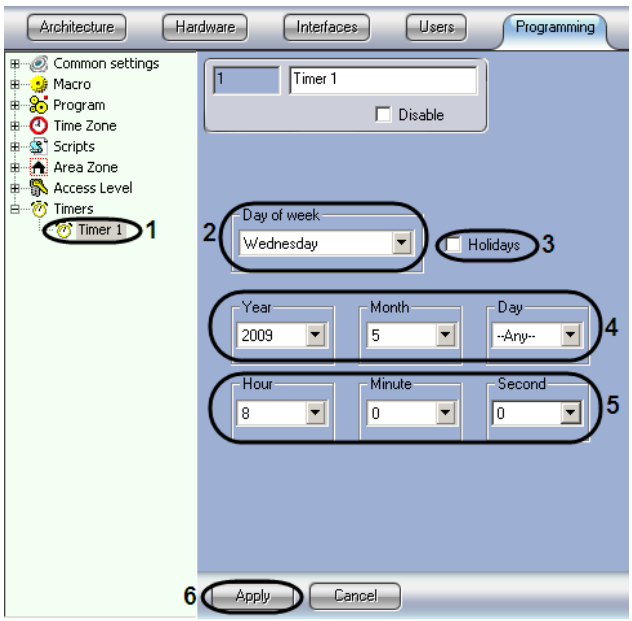


Figure 8.25—3. The Timer object setup

Note. To create the list of holidays, do the following:

1. *Open the Programming tab (Figure 8.25—4).*

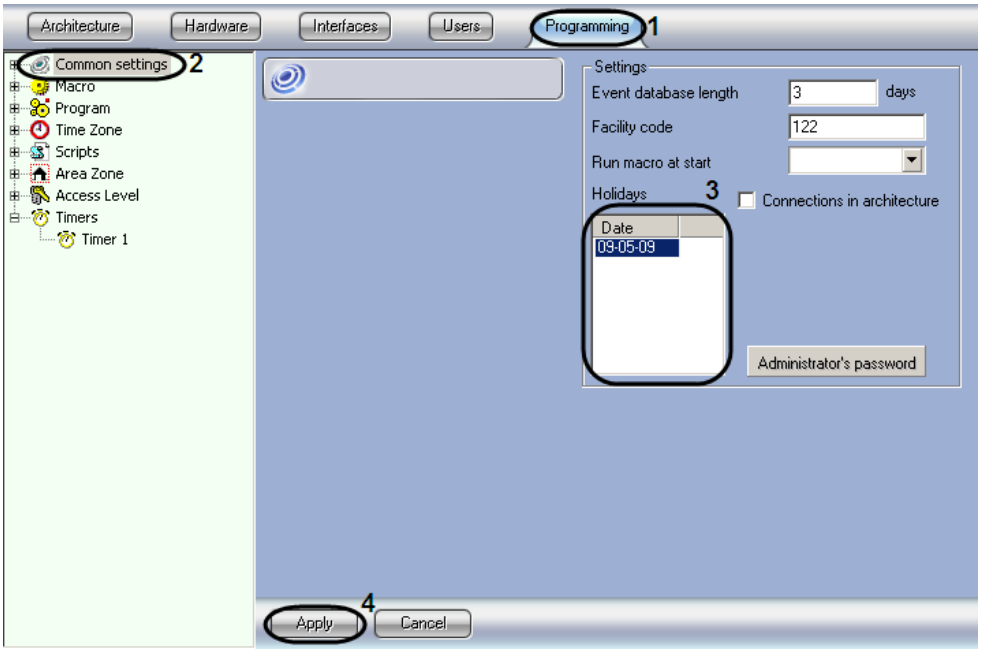


Figure 8.25—4. Creating the Holidays list

2. *Select the General Settings object.*
3. *Enter a holiday date in the DD.MM.YYYY format.*
4. *Click Apply.*

8.25.3 Examples of Timer object usage

Example 1. Consider a macro that activate an arming mode in selected camera when the timer triggers (Table 8.25-1, Figure 8.25—5).

Table 8.25-1

No	Event	Action
1	The timer triggered (Figure 8.25—5, 1).	Activate an arming mode (Figure 8.25—5, 2)

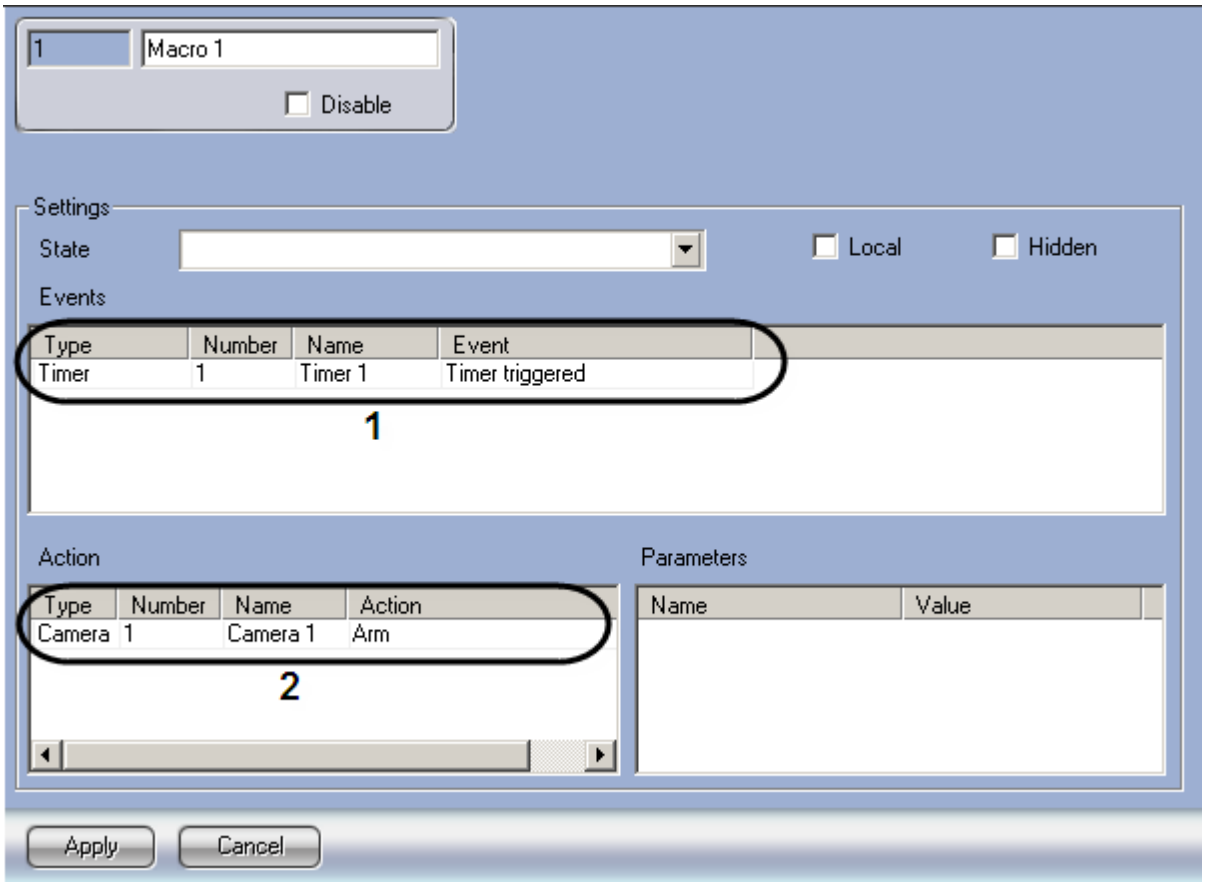


Figure 8.25—5. An example of a macro using the timer

Example 2. Consider macros that allow to set the timer with trigger period of several seconds (Table 8.25-2).

Table 8.25-2

Macro	Event	Action	Parameters
1		Start counter of Timer 1 (Figure 8.25—6, 1)	Trigger value is 5 seconds (Figure 8.25—6, 2)
2	The timer 1 triggered (Figure 8.25—7, 1)	Macro 1 execution (Figure 8.25—7, 2)	

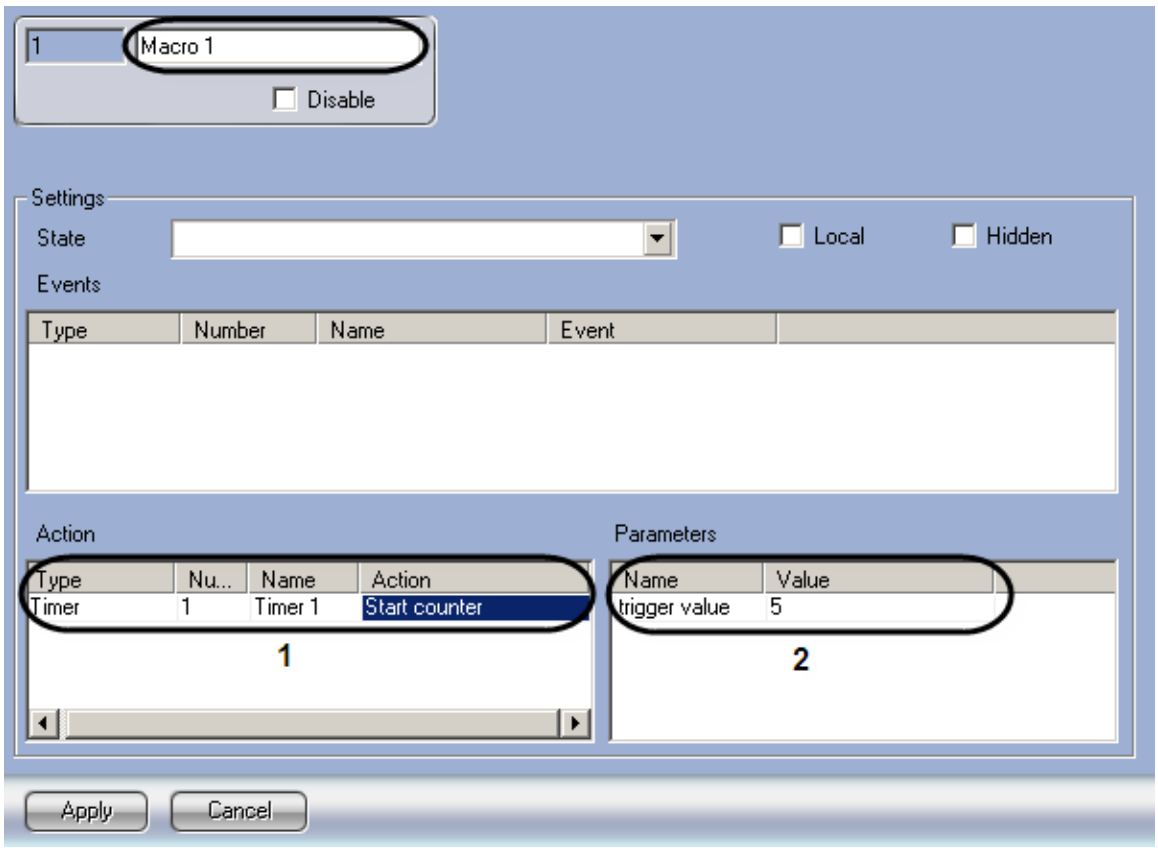


Figure 8.25—6 "Macro 1" object setting window

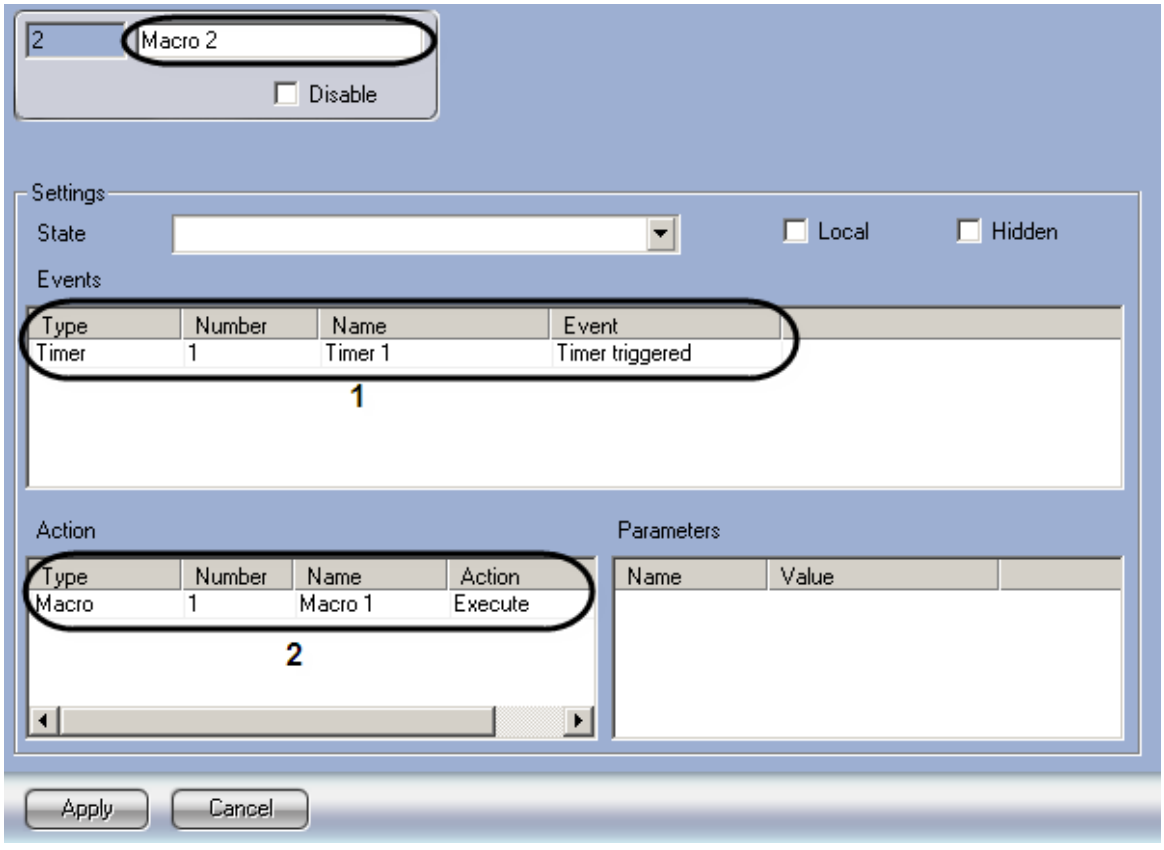


Figure 8.25—7 "Macro 2" object setting window

Note 1. Timer will trigger every 5 seconds after starting the macro (Macro 1) in menu of Intellect PC main setting board.

Note2. To stop the timer set "Disable " check box in "Timer 1" object setting window.

8.26 Subdivision of the guarded location into areas and regions

8.26.1 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.

8.26.2 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 8.26—1 shows the process of creating an Area Zone object. See the detailed description in the General Procedure of the Object Setup section.

Figure 8.26—1. Creating the Area Zone object

8.26.3 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.

8.26.4 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 8.26—2).

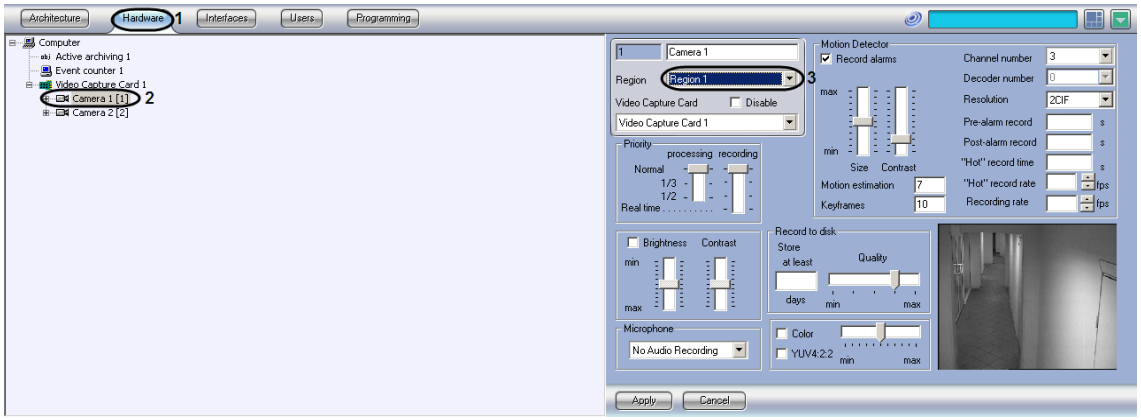


Figure 8.26—2. An example of using the Region object

Example 2. The device reports generated by the Intellect software can be grouped by region. Figure 8.26—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.

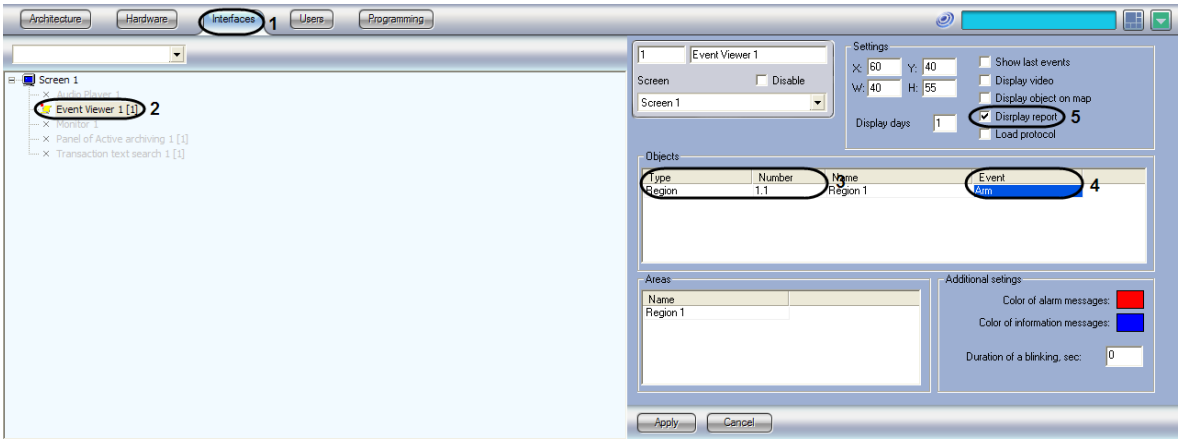


Figure 8.26—3. An example of the Event Viewer object set up for report generation

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.

9.2 Starting and closing the Report system

9.2.1 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 9.2—1).

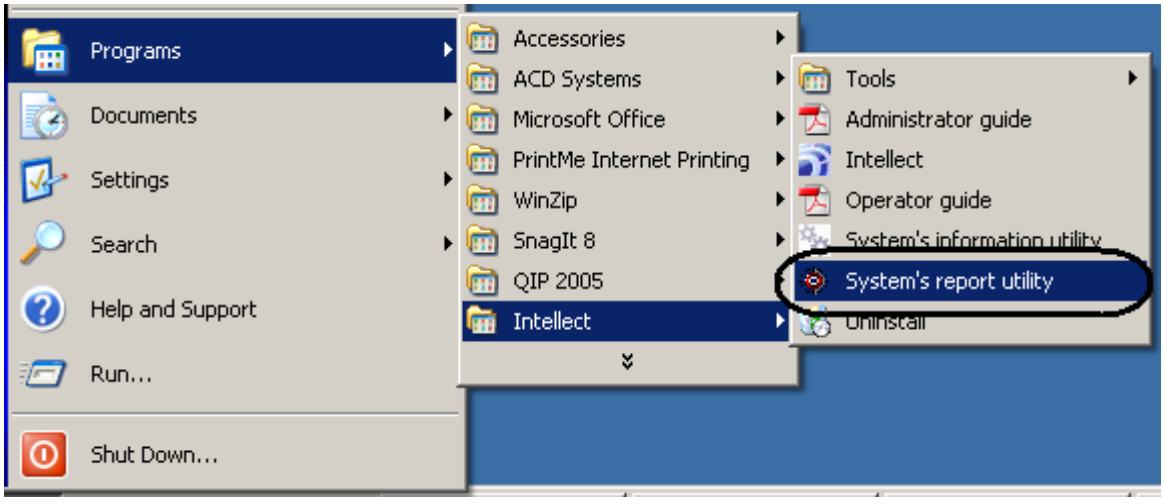


Figure 9.2—1. Starting the Report system using the Start button

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 9.2—2).

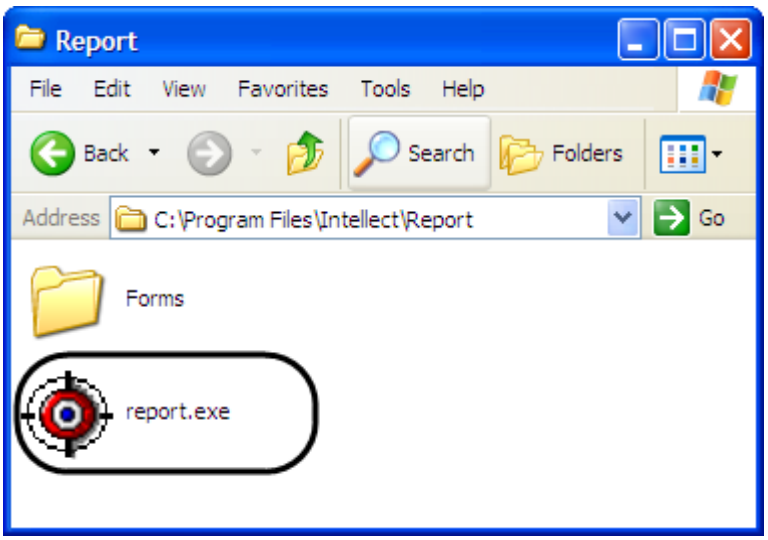


Figure 9.2—2. Starting the Report system from the Intellect program folder

The Report system will start.

The notification window will appear, indicating that the system configuration is being read from the database (Figure 9.2—3).

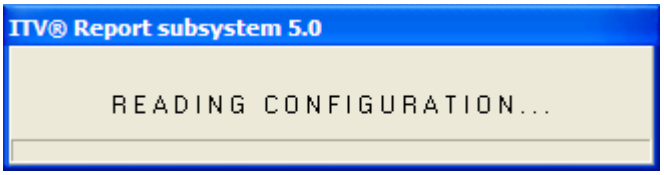


Figure 9.2—3. Starting up of the Report System

9.2.2 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 9.2—4).

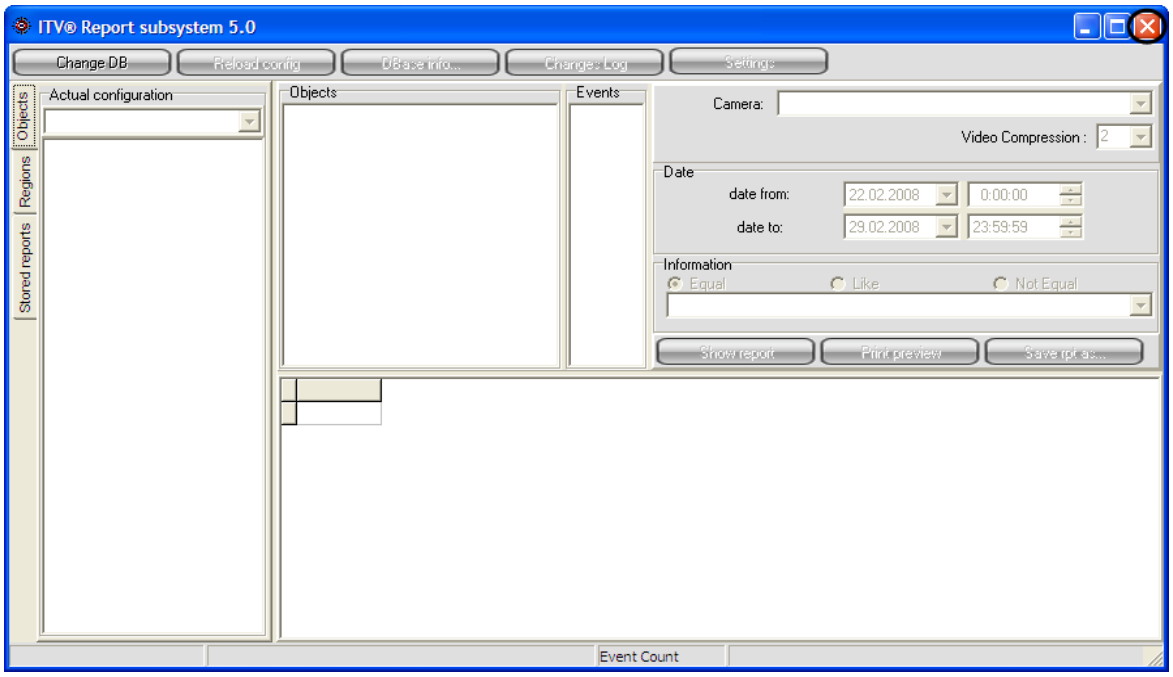


Figure 9.2—4. Closing the Report system

The Report system window will close.

9.3 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 9.3—1 shows an example of the Report window.

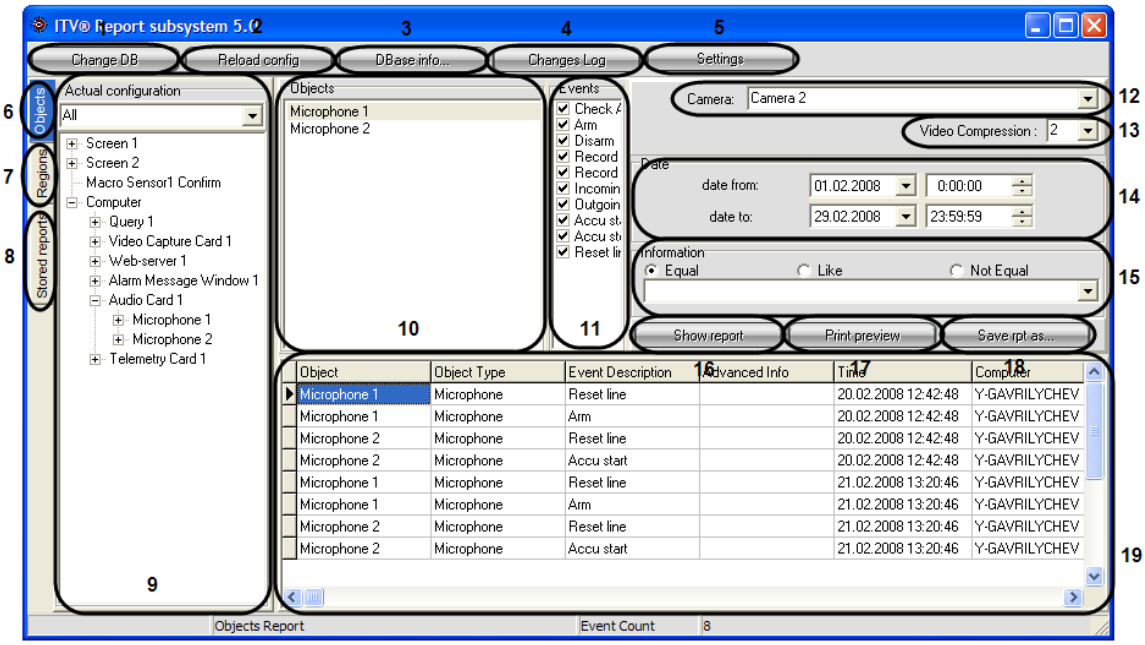


Figure 9.3—1. An example window of the Report system

The Report window includes the following interface elements (numbered according to the screenshot on Figure 9.3—1):

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 9.3—2).

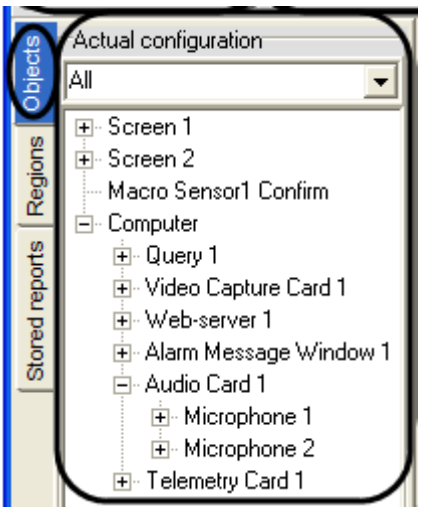


Figure 9.3—2. Actual Configuration tab

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 9.3—3).

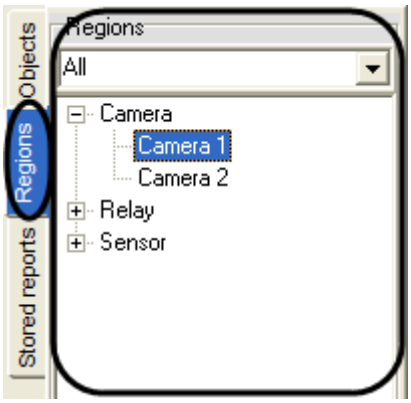


Figure 9.3—3. The Regions tab

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 9.3—4).

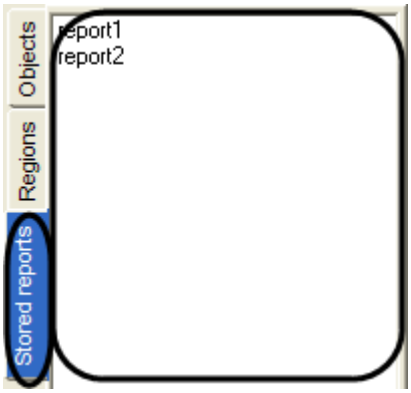


Figure 9.3—4. The list of report templates

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.

9.3.1 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 9.3—5 shows the OptionsForm window.

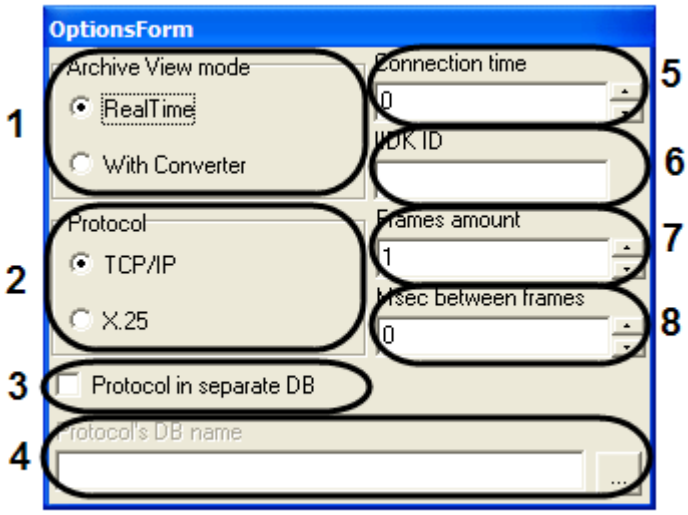


Figure 9.3—5. OptionsForm window

The OptionsForm window includes the following interface elements (numbered according to the screenshot in Figure 9.3—5):

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.

9.4 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.

9.4.1 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 9.4—1).

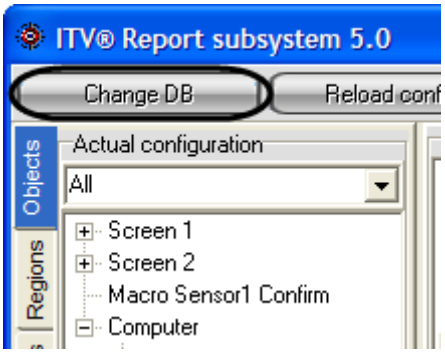


Figure 9.4—1. The Change DB button allowing to connect to the Intellect database

The Data Link Properties window will open allowing to select the name and access parameters of the database to connect to (Figure 9.4—2).

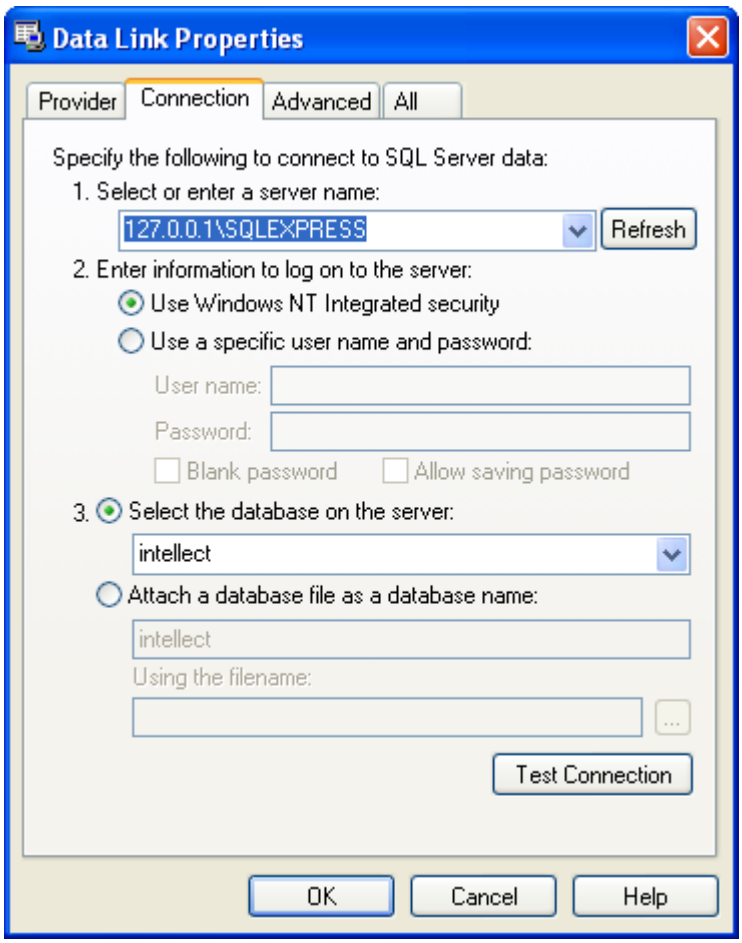


Figure 9.4—2. The Data Link Properties window

The Intellect system uses two types of database: SQL and Access. The connection procedure for each database type is described below.

9.4.1.1 *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 9.4—3).

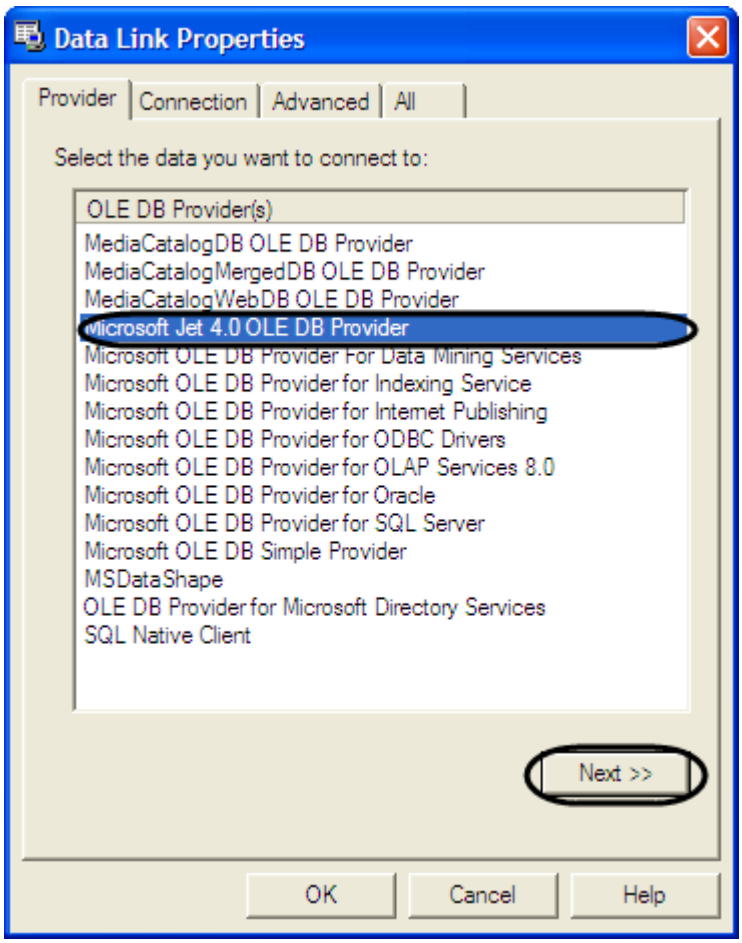


Figure 9.4—3. Selecting the Microsoft Jet 4.0 OLE DB Provider option

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 9.4—4);

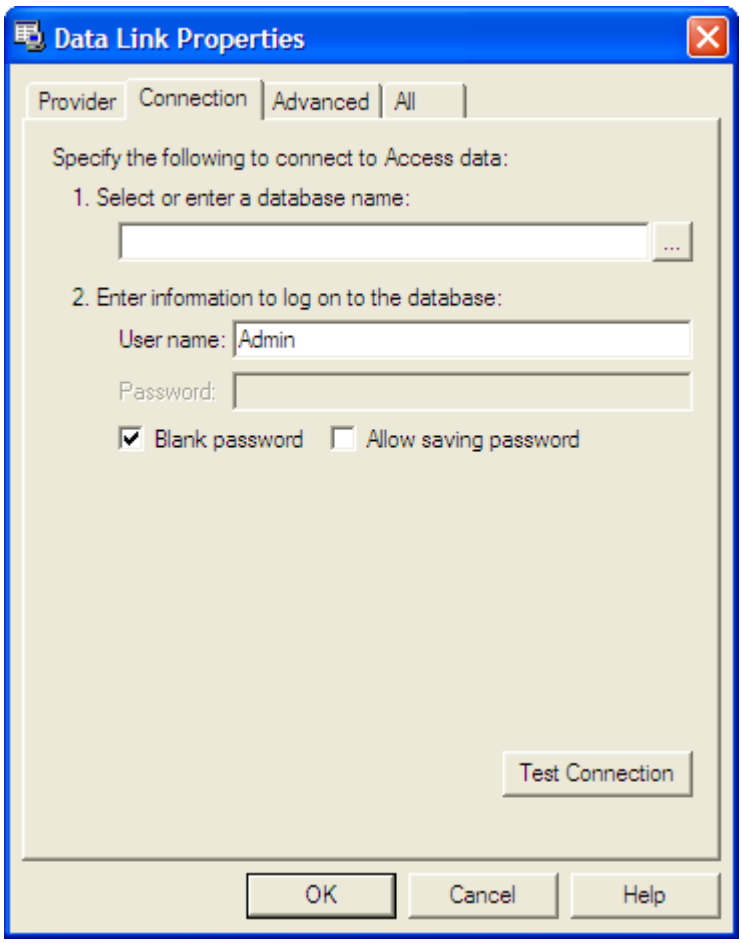


Figure 9.4—4. Selecting the pathname of the main database file

b. Click the "…" button to open the standard dialog box for file selection (Figure 9.4—5).

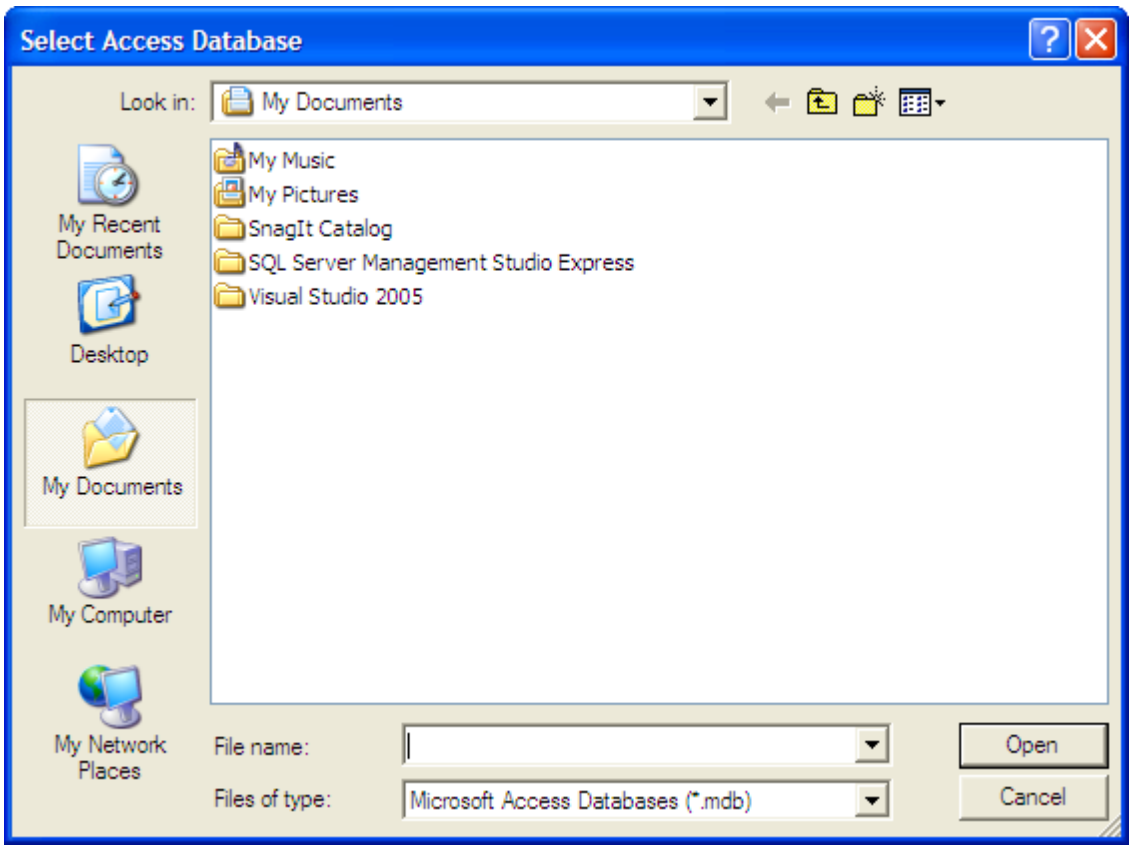


Figure 9.4—5. Selecting the database file in the file selection dialog box

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 9.4—6).

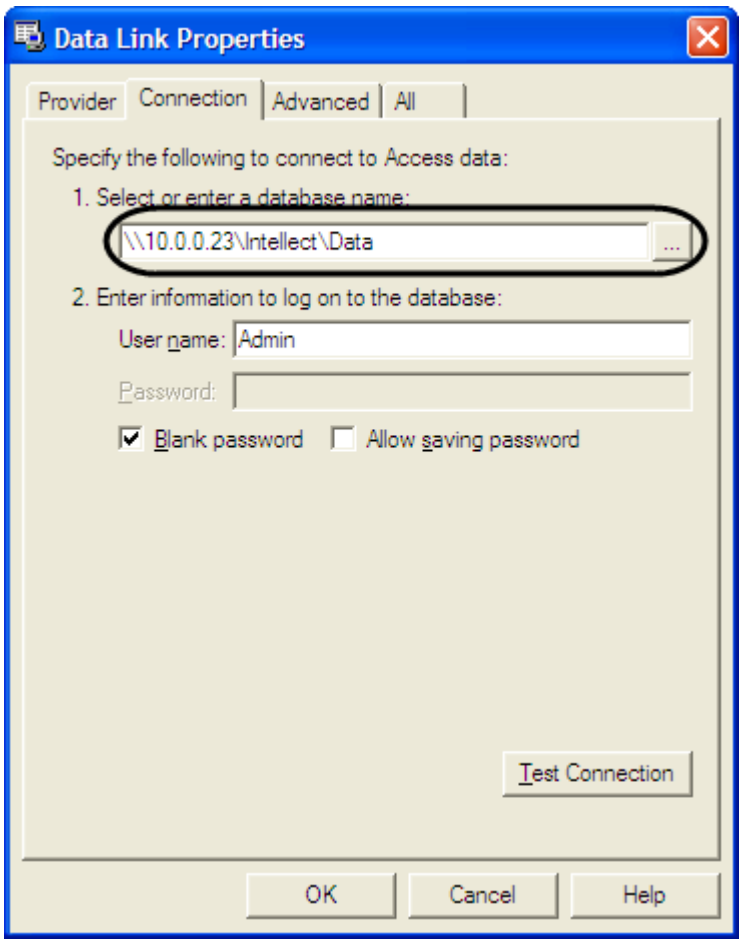


Figure 9.4—6. Connecting to an Access database on a remote computer

d. Test the connection to the database. To do this, click the Test Connection button (Figure 9.4—7).

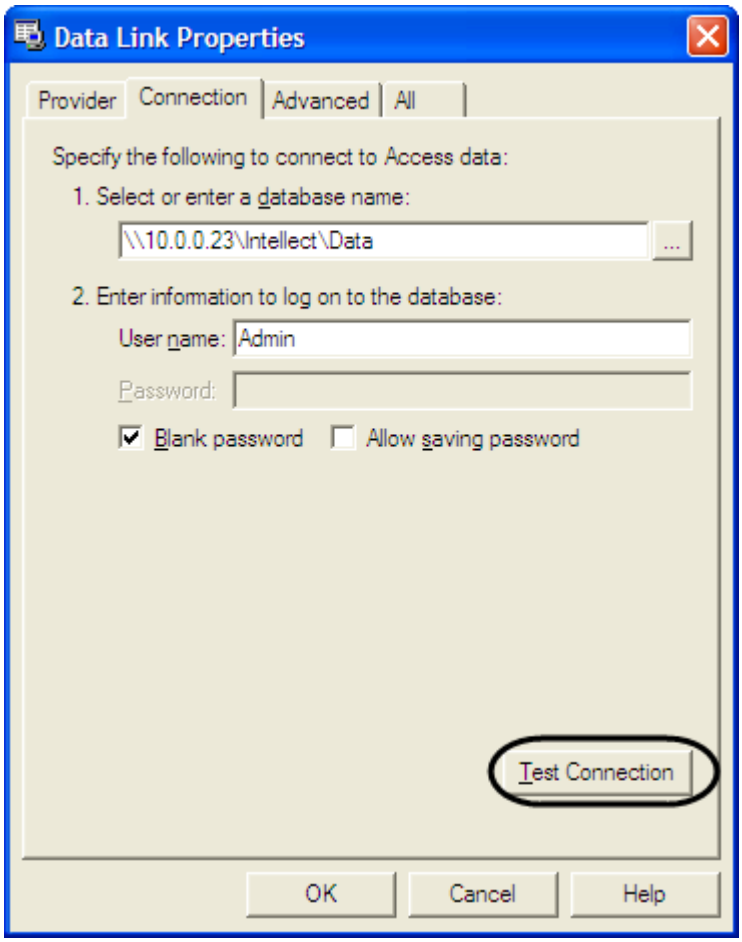


Figure 9.4—7. Testing the connection to the Access database

e. The information box with the text “Test connection succeeded” will appear in case of successful connection (Figure 9.4—8).

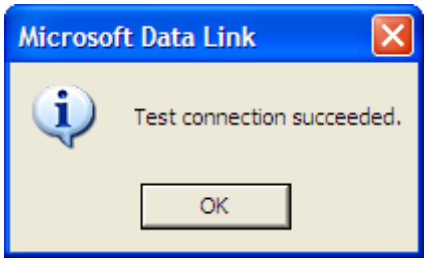


Figure 9.4—8. Test connection succeeded

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:

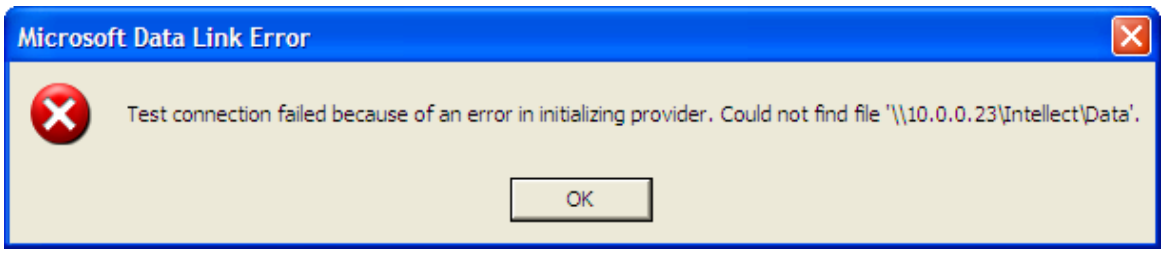


Figure 9.4—9. Database connection error due to invalid address

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 9.4—10).

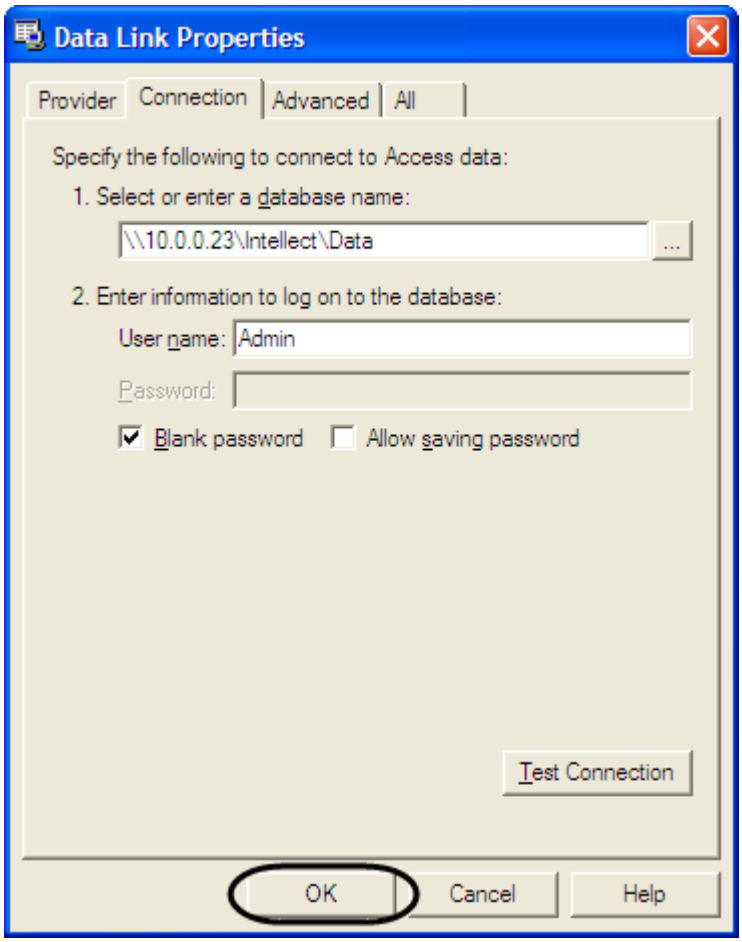


Figure 9.4—10. Confirming the changes

This completes the selection of the main database in Access format. The information from the selected database is now loaded into the Report system.

9.4.1.2 *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 9.4—11).

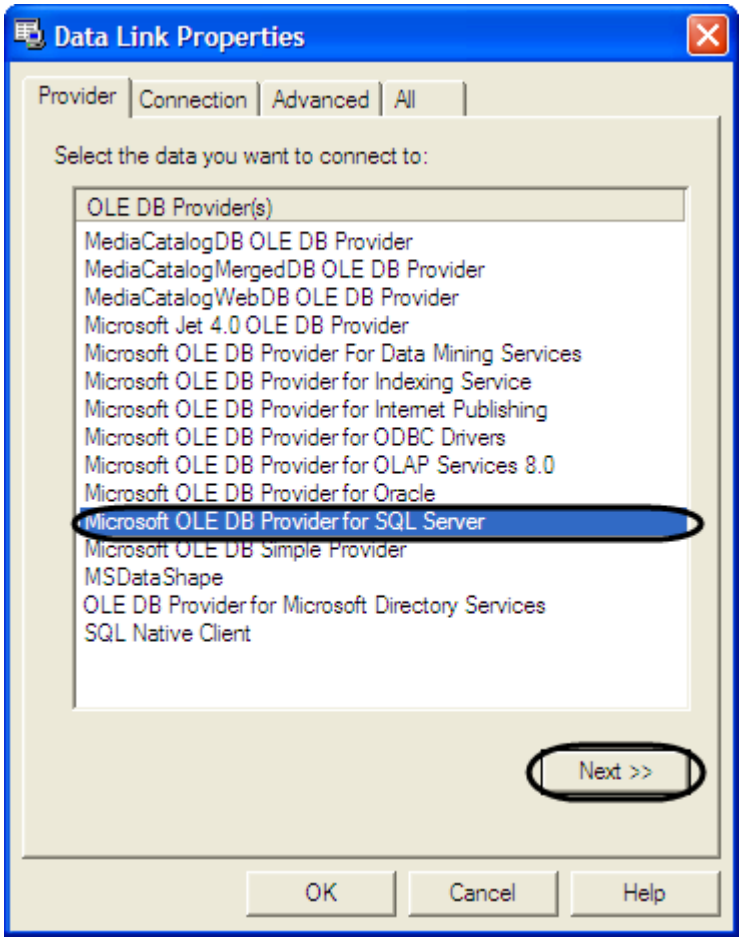


Figure 9.4—11. Selecting the Microsoft OLE DB Provider for SQL Server option

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 9.4—12).

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 9.4—12).

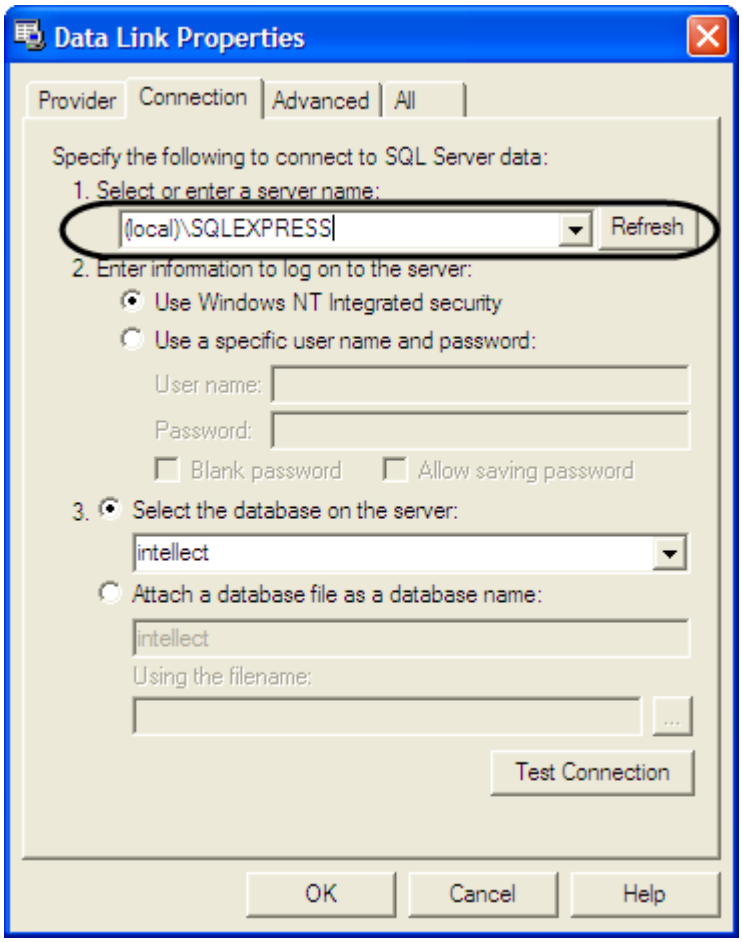


Figure 9.4—12. Entering the name of the SQL server

b. select the SQL server in the drop-down list of all available SQL servers. The list opens by clicking the button (Figure 9.4—13).

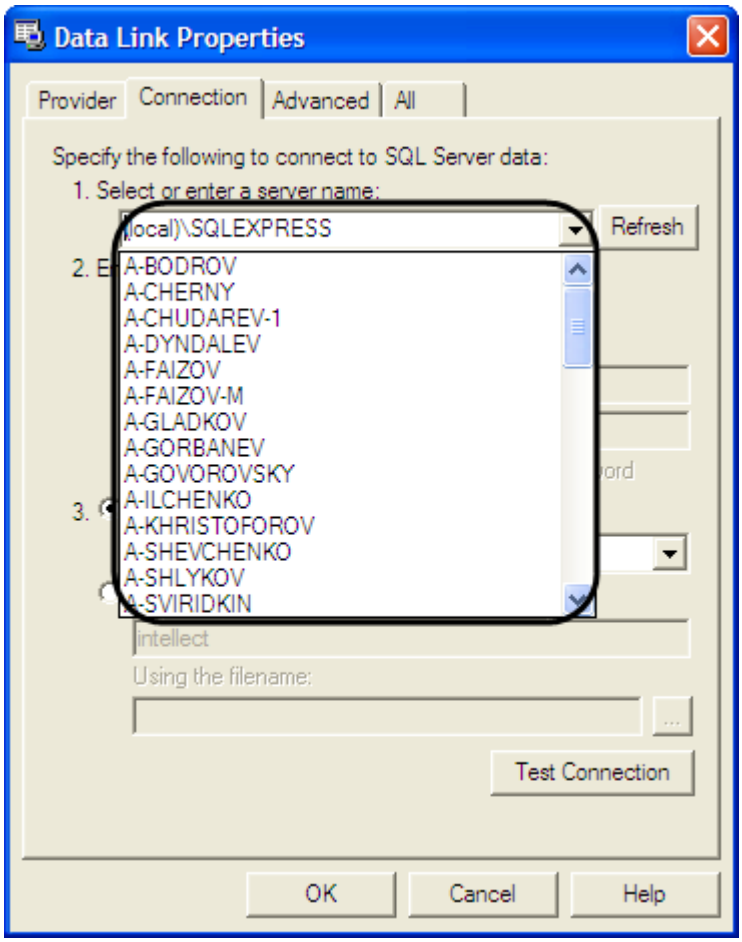


Figure 9.4—13. Selecting the SQL server from the list of available servers

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 9.4—14):

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.

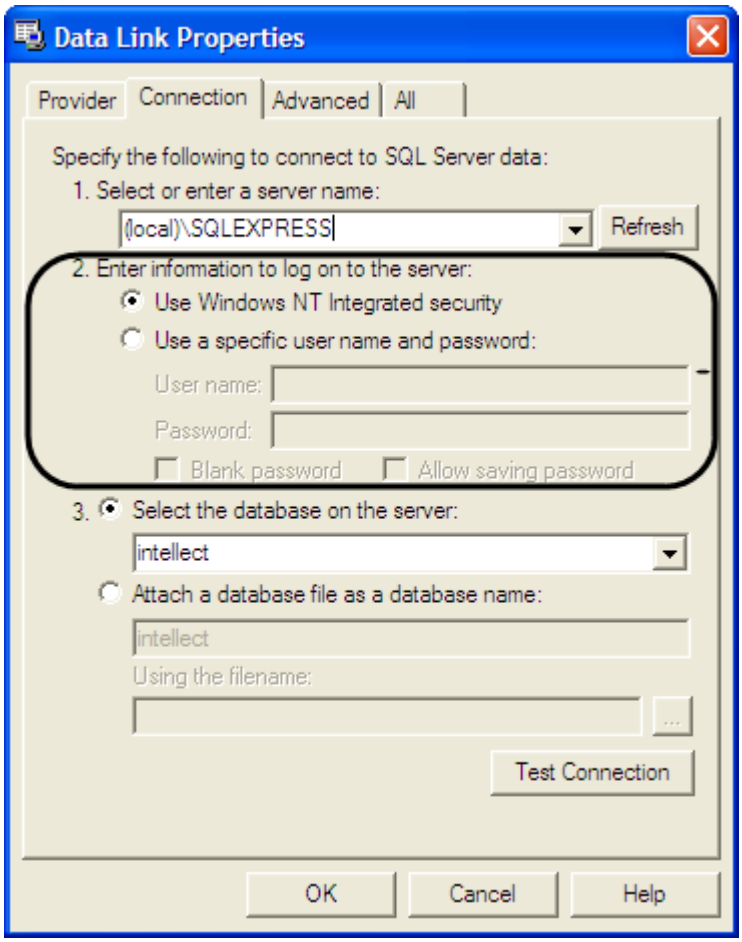


Figure 9.4—14. Selecting the SQL server authorization parameters

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 "axxonsoft" (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. *AxxonSoft - 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 9.4—15).

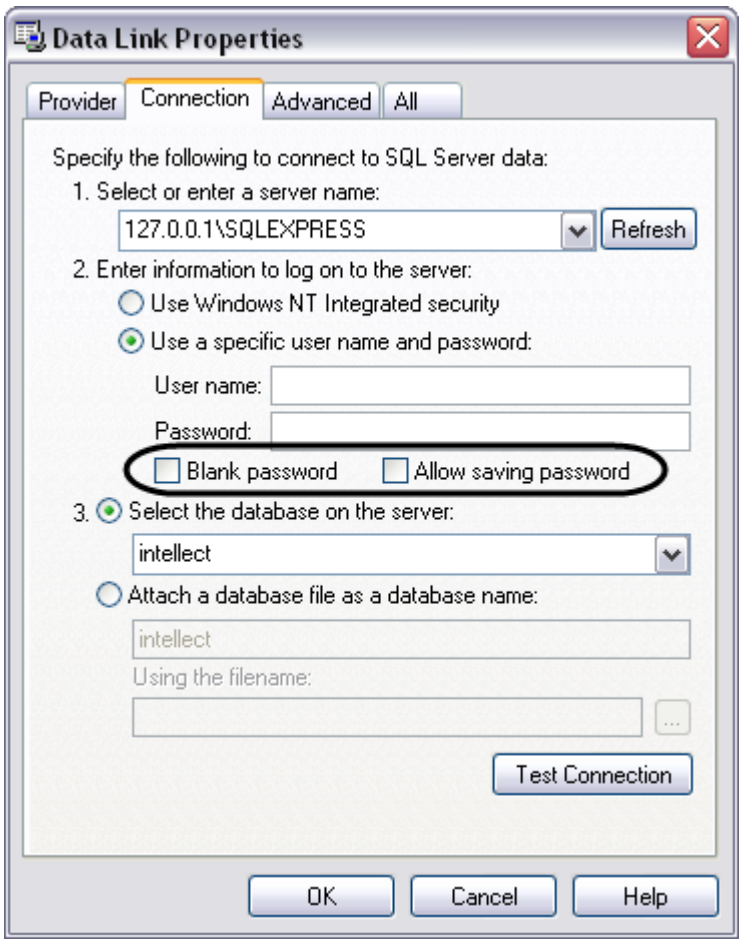


Figure 9.4—15. Selecting the SQL server authorization parameters

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 9.4—16).

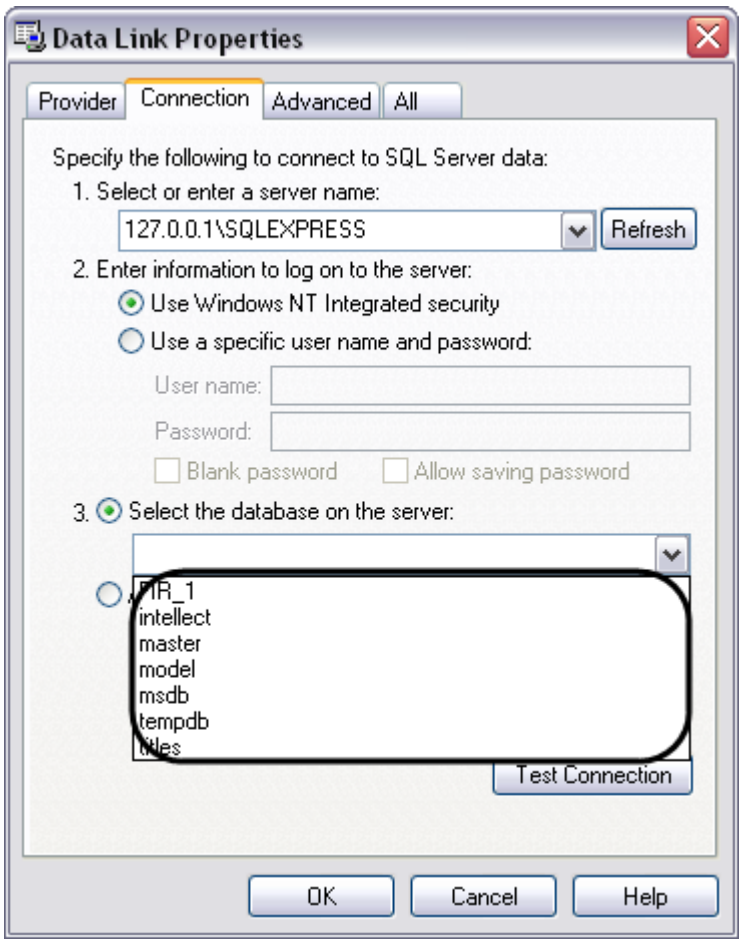


Figure 9.4—16. Selecting the database on the SQL server

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 9.4—17).

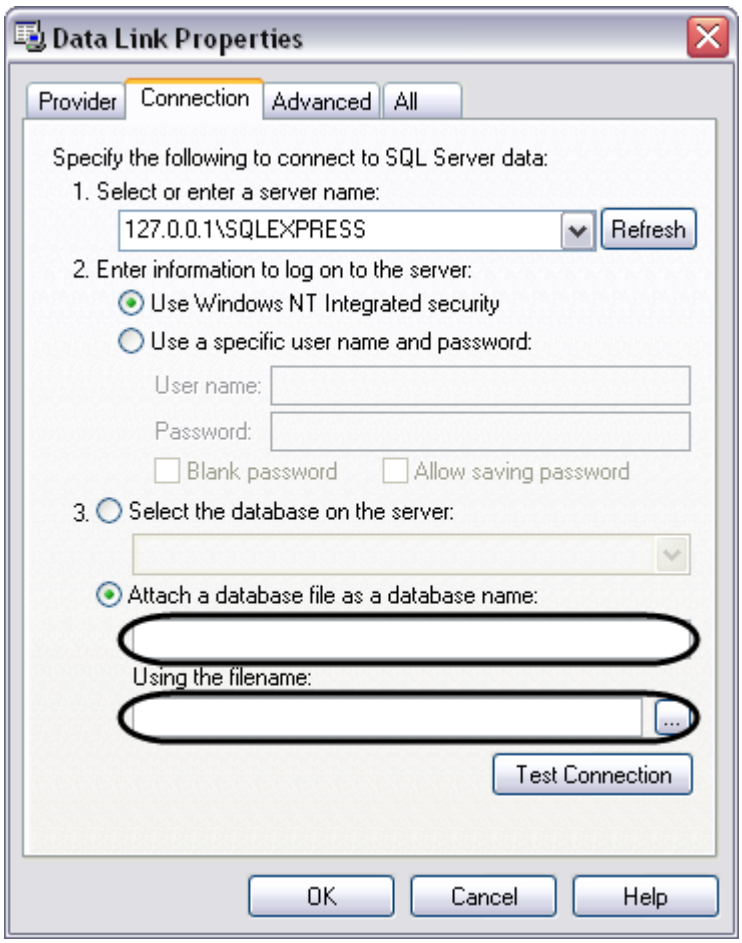


Figure 9.4—17. Additional ways of database selection

e. Test the connection to the SQL server by clicking the Test Connection button (Figure 9.4—18).

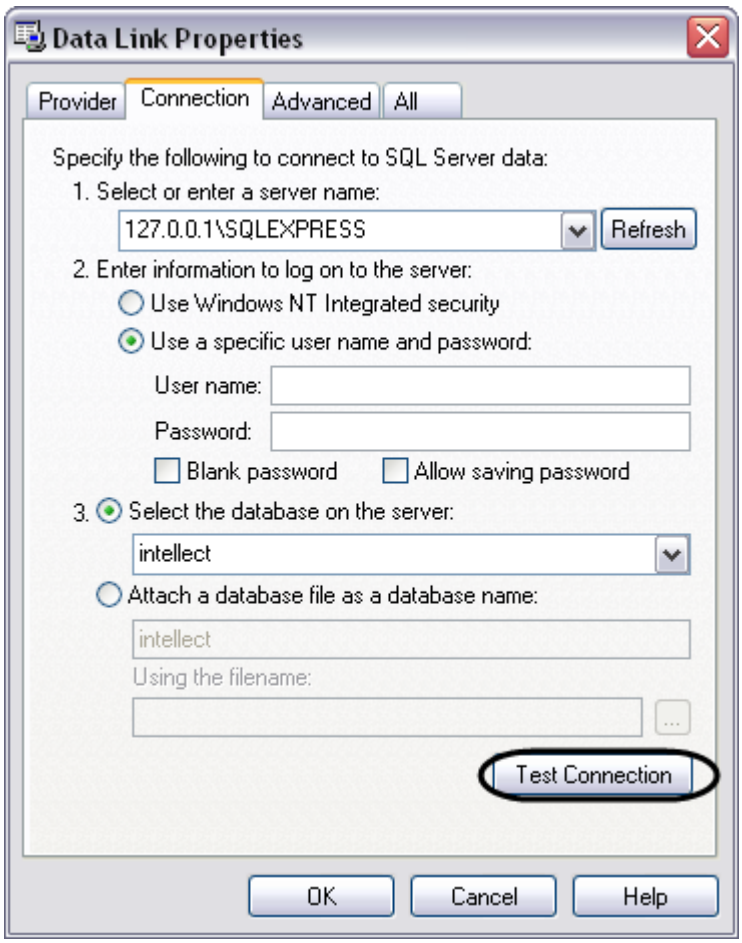


Figure 9.4—18. Testing the connection to the database on the SQL server

The information box showing the message "Test connection succeeded" will appear in case of successful connection (Figure 9.4—19).

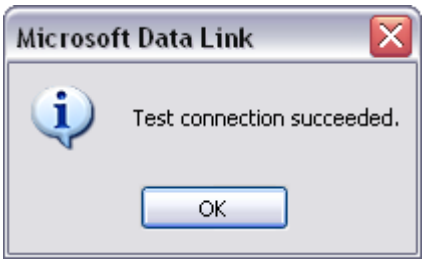


Figure 9.4—19. Test connection succeeded

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 9.4—20).

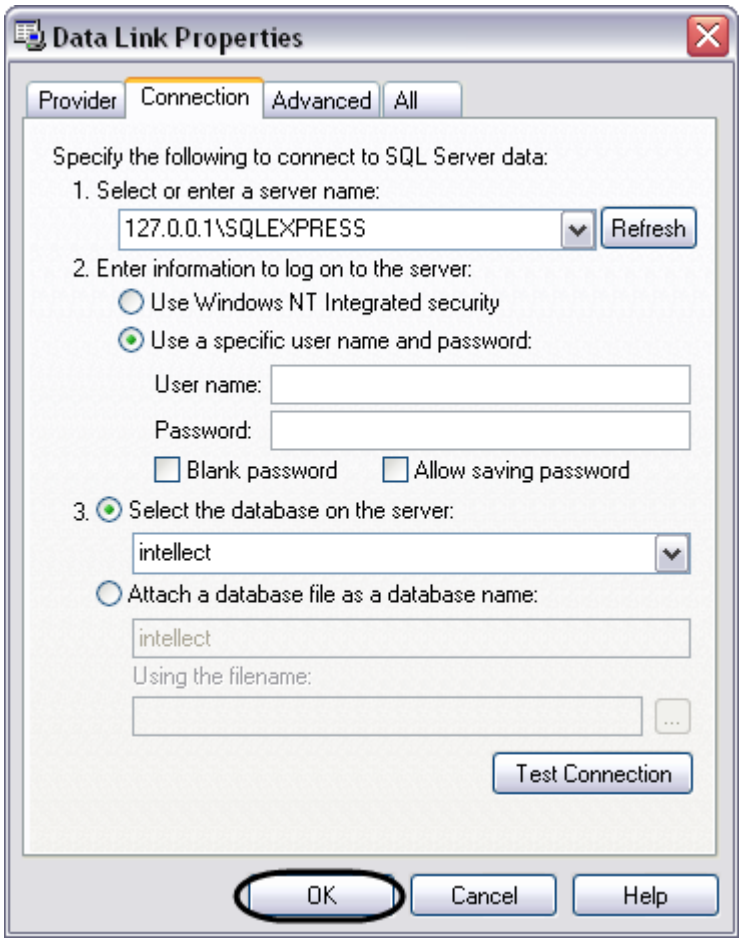


Figure 9.4—20. Confirming the changes

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.

9.4.2 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 9.4—21).

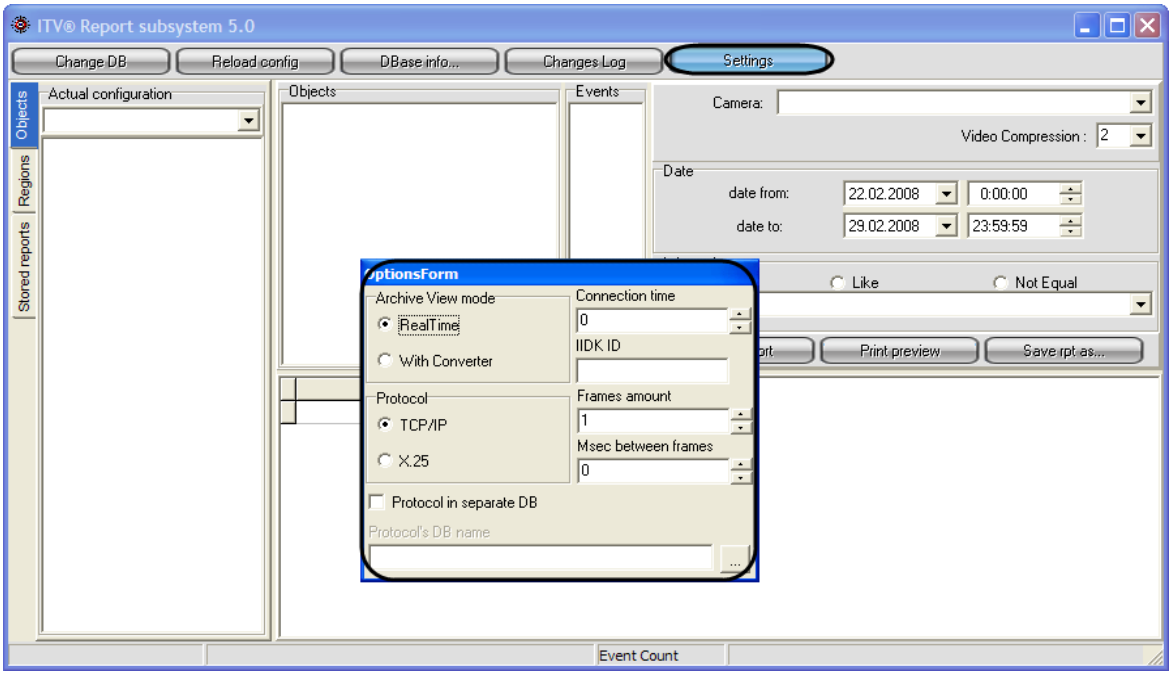


Figure 9.4—21. Opening the OptionsForm window

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 9.4—22). 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).

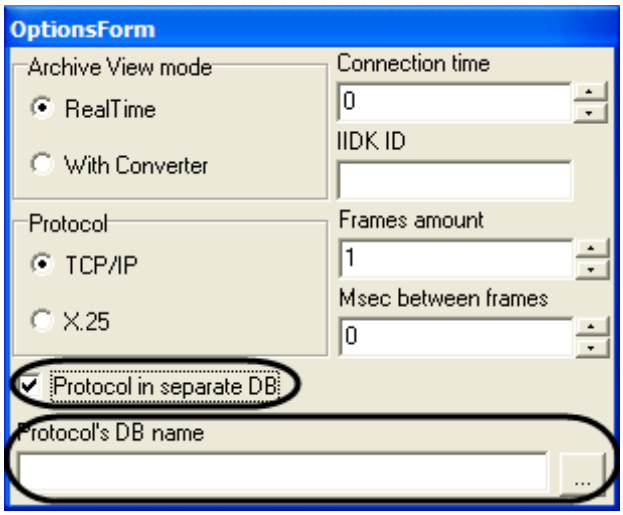


Figure 9.4—22. Selecting the events database

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.

9.5 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 9.5—1).

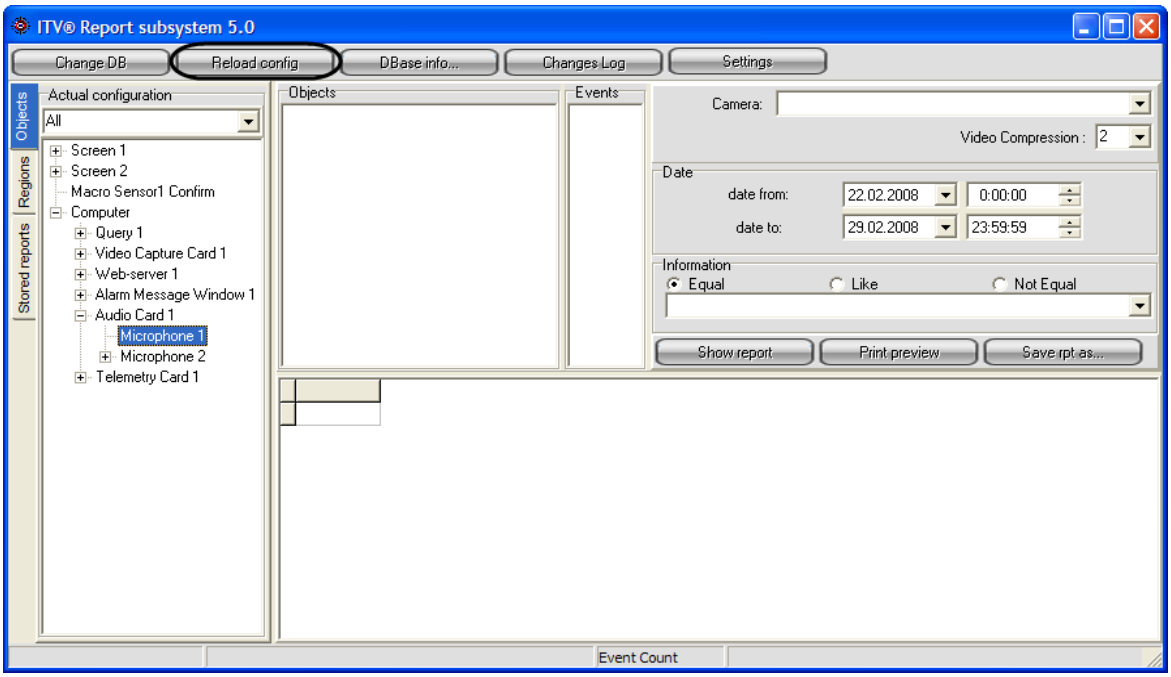


Figure 9.5—1. The Reload Config button reloads the configuration and events data

The object tree, the regions list, the report templates list, and the registered events list will be refreshed according to the new system configuration.

9.6 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 9.6—1).

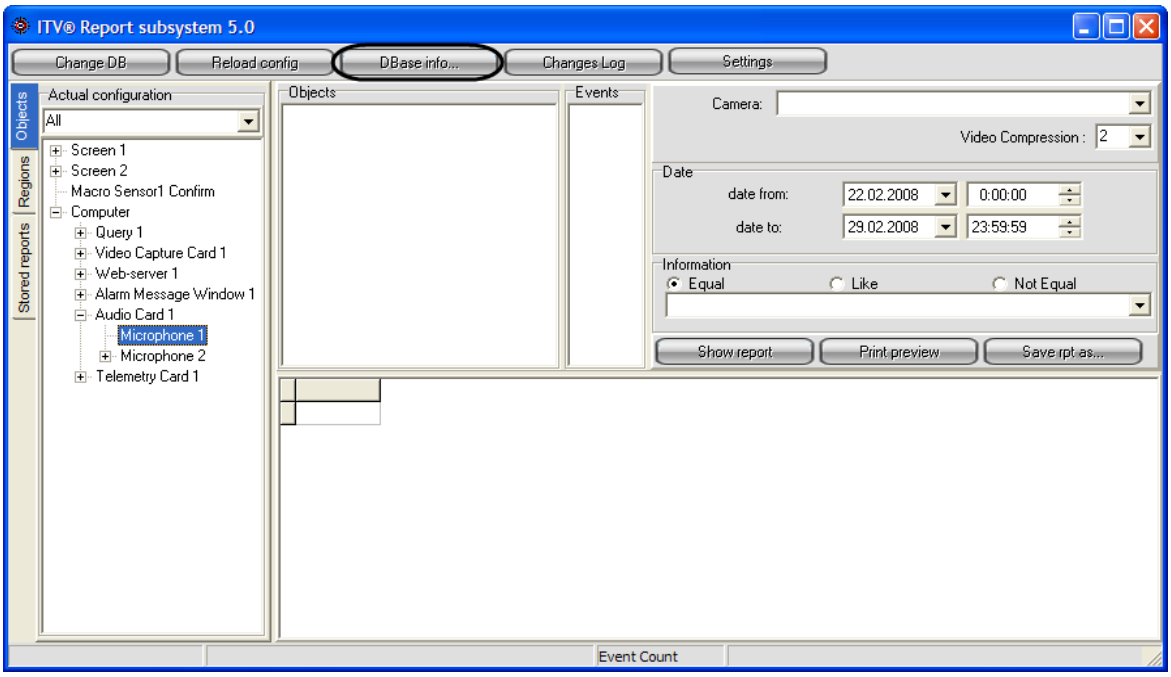


Figure 9.6—1. The DBase Info button

The Base Info information box will open showing the general information about the database (Figure 9.6—2).

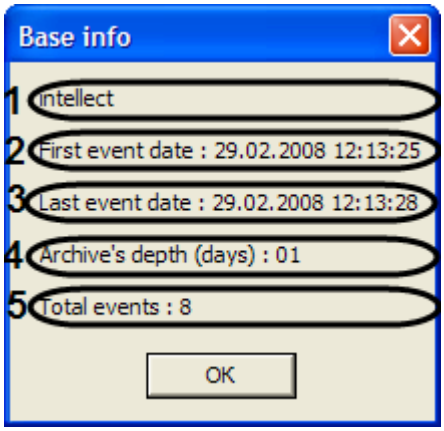


Figure 9.6—2. The Base Info window

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.

9.7 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 9.7—1).

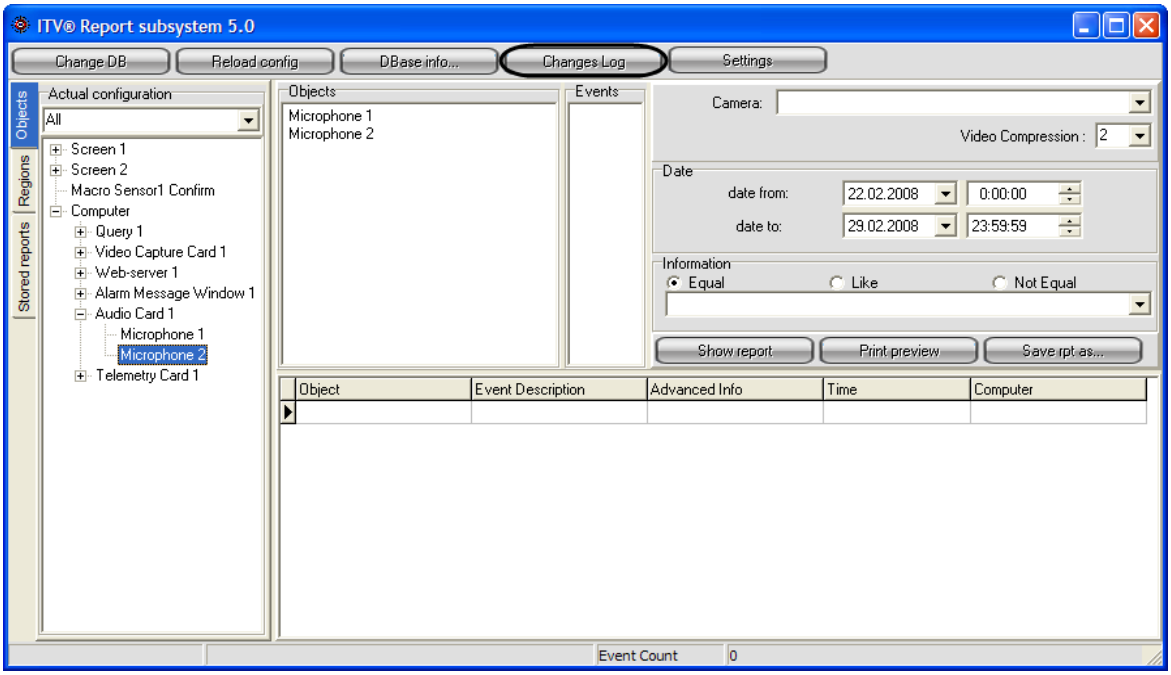


Figure 9.7—1. The Changes Log button

The screen report section of the window will show the list of changes made to the system configuration (Figure 9.7—2).

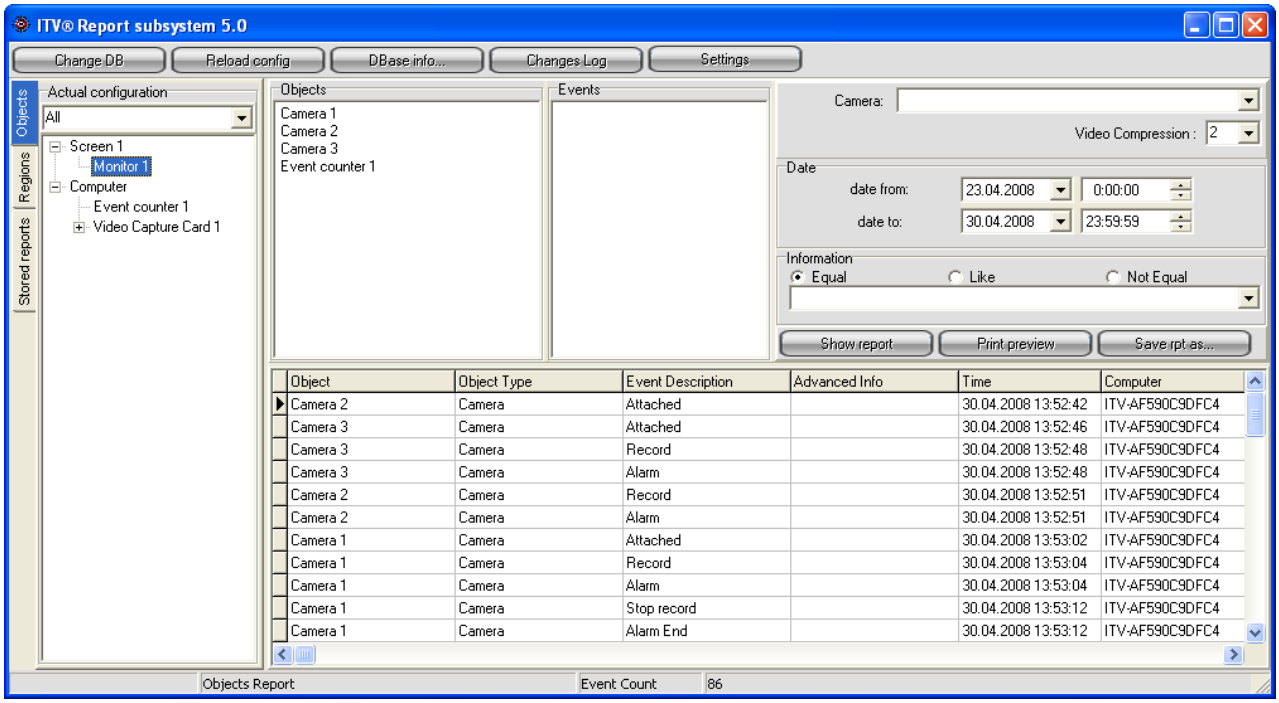


Figure 9.7—2. Viewing the changes log

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.

9.8 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.

9.8.1 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.

9.8.2 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 9.8—1 shows the stages of template creation.

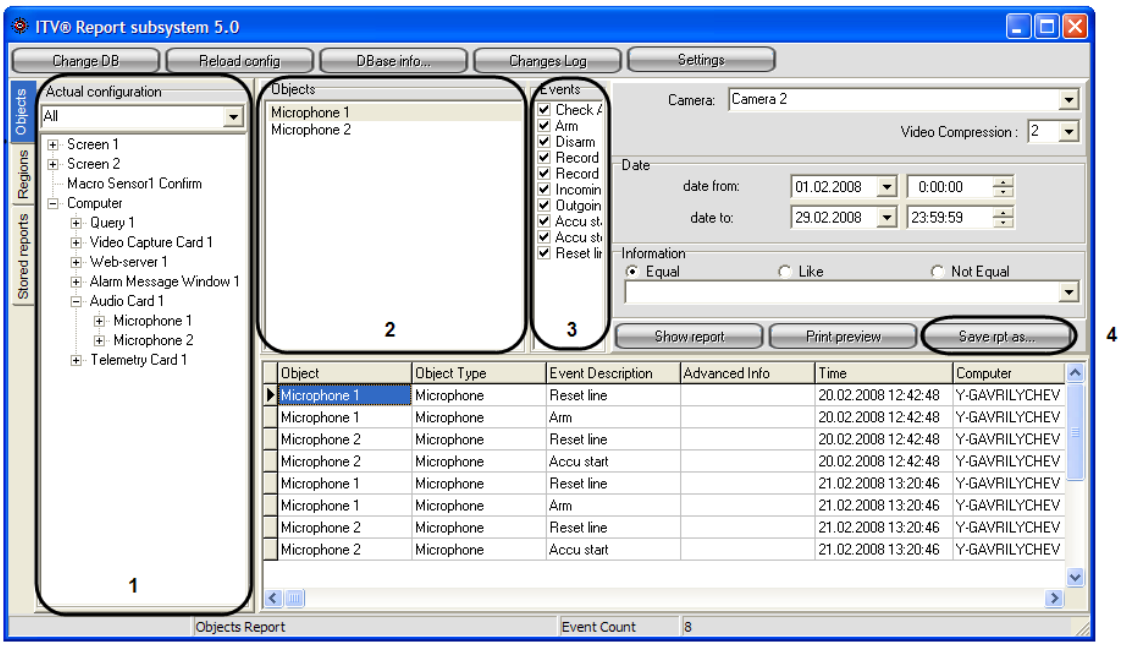


Figure 9.8—1. Creating the report template

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 9.8—2).

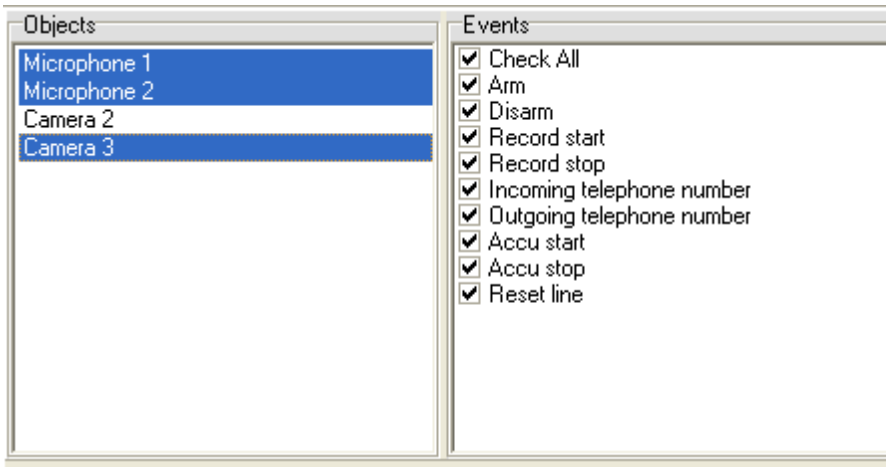


Figure 9.8—2. Common events list for a group of objects

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 9.8—3).

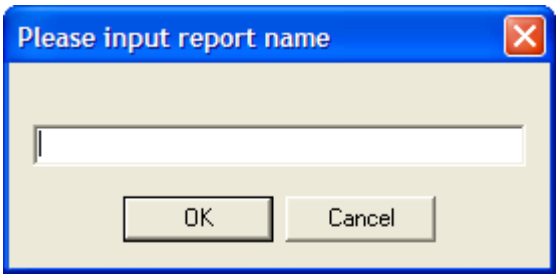


Figure 9.8—3. Report name dialog box

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 9.8—4).

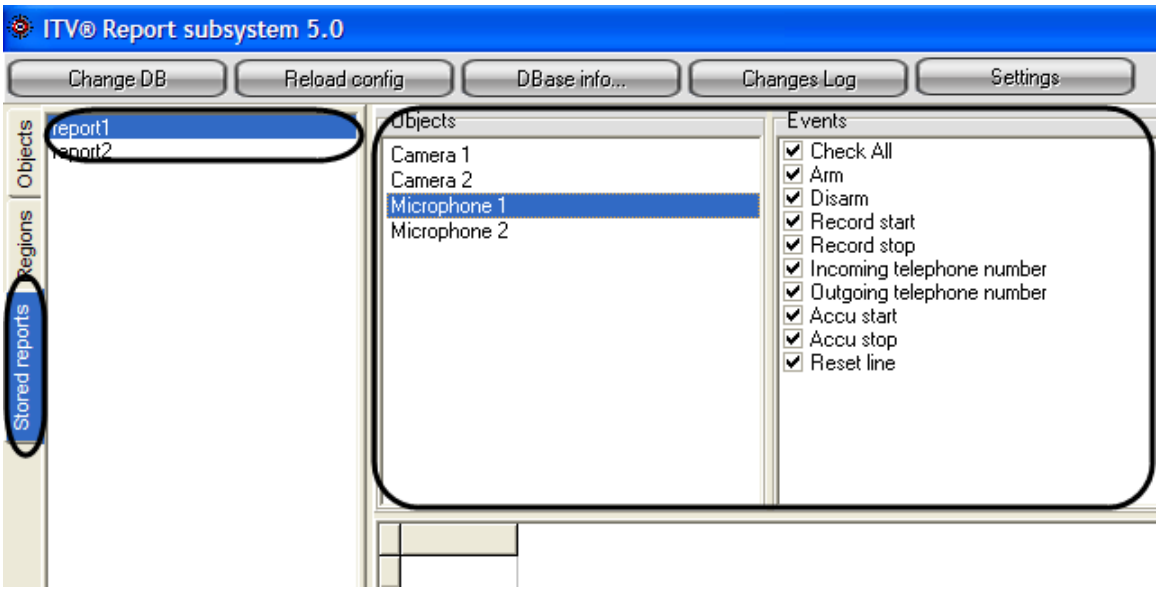


Figure 9.8—4. The Shared Reports tab

9.8.3 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 9.8—5).

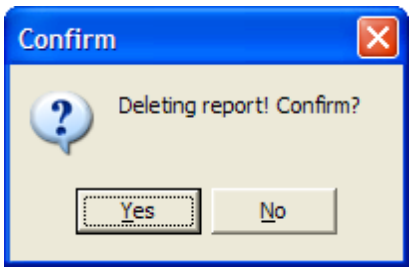


Figure 9.8—5. Template deletion confirmation dialog box

This completes deletion of the report template.

9.9 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.

9.9.1 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 9.9—1 shows the stages of the screen report creation.

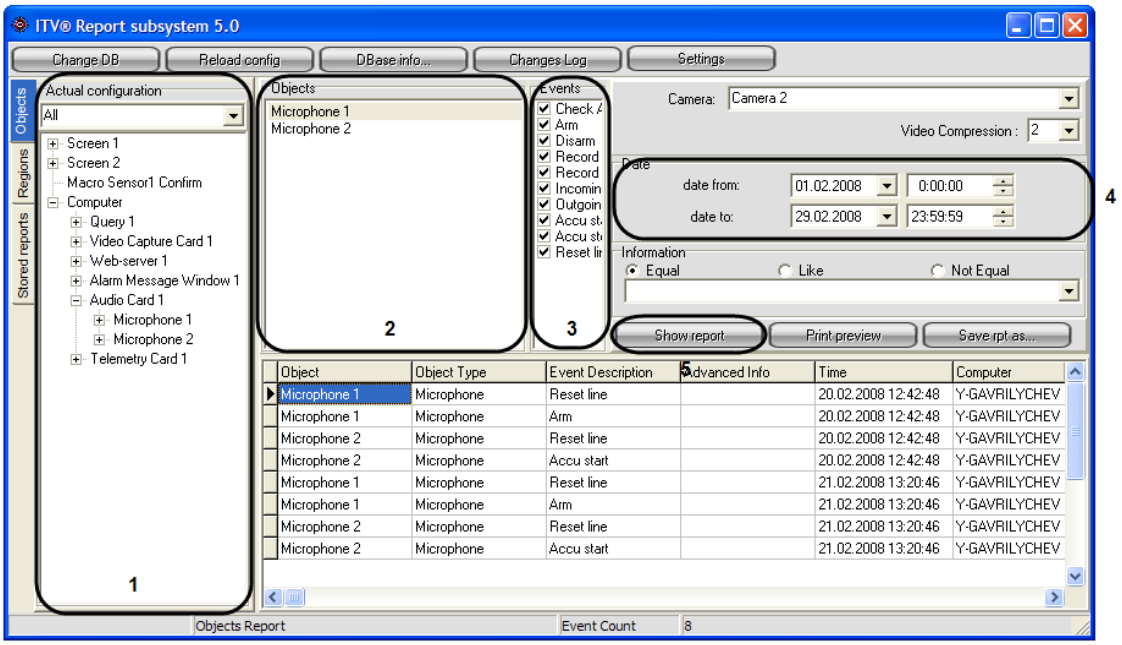


Figure 9.9—1. Creating the screen report

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 9.9—2).

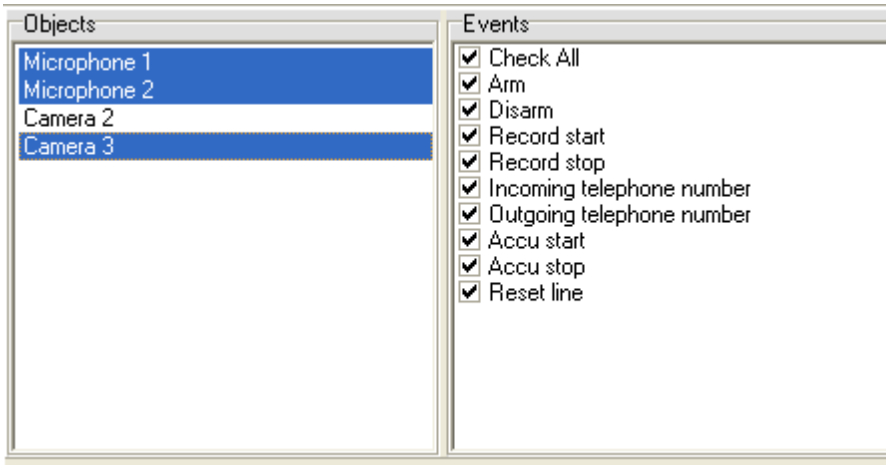


Figure 9.9—2. Common events list for a group of objects

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.

9.9.1.1 *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.

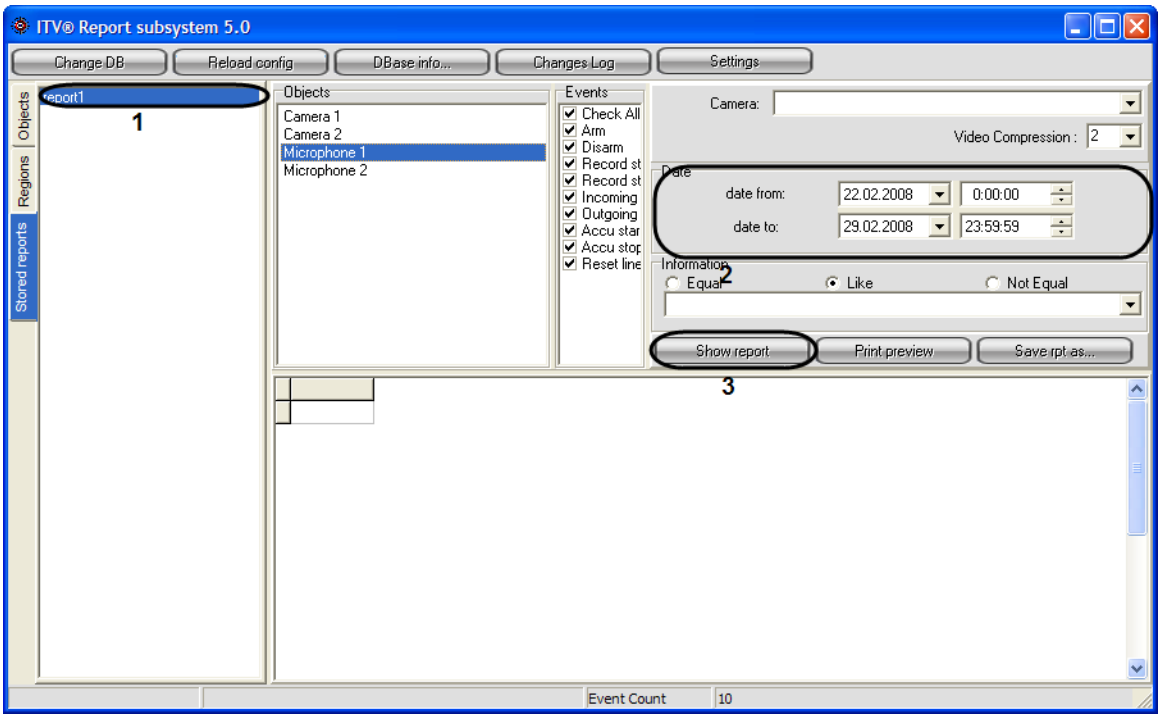


Figure 9.9—3. Creating a screen report from the template

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.

9.9.2 Creating a printed report

The printed report allows convenient viewing of the report in a separate window or printing the report on paper.

Figure 9.9—4 shows the stages of creation of the printed report.

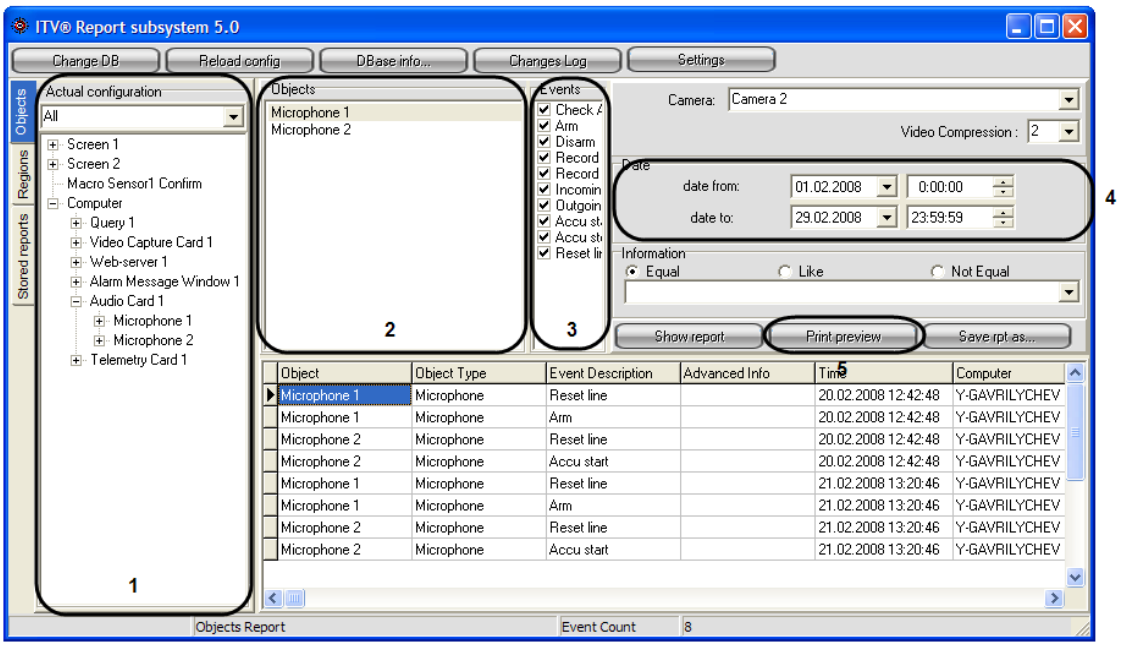


Figure 9.9—4. Creating a printed report

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 9.9—5).

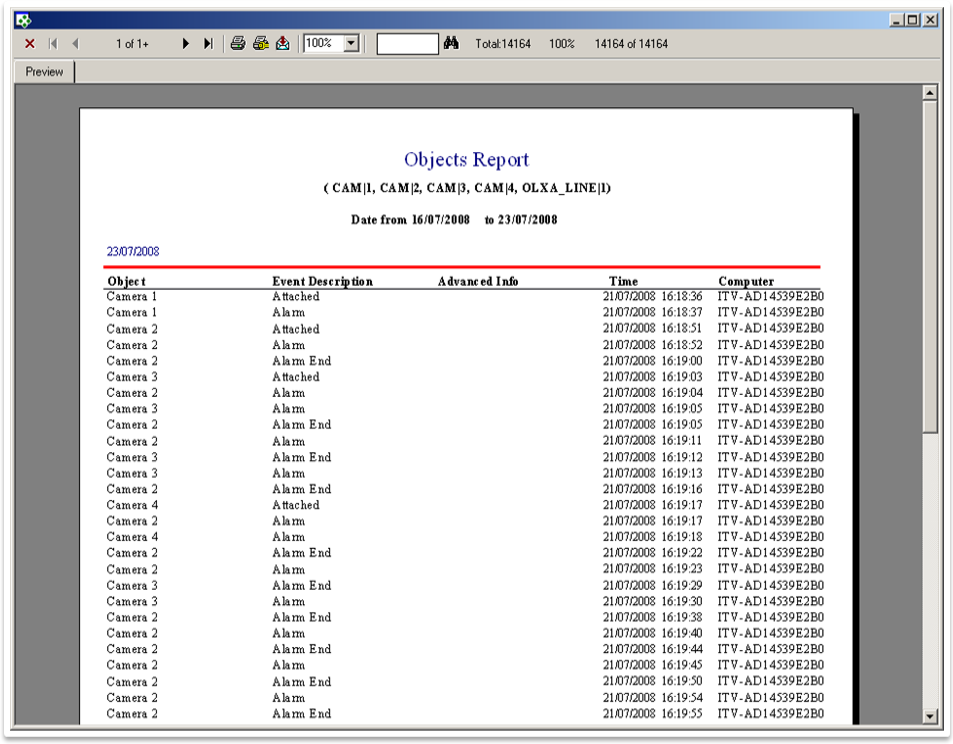


Figure 9.9—5. Printed repor

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.

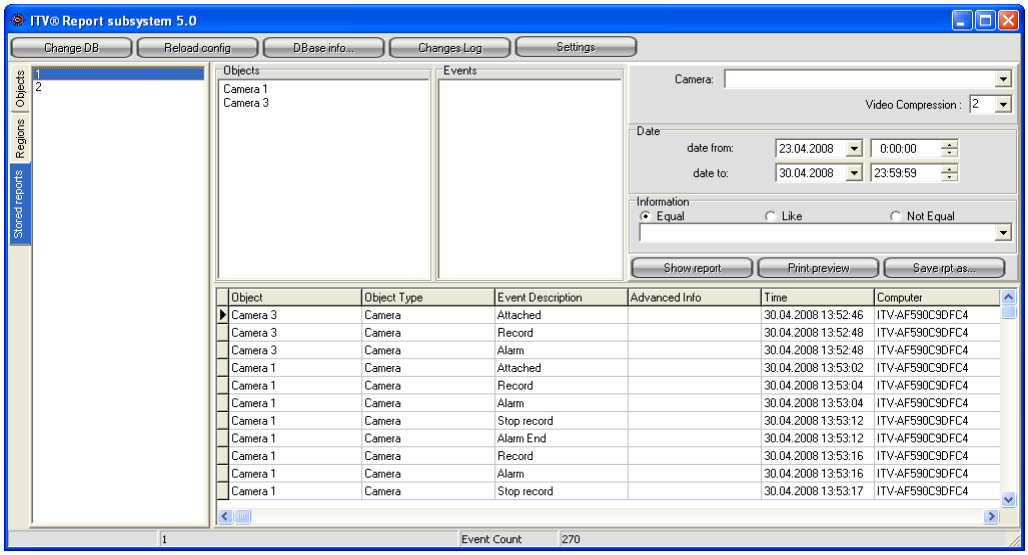


Figure 9.9—6. Creating a printed report from the template

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.

9.9.3 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.

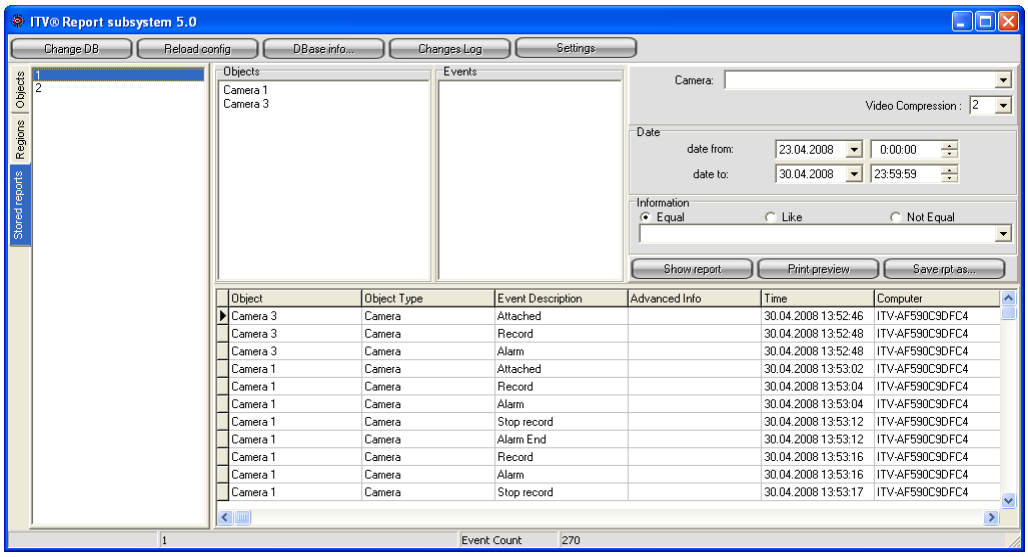


Figure 9.9—7. Creating a printed report from the template

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.

9.9.4 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 9.9—8).

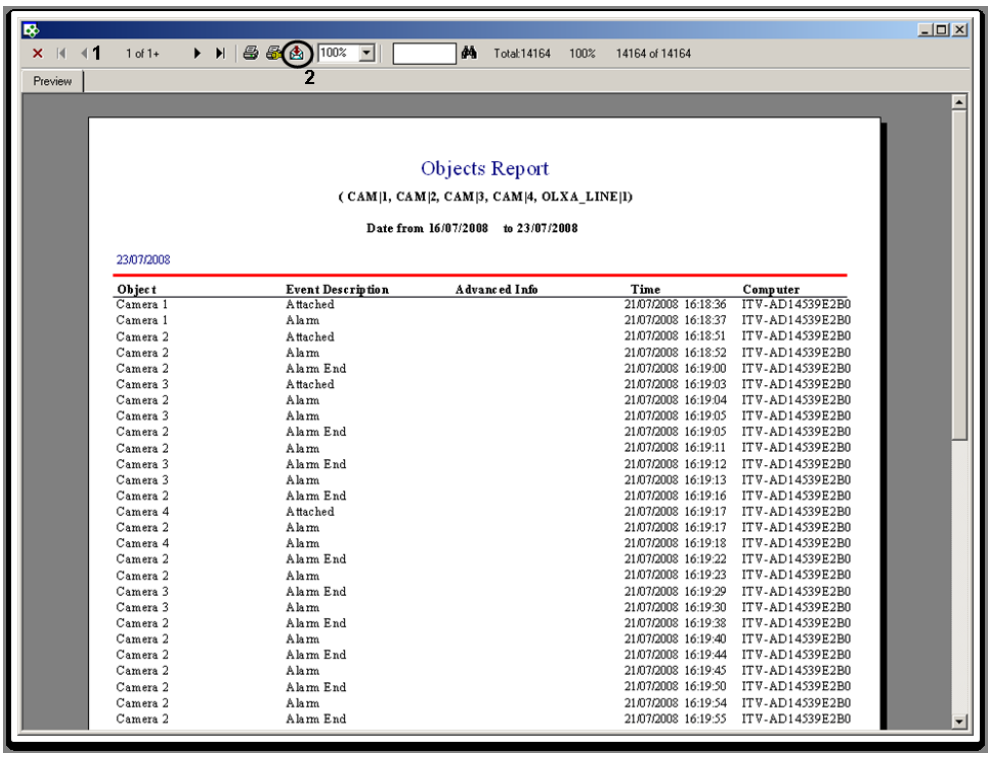


Figure 9.9—8. Exporting the report

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 9.9—9):

- in the Format drop-down list, select the format to export the report to

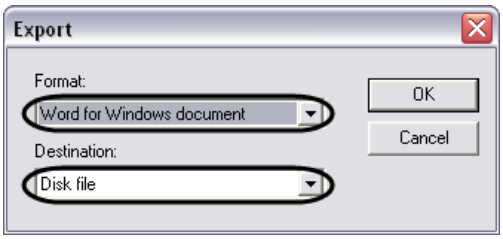


Figure 9.9—9. The Export window

- 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 9.9—10).

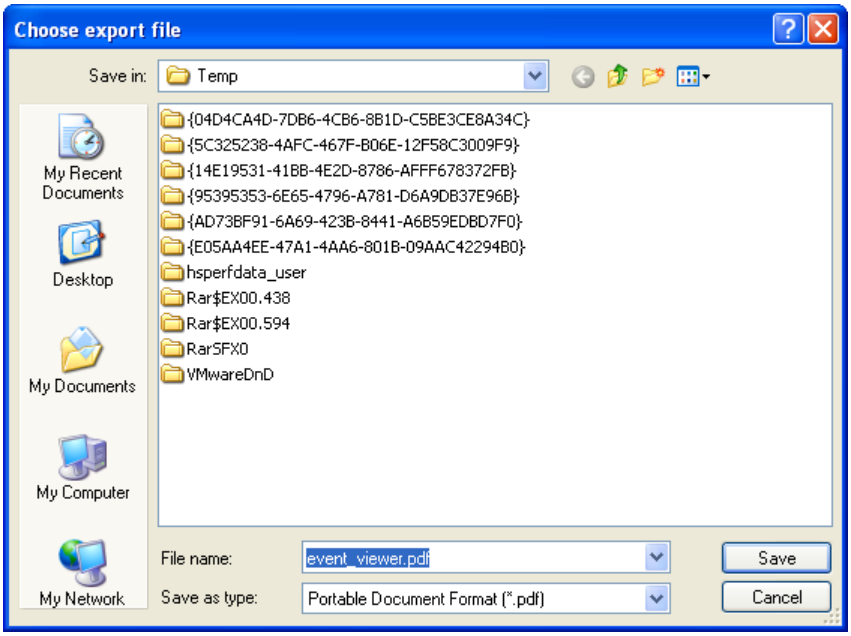


Figure 9.9—10. The Choose Export File window

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.

9.10 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.

9.10.1 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 9.10—1).

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.

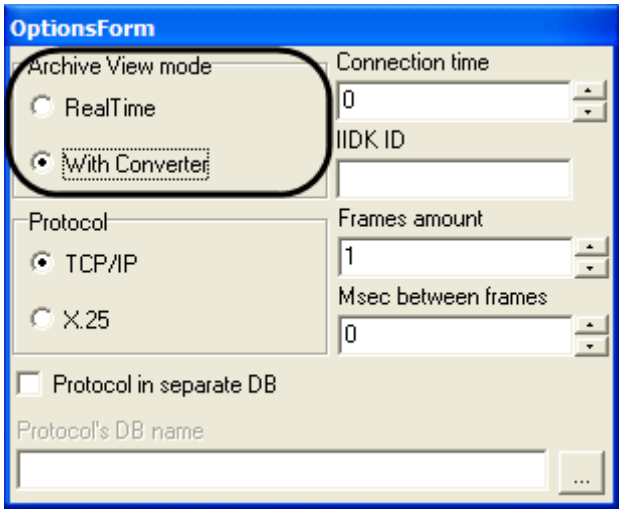


Figure 9.10—1. Choosing the video archive playback option

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.

9.10.2 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 9.10—2).

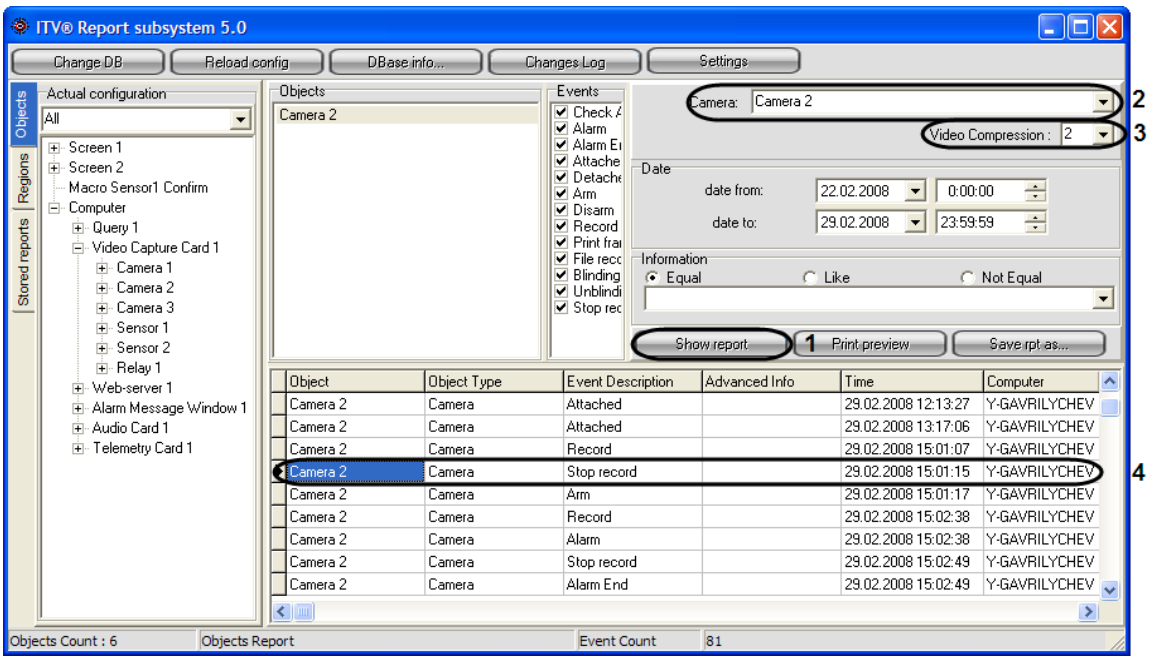


Figure 9.10—2. Playback of the video recordings from the Report system

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 9.10—3).

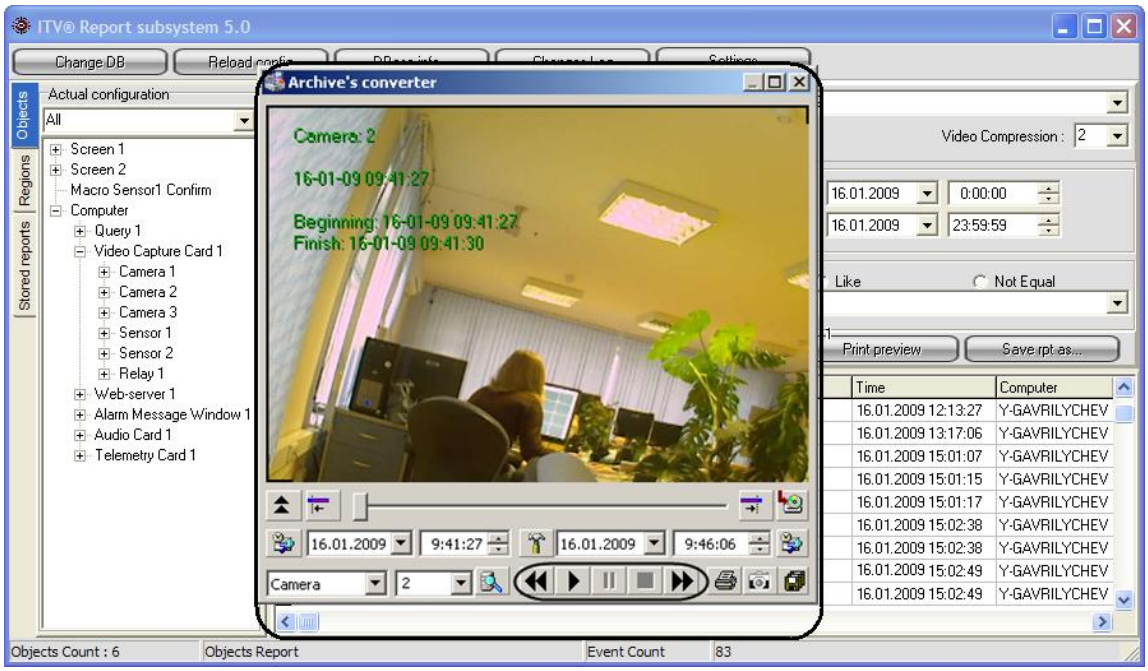


Figure 9.10—3. Playing the video recording from the Report system

9.11 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 9.11—1).

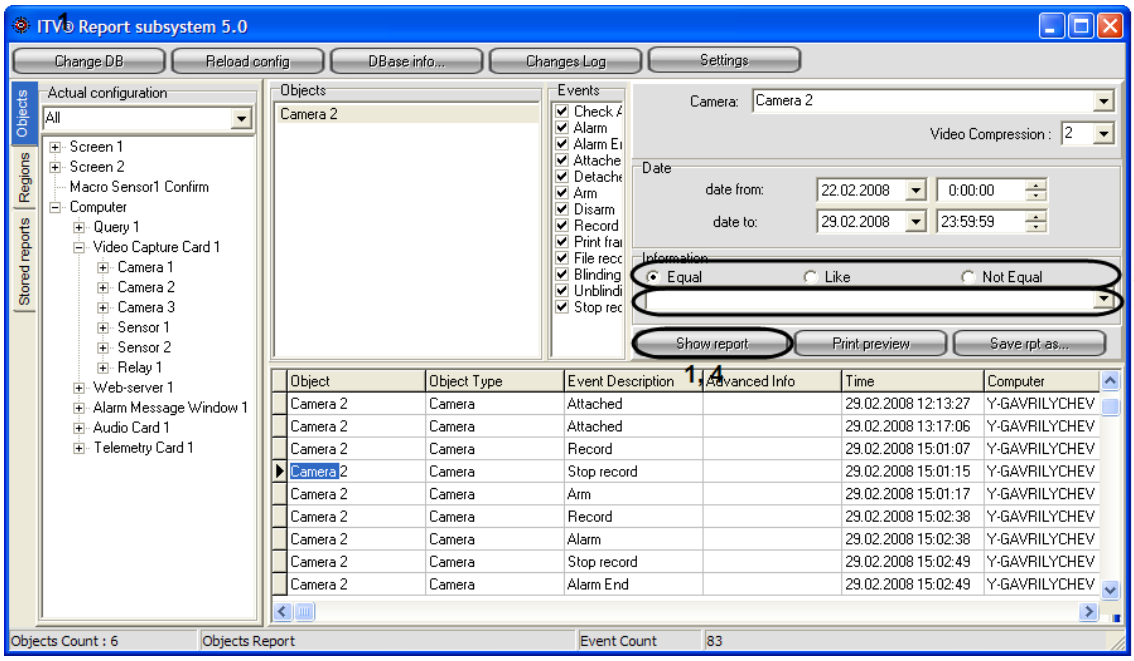


Figure 9.11—1. Filtering the screen report

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.

9.12 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 Conclusion

Please send your comments or requests concerning this Guide to the AxxonSoft Training and documentation development division at (documentation@itv.ru).

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11 Appendix 1. Interface

11.1 Description of the Main Control Panel Interface

The Main control panel as part of the System settings interface box has a fixed position and is located in the upper right corner of the System settings interface box (Figure 11.1—1).

Figure 11.1—1. Main control panel of the System settings interface box

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 11.1-1.

Table 11.1-1

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.

11.2 Description of the system settings dialog box

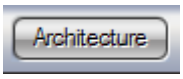
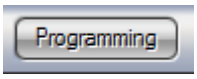
11.2.1 Tabs panel

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 11.2—1.

Figure 11.2—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 11.2-1.

Table 11.2-1

№	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.

11.2.2 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 11.2—2).

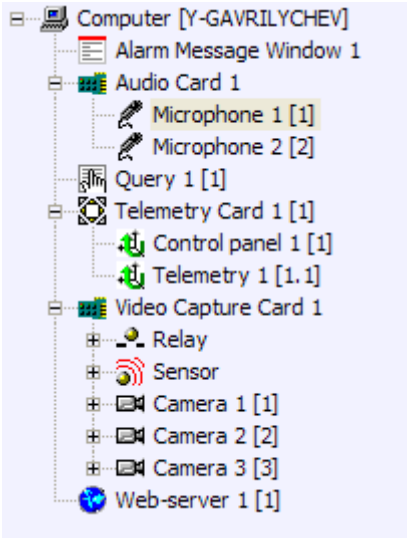


Figure 11.2—2. Objects tree of the Hardware tab

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 11.2—3).

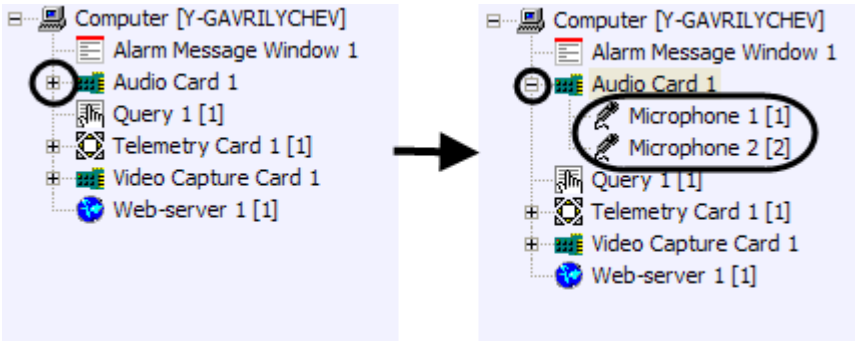


Figure 11.2—3. Displaying the daughter objects of the object tree on the monitor

To collapse the daughter objects, click the left mouse button pointing the cursor at the minus symbol (Figure 11.2—4).

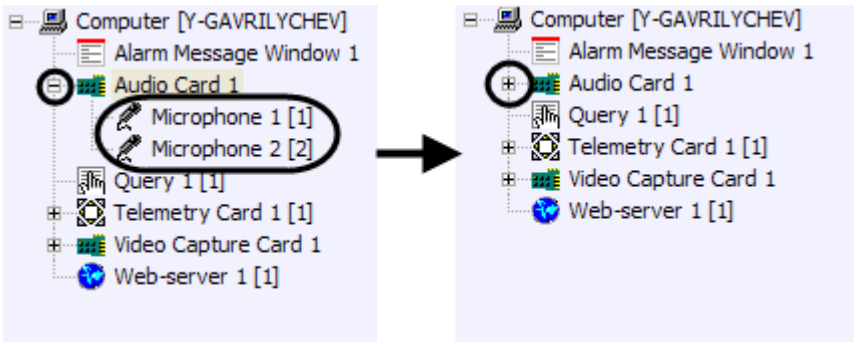


Figure 11.2—4. Collapsing the daughter objects of the object tree

11.2.3 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 11.2—5).

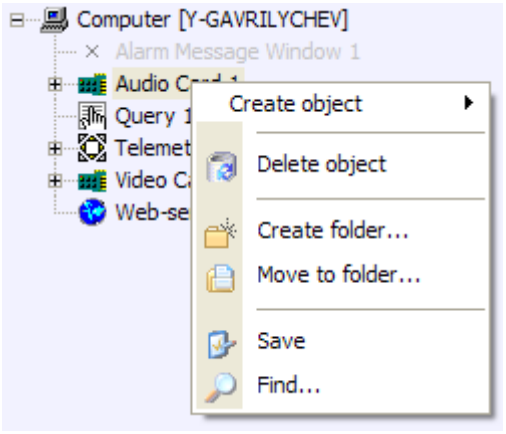


Figure 11.2—5. The context menu of the object in the objects tree

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.

11.2.3.1 *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 11.2—6).

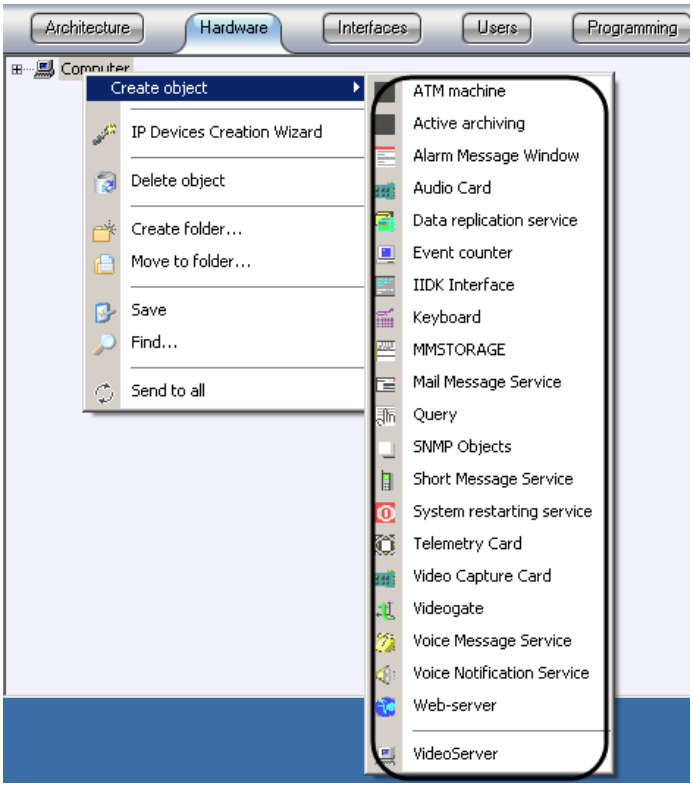


Figure 11.2—6. Using the Create object function

When Create object function is selected, the menu will display a list of embedded objects. Figure 11.2—6 shows an example of a list of objects, which can be created on the basis of a Computer object.

11.2.3.2 *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 11.2—7).

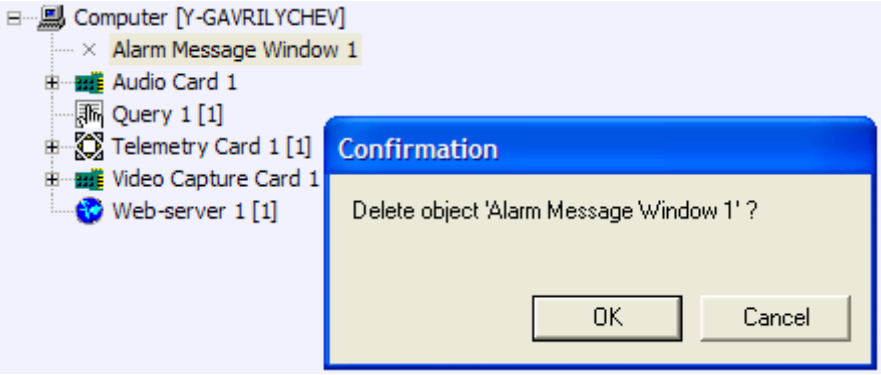


Figure 11.2—7. Confirmation for deletion of the object

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.

11.2.3.3 *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 11.2—8).

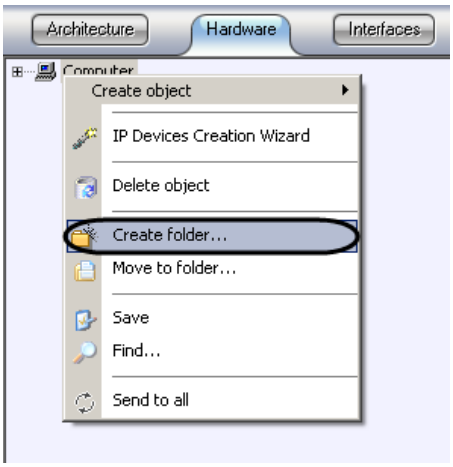


Figure 11.2—8. Selecting the Create folder option

Now the PC monitor will show a dialog box requesting to enter a Folder name (Figure 11.2—9). Having entered the folder name in the dialog box, click OK.

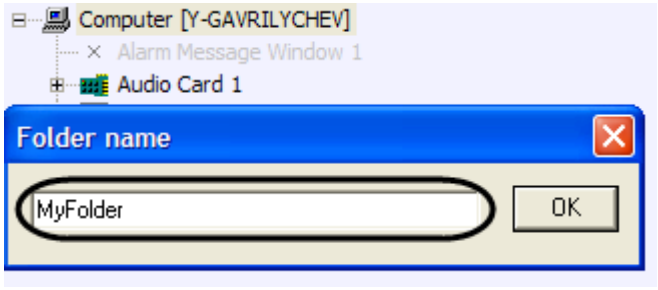


Figure 11.2—9. Folder name dialog box

Now the objects tree will show the folder, which has just been created (Figure 11.2—10).

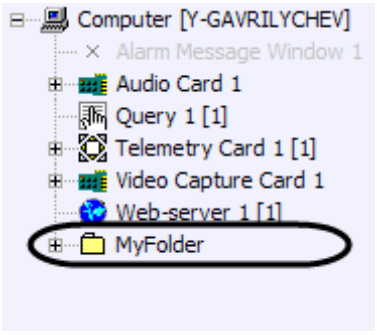


Figure 11.2—10. A new folder included into the objects tree

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:

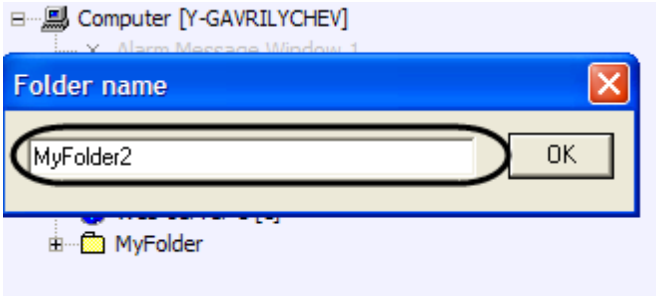


Figure 11.2—11. The context menu of the objects tree field

The following steps are similar to those described above. Now, the new folder will be displayed as follows (Figure 11.2—12):

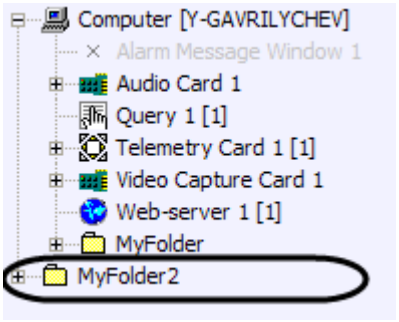


Figure 11.2—12. The folder has been created

11.2.3.4 *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 11.2—13).

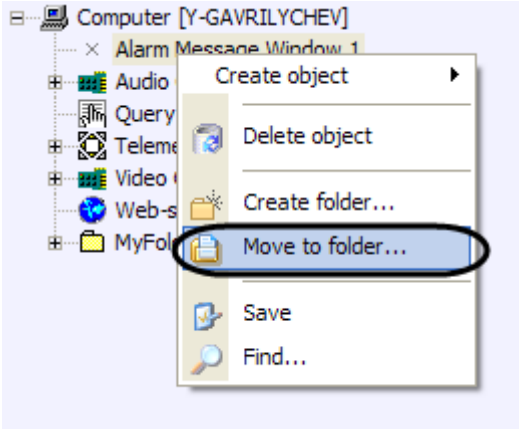


Figure 11.2—13. Selecting the Move to folder option

The monitor will display a window for selecting a folder, where you will move the selected system object (Figure 11.2—14).

Figure 11.2—14. Selecting a folder

To confirm the selected folder, click OK. The object will be moved to the given folder (Figure 11.2—15).

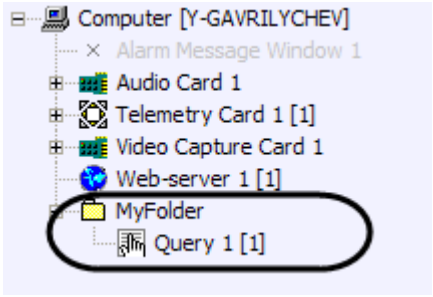


Figure 11.2—15. The folder has been moved to the folder

11.2.3.5 *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 11.2—16 shows a tools panel, showing as highlighted the Camera 1 parameters, which have been modified.

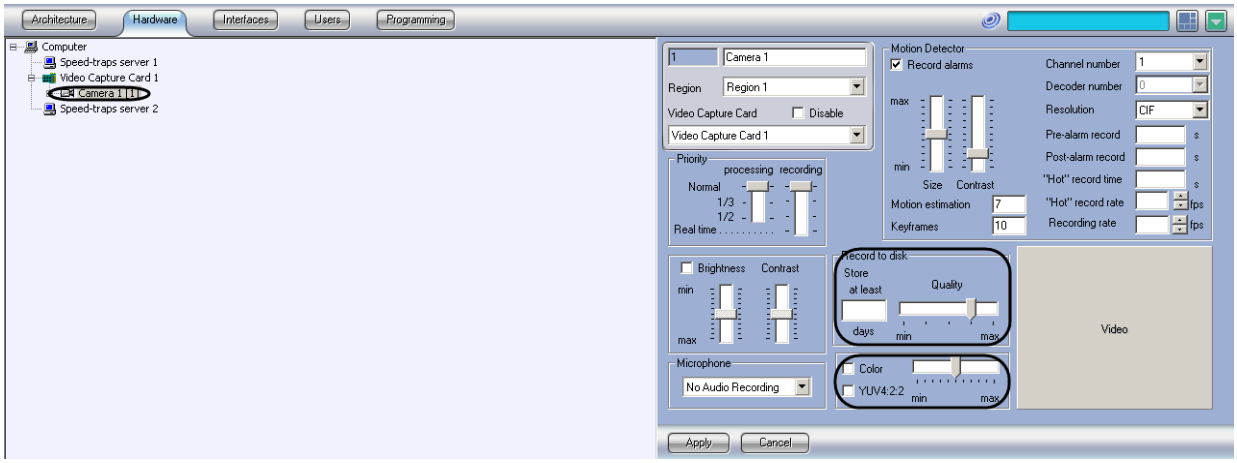


Figure 11.2—16. Example: The Camera object settings

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 11.2—17).

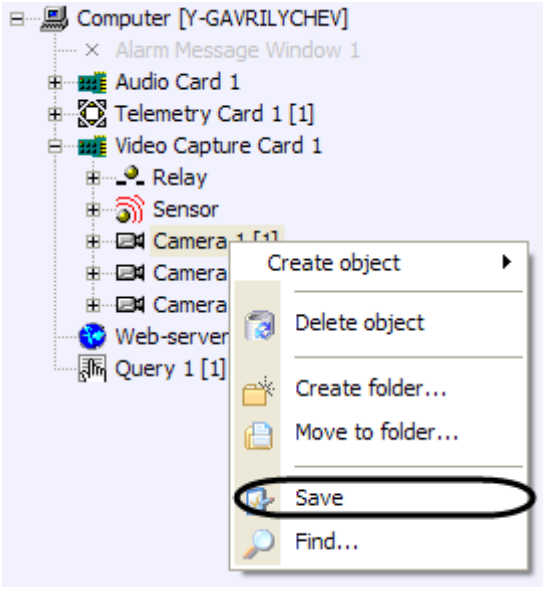


Figure 11.2—17. Selecting the Save option from the menu

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 11.2—18).

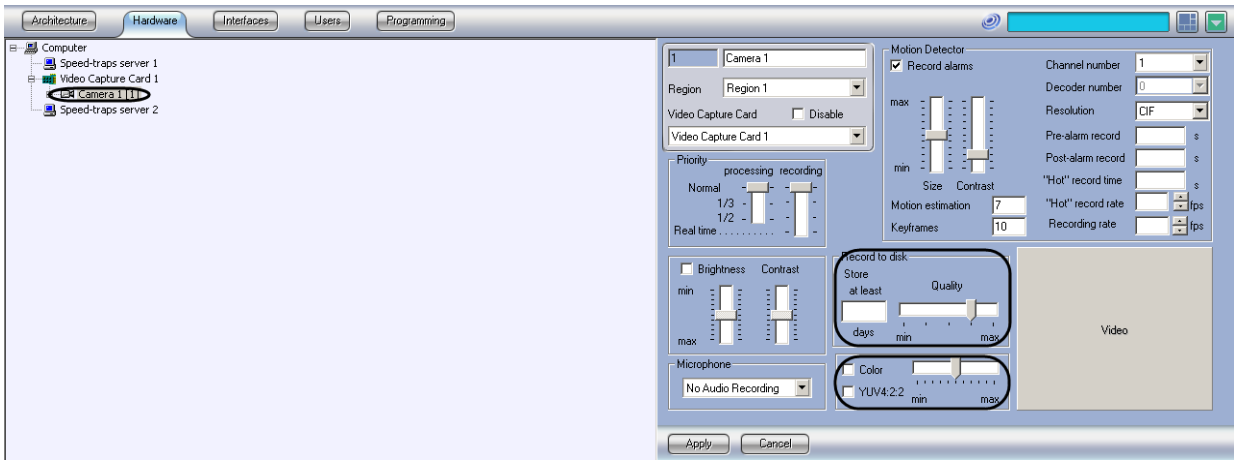


Figure 11.2—18. The object created on the basis of a template

11.2.3.6 *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 11.2—19);

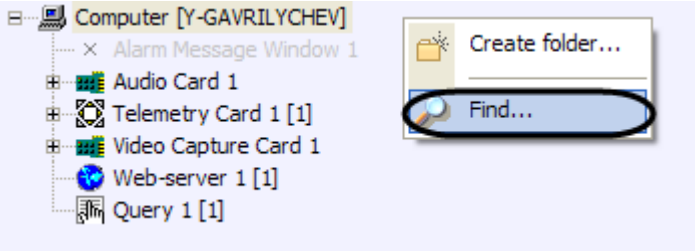


Figure 11.2—19. Selecting the Find function

Now the monitor will display a box to enter the name of the required object.

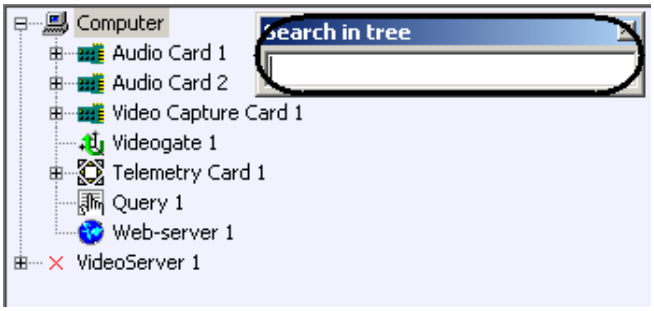


Figure 11.2—20. The box for entering a name of the required object

c. enter the name of the required object (Figure 11.2—21).

Figure 11.2—21. 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 11.2—22).

Figure 11.2—22. 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 11.2—23).

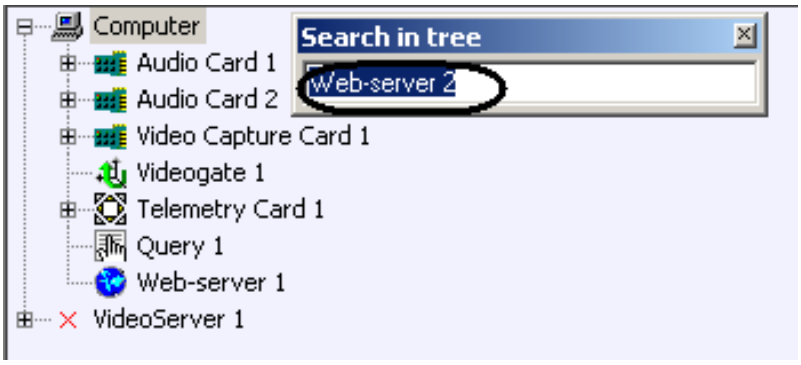


Figure 11.2—23. Example of a negative result of searching for an object

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 11.2—24);

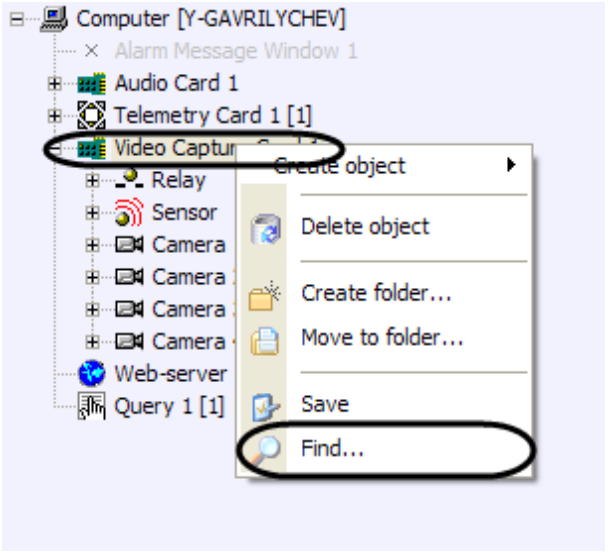


Figure 11.2—24. Selecting the Find function

To proceed further follow method 1 (described above).

11.2.3.7 *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 11.2—25).

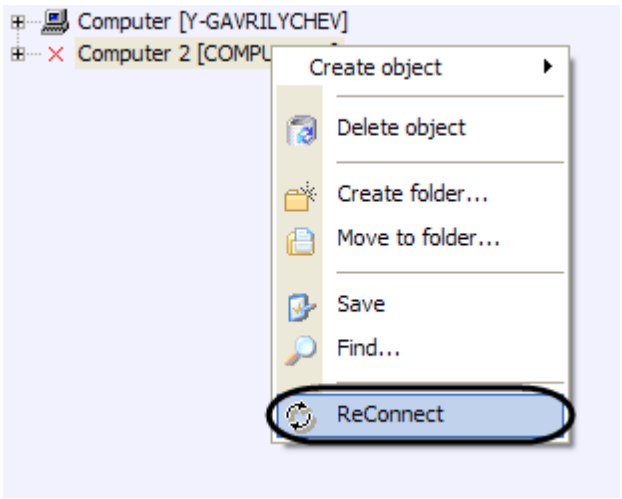


Figure 11.2—25. Selecting the Reconnect option

Now the object of the base and remote computer will be connected to the network (Figure 11.2—26).

Figure 11.2—26. Connection completed

11.2.3.8 *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 11.2—27).

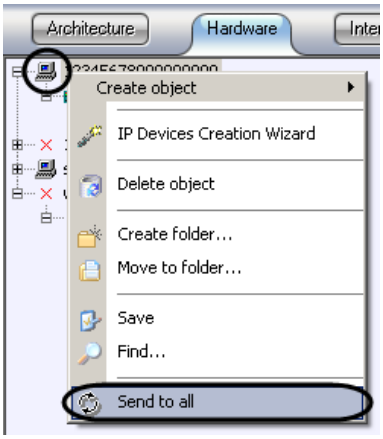


Figure 11.2—27. Selecting the Send to all option

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.

11.2.3.9 *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 11.2—28).

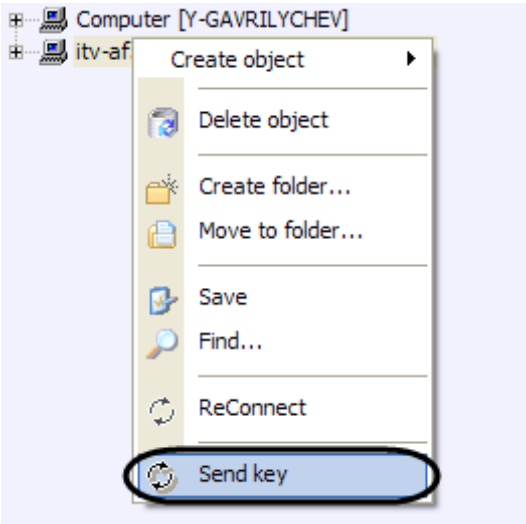


Figure 11.2—28. Selecting the Send key option

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.

11.2.4 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 11.2—29) and is designed to displayed and configure the object selected in the tree.

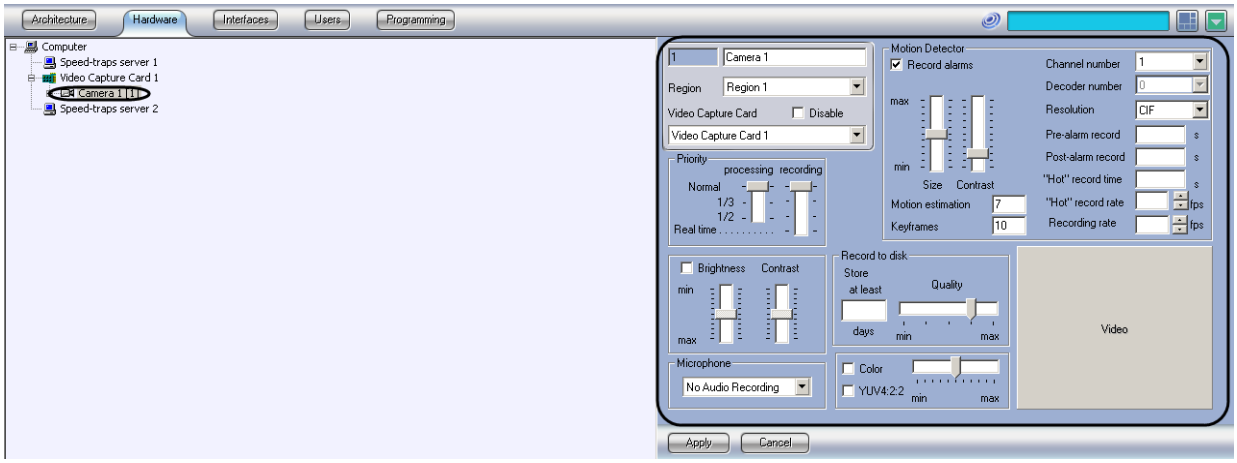


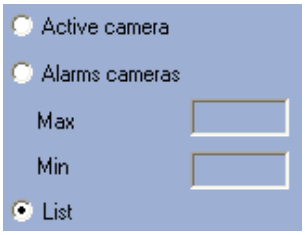
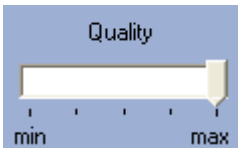
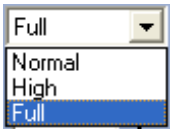
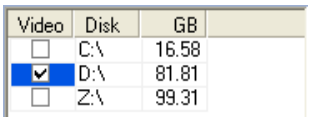
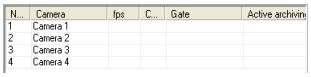
Figure 11.2—29. Settings panel of the Web-server object

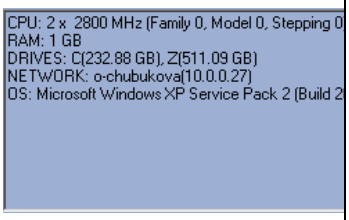
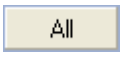
Depending on the type of object selected, the settings panel of the given object displays the field for entering certain parameters – the elements of the settings panel.

Elements of the settings panel are given in Table 11.2-2.

Table 11.2-2

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.

Element Image	Element name	Options for using the element
	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.
	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.

Element Image	Element name	Options for using the element
	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 button.

11.2.5 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 11.2—30).

Figure 11.2—30. 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.

11.2.6 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 11.2—31).

Figure 11.2—31. 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.

11.2.7 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.

11.2.7.1 *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 11.2—32.

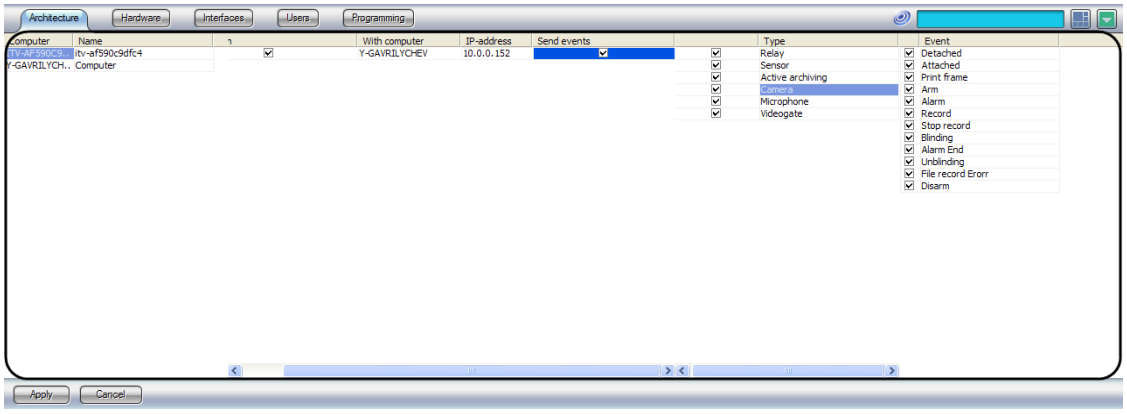


Figure 11.2—32. Connection settings table

Table 11.2-3 describes the elements of the connection settings table.

Table 11.2-3

№	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

№	Column	Description	Value
			will not be broadcast.

11.2.8 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.

11.2.8.1 *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.

11.2.8.2 *Computer settings panel*

The face of settings panel of the Computer object is shown in Figure 11.2—33, Figure 11.2—34

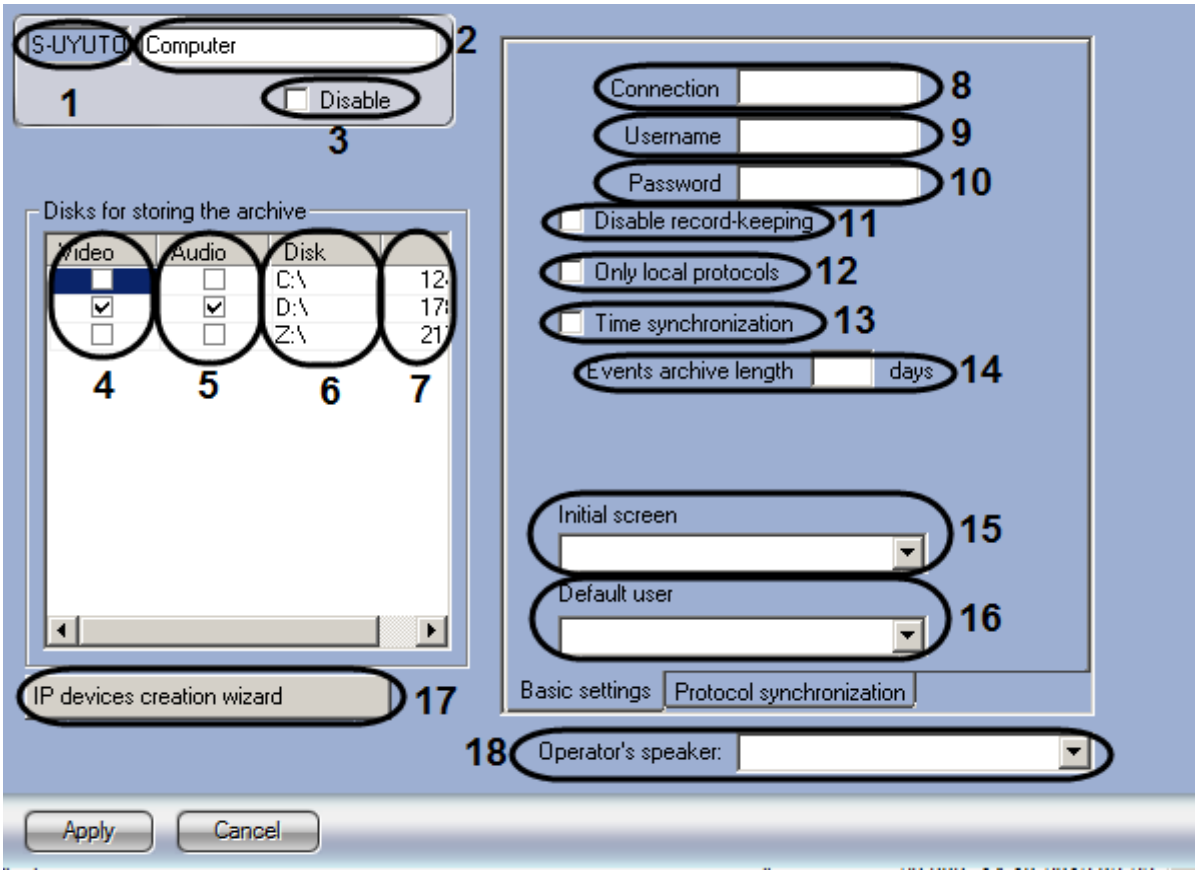


Figure 11.2—33. Computer settings panel.Basic settings tab

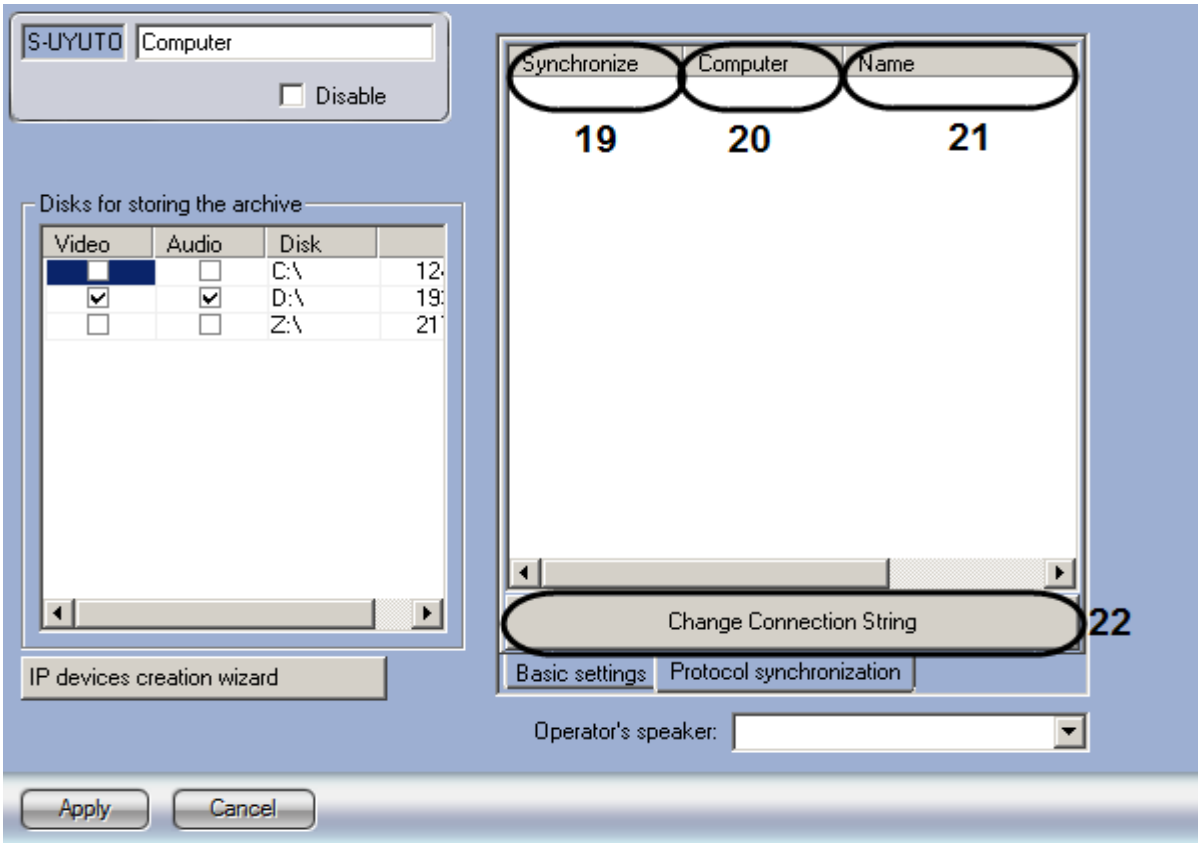


Figure 11.2—34. Computer settings panel. Protocol synchronization tab

Table 11.2-4 describes the parameters of the Computer object settings.

Table 11.2-4

№	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	Disable	Is identified by the	Defines the condition of the Computer object	Boolean type	Not availabl	Yes – the Computer is

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
		check mark	(connected or disconnected) in the system		e	disconnected and is not in use No – the Computer 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	Latin, Cyrillic and service	Not defined	A line containing a sequence of any symbols (letters,

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			OS.	characters		digits, service characters) Number of symbols – from 1 to 30.
9	Username	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	Disable record-keeping	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
12	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,

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
						registered at this computer are not logged to the database the Events viewer
13	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
14	Events archive length	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
15	Initial screen	Is selected from the list	Set the screen to be displayed on default after downloading of the Intellect digital video surveillance system.	Names of the Screen objects registered in the system	-	Depends on total number of Screen objects registered in the system.
16	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.
17	IP devices creation wizard	Press the button	Access to creating, settings and editing of IP devices.	-	-	-
18	Operator’s speaker	Is selected from the list	Allows swlwcting the speaker that is to be in use for audio playback	Names of the Speaker objects registered in	Not defined	Depends on number of the Speaker objects registered in the

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
				the system		system
Protocol synchronisation						
19	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
20	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
21	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.
22	Change connection string	Press the button	Access to settings and editing the parameters of coonection to the database theEvents viewer of remote computer	-	-	-

11.2.8.3 *Video capture card settings panel*

The face of video capture card settings panel is shown in Figure 11.2—35.

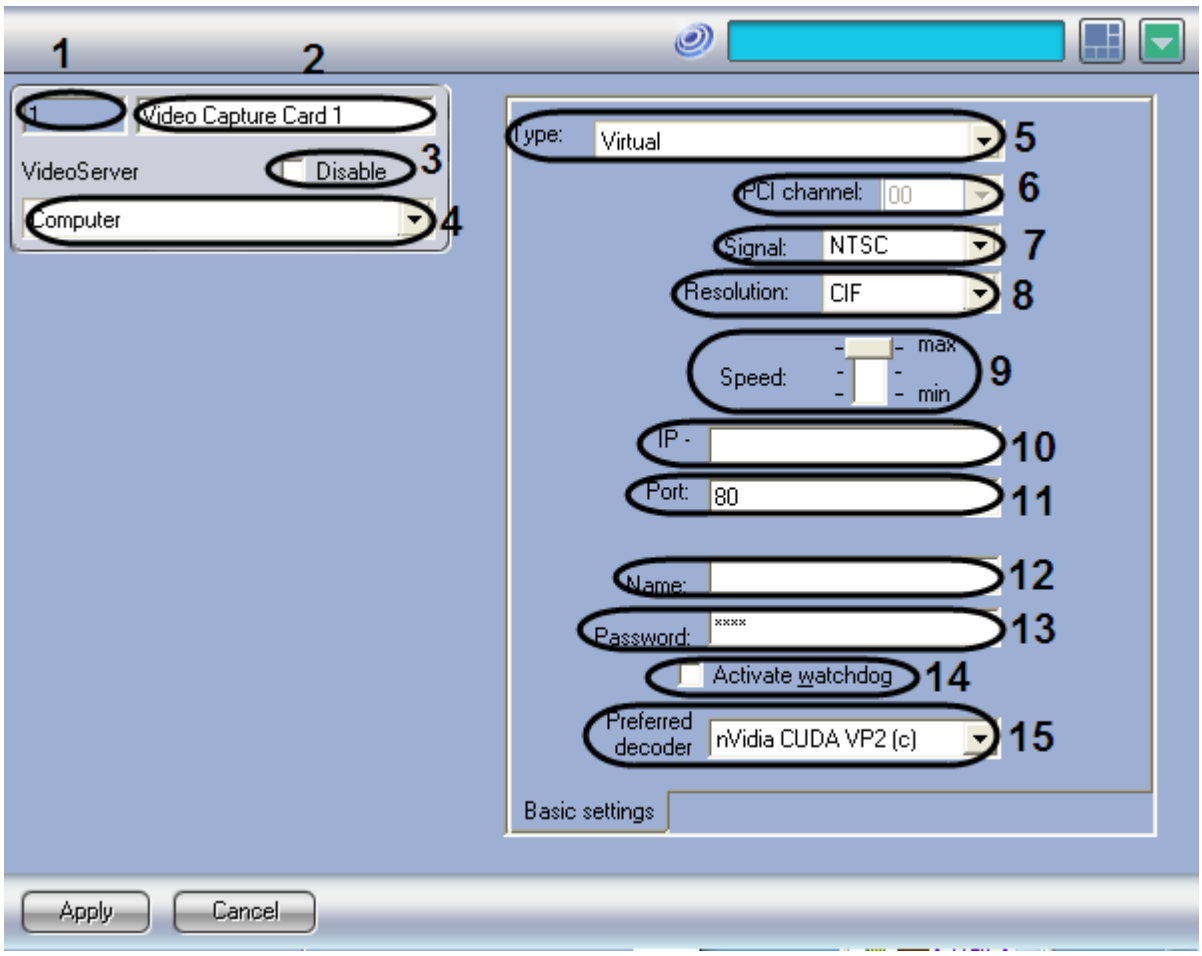


Figure 11.2—35. Video capture card settings panel

Table 11.2-5 describes the parameters of the Video capture card settings panel.

Table 11.2-5

№	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.

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
3	Disable	Is set with a checkmark	Shows the status (connected or disconnected) of the Video capture card object in the system.	Boole-an 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 Compu u-ter objects registe -red in the syste m.	Name of the parent Compute r 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 captur e cards	Is not defined	Video capture cards (FS-3, FS-5, FS-6, FS-8, WS–4, WS-7/17). Network video hubs (WaveHub, LinuxHub) Network devices (Axis, Panasonic, etc.)
6	PCI-channel	Is selected from the list	Assigns the PCI-channel number of the video capture card AD converter.	List of active chann e-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	PAL	PAL, NTSC

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
				s		
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-ission.	Average	Max – maximum permitted total video signal frame rate. Average – half of the maximum permitted total video signal frame rate. 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-addres s	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

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
						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
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.

11.2.8.4 *Camera settings panel*

The face of the settings panel of the "Camera" object is shown in Figure 11.2—36 and Figure 11.2—37.

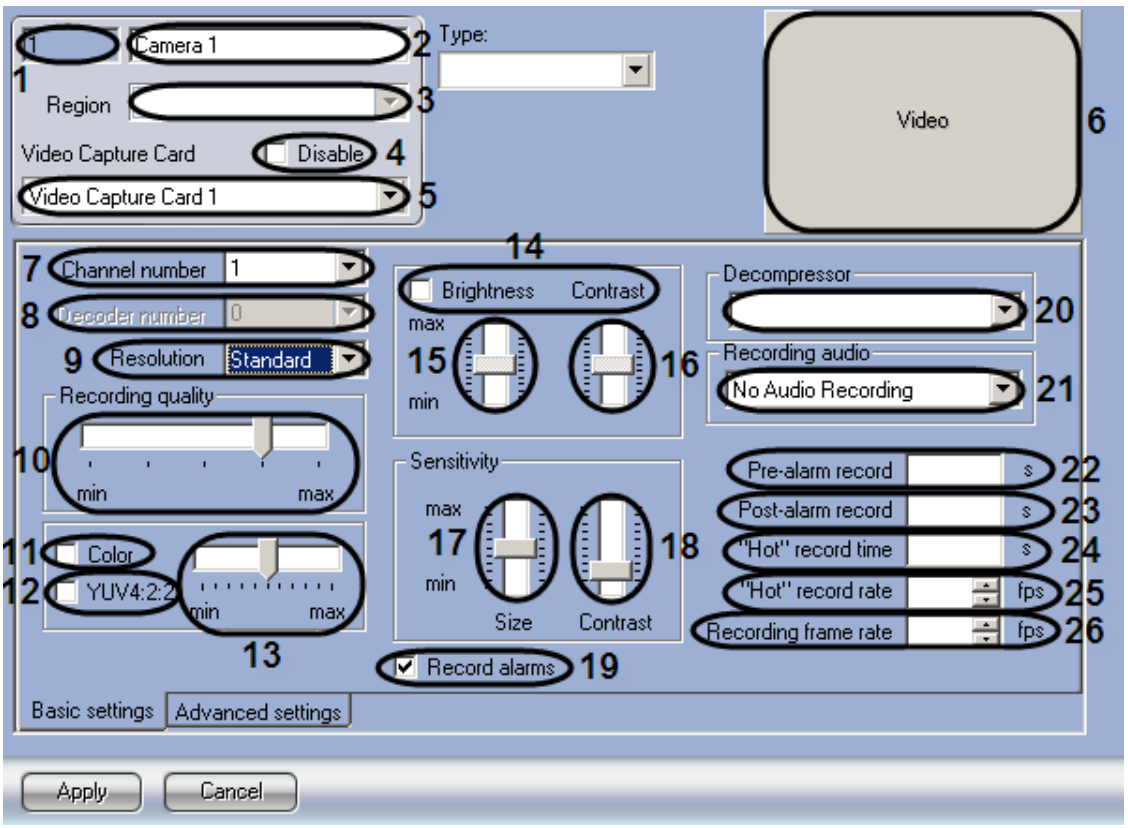


Figure 11.2—36. The settings panel of the “Camera” object. The “Basic settings” tab

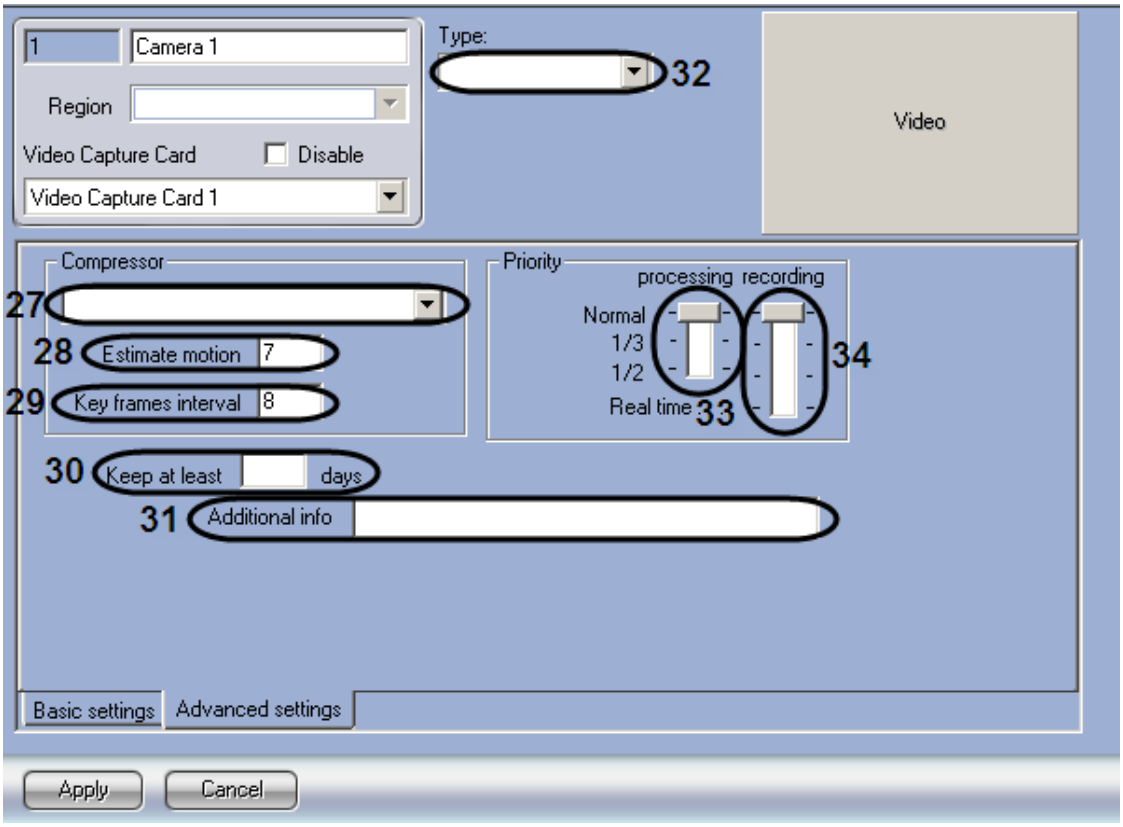


Figure 11.2—37 The settings panel of the “Camera” object. The “Advanced settings” tab

Table 11.2-6 describes the settings parameters of the “Camera” object.

Table 11.2-6

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
1	The “Identification number” field	Automatically	Shows the identification number of the “Camera” system object in the system.	Sequence of numbers	-	Depends on the number of the “Camera” objects in the digital distributed video surveillance system.
2	The “Name” field	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	The “Region” drop-down list	Is selected from the list	Assigns the “Section” structural element, to which the given “Camera” object refers.	Name of the “Section” objects registered in the system.	Section	Depends on the number of created “Section” objects registered in the system.
4	The “Disable” checkbox	Is set with a checkbox	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	The “Video capture card” drop-down list	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 “Video capture card” object.	Depends on the number of the “Video capture card objects” in the system.
6	The “Video” box	Left-click	Displays video with settings	Video	-	-
The “Basic settings” tab						

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
7	The “Channel number” drop-down list	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.	Sequence of numbers	1	Depends on the type of the video capture card. Maximum 16 channels.
8	The “Decoder number” drop-down list	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 AxxonSoft company.	Sequence of numbers	0	From 0 to 3
9	The “Resolution” drop-down list	Is selected from the list	Set the resolution of the frame.	List of available resolutions of the frames.	Standard	PAL: Standard - 352x288 pixels. High - 704x288 pixels. Full – 704x576 pixels. NTSC: Standard– 352x240 pixels. High – 640x240 pixels. Full – 640x480 pixels.
10	The “Recording quality” slider	The slider is set in the required position	Set 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.
11	The “Color” checkbox	Is set with a checkbox	Set the type of video image received from the camera (color or black and white)	Boolean type	No	Yes – the video will be color. No – the video will be

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
						black and white.
12	The “YUV 4:2:2” checkbox	Is set with a checkbox	Set the format of the video signal color image.	Boolean type	No	Yes – the video signal will be displayed in the “YUV 4:2:2” format. No – the video signal will be displayed in the “YUV 4:2:0” format.
13	The “Color” slider	The slider is set in the required position	Set the color saturation of the colored video	From maximum color saturation to a black and white video.	Average	Max – corresponds to the maximum color saturation of the video. Min – corresponds to the black and white video.
14	The “Brightness-Contrast” checkbox	Is set with a checkbox	Set the mode for setting brightness and contrast of the video	Types of modes for setting brightness and contrast of the video	Automatic	Automatic ☐ - brightness and contrast are set automatically. Manual ☑ - brightness and contrast are set manually. Manual setting with automatic optimization ☑ - brightness and contrast are set manually and followed by automatic optimization.
15	The “Brightness” slider	The slider is set in the required position	Set the video brightness	From maximum brightness (white video) to minimum brightness (black video)	Average	Max – corresponds to the maximum brightness of the video. Min – corresponds to the minimum brightness of the video.
16	The “Contrast” slider	The slider is set in the required position	Set the video contrast	-	Average	Max – corresponds to the maximum contrast of the video. Min – corresponds to the minimum contrast of the video.

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
17	The “Size” slider	The slider is set in the required position	Set the minimum object size triggering the main motion detector.	% in relation to the screen elevation	Average	Minimal – 0% of the video surveillance box size. Maximum – 100% of the video surveillance box size
18	The “Contrast” slider	The slider is set in the required position	Set the minimal contrast of the object triggering the main motion detector	-	Less than average	Max – correspond to maximal contrast of the object Min – corresponds to the minimal contrast of the object
19	The “Record alarms” checkbox	Is set with a checkbox	Starts automatic video recording on the alarm from the camera (alarm on the Main motion detector)	Boolean type	Yes	Yes – automatic video recording on the alarm from the camera is active. No – automatic video recording on the alarm from the camera is not active.
20	The “Decompressor” drop-down list	Is selected from the list	Set the technology using which the compressed video stream will be decompressed	The list of available decompressors	No	BOSCH FfmpegAllInOneDecoder H263IppDecoder H264InterlacedIppDecoder H264IppDecoder MJPEGIpp Motion Wavelet 1 MPEG2IppDecoder MPEG4IppDecoder MxPEG Mobotix RGB24toYUV420 StreamLabs VWV WMVIppDecoder
21	The “Recording audio” drop-down list	Is selected from the list	Set a microphone audio signal from which 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 the Microphone objects registered in the system. No recording – there is no synchronous audio and video recording
22	The “Pre-alarm record”	Enter the value in the field	Set the pre-alarm time period for video	Time (in	-	Recommended time –

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
	field		recording, during which there is pre-event recording	sec)		from 0 to 20
23	The “Post-alarm record” field	Enter the value in the field	Set the time period for video recording after alarm registration.	Time (in sec)	-	Recommended time – from 0 to 20
24	The “Hot-record time” field	Enter the value in the field	Set the time period from the alarm registration, during which the frame rate of recording will comply with the value entered in the “Hot record rate” field	Time (in sec)	-	Recommended time – from 0 to 30
25	The “Hot-record rate” field	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
26	The “Recording frame rate” field	Enter the value in the field/ select from the list	Set the frame rate for video recording	fps	-	From 0 to 100. Recommended time – from 1 to 25 for PAL From 1 to 30 for NTSC
The “Advanced settings” tab						
27	The “Compressor” drop-down list	Is selected from the list	Set the algorithm of video stream compression	The list of available algorithms	No	MJPEG, Motion Wavelet, Motion Wavelet 2
28	The “Estimate motion” field	Enter the value in the field	Set threshold of camera’s sensivity to motion depending on the change of object’s brightness. Delta frame of video signal is created by this criterion.	Sequence of numbers	7	From 2 to 255
29	The “Key frames interval” field	Enter the value in the field	Set the interval of including the keyframes into the video stream compressed by the Motion Wavelet algorithm.	Sequence of numbers	10	From 1 to 100
30	The “Keep at least ___ days” field	Enter the value in the field	Set the time period for keeping the video archive from the camera and also audio	Day	-	More than 1

№	Parameter	Parameter assignment method	Description	Presented as	Default value	Range of values
			archive(with the synchro records) on the Server			
31	The “Additional info” field	Enter the value in the field	Set the information displayed on the monitor below the camera name. This information is added to the export file and when the frame is printed, as to the event log	The line not longer than 100 characters	Blank line	Latin, Cyrillic letters and service characters
32	The “Type” drop-down list	Is selected from the list	Set the type of the camera in use	The list of available camera types	-	PTZ Standard
33	The “Processing priority” slider	The slider is set in the required position	Set the priority of video processing	The order of video processing	Normal	Normal – normal video procession order 1/3 – 1/3 procession order 1/2 – 1/2 procession order
34	The “Recording priority” slider	The slider is set in the required position	Set the priority of video processing in the recording mode	The order of video processing in the recording mode	Normal	Normal – normal video record order 1/3 – 1/3 procession order 1/2 – 1/2 procession order All resources – all ADC resourses are in use for video recording

11.2.8.5 *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 11.2—38.

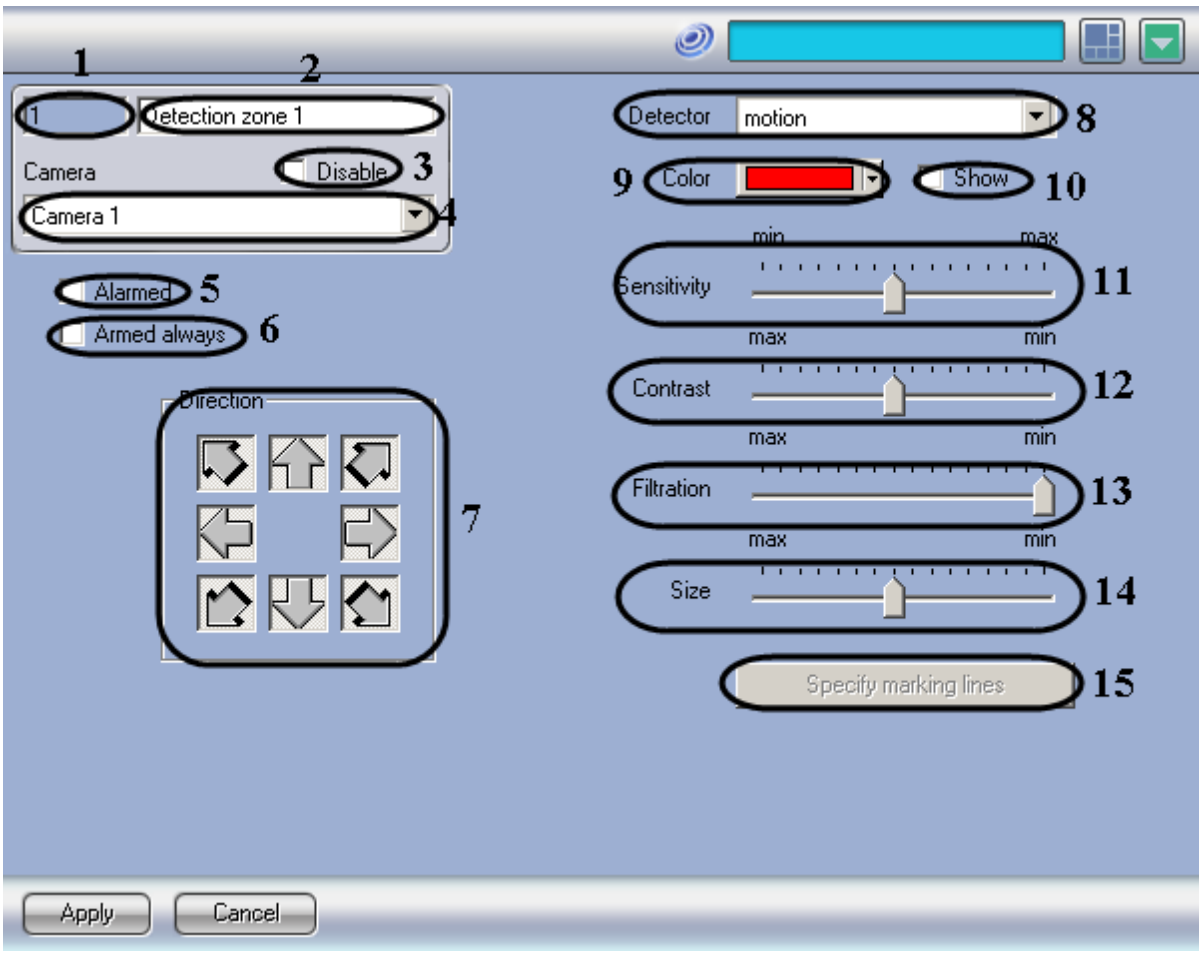


Figure 11.2—38. Detection zone settings panel

Table 11.2-7 describes the parameters of the settings corresponding to the elements of the settings panel of the Camera object.

Table 11.2-7

№	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 –

№	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 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.
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	8 possible directions to follow	Pressed: up, down, to the left,	Up, down, to the left, to the right, up and to the left, up and to the right,

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			detector.	an object within the frame.	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.	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
9	Color	Is selected either from the list or in the Color settings panel (is selected using the Color select command).	Defines the frame border color in the observed scene. This parameter is active only with the following detectors selected from the Detector list: motion, face, abandoned items, opposite line.	RGB, CMY or HSL.	Red	Corresponds to the standard range of the 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,	Boolean type	No – for the motion detector. Yes - for the following	Yes – the object border is displayed in the observed scene. No – the object border is not displayed in the

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			face, abandoned items, opposite line.		detectors: face, abandoned items, opposite line.	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 selected. Is not applicable for all detector types.	-	Minimal	-
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	Is not used	-	-	-	-

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
	lines					

b. Name of the element is not displayed in the settings panel of the given object.

11.2.8.6 *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 11.2—39.

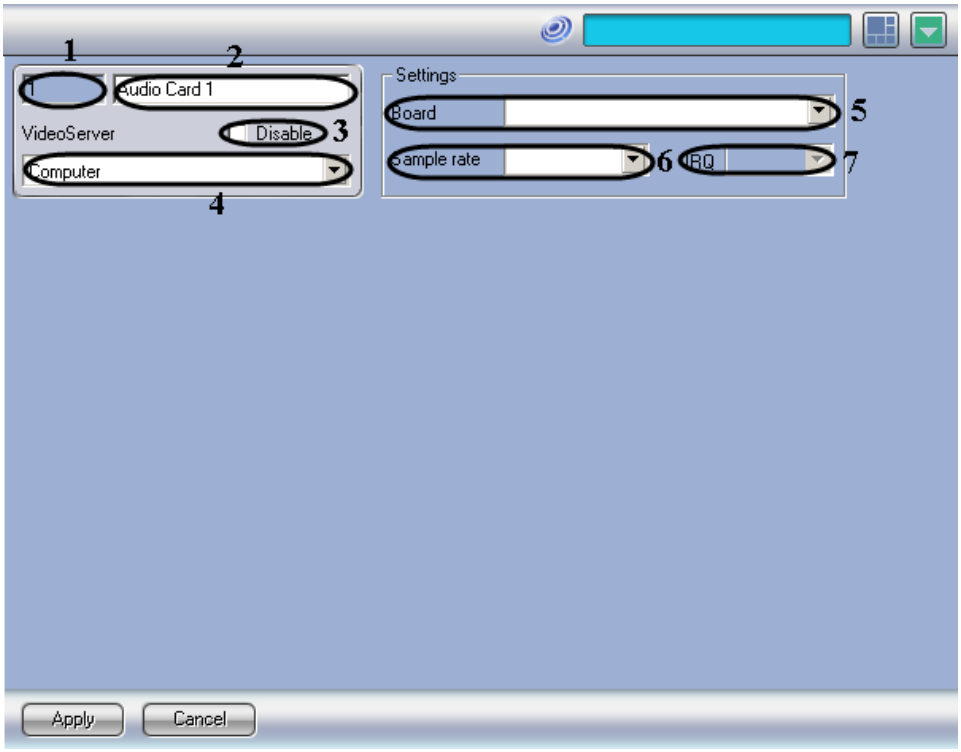


Figure 11.2—39. Audio card settings panel

Table 11.2-8 describes the parameters of the settings corresponding to the elements of the settings panel of the Audio card object.

Table 11.2-8

№	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	Sequence of numbers	-	Depends on the number of Audio card objects in the digital distributed video surveillance

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			system.			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 – 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

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
						card, including the number of the audio channel. For network devices – the type of network device: AX, LH. IpCamAxis
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	-	-	-	-

c. Name of the element is not displayed in the settings panel of the given object.

11.2.8.7 *Microphone settings panel*

The face of the Microphone settings panel is shown in Figure 11.2—40.

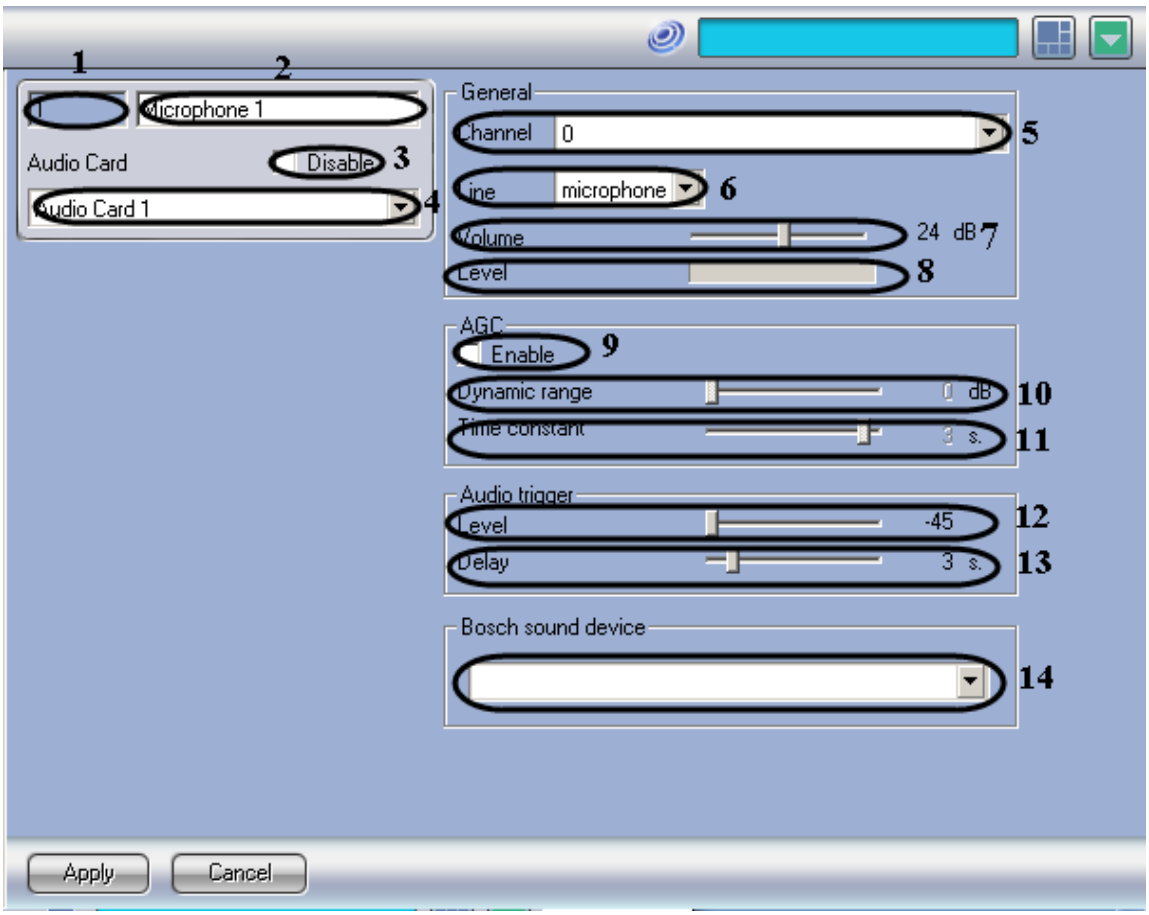


Figure 11.2—40. Microphone settings panel

Table 11.2-9 describes the settings parameters of the Microphone system object.

Table 11.2-9

№	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 AxxonSoft 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.

11.2.8.8 *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 11.2—41.

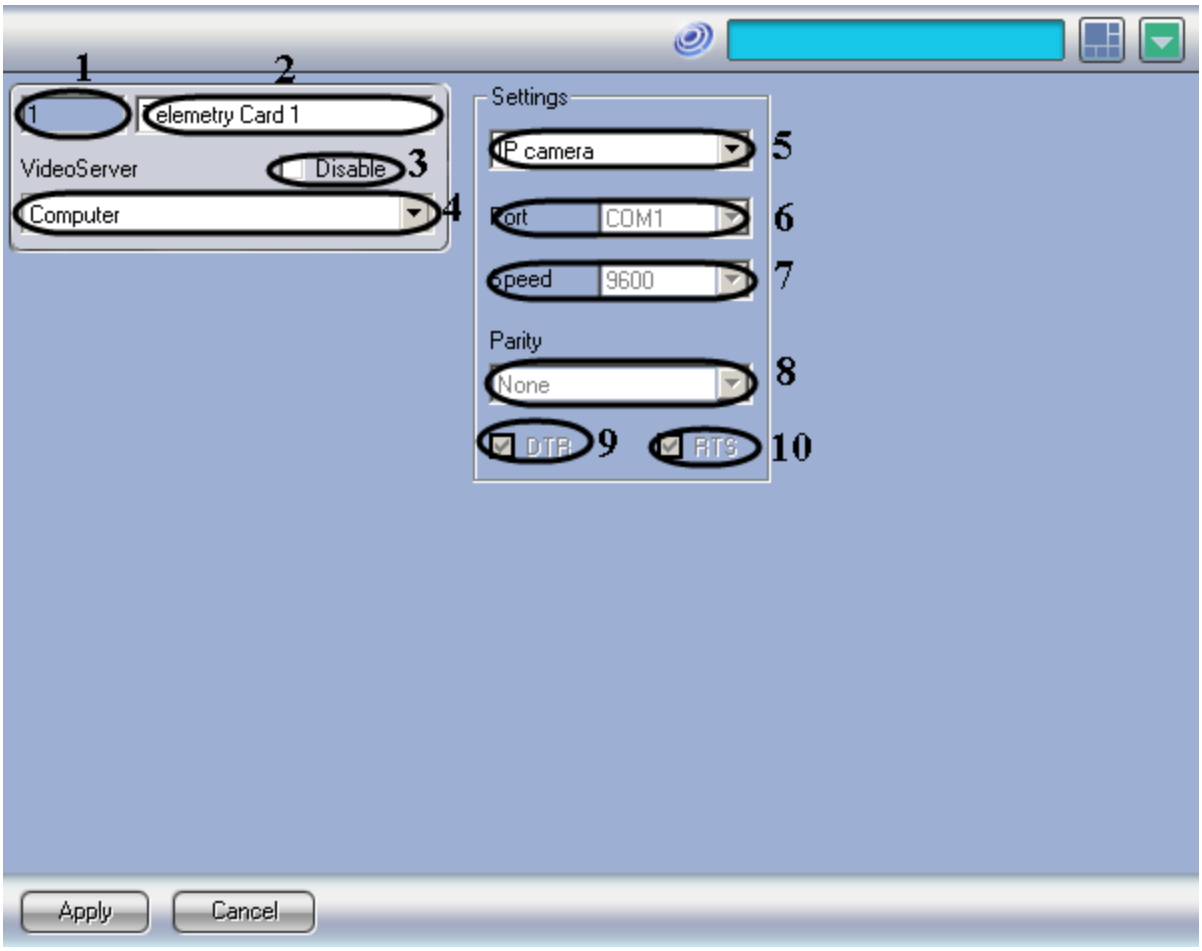


Figure 11.2—41. Telemetry controller settings panel

Table 11.2-10 describes the parameters of the settings corresponding to the elements of the settings panel of the Telemetry controller object.

Table 11.2-10

№	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.

11.2.8.9 *PTZ device settings panel*

The “PTZ device” object is designed to register and configure the PTZ device in the Intellect™ system.

The settings panel of the the “PTZ device” object is shown in Figure 11.2—42.

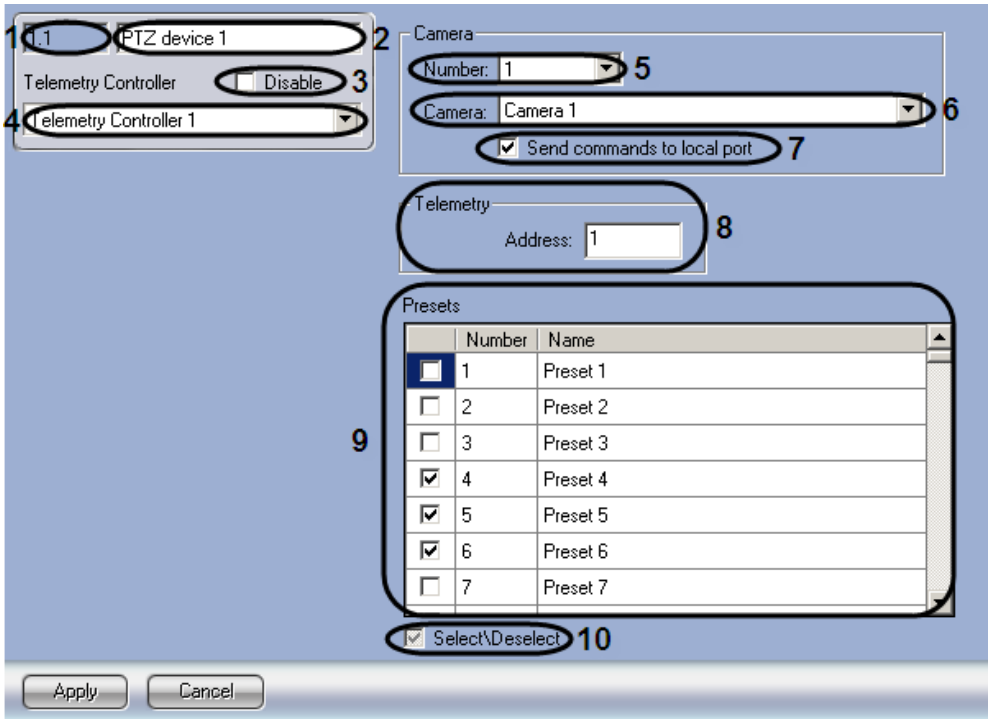


Figure 11.2—42. The PTZ device settings panel

Table 11.2-11 describes the parameters of the settings corresponding to the elements of the settings panel of the “PTZ device” object.

Table 11.2-11

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number	Automatically	Display the identification number of the “PTZ device” object in the digital distributed video surveillance system	Sequence of numbers	-	Depends on the number of the “PTZ device” objects in the digital distributed video surveillance system
2	Name	Enter the value in the field	Set the name of the “PTZ device” object in the digital distributed video surveillance system	Latin, Cyrillic letters and service characters	PTZ device	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive. Number of characters – from 1 to 60.
3	Disable	Is set with the checkbox	Set the status of the “PTZ device” object (connected or disconnected) in the digital distributed video surveillance system	Boolean type	No	Yes – the PTZ device is disconnected and is not in use No – the PTZ device is connected and is in use.
4	Telemetry controller	Is selected from the list	Set the parent “Telemetry controller” object of the digital distributed video surveillance system, to which the given “PTZ device” object refers.	Name of the “PTZ device” 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
The “Camera” group						
5	Number	Is selected from the list	Set the identification number of the surveillance camera, where the PTZ device 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 the list	Match the PTZ device with the surveillance camera, where it is	Name of the “Camera” objects	No	Depends on the number of the “Camera” objects in the digital distributed

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			installed. The parameter is used by the Video Monitor and telemetry window for the purposes to control the PTZ device.	registered in the system		video surveillance system
7	Send commands to local port	Is set with the checkbox	Boost priority of the local COM port when the commands are sent to the PTZ device	Boolean type	No	Yes – the priority of COM port is higher than for other devices No – the priority of COM port is set by default
8	Address	Is selected from the list	Set the address of PTZ device installed as hardware (with the jumpers on the PTZ device) or as software (with the software designed to update the PTZ device firmware).	Sequence of numbers	1	Integer from 1 to 255. Depends on the protocol of PTZ device
9	Presets	Is set with the checkbox	Select the presets that are to be displayed in the “Telemetry control” box	Boolean type	No	Yes – the preset name is displayed in the “Telemetry control” box No – the preset name is not displayed in the “Telemetry control” box
	Name	Enter the value in the field	Set the preset name to display it in the “Telemetry control” box	Latin, Cyrillic letters and service characters	Preset	A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive
10	Select/Deselect	Is set with the checkbox	Check/Uncheck all the elements in the “Presets” table	Boolean type	No	Yes – select all the presets No – uncheck all the presets

11.2.8.10 *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 11.2—43.

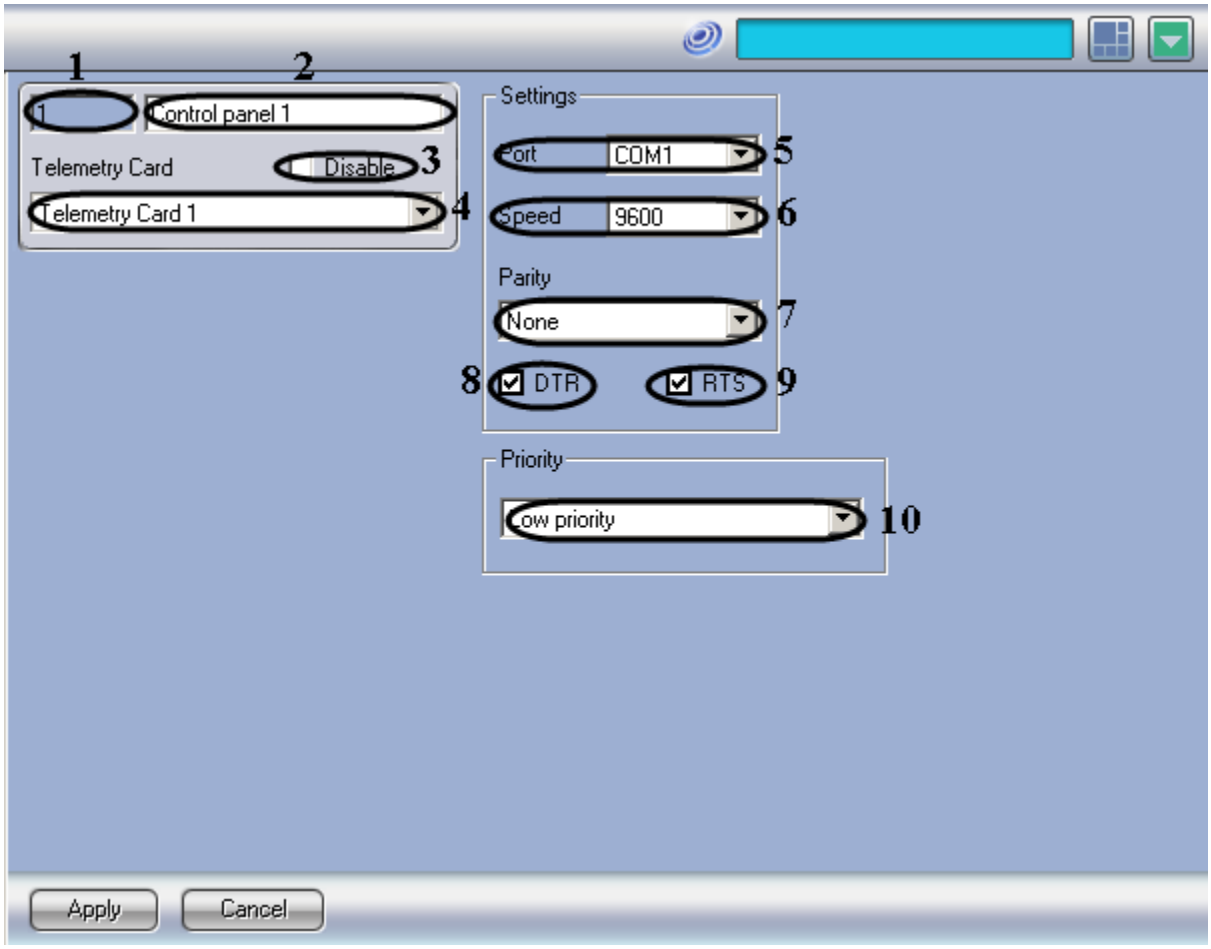


Figure 11.2—43. Settings panel of the Control panel

Table 11.2-12 describes the parameters of the settings corresponding to the elements of the settings panel of the Control panel object.

Table 11.2-12

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the 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

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
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 – 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	Boolean type	Yes	Yes – the power will be supplied via the DTR port.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			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 supplied to the control panel 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 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.

7. The name of the element is not displayed in the settings panel of the given object.

11.2.8.11 *Active archive settings panel*

The face of Active archive settings panel is shown in Figure 11.2—44.

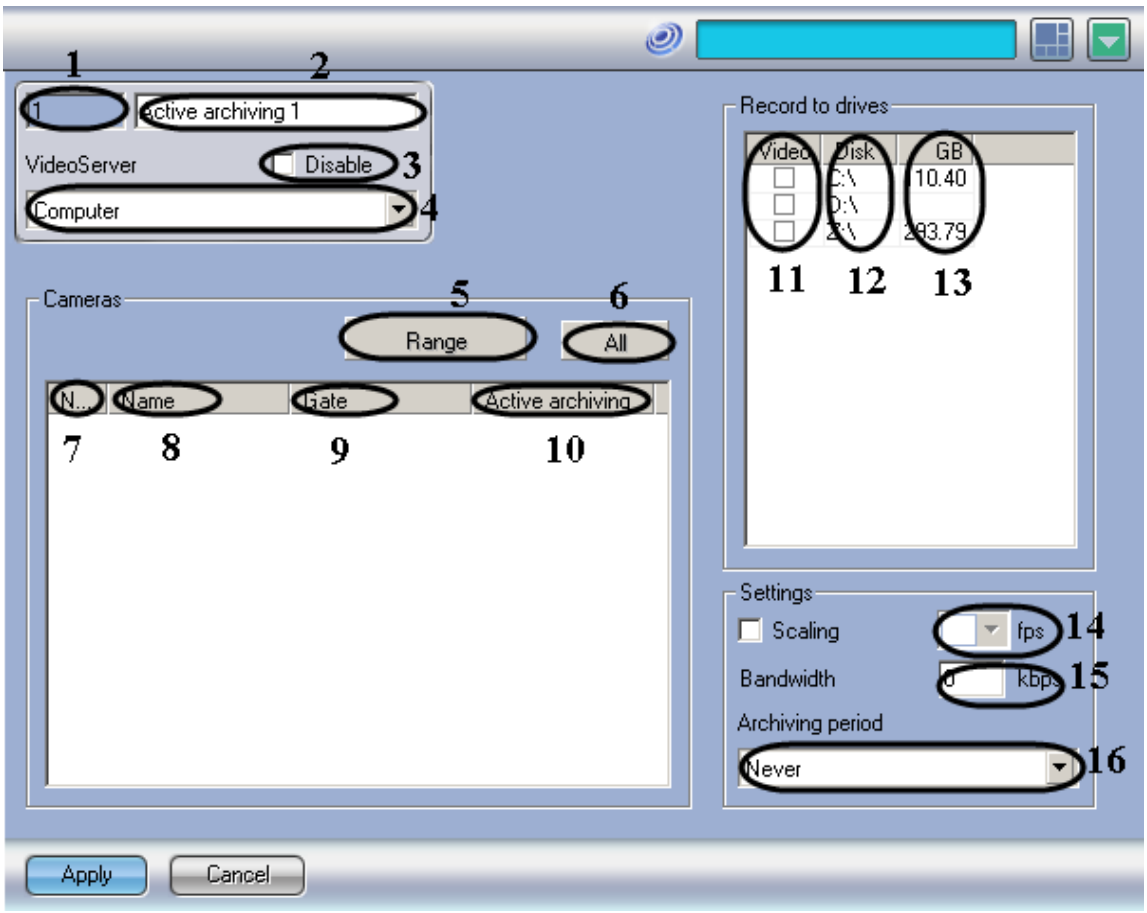


Figure 11.2—44. Active archive settings panel

Table 11.2-13 describes the parameters of the settings corresponding to the elements of the settings panel of the Active archive object.

Table 11.2-13

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the 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.

8. The name of the element is not displayed in the settings panel of the given object.

11.2.8.12 *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 11.2—45.

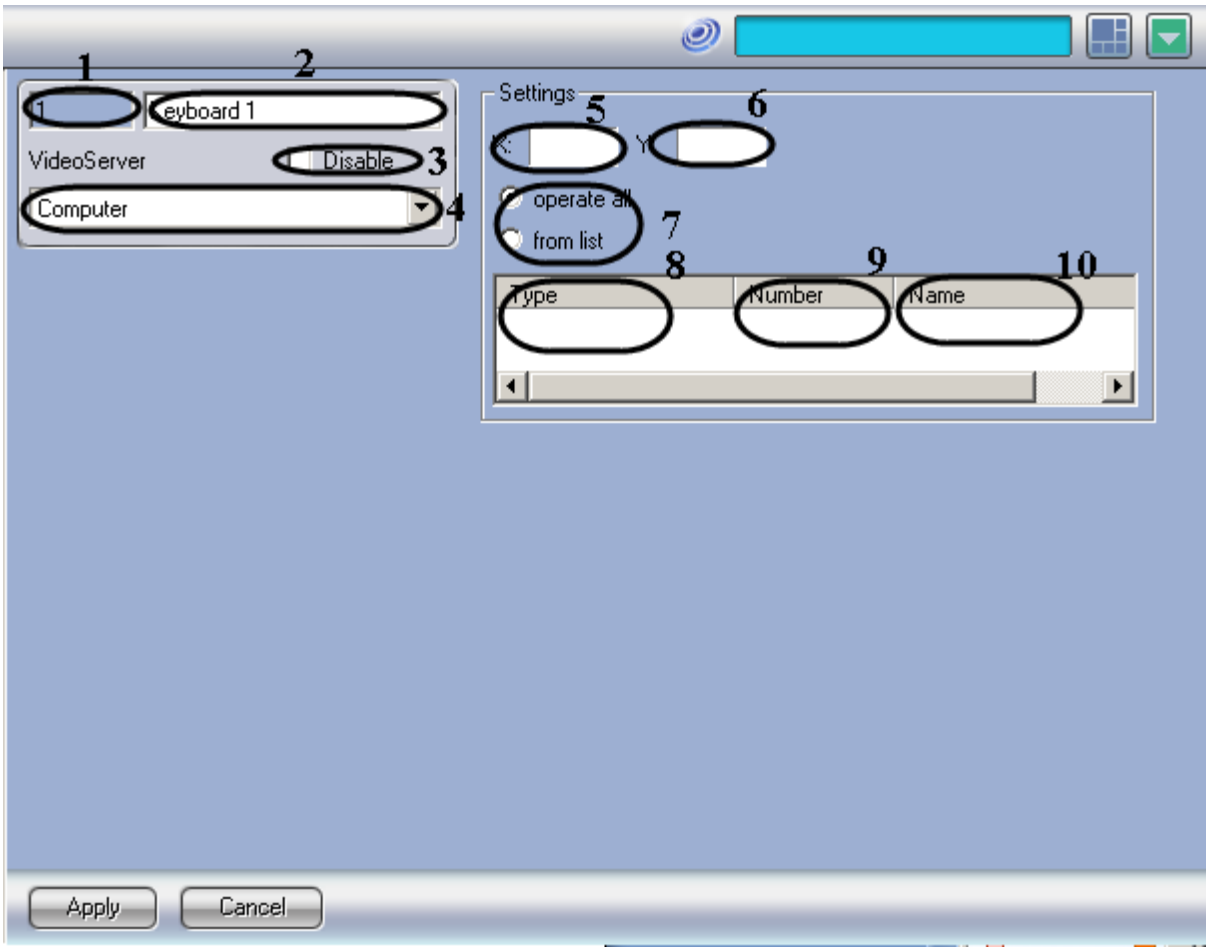


Figure 11.2—45. Special keyboard settings panel

Table 11.2-14 describes the parameters of the settings corresponding to the elements of the settings panel of the Special keyboard object.

Table 11.2-14

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the 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.

9. The name of the element is not displayed in the settings panel of the given object.

11.2.8.13 *Settings panel of the system object «System restarting service»*

The system object's settings panel «System restarting service» is shown in Figure 11.2—46.

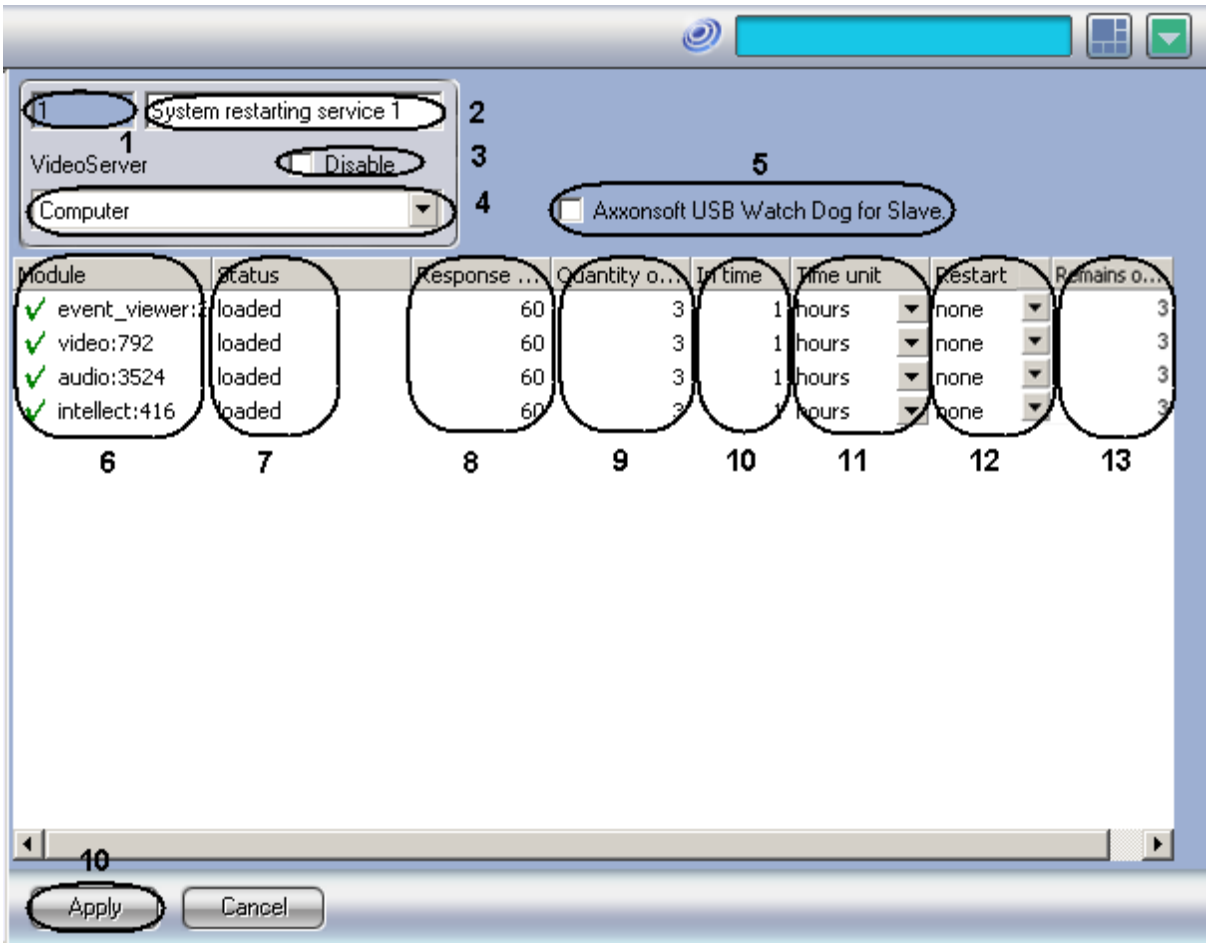


Figure 11.2—46. System object's settings panel «System restarting service»

Table 11.2-15 describes the parameters of the object settings «System restarting service.

Table 11.2-15

№	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 «AxxonSoft 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

11.2.8.14 *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 11.2—47.

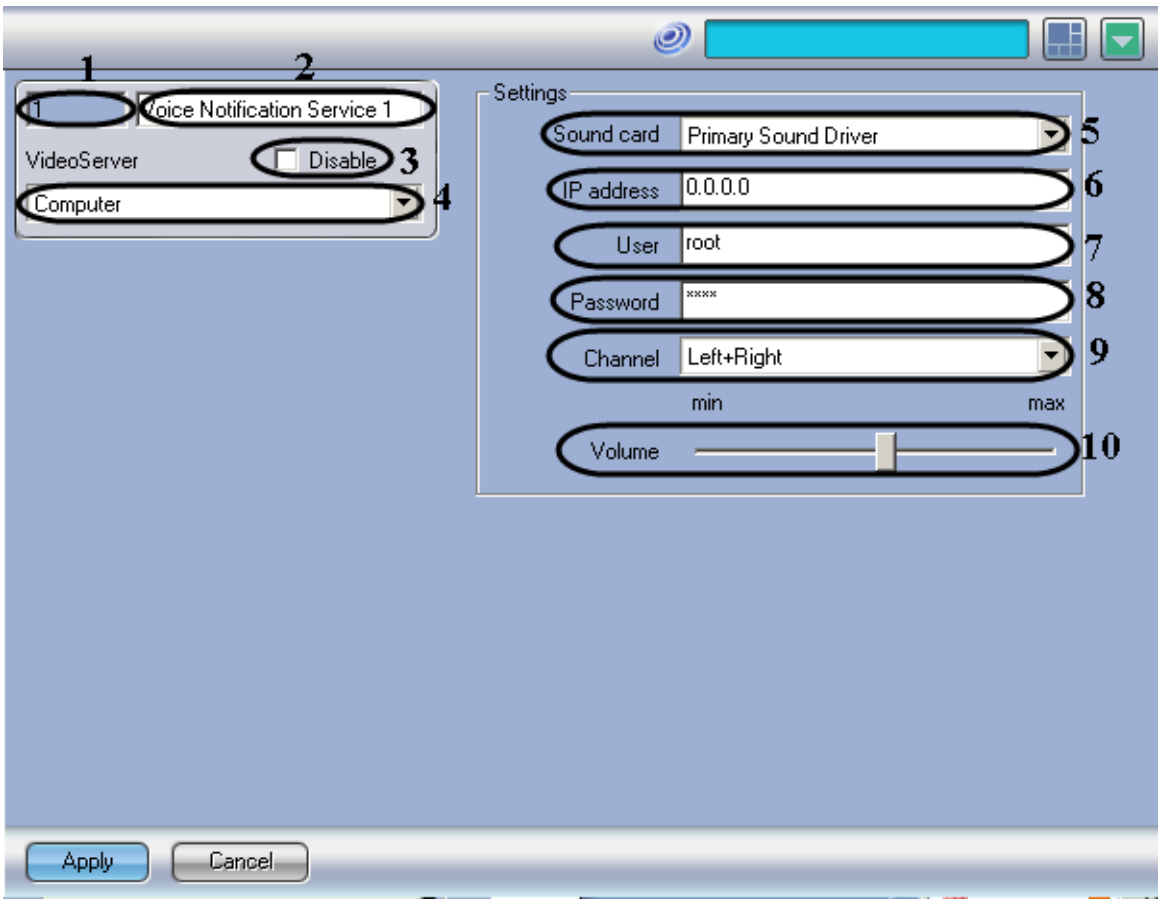


Figure 11.2—47. Settings panel of the Voice Notification Service object

Table 11.2-16 describes the parameters of the settings corresponding to the elements of the settings panel of the Voice notification service object.

Table 11.2-16

№	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

10. The name of the element is not displayed in the settings panel of the given object.

11.2.8.15 *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 11.2—48.

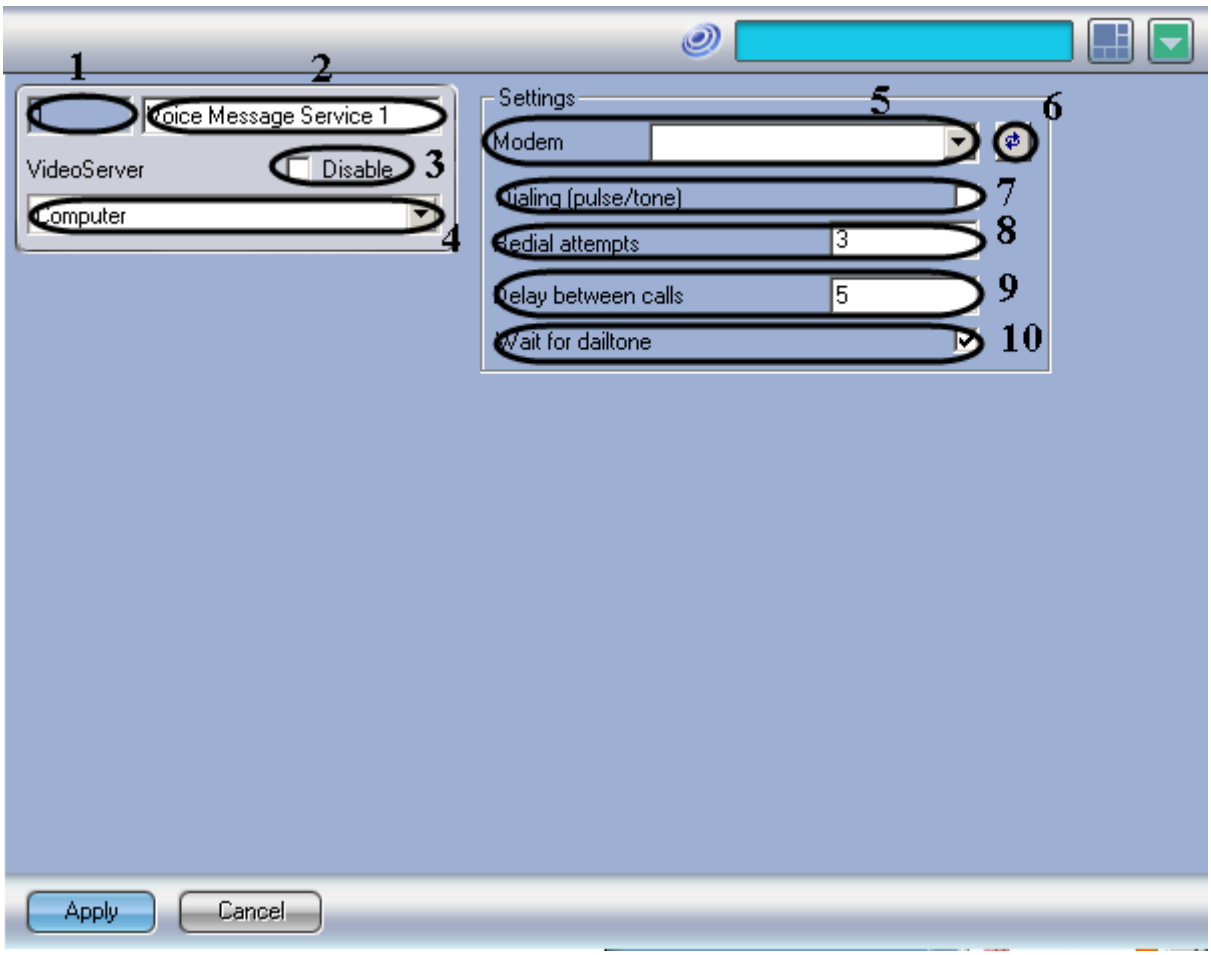


Figure 11.2—48. Voice messages service settings panel

Table 11.2-17 describes the parameters of the settings corresponding to the elements of the settings panel of the Voice messages service object.

Table 11.2-17

№	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 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.

11. The name of the element is not displayed in the settings panel of the given object.

11.2.8.16 *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 11.2—49.

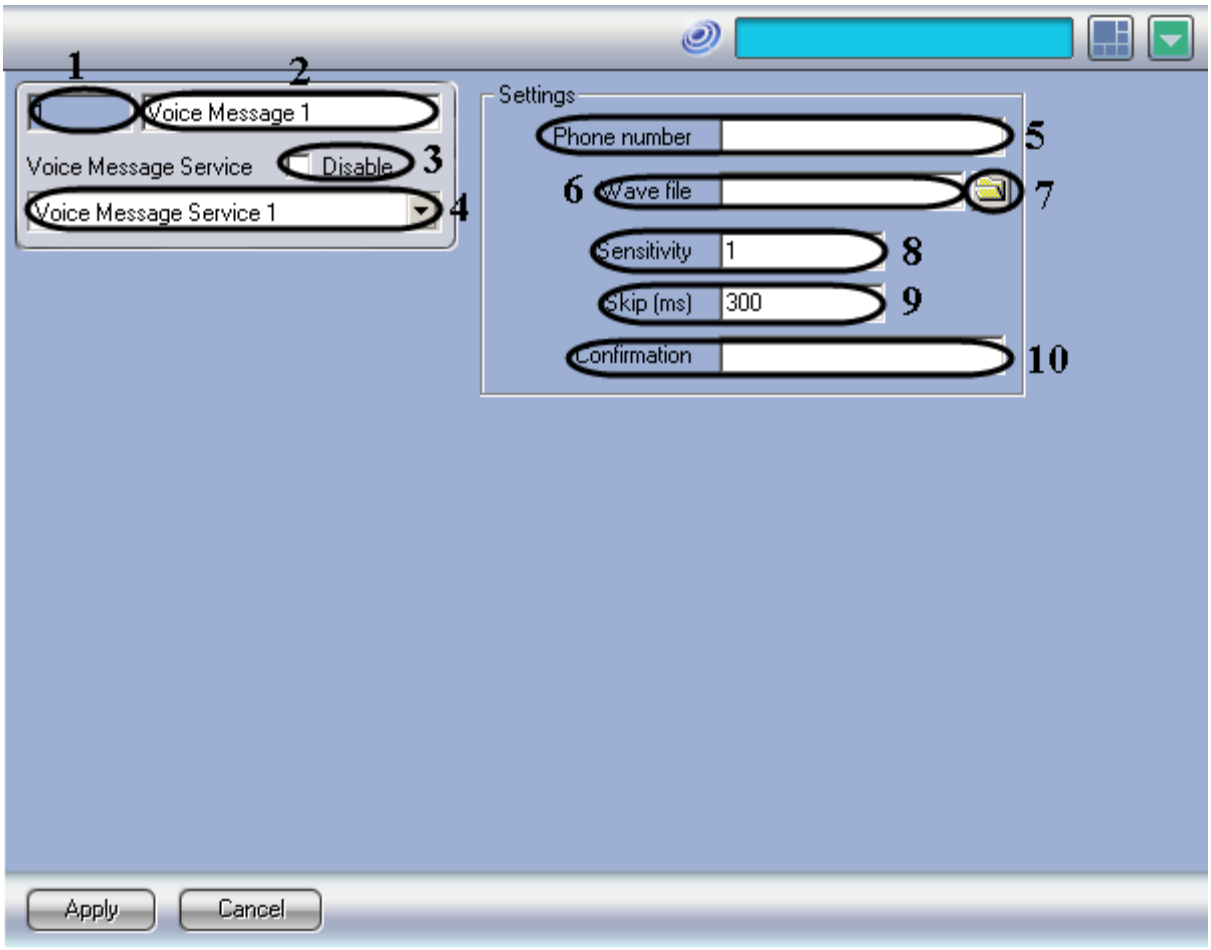


Figure 11.2—49. Voice message settings panel

Table 11.2-18 describes the parameters of the settings corresponding to the elements of the settings panel of the Voice message object.

Table 11.2-18

№	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 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 equal to 1.

12. The name of the element is not displayed in the settings panel of the given object.

11.2.8.17 *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 11.2—50.

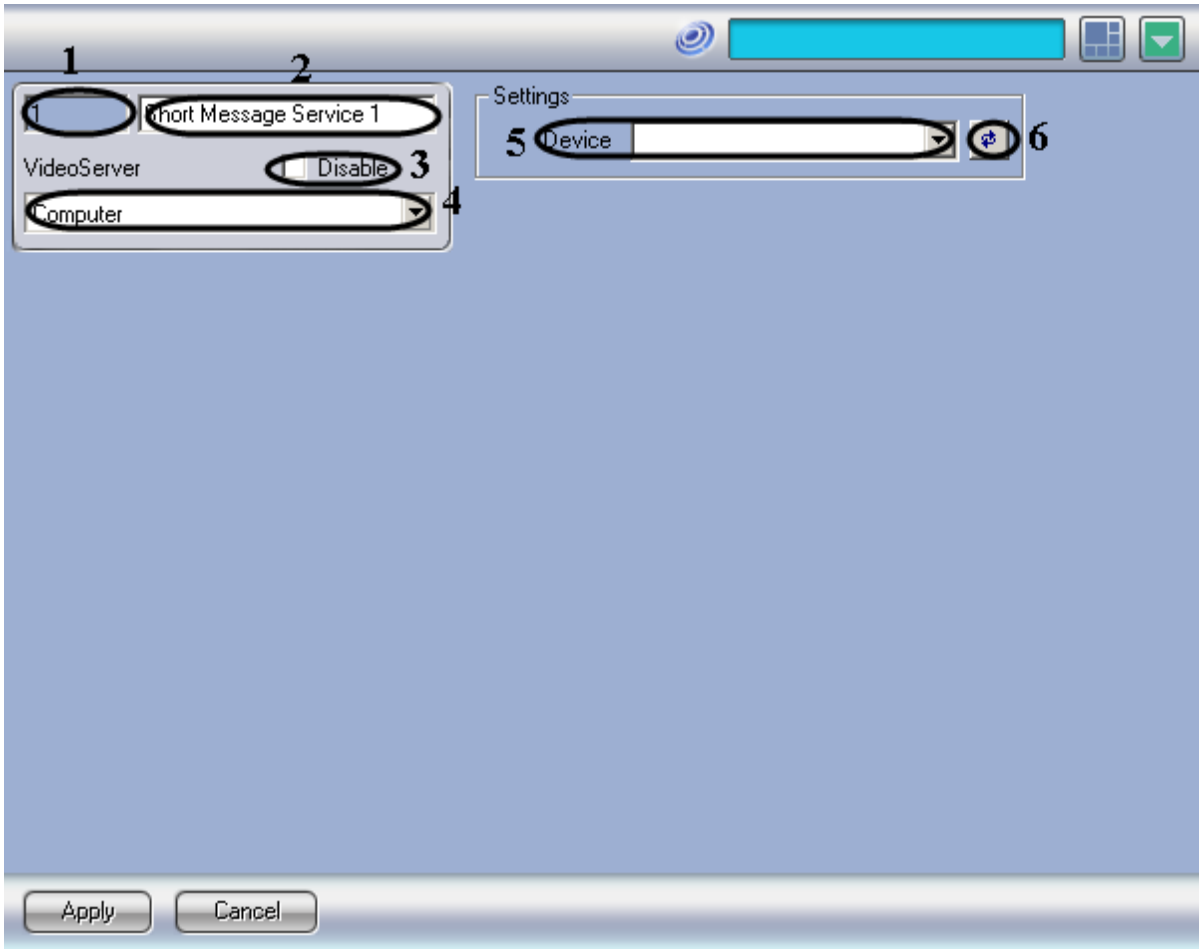


Figure 11.2—50. Settings panel of the Short Message Service object

Table 11.2-19 describes the parameters of the settings corresponding to the elements of the settings panel of the Short message service object.

Table 11.2-19

№	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.	-	-	-

d. The name of the element is not displayed in the settings panel of the given object.

11.2.8.18 *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 11.2—51.

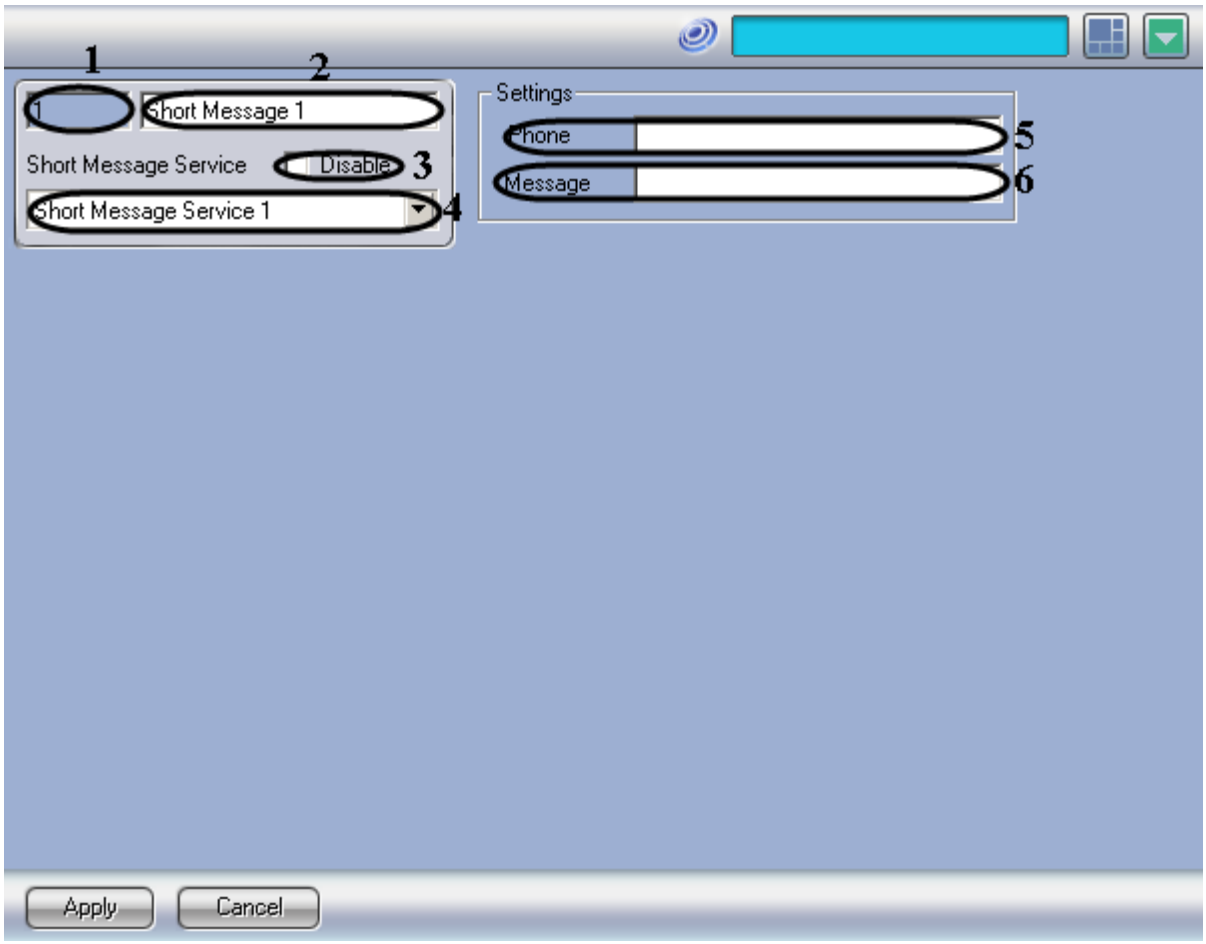


Figure 11.2—51. Settings panel of the Short Message object

Table 11.2-20 describes the parameters of the settings corresponding to the elements of the settings panel of the Short message object.

Table 11.2-20

№	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.

e. The name of the element is not displayed in the settings panel of the given object.

11.2.8.19 *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 11.2—52.

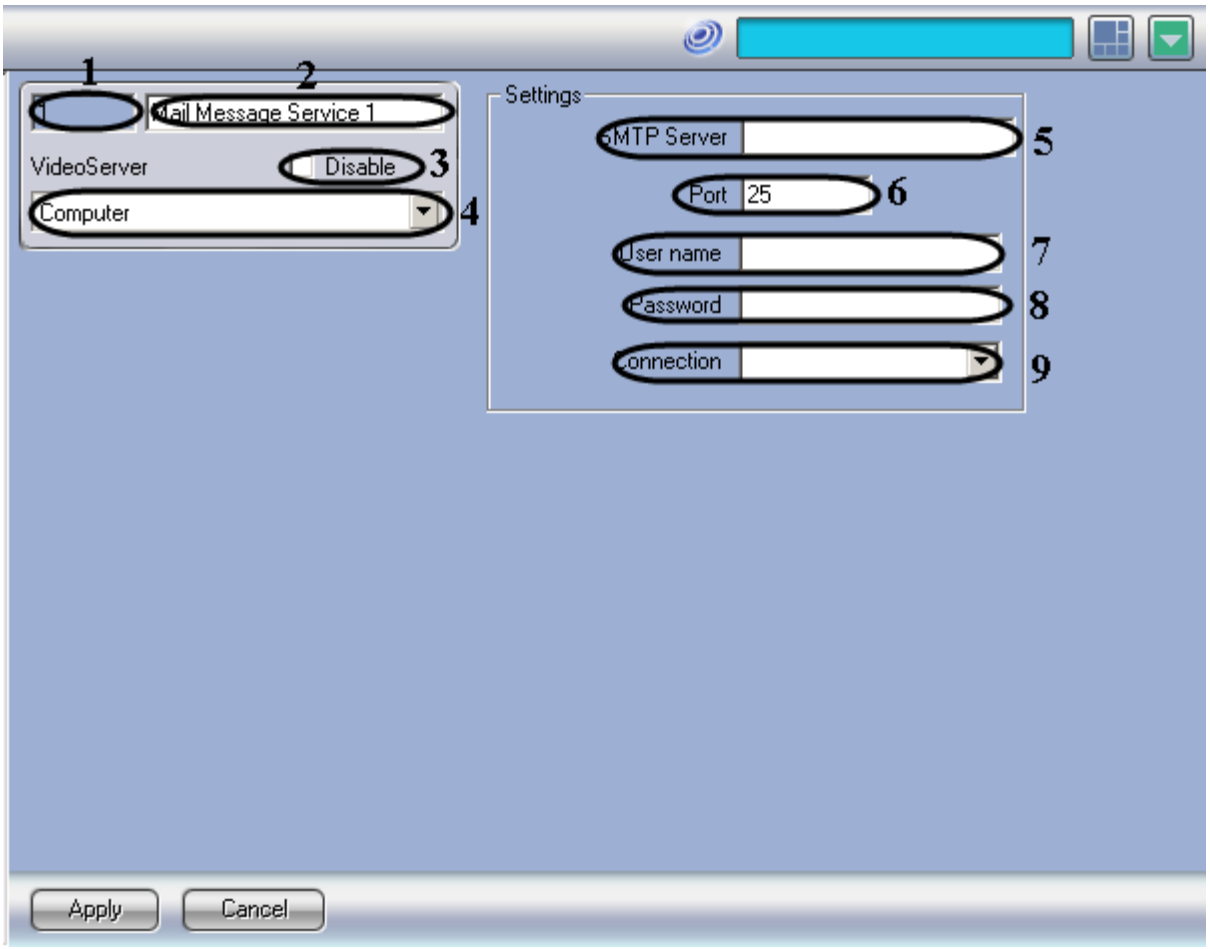


Figure 11.2—52. Settings panel of the Mail Message Service object

Table 11.2-21 describes the parameters of the settings corresponding to the elements of the settings panel of the Mail message service object.

Table 11.2-21

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the 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.

13. The name of the element is not displayed in the settings panel of the given object.

11.2.8.20 *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 11.2—53.

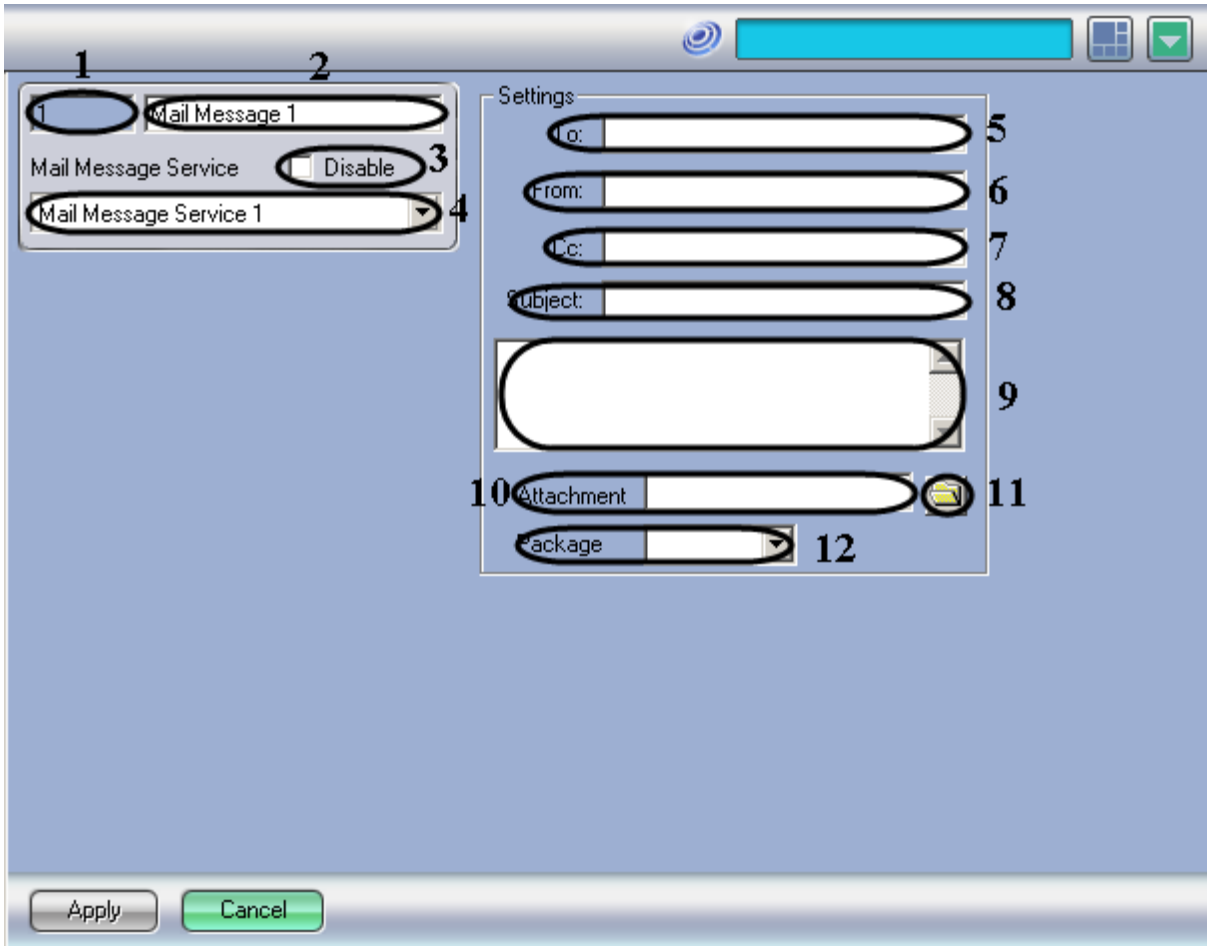


Figure 11.2—53. Settings panel of the Mail Message object

Table 11.2-22 describes the parameters of the settings corresponding to the elements of the settings panel of the Mail message object.

Table 11.2-22

№	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 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	Latin, Cyrillic and	Mail messa	A line containing a sequence of any symbols (letters, digits, service

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
			system.	service characters	-ge	characters), not case-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 Servic e 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.

14. The name of the element is not displayed in the settings panel of the given object.

11.2.8.21 *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 11.2—54.

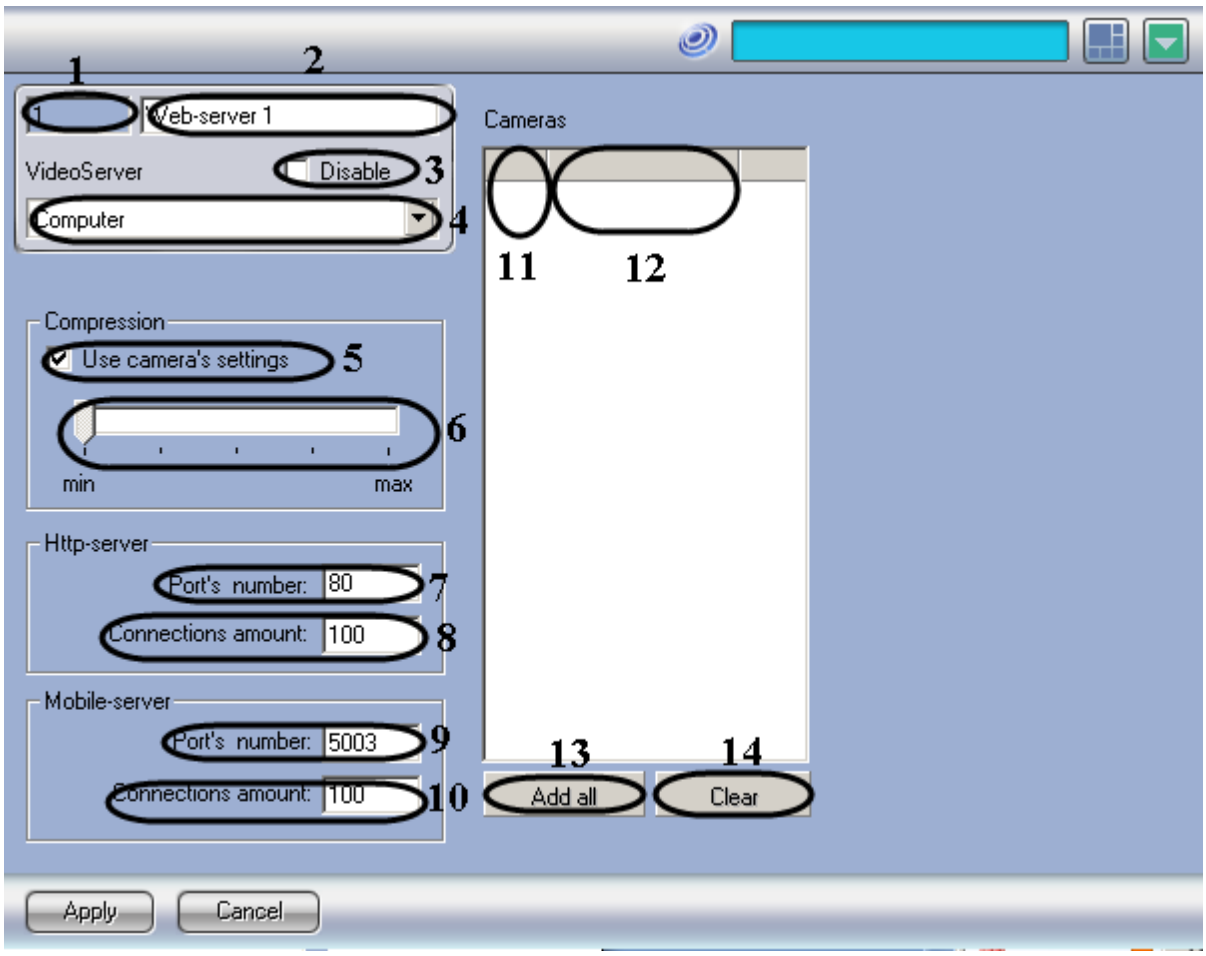


Figure 11.2—54. Settings panel of the Web-server object

Table 11.2-23 describes the parameters of the settings corresponding to the elements of the settings panel of the Web-server object.

Table 11.2-23

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the 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.	-	-	-

f. The name of the element is not displayed in the settings panel of the given object.

11.2.8.22 *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 11.2—55.

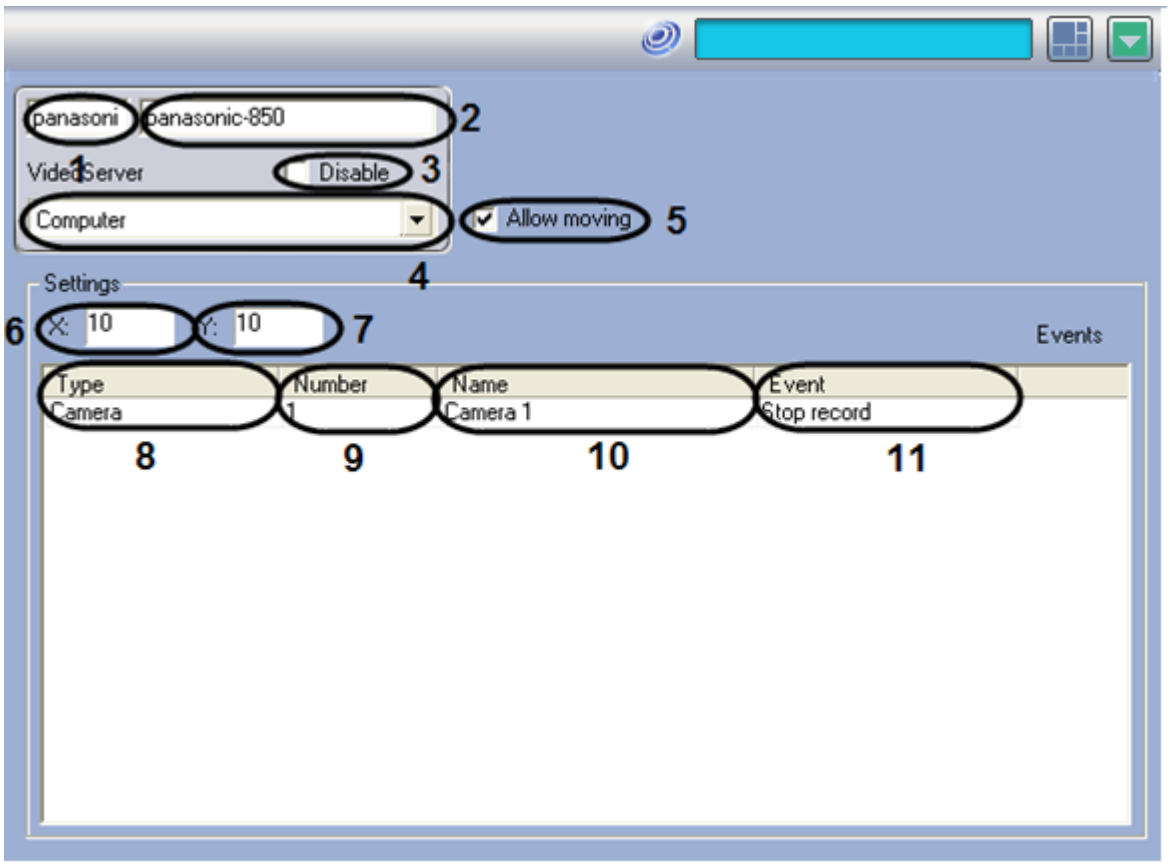


Figure 11.2—55. Settings panel of the Operator search window

Table 11.2-24 describes the parameters of the settings corresponding to the elements of the settings panel of the Operator search window object.

Table 11.2-24

№	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	Operator 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.

g. The name of the element is not displayed in the settings panel of the given object.

11.2.8.23 *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 11.2—56.

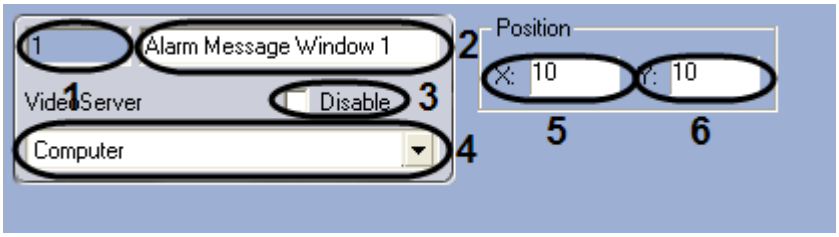


Figure 11.2—56. Settings panel of the Alarm notification window object

Table 11.2-25 describes the parameters of the settings corresponding to the elements of the settings panel of the Alarm notification window object.

Table 11.2-25

№	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.

15. The name of the element is not displayed in the settings panel of the given object.

11.2.8.24 *Videogate settings panel*

The face of Videogate settings panel is shown in Figure 11.2—57.

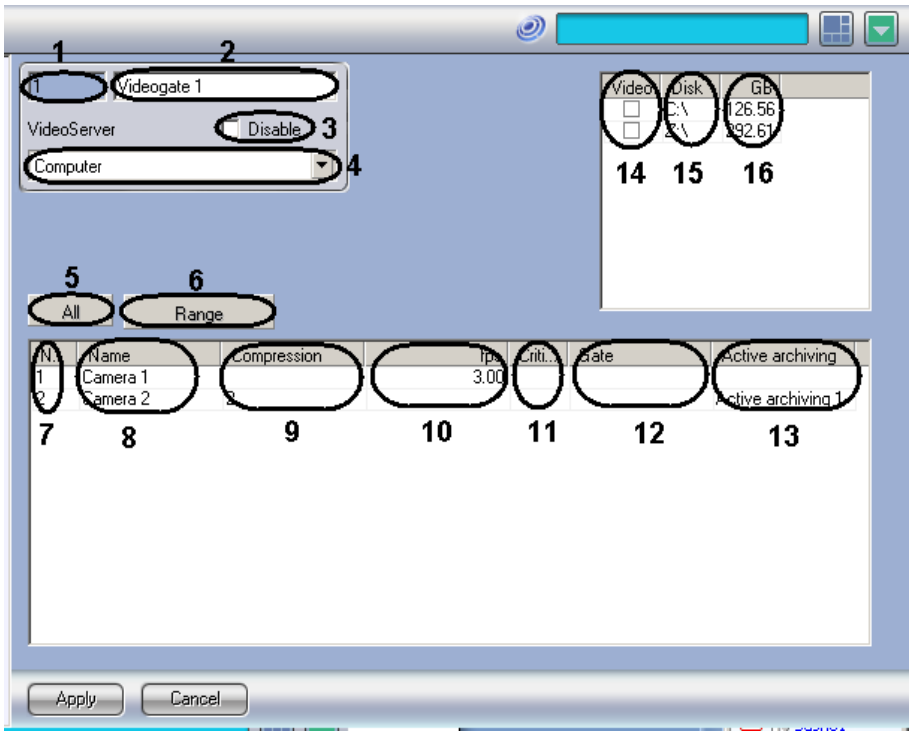


Figure 11.2—57. Settings panel of the Videogate object

Table 11.2-26 describes the parameters of the settings corresponding to the elements of the settings panel of the Videogate object.

Table 11.2-26

№	Parameter	How to enter the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the 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

16. The name of the element is not displayed in the settings panel of the given object.

11.2.8.25 *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 11.2—58.

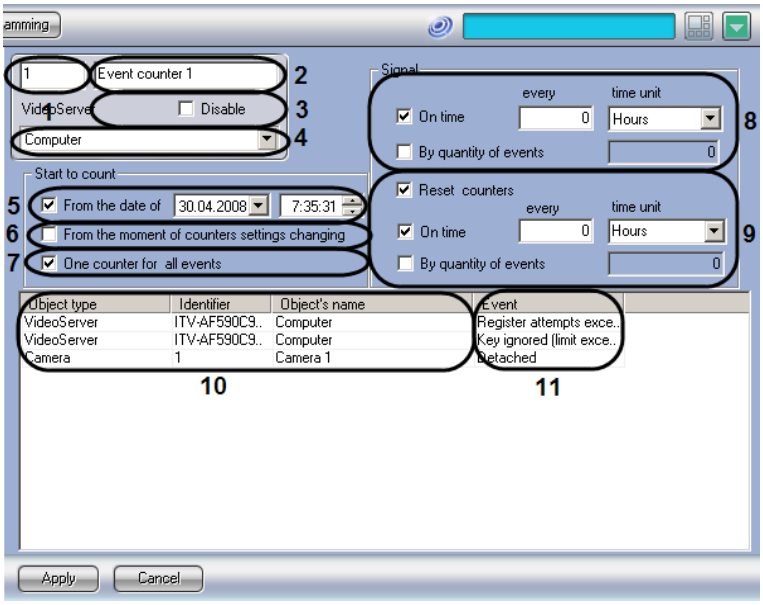


Figure 11.2—58. Event Counter settings panel

Table 11.2-27 describes the parameters of the settings corresponding to the elements of the settings panel of the Event counter object.

Table 11.2-27

№	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.

17. The name of the element is not displayed in the settings panel of the given object.

11.2.8.26 *Data replication service object settings panel*

The **Data replication service** object is for archive replication from unconnected servers.

Setting panel of the **Data replication service** object is shown in Figure 11.2—59.

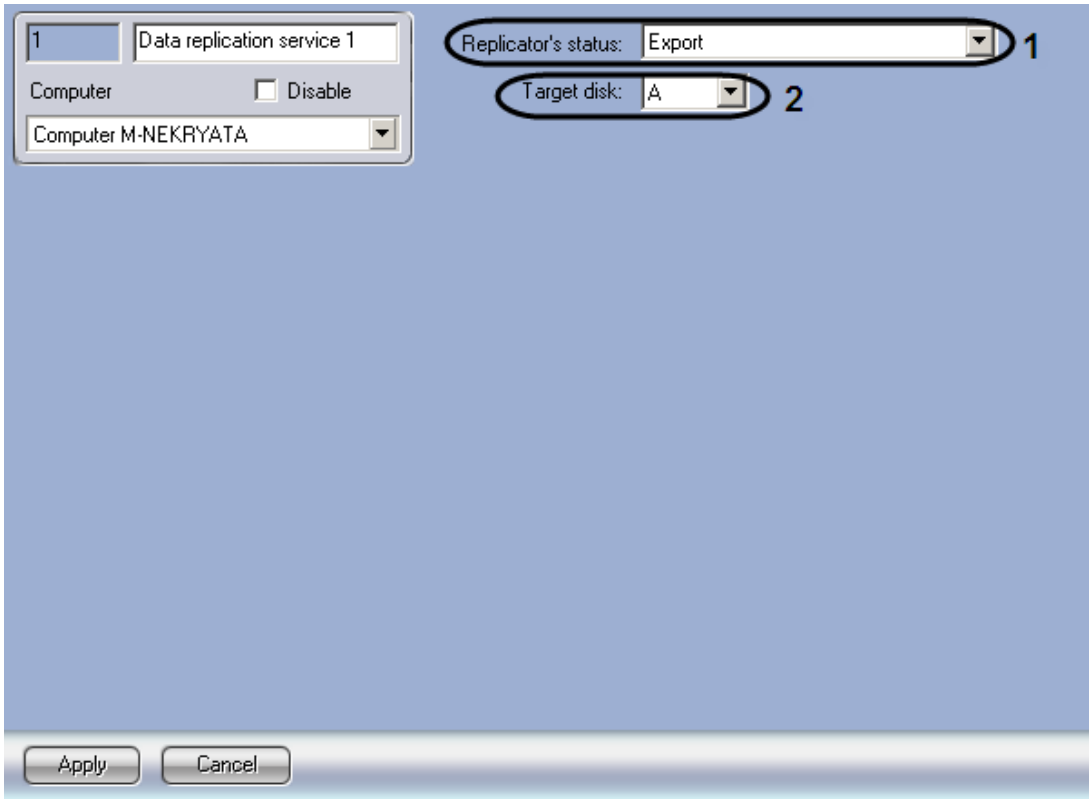


Figure 11.2—59 Setting panel of the Data replication service object

Description of setting parameters relevant to element on setting panel of the **Data replication service** object is given in Table 11.2-28.

Table 11.2-28

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Replicator's status	Is selected from the list	Specifies status of Server – whether it is a data source or a target	Names of present replication roles	Export	Export – Server is the source Target – Server is the target
2	Target disk	Is selected from the list	Specifies removable storage used for data transmission	Letter of drive connected to the Server	-	Depends on the number of drives connected to the Server

11.2.8.27 *SNMP trap object settings panel*

Face of SNMP trap system object is shown in Figure 11.2—60.

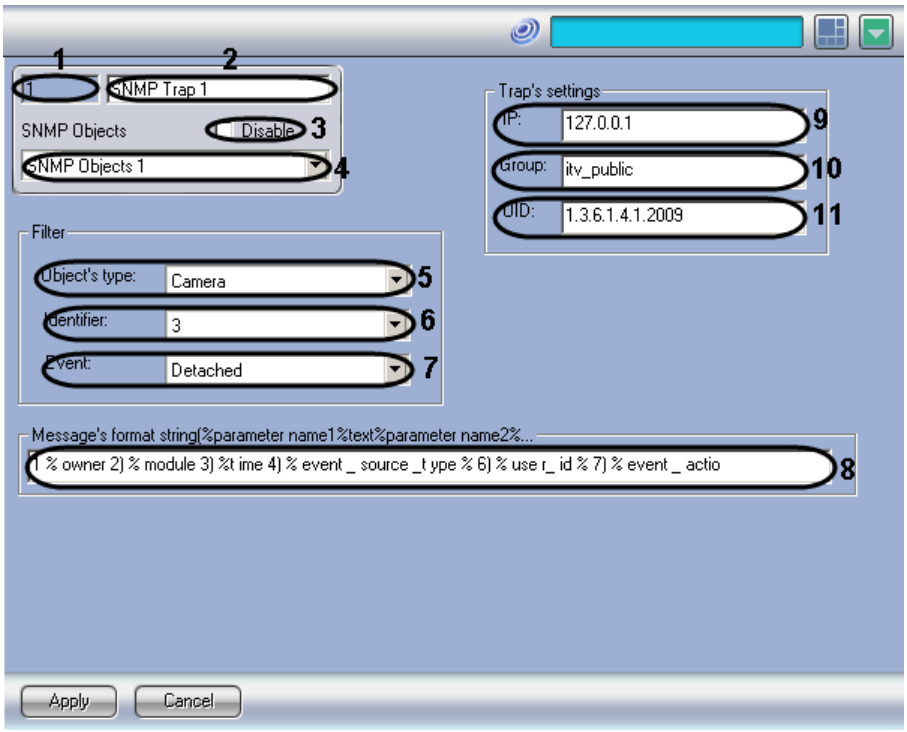


Figure 11.2—60. SNMP trap system object settings panel

Description of SNMP trap object's settings parameters is given in Table 11.2-29.

Table 11.2-29

№	Parameter's name	Means of setting the parameter	Parameter's description	Is represented by	Value on default	Range of value

№	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 to SNMP-agent	Number of the registered in the system object of the given type	-	Depends on the number of registered objects of the given type. If the value is not set, SNMP-agent will receive all the events concerning the

№	Parameter's name	Means of setting the parameter	Parameter's description	Is represented by	Value on default	Range of value
						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	-	axxonsoft_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

11.2.9 Interface Tab

The Interfaces tab is designed to create and configure a user interface of the video surveillance and audio monitoring system.

11.2.9.1 *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.

11.2.9.2 *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 11.2—61.

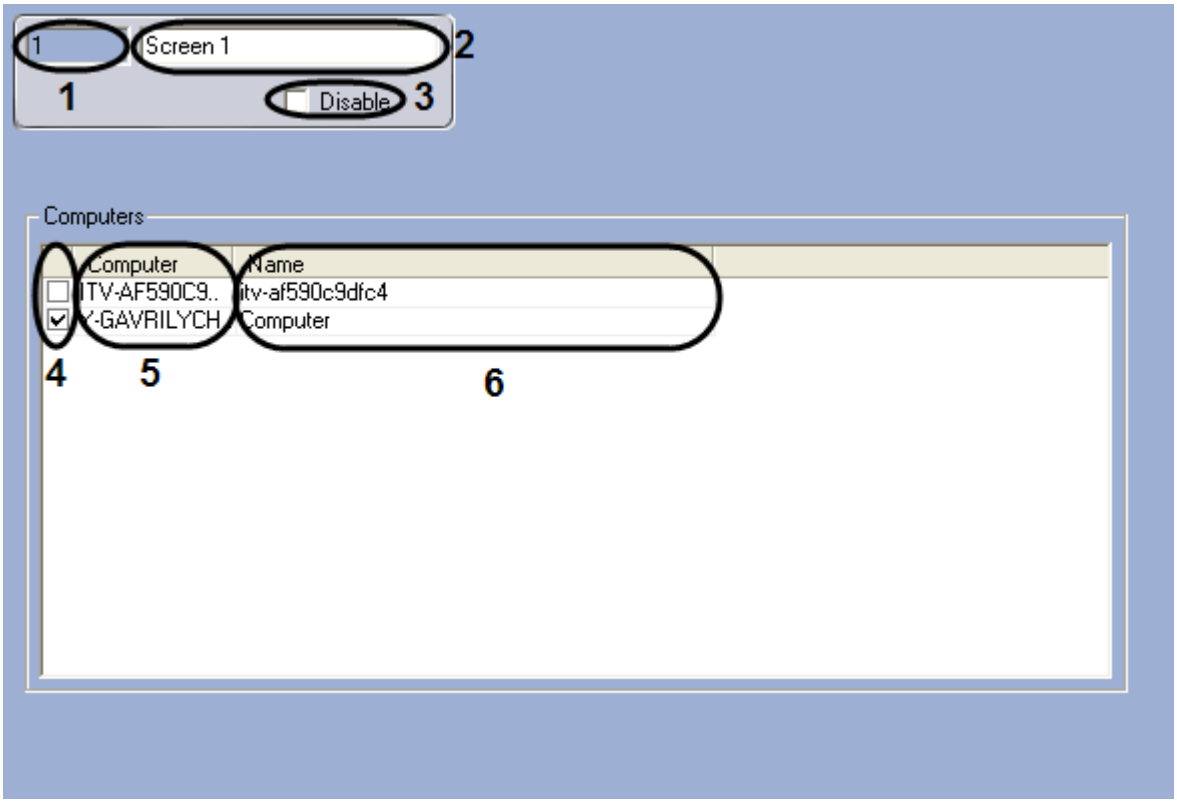


Figure 11.2—61. Screen settings panel

Table 11.2-30 describes the parameters of the settings corresponding to the elements of the settings panel of the Screen object.

Table 11.2-30

№	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 surveillance system.	Sequen-ce of numbers	-	Depends on the number of Screen objects in the digital distributed video 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	Screen	A line containing a sequence of any symbols (letters, digits, service

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
				service characte r-s		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 system	Name of the Com-puter object regist-ered in the syste m	Depends on the number of objects in the digital distributed video surveillance system. A line containing a sequence of any symbols (letters, digits, service characters), not case-sensitive

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
						Number of symbols – from 1 to 60.

18. The name of the element is not displayed in the settings panel of the given object.

11.2.9.3 *Settings panel of the "Monitor" object*

The face of the settings panel for the "Monitor" object is shown in Figure 11.2—62 and Figure 11.2—63.

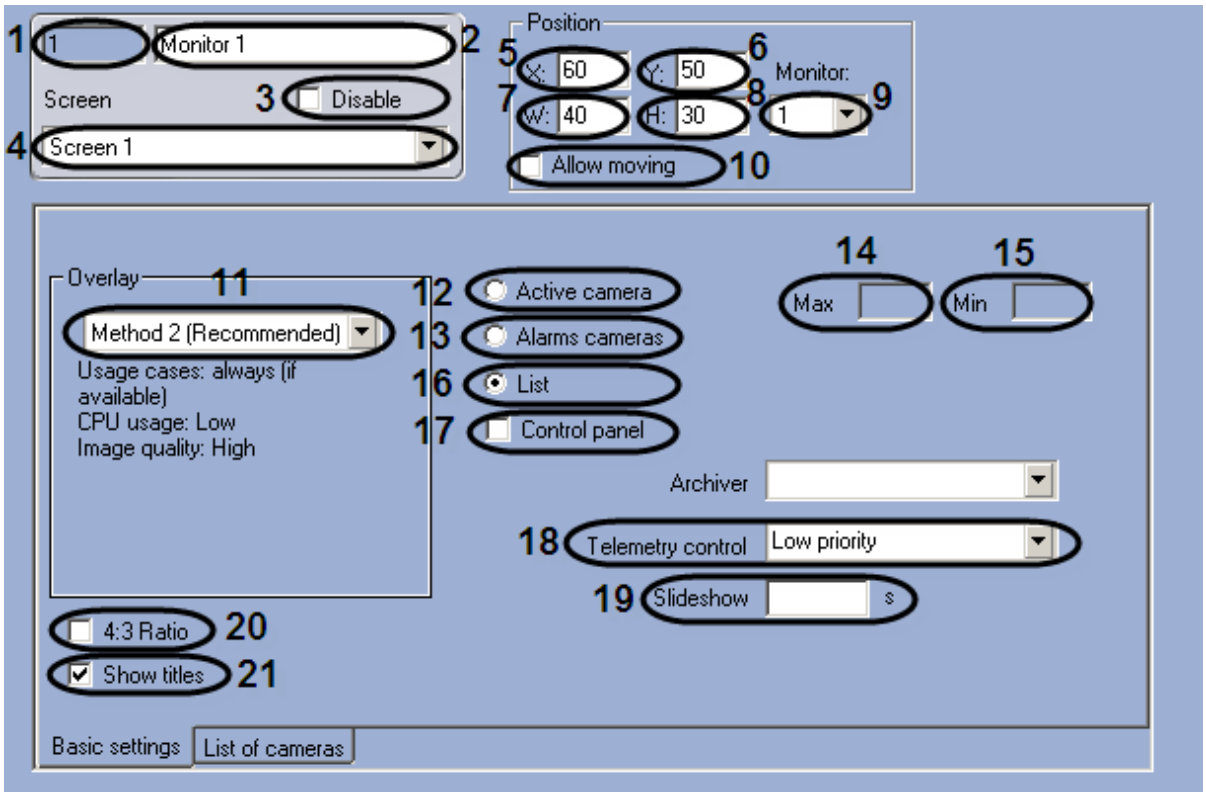


Figure 11.2—62. The settings panel for the "Monitor" object. The "Basic settings" tab

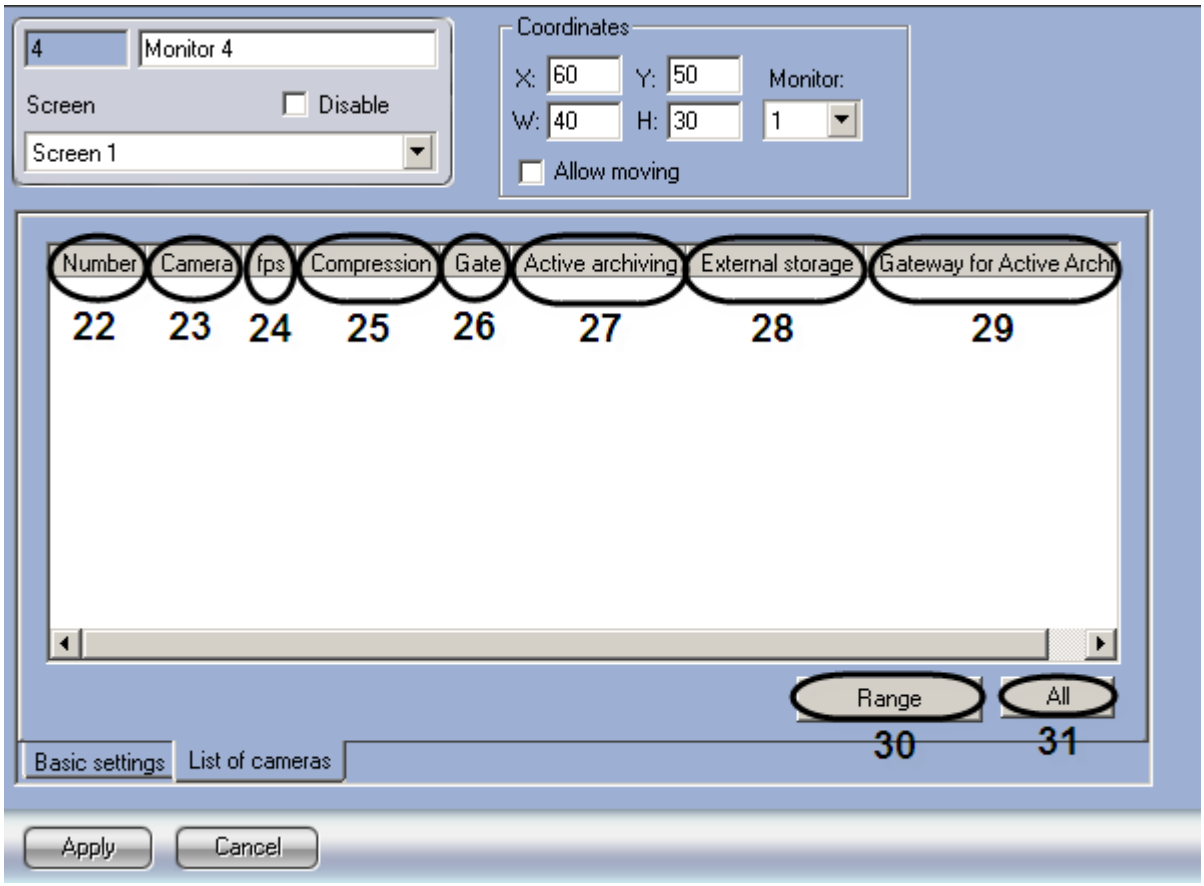


Figure 11.2—63 The settings panel for the “Monitor” object. The “List of cameras” tab

Table 11.2-31 describes the settings parameters for the “Monitor” interface object.

Table 11.2-31 Description of the settings parameters for the “Monitor” interface object

№	Parameter	Method of setting the value	Parameter description	Symbols used	Default value	Value range
1	The “Identification number” field	Automatically	Displays the identification number of the “Monitor” interface object in the system.	Sequence of numbers	-	Depends on the number of the “Monitor” objects in the system.
2	The “Name” field	Enter the value in the field	Defines the name of the “Monitor” object in the system.	Latin, Cyrillic and service digits	Monitor	A line containing a sequence of any symbols (letters, digits, service digits), not case-sensitive Number of symbols – from 1 to 60.
3	The “Disable” checkbox	Set the checkbox	Defines the mode of the “Monitor” object (on or off) in the system.	Boolean type	-	Yes – the “Monitor” object is disabled and is not in use No – the “Monitor” object is enabled and is in use

№	Parameter	Method of setting the value	Parameter description	Symbols used	Defa-ult value	Value range
4	The “Screen” drop-down list	Select in the list	Sets the parent “Screen” object for the given “Monitor” object.	Names of the “Screen” objects register-ed in the system	Name of the parent “Scree n” object	Depends on the number of the “Screen” objects in the system.
The “Position” group						
5	The “X” field	Enter the value in the field	Set the “X” coordinate in the horizontal axis for the upper-left corner of the “Monitor” interface box	% of the screen width	-	From 0 to M*100, where M is the number of the monitors installed
6	The “Y” field	Enter the value in the field	Set the “Y” coordinate in the vertical axis for the upper left corner of the “Monitor” interface box	% of the screen height	-	From 0 to M*100, where M is the number of the monitors installed
7	The “W” field	Enter the value in the field	Set the width of the “Monitor” interface box	% of the screen width	-	From 0 to M*100, where M is the number of the monitors installed
8	The “H” field	Enter the value in the field	Set the height of the “Monitor” object if the control panel is not active	% of the screen width	-	From 0 to M*100, where M is the number of the monitors installed
9	The “Monitor” drop-down list	Select in the list	Sets the monitor number, the coordinates to which are assigned	Sequen-ce of numbers	1	From 1 to 9
10	The “Allow moving” checkbox	Set the checkbox	Allows hand shifting of the “Monitor” interface box if the control panel is active	Boolean type	-	Yes – hand shifting is allowed. No – hand shifting is prohibited.
The “Basic settings” tab						
11	The “Overlay” drop-down list	Select in the list	Set the “Overlay” mode for processing video signals	Names of overlay modes	Metho d2 (Reco mmen ded)	Method1 – video signals are processed as one stream Method2 (Recommended) – video signals are processed independently from each other None – video signals are not processed by a video capture card
12	The “Active camera”	Set in the position	Set the display mode for an active camera box	Boolean type	-	Yes - The “Active camera” mode is enabled

№	Parameter	Method of setting the value	Parameter description	Symbols used	Defa-ult value	Value range
	switch					and is in use No - The “Active camera” mode is disabled and is not in use
13	The “Alarms cameras” switch	Set in the position	Set the display mode for alarm cameras’ boxes	Boolean type	-	Yes - The “Alarms cameras” mode is enabled and is in use No - The “Alarms cameras” mode is disabled and is not in use
14	The “Maximum” field	Enter the value in the field	Specify the maximum number of video cameras, boxes of which are displayed on the “Monitor” in the “Alarms cameras” mode	Sequenc e of numbers	-	From 1 to 64 Depends on the number of cameras registered in the system
15	The “Minimum” field	Enter the value in the box	Specify the minimum number of video cameras, boxes of which are displayed on the “Monitor” in the “Alarms cameras” even on no-alarm	Sequenc e of numbers	-	From 1 to 64 Depends on the number of cameras registered in the system. 0 – on no-alarm camera boxes are not displayed in the “Monitor” box.
16	The “List” switch	Set in the position	Set the display mode according to the selected layout.	Boolean type	Yes	Yes - The “List” mode is enabled and is in use No - The “List” mode is disabled and is not in use
17	The “Control panel” checkbox	Set the checkbox	Activates the control panel for the “Monitor” in the “List” mode	Boolean type	-	Yes - The “Control panel” mode is enabled and is in use No - The “Control panel” mode is disabled and is not in use
18	The “Telemetry control” drop-down list	Select in the list	Set the prioritiy for the Telemetry control using the “Monitor” object	Names of the Telemetr y control priorities	Low priori-ty	Forbidden – option of the Telemetry control using the “Monitor” object is disabled Low priority – low priority of control High priority – high priority of control

№	Parameter	Method of setting the value	Parameter description	Symbols used	Defa-ult value	Value range
19	The “Slideshow” field	Enter the value in the field	Set the period of automatic slideshow of camera boxes when the control panel is enabled	Period in seconds (s)	-	Whole number from 1 and bigger
20	The “Ratio 4:3” checkbox	Set the checkbox	Set the 4:3proportion of height and width of the “Monitor” box	Boolean type	-	Yes - proportion of height and width of the “Monitor” box is 4:3 No - proportion of height and width of the “Monitor” box can be random.
21	The “Show titles” checkbox	Set the checkbox	Shows the titles for cameras of the “Monitor” interface box	Boolean type	Yes	Yes – The “Titles” submenu is available in the contextual menu of the “Monitor” interface box No – The “Titles” submenu is unavailable in the contextual menu of the “Monitor” interface box
The “List of cameras” tab						
22	The “Number” drop-down list	Select in the list	Set the number of the video camera to display on the “Monitor”	Sequen-ce of numbers	-	Depends on the number of video cameras registered in the system
23	The “Camera” drop-down list	Select in the list	Set the name of the video camera to display on the “Monitor”	Name of the cameras register-ed in the system	-	Depends on the number of video cameras registered in the system
24	The “Fps” drop-down list	Select in the list	Set the fps for transmitting the video signal to the “Monitor” of the Client.	Sequenc e of numbers	-	1, 2, 3, 4, 6, 8, 12, 16, 20, 25, 30
25	The “Compressio n” drop-down list	Select in the list	Set the compression for transmitting the video signal to the “Monitor” of the Client. The given value leads to extra 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
26	The “Gate” drop-down	Select in the list	Set the “Gate” object via which the video archive from the	Names of the	-	Depends on the number of the “Gate” objects

№	Parameter	Method of setting the value	Parameter description	Symbols used	Defa-ult value	Value range
	list		selected camera is to be transmitted to the “Monitor”	“Gatewa y” objects register-ed in the system		registered in the system
27	The “Active archiving” drop-down list	Select in the list	Set the “Active archiving” object the video archive fromthe selected camera of which is to be transmitted to the “Monitor”	Names of the “Active archiving ” objects register-ed in the system	-	Depends on the number of the “Active archiving” objects registered in the system
28	The “External storage”	Select in the list	Set the “ External storage” object” the video archive from which is to be transmitted to the “Monitor” via the selected camera	Names of the “External storage” objects register-ed in the system	-	Depends on the number of the “External storage” objects registered in the system
29	The “Gateway for active archiving” drop-down list	Select in the list	Set the “Gate” object via which the video archive of the “Active archiving” object is to be transmitted to the “Monitor”	Names of the “Gatewa y for active archiving ” objects register-ed in the system	-	Depends on the number of the “Gateway for active archiving” objects registered in the system
30	The “Range” button	Click the button	Select all cameras registered in the system to display on the “Monitor”	-	-	-
31	The “All” button	Click the button	Access to complex selection and editing of cameras’parameters to display on the “Monitor”	-	-	-

11.2.9.4 *Audio player settings panel*

The Audio player settings panel is shown in Figure 11.2—64.

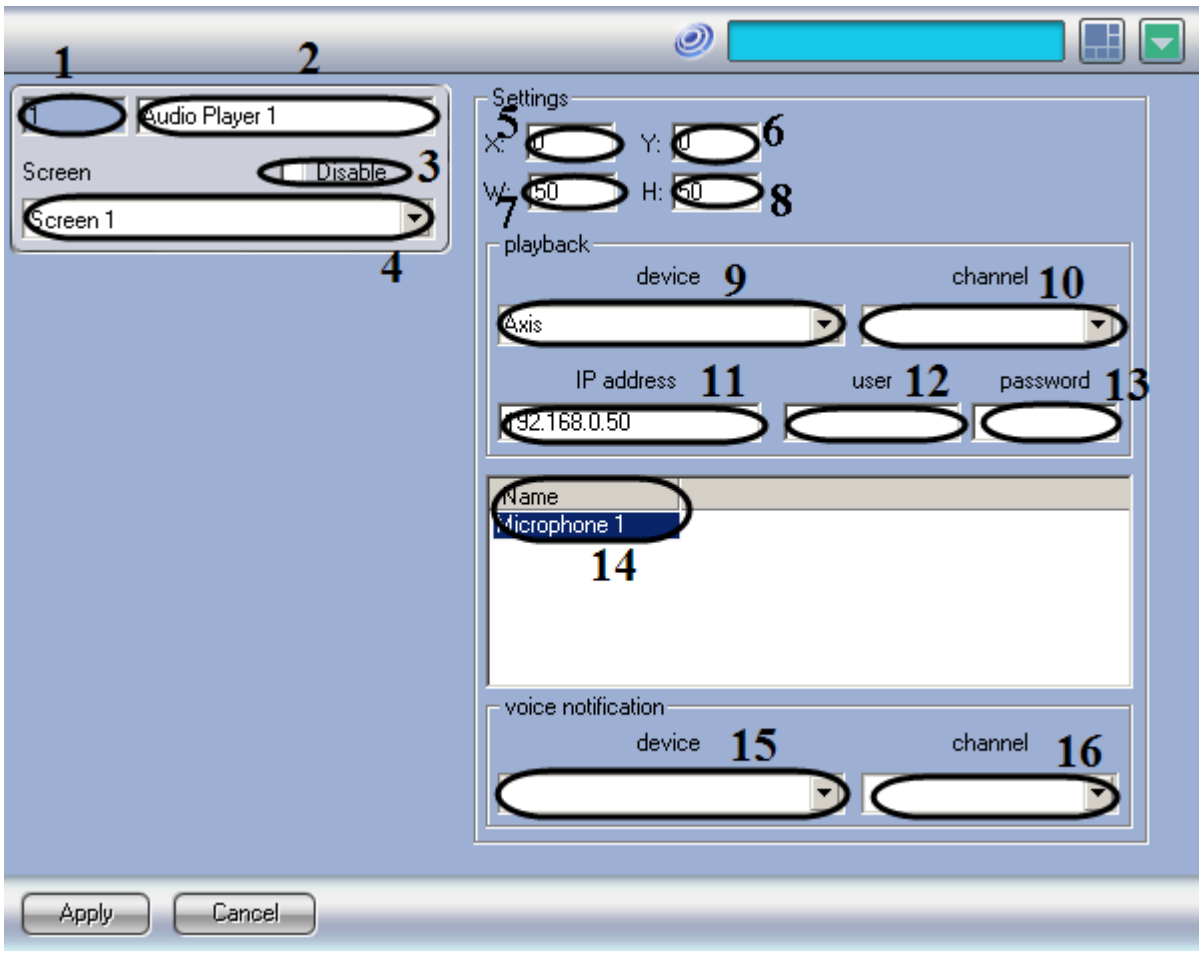


Figure 11.2—64. Audio player settings panel

Table 11.2-32 describes the parameters of the settings corresponding to the elements of the settings panel of the Audio player object.

Table 11.2-32

№	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

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
						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 width.	Not defin-ed	From 40 to M*100, where M is the number of surveillance monitors 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,r egistered 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+righ t, left,right	Left+ri ght	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

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
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 system	Device on default	Depends on voice notification devices, registered in the system. Device n default-standard sound map.
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

11.2.9.5 *Settings panel of the Telemetry control panel*

The Audio player settings panel is shown in Figure 11.2—65.

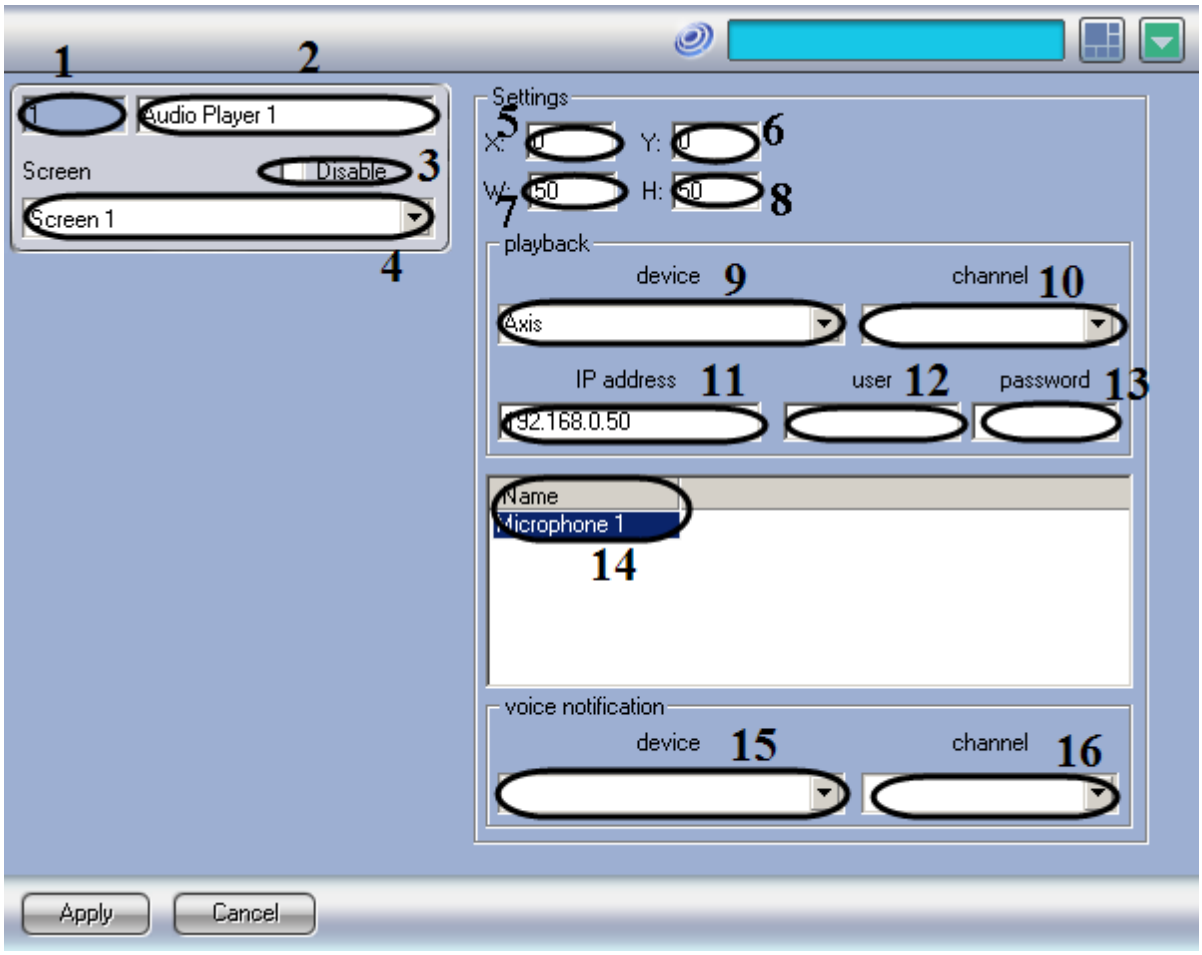


Figure 11.2—65. Audio player settings panel

Table 11.2-33 describes the parameters of the settings corresponding to the elements of the settings panel of the Audio player object.

Table 11.2-33

№	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 player object in the system.	Sequence 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 characters	Audio player	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	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 width.	Not defin-ed	From 40 to M*100, where M is the number of surveillance monitors 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,r egistered 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+righ t, left,right	Left+ri ght	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

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
						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 system	Device on default	Depends on voice notification devices, registered in the system. Device n default-standard sound map.
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

11.2.9.6 *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 11.2—66.

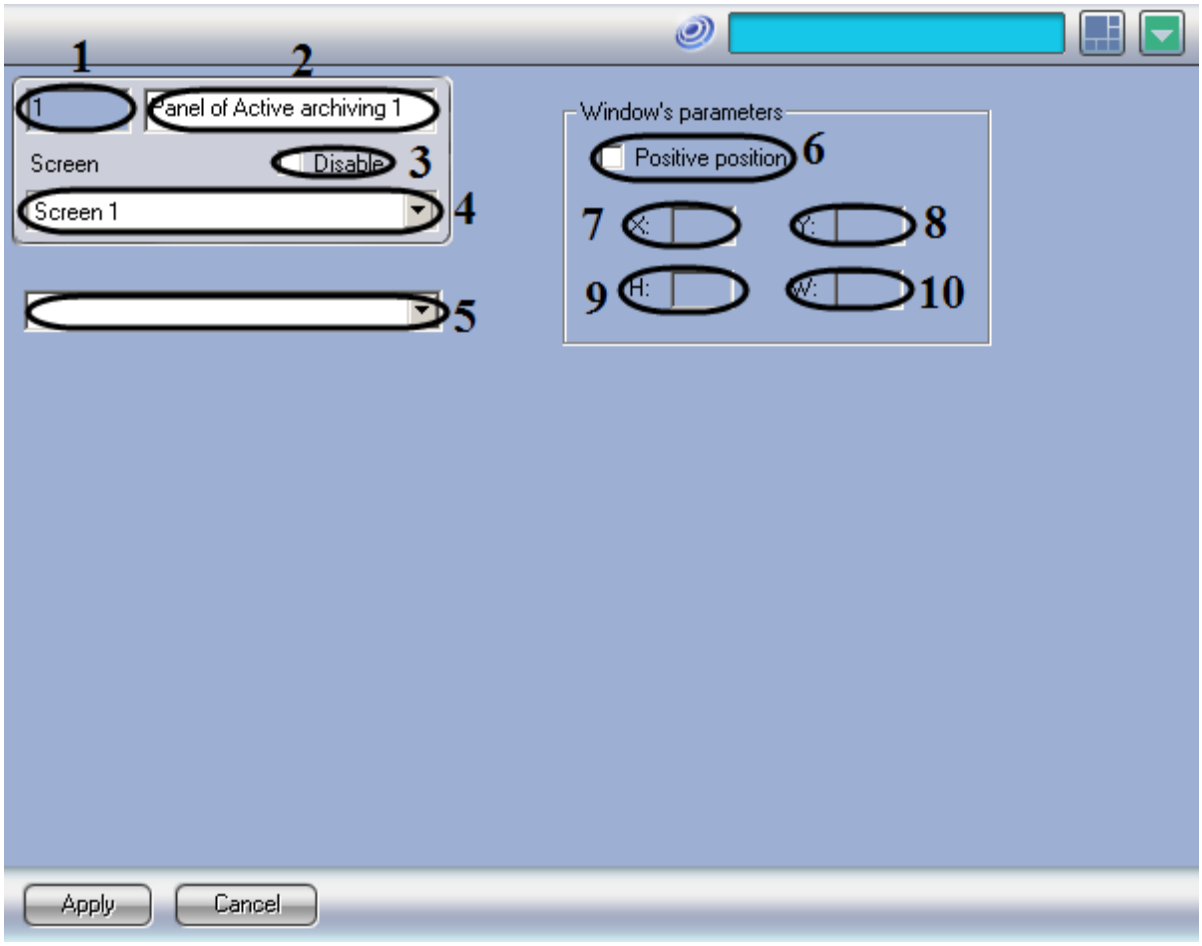


Figure 11.2—66. Settings of the Active Archiving panel object

Table 11.2-34 describes the parameters of the settings corresponding to the elements of the settings panel of the Active Archiving panel object.

Table 11.2-34

№	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

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
2	Name*	Enter the value in the box	Defines the name of the Active Archiving panel object.	Latin, Cyrillic and service characters	Active Archi-ving panel	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 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	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.

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
		checked).				
9	W	Enter the value in the box (Automatically, if the Fixed position option is checked).	Defines the width of the Active Archiving panel.	% of the screen width.	Not defined	From 0 to M*100, where M is the number of video monitors installed.
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 defined	From 0 to M*100, where M is the number of video monitors installed.

19. The name of the element is not displayed in the settings panel of the given object.

11.2.9.7 *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 11.2—67.

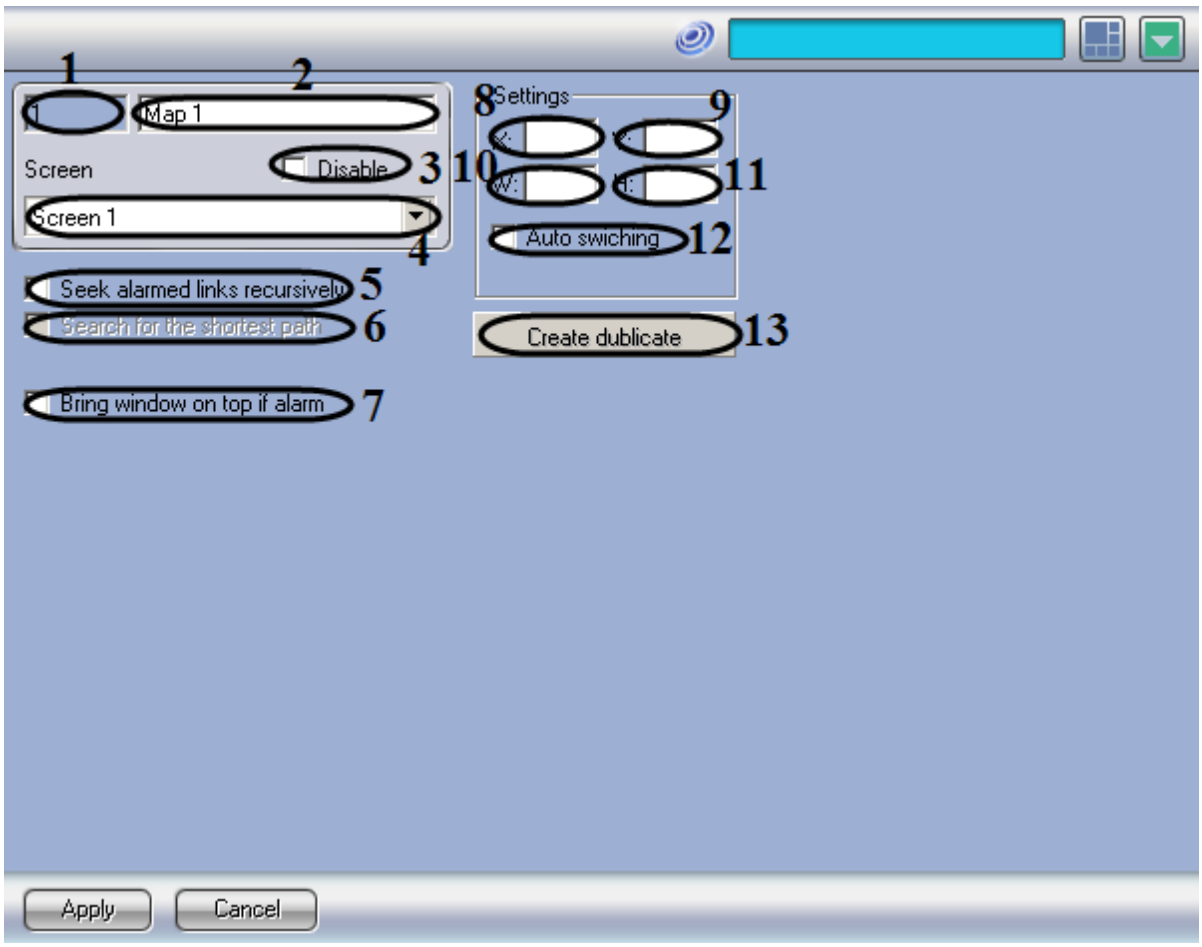


Figure 11.2—67. Map object settings panel

Table 11.2-35 describes the parameters of the settings corresponding to the elements of the settings panel of the Map object.

Table 11.2-35

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Map object in the digital distributed video surveillance system.	Sequence 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 characters	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	Displays the status of the Map	Boolean	Not	Yes – the Map object is

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
		the check mark	object in the digital distributed video surveillance system.	type	avail-able	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. 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

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defa-ult value	Value range
						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 the object is located.
13	Duplicate	Press the button.	Creates another Map object with all parameters identical to the given object.	-	-	-

h. The name of the element is not displayed in the settings panel of the given object.

11.2.9.8 *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 11.2—68.

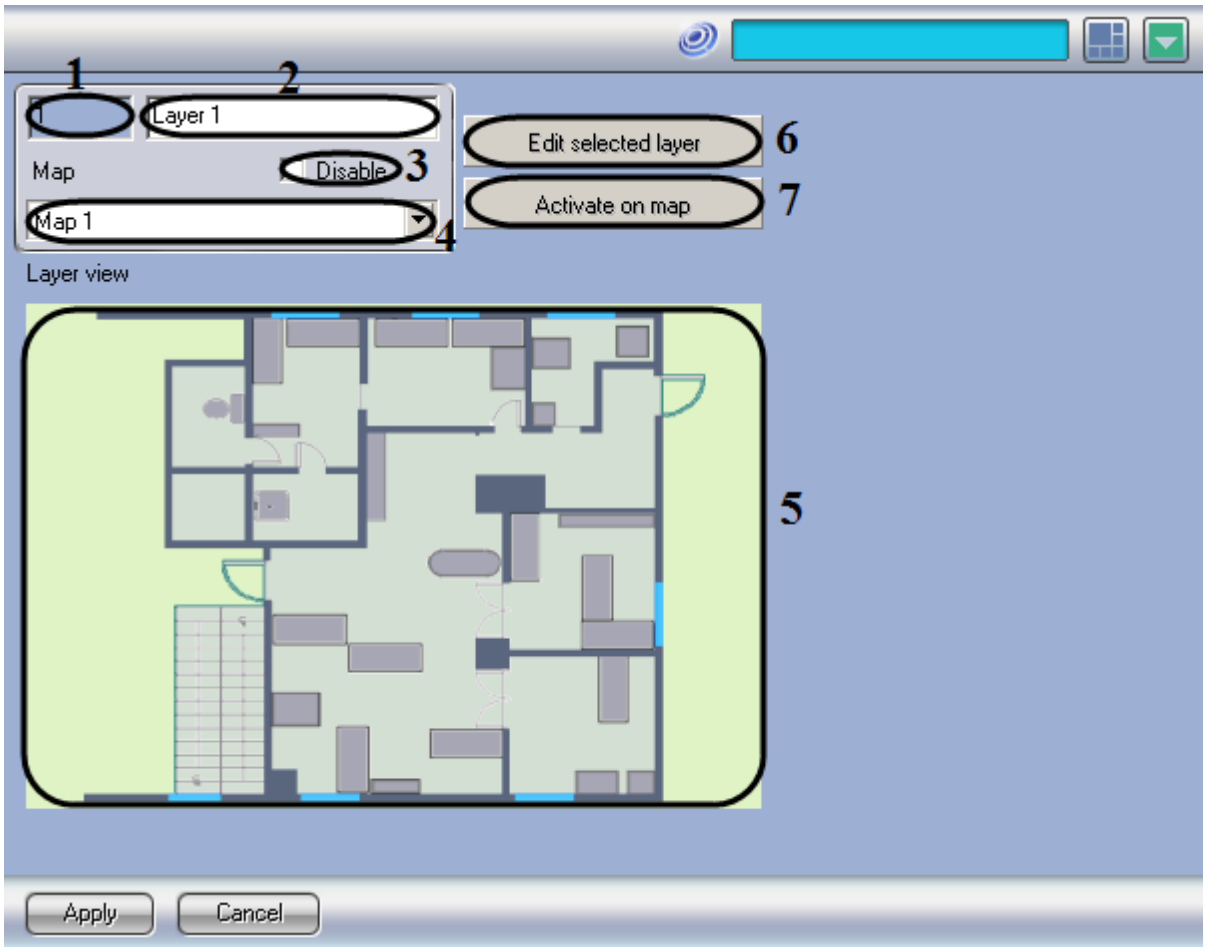


Figure 11.2—68. Layer object settings panel

Table 11.2-36 describes the parameters of the settings corresponding to the elements of the settings panel of the Layer object.

Table 11.2-36

№	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	Shows the status (connected or disconnected) of the Layer	Boolean	Not	Yes – the Layer object is disconnected and is not

№	Parameter	Method for enter the parameter	Parameter description	Symbols used	Default value	Value range
		the check mark	object in the digital distributed video surveillance system.	type	available	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.	-	-	-

i. The name of the element is not displayed in the settings panel of the given object.

11.2.9.9 *Event Viewer settings panel*

The Event Viewer object represents an interface box showing textual information about the events initiated by the distributed surveillance system.

The Event viewer settings panel is shown in Figure 11.2—69.

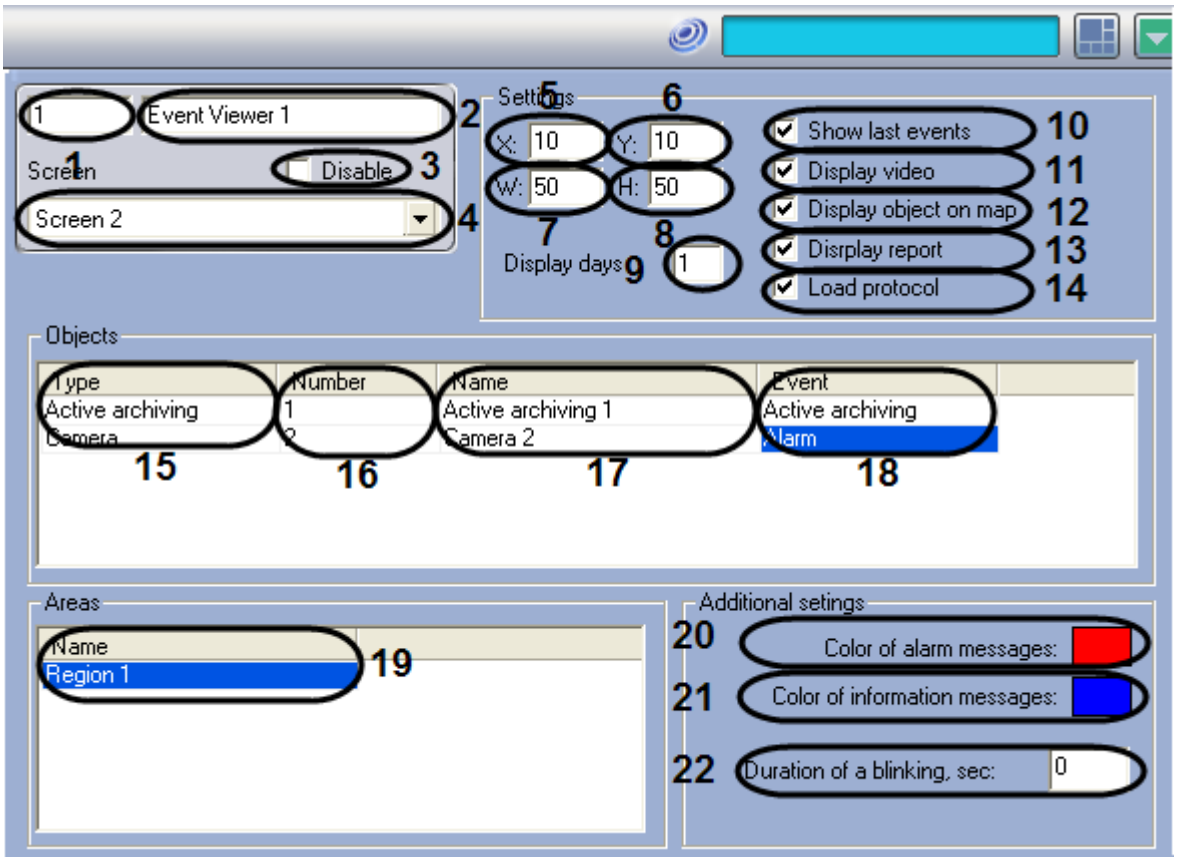


Figure 11.2—69. Event Viewer object settings panel

Table 11.2-37 describes the parameters of the settings corresponding to the elements of the settings panel of the Event viewer object.

Table 11.2-37

№	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 viewer object in the digital distributed video surveillance system.	Sequence 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 characters	Event Viewer	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	

j. The name of the element is not displayed in the settings panel of the given object.

11.2.9.10 *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 AxxonSoft and other manufacturers.

The External window settings panel is shown in Figure 11.2—70.

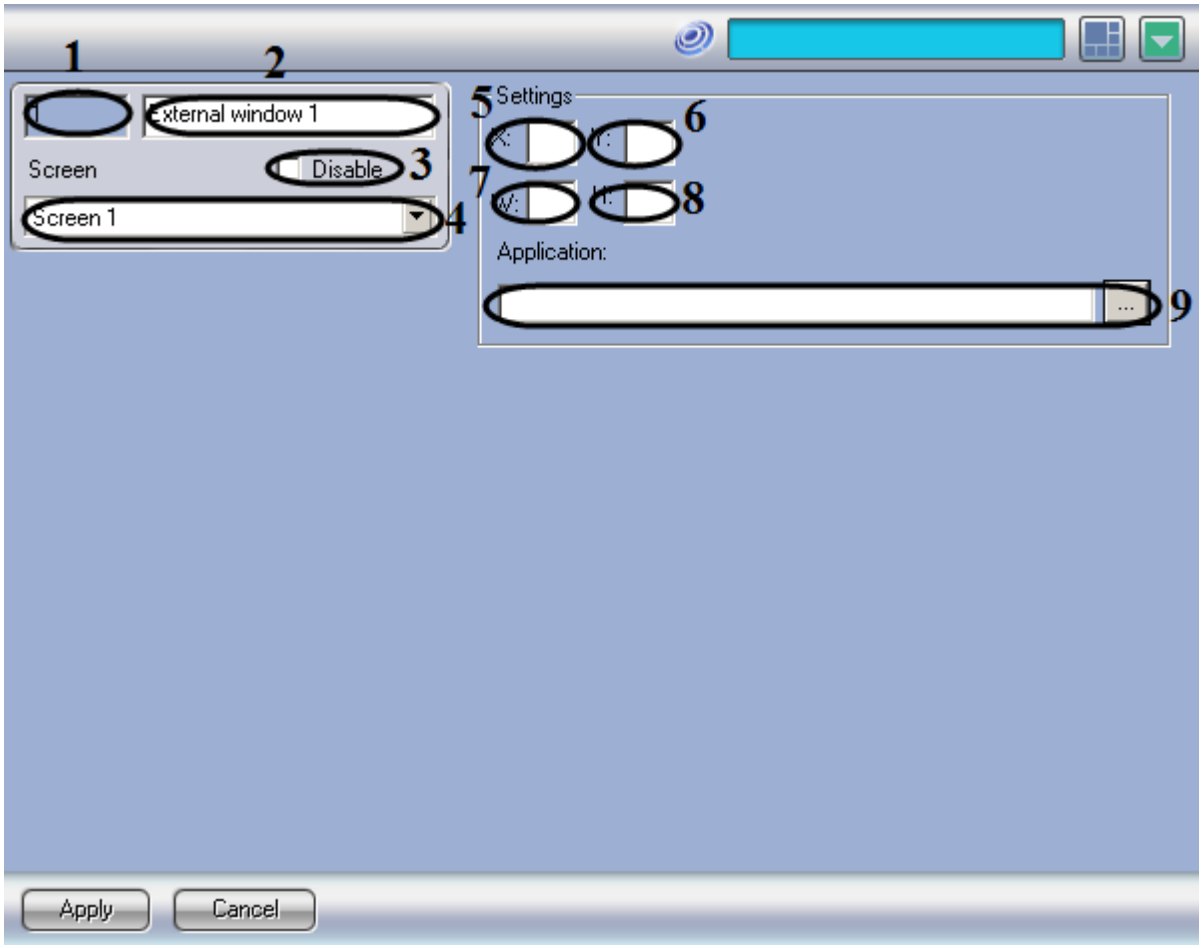


Figure 11.2—70. External window settings panel

Table 11.2-38 describes the parameters of the settings corresponding to the elements of the settings panel of the External window object.

Table 11.2-38

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Defaul t 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 External window object.	Sequence of numbers	-	From 1 and above. 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 characters	External window	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 available	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 registered 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 defined	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 defined	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 defined	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	% of the screen	Not defin-	From 0 to M*100, where M is the number of surveillance monitors

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
			object.	width.	ed	installed.
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.

20. Name of the element is not shown in the given object settings panel.

11.2.9.11 *Scene object settings panel*

The Scene object settings panel is shown in (Figure 11.2—71).

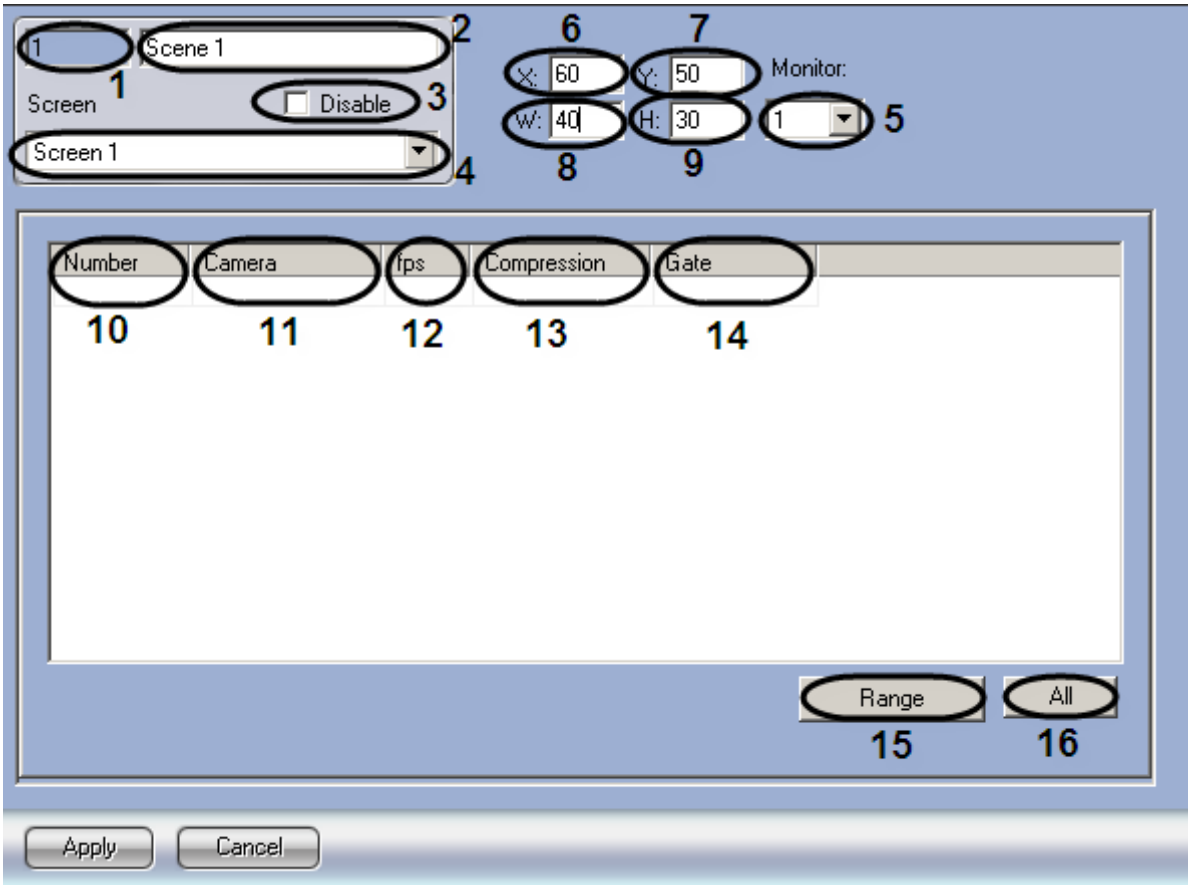


Figure 11.2—71 Scene object settings panel

Elements of Scene object settings panel are described in Table 11.2-39.

Table 11.2-39 Scene object settings panel

№	Parameter	Method for entering the parameter	Parameter description	Symbols used	Default value	Value range
1	Identification number*	Automatically	Displays the identification number of the Scene object.	Sequence of numbers	-	From 1 and above. Depends on the number of Scene object.
2	Name*	Enter the value in the field	Defines the name of the Scene object.	Latin, Cyrillic and service character-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 Scene object (connected or disconnected).	Boolean type	Not avail-able	Yes – the Scene object is disconnected and is not in use. No – the Scene object is connected and is in use.
4	Screen	Is selected from the list	Defines the parent Screen object, to which the given Scene 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.
5	Monitor	Is selected from the list	Is designed for video surveilance monitor selection on which the panoramic view window has to be displayed	Sequence of numbers	1	1..9
6	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 100

7	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 defined	From 0 to 100
8	W	Enter the value in the field.	Defines the window width of the External window interface object.	% of the screen width.	Not defined	From 0 to 100
9	H	Enter the value in the field.	Defines the window height of the External window interface object.	% of the screen width.	Not defined	From 0 to 100
10	Number	Is selected from the list	Set camera's number to be displayed	Latin, Cyrillic and service character-s.	Is not defined.	Depends on number of cameras registered in the system
11	Camera	Is selected from the list	Set camera's name to be displayed	Names of cameras registered in the system	-	Depends on number of cameras registered in the system
12	fps	Is selected from the list	Set fps to be transferred to the Scene object	Sequence of numbers	-	1, 2, 3, 4, 6, 8, 12, 16, 20, 25, 30
13	Compression	Is selected from the list	Set the video signal compression level to be transferred to the Scene object. With set value there is additional use of Server's resources	Sequence of numbers	-	In order of greater compression 0, 1, 2, 3, 4, 5 0 – no compression 5 – maximum compression
14	Gate	Is selected from the list	Set the Video gate object via which the video archive from the selected camera has to be transferred to the Scene object.	Names of Gate objects registered in the system	-	Depends on number of Gate objects registered in the system
15	Range	Click the button	Access to complex selection and editing the cameras parameters to be displayed on Scene object	-	-	-
16	All	Click the button	Selection of all cameras registered in the system to be displayed on the Scene object	-	-	-

11.2.10 Programming tab

11.2.10.1 *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 11.2—72.

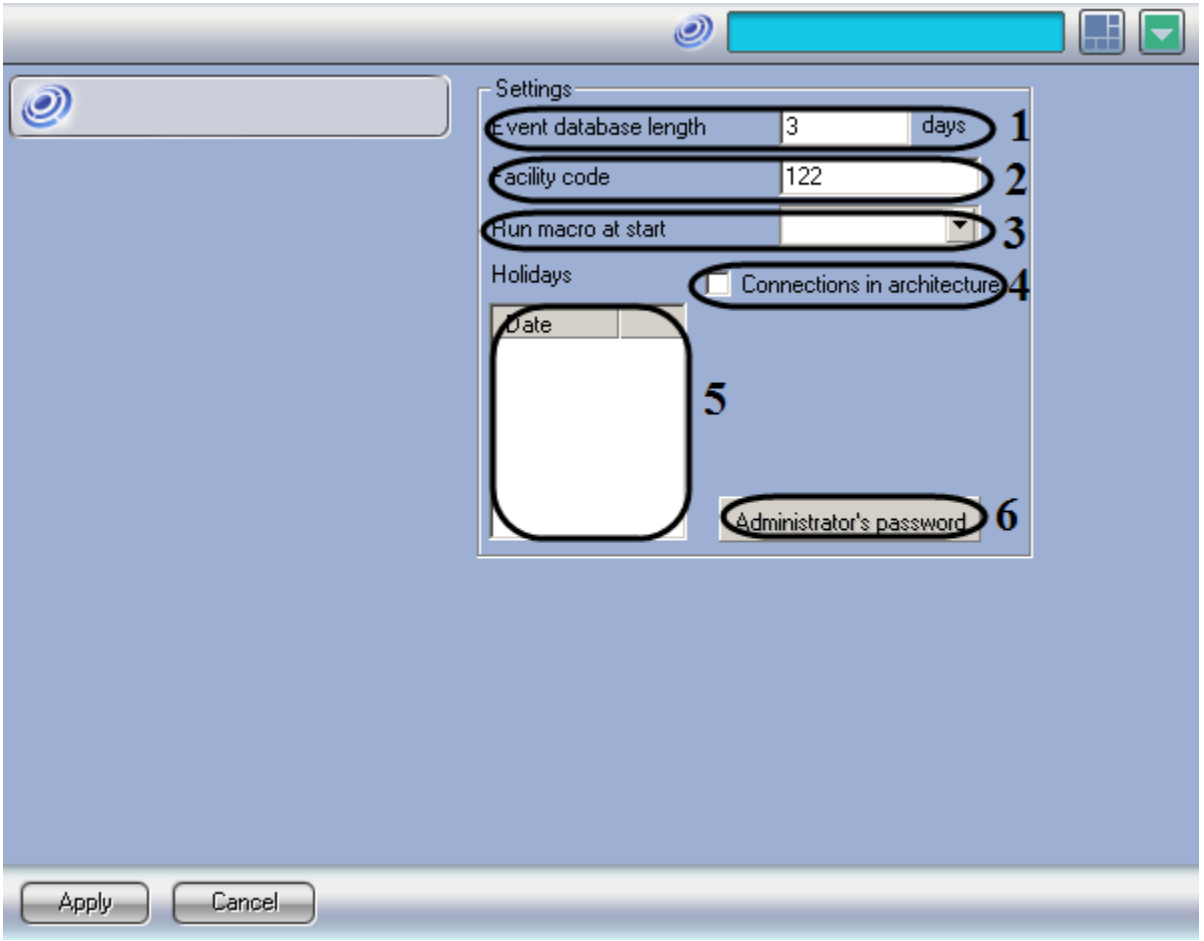


Figure 11.2—72 Common settings object panel

Table 11.2-40 describes the parameters of the settings corresponding to the elements of the settings panel of the Common settings object.

Table 11.2-40

№	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.	-	-	-

k. The name of the element is not displayed in the settings panel of the given object.

11.2.10.2 *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 11.2—73.

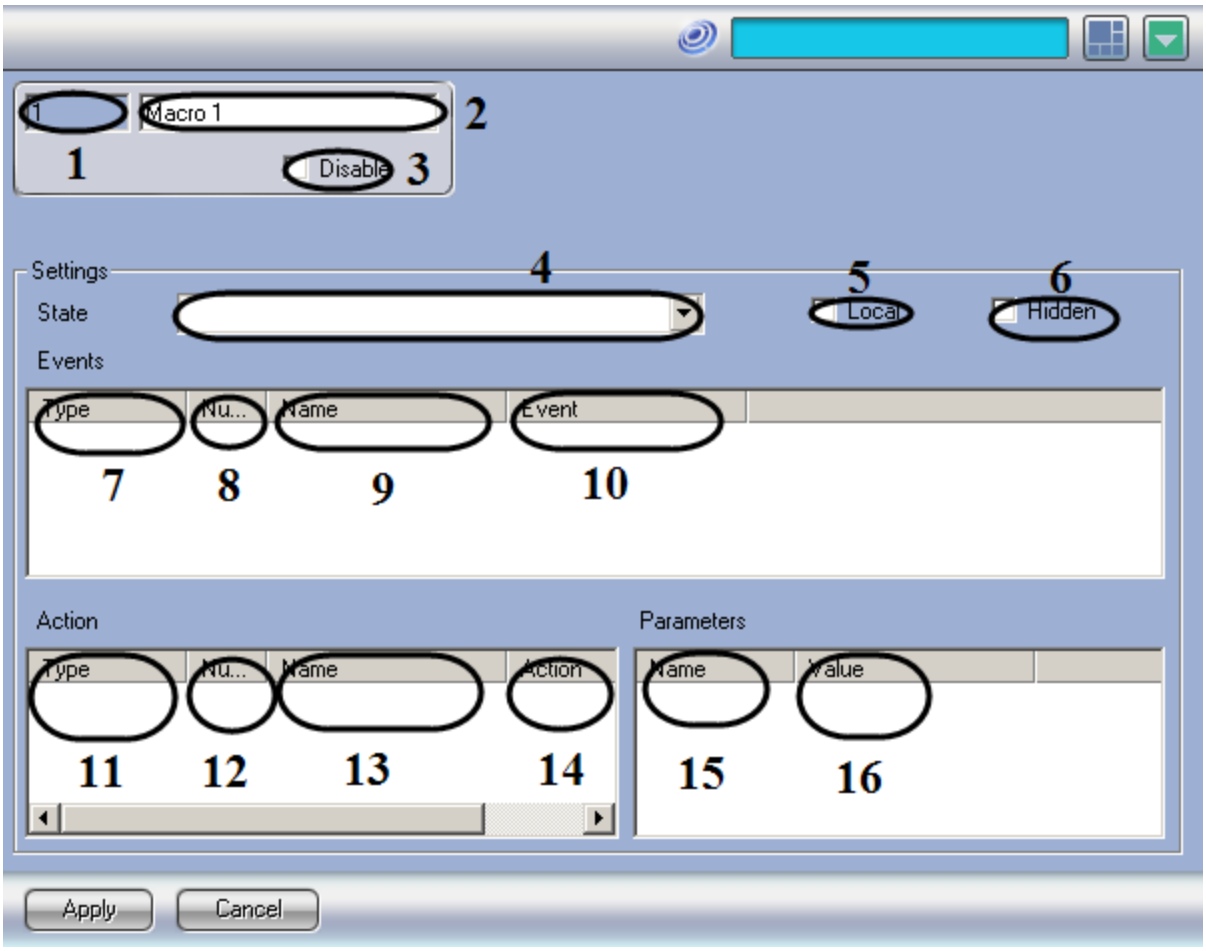


Figure 11.2—73. Macro command object settings panel

Table 11.2-41 describes the parameters of the settings corresponding to the elements of the settings panel of the Macro command object.

Table 11.2-41

№	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.

l. The name of the element is not displayed in the User's rights settings panel object.

11.2.10.3 *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 11.2—74.

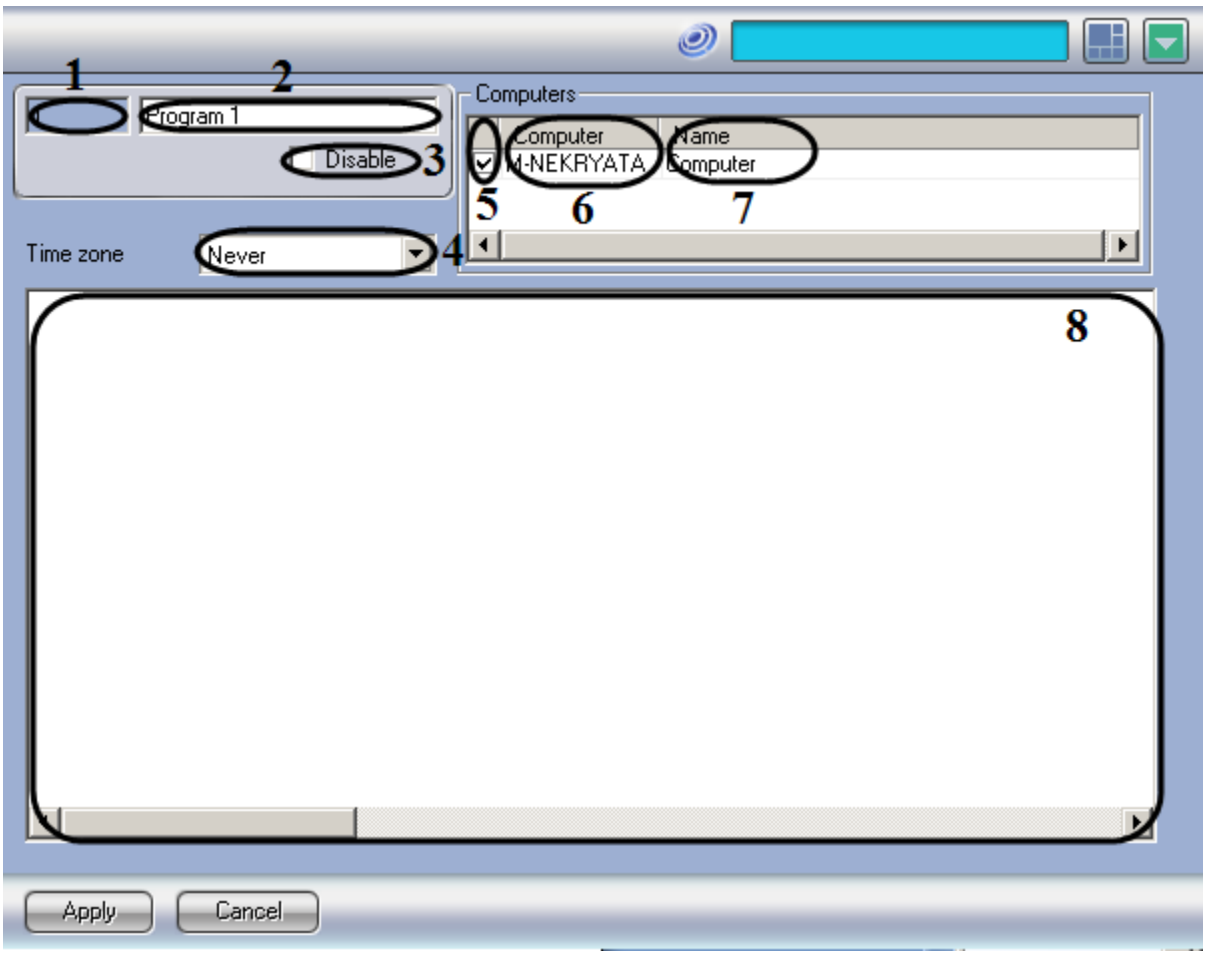


Figure 11.2—74. Program object settings panel

Table 11.2-42 describes the parameters of the settings corresponding to the elements of the settings panel of the Program object.

Table 11.2-42

№	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).	Bool-ean 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 regist-ered by the syste m	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.	Bool-ean 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.	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 computer name	Name of the Com-puter object regist-ered in the syste m	Name of the Comput-er object 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	Is used to enter the text of the executed program.	Latin, Cyrillic, service characters and digits.	Not defined	A line containing a sequence of any symbols (letters, digits, service characters), case-insensitive. Unlimited number of symbols.

21. The name of the element is not displayed in the User's rights settings panel object.

11.2.10.4 *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 11.2—75.

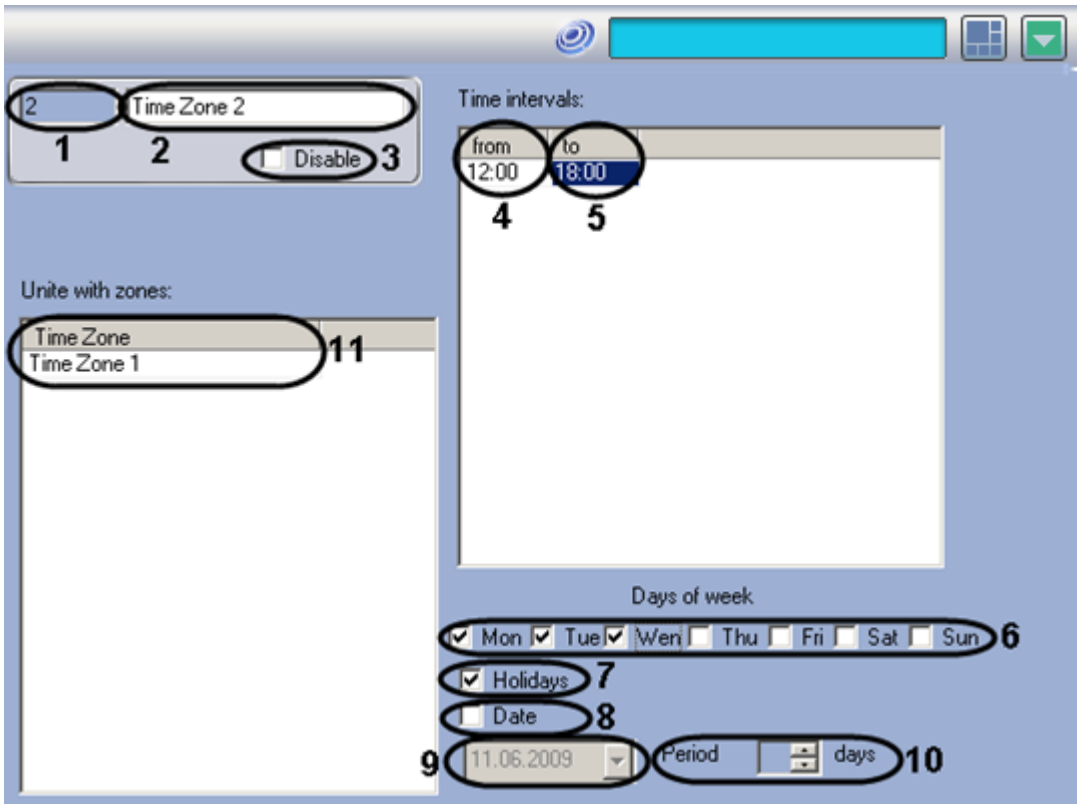


Figure 11.2—75 Time zone object settings panel

Table 11.2-43 describes the parameters of the settings corresponding to the elements of the settings panel of the Time zone object.

Table 11.2-43

№	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.

22. The name of the element is not displayed in the settings panel of the User's rights object.

11.2.10.5 *Script settings panel*

The Script object is designed to create specialized programs in jscript language. The Script settings panel is shown in Figure 11.2—76.

Figure 11.2—76. Script object settings panel

Table 11.2-44 describes the parameters of the settings corresponding to the elements of the settings panel of the Script object.

Table 11.2-44

№	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 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.	-	-	-

m. 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 11.2—77.

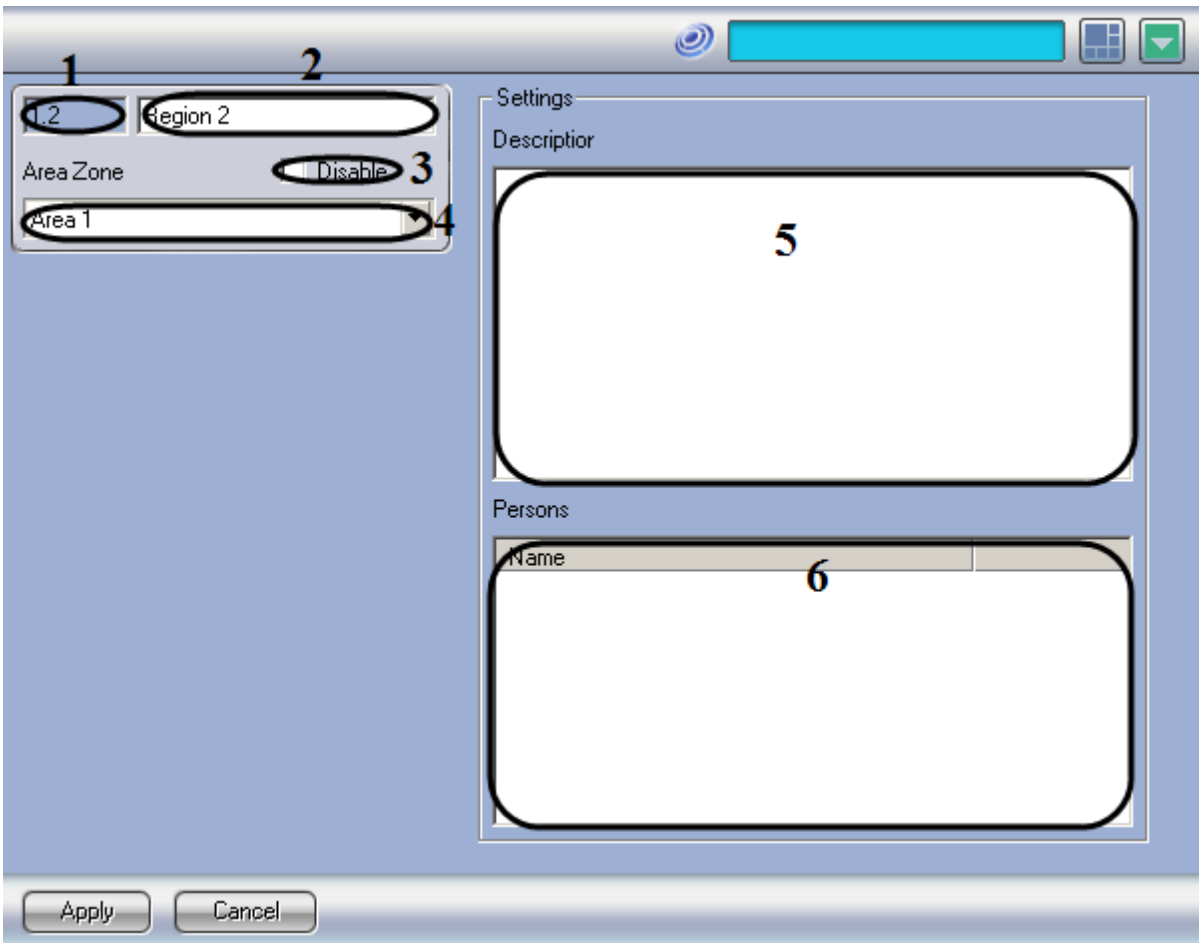


Figure 11.2—77. Region object settings panel

Table 11.2-45 describes the parameters of the settings corresponding to the elements of the settings panel of the Region object.

Table 11.2-45

№	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.	Bool-ean 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 regist-ered in the syste m.	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, Cyrill-ic and servi-ce chara-cters	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, Cyrill-ic and servi-ce chara-cters	Not defined	Depends on the number of users registered by the system.

n. The name of the element is not displayed in the settings panel of the given object.

12 Appendix 2. The Utilities

12.1 The utility for reading video capture card code and the electronic hardware protection key

12.1.1 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.

12.1.2 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 12.1—1).

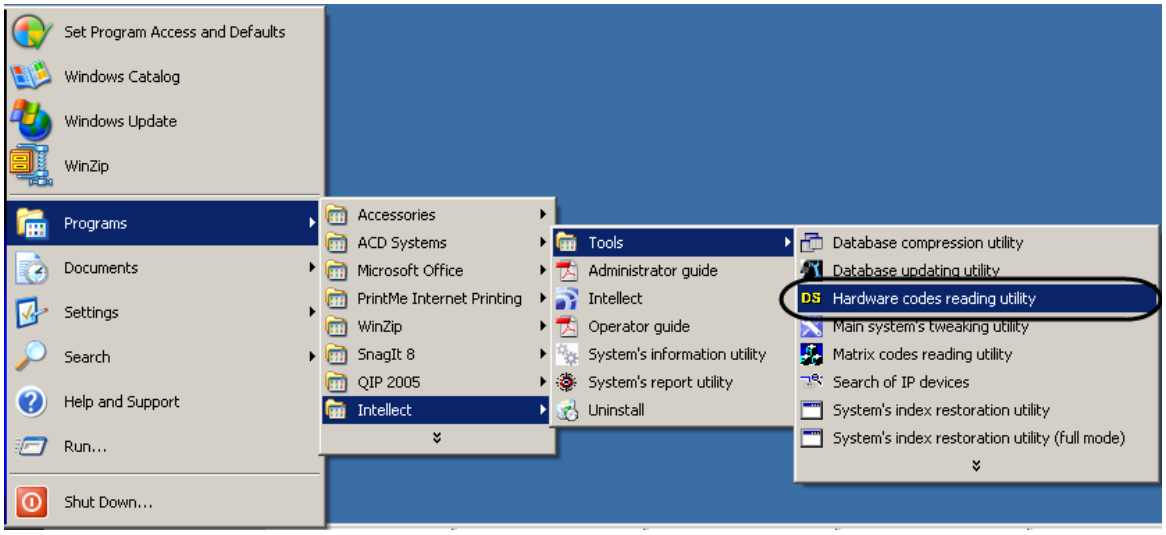


Figure 12.1—1. Starting the utility from the Windows taskbar

b. Start the utility from the Tools folder of the Intellect program folder. Example: C:\Intellect\Tools\CodeReader.exe. The CodeReader.exe utility is available from the Start menu with the following installation types of the Intellect PC: Server, Remote administrator workstation.

c. The Code Reader dialog box will open (Figure 12.1—2).

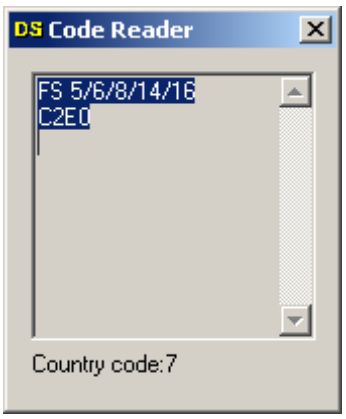


Figure 12.1—2. Code Reader dialog box

To close the CodeReader.exe utility, click the Close button ( ).

12.1.3 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 12.1—3).

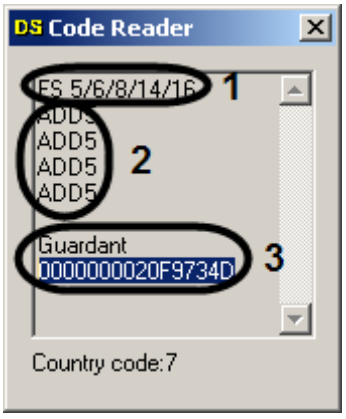


Figure 12.1—3. Information displayed in the Code Reader dialog box

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.

12.2 Converter.exe utility for converting video and audio archives

12.2.1 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 12.2—1.

Figure 12.2—1. Archive Converter dialog box

12.2.2 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 12.2—2). The Converter.exe utility is available from the Start menu with the following installation types of the Intellect PC: Server, Remote administrator workstation, Remote monitoring workstation.

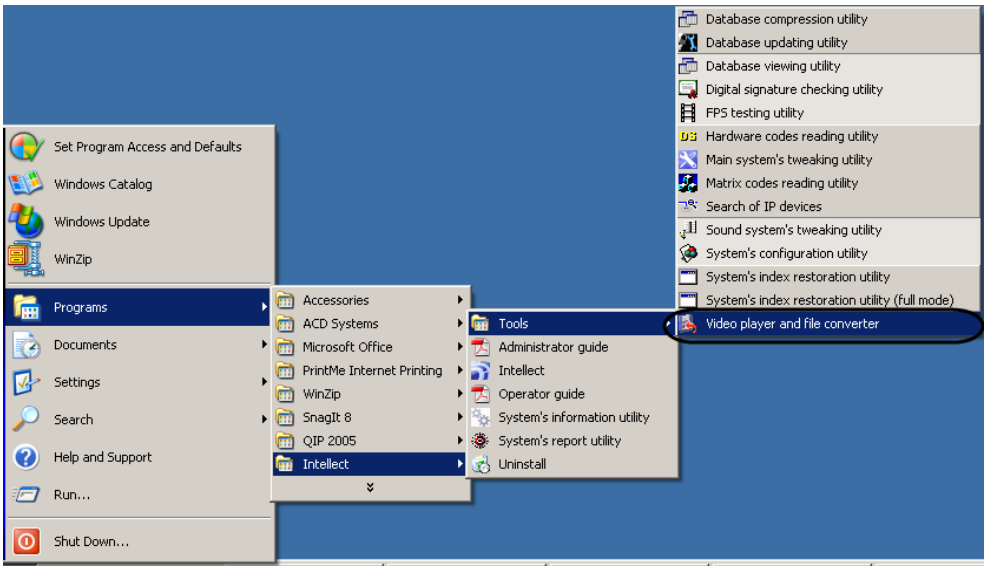


Figure 12.2—2. Start the utility from the Windows taskbar

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 12.2—3).

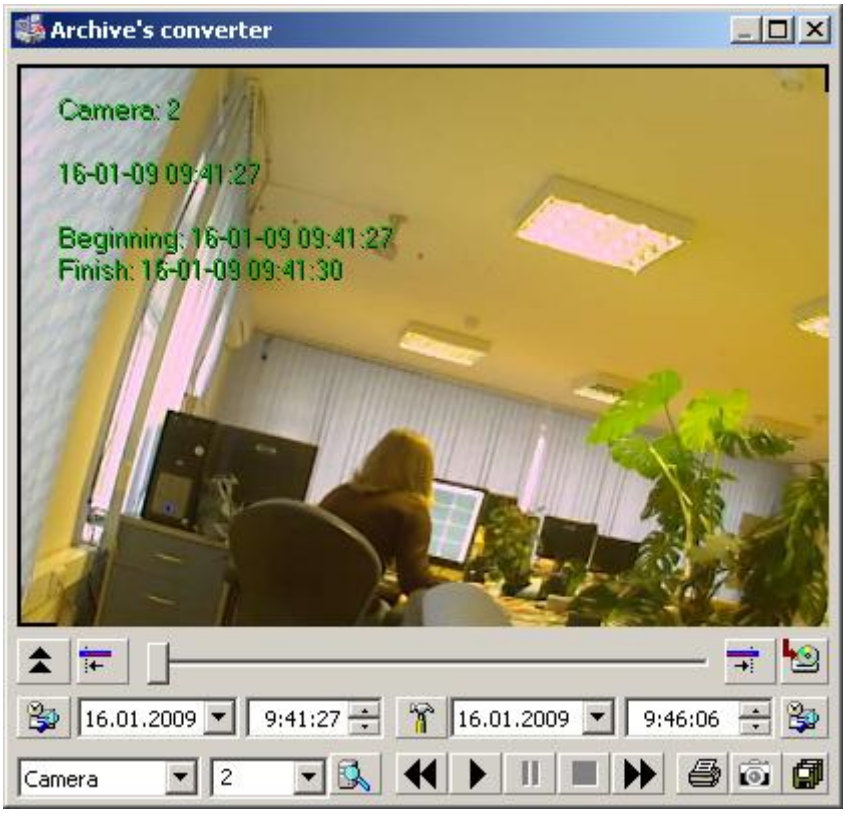


Figure 12.2—3. Archive Converter dialog box

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 12.2—4).

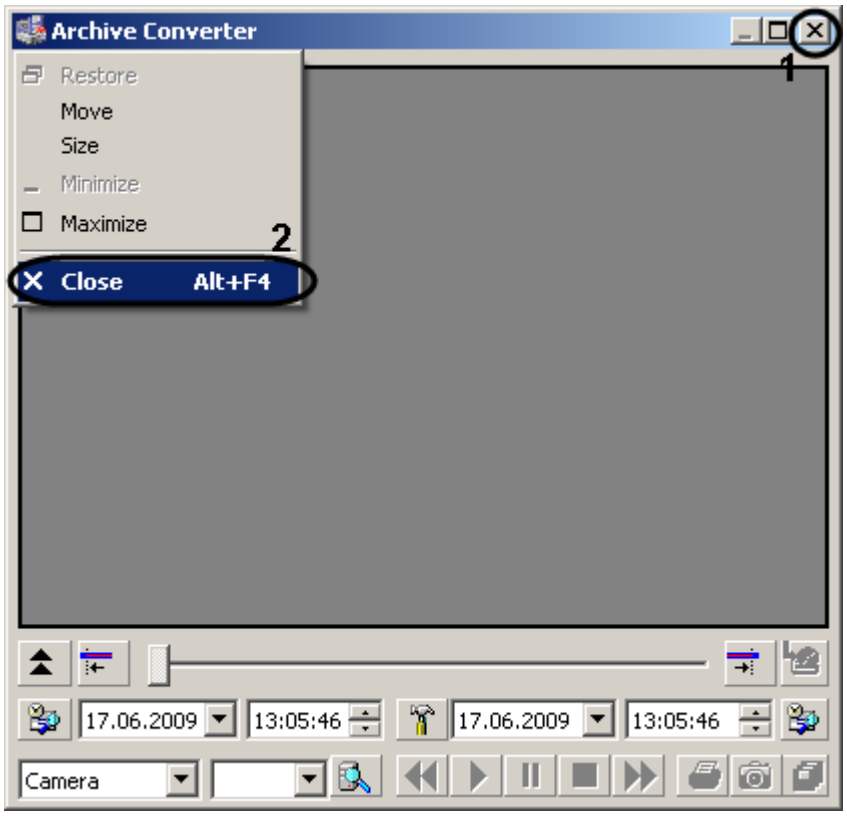


Figure 12.2—4. Closing the Converter.exe utility

12.2.3 Converter.exe interface

12.2.3.1 *Archive Converter dialog box*

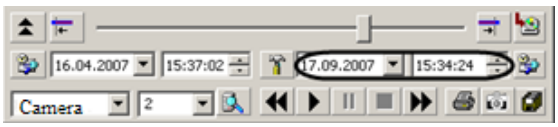
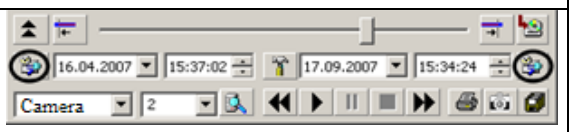
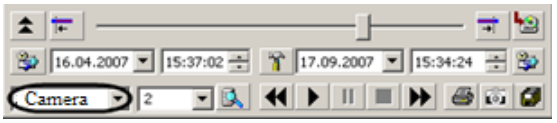
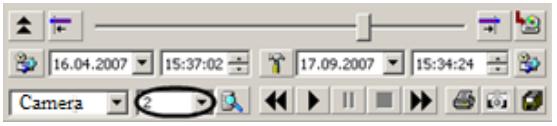
The dialog box of the converter.exe utility is shown in Figure 12.2—5.

Figure 12.2—5. Converter.exe user interface

The Archive Converter dialog box comprises of the following elements:

1. The screen to play back recordings (Figure 12.2—5, 1);
2. The control panel for video and audio recordings playback (Figure 12.2—5, 2). The elements of the control panel are described in Table 12.2-1.

Table 12.2-1

№	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).	

12.2.3.2 *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 12.2—6).

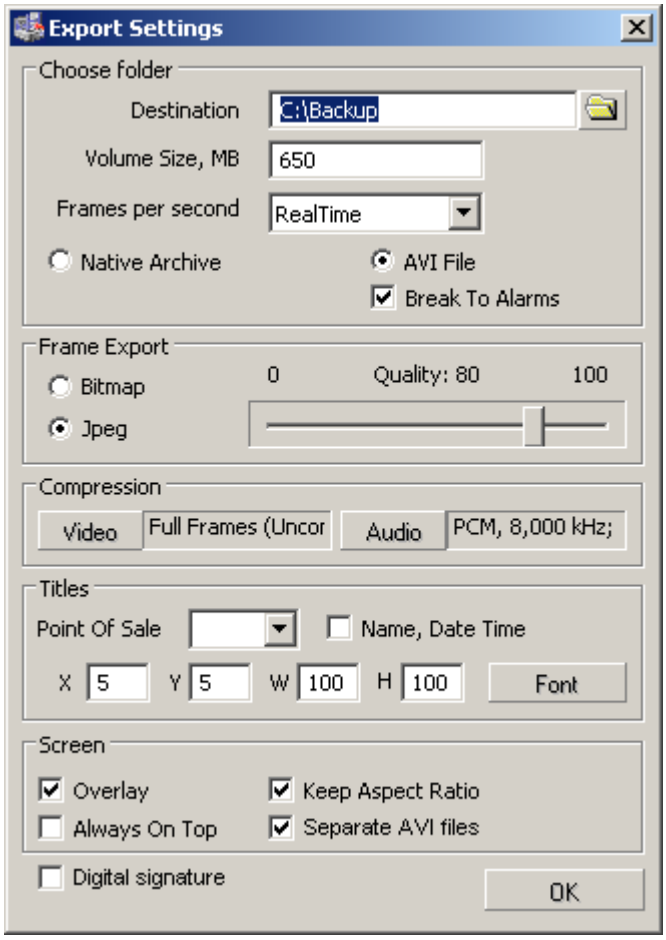


Figure 12.2—6. Export Setup dialog box

Table 12.2-2

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 (on default “Backup” folder will be created on disk C:)	-	-	-
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 MB
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	-	Export to AVI	- Export to archive

No	Parameter name	Field type	Description	Format	Default value	Value range
	Export to AVI		creation time, but with no AVI conversion. If Export to AVI is checked, the fragment will be converted to AVI format using the specified codec.			- Export to AVI
5	Break down by alarms	Checkbox	The checkbox is for selecting the way of storing the archive export fragments to volumes (files of specified size): the recordings for each alarm will be saved to separate volumes (files).	-	Unchecked	Unchecked – the file (volume) will contain a fragment of the size specified in the Volume Size field. Checked – the volume will contain a fragment related to one alarm only.
6	Original format	Checkbox	If Original format is checked, the video recordings will be exported to AVI file without recompression, i.e. in the same format as in Intellect archive. To playback these AVI files on the computer where Intellect software package isn't installed, it's necessary to install components from Intellect distributive beforehand: 1. \Redist\VC2005_SP1\vcredist_x86.exe 2. \ipint.driverpack\IPDriverPack.msi *Note. To playback AVI files use Windows Media Player.*	-	Unchecked	Unchecked – Intellect archive is exported to AVI file with recompression. Checked - Intellect archive is exported to AVI file without recompression.
Frame Export group						
7	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.			
8	Quality	Drag the slider	The parameter specifies the quality level of the exported	%	80	0 to 100

No	Parameter name	Field type	Description	Format	Default value	Value range
			file. The value of 100% results in no quality loss.			
Compression group						
9	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 radio-button is selected or Original format is checked, this button is disabled.	-		-
10	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.
11	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.	-	-	-
12	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.
Screen group						
13	Overlay	Checkbox	The checkbox enables Overlay II conversion	-	Checked	Checked – use Overlay II for conversion Unchecked – do not use Overlay II for conversion
14	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.
15	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.

No	Parameter name	Field type	Description	Format	Default value	Value range
16	Separate AVI files	Checkbox	Activates export of selected video recordings to the separate AVI files. *Note.If the checkbox is unchecked, video recordings from one camera will be exported to one AVI file.*	-	Checked	Checked - video recordings are exported to the separate AVI files. Unchecked - video recordings are exported to the one AVI file.
17	Digital signature	Checkbox	Activate adding digital signature that is used for checking frames authenticity to exported frames. *Note. Checking frames authenticity is performed using SighCheck.exe utility (see The SignCheck.exe utility for checking the authenticity of exported frames and video recordings chapter)*	-	Unchecked	Checked – digital signature is added. Unchecked - digital signature is not added.

If a microphone was selected as a device in the Archive Converter window, only the Sound button and the Screen group are enabled.

12.2.3.3 *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 12.2—7).

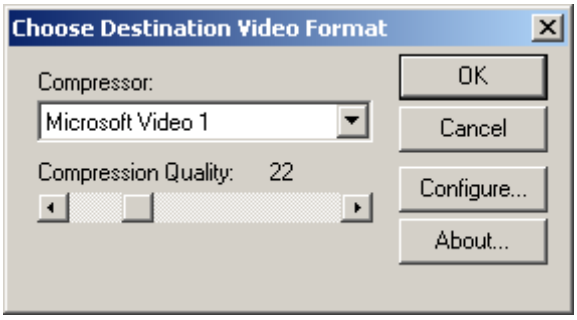


Figure 12.2—7. The dialog box for choosing video codec

Table 12.2-3

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 the video image.	Codec name	Full frames (no compre-ssion)	All video codecs recognized by the operating system
2	Compression quality	Drag the slider	The slider allows setting the compression level. The zero position of the slider	%	0	0 to 100

No	Parameter name	Field type	Description	Format	Default value	Value range
			represents the highest compression and lowest quality. Changing this parameter is enabled if the codec is selected in the Compression Program field.			
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.

12.2.3.4 *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 12.2—8).

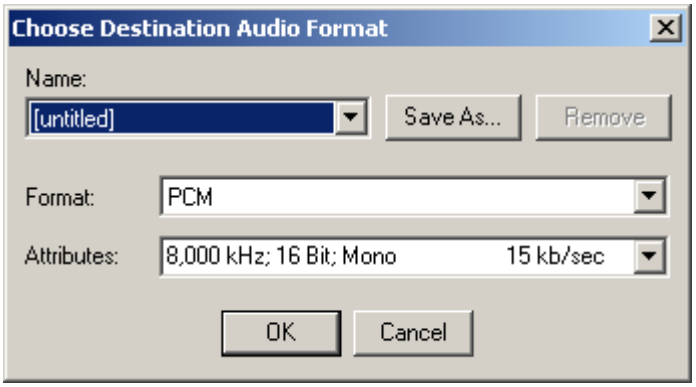


Figure 12.2—8. A dialog box for choosing audio format

Table 12.2-4

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
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.

No	Parameter name	Field type	Description	Format	Default value	Value range
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	-	-

12.2.4 Using the Converter.exe utility

12.2.4.1 *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.

12.2.4.2 *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 12.2—9).
2. Specify the time limits in the date/time fields.
3. Click the Search button.

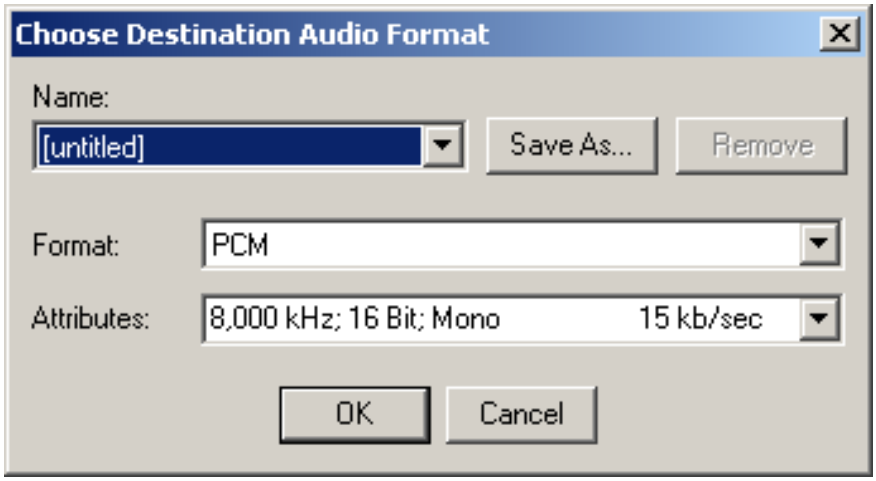


Figure 12.2—9. Selecting an archive

4. Select the location of the archive (folder with archives for specific date and time) on an appropriate disk (Figure 12.2—10).

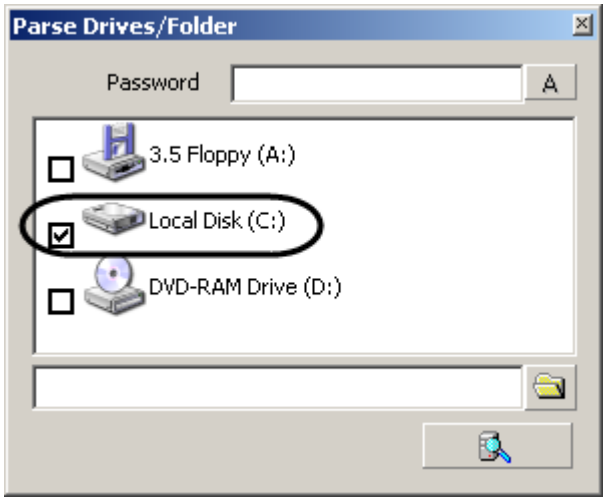


Figure 12.2—10. Selecting the location of the archive

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.

12.2.4.3 *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.

12.2.4.4 *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.

12.2.4.5 *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.

12.2.4.6 *Recording playback*

The recording selected by date and time, can be played in Converter.exe player using the playback control panel (Figure 12.2—11).

Figure 12.2—11. Playback panel

The panel contains five control buttons (left to right on Figure 12.2—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.

12.2.4.7 *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.

12.2.4.8 *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 12.2—12, 1), then click Continue (Figure 12.2—12, 2).

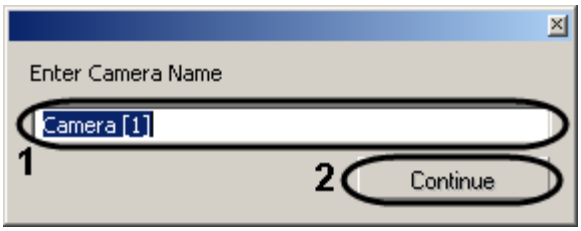


Figure 12.2—12. A dialog box for entering the device for recording export

The export progress will be shown in the title bar of the Converter.exe window (Figure 12.2—13).

Figure 12.2—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 12.2—14).

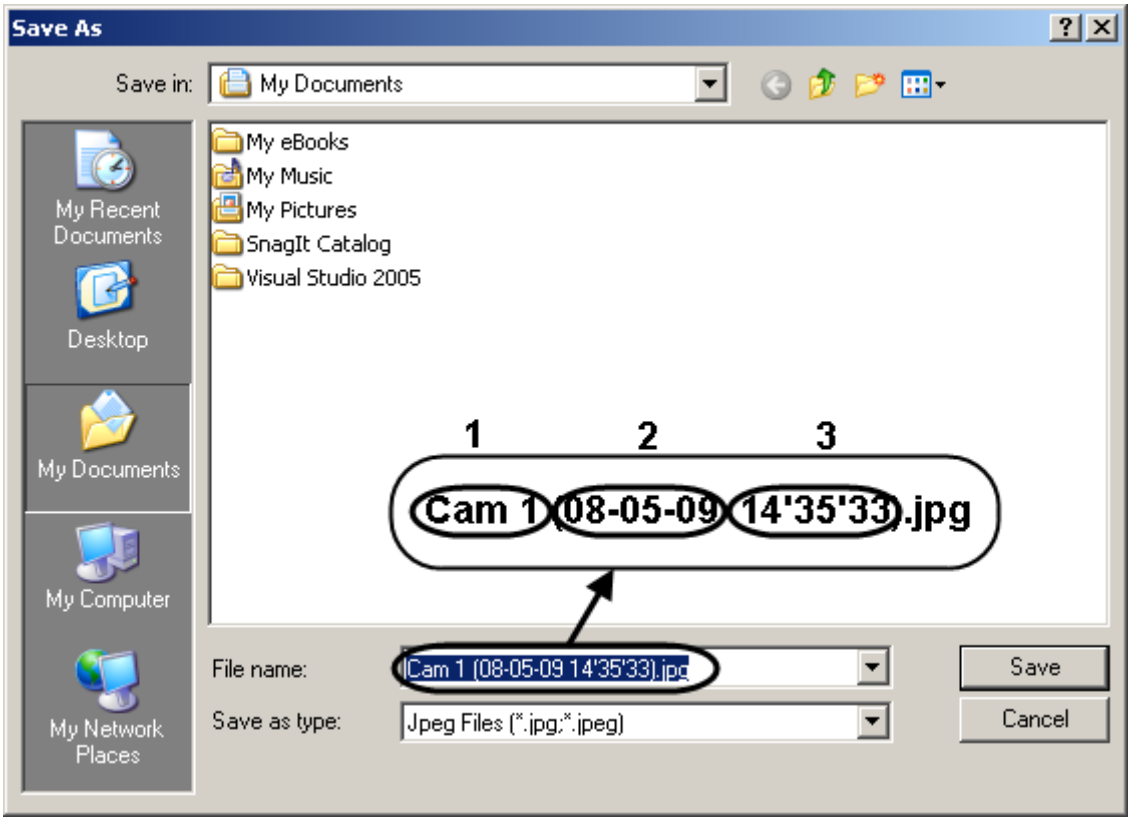


Figure 12.2—14. Saving an exported frame

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.

12.2.4.9 *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.

12.2.4.10 *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 12.2—15; Table 11.2-13 shows parameters description of the given).

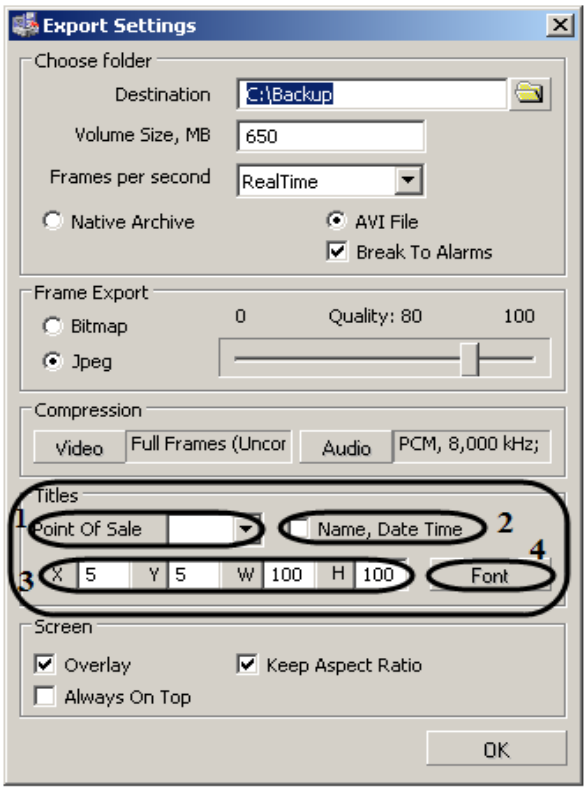


Figure 12.2—15 Setting up the titles displaying

Table 12.2-5

№	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.

12.3 Tweaki.exe utility for advanced setup of the Intellect software system

12.3.1 The purpose of tweaki.exe utility

The tweaki.exe utility is designed for configuring the Intellect system by editing the HKLM/SOFTWARE/AxxonSoft and HKCU/SOFTWARE/AxxonSoft sections of the Windows registry, where the setup parameters for the Intellect core and modules are stored.

Attention! 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;
2. Enabling the debug mode;
3. Advanced setup of the video surveillance monitor;
4. Advanced setup of events logging;
5. Advanced setup of video signal processing by Server;
6. Advanced setup of distributed architecture;
7. Changing netnames and IP-addresses in the configuration database;
8. Compressing MS Access database;
9. Limiting the RAM used by MS SQL server;
10. Advanced setup of audio or video recording to an archive;
11. Re-indexing audio and video archives;
12. Selecting the analog video out operation mode;
13. Testing the operability of video capture cards;
14. Advanced setup of PTZ devices;
15. Displaying versions of Intellect modules.

12.3.2 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 => All Programs => Intellect => Tools => Advanced settings utility. The tweaki.exe utility is available from the Start menu with the following installation types of Intellect: Server, Remote administrator workstation, Remote monitoring workstation.
2. Start the utility from the **Tools** folder of the Intellect program folder. Example: C:\Intellect\Tools\Tweaki.exe.

The **Intellect Advanced Setup** dialog box is open after running the tweaki.exe utility (Figure 12.3—1).

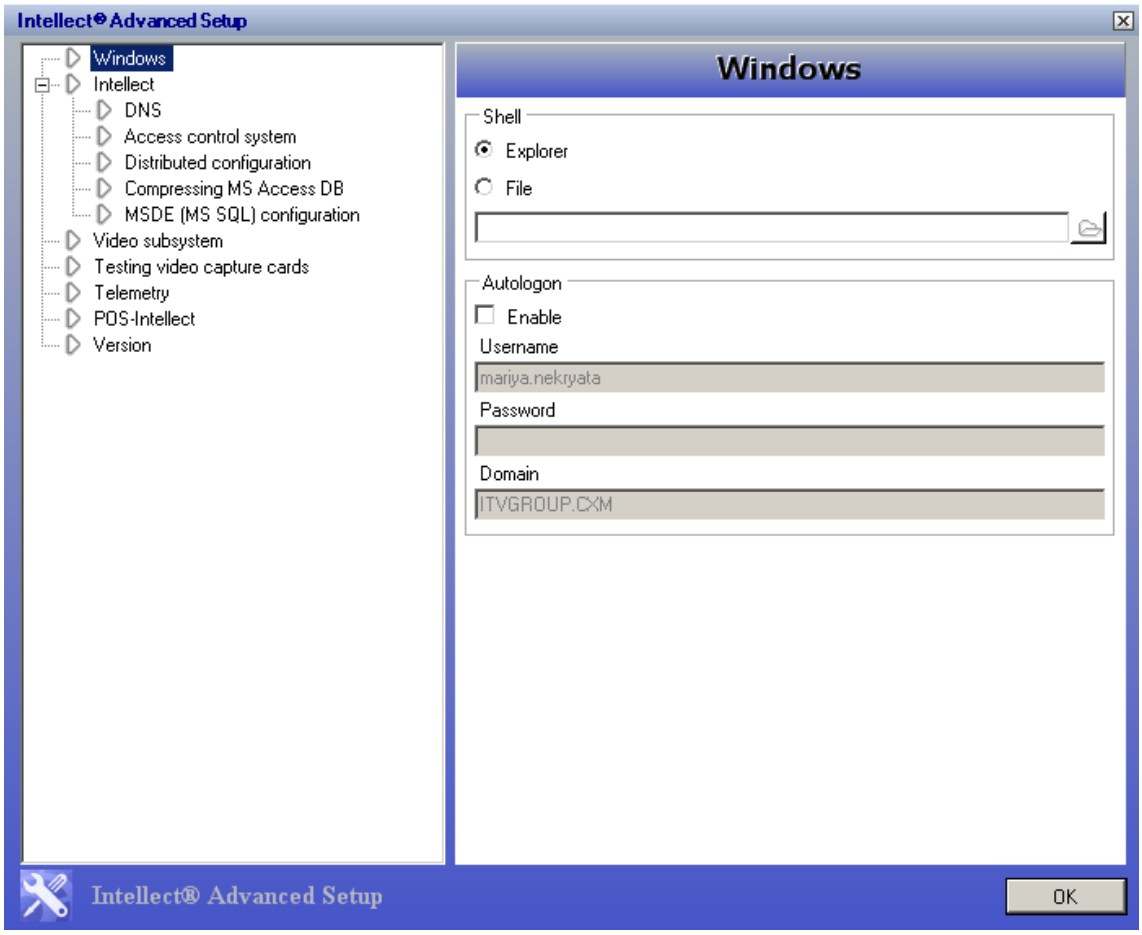


Figure 12.3—1. The tweaki.exe dialog box

To close the tweaki.exe utility and save the changes click **OK** (Figure 12.3—1). To close the tweaki.exe utility without saving the changes, click ☒ (Figure 12.3—1).

12.3.3 Description of the Intellect Tweaker window

The user interface of the tweaki.exe utility consists of two interrelated elements:

a. Tree of sections (Figure 12.3—2).

b. Setting panel for each section (Figure 12.3—2).

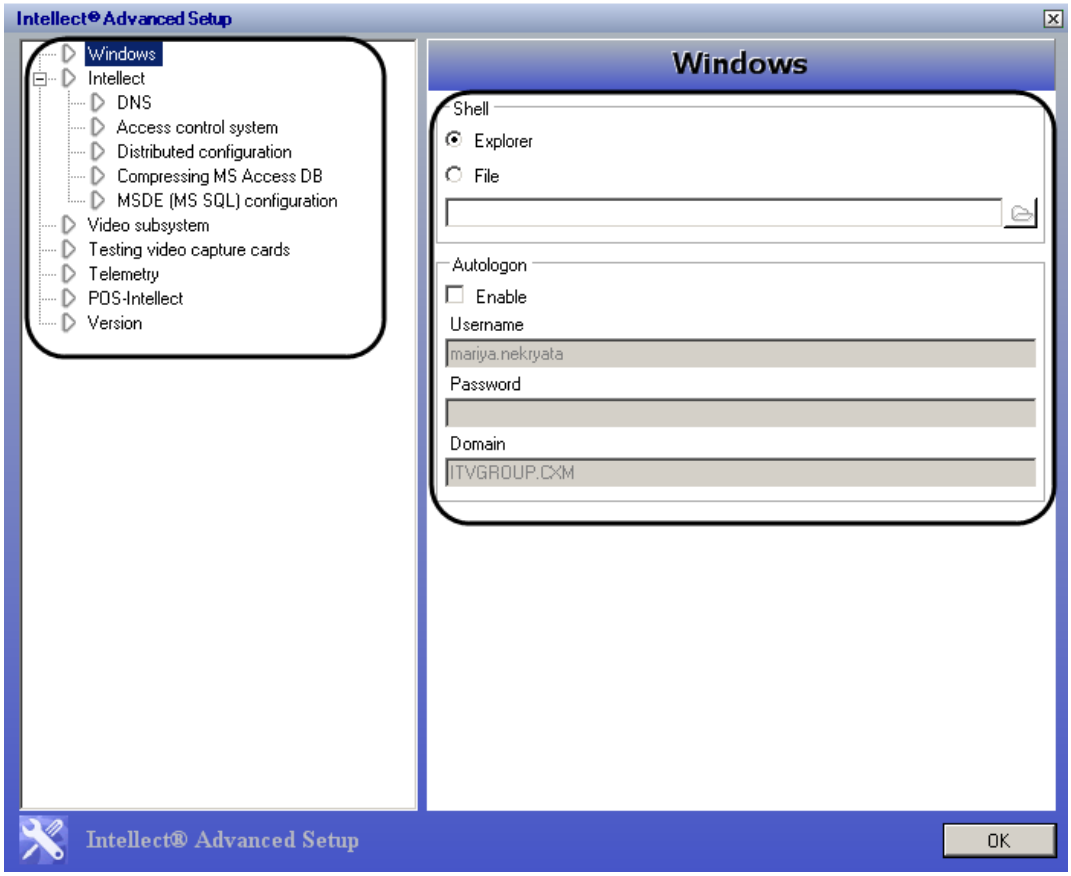


Figure 12.3—2 User interface of the tweaki.exe utility

Sections tree of tweaki.exe dialog window has static structure and is used for navigation in the utility. Make a left mouse click upon the corresponding tree tab to access to the setting panel of the required section.

12.3.3.1 *The setting panel of the Windows section*

The Windows section is used to set Windows running Windows OS. The setting panel of the Windows section is shown in Figure 12.3—3.

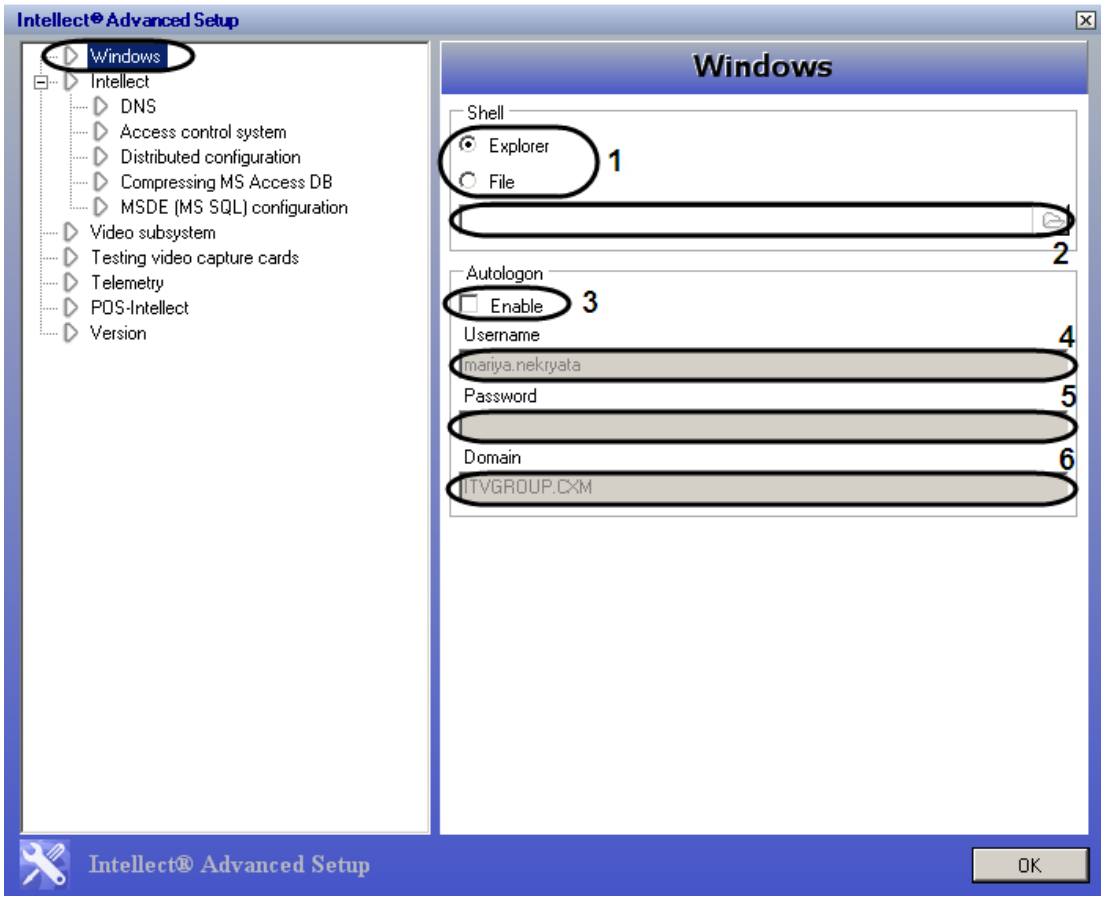


Figure 12.3—3. The Windows setting panel

The parameters of the Windows setting panel are described in Table 12.3-1.

Table 12.3-1 Description of the Windows setting parameters

No	Parameter name	Field type	Description	Representation	Default value	Value range
The Shell group						
1	The Explorer/ File switch	Set in the position	Selection of Windows working shell	-	Explorer	Explorer – Microsoft Explorer is loaded as working Windows OS shell(corresponds to standard Windows OS settings) File – Intellect starts as a working shell of Windows OS.
2	The File field with button. Active for the File switch position	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.	-	-	The intellect.exe executive file is selected as a shell

No	Parameter name	Field type	Description	Represent ation	Default value	Value range
The Autolog group						
3	Enable	Checkbox	Activates automatic log on of the user to OS Windows	Boolean type	Uncheck ed	Yes – automatic log on of the user is activated No– automatic log on of the user is not activated
4	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)
5	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)
6	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)

12.3.3.2 *The setting panel of the Intellect section*

The Intellect section is used for Intellect advanced setup. The setting panel of the Intellect section is shown in Figure 12.3—4.

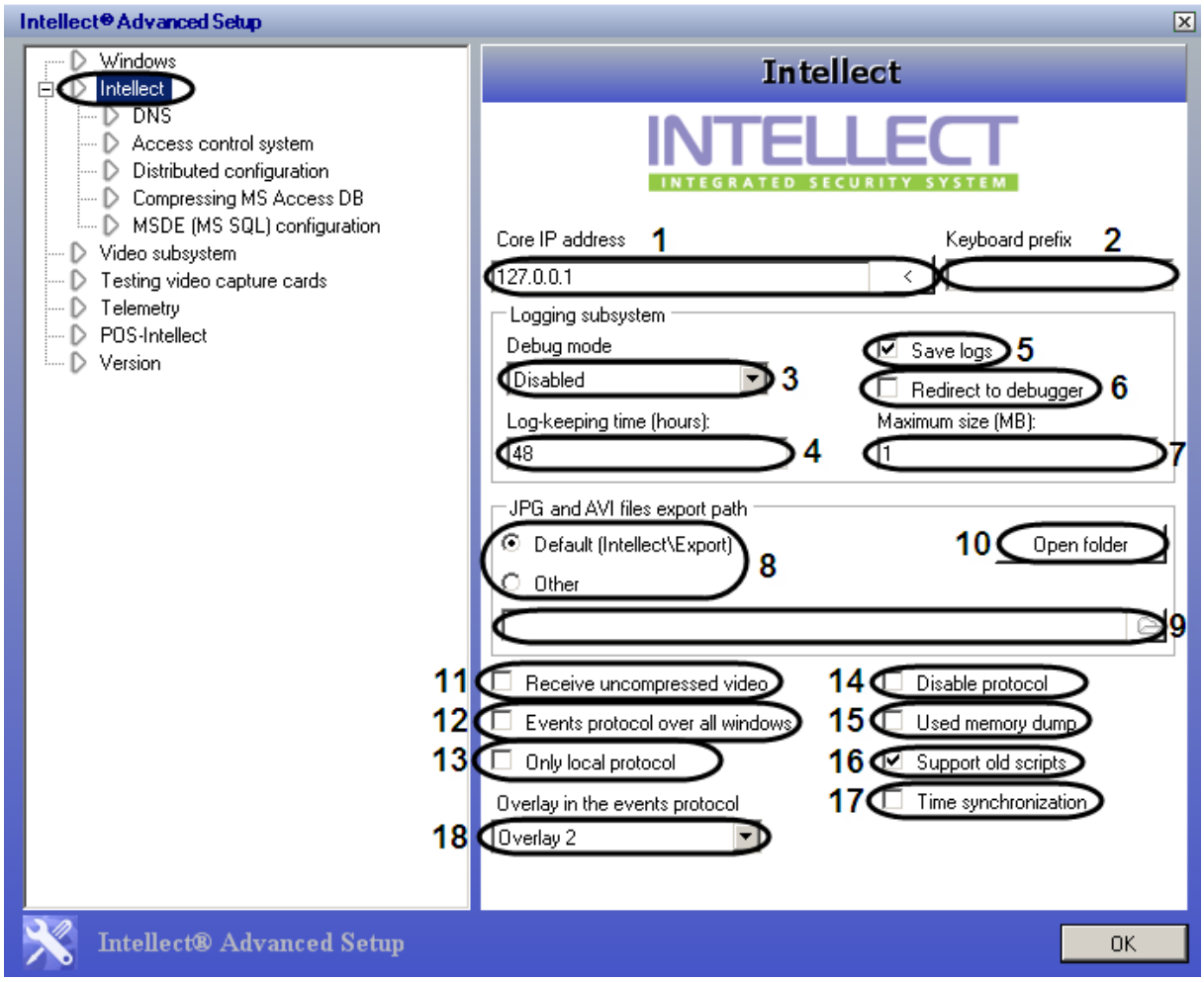


Figure 12.3—4. The Intellect setting panel

The parameters of the Intellect setting panel are described in Table 12.3-2.

Table 12.3-2 Description of the Intellect setting parameters

No	Parameter name	Field type	Description	Representation	Default value	Value range
1	Core IP address with button. Is set on the Client	Enter the value in the field using button	Set the IP address of the Intellect server to which the slave.exe module is connected by default. In case of pressing 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 is displayed
2	Keyboard prefix	Enter the value in the field	Set the prefix for a special key-board. When a button is pressed on this key-board the Intellect detects when the button was pressed	symbol	-	Usually, a tilde (“~”), code 126

No	Parameter name	Field type	Description	Representation	Default value	Value range
			on this very key-board			
Logging subsystem group						
3	The Debug mode dropdown list	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 alerts. Debug 3 – Debug window is displayed and log-file is created, that contains recordings about all the modules events Debug 4 – Debug window is displayed and log-file is created, that contains recordings about all the modules events, and also additional menu that is individual for each module (used by programmers).
4	The Log-keeping time (hours) field	Enter the value in the field	Set the time of keeping log files	Natural numbers	48 hours	> 0
5	The Save logs checkbox	Checkbox	Enables logs saving	Boolean type	Yes	Yes – logs are saved. No – logs are not saved.
6	The Redirect to debugger checkbox	Checkbox	Enables the debugger	Boolean type	None	Yes –the debugger is in use. No – the debugger is not in use.
7	The Maximum size (MB) field	Enter the value in the field	Defines the maximum size of RAM that log files can use	Natural numbers	1 MB	> 0

No	Parameter name	Field type	Description	Representation	Default value	Value range
JPG and AVI files export path group						
8	The Default (Intellect\Export)/Other switch	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 – exported to the selected folder
9	Other with button	Press the button/enter the value in the field	Set the pathname to the folder, where files from video archive are to be exported when the switch is set in the Other position	Pathname	-	-
10	Open folder	The button is pressed	Opens the current folder to export the files	-	-	-
No group						
11	The Receive uncompressed video checkbox	Checkbox	Enables receiving uncompressed video from the Server. As a rule is set on the Client	Boolean type	None	Yes – Client receives uncompressed video from the Server No – Client receives compressed video from the Server
12	The Events protocol over all windows checkbox	Checkbox	Enable displaying the Events protocol window over all windows.	Boolean type	None	Yes – the Events protocol window is displayed over all windows. No - the Events protocol window is displayed if a corresponding screen is selected
13	The Only local protocol checkbox	Checkbox	Enables logging the events registered in the given computer to the Events protocol database	Boolean type	None	Yes – events registered in the given computer are recorded to the Events protocol database No – all required events are recorded to the Events protocol database

No	Parameter name	Field type	Description	Representation	Default value	Value range
14	The Disable protocol checkbox	Checkbox	Disables events logging to the Events protocol database	Boolean type	None	Yes– events are not logged to the Events protocol database No– events are logged to the Events protocol database
15	The Used memory dump checkbox	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 root folder	Boolean type	None	Yes-memory dump is formed No – memory dump is not formed
16	The Support old scripts checkbox	Checkbox	Set the support of program tools in the Intellect PC	Boolean type	None	Yes-both scripts and programs are supported No-only scripts are supported
17	The Time synchronization checkbox	Checkbox	Enables every day 24 hours time synchronization of the computers included in the distributed system with system time of the given computer	Boolean type	None	Yes – synchronization is enabled No – synchronization is disabled
18	The Overlay in the events protocol dropdown list	selected from the list	Set the overlay mode for processing the video signals that can be viewed with the help of the Events protocol object	Names of overlay modes	Overlay 2	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 from each other

12.3.3.3 *The setting panel of the DNS section*

The DNS section is used for setting the automatic connection between the Client and reserve Servers in case connection loss with the main Server. In the DNS section it is necessary to specify netnames and IP-addresses of reserve Servers as they are not listed in the Windows registry on default.

The setting panel of the DNS section is shown in Figure 12.3—5.

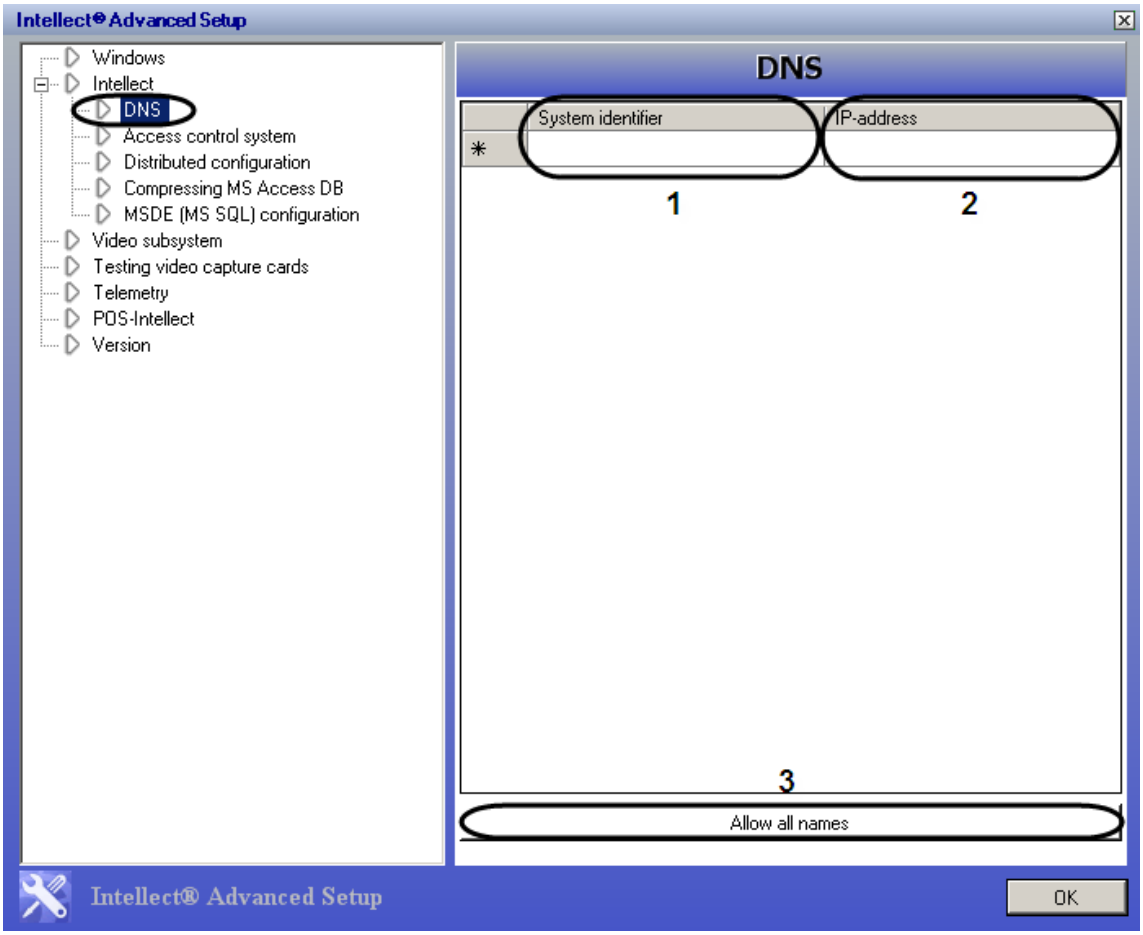


Figure 12.3—5. The DNS setting panel

The parameters of the DNS setting panel are described in Table 12.3-3.

Table 12.3-3 Description of the DNS setting parameters

№	Parameter name	Field type	Description	Representation	Default value	Value range
1	The System identifier column	Enter the value in the field	Set the netname of the reserve video Server if the connection with main Server is lost	-	-	Depends on net settings of reserve video server
2	The IP-address column	Enter the value in the field.	Set the IP-address of the selected reserve video Server	IP-address	-	Depends on net settings of reserve video Server
3	The Allow all names button	Button is pressed	Computer IP-addresses, set in the System identifier column, are automatically added to the	-	-	-

№	Parameter name	Field type	Description	Representation	Default value	Value range
			IP-address column, in case when these addresses are enabled and identified			

12.3.3.4 *The setting panel of the Access control system section*

The Access control system section is designed for creating common photo database of the Access control system module (is not included into Intellect base configuration). In this section it is necessary to specify netnames of computer where the photos are to be stored. Photos are to be stored in the **Person** folder (<Intellect >\Bmp\Person) (Figure 12.3—6).

*Note. The **Person** folder is automatically created when the **Access control system** module is installed.*

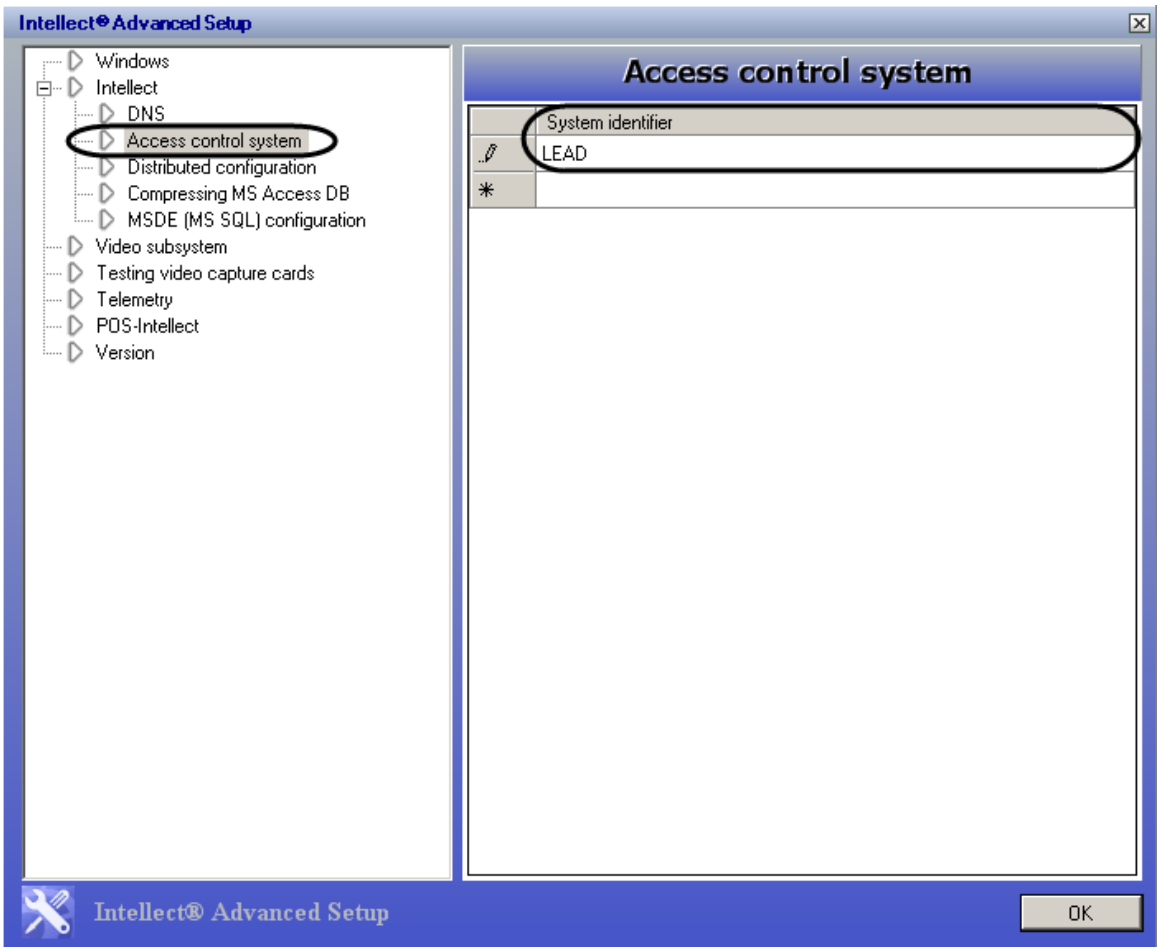


Figure 12.3—6 The Access control system section

12.3.3.5 *The setting panel of the Distributed configuration section*

The Distributed configuration section is for Intellect commom database adjustment when real computer netnames do not coincide with the names in the database (for instance when the computer with the database is replaced). The section is also used for correcting IP-address of selected computer in the database.

The setting panel of the Distributed configuration section is shown in Figure 12.3—7.

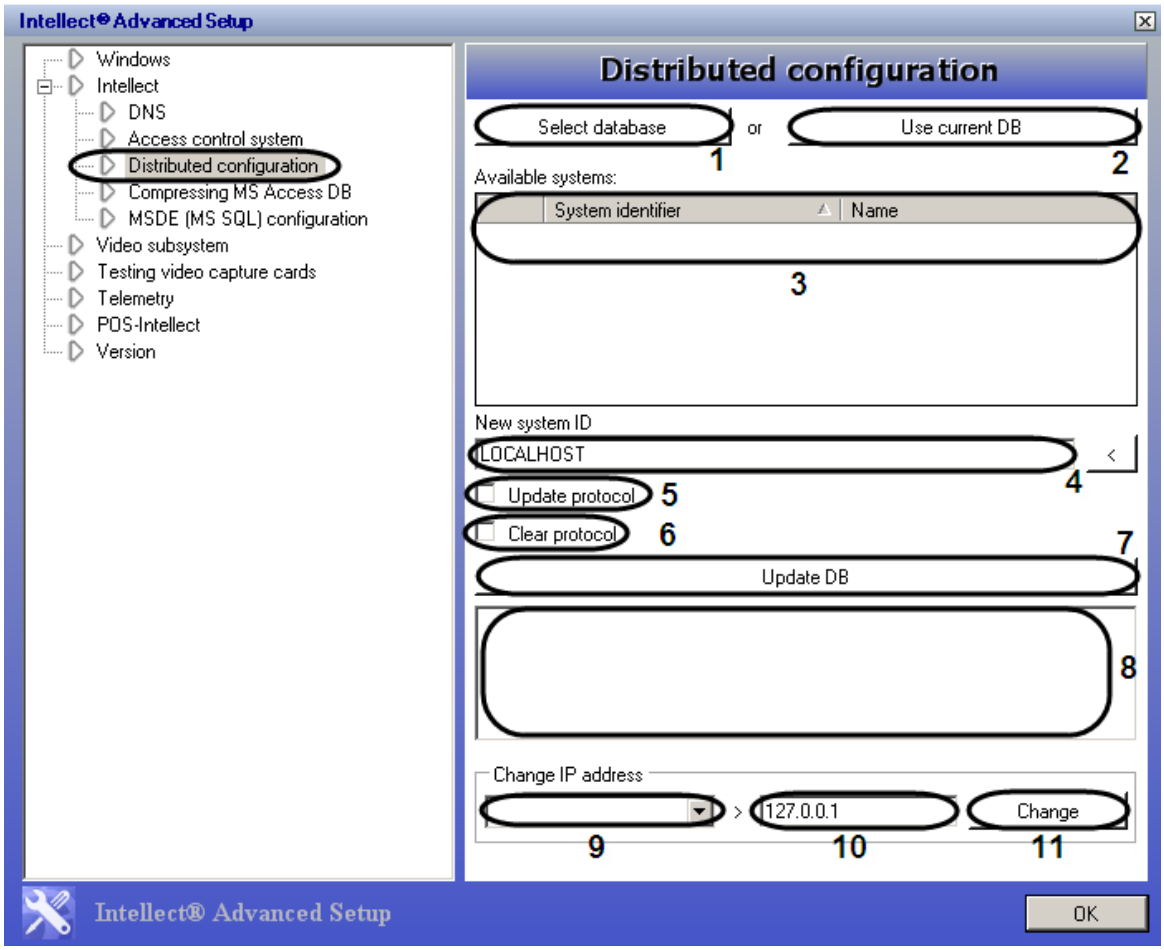


Figure 12.3—7. The Distributed configuration setting panel

The parameters of the setting panel are described in Table 12.3-4.

Table 12.3-4 Description of the Distributed configuration setting parameters

№	Parameter name	Field type	Description	Representation	Default value	Value range
1	The Select database button	Button is pressed	Opens the standard Data Link Properties dialog box to choose the database, where netname and/or IP-address are to be changed.	-	-	-
2	The Use current DB button	Button is pressed	Selection of main Intellect database			
3	The Available systems table	Automatically	Displays the list of netnames of computers that are in selected database	-	-	Netnames of computers connections between which are set on the Architecture tab

№	Parameter name	Field type	Description	Representation	Default value	Value range
4	The New system ID field with button	Button is pressed and value is selected from the list/ entered in the field.	Specifies a new netname of a computer selected in the Available systems table	-	-	Depends on the current net settings of the required computer
5	The Update protocol checkbox	Checkbox	Replaces the computer name in the Events protocol table of the selected main Intellect database	Boolean type	None	Yes– computer name is replaced in the Events protocol table No – computer name is not replaced in the Events protocol table
6	The Clear protocol checkbox	Checkbox	Clearing the event log from the Events protocol table of the selected main Intellect database	Boolean type	None	No– list of registered events is not cleared. Checked – list of registered events is cleared.
7	The Update DB button	Button is pressed	Runs the process of updating the selected database in accordance with given settings	-	-	-
8	The Update protocol field	Automatically	Displays updating process of the selected database	-	-	Depends on the structure of the selected database and the given settings
Change IP address group						
9	Dropdown list with IP addresses	Select from the list	Enters IP-address that is to be changed in the selected database	IP-addresses of computers in the selected database	-	Depends on the number of computers connections between which are set on the Architecture tab
10	Field of setting IP-address	Button is pressed	Enters new IP-address to be changed in the selected database	IP-address	127.0.0.1	Depends on the current net settings of the required

№	Parameter name	Field type	Description	Representation	Default value	Value range
						computer
11	The Change button	Button is pressed	Changes the IP-address of the required computer in the selected database	-	-	-

12.3.3.6 *The setting panel of the Compressing MS Access DB section*

The Compressing MS Access DB section is designed for compressing the Intellect database of MS Access format.

Expansion of data in the database of MS Access format is caused by logical deleting of files, temporary and hidden tables (i.e. they are marked as deleted but stay physically in the database). Data compression is recommended to enhance the performance of the Intellect system. Compression means physical deleting of files marked as deleted.

The setting panel of the Compressing MS Access DB section is shown in Figure 12.3—8.

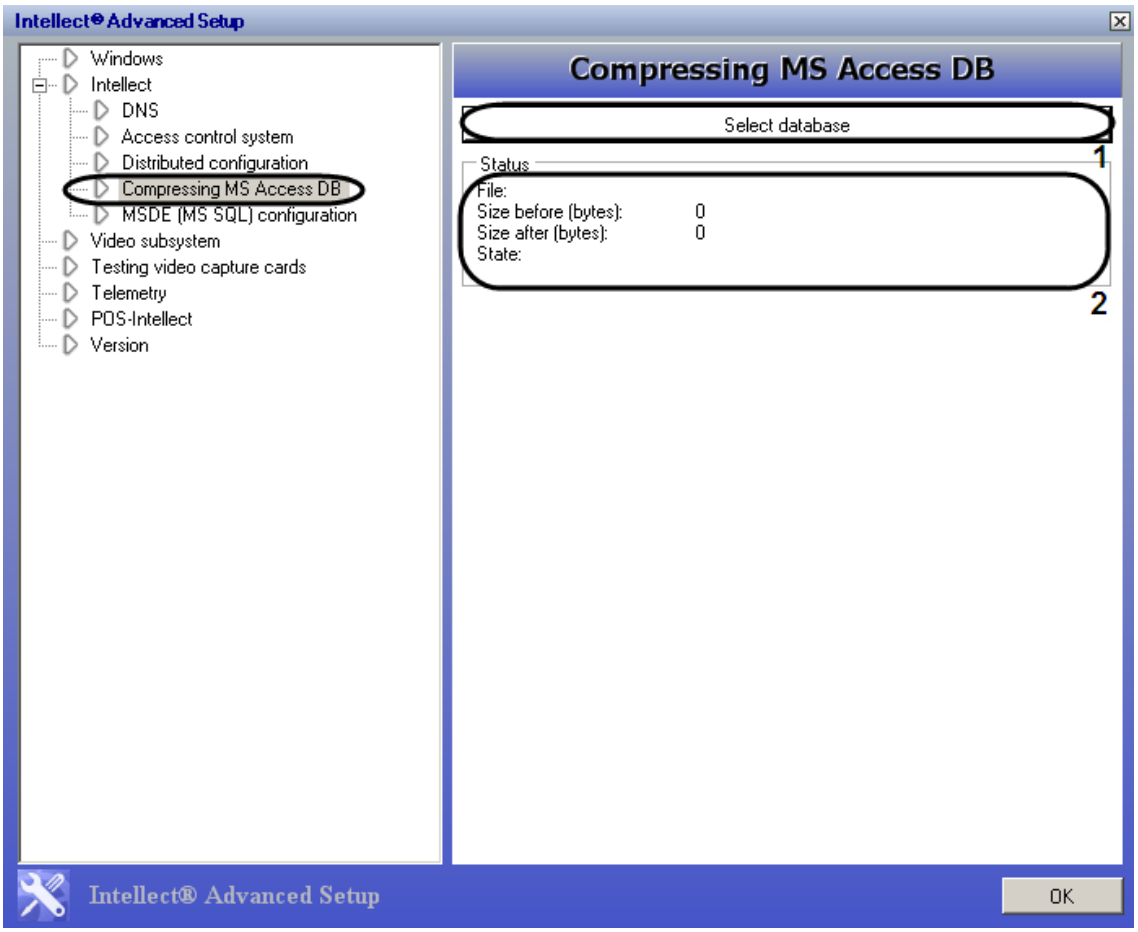


Figure 12.3—8. The Compressing MS Access DB setting panel

The parameters of the setting panel are described in Table 12.3-5.

Table 12.3-5 Description of the Compressing MS Access DB setting parameters

No	Parameter name	Field type	Description	Representation	Default value	Value range
1	The Select database button	Button is pressed	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	The Status table	Automatically	1. File – displays the full pathname to the database 2. Size before (bytes) - database size before compression. 3. Size after (bytes)- database size after compression. 4. State – current status of compression (processing, compression finished, compression failed)	-	-	-

12.3.3.7 *The setting panel of the MSDE (MS SQL) configuration section*

The MSDE (MS SQL) configuration section is designed for setting the limits of RAM space for MS SQL Server operation with databases of SQL format. This limitation enhances the performance of the system.

The setting panel of the MSDE (MS SQL) configuration section is shown in Figure 12.3—9.

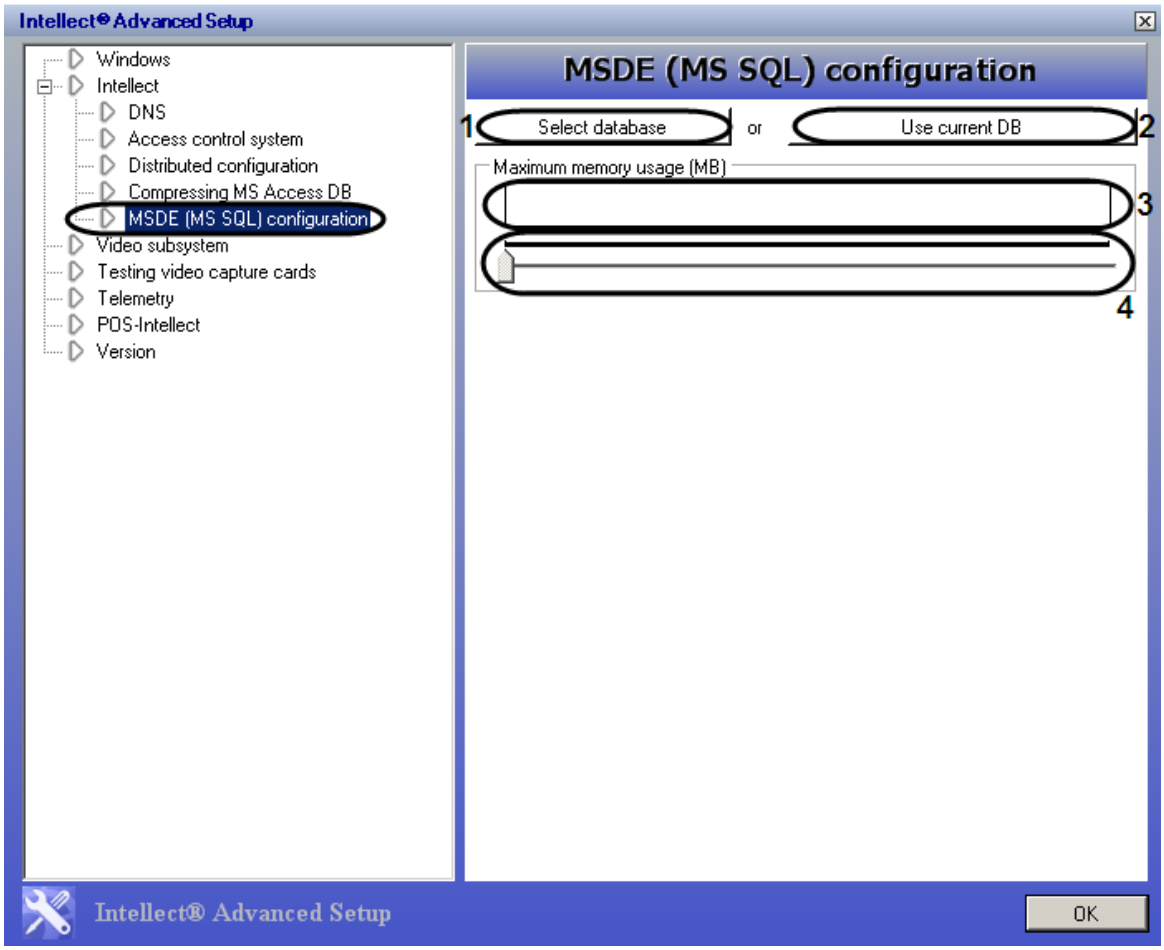


Figure 12.3—9. The MSDE (MS SQL) configuration setting panel

The parameters of the setting panel are described in Table 12.3-6.

Table 12.3-6 Description of the MSDE (MS SQL) configuration setting parameters

№	Parameter name	Field type	Description	Representation	Default value	Value range
1	The Select database button	Button is pressed	Opens the standard Data Link Properties dialog box for choosing the database of MS SQL format the RAM space for which is to be limited.	-	-	-
2	The Use current DB button	Button is pressed	Selects the main Intellect database.	-	-	-
3	The Maximum memory usage (MB) indicator	Automatically	Displays the relative (red strip) and absolute(in MB) space of RAM, selected for SQL Server operation	%, MB	-	Depends on full space of RAM
4	The Maximum memory	Set in the position	Specifies the required space of RAM for SQL Server operation	-	Corresponds to the indicator's	Depends on full space of RAM

№	Parameter name	Field type	Description	Representation	Default value	Value range
	usage (MB) slider				state.	

12.3.3.8 *The setting panel of the Video subsystem section*

The Video subsystem section is designed for advanced setting of the video subsystem in order to enhance the performance of the Intellect system.

The setting panel of the Video subsystem section is shown in Figure 12.3—10.

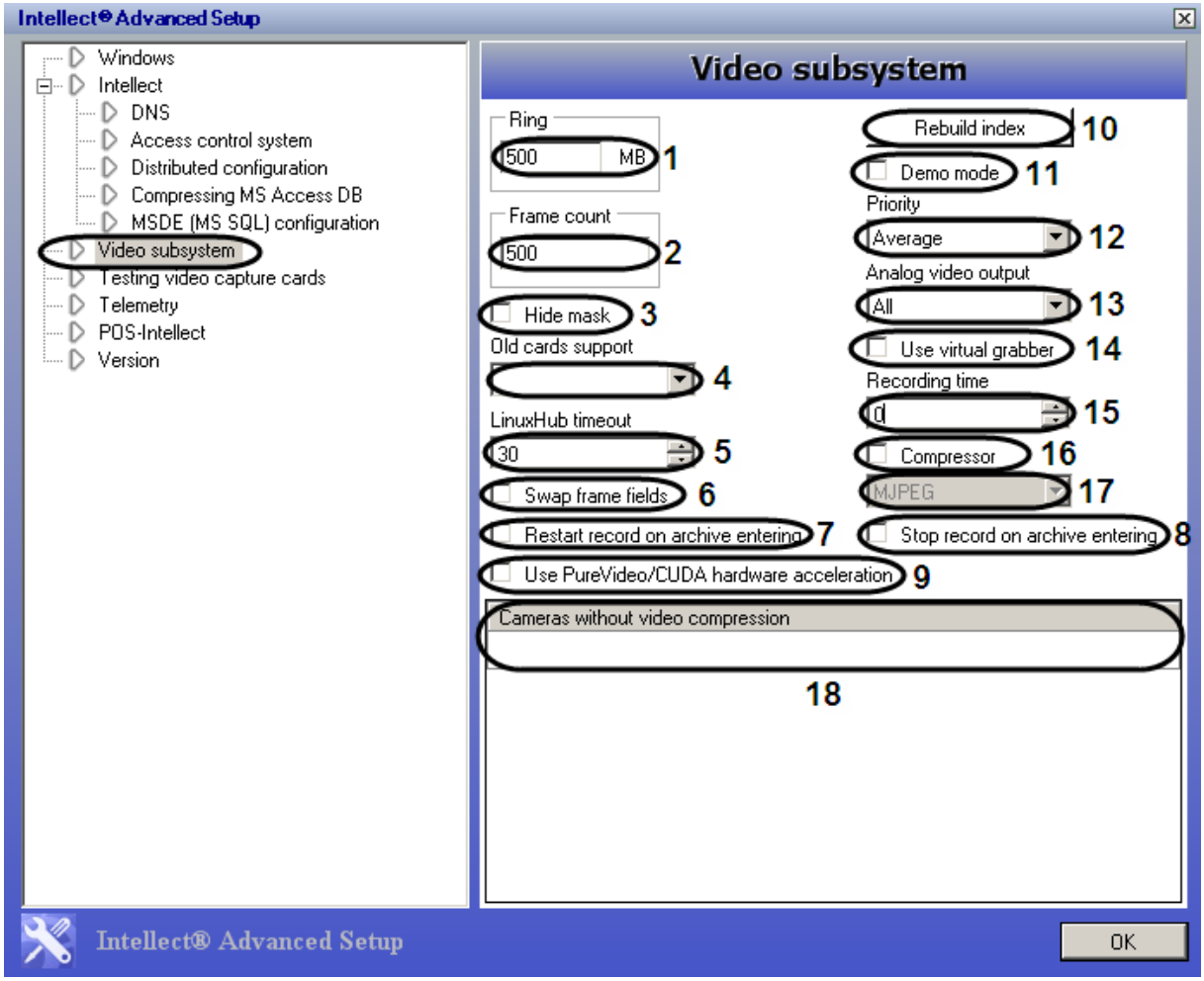


Figure 12.3—10. The Video subsystem setting panel

The parameters of the setting panel are described in Table 12.3-7.

Table 12.3-7 Description of the Video subsystem setting parameters

No	Parameter name	Field type	Description	Representation	Default value	Value range

No	Parameter name	Field type	Description	Representation	Default value	Value range
1	The Ring field	Enter the value	Set the amount of disk space to be left free for recording temporary files for not for video archive. When this limit is reached, the archive will be recorded as follows: the earliest recordings will be deleted. New video archive files will be recorded instead of them. In case when two or more disks are in use for video recording, transfer to the next disk is implemented when no free space is left. When all disks are full, the system starts rewriting the oldest recordings. As a result, the recordings will form a loop (Ring). The amount of free disk space can not be less than it is set by the "FreeMbCritical" line parameter in the "HKEY_LOCAL_MACHINE\SOFTWARE\ITV\Intellect\Video" registry (100 Mb by default). This means that when the limit set by the "Ring" parameter is reached, then the maximum size of the temporary file is "FreeMbCritical". Video can contain less frames, then it is set by the "Frame count" parameter.	MB	1000	Depends on the disk space
2	The Frame count field	Enter the value	Enters the maximum number of frames in one recording file.	frame	500	10 to 999. It is not recommended to change the default value.
3	The Hide mask checkbox	Checkbox	Prohibits the displaying of video on the screen under the motion detector mask. Video area marked by mask is hidden with grey	Boolean type	None	No-hid by mask video is displayed Yes – hid by mask video is not displayed
4	The Old cards support dropdown list	Drop-down list	Enters the types of video capture cards that are phased out, but supported by the Intellect system. To support a phased out video capture card in the Intellect system, select	Type of phased out video capture	-	KV1999, KV2001, KV2002, KV2003, LinuxHub (models produced before 2003)

No	Parameter name	Field type	Description	Represe ntation	Default value	Value range
			the FS5 card type, while setting up the Video Capture Card object and enter the actual card type in the tweaki.exe settings. Otherwise, the card is not be recognized by the Intellect system. This parameter operates only on 32-bit OS.	cards		
5	The LinuxHub timeout list	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	The Swap frame fields checkbox	Checkbox	Switch Intellect from basic to additional driver if there are video artifacts while using basic driver	Boolean type	None	No – Intellect operates with basic driver Yes – Intellect operates with additional driver
7	The Restart record on archive entering checkbox	Checkbox	Enables restarting record on archive entering.	Boolean type	None	Yes – patch that has been recorded on archive entering is stopped and a new one starts. As a result the user who enters the archive sees a freeze frame corresponding to that on exiting. No – recording is not stopped on archive entering
8	The Stopt record on archive entering checkbox	Checkbox	The Pause button is pressed on archive entering	Boolean type	None	Yes – the Pause button is pressed on archive, archive navigation using arrow keys. No – the Pause button is not pressed on archive entering.
9	The Use PureVideo/CUDA hardware acceleration checkbox	Checkbox	Enables PureVideo/CUDA support on the Server while decompressing video from IP devices if PureVideo HD card of the 2nd ot 3rd generation (Nvidia VP2 and VP3) is installed. Used to reduce Server load due to resources of graphics processor	Boolean type	Yes	No – PureVideo/CUDA is not in use Yes – PureVideo/CUDA is in use
10	The Rebuild Index	Button is	Delet the database index file. After deleting the index,	-	-	-

No	Parameter name	Field type	Description	Representation	Default value	Value range
	button	pressed	restart the Intellect system for a new index to be created.			
11	The Demo mode checkbox	Checkbox	Runs the Intellect system in demo mode. One channel is opened for video file playback. This can be any of the video archive files located in the root of the Intellect folder.	Boolean type	No	No – demo mode is disabled Yes – demo mode is enabled
12	The Priority dropdown list	Selecting the value from the list	Set the priority of all Intellect video system processes	Names of priority processes	Below Normal	Realtime, High, Above normal, Normal, Below normal, Low.
13	The Analog video output dropdown list	Selecting the value from the list	Selection of analog output operation mode.	Names of availiable modes	All	All-video signals from all the analog outputs are displayed on one screen One – video signal from one analog output is displayed on one screen
14	The Use virtual grabber checkbox	Checkbox	Allows access to virtual video capture cards settings (grabber)in the Intellect	Boolean type	No	Yes – the Virtual value is available from the Type dropdown list on the setting panel of the Video capture card objects No – the Virtual value is not available for the Video capture card objects
15	The Recording time list	Enter the value/select from the list	Set the length of the file in seconds, restricting fragment's size not by number of frames but by time of its recording.	Time in sec	0	Unlimited
16	The Compressor checkbox	Checkbox	Enabling/disabling video conversion into Motion Wavelet/MJPEG format	Boolean type	None	Yes – conversion is performed. No – conversion is not performed.
17	The Compressor dropdown list	Selecting the value from the list	Selection of format into which video is to be converted	Available video formats	MJPEG	MJPEG, Motion Wavelet
18	The Camera	Enter the	Set the numbers of cameras	Camera's	-	Depends on the

No	Parameter name	Field type	Description	Representation	Default value	Value range
	without video Ccmpression table	value in the field	connected to the video capture cards with compression. There is no compression for these cameras, i.e. the compressor settings in the Intellect system is ignored.	serial number		number of cameras registered in the system

*Note. Setting the non-zero value of the **Recording time** parameter does not exclude the **Frame count** parameter. If the values for both parameters are set, then the file recording will be performed in accordance with the value which comes first. For instance, if the value of **Recording time** is equal to 10 seconds and **Frame count** is equal to 500 frames (by default) and in ten seconds the fragment consists of 80 frames, then 80-frame file is recorded.*

12.3.3.9 *The setting panel of the Testing video capture cards section*

The Testing video capture cards section is designed for connection testing of the cameras to the video capture card.

*Note. To use this functionality Intellect is to be unloaded. Otherwise there is **Cards not found** message.*

The setting panel of the Testing video capture cards section is shown in Figure 12.3—11.

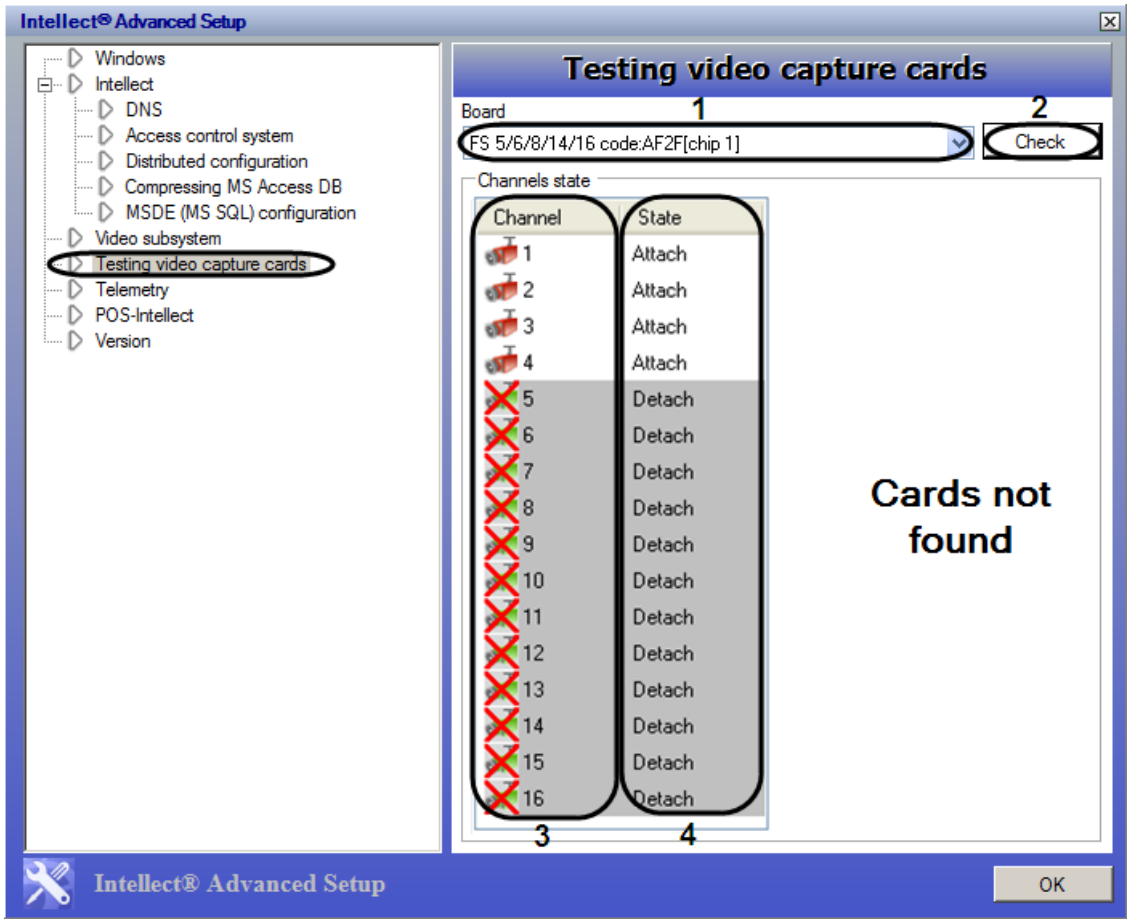


Figure 12.3—11. The Testing video capture cards setting panel

The parameters of the setting panel are described in Table 12.3-8.

Table 12.3-8 Description of the Testing video capture cards setting parameters

No	Parameter name	Field type	Description	Representation	Default value	Value range
1	The Board dropdown list	Dropdown list	Set thevideo capture card which camera connections are to be checked	List of video capture cards	-	Depends on the number of installed video capture cards
2	The Check button	Click the button	Starts the testing process of the video capture card. The Intellect system should be closed at the time of testing.	-	-	-
Channel status table						
3	The Channel column	Automatically	Displays the channels numbers of the selected video capture card	-	-	From 1 to 16
4	The State column	Automatically	Displays the state of camera connections to the channels of the selected video capture cards			Attach – camera is connected Detach – camera is disconnected

12.3.3.10 *The setting panel of the Telemetry section*

The Telemetry section is used for setting the telemetry control elements.

The setting panel of the Telemetry section is shown in Figure 12.3—12.

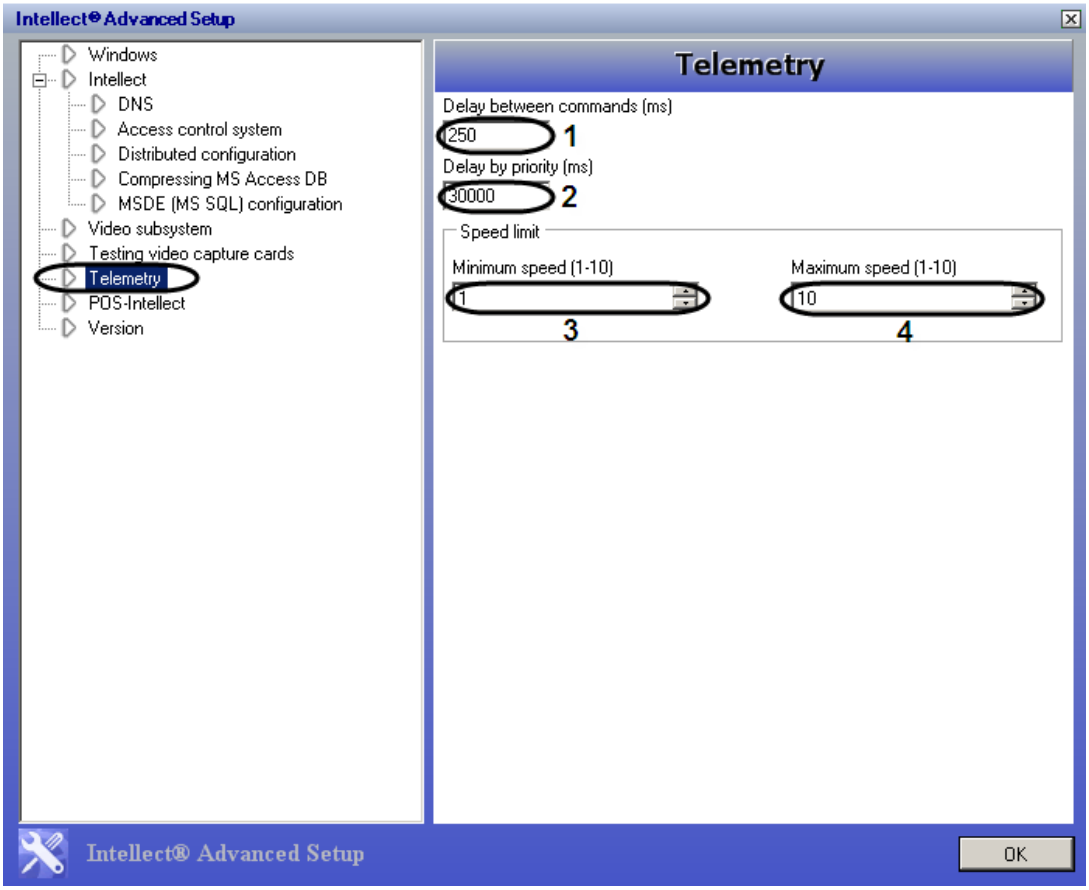


Figure 12.3—12. The Telemetry setting panel

The parameters of the Telemetry setting panel are described in Table 12.3-9.

Table 12.3-9 Description of the Telemetry setting parameters

No	Parameter name	Field type	Description	Representation	Default value	Value range
1	The Delay between commands (ms) field	Enter the value	Set the delay between executing the commands for PTZ devices	ms	250	No limitations. It is not recommended to change the default value.
2	The Delay by priority (ms) field	Enter the value	Set the delay before transferring the PTZ control to a user with lower priority.	ms	30000	No limitations. It is not recommended to change the default value.
Speed limit group						
3	The Minimum speed (1-10) field	Enter the value	Set the minimum rotation speed of PTZ devices.	Speed in standard units	0	1-10
4	The Maximum Speed (1-10)	Enter the value	Set the maximum rotation speed of PTZ devices.	Speed in standard units	10	1-10

No	Parameter name	Field type	Description	Representation	Default value	Value range
	field					

12.3.3.11 *The setting panel of the POS section*

The POS section is designed for setting the POS module for controlling cashier operations (is not included in the Intellect basic version).

12.3.3.12 *The setting panel of the Version section*

The Version section provides information about the Intellect software modules: versions, paths to executive files and .dll libraries, and file sizes and dates of creation and modification.

The setting panel of the Version section is shown in Figure 12.3—13.

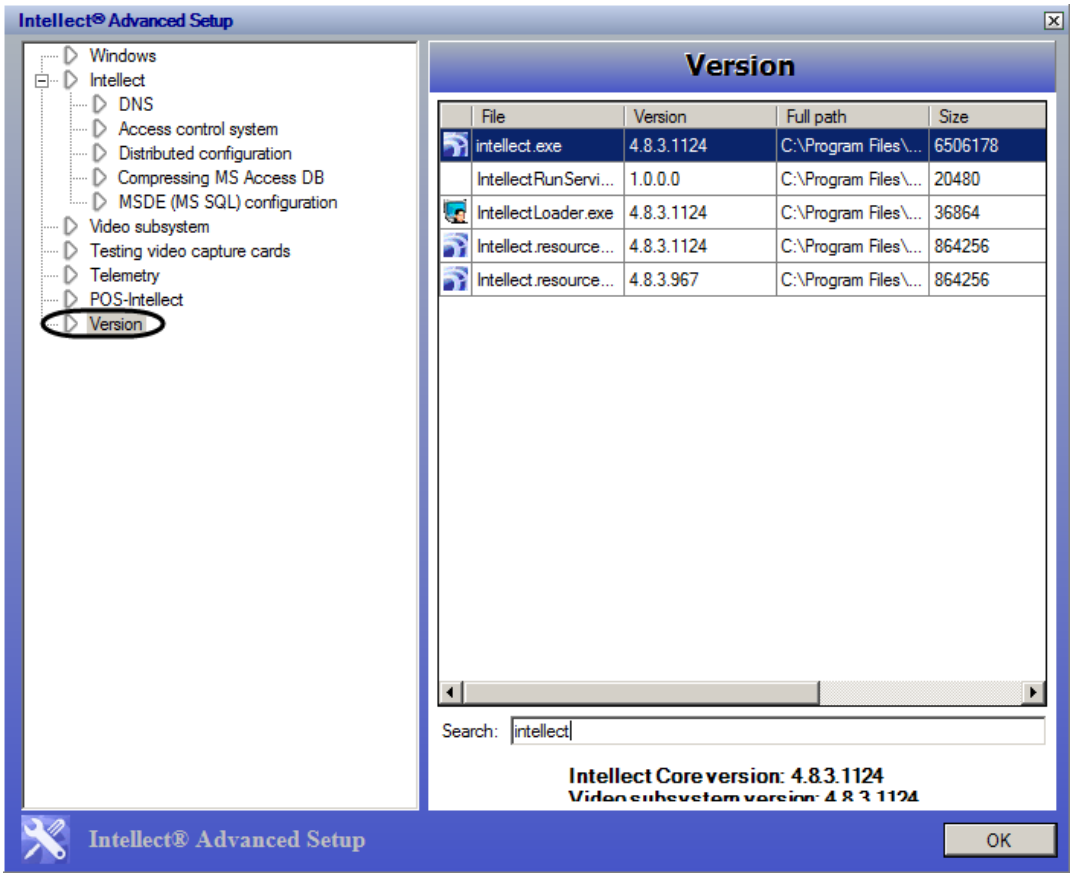


Figure 12.3—13. The Version setting panel

12.3.4 Typical tasks concerning system extended settings

12.3.4.1 *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 12.3—14).

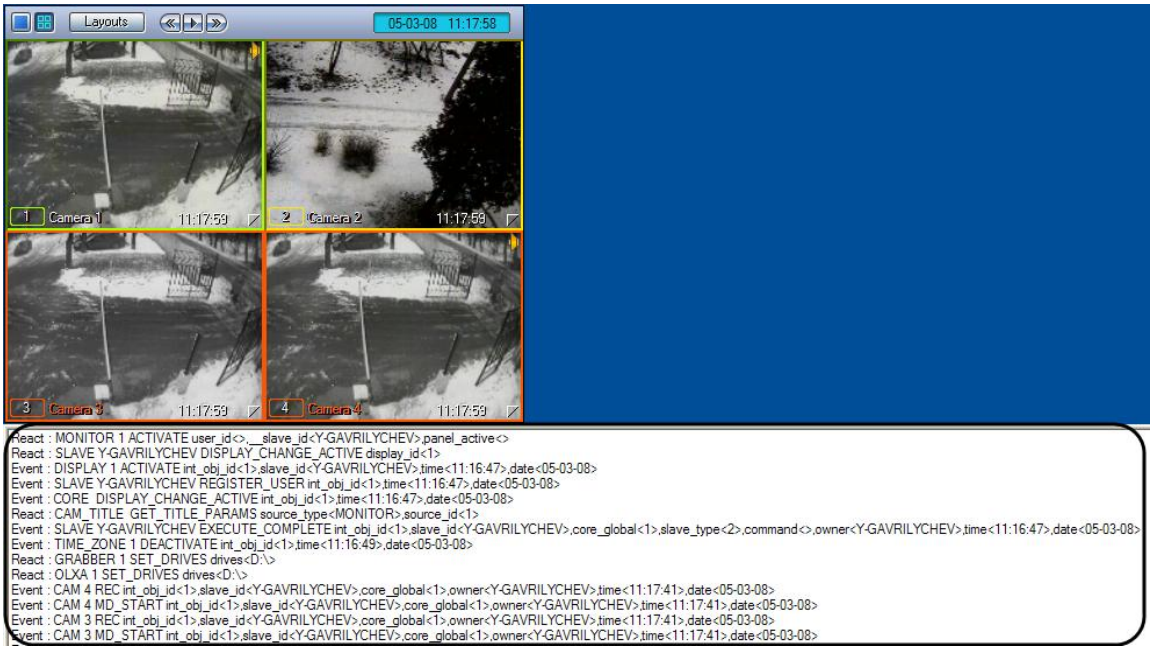


Figure 12.3—14. Debug mode. Debug window

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 12.3—15).

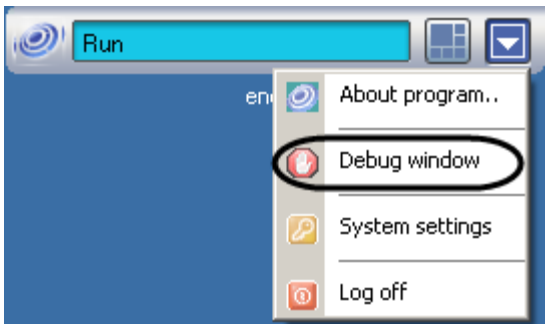


Figure 12.3—15. Debug Window item in the main control menu

7. Select Debug Window in the main control menu to open the Debug window (Figure 12.3—15). The selected item will be marked with a tick (Figure 12.3—16).

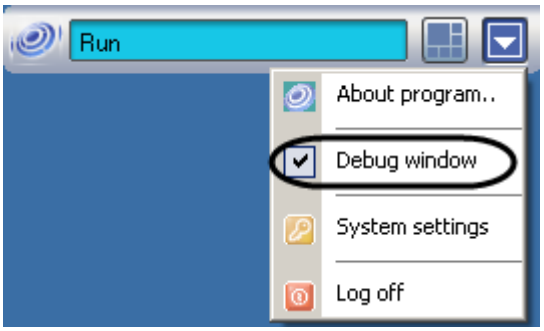


Figure 12.3—16. Debug Window item is selected

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.

12.3.4.2 *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 12.3—17, 1).

4. Check the Receive Uncompressed Video checkbox (Figure 12.3—17, 2).

5. Click OK.

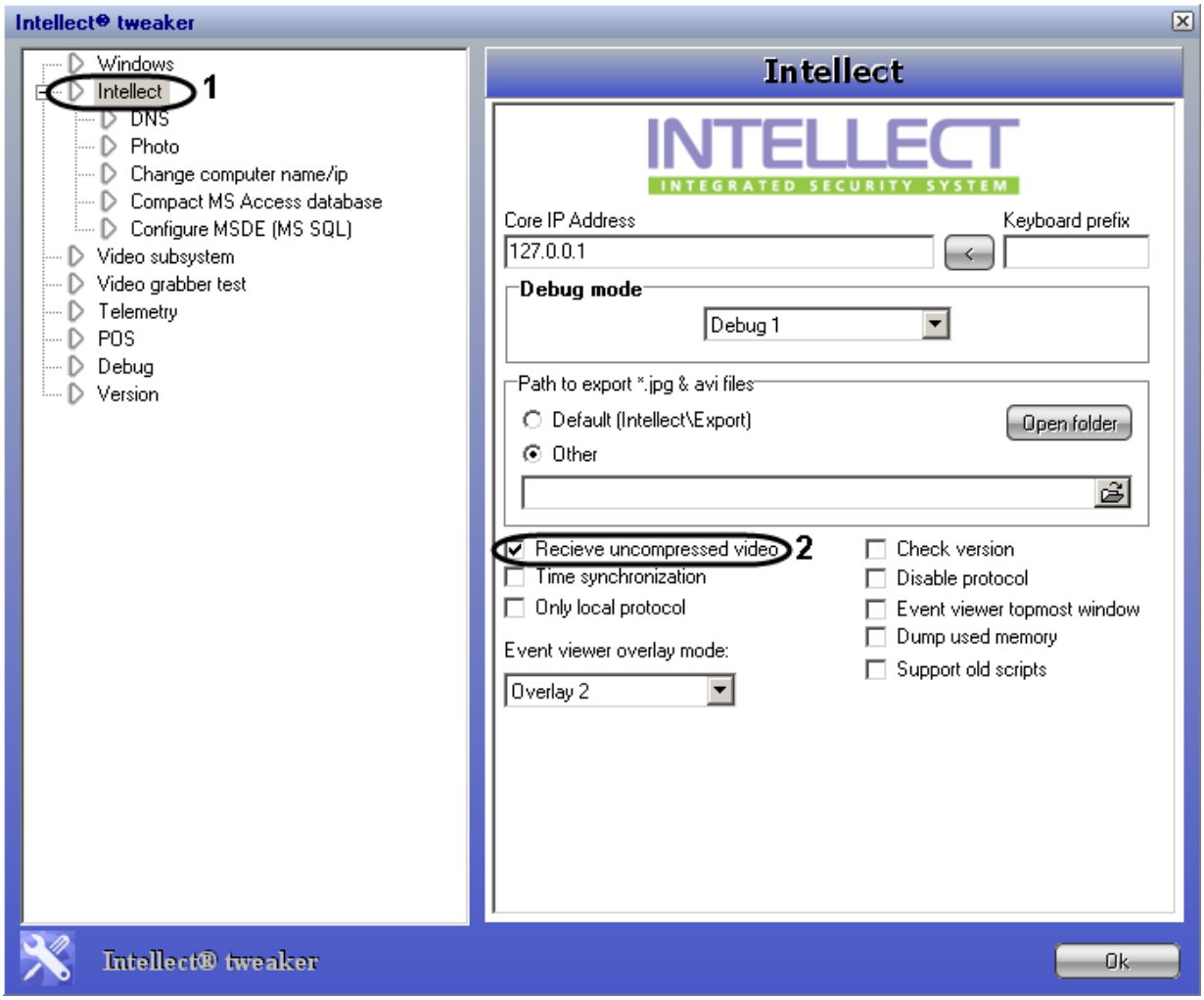


Figure 12.3—17. Enabling receiving uncompressed video

12.3.4.3 *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 12.3—18).

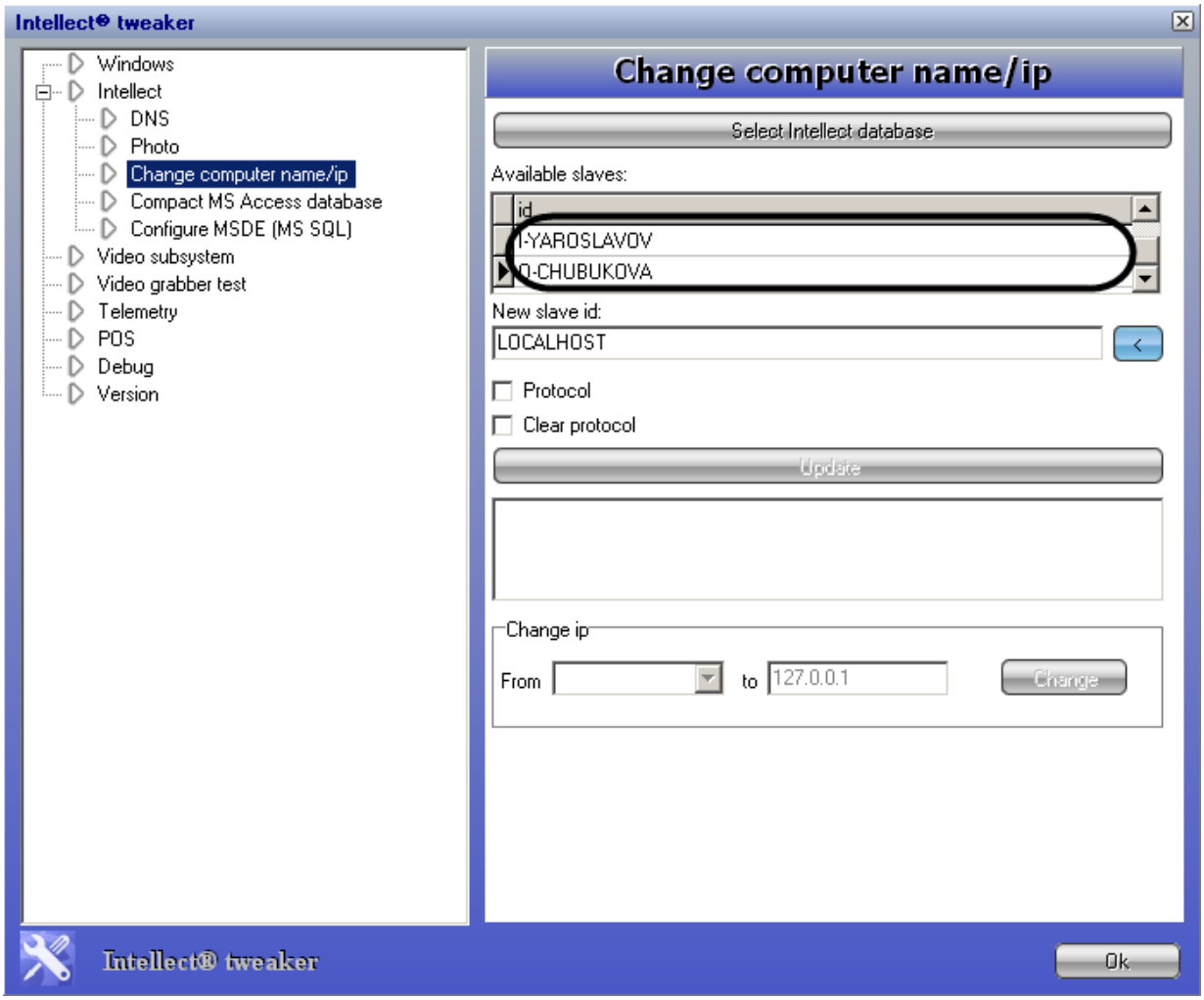


Figure 12.3—18. The list of computer names in the selected database

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 12.3—19).

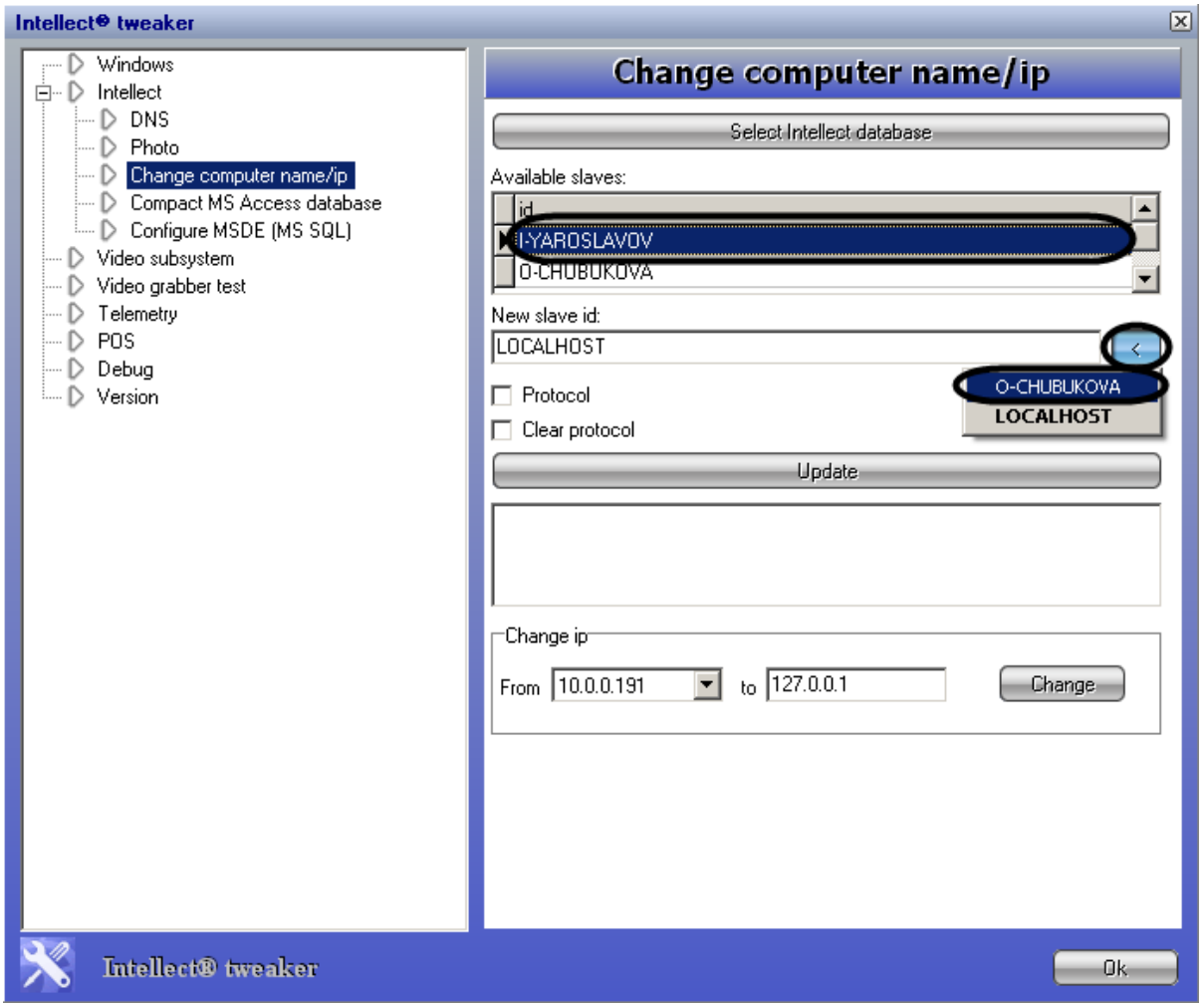


Figure 12.3—19. Selecting a computer name

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 12.3—20, 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 12.3—20, 3).

9. Click the Update button (Figure 12.3—20, 4). The progress of replacing computer names for a new one will be displayed in the field below the Update button (Figure 12.3—20, 5).

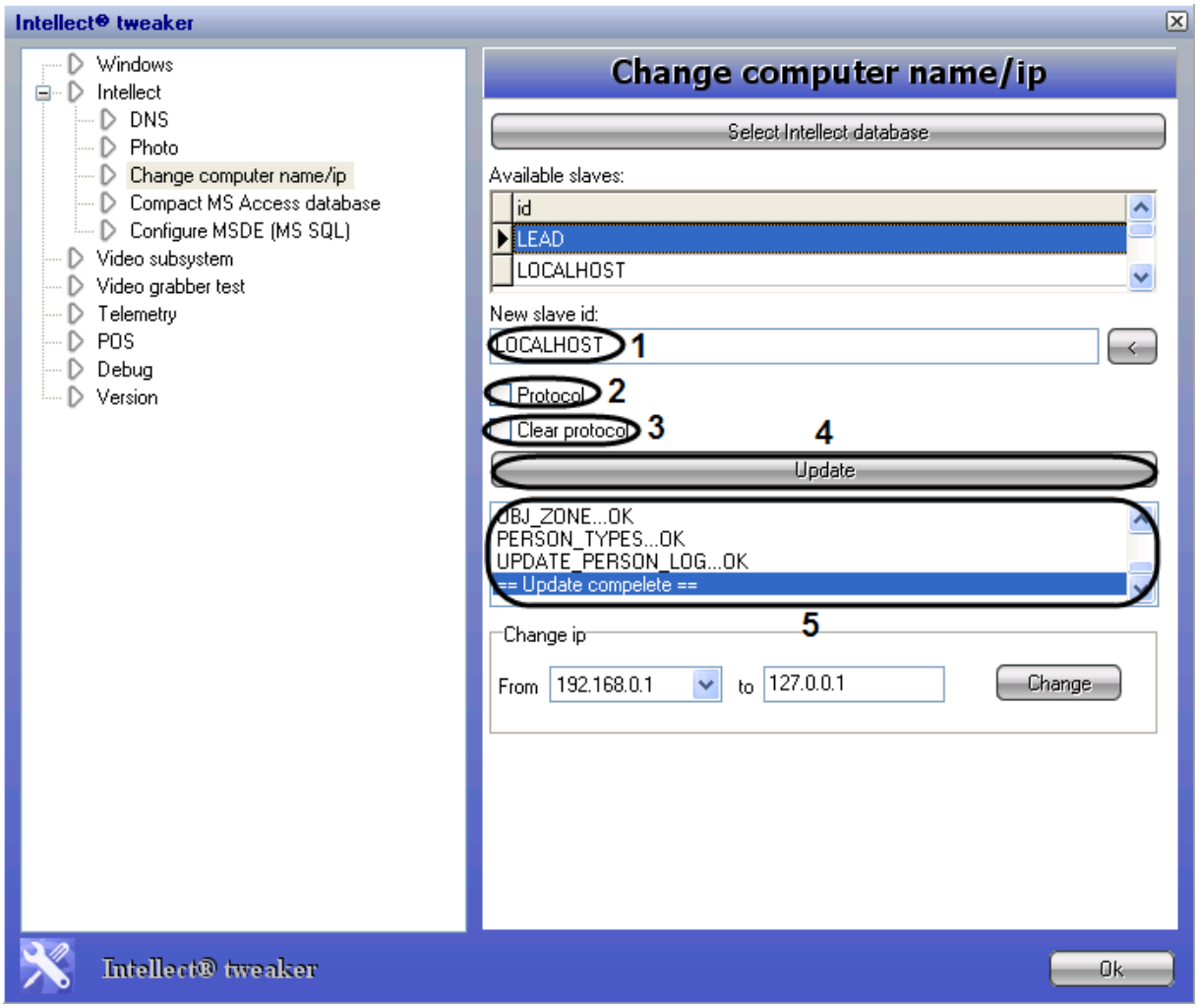


Figure 12.3—20. Updating the database

To change the IP-address in the configuration database, do the following (Figure 12.3—21):

1. Do steps 1-4 of the previous instructions (Figure 12.3—21, 1).
2. Select the IP-address to be replaced from the From drop-down list (Figure 12.3—21, 2).
3. Enter a new IP-address into the To field, or leave the default LOCALHOST value (Figure 12.3—21, 3).
4. Click the Change button (Figure 12.3—21, 4).

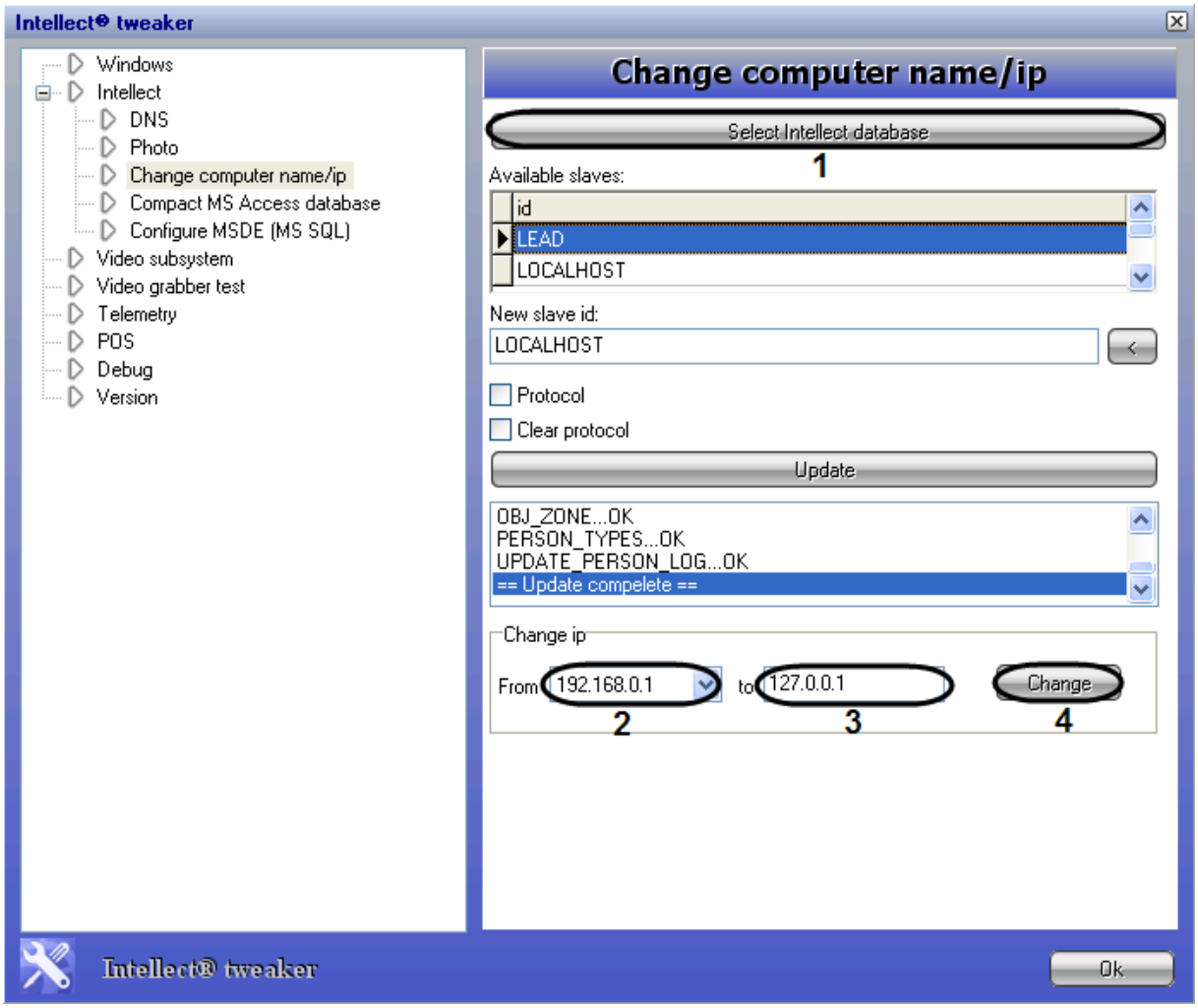


Figure 12.3—21. Replacing an IP-address in the database

The IP-address in the From field and in the database will be changed.

12.3.4.4 *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 12.3—22, 1).

d. Select the MS SQL database to limit the allocated RAM by doing one of the following (Figure 12.3—22, 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.

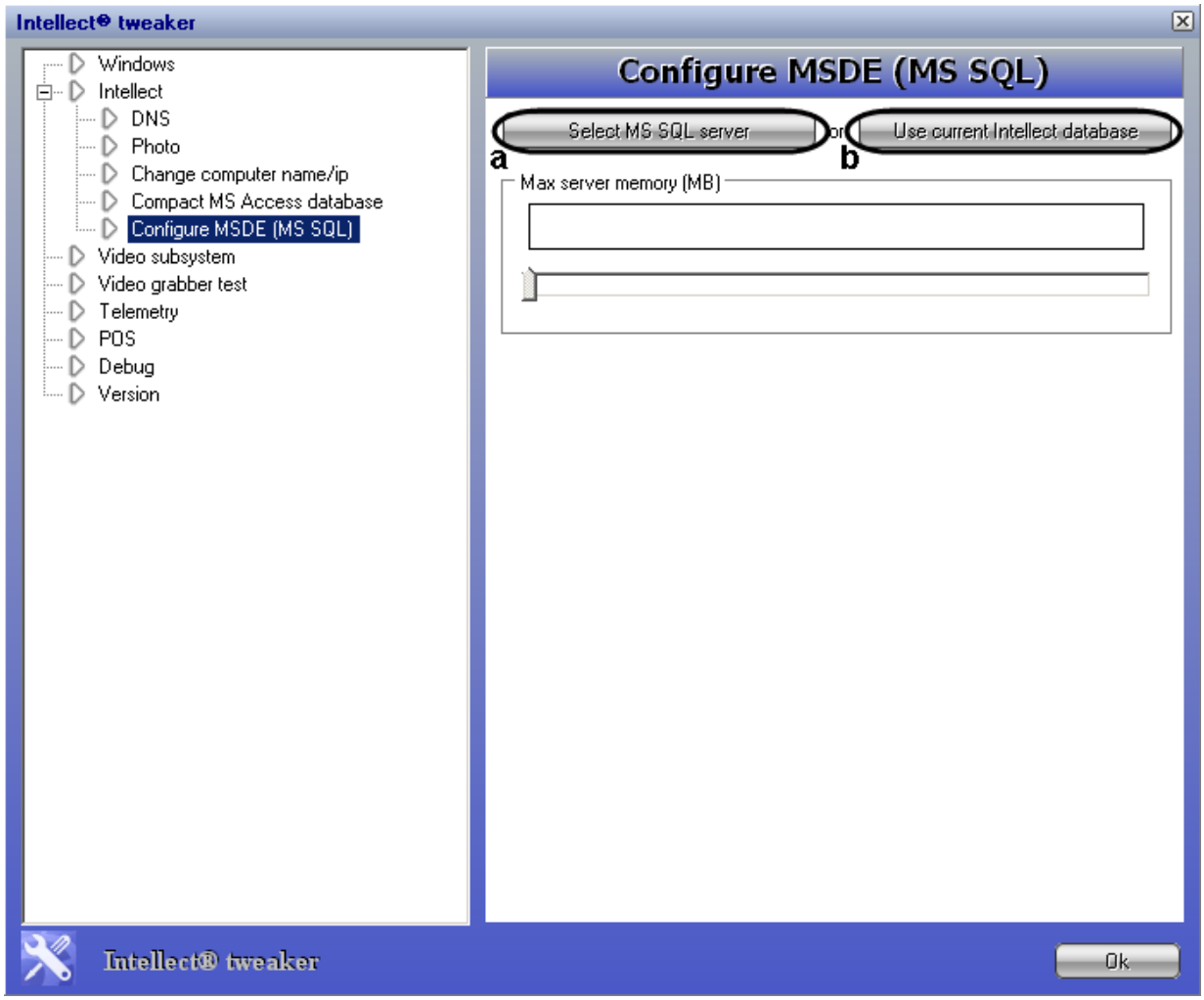


Figure 12.3—22. Click one of the buttons to select the database

The Max Server Memory (MB) group will display the amount of space allocated for the selected database (Figure 12.3—23, 1).

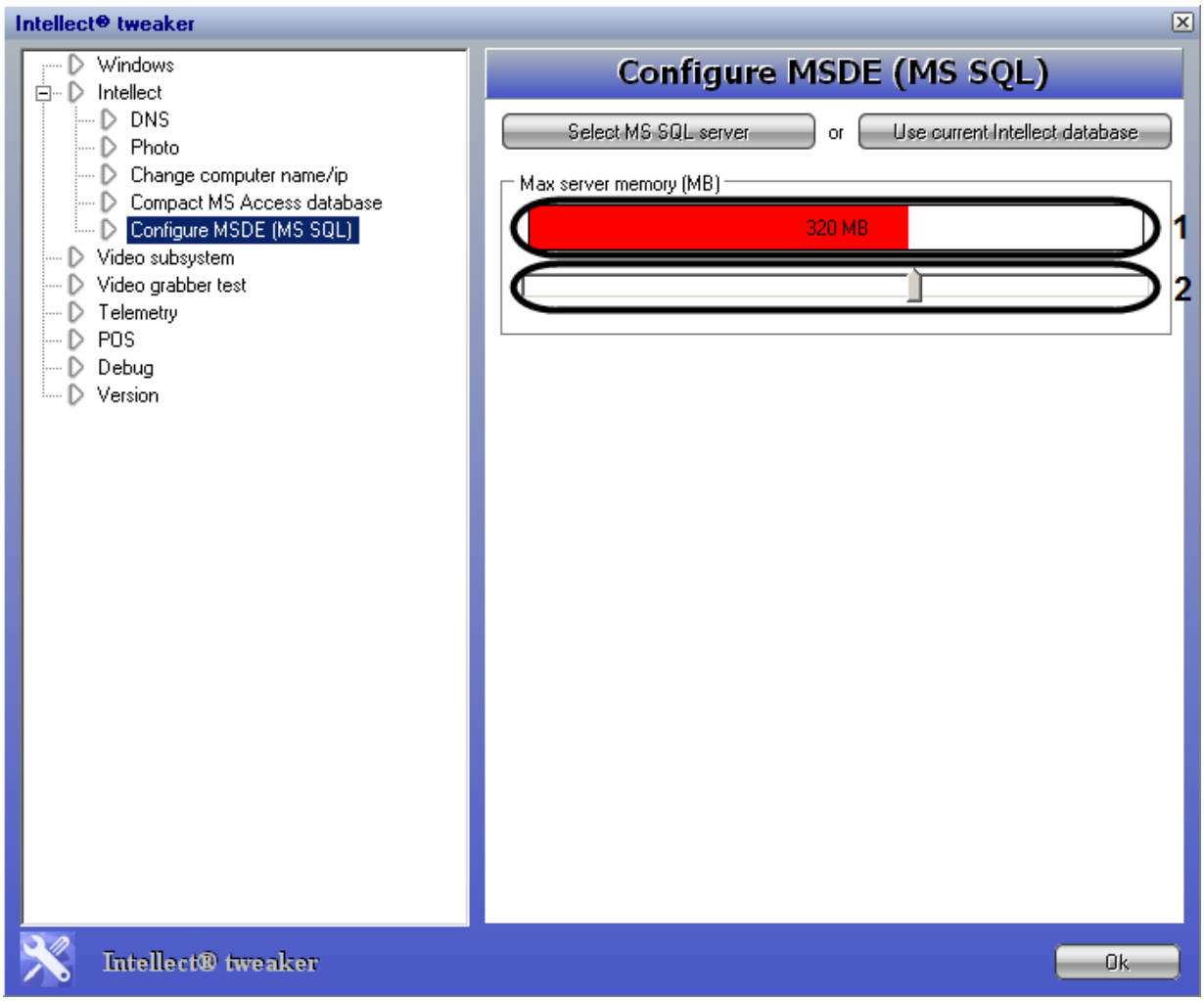


Figure 12.3—23. Current memory usage by the selected database

e. Drag the slider to a position representing the required amount of memory to be allocated for the SQL server (Figure 12.3—23, 2).

f. Click OK.

12.3.4.5 *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 12.3—24, 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 12.3—24, 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\AxxonSoft\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.

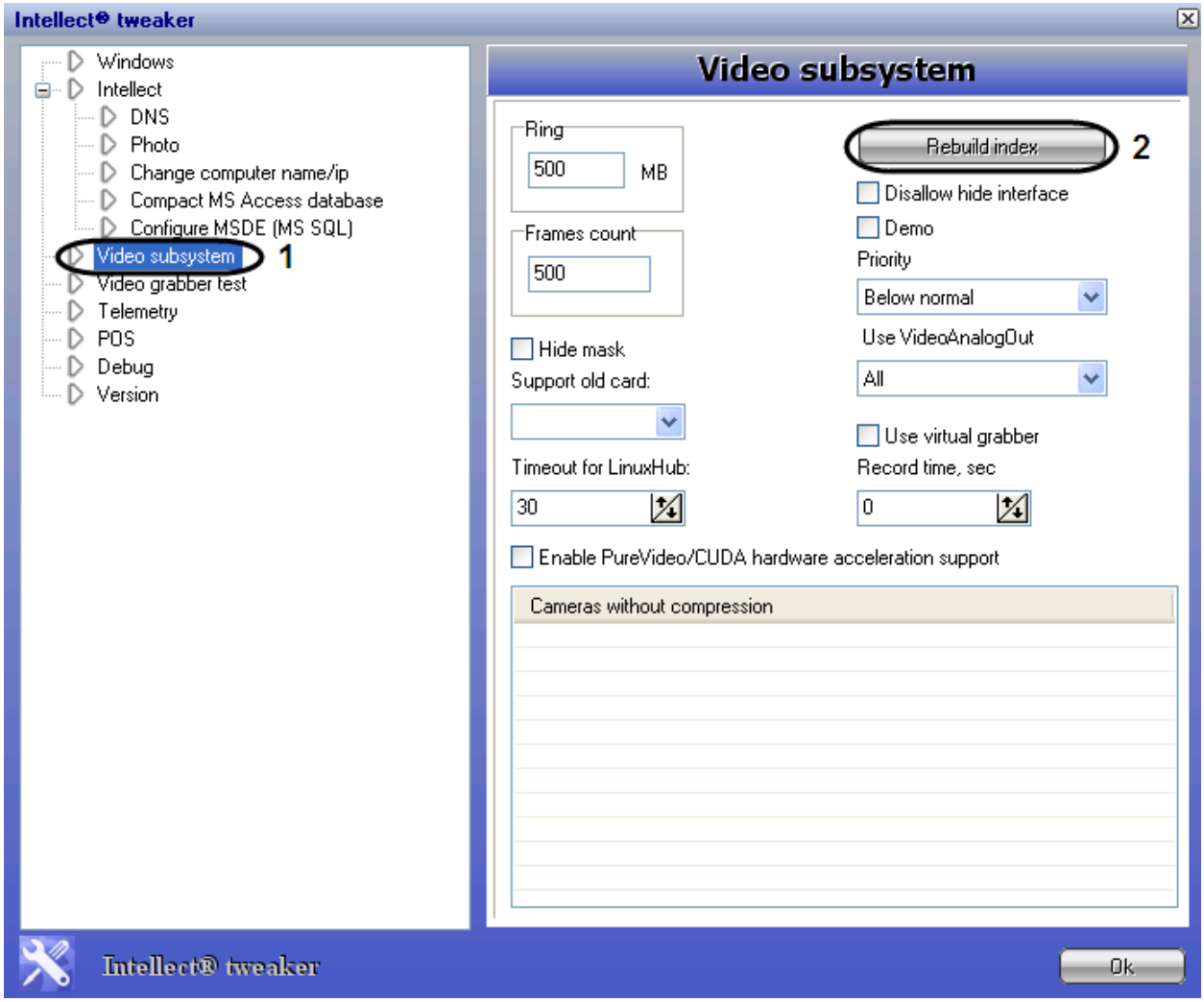


Figure 12.3—24. Deleting the INDEX folder

12.3.4.6 *Enabling the Pure video/CUDA hardware acceleration*

It is possible to enable the PureVideo/CUDA hardware acceleration 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.

Attention! It is recommended to update the driver of the card that supports the PureVideo/CUDA hardware acceleration. Drivers are available for downloading at the official web page of Nvidia (www.nvidia.ru).

Note.Detailed information about the PureVideo/CUDA hardware acceleration is given in reference manual of Nvidia company.

The PureVideo/CUDA hardware acceleration functionality is implemented correctly when Server meets the following requirements of the software platform:

1. Is managed by OS Windows XP/Vista/7
2. The PureVideo HD video card of the second or third generation is installed (Nvidia VP2 and VP3)

Note1. Widespread models of video cards that support the 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.

Note2. In the Intellect software package (version 4.7.6) the PureVideo/CUDA hardware acceleration is applied only for video signals' decompression in H264 codec.

Note3. If the resolution more than 1920x1088 is set in the camera, then the PureVideo/CUDA hardware acceleration is not used for video signals' decompression.

To enable the PureVideo/CUDA hardware acceleration, do the following:

1. Shutdown the Intellect software package if it was run on the computer.
2. Run the "Tweaki.exe" utility (See the "Starting and closing the utility" section).
3. Select the "Video subsystem"section in the tree in the upper left corner of the utility's dialog box (Figure 12.3—25, 1).

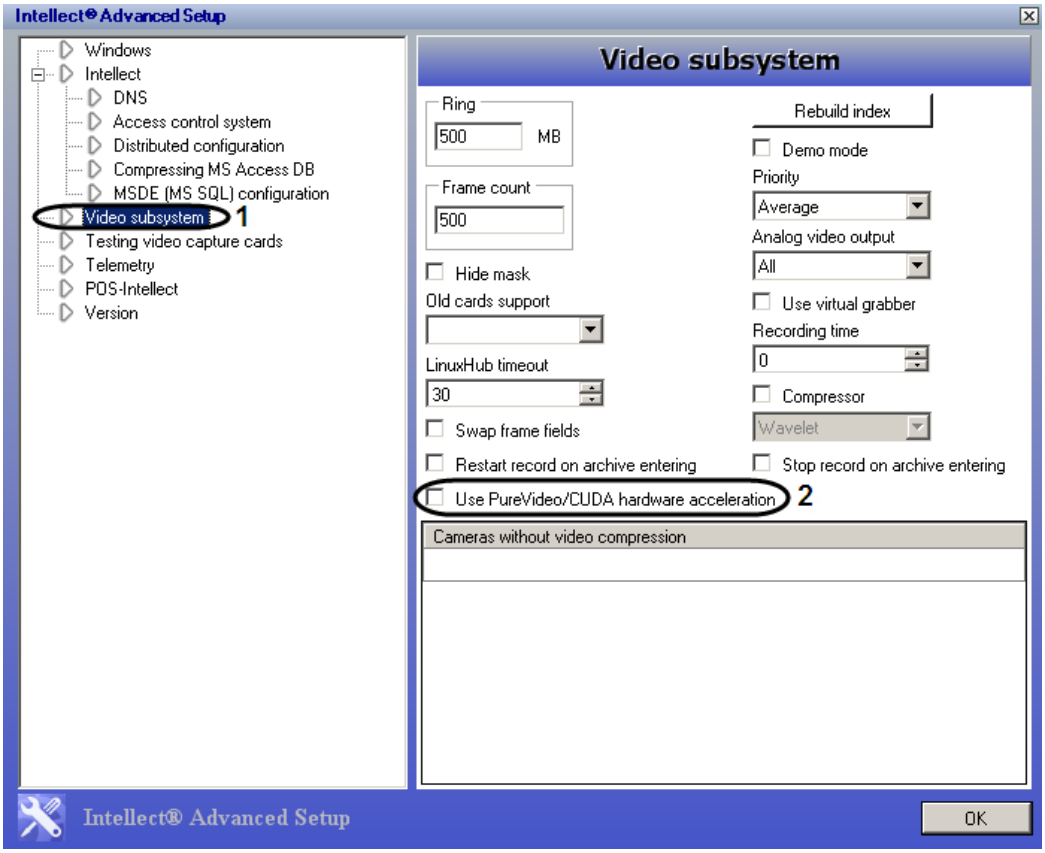


Figure 12.3—25 Enabling the PureVideo/CUDA hardware acceleration

4. Set the “Enable PureVideo/CUDA hardware acceleration” checkbox (Figure 12.3—25, 2).
5. Click the “OK” button.
6. Go to the settings panel for the “Camera” object (Figure 12.3—26).

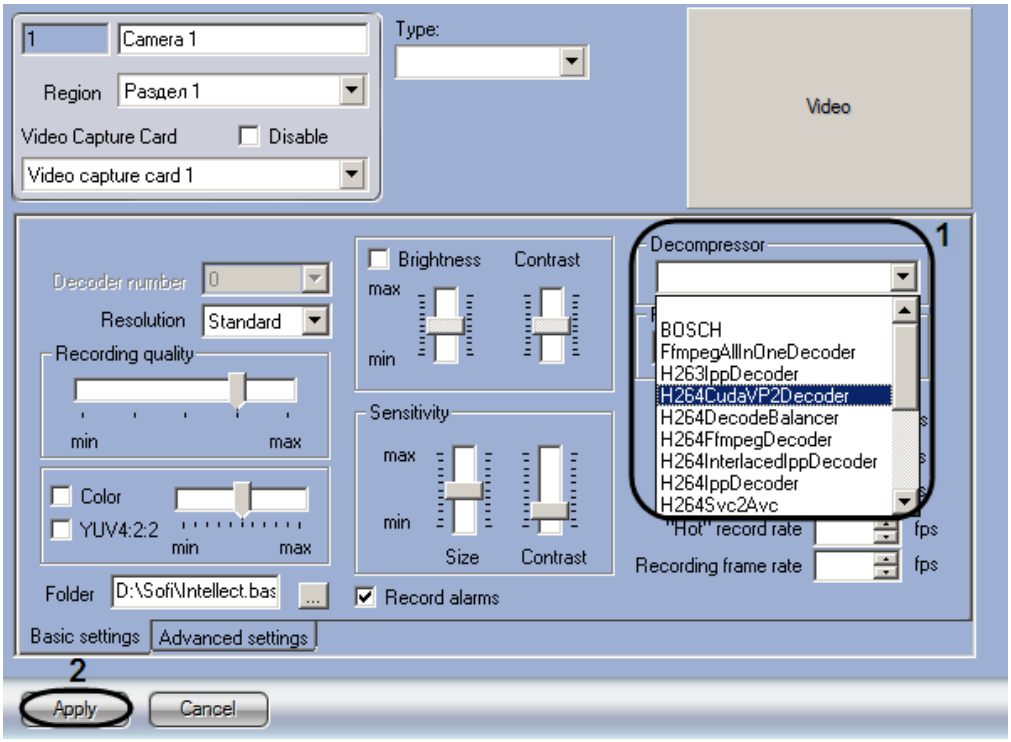


Figure 12.3—26 The decompressor selection

7. In the “Decompressor” drop-down list select the “H264CudaVP2Decoder” value (Figure 12.3—26, 1).
8. Click the “Apply” button (Figure 12.3—26, 2).

The PureVideo/CUDA hardware acceleration is now enabled.

12.3.4.7 *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 Tweaki.exe Utility section)
3. Select the Video Graber Test node in the tree on the left side of the utility dialog box (Figure 12.3—27).

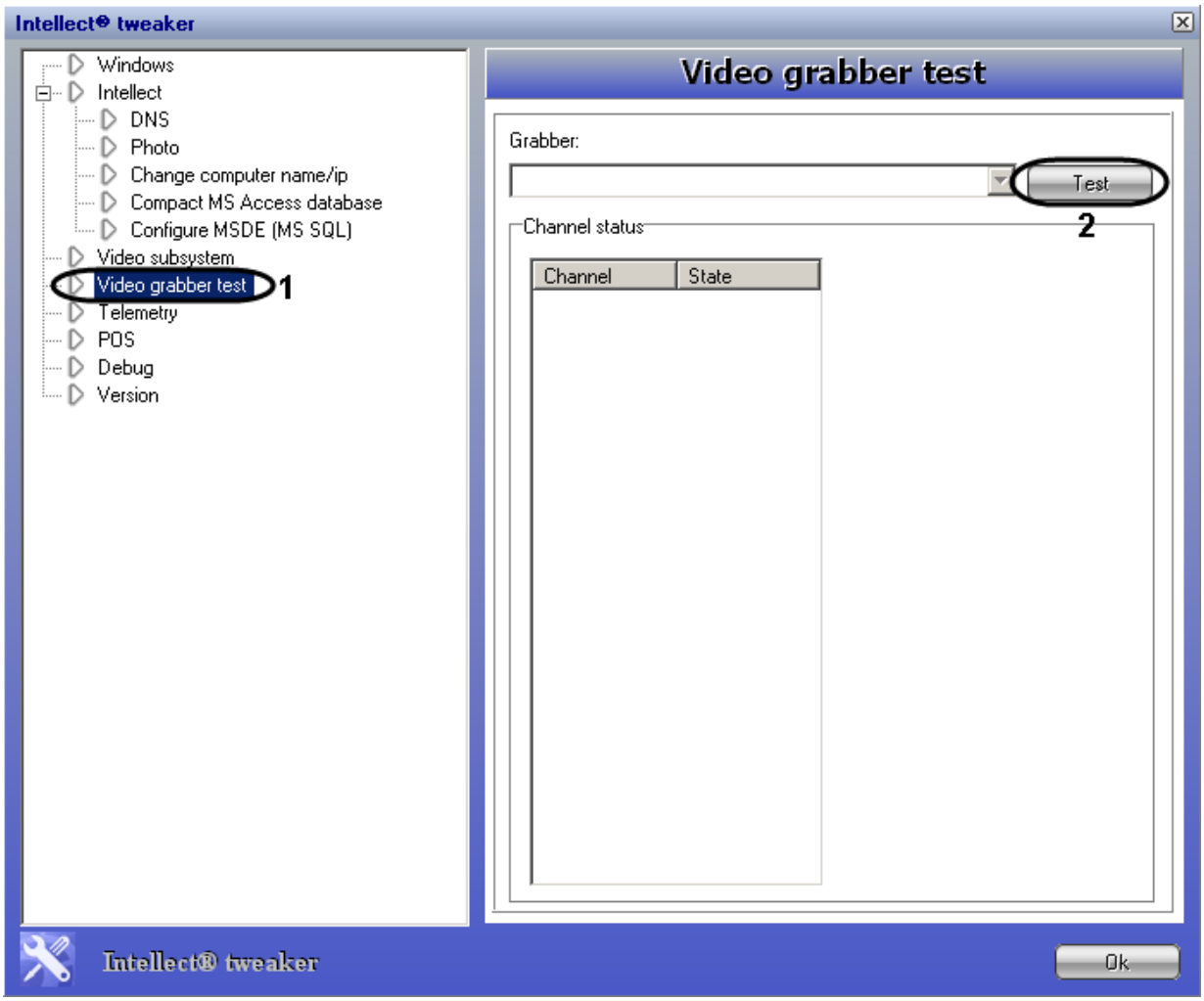


Figure 12.3—27. Testing channels of the video capture card

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 12.3—28).

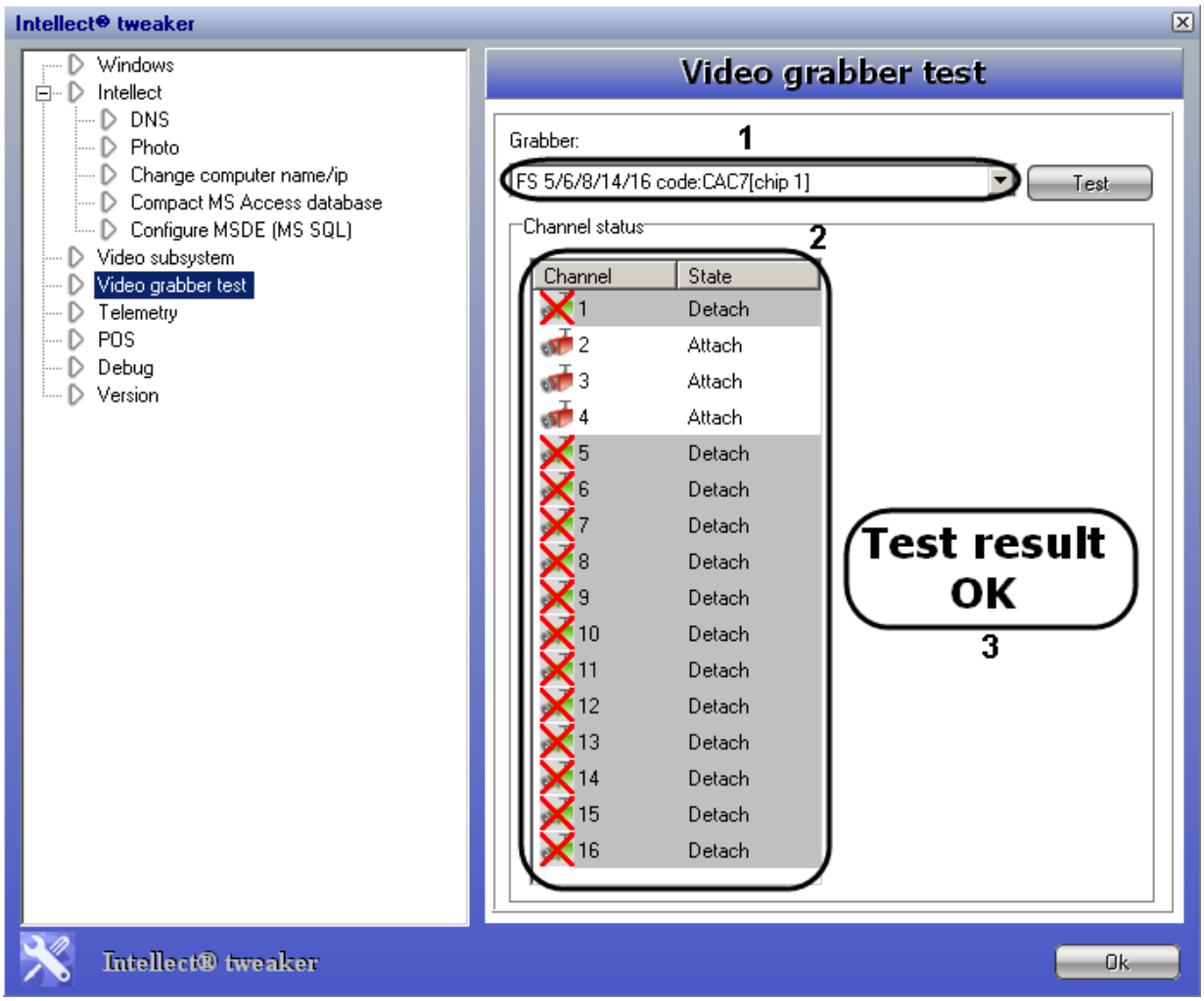


Figure 12.3—28. The result of testing the video capture card channels

If the Intellect system was not closed before starting the test, a dialog box will open requiring to close the Intellect system (Figure 12.3—29).

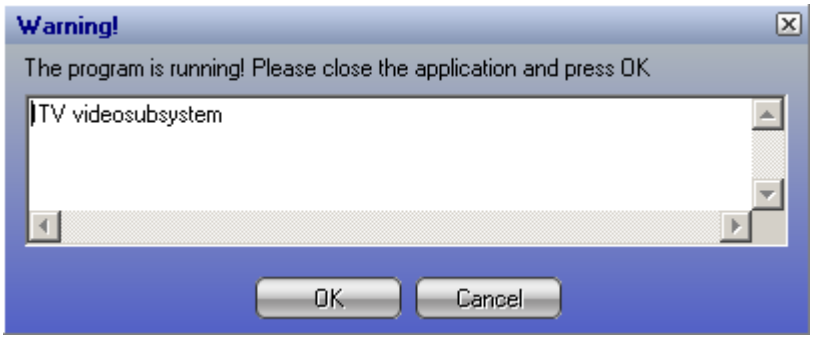


Figure 12.3—29. A dialog box requiring to close the system

To continue using the Video Grabber Test module, close the Intellect system and click OK.

12.4 The utility for collecting configuration data on servers and RWS for the Technical Support

12.4.1 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, OS Windows system and the Intellect PC. The utility generates an archive that can be used by AxxonSoft Technical Support Service for troubleshooting purposes. In case of system malfunction or errors send it by email with attached archive, generated by Support.exe.

12.4.2 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 12.4—1).

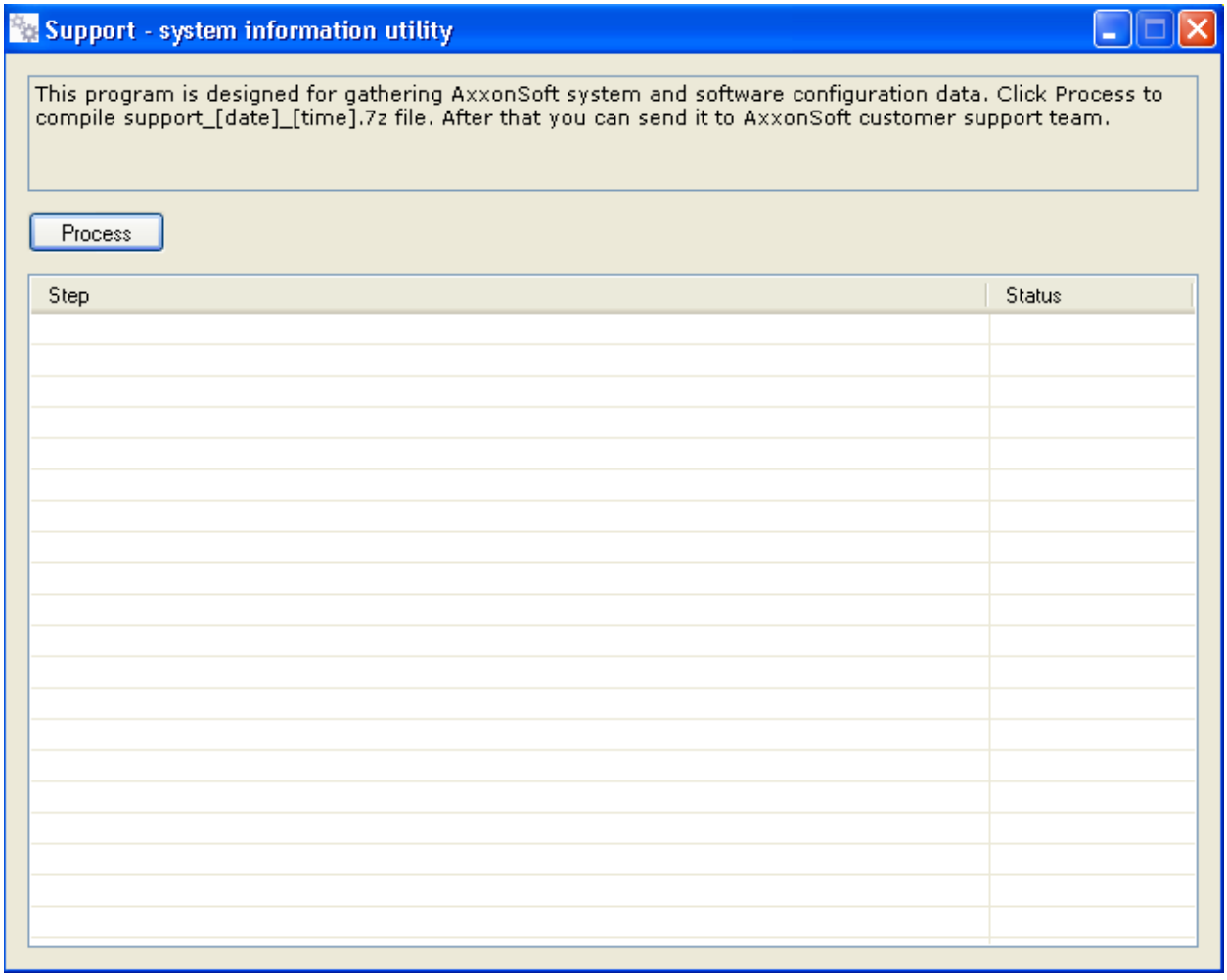


Figure 12.4—1. The Support dialog box

To close the Support.exe utility, click the Close button ( ).

12.4.3 The Support interface description

Support.exe utility interface includes the following elements:

1. Short directions for using the Support.exe (Figure 12.4—2, 1).
2. Process button to run the process of gathering information (Figure 12.4—2, 2).
3. Filed of displaying the information (Figure 12.4—2, 3).
4. Tale of displaying the process of gathering information, it includes two columns Step ans Status. In the Step column there is displayed short characteristic of undergoing process while the information is being gathered. In the Status column there is displayed process-bar and time, spent on information gathering (Figure 12.4—2, 4).

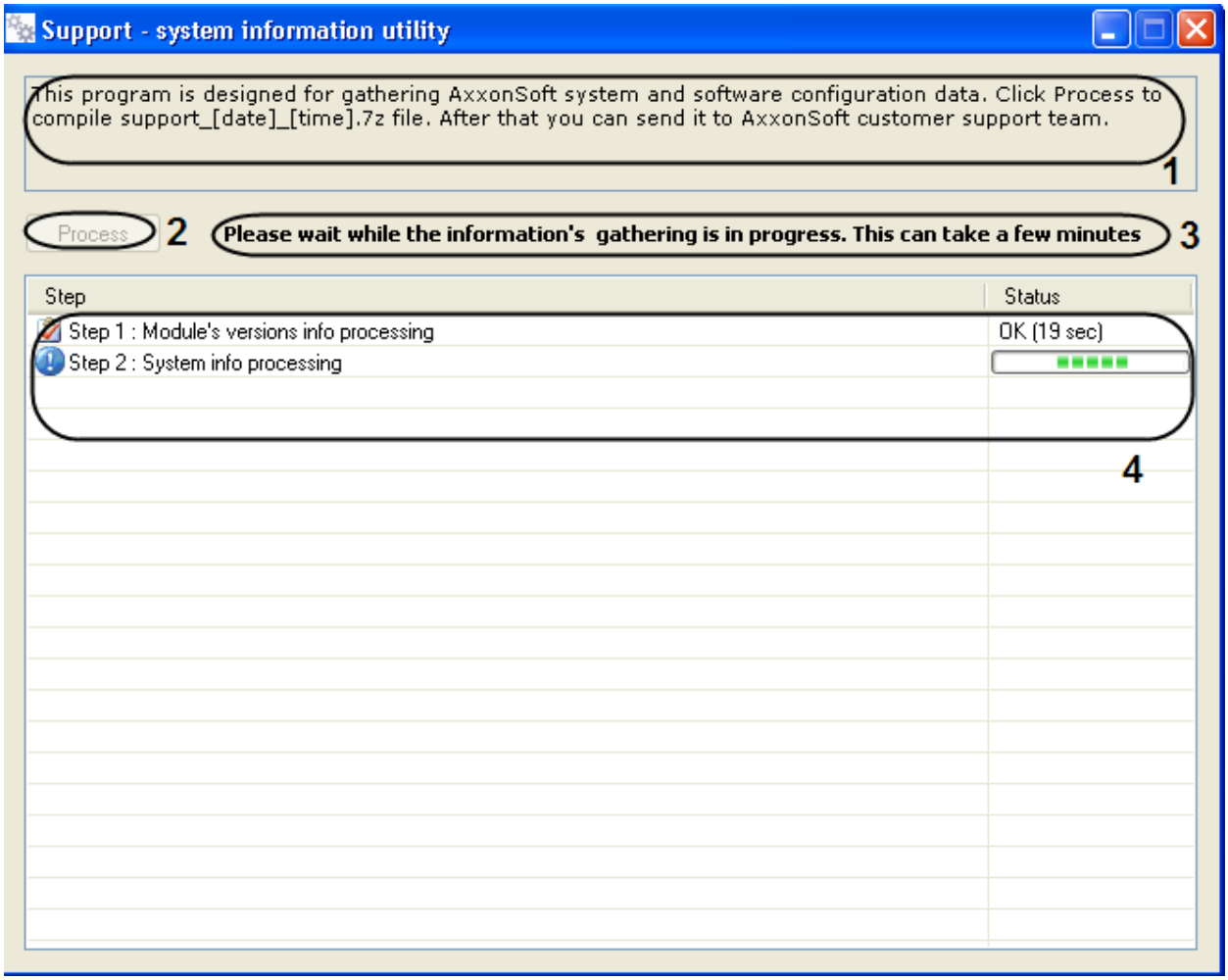


Figure 12.4—2. The Support dialog box

To close the Support.exe utility, click the Close button ( ).

12.4.4 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.

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 12.4—3).

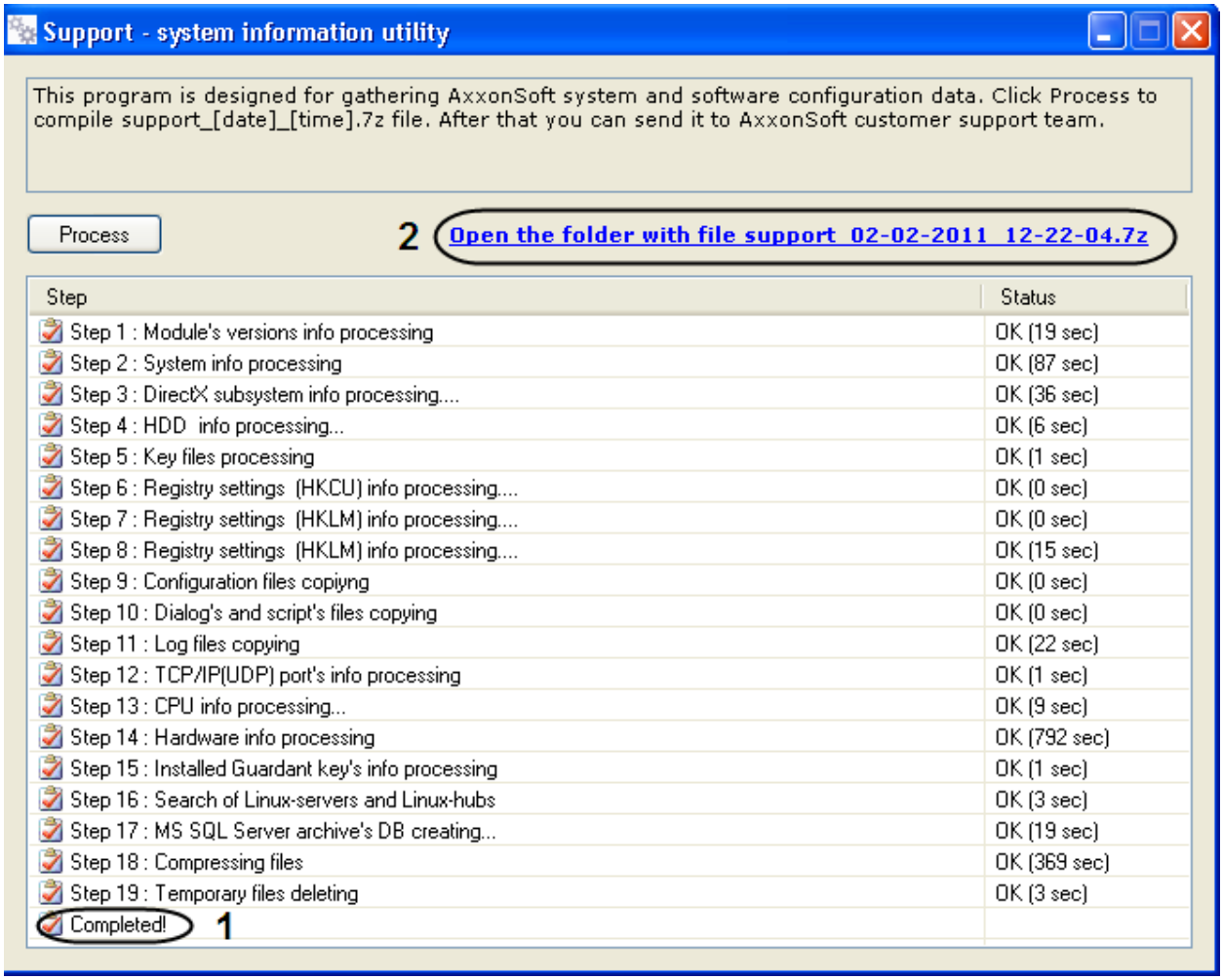


Figure 12.4—3. Completion of data collection

3. Follow the Open Folder with Support.7z File link to view the archive (Figure 12.4—4).

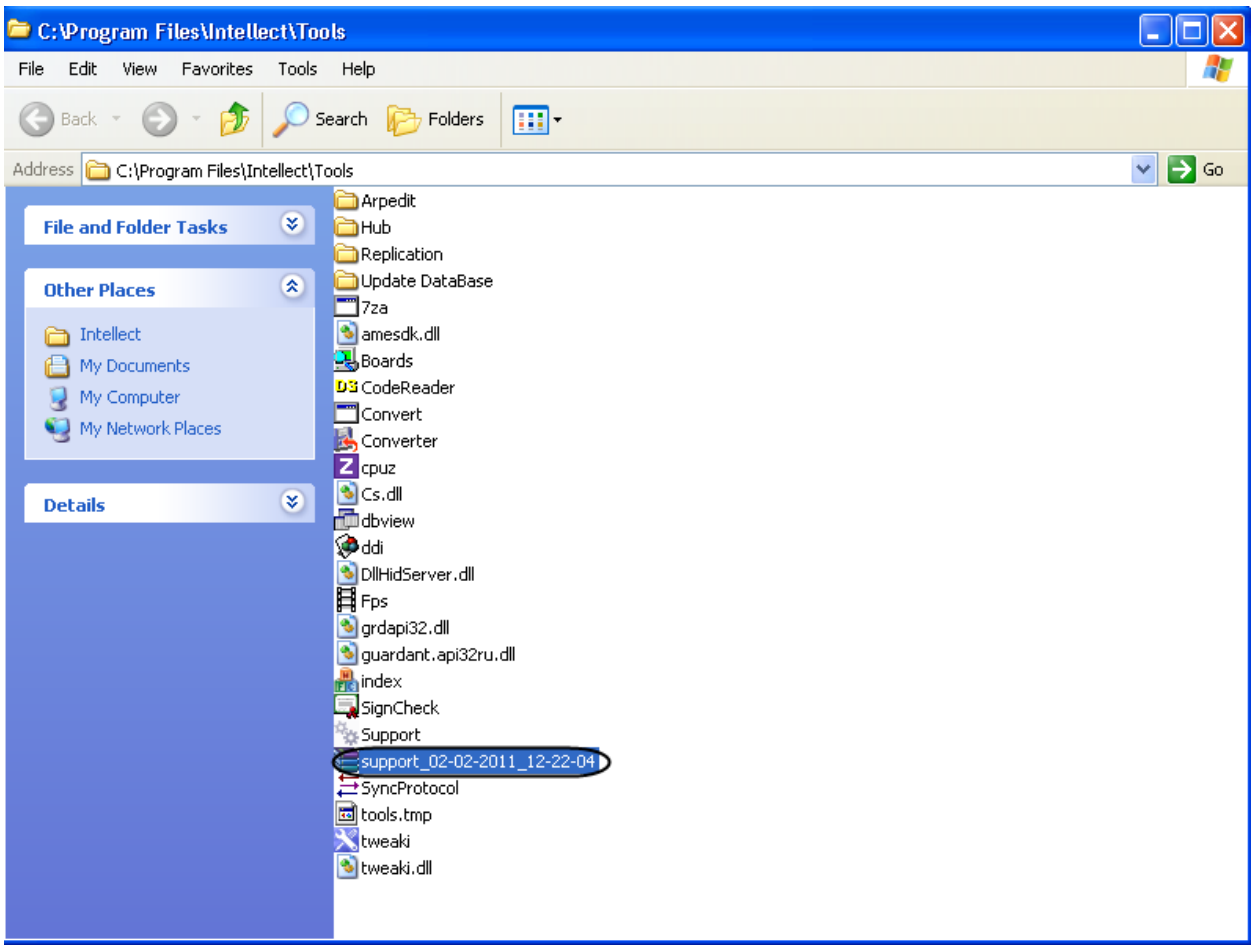


Figure 12.4—4. Newly generated support.7z archive

12.5 The Fps.exe utility for productivity estimation

12.5.1 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.

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.

12.5.2 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.

   The fps.exe utility is available from the Start menu with the following installation types of the Intellect PC: Server, Remote administrator workstation, Remote monitoring workstation.

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 12.5—1).

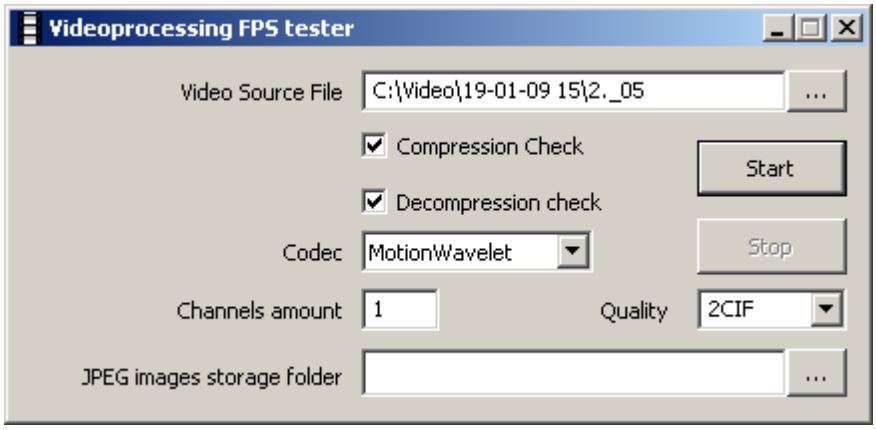


Figure 12.5—1. Dialog window of fps.exe.utility

To close fps.exe utility click « » in the right upper corner of the utility's dialog window (Figure 12.5—1).

12.5.3 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 12.5—2,1).

Note. To emulation the pattern set of framen, the field Video Source File is not entered.

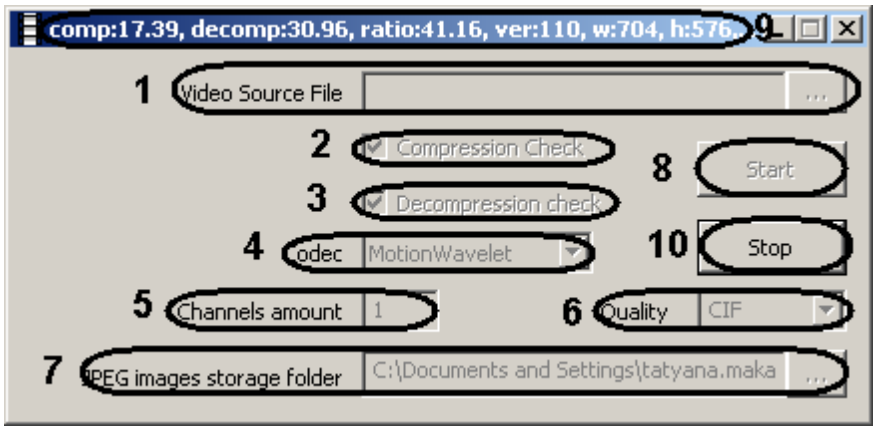


Figure 12.5—2. Video processing FPS tester

3. Activate Compression check checkbox to check how many fps the given computer can compress (Figure 12.5—2, 2).
4. Activate Decompression check checkbox to check how many fps the given computer can decompress(Figure 12.5—2, 3).
5. Select thr requiret compressor version from the dropdown list Codec (Figure 12.5—2, 4).
6. Enter the required number of emulated cameras in the field Channels amount (Figure 12.5—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 12.5—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 12.5—2, 7).
9. To start video processing tester click Start button (Figure 12.5—2, 8).
10. As the result parameters of video processing productivity will be displayed in the title bar of the utility window (Table 12.5-1, Figure 12.5—2, 9).

Table 12.5-1 Parameters of video processing productivity

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 12.5—3).

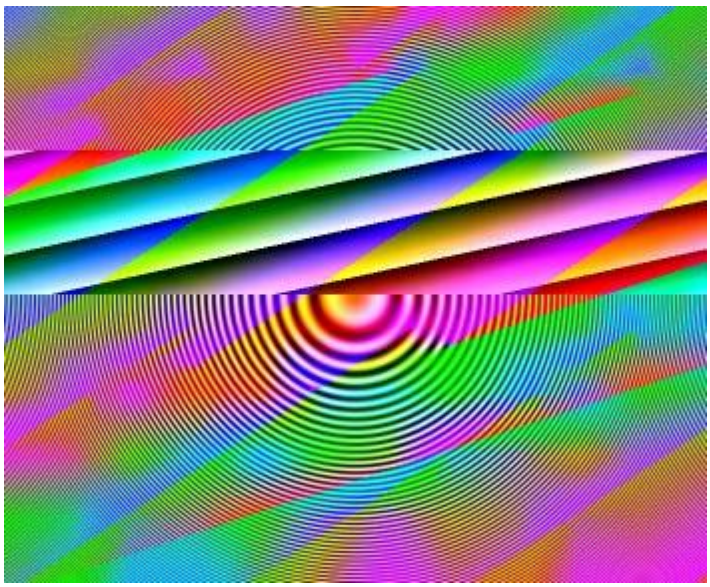


Figure 12.5—3. Example of emulated frame

12. To stop the testing process, click the Stop button (Figure 12.5—3, 10).

Testing productivity of video processing is completed.

12.6 The SignCheck.exe utility for checking the authenticity of exported frames and video recordings

12.6.1 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.

12.6.2 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 12.6—1).

   The SignCheck.exe utility is available from the Start menu with the following installation types of the Intellect PC: Server, Remote administrator workstation, Remote monitoring workstation.

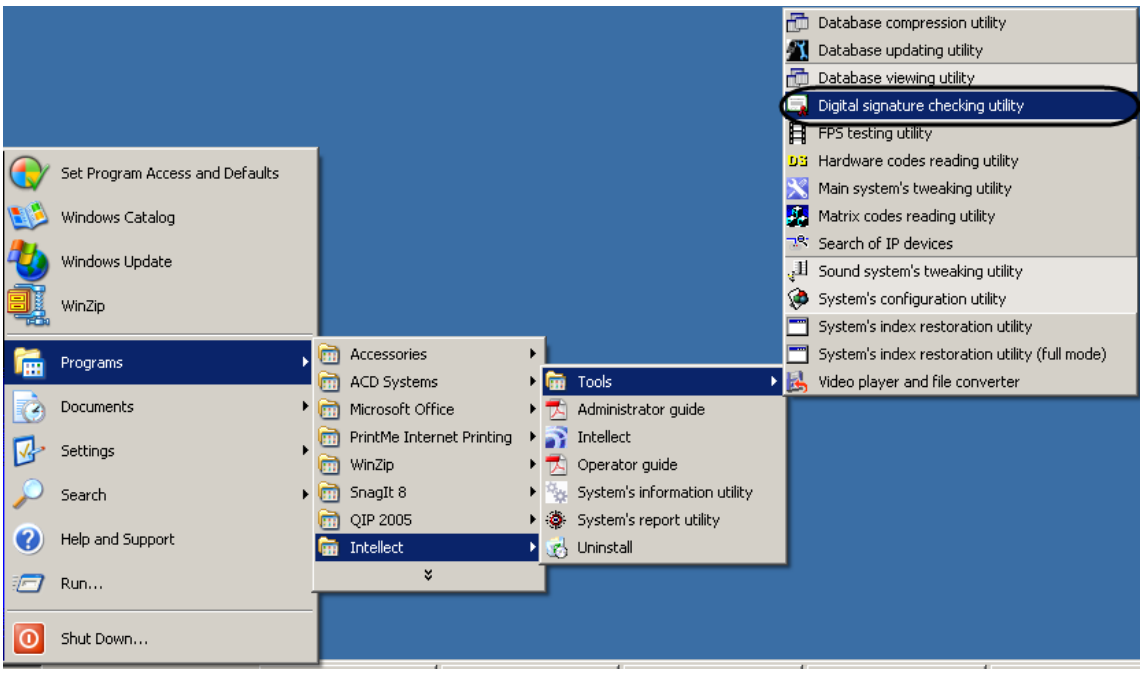


Figure 12.6—1. Starting the utility from the Windows taskbar

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 12.6—2).

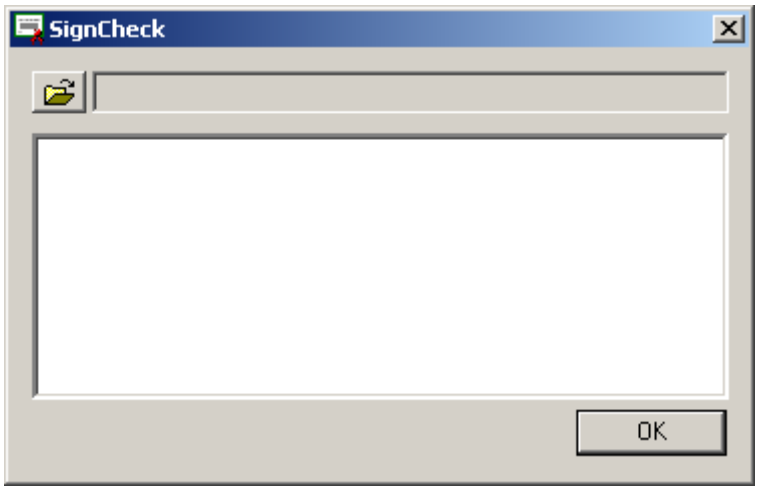


Figure 12.6—2. The SignCheck dialog box

To close the SignCheck.exe utility, click the Close button ( ).

12.6.3 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 12.6—3).

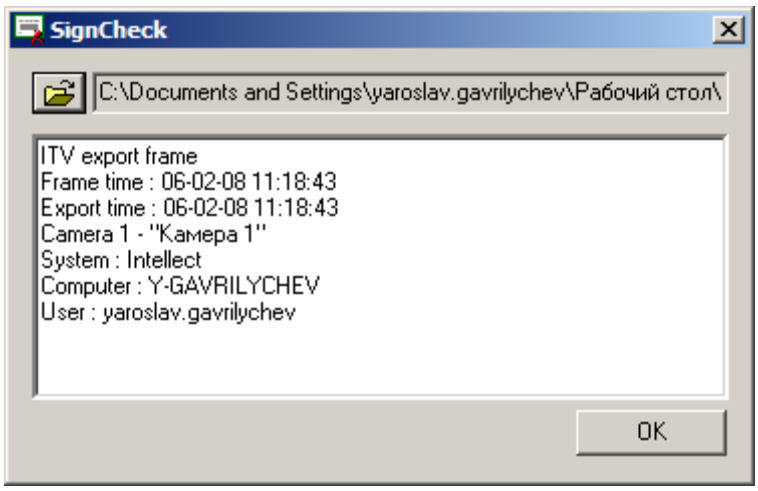


Figure 12.6—3. Information about the selected frame

The following information is displayed:

1. AxxonSoft 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.

12.7 The Convert.exe utility for correcting modification dates of video archives

12.7.1 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.

12.7.2 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 is available from the Start menu with the following installation types of the Intellect PC: Server, Remote administrator workstation.

The Convert.exe utility dialog box will open (Figure 12.7—1).

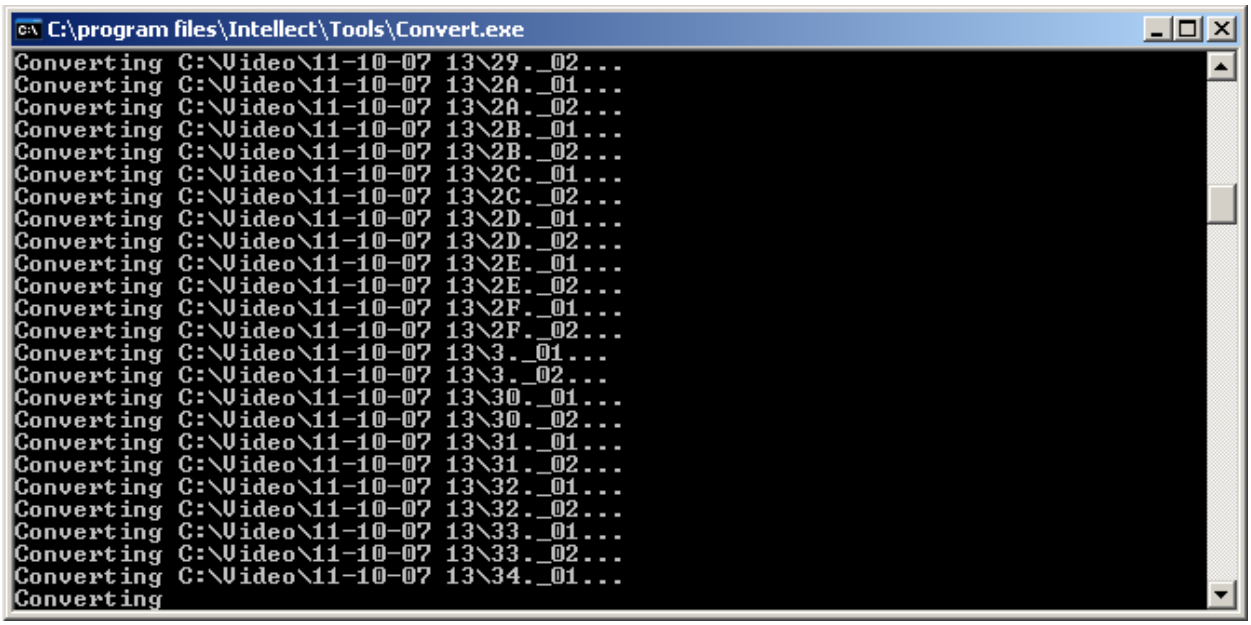


Figure 12.7—1. The Convert.exe dialog box

To close the Convert.exe utility, click the Close button ( ).

12.7.3 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.

12.8 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).

The ddi.exe utility is started from menu «Start» ⇒ «Programms» ⇒ «Intellect» ⇒ «Utilities» ⇒ «Configuration settings».

The ddi.exe utility is also available from the Start menu with the following installation types of the Intellect PC: Server, Remote administrator workstation, Remote monitoring workstation.

The utility can also be started from the Tools folder of the Intellect program folder. Select Language in the File-language 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 12.8—1.

12.8.1 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 12.8—1).

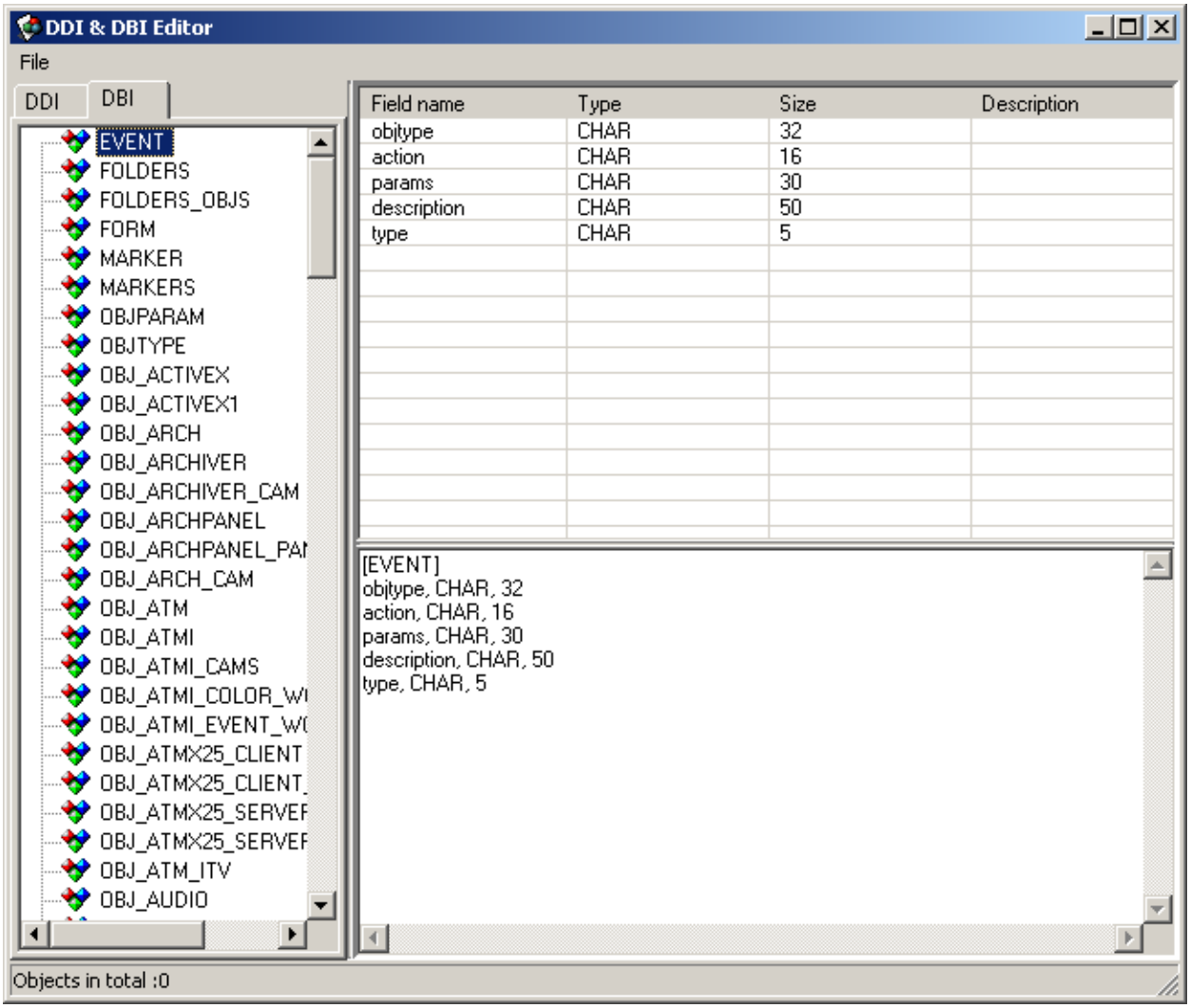


Figure 12.8—1. The Ddi.exe interface box

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.

12.8.2 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.

12.8.2.1 *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.

12.8.2.2 *Names tab*

This tab contains three fields (Figure 12.8—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".

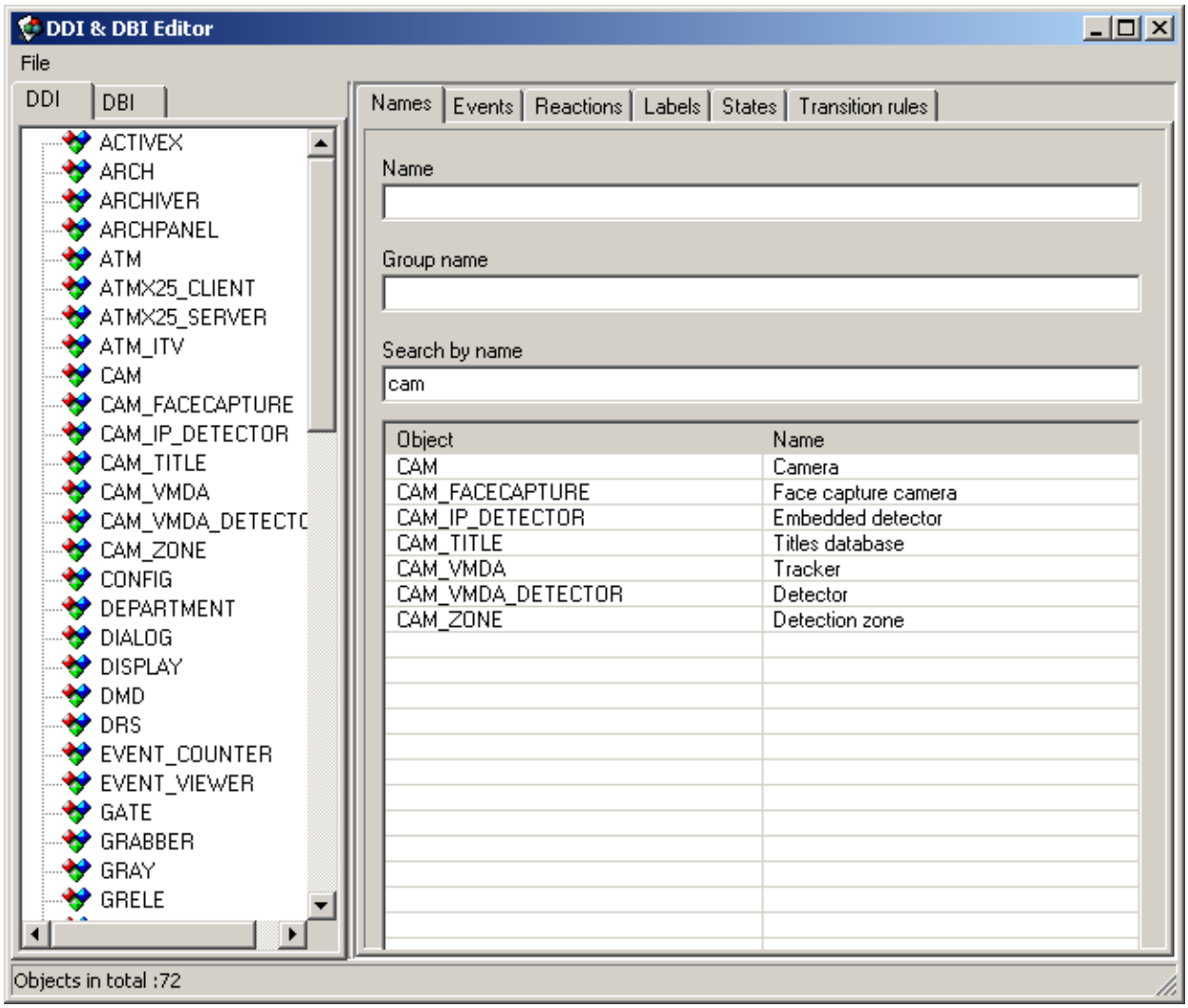


Figure 12.8—2. Names tab

12.8.2.3 *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 processing – 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. Don't send to network – local event only. If this property is set, other computers on the net will not be notified when the event occurs.
6. No logging – do not log this event. By default, all events are logged.
7. Windows system log – set the checkbox if it's necessary to save the records about events in Windows system log.

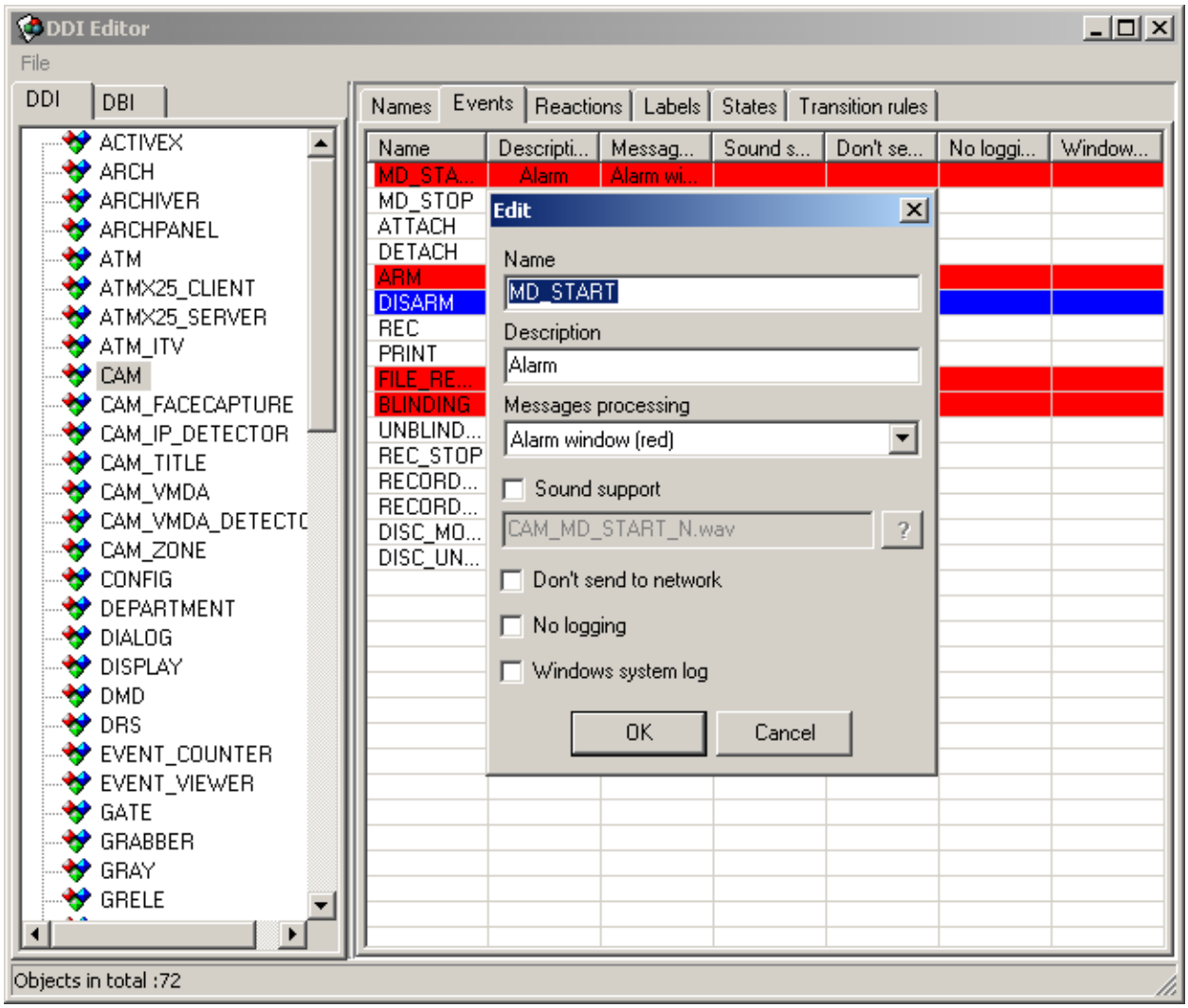


Figure 12.8—3. Events tab

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.

12.8.2.4 *Reactions 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.

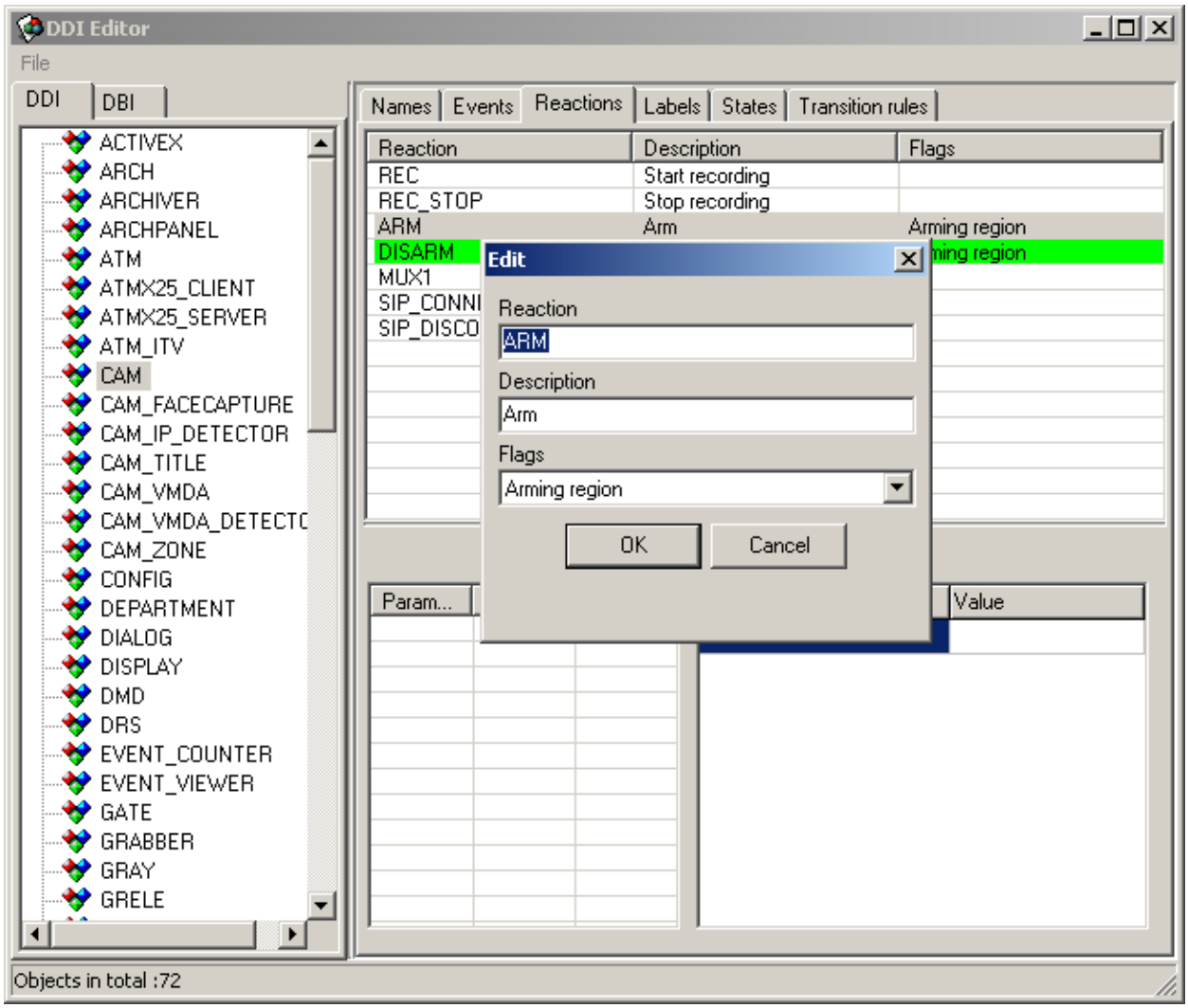


Figure 12.8—4. Reactions tab

12.8.2.5 *Labels tab*

This tab lists the graphical symbols (icons) that represent the selected object on the map (Figure 12.8—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.

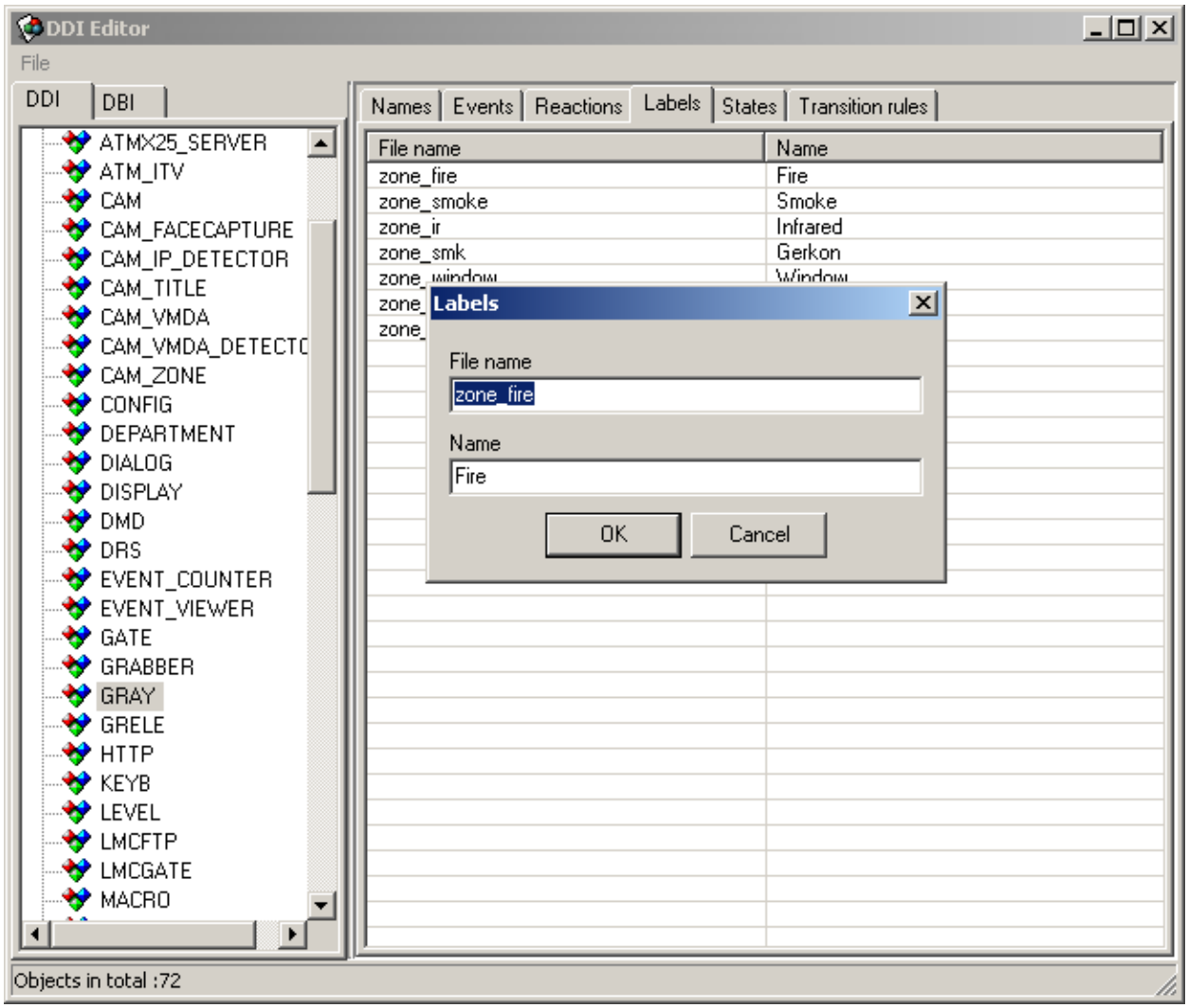


Figure 12.8—5. Markers tab

12.8.2.6 *States tab*

This table lists all states of the selected object (Figure 12.8—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.

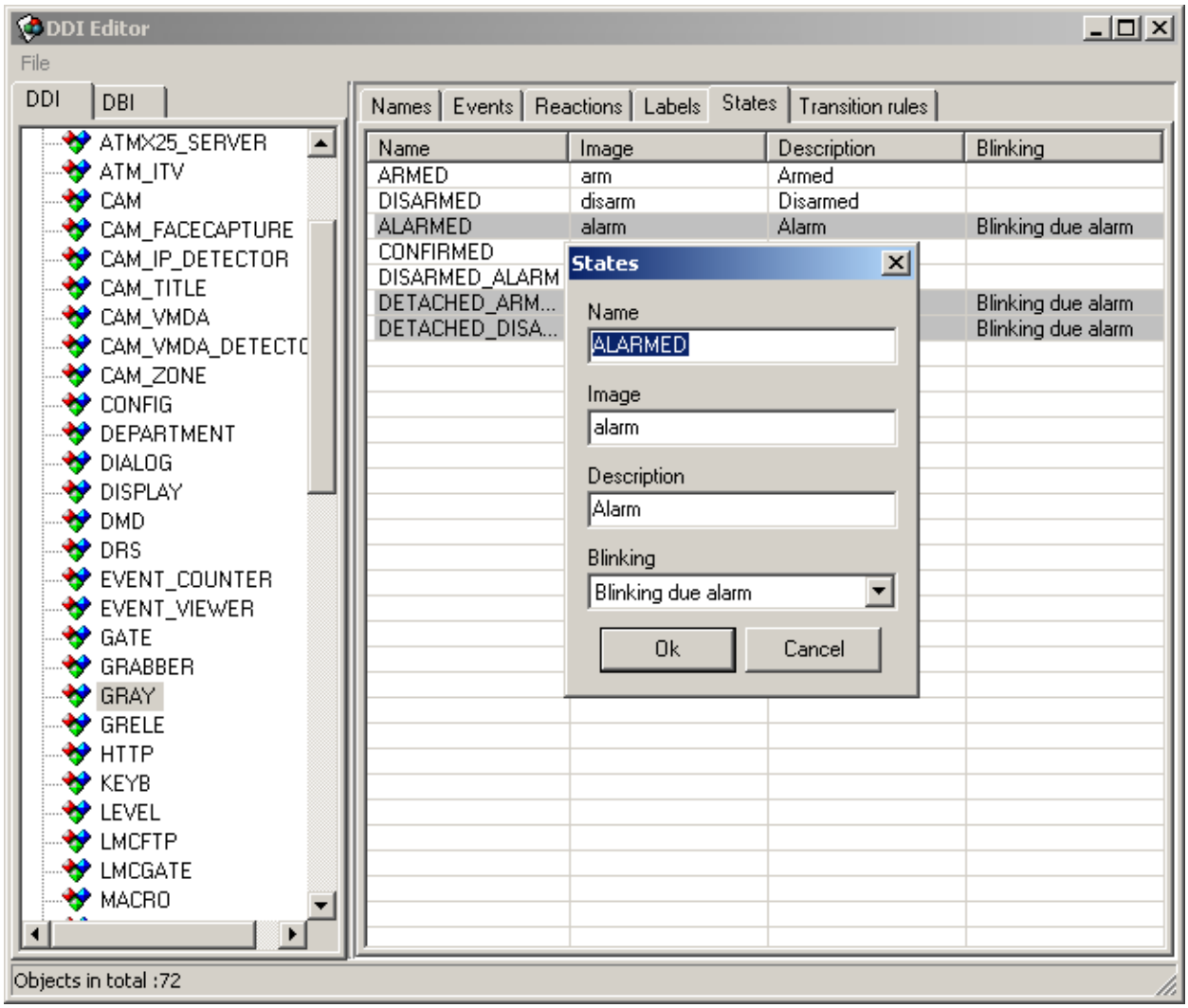


Figure 12.8—6. States tab

12.8.2.7 *Transition 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 12.8—7). Each rule has the following properties:

1. Event – identifier of the event triggering the transition.
2. Transitiom from condition – 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. Transitiom to condition – identifier of the resultant state of the object.

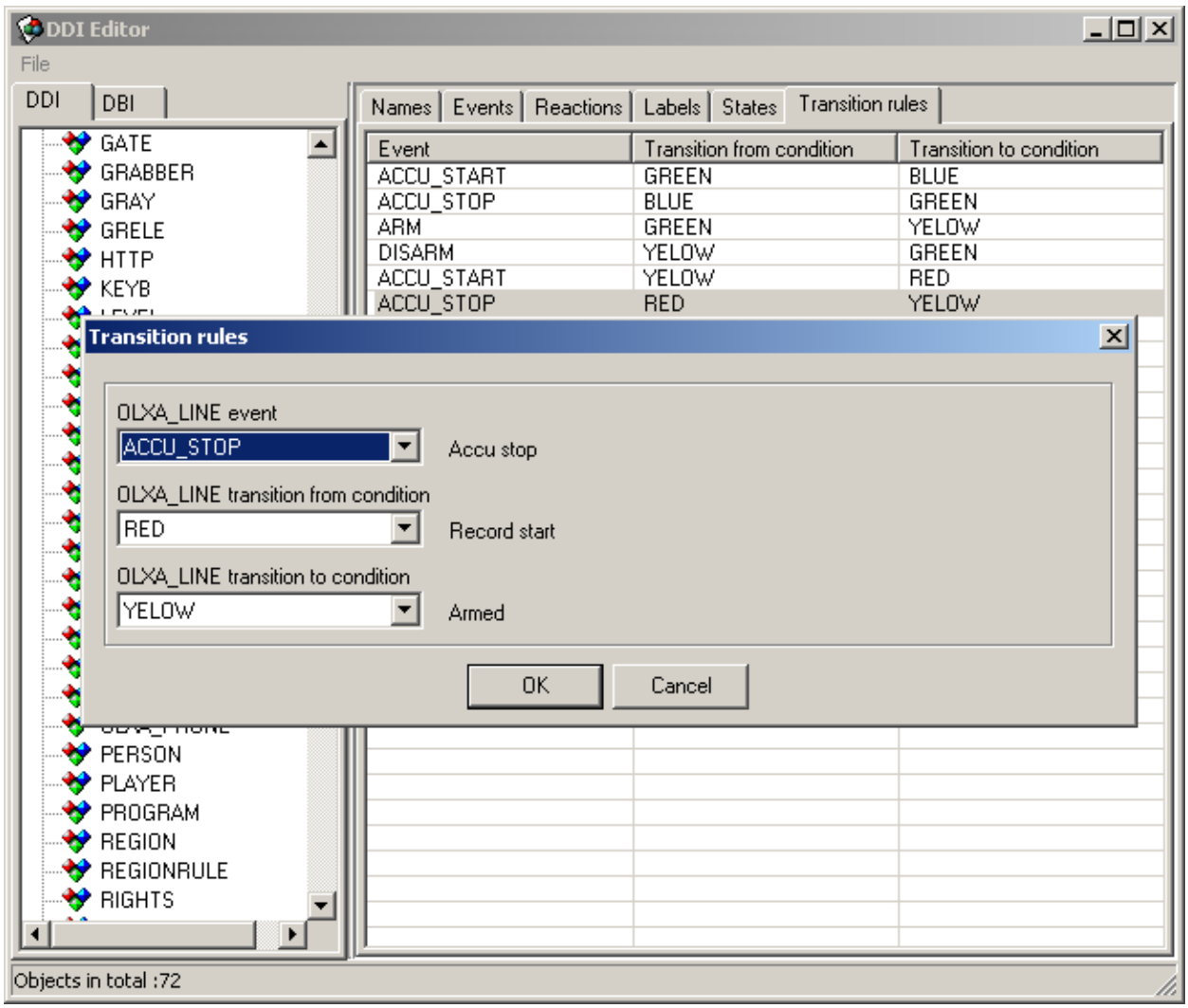


Figure 12.8—7. State Rules tab

12.9 The Arpedit.exe utility for creating user dialog windows

12.9.1 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.

12.9.2 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.

   The Arpedit.exe utility is available from the Start menu with the following installation types of the Intellect PC: Server, Remote administrator workstation, Remote monitoring workstation.

2. In Windows, click Start, then, Programs, then Intellect, then Tools, then Creation of Dialog Windows (Figure 12.9—1).

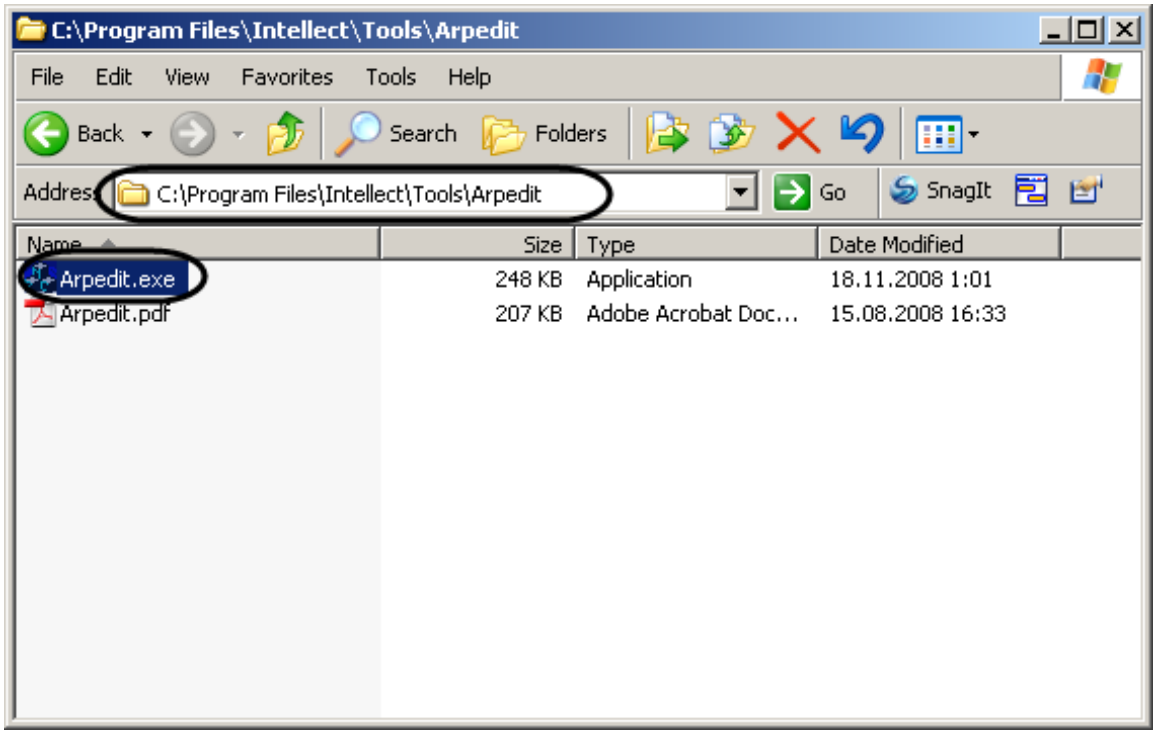


Figure 12.9—1. Starting the utility using the Start button

To close the Arpedit.exe utility, either click the button, or select Exit in the File menu.

12.9.3 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.

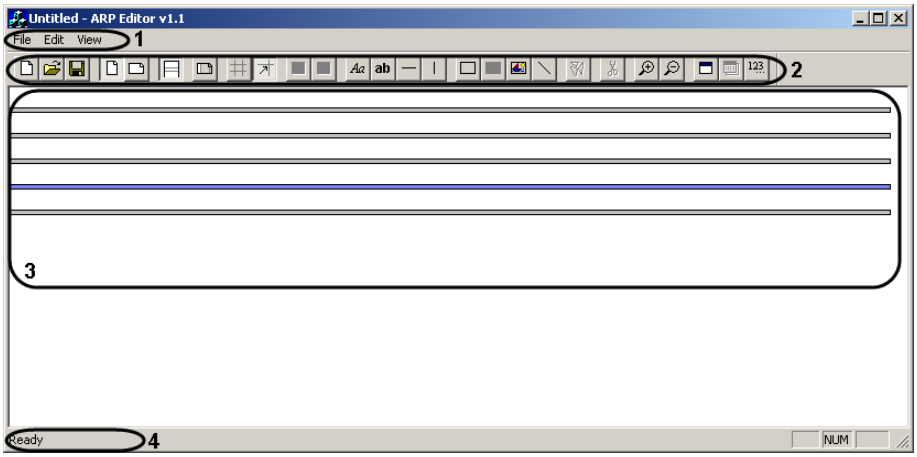


Figure 12.9—2. Interface elements of the Arpedit.exe window

12.9.3.1 *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 12.9—3).

1. File.
2. Edit.
3. View.

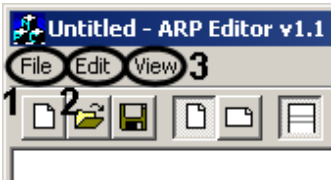


Figure 12.9—3. Main menu bar

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 12.9—4, 1). This means that the status line will be displayed in the dialog window (Figure 12.9—4, 2).

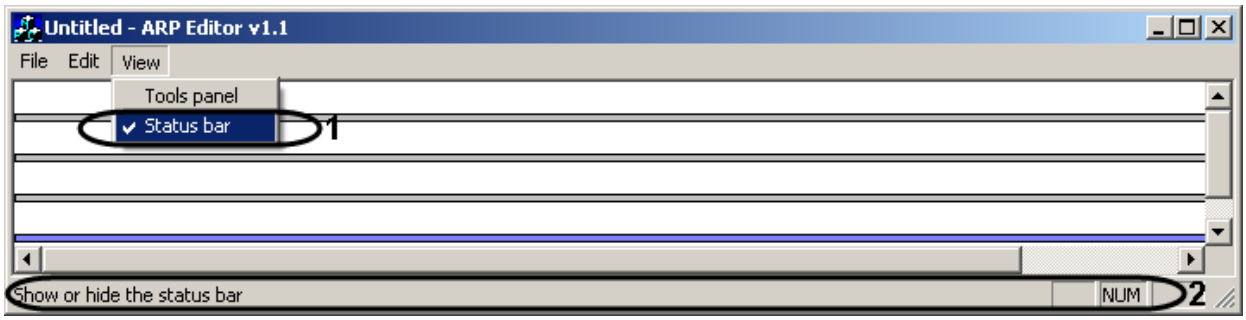


Figure 12.9—4. Showing the status bar

12.9.3.2 *Toolbar*

The Arpedit.exe dialog window has a toolbar. The toolbar is shown in Figure 12.9—5.

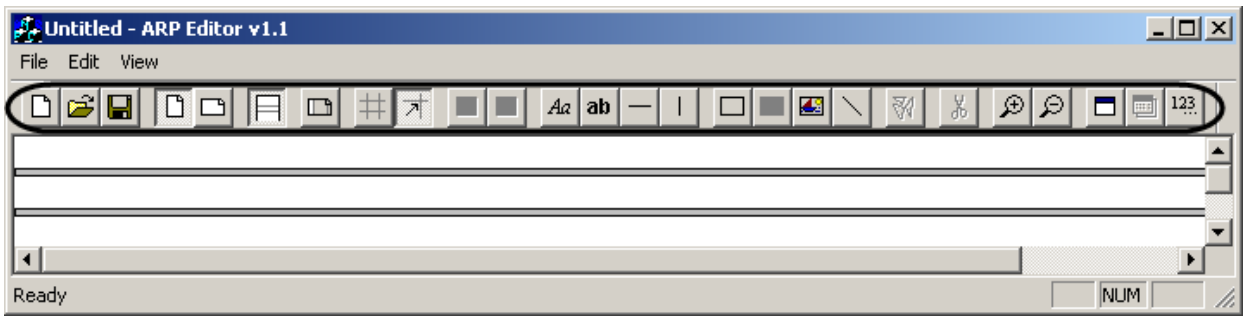


Figure 12.9—5. The toolbar

The buttons in the toolbar are described in Table 12.9-1.

Table 12.9-1

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.

12.9.3.3 *Working area*

The working area is used for creating graphical objects in a dialog box (Figure 12.9—6).

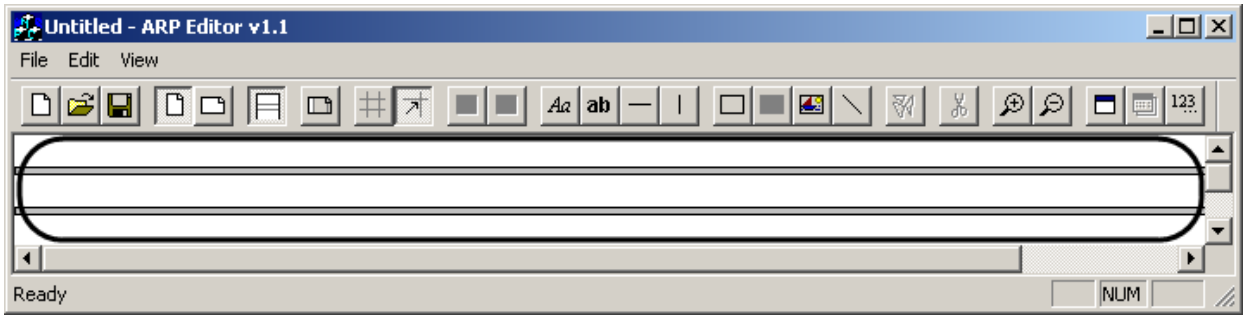


Figure 12.9—6. Working area

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 12.9—7, 1) inactive, section 2 – active (Figure 12.9—7, 2).

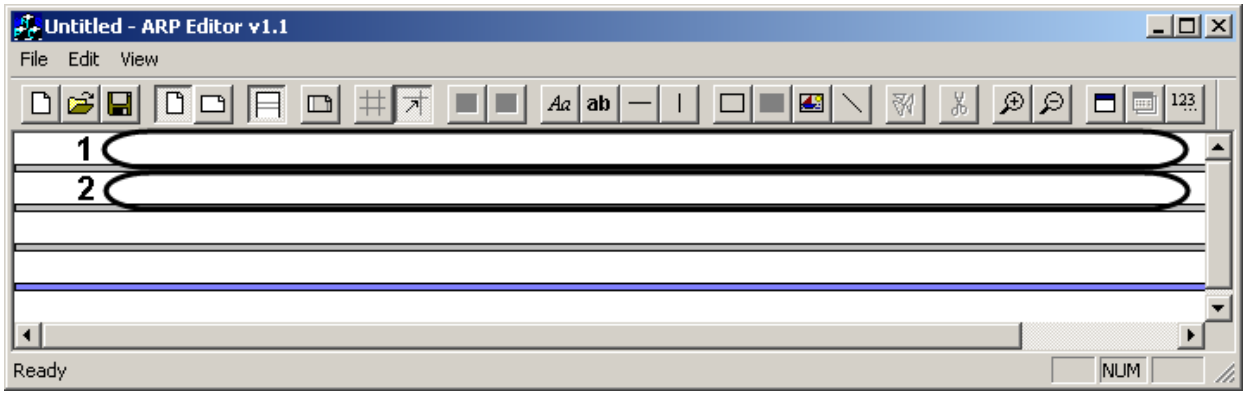


Figure 12.9—7. Sections in the working area

12.9.3.4 *Status line*

The Status line informs the user about the purpose of the selected menu item, tool or object.

12.9.4 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.

12.9.4.1 *Creating a dialog box form*

To create a dialog box form, create the objects, place them on the working area and set their parameters.

12.9.4.2 *Creating objects*

To create an object, do the following:

1. Select an appropriate tool in the toolbar - frame, square, line, text (Figure 12.9—8).

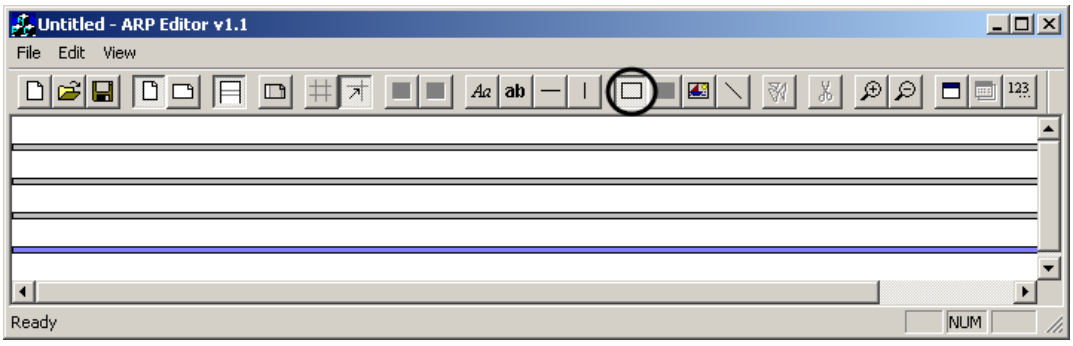


Figure 12.9—8. Selecting a tool

2. Point anywhere in the working area and right-click the mouse (Figure 12.9—9).

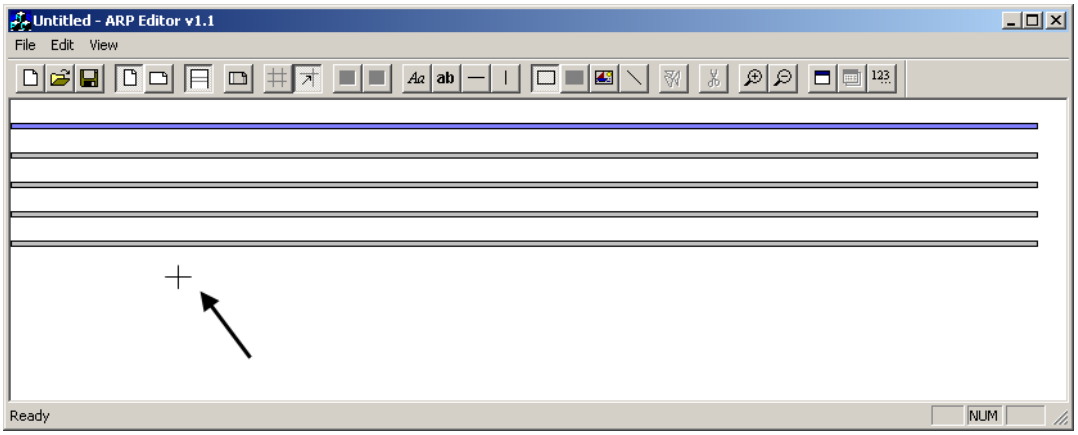


Figure 12.9—9 Pointing at a required position

The selected point will become the top left corner of the object (Figure 12.9—10).

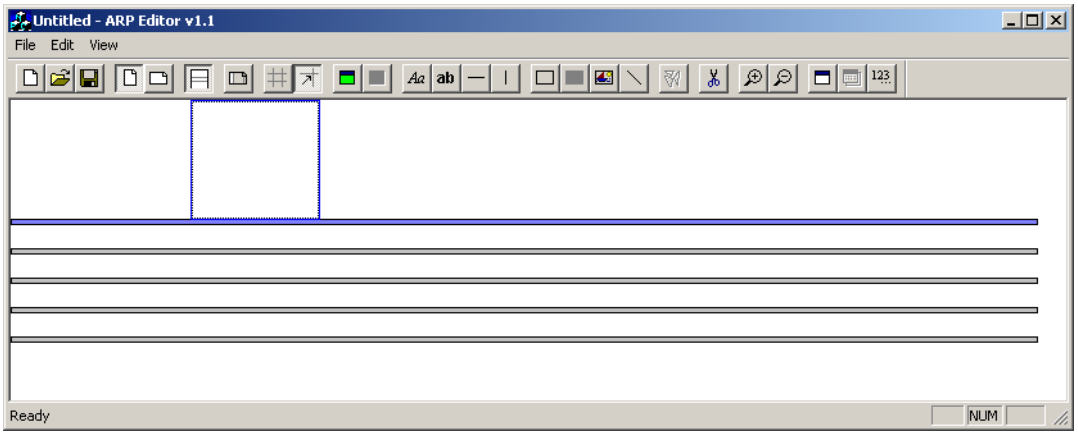


Figure 12.9—10. Frame object is created

12.9.4.3 *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 12.9—11).

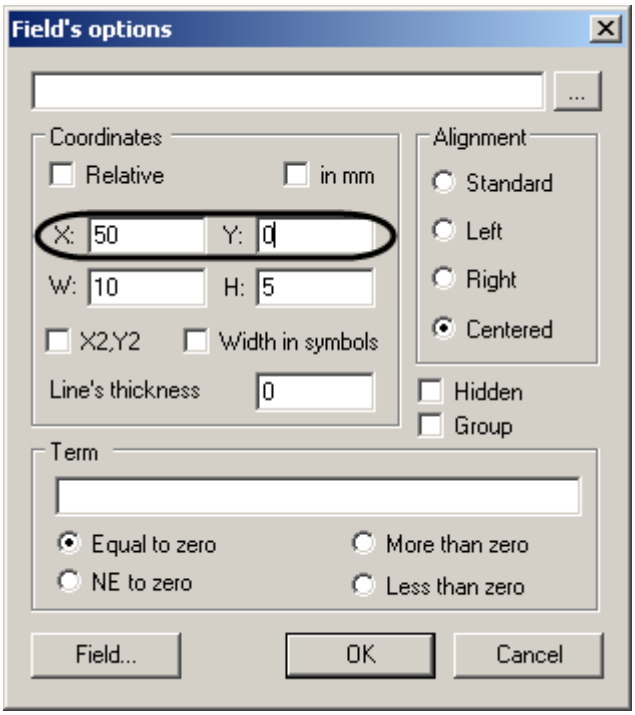


Figure 12.9—11. Setting object coordinates

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 12.9—12).

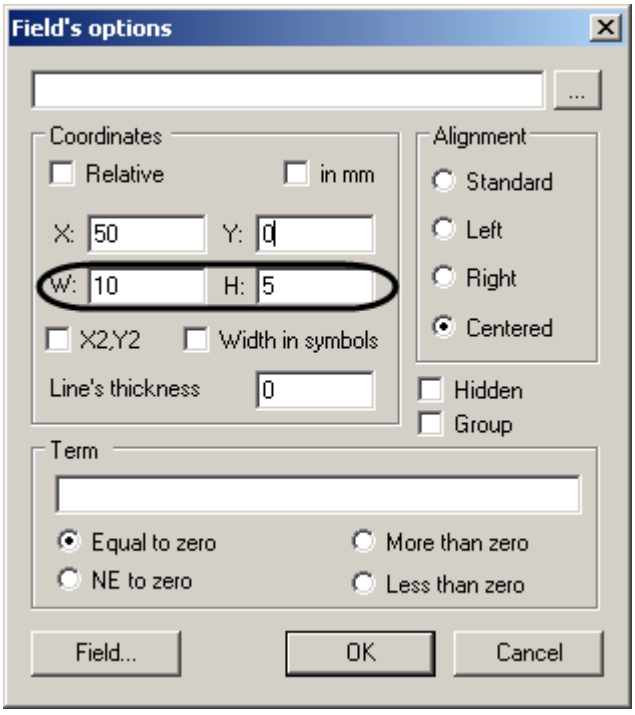


Figure 12.9—12. Setting object size

12.9.4.4 *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 12.9—13, 1).

3. Left-click the blue frame. Select Properties in the drop-down menu (Figure 12.9—13, 2).

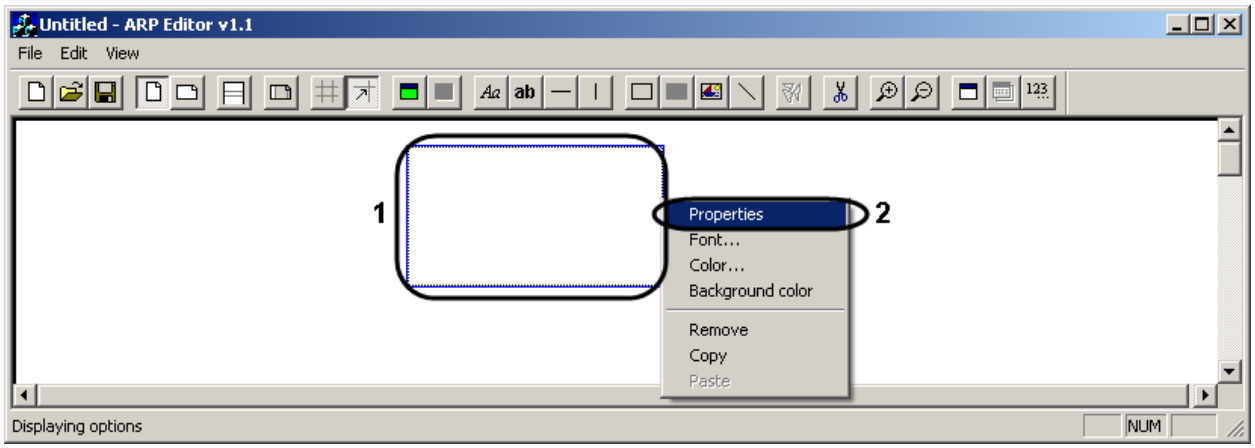


Figure 12.9—13. Opening the Field Parameters dialog box from the object menu

Method 2

1. Right-click the object to select it. The field frame will become blue (Figure 12.9—14, 1).

2. Select the Field Parameters tool (Figure 12.9—14, 2).

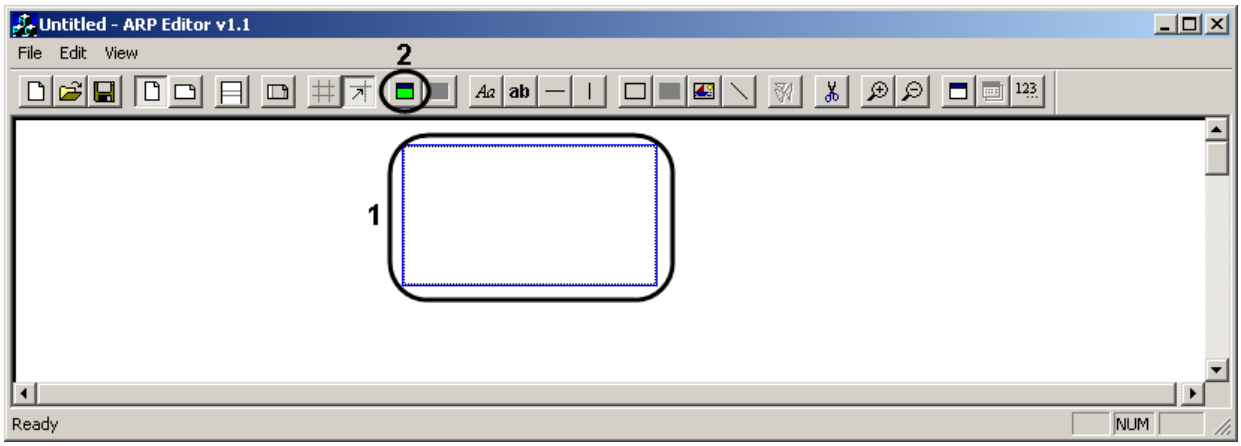


Figure 12.9—14. Opening the Field Parameters dialog box from the toolbar

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.

12.9.5 An example of creating a dialog window for reading the number of motions registered by a camera

12.9.5.1 *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 12.9—15).

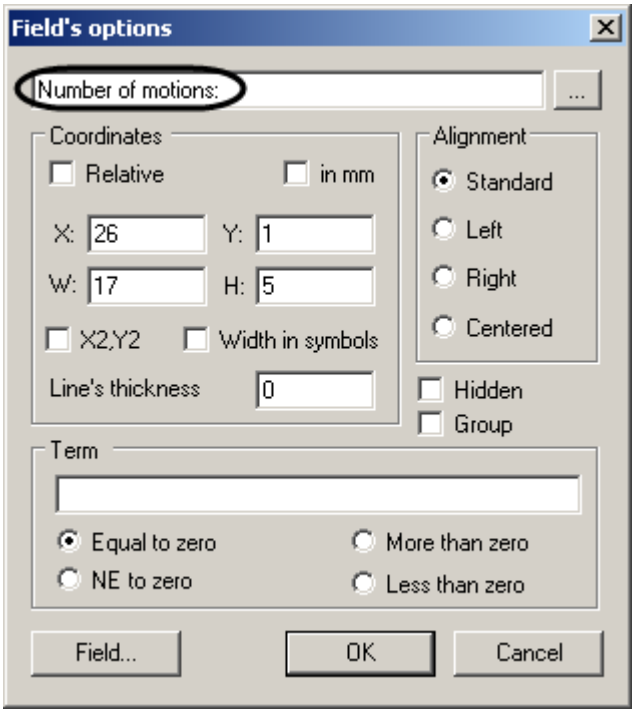


Figure 12.9—15. The Text field setup

1. Click OK.

2. Create a variable object using the Field tool, under the Number of Motions object (Figure 12.9—16).

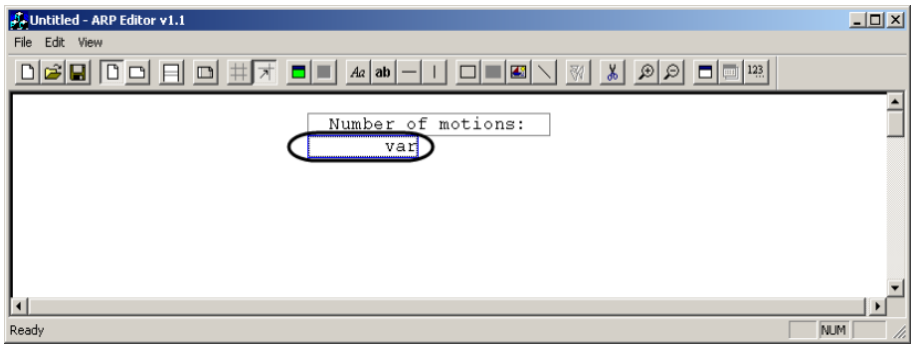


Figure 12.9—16. Creating a variable object

3. Enter “param” in the Field element of the Field Parameters dialog box, and check the Not Editable checkbox (Figure 12.9—17).

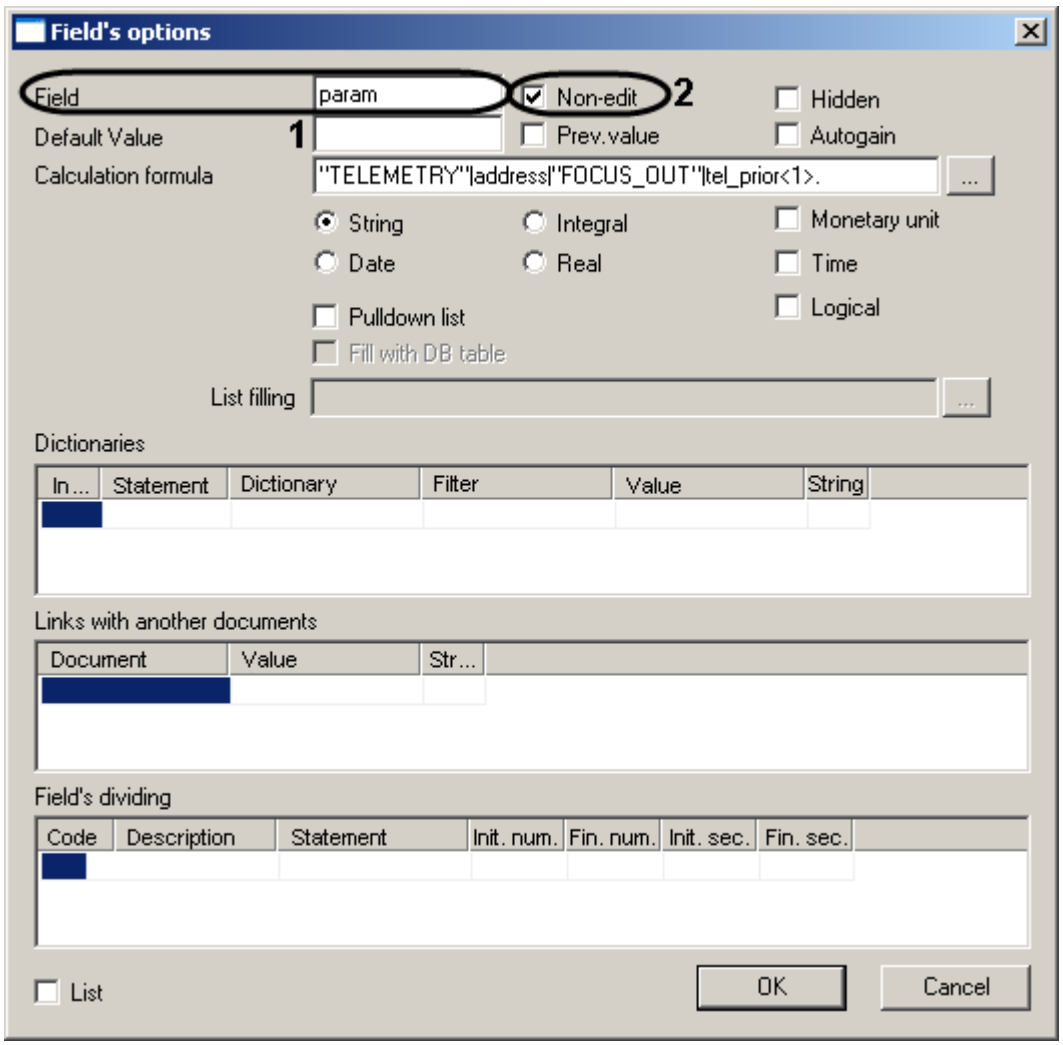


Figure 12.9—17. The Variable object setup

4. Click OK.

The completed dialog window is shown in Figure 12.9—18.

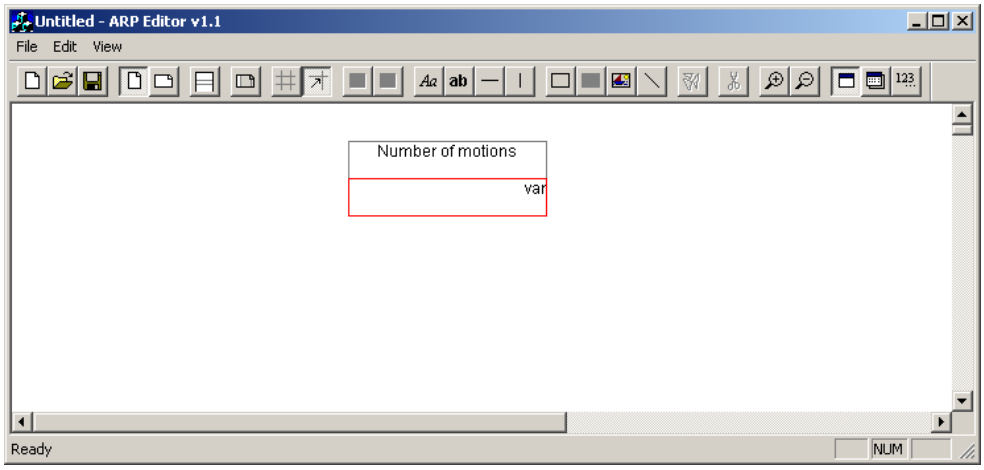


Figure 12.9—18. The created dialog box as seen in the editor

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).

12.9.5.2 *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 12.9—19).
3. Enter “motion” in the Number field.

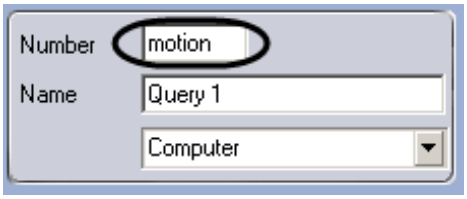


Figure 12.9—19. Creating an Operator Request Window object

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 12.9—20):

```
OnInit()

{param="0";}

OnEvent("CAM","1","MD_START")

{
DoReact("DIALOG","motion","CLOSE");param=str(atof(param)+1);DoReact("DIALOG","motion","RUN
","param<" + param + ">");}
```

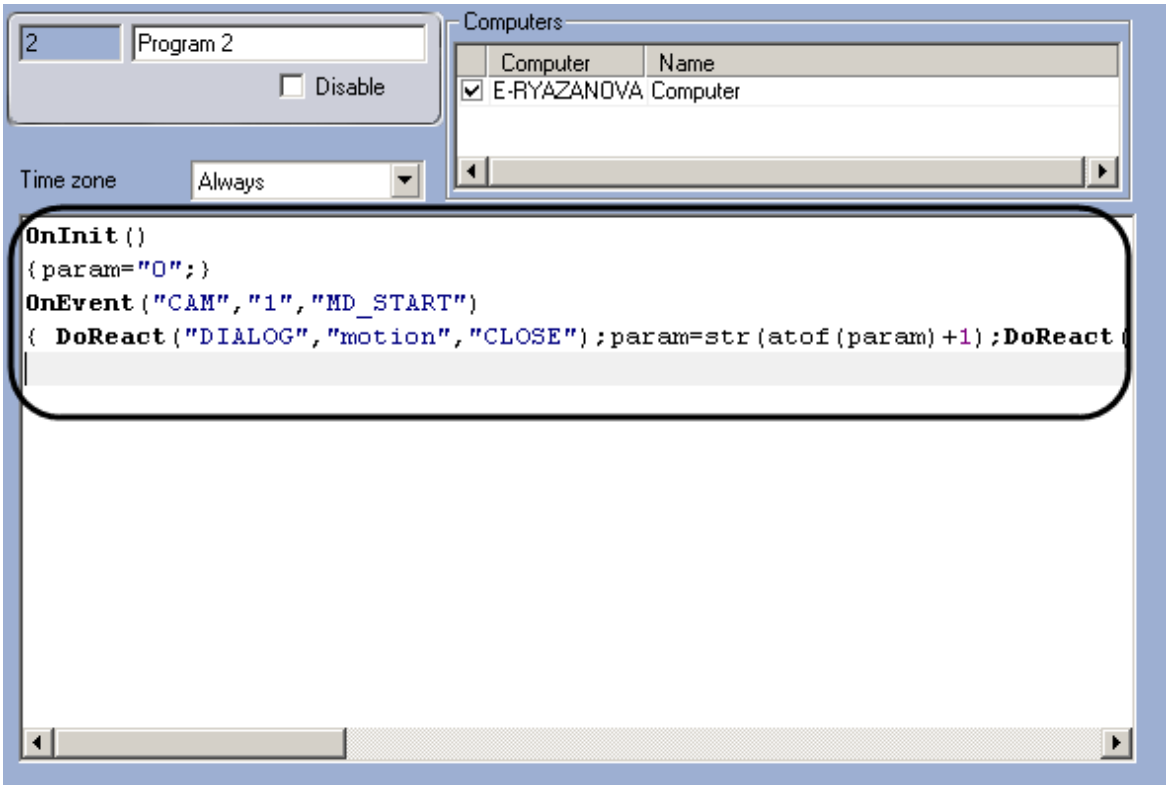


Figure 12.9—20. Creating a Program object

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 12.9—21).

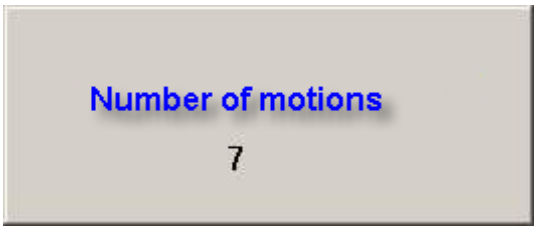


Figure 12.9—21. The motion-counting window

12.10 The HubSearch.exe utility for searching IP-devices

12.10.1 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.

12.10.2 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».

  The HubSearch.exe utility is available from the Start menu with the following installation types of the Intellect PC: Server, Remote administrator workstation, Remote monitoring workstation.

- 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 12.10—1).

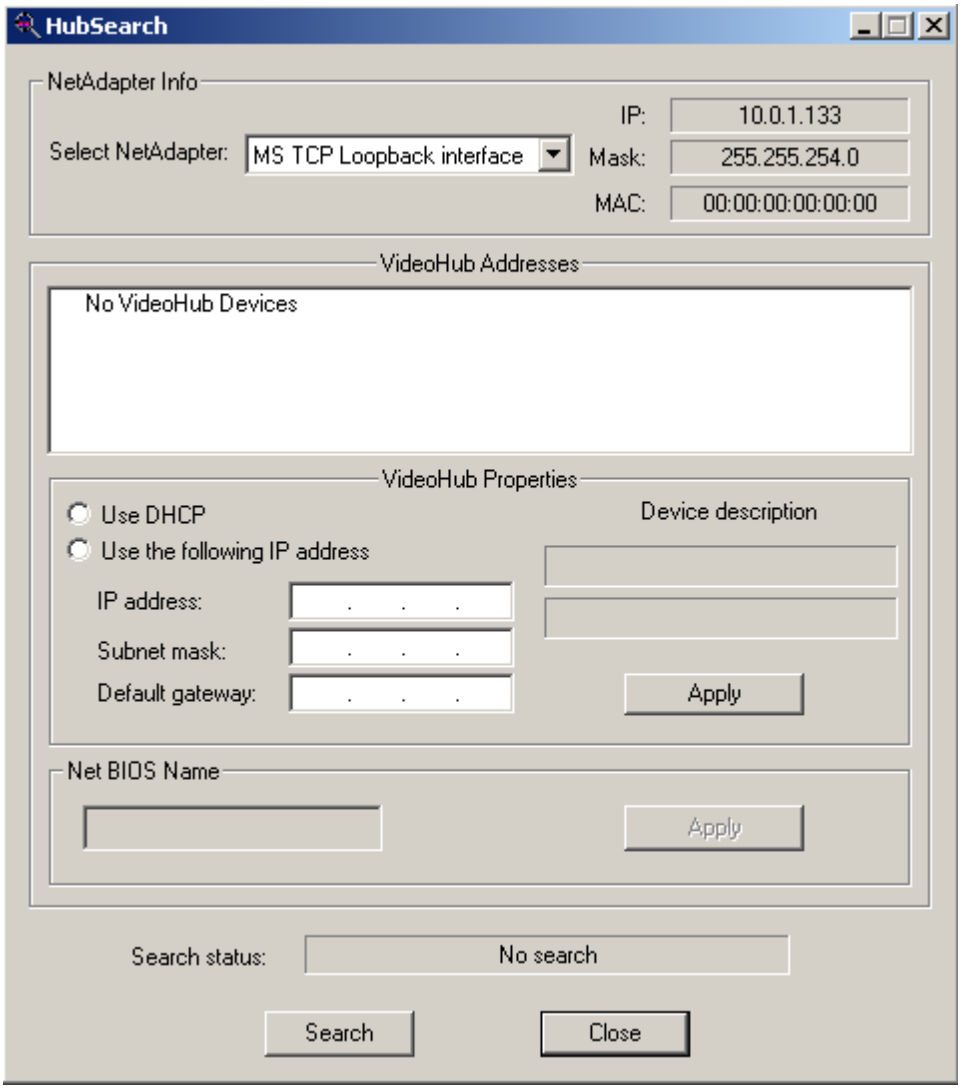


Figure 12.10—1 HubSearch.exe utility dialog window

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 12.10—2,1);
2. Press a combination of keys «Alt»+«F4» (Figure 12.10—2,2);
3. Click «Close» button at the bottom of dialog window (Figure 12.10—2,3).

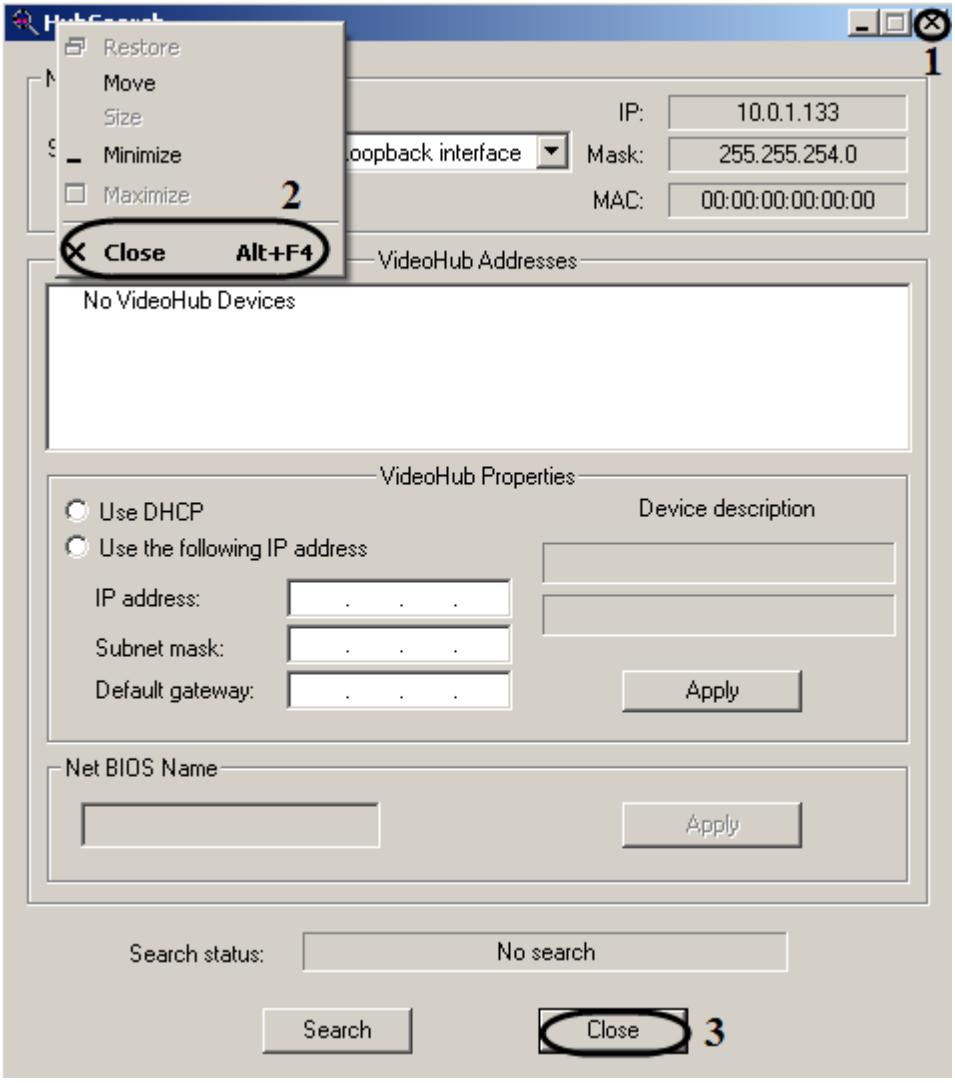


Figure 12.10—2 Closing the HubSearch.exe utility

12.10.3 Interface elements of HubSearch.exe utility window

User interface (dialog window) of HubSearch.exe utility is shown in Figure 12.10—3.

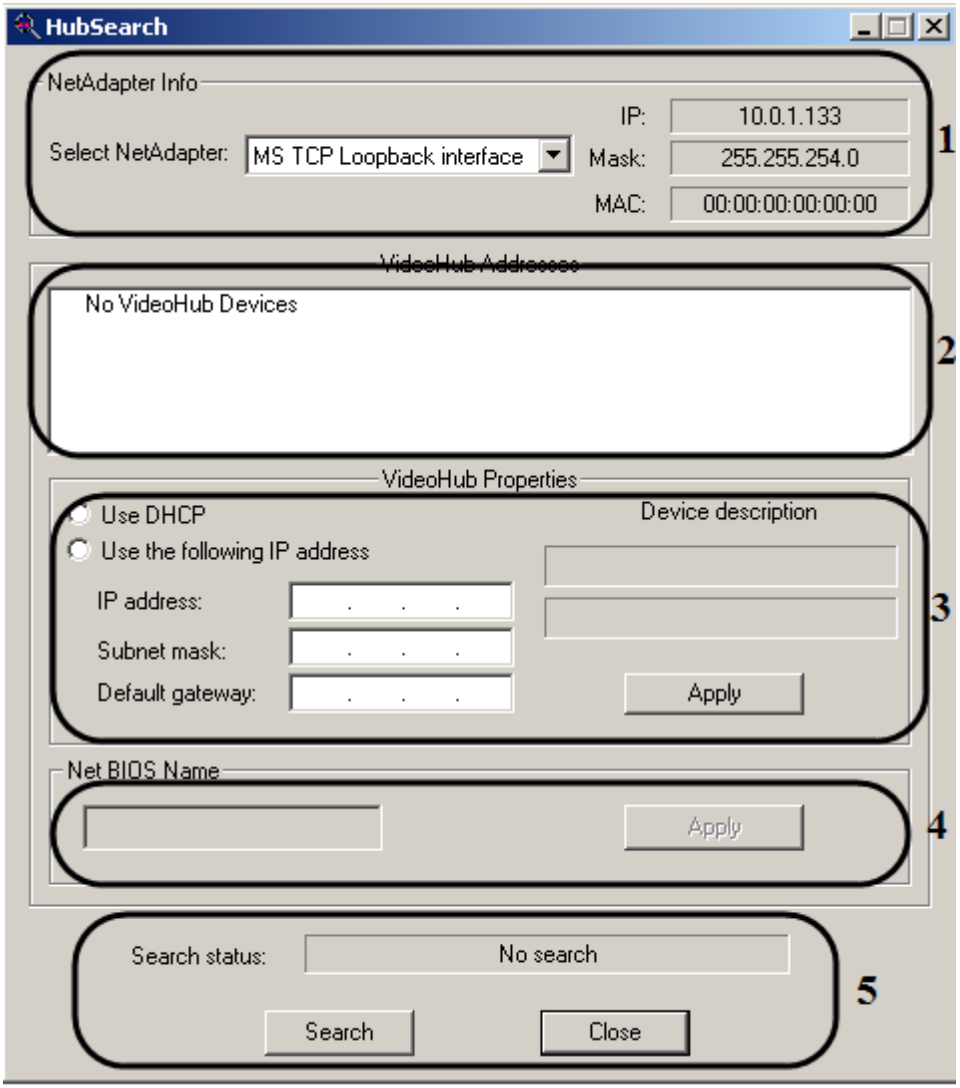


Figure 12.10—3 User interface of HubSearch.exe utility window

Table 12.10-1 shows the content of HubSearch.exe utility user interface.

Table 12.10-1

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

Group №	group	Element's name	description
		Field «IP address»	Set IP address of the device
		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

12.10.4 Using the HubSearch utility

Using the HubSearch.exe utility is done in the following way:

1. Run the HubSearch.exe utility.
2. To search for device click «Search» (Figure 12.10—4).

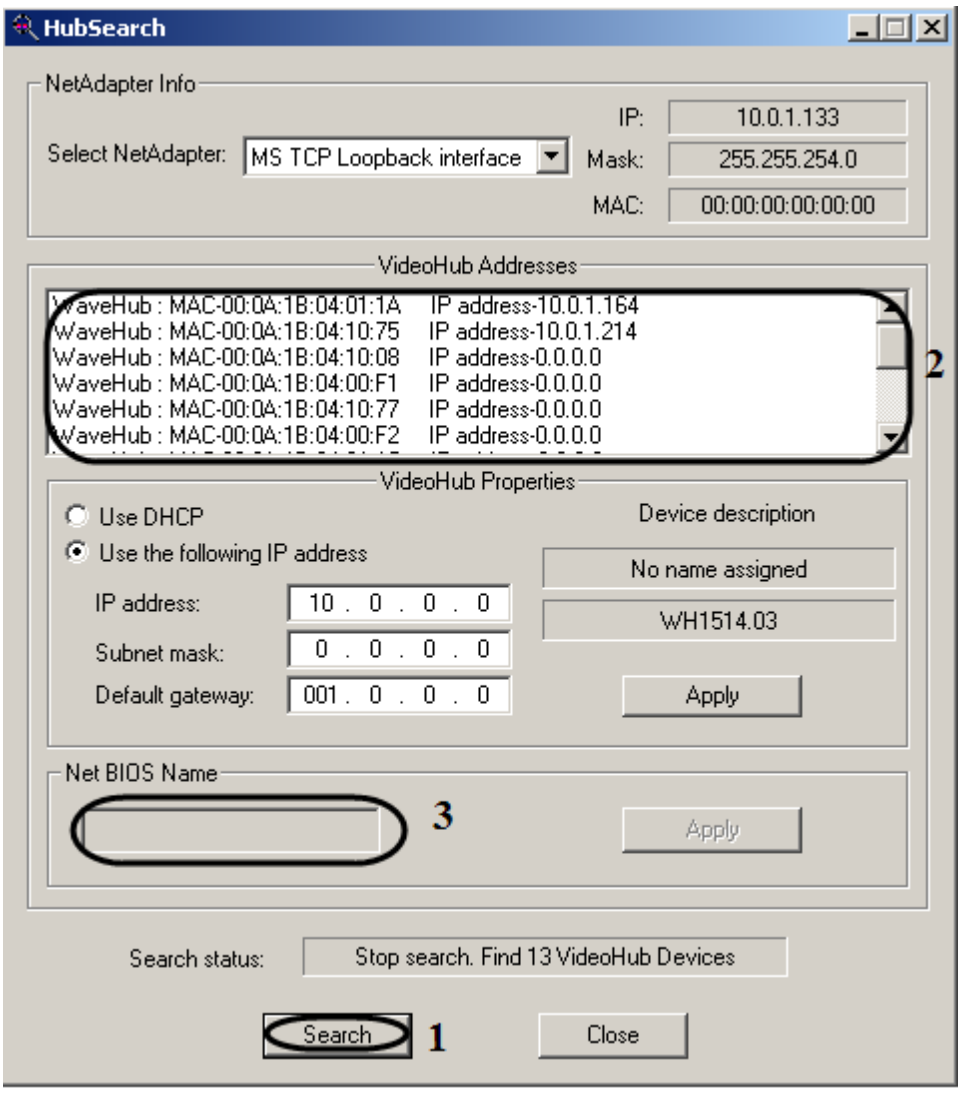


Figure 12.10—4 Using the HubSearch.exe utility

3. From the list «VideoHub Addresses» select the requires net device (Figure 12.10—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 12.10—4,3).
7. Click «Apply» button of «Net BIOS Name» group to save the changes(Figure 12.10—4,1).
8. Close the HubSearch.exe utility(see. section «Start and finishing the utility»).

Work with HubSearch.exe utility is completed.

12.11 The MatrixCodeReader.exe utility

12.11.1 The purpose of MatrixReader.exe utility

The MatrixCodeReader.exe utility is designed for getting dallas-codes of video capture cards' cryptochips on Matrix devices.

12.11.2 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.

   The MatrixCodeReader.exe utility is available from the Start menu with the following installation types of the Intellect PC: Server, Remote administrator workstation, Remote monitoring workstation.

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 12.11—1).

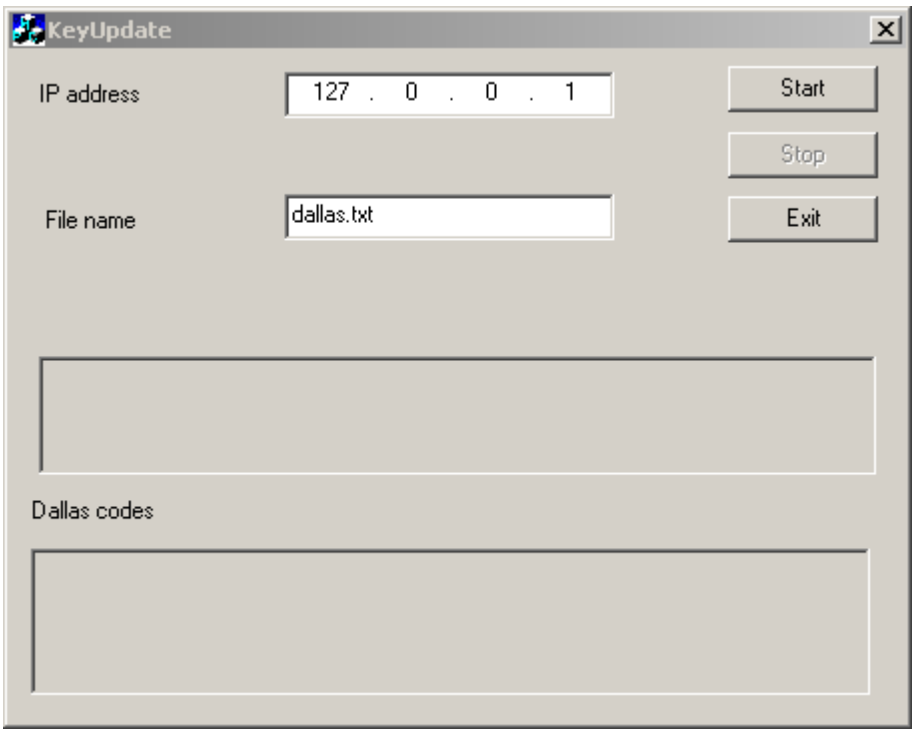


Figure 12.11—1 MatrixCodeReader.exe dialog window

To close MatrixCodeReader.exe do one of the following:

4. Click the button in right upper corner of Close dialog window (Figure 12.11—2,1);
5. Press a combination of keys «Alt»+«F4» (Figure 12.11—2,2);
6. Click «Exit» button in the dialog window (Figure 12.11—2,3).

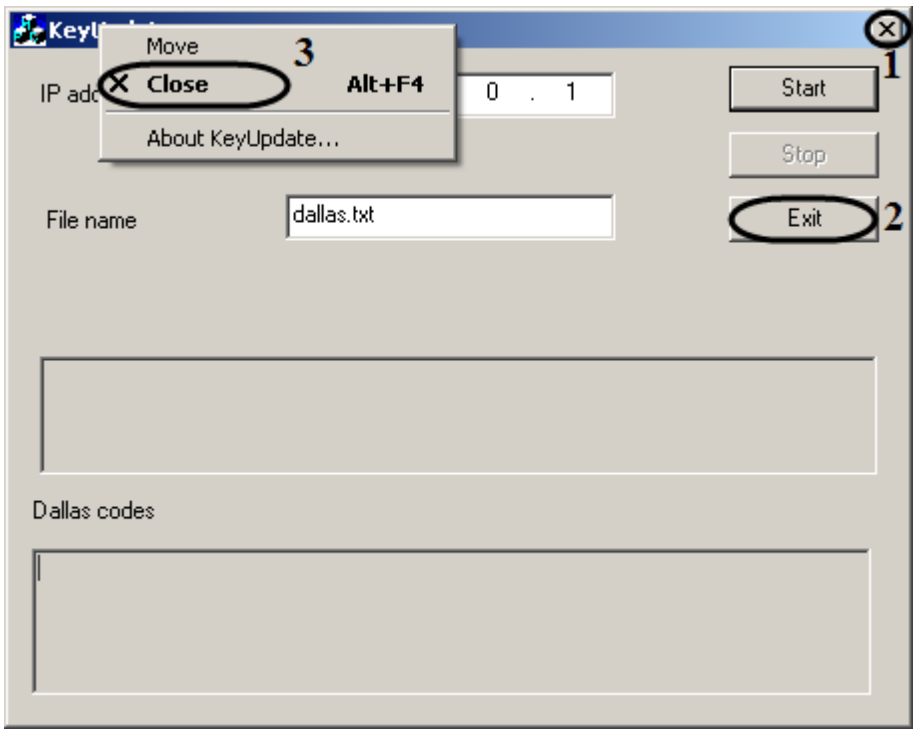


Figure 12.11—2 Closing the MatrixCodeReader.exe

12.11.3 Interface elements of the MatrixCodeReader.exe

The user interface of MatrixCodeReader.exe is shown in Figure 12.11—3.

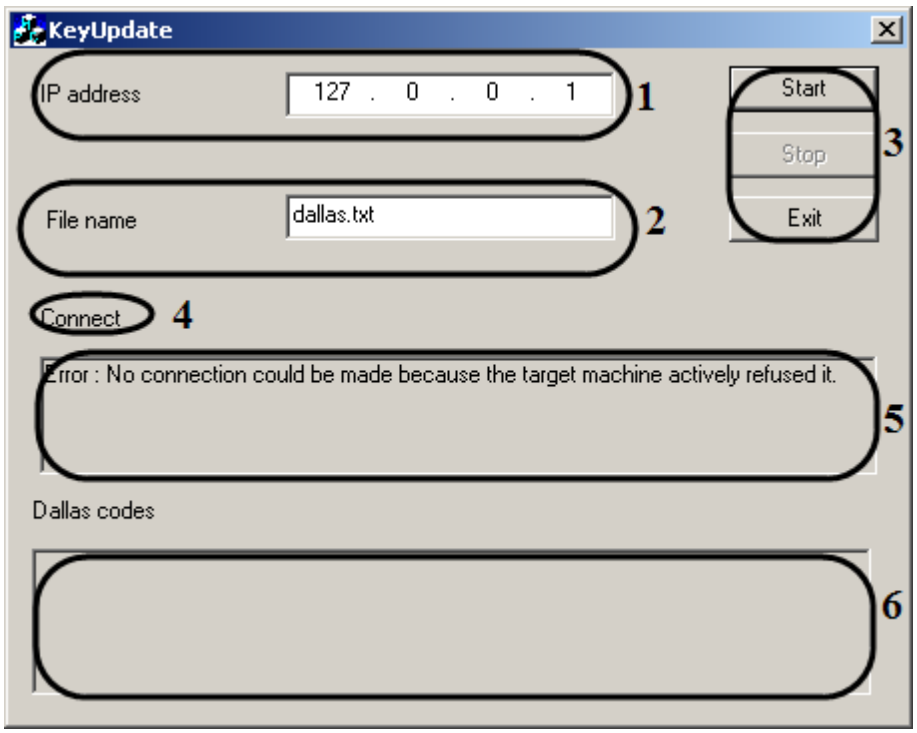


Figure 12.11—3 MatrixCodeReader.exe user interface

MatrixCodeReader.exe user interface has the following elements:

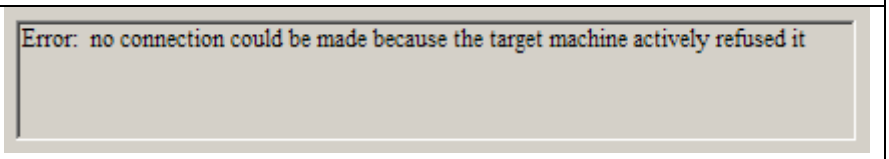
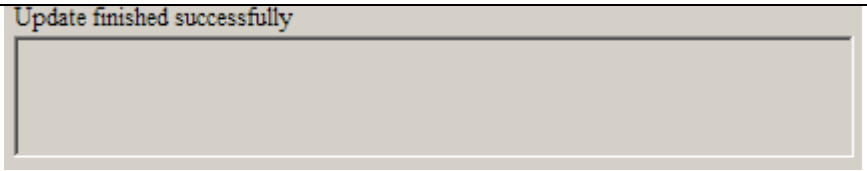
1 Entry field «IP address» of device's IP address (Figure 12.11—3, 1).

2 Entry field «File name» of file's name, containing dallas-code of video capture card's cryptochip. Is set by default(Figure 12.11—3, 2).

3 Start button of running and receiving the dallas-code, Stop button and Exit buttin to quit the utility (Figure 12.11—3, 3).

4 State line (Figure 12.11—3, 4). May contain the following information (Table 12.11-1).

Table 12.11-1

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 12.11—3, 5).

6 Area of displaying the dallas-code (Figure 12.11—3, 6).

12.11.4 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 12.11—4, 1)
3. Click «Start» (Figure 12.11—4, 2)
4. Dallas codes of the boards will appear in the area Dallas codes in result (Figure 12.11—4, 3)
5. Finish work with MatrixCodeReader.exe (see section Start and closing the utility).

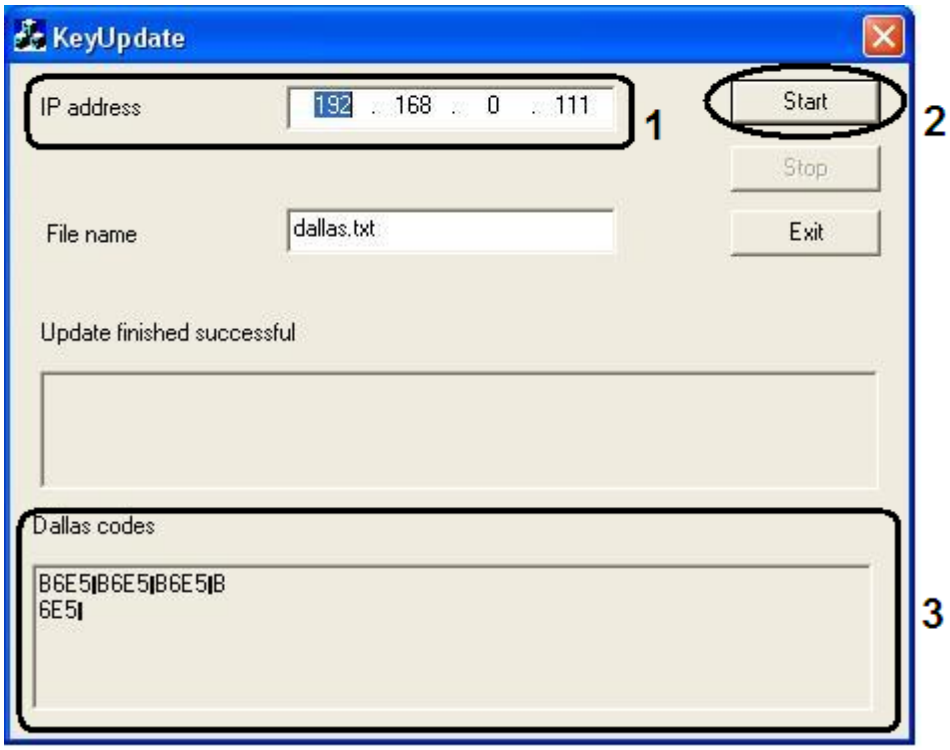


Figure 12.11—4Work with MatrixCodeReader.exe

Work with MatrixCodeReader.exe is over.

12.12 The Boards.exe utility

12.12.1 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.

12.12.2 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 12.12—1).

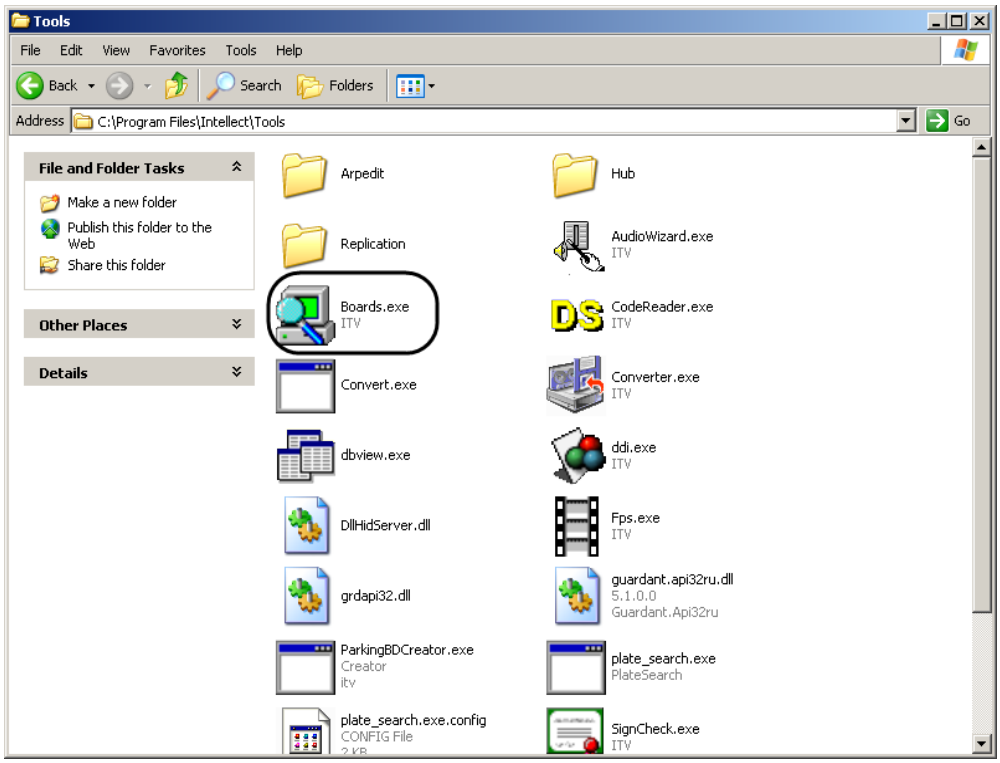


Figure 12.12—1 Starting the Boards.exe

Boards.exe dialog window will be displayed in result(Figure 12.12—2).

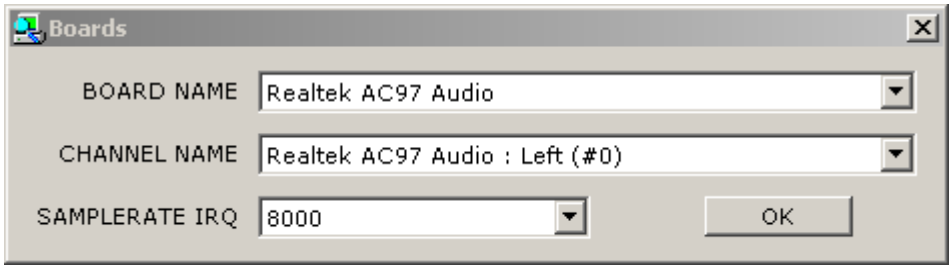


Figure 12.12—2 Boards.exe dialog window

One can quit Boards.exe using one of the following ways:

7. Press a combination of keys «Alt»+«F4»(Figure 12.12—3,1).
8. Click the button in right upper corner of Close dialog window (Figure 12.12—3,2);
9. Click «OK» after changes (Figure 12.12—3,3).

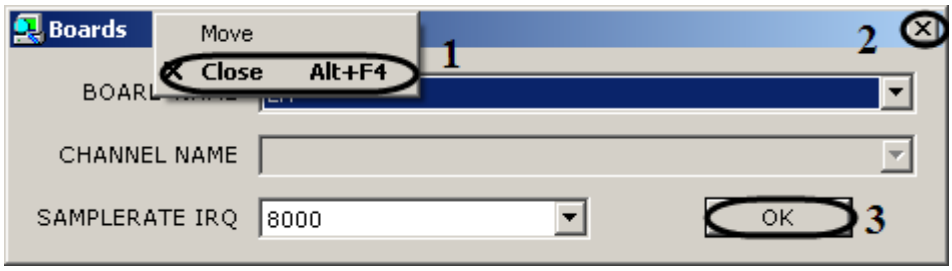


Figure 12.12—3 Closing Boards.exe

12.12.3 Interface elements of Boards.exe

User interface(dialog window) of Boards.exe is shown in

Figure 12.12—4 Interface of Boards.exe

Boards.exe user interface has the following elements, that are shown in Table 12.12-1.

Table 12.12-1

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 AxxonSoft 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.

12.12.4 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 12.12—5).

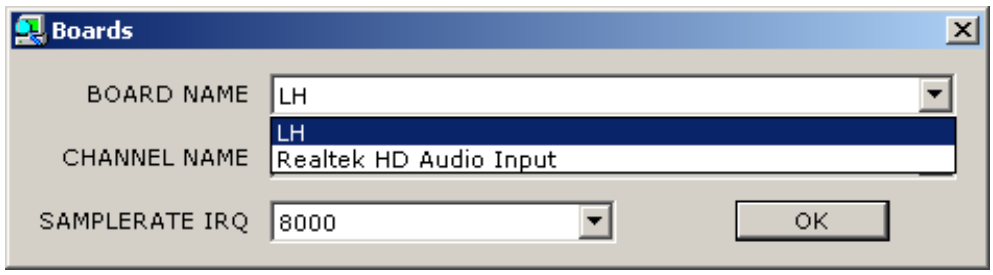


Figure 12.12—5 Changing the board name

3. Select the channel name from the dropdown list «CHANNEL NAME» (Figure 12.12—6).

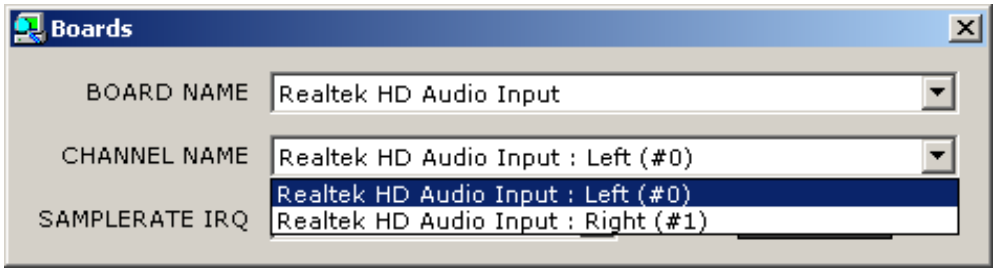


Figure 12.12—6 Changing the Channel name

4. Select the rate of audio signal digitization from the dropdown list «SAMPLERATE IRQ»(Figure 12.12—7).

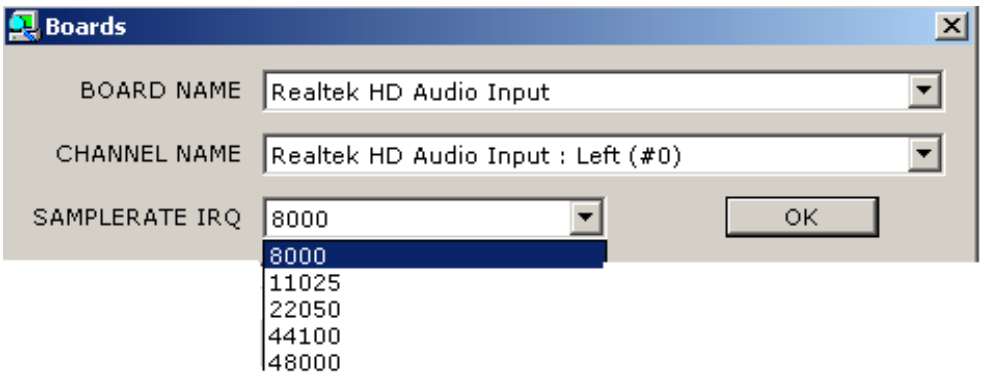


Figure 12.12—7 Changing the «SAMPLERATE IRQ»

5. Click «OK» to save the changes. The utility window will automatically close.

Work with Boards.exe is completed.

12.13 The idb.exe utility for converting databases, selecting database templates and making backup copies of databases

12.13.1 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.

12.13.2 Starting and closing the utility

Close the Intellect system before starting the idb.exe utility.

The idb.exe utility is started from the Intellect PC installation catalog. For example: «C:\Intellect\idb.exe».

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 12.13—1).

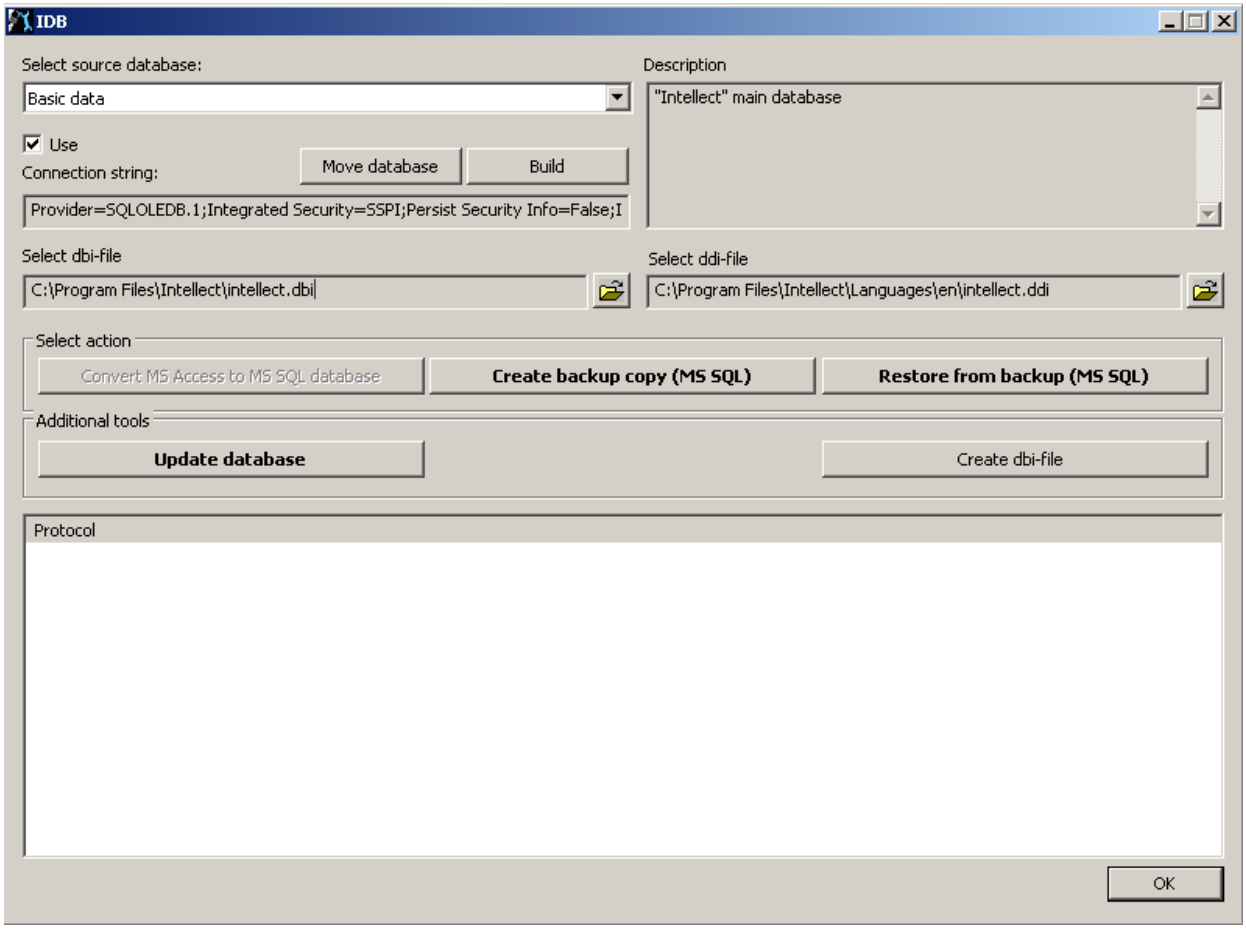


Figure 12.13—1. The Idb.exe dialog window

To confirm the changes and close the utility, click the OK button. To close the utility without saving the changes, click the Close button (☒).

12.13.3 Interface elements of the idb.exe window

Figure 12.13—2 shows the idb.exe dialog window. Table 12.13-1 gives the description of its elements.

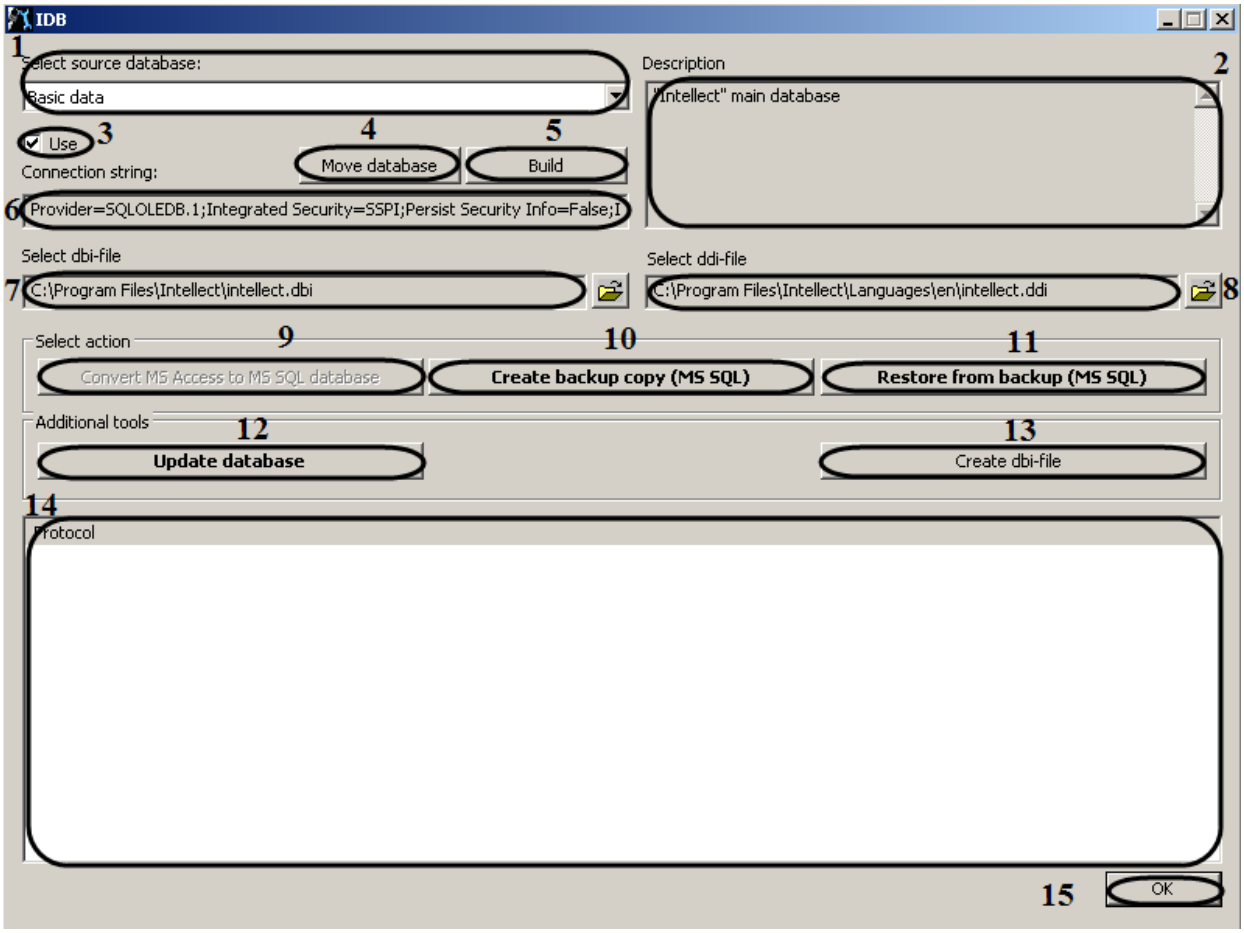


Figure 12.13—2. Idb.exe dialog window

Table 12.13-1

№	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 Remote database for

№	Element name	Description	Default value	Allowed values
				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\\AxxonSoft\\INTELLECT if the folder for database recording can not be changed. (see. «Work with system register OS Windows»).

12.13.4 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.

12.13.5 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 12.13—3).

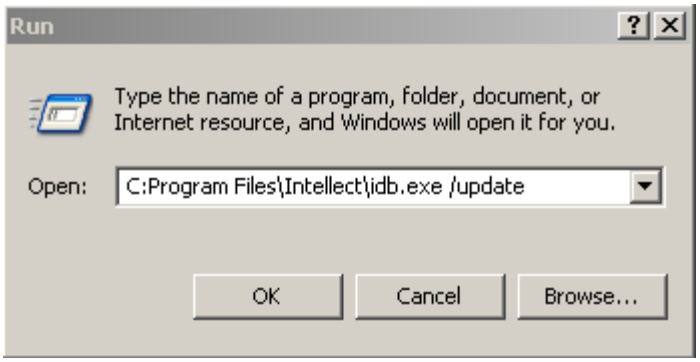


Figure 12.13—3. Work with idb.exe through command line

To display keys, supported by the utility, use the command «idb.exe /?» (Figure 12.13—4).

Figure 12.13—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\AxxonSoft\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.

12.13.6 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 12.13—5).

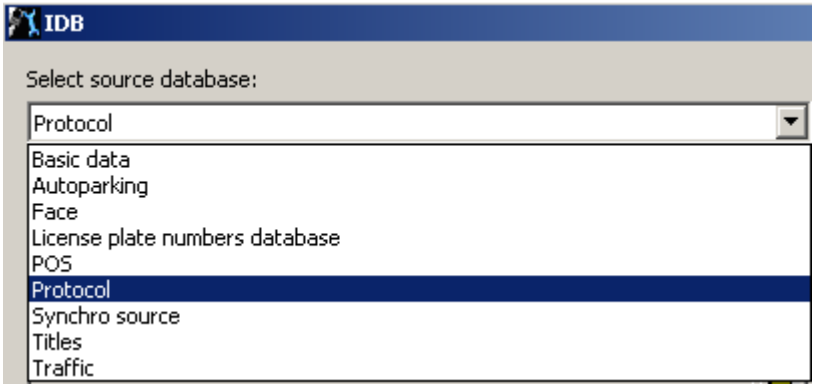


Figure 12.13—5 Selecting the source database

3. To enable Protocol database set the Use checkmark (Figure 12.13—6).

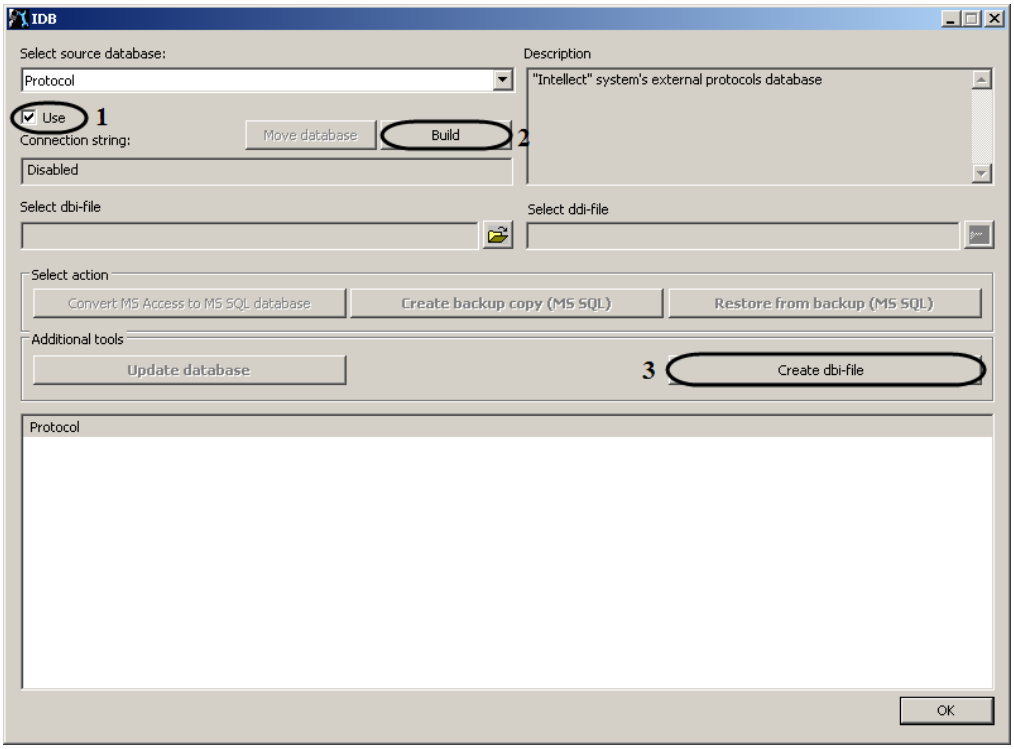


Figure 12.13—6 Setting up Protocol database

4. In result Build button will be activated (Figure 12.13—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 12.13—7,1).

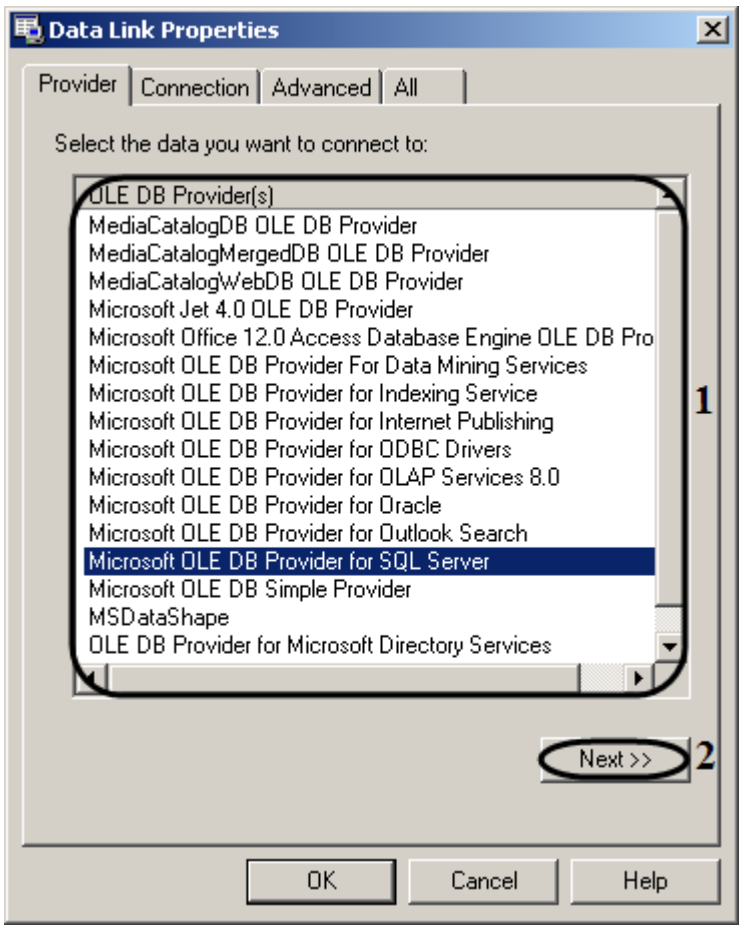


Figure 12.13—7 Provider tab

7. Click Next button (Figure 12.13—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 12.13—8,1).

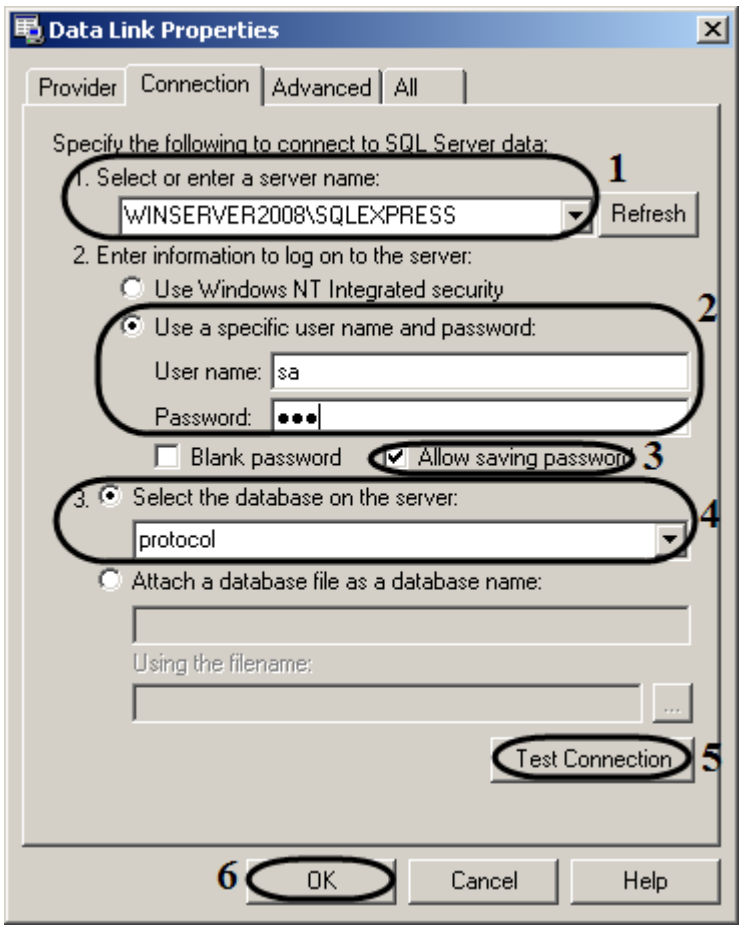


Figure 12.13—8 Connecting to SQL Server

- In the field User enter the user name and in the field Password enter the password: (Figure 12.13—8,2).
- Set the checkmark Allow saving password (Figure 12.13—8, 3).
- Select the Protocol database from the dropdown list Select database on the server (Figure 12.13—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 12.13**—9);*

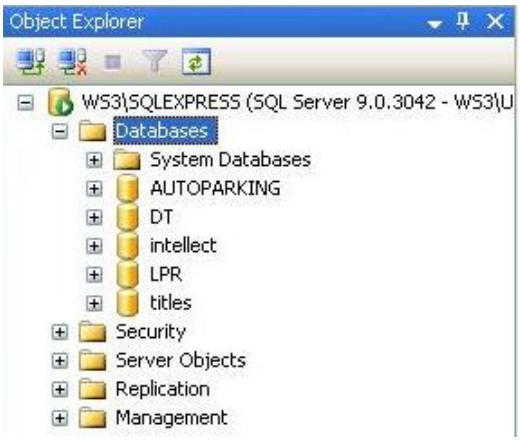


Figure 12.13—9 Selecting the Databases

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 12.13—10*);*

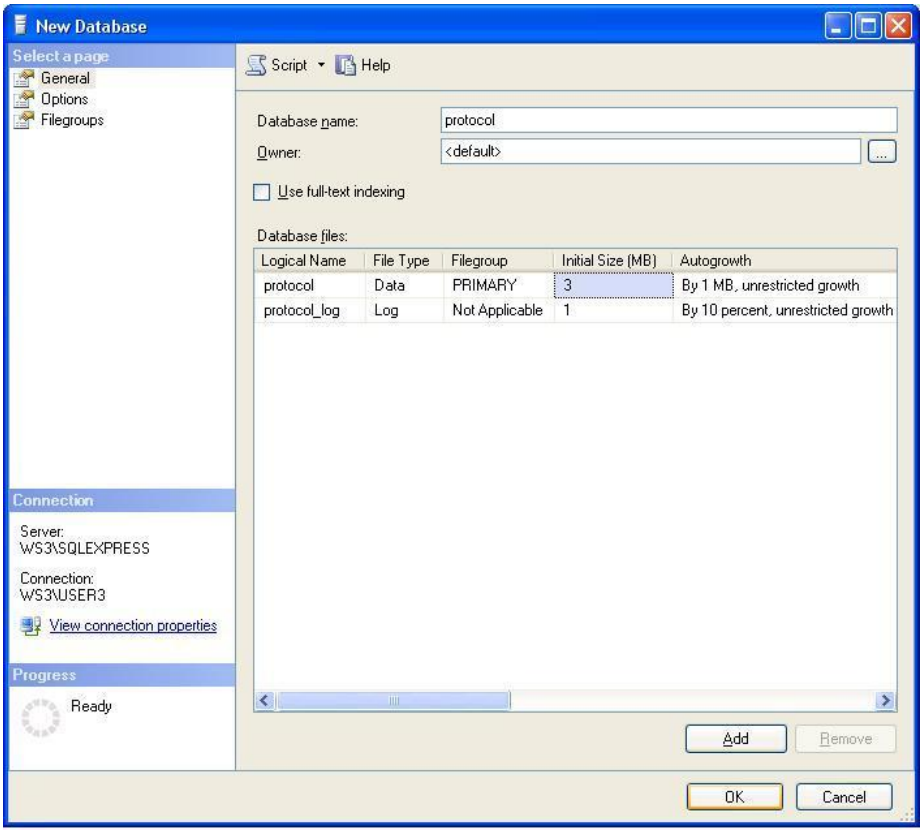


Figure 12.13—10 Creating the new database

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 12.13—10);

- When connection to MS SQL server is successfully carried out, Test connection succeeded message will be displayed (Figure 12.13—11).

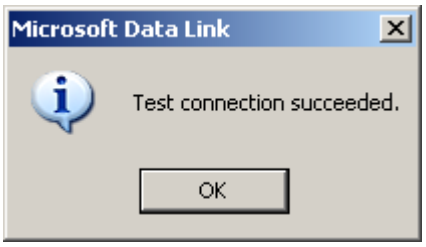


Figure 12.13—11 Message confirming the connection

- 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 12.13—12).
12. Select the file of database structure– C:\Program Files\Intellect\intellect.dbi

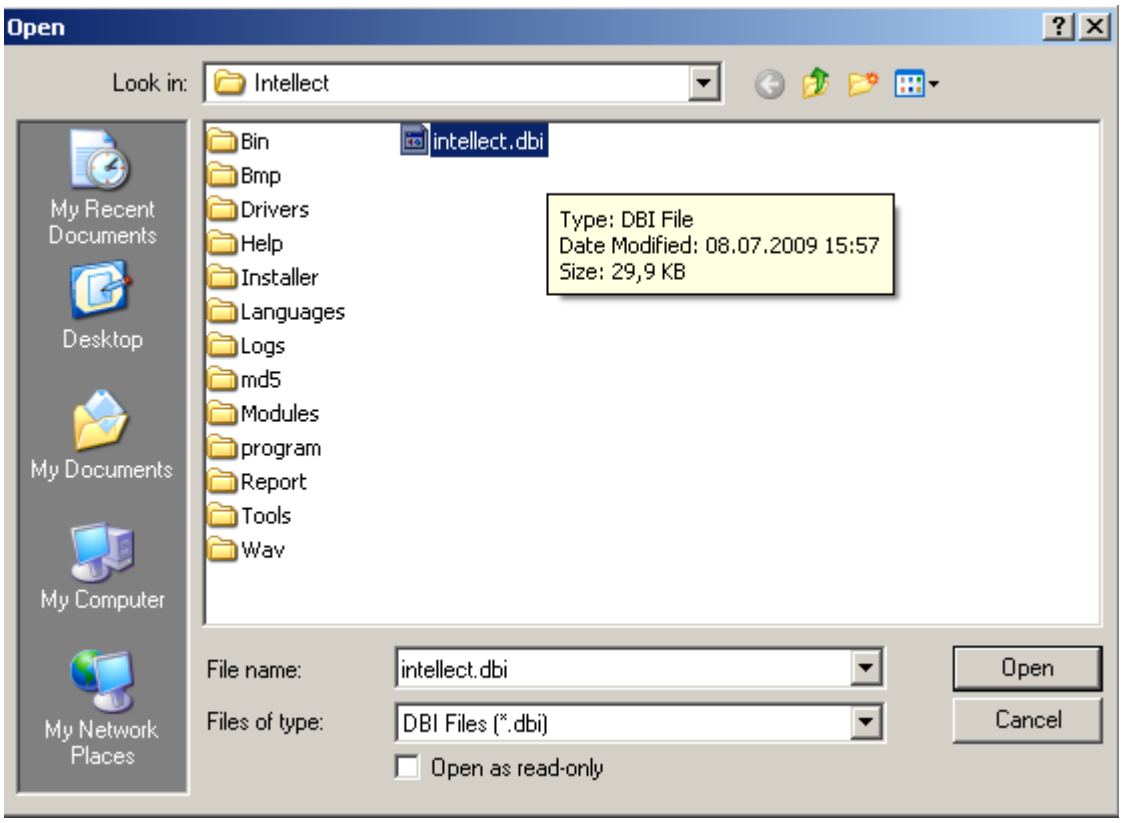


Figure 12.13—12 Creating dbi.file

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 12.13—13).

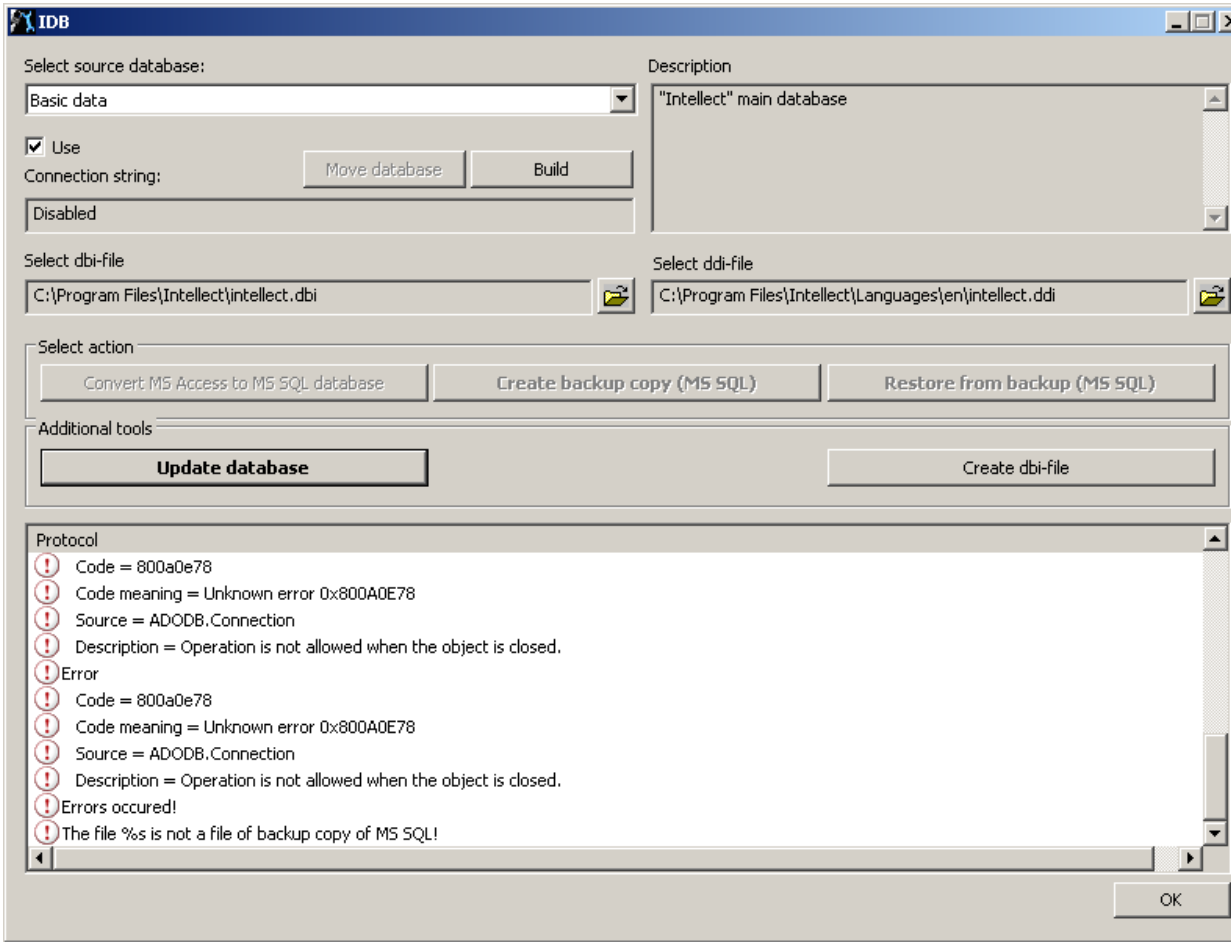


Figure 12.13—13 Updating the database structure

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.

12.14 Configuration check tool

The “Configuration check” tool is designed for checking the settings of all created objects in the INTELLECT™ software and restoring the correct configuration if any changes occurred. Restoring is performed from the configuration template which can be created at any moment in accordance with current settings.

12.14.1 Starting and shutting down the tool

To start the “Configuration check” tool, do the following:

1. Go to the “Interfaces” tab of the “System settings” dialog box (Figure 12.14—1).

Figure 12.14—1 The “Interfaces” tab

2. Create the “Configuration check” object on the base of the “Screen” object (Figure 12.14—2).

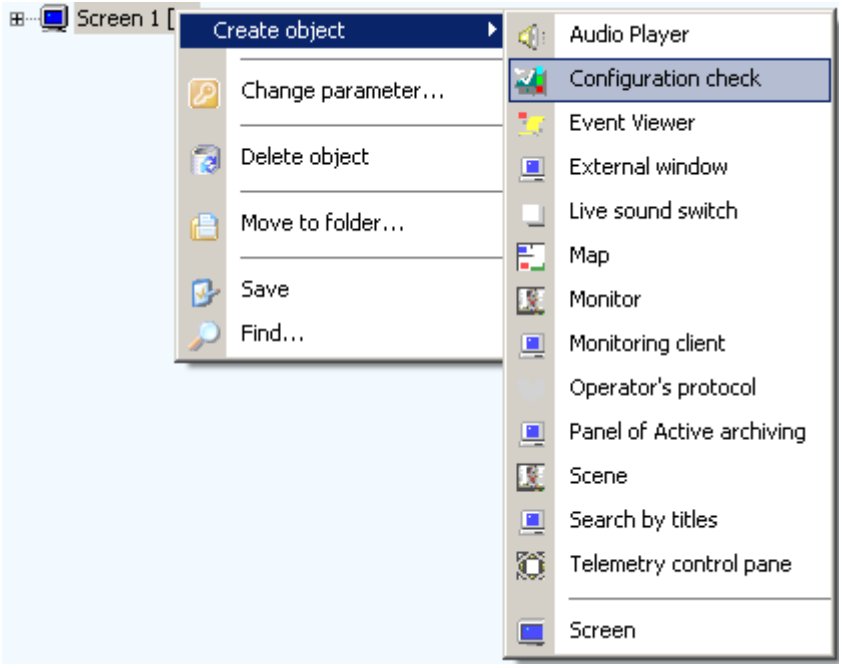


Figure 12.14—2 Creating the “Configuration check” object

3. Go to the settings panel for the “Configuration check” object (Figure 12.14—3).

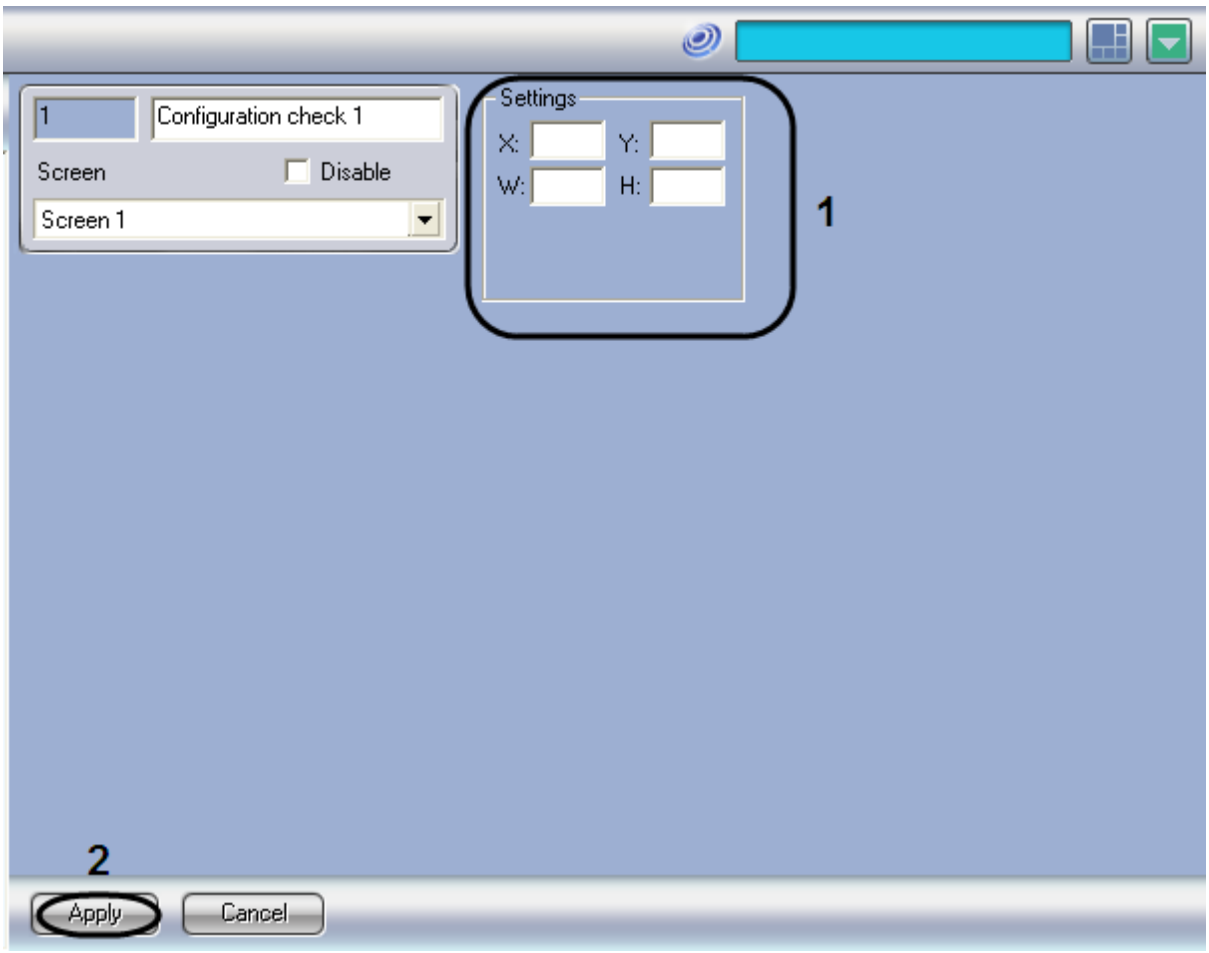


Figure 12.14—3 The settings panel for the “Configuration check” object

4. To configure the position of the “Configuration check” object, set the coordinates of upper left corner in “X:”, “Y:” fields and values of window’s width and height in “W:”, “H:” fields (Figure 12.14—3, 1).
5. To save the changes, click the “Apply” button (Figure 12.14—3, 2).

As a result the “Verifying configuration tool” dialog box is displayed (Figure 12.14—4).

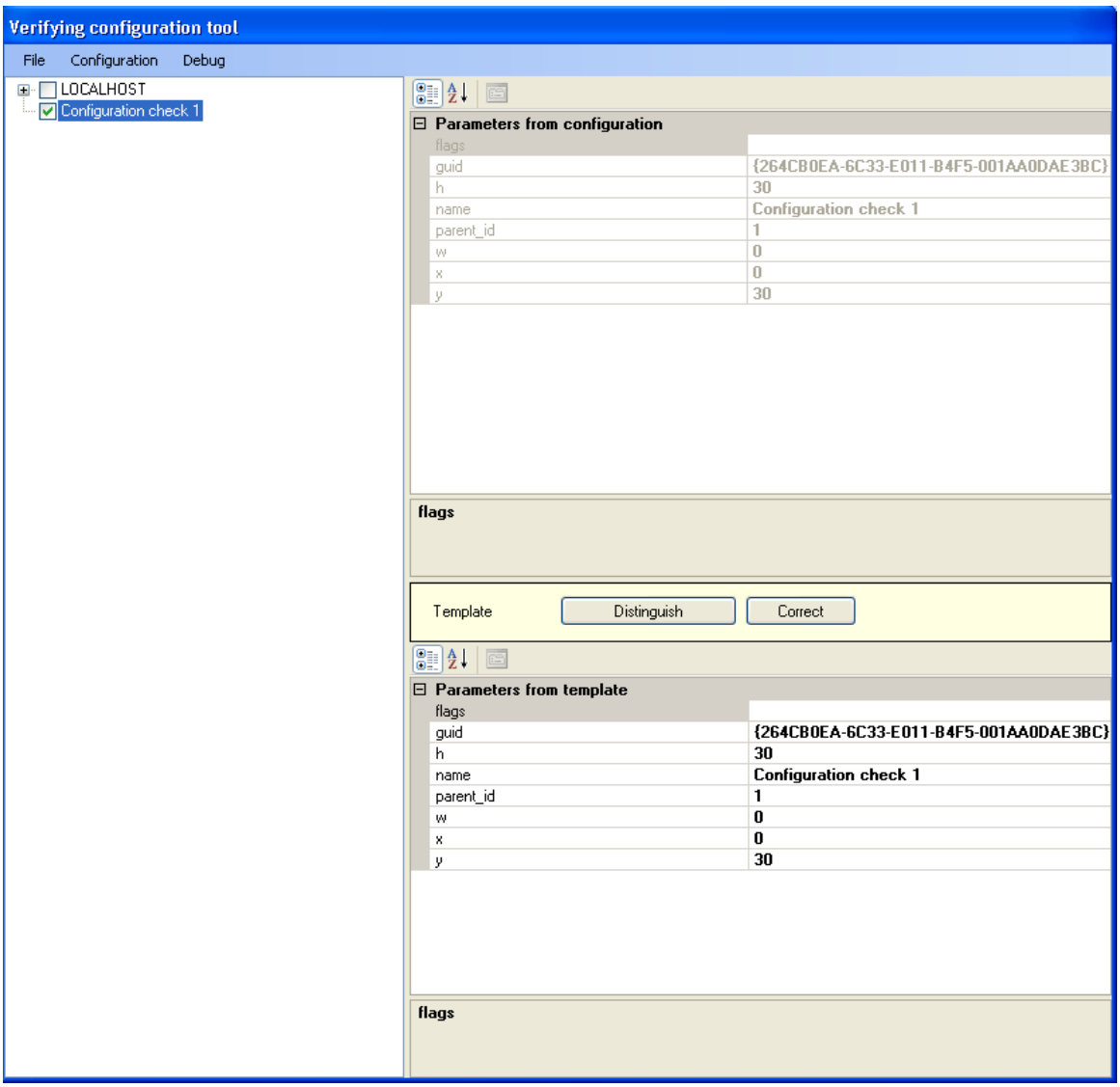


Figure 12.14—4 The “Verifying configuration tool” dialog box

To shut down the tool, click the button on the main control panel of INTELLECT™ software and select the “Close all” menu item (Figure 12.14—5);

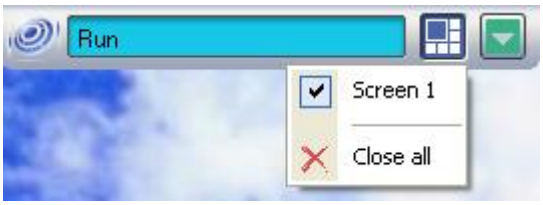


Figure 12.14—5 Shutting down the “Configuration check” tool

12.14.2 Interface description

The dialog box of the “Configuration check” tool has four main interface elements:

1. The toolbar (Figure 12.14—6, 1).
   The tool’s control menu is located here.

2. The object tree of INTELLECT™ software (Figure 12.14—6, 2).

The object tree of INTELLECT™ software is displayed here. Clicking the left mouse button on any object in the object tree, the configuration of its parameters is displayed in parameters field (points 3-4).

3. The field of object parameters from INTELLECT™ configuration (Figure 12.14—6, 3).
   The current configuration is displayed in this field. These parameters are not available for editing.

4. The field of object parameters from a template (Figure 12.14—6, 4).
   Parameters of the selected object from the configuration template field are displayed here. These parameters are available for editing.

Note. At the first start of the "Configuration check" tool, the current configuration of selected object is displayed in this field.

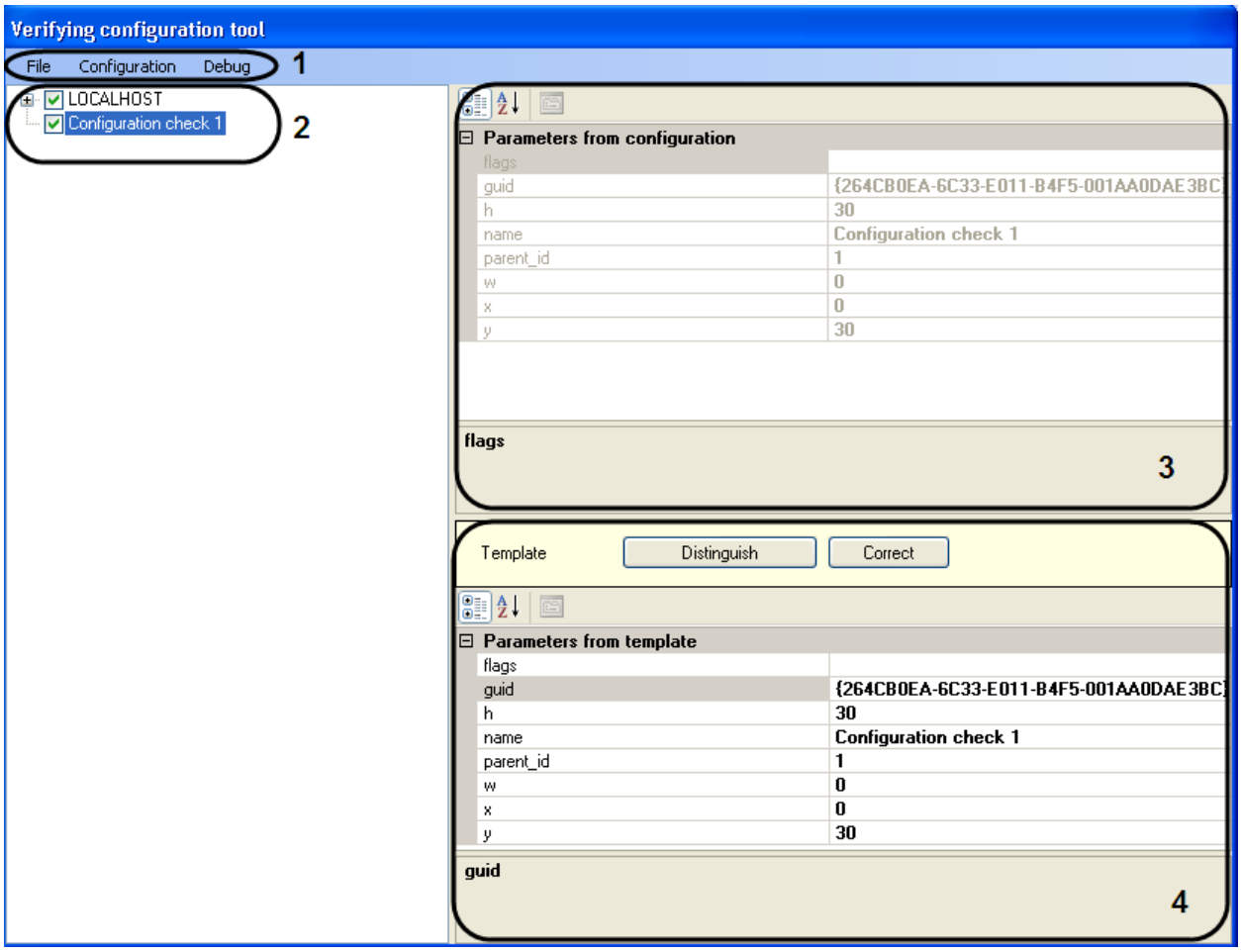


Figure 12.14—6 The "Configuration check" tool

12.14.3 The Configuration check tool operation

To start the operation, start the "Configuration check" tool (see the "Starting and shutting down the tool" section).

12.14.3.1 *Creating a template*

To create a template in the "Configuration check" tool, do the following:

1. In the objects tree, set the checkboxes next to those objects which parameters configuration will be included in a template (Figure 12.14—7).

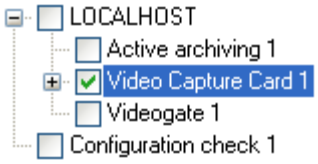


Figure 12.14—7 The “Configuration check” objects tree

2. Click the left mouse button upon the object which parameters configuration is to be edited.

Note. The set checkbox next to the required object is an obligatory term in order to edit the parameters.

As a result there is a list of object parameters with values, available for editing in the parameters from template field (Figure 12.14—9).

*Note 1. In the parameters from INTELLECT configuration field there is a list of object parameters with values set in INTELLECT software. They can not be edited (*Figure 12.14—8*).*

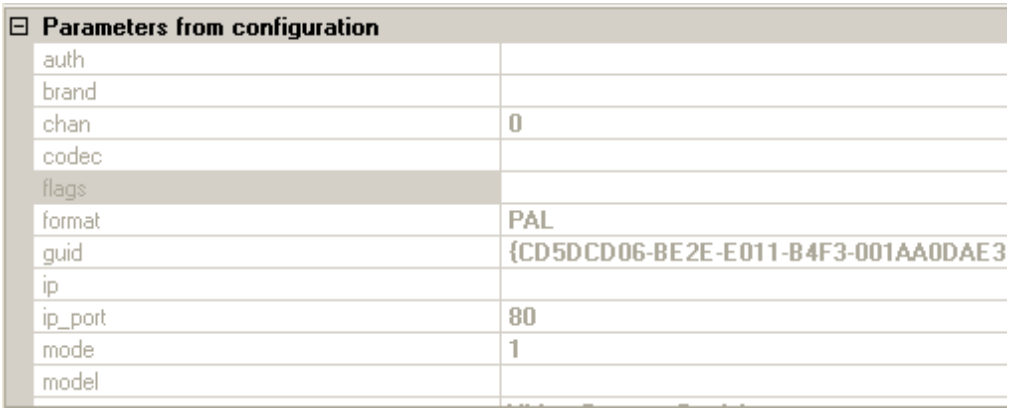


Figure 12.14—8 The “Parameters from configuration” field

Note 2. At the first start of the “Configuration check” tool, the current configuration of selected object is displayed in this field.

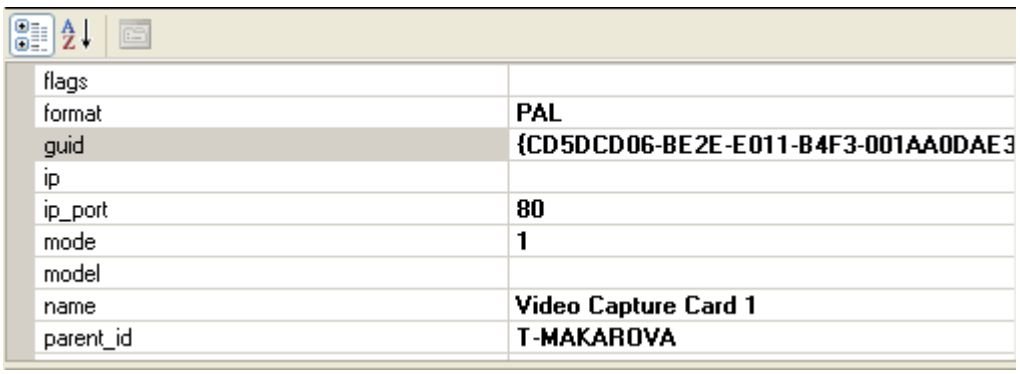


Figure 12.14—9 The “Parameters from template” field

3. Edit the object parameters. To edit the selected parameter, click the left mouse button upon the corresponding line with its value and edit it.
4. Repeat steps 3-4 for all objects, which parameters configurations are to be edited.
5. Go to the “File” menu of the control panel and select the “Save template” item (Figure 12.14—10).

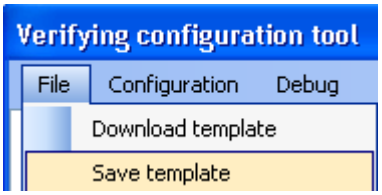


Figure 12.14—10 Save template

6. Name a file and select the storage directory in the appeared window (Figure 12.14—11).

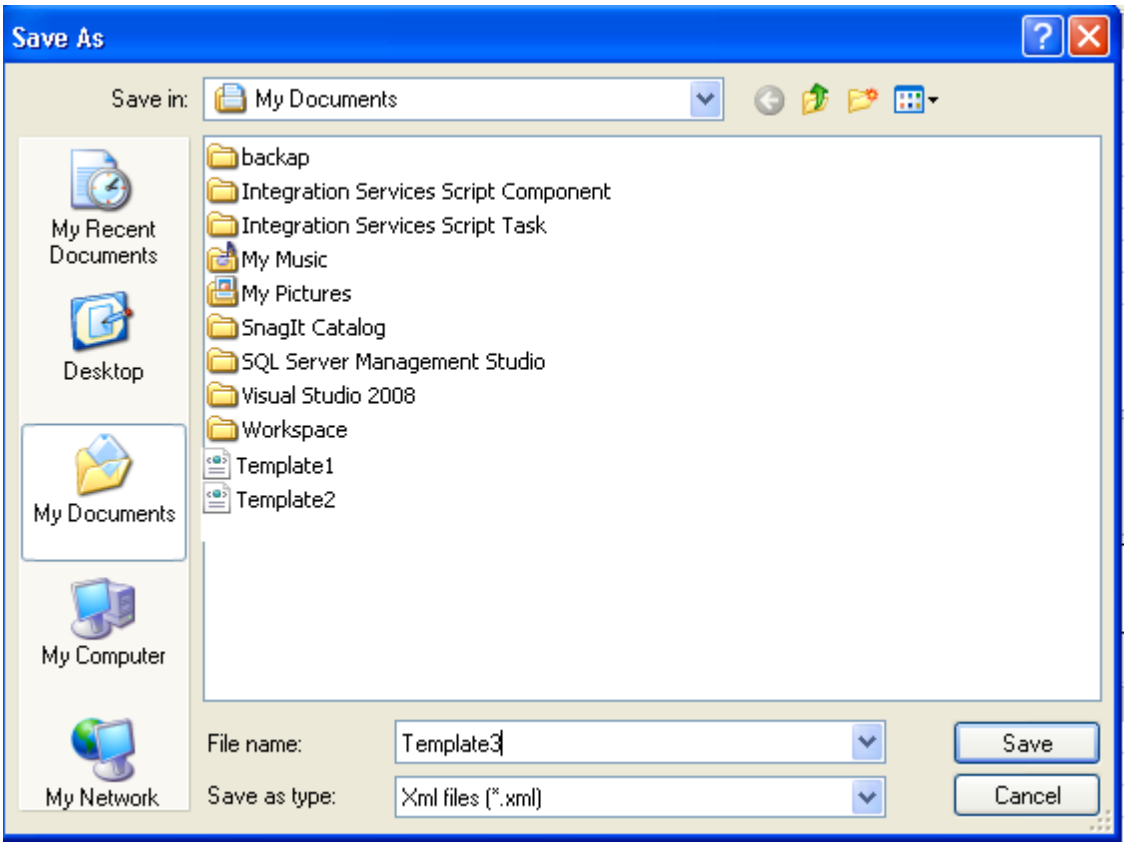


Figure 12.14—11 Selecting the file name and storage directory

7. Click the “Save” button (Figure 12.14—11).

The template is now created.

12.14.3.2 *Downloading and editing the template*

To download and edit the template, do the following:

1. Go to the “File” menu on the control panel and select the “Download template” item (Figure 12.14—12).

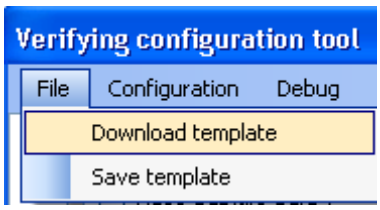


Figure 12.14—12 Download template

2. Select a template file in the appeared window and click the “Open” button (Figure 12.14—13).

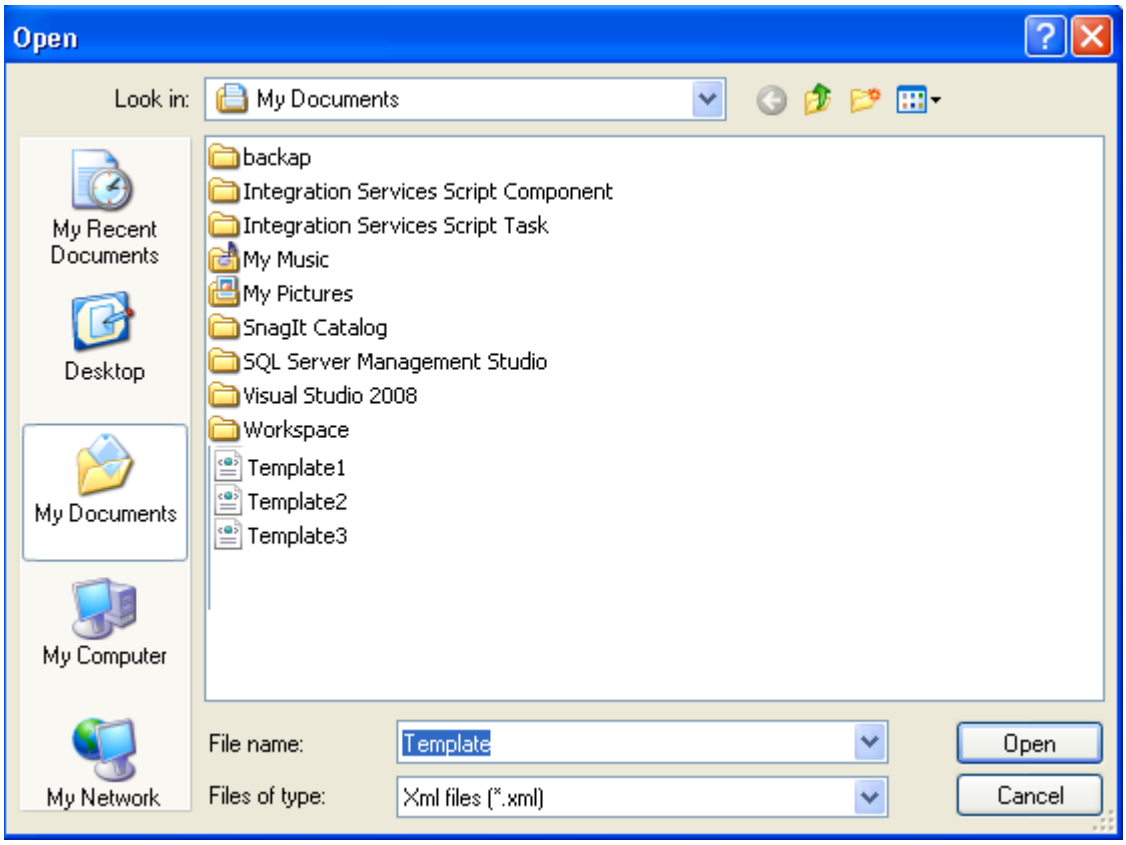


Figure 12.14—13 Template file selection

The object tree is displayed as a result. The active checkbox is next to the objects which configuration has been saved in the template (Figure 12.14—14).

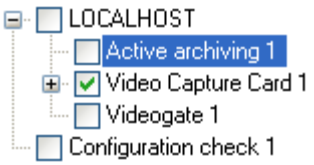


Figure 12.14—14 The object tree

3. To edit the template, repeat steps 1-7 of the “Creating a template” section.

The template is now downloaded and edited.

12.14.3.3 *Verifying and correcting the configuration*

To verify the current configuration of objects in INTELLECT software and restore it from the template, do the following:

1. Download the template for which the object configuration is to be verified in INTELLECT software (see the “Downloading and editing the template” section).
2. Go to the “Configuration” menu on the control panel and click the “Verify” button (Figure 12.14—15).

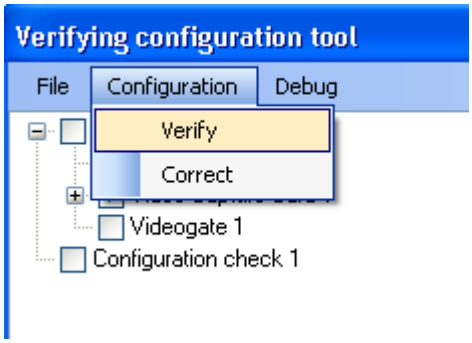


Figure 12.14—15 Verifying the objects in INTELLECT software

As a result the objects which current configuration in INTELLECT software differs from that one in the template will be marked red in the object tree (Figure 12.14—16).

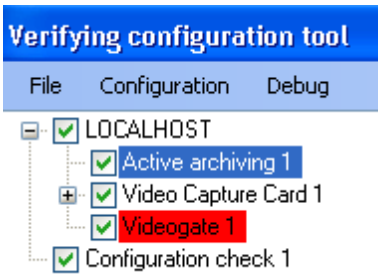


Figure 12.14—16 Marked objects in the object tree

3. To view object parameters in the template which values are different from those ones in the INTELLECT software, click the left mouse button upon the object marked red in the object tree and go to the parameters from the template field.
4. Click the “Distinguish” button in the “Template” field (Figure 12.14—17).

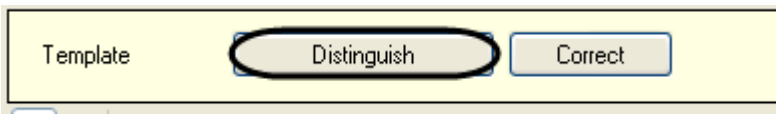


Figure 12.14—17 Distinguishing the differences in the object configuration template

As a result the parameters which values are different from those ones in INTELLECT software are moved to the “Differences” list (Figure 12.14—18).

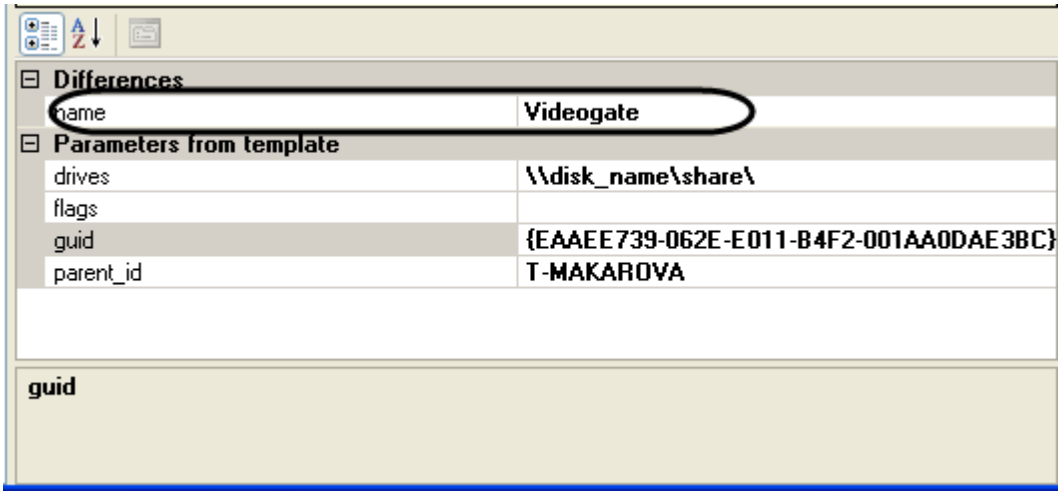


Figure 12.14—18 Parameters from template that differ from parameters from configuration

5. Correction (if necessary) of these parameter in INTELLECT software for those ones from the template may be performed in two ways:

   5.1 Click the “Correct” button in the “Template” field (Figure 12.14—19).

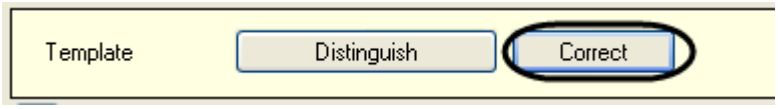


Figure 12.14—19 Correcting the configuration in INTELLECT software

   5.2 Go to the “Configuration” menu on the control panel and select the “Correct” item (Figure 12.14—20).

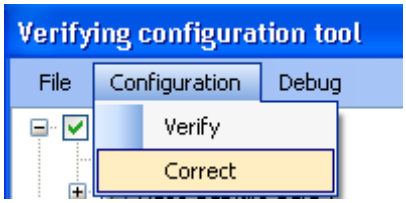


Figure 12.14—20 Correcting the INTELLECT configuration

The parameter configuration from INTELLECT templates is now verified and corrected.

12.15 Index.exe utility for reindexing archive files

12.15.1 The purpose of Index.exe utility

Index.exe utility reindexes archive files with big data array without restarting the INTELLECT™ software. Using this utility you can still have the access to the archive at the time of reindexing.

12.15.2 Starting and shutting down the

To start reindexing utility run *index.exe* executive file *index.exe* in the *Tools folder* that is in the catalogue of the INTELLECT™ software installation, for example, «C: \Program Files\Intellect \Tools» (Figure 12.15—1).

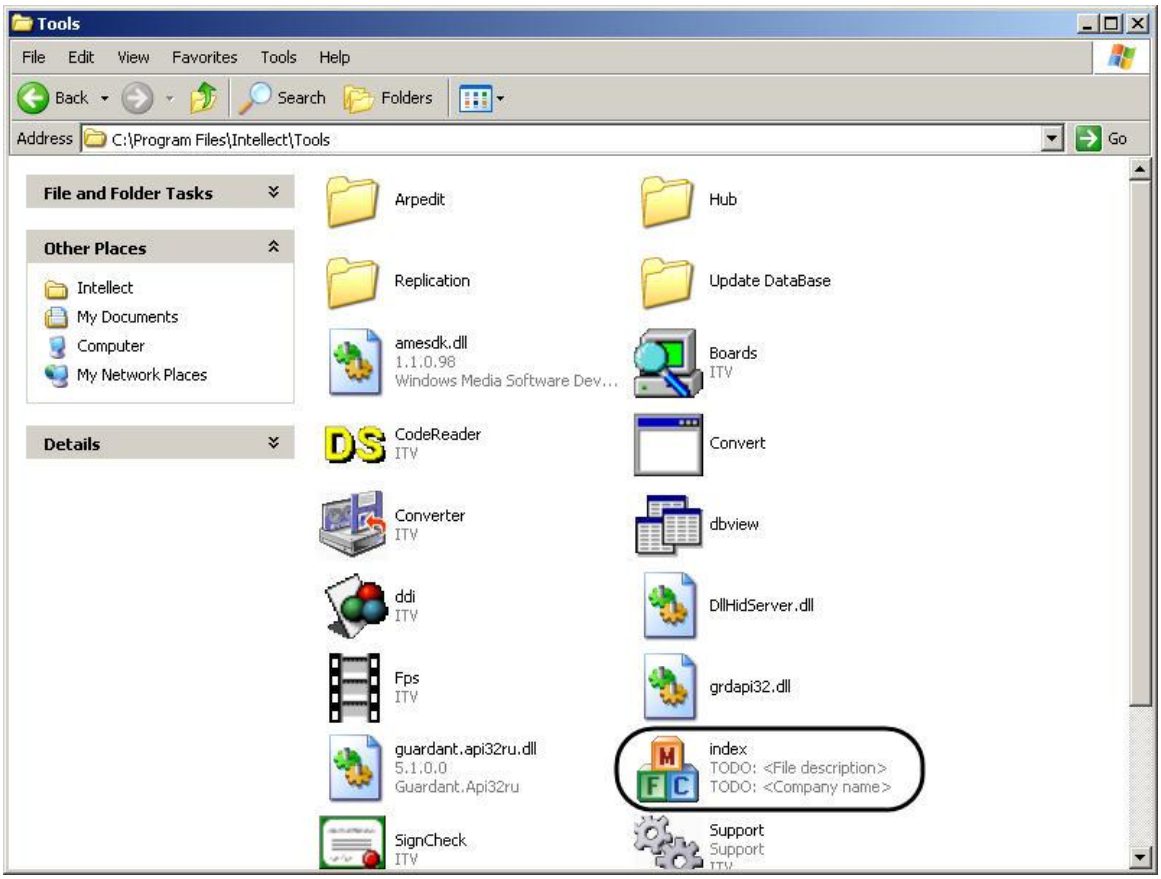


Figure 12.15—1 Index.exe in the window of Tools catalogue

As a result the window of *index.exe* utility is displayed (Figure 12.15—2)

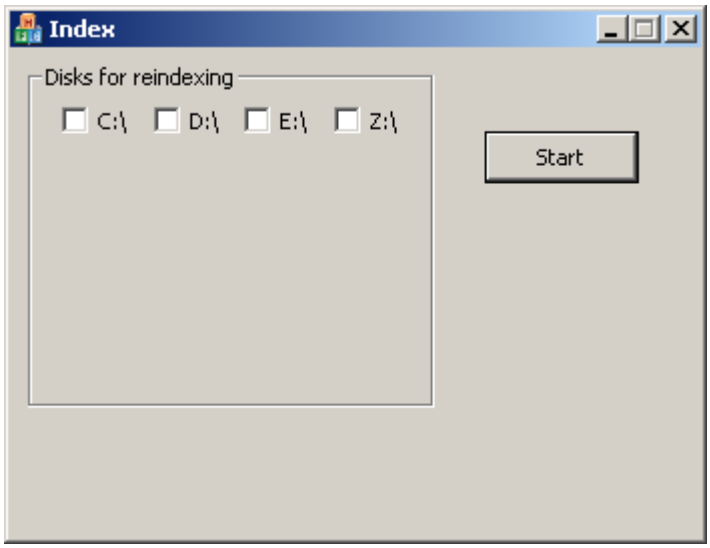


Figure 12.15—2 Window of *index.exe* utility

To stop working with *index.exe* utility click «Close» - «».

12.15.3 Working with index.exe utility

Attention! Before you start working with the utility check the value of IndexRebuilding parameter in HKLM/SOFTWARE/AxxonSoft/INTELLECT/Video section of OS Windows list: by default it should

be 0. If the parameter value differs from the value by default, you should change it to 0, otherwise the utility will not idex the archive.

To reindex archive files after its changing (for example, after copying new video recordings to one or several archive disks) do the following:

1. Start *index.exe* utility (see Starting and shutting down the).
2. In appeared window select archive disks for reindexing by setting checkbox next to required disks (Figure 12.15—3, 1).
3. To start reindexing click **Start** (Figure 12.15—3, 2).

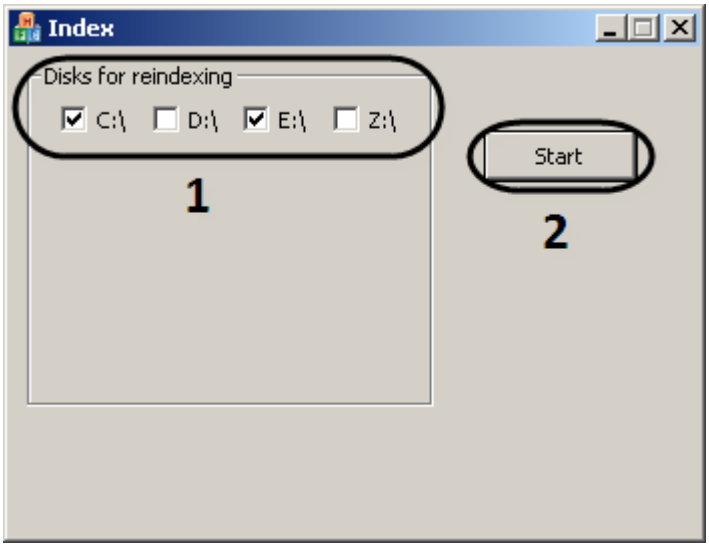


Figure 12.15—3 Reindexing of archive disks

Note. At the time of reindexing all the elements of utility window are not active.

4. When you finish reindexing close the window of utility.

Reindexing of archive files is completed.

12.16 The shedule.exe utility for creating a replication query file

12.16.1 The purpose of the shedule.exe utility

The shedule.exe utility is designed for creating a query file on the Server-Receiver while replicating the archive on unconnected Servers (see “Replicating archive from unconnected servers using the removable storage” section).

12.16.2 Starting and closing the utility

To start the utility start the schedule.exe file in the Tools\Replication folder of the INTELLECT™ installation directory. For example (Figure 12.16—1):

C:\Program Files\Intellect\Tools\Replication\shedule.exe .

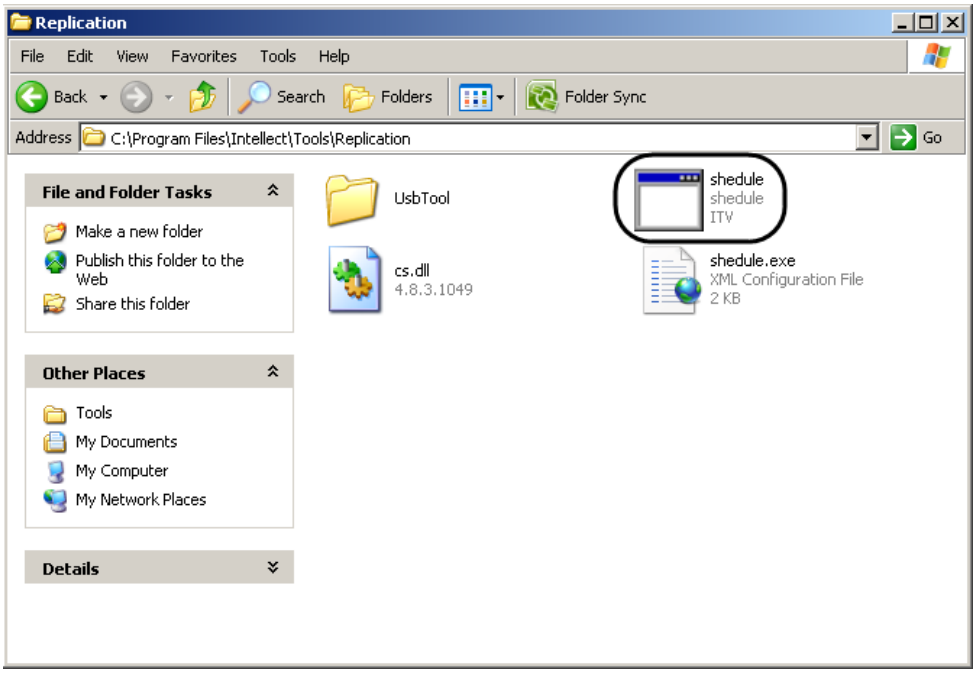


Figure 12.16—1 The shedule.exe utility in the Replication directory

As the result the dialog window of the schedule.exe utility is opened (Figure 12.16—2).

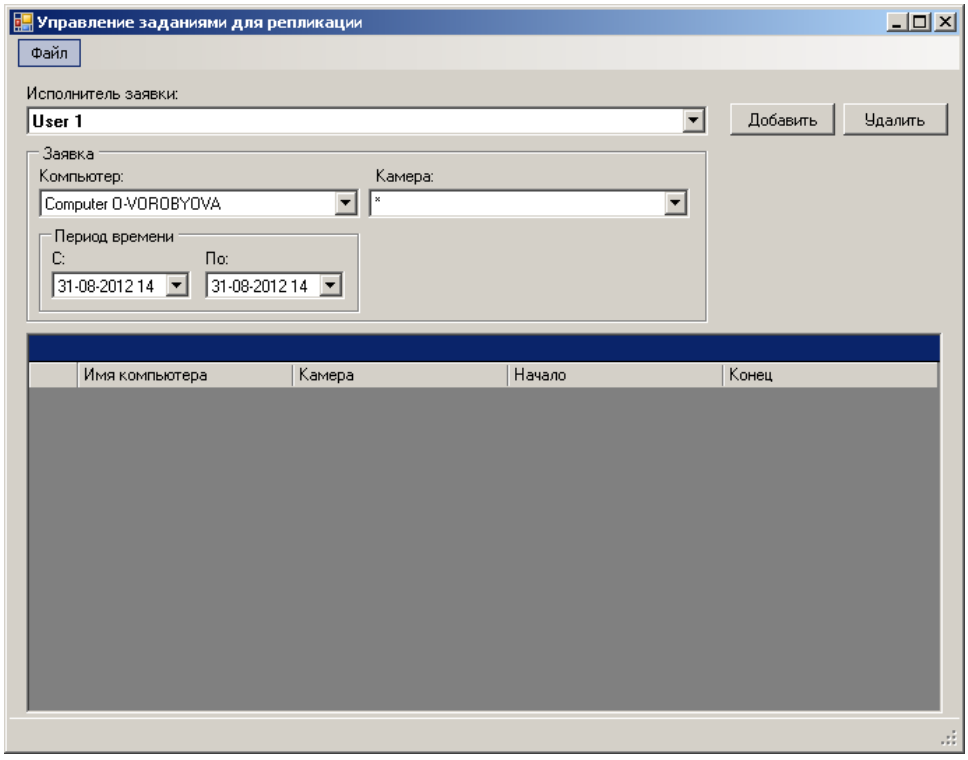


Figure 12.16—2 The shedule.exe utility window

*Note. The error message is displayed at opening the schedule.exe utility when users or the **Camera** objects are not created in the INTELLECT™ software under the **Computer/LOCALHOST** object corresponding to the Receiver. It is needed to create required objects and restart the system.*

To close the *schedule.exe* utility, click the button or select “Exit” in the “File” menu (Figure 12.16—3).

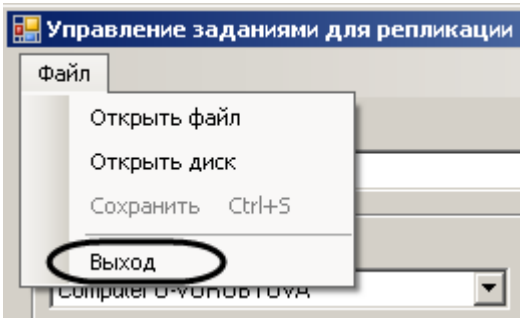


Figure 12.16—3 Closing the shedule.exe utility

12.16.3 Working with the schedule.exe utility

12.16.3.1 *Creating the query file*

To create the query file do the following:

1. Connect the removable storage to the Receiver.
2. Select the user registered the INTELLECT™ software in the “Query executor” drop-down list (Figure 12.16—4, 1).

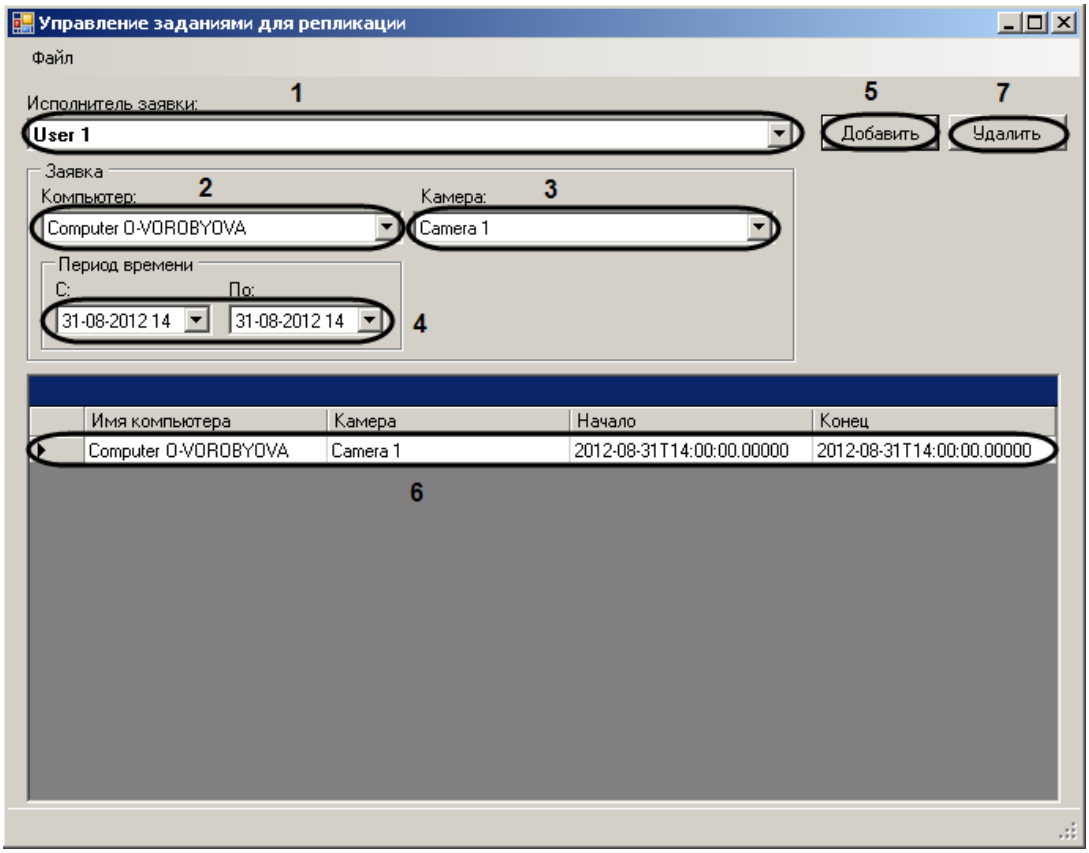


Figure 12.16—4 Creating the query file

3. Select the “Computer” object corresponding to the Data source in the “Computer” drop-down list (Figure 12.16—4, 2).
4. In the corresponding drop-down list select the “Camera” object the archive of which is to be copied (Figure 12.16—4, 3).

5. Specify the time period for which the archive from selected camera is to be copied in the “From:” and “To:” fields using the mask or calendar that is displayed by clicking the button (Figure 12.16—4, 4).

6. Click the “Add” button (Figure 12.16—4, 5).

   The task is added to the list (Figure 12.16—4, 6).

   Note. Select the task and click the “Delete” button to delete it from the list (Figure 12.16—4, 7).

7. Repeat steps 2-6 for all required Sources.

8. Save the query file.

The query file is now created.

12.16.3.2 *Saving the query file*

To save the query file do the following:

1. Select “Save” in the “File” menu (Figure 12.16—5).

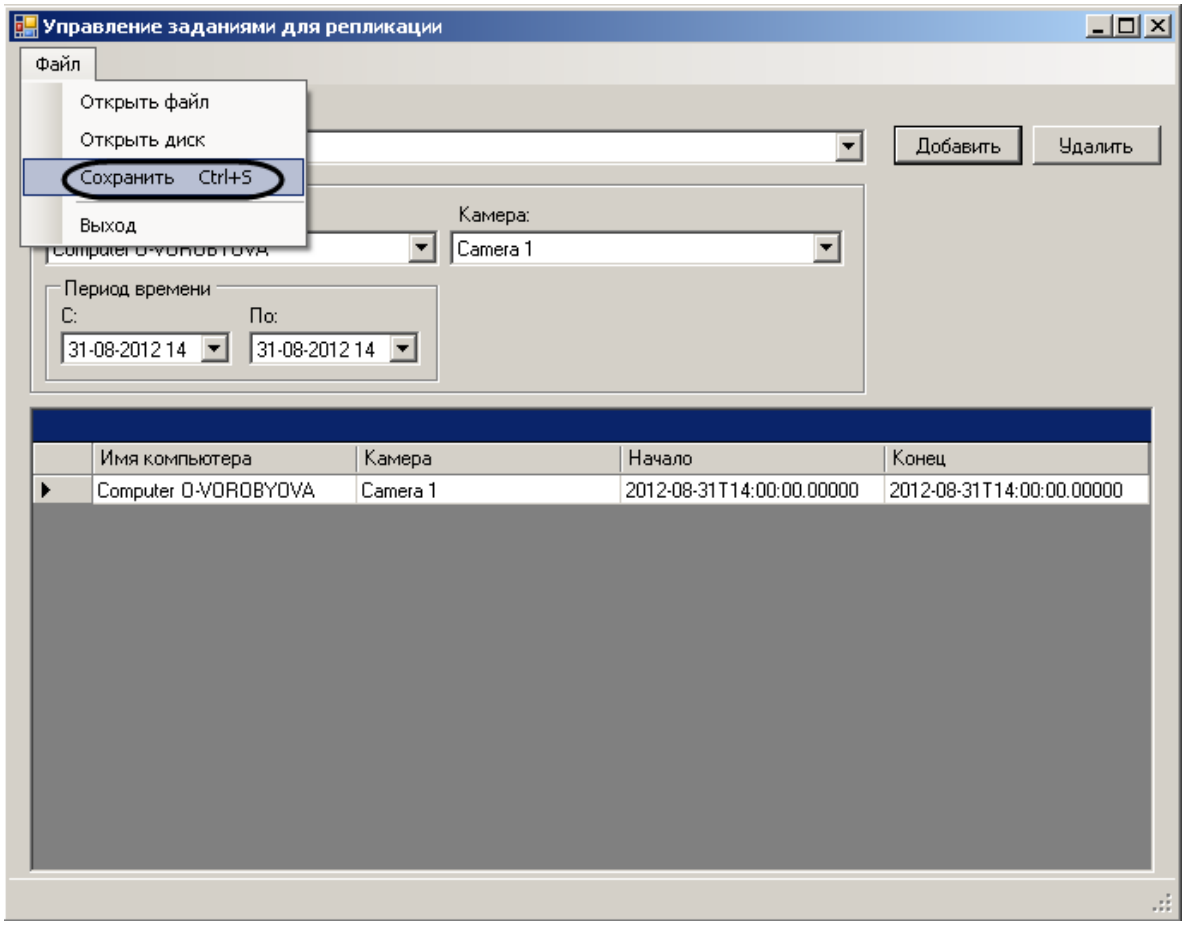


Figure 12.16—5 Saving the query file

2. Select the removable disk where the query file is to be saved in the drop-down list of the opened dialog box (Figure 12.16—6, 1).

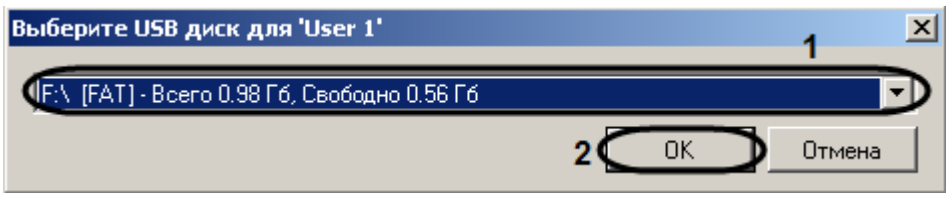


Figure 12.16—6 Selecting the disk for saving the query file

Note 1. The "Removable disks are not found" message will be displayed if the removable storage is not found while saving the query file.

Note 2. If there is the "IntellectBackup" folder on the removable storage, then the dialog box asking to delete this folder is displayed. Click the "OK" button (Figure 12.16—7).

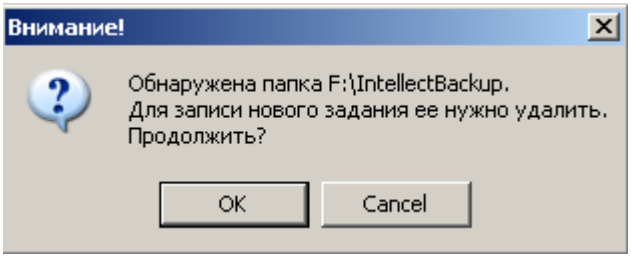


Figure 12.16—7 Warning about deleting the folder

3. Click the "OK" button (Figure 12.16—6, 2). The query file is saved on the selected disk.

The query file is now saved.

12.16.3.3 *Opening the query file*

To open the query file do one of the following:

1. Specify the disk where the query file is. For this:

1. Select "Open disk" in the "File" menu (Figure 12.16—8).

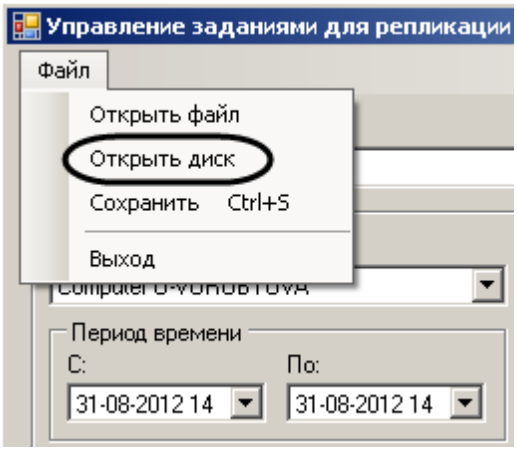


Figure 12.16—8 Opening the query file on the disk

1.2 Select the query file in the drop-down list (Figure 12.16—9, 1).

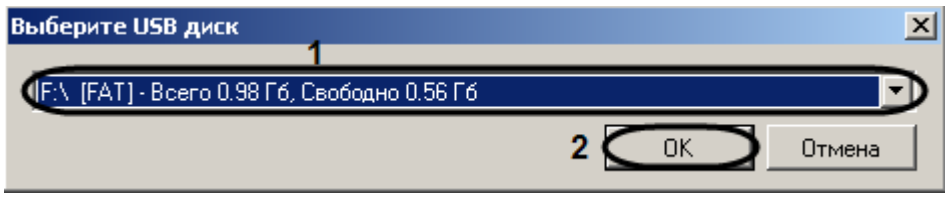


Figure 12.16—9 Selecting the disk with the query file

Note. The "Removable disks are not found" message will be displayed if the removable storage is not found while openning the query file.

1.3 Click the "OK" button (Figure 12.16—9, 2).

The utility detects and opens the query file which is in the root of selected disk.

2. Select the query file manually. For this:

2.1 Select "Open file" in the "File" menu (Figure 12.16—10).

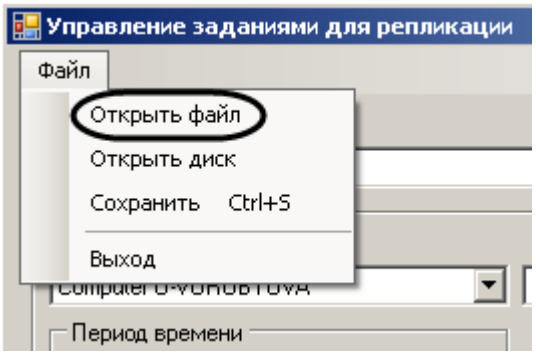


Figure 12.16—10 Opening the query file manually

2.2 Select the *itv_task.xml* file containing the query parameters using the standard opening dialog.

The query file is now opened.

12.17 The AxxonPlayer.exe utility for viewing and converting the video archive

12.17.1 Purpose of the AxxonPlayer.exe utility

The "AxxonPlayer.exe" utility is designed for viewing and converting the video archive recorded with the INTELLECT™ software package.

12.17.2 Starting the AxxonPlayer.exe utility

To start the "AxxonPlayer.exe" utility, do one of the following:

1. Run the executive file in the "Tools" folder from the INTELLECT™ software installation directory: "<Intellect installation directory>\Tools\ AxxonPlayer.exe".
2. Select in the menu "Start -> All Programs -> Intellect -> Tools -> AxxonPlayer".

The "Axxon Player" window opens after starting the AxxonPlayer.exe utility (Figure 12.17—1).

Figure 12.17—1 The AxxonPlayer.exe utility

The “AxxonPlayer.exe” utility is now started.

12.17.3 Opening video files

There are three ways to open video files with the “AxxonPlayer.exe” utility:

1. Double left-click on the archive file (file of *._* type) in the VIDEO folder.
2. Specifying the path using which the access to archive files is to be performed in the utility.
3. Using the command line.

12.17.3.1 *Opening video files by specifying the path in the utility*

The following ways are to be used to specify the path to archive files:

1. Disk - access is performed to all files stored on the specified disk;
2. Folder - access is performed to all files stored in the specified folder;
3. File - the separate file is to be viewed.

To open archive files which are to be viewed with the “AxxonPlayer.exe” utility, do the following:

1. Click the button in the “Axxon Player” window (Figure 12.17—2).

Figure 12.17—2 Opening the playback setting panel

The playback settings panel is opened (Figure 12.17—3).

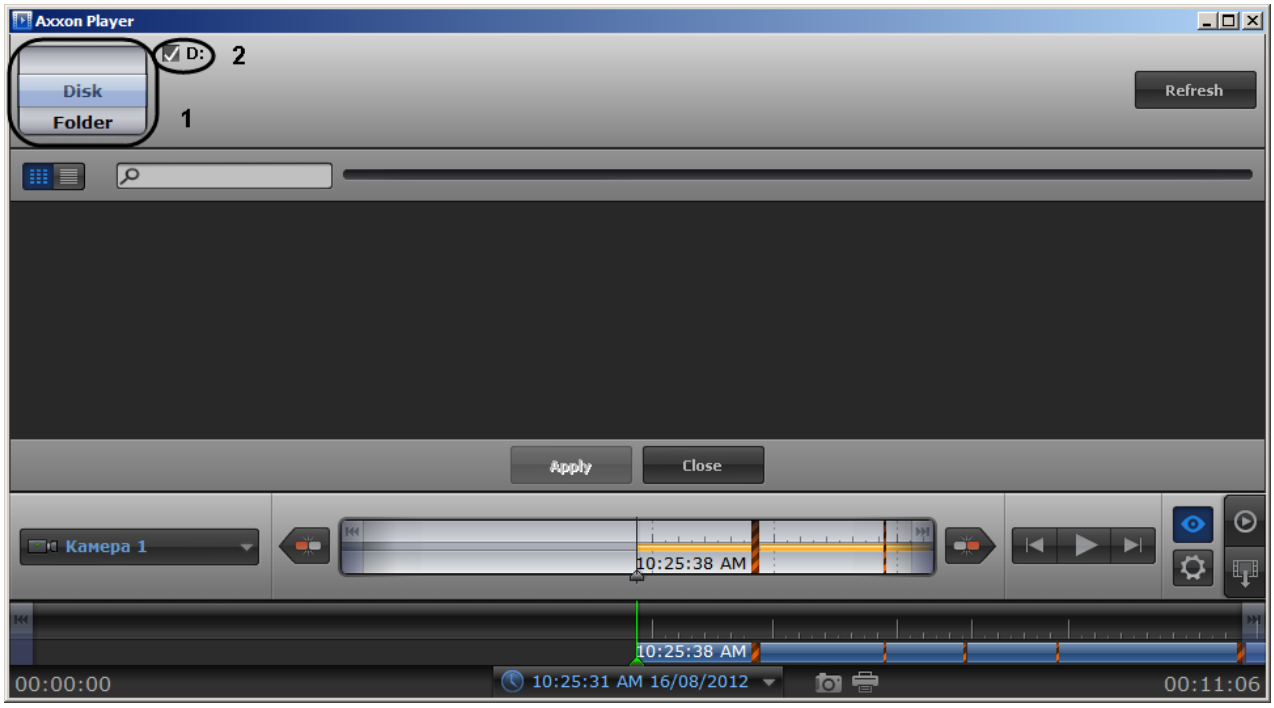


Figure 12.17—3 Select the way of opening the file

2. Select the way of opening the file: Disk, Folder or File (Figure 12.17—3, 1).

3. Specify the path to video files:

   3.1. If the “Disk” way is selected then set checkboxes next to those disks on which the INTELLECT™ software archive is stored (Figure 12.17—3, 2).

3.2. If the “Folder” way is selected then click the ... button and specify the folder from which the archive is to be viewed using the standard Windows dialog (Figure 12.17—4).

Figure 12.17—4 Specifying the folder with the archive files

3.3 If the “File” way selected then click the ... button and specify the archive file using the standard dialog of file opening (Figure 12.17—5)

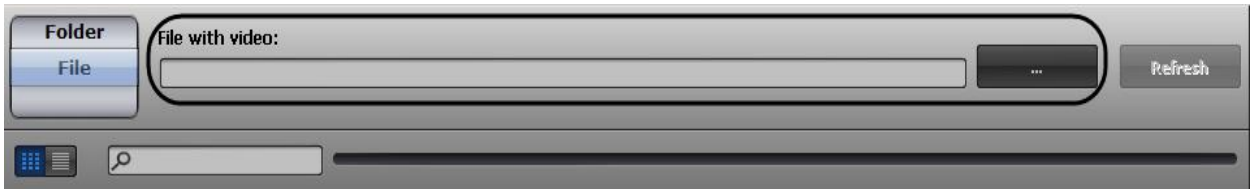


Figure 12.17—5 Selecting the archive file

4. Click the “Refresh” button. The of list video cameras on which the archive is available by specified path is displayed in the playback window (Figure 12.17—6, 1)

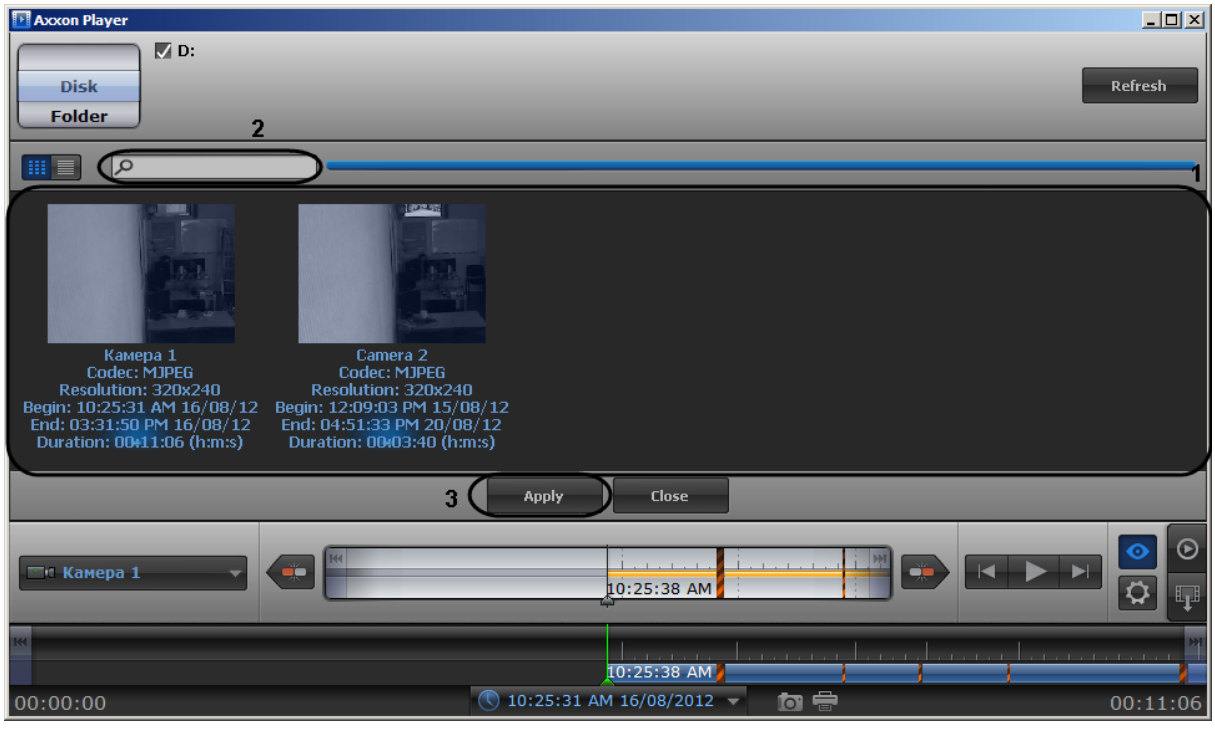


Figure 12.17—6 Selecting the video cameras

5. Select video cameras the archive from which is to be viewed (Figure 12.17—6, 1). To select more than one camera at a time left-click them holding the “Ctrl” button pressed.

Note 1. Names of the selected video cameras are highlighted with blue. All found cameras are selected on default.

Note 2. Click the *button to switch over the mode of list viewing by rows (one camera in a row).*

Note 3. Enter the part of camera name in the Search field to search required camera (Figure 12.17—6, 2).

6. Click the “Apply” button (Figure 12.17—6, 3).

Playback setting panel is closed. Video images from selected cameras stored in the archive on specified path are displayed in the utility window (Figure 12.17—7).

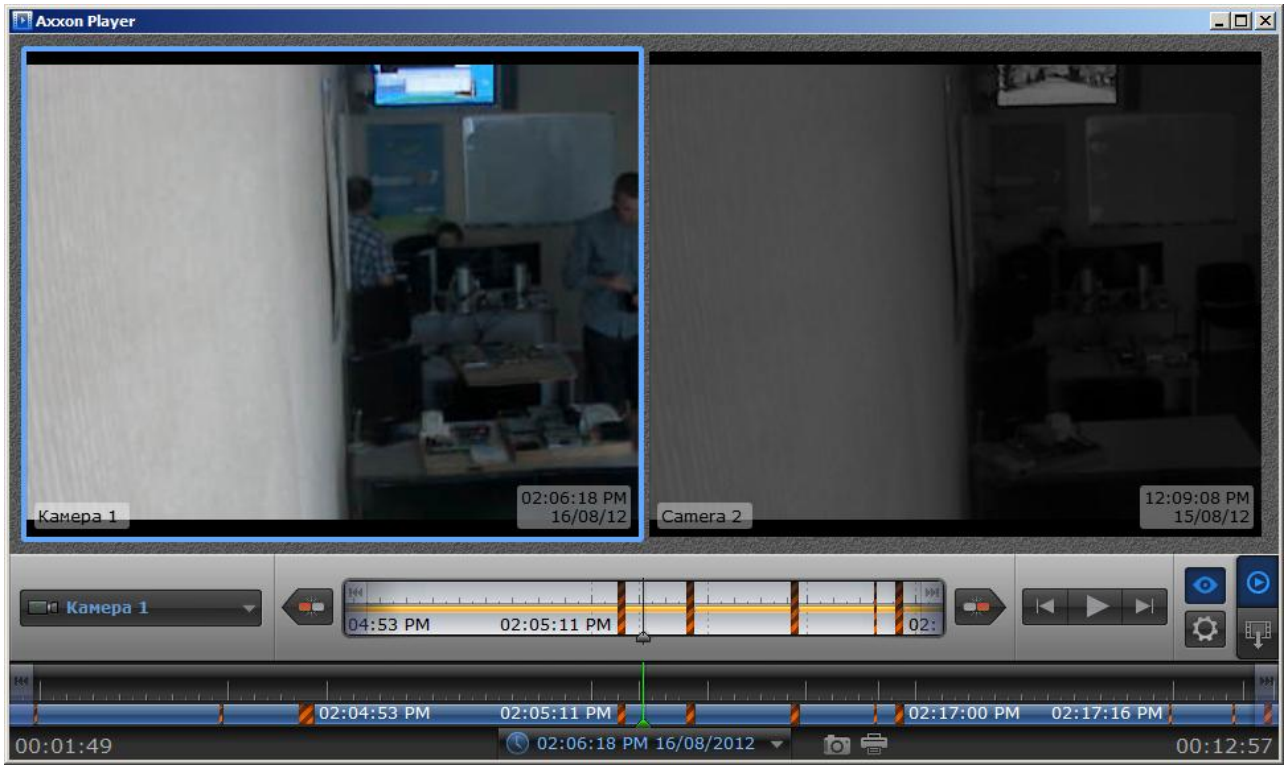


Figure 12.17—7 Video images from cameras

If several cameras are selected for archive playback, it is possible to make the image from one camera fullsized in the utility window. Double click the video image to switch over the full-screen mode. Double click the video image again to return the mosaic mode.

Opening the archive files specifying the path is completed.

12.17.3.2 *Opening video files using the command line*

It is possible to open video files using the “AxxonPlayer.exe” utility from the command line.

To open video files input the following in the command line:

Axxon_player.exe --source "File/Folder path". For example, Axxon_player.exe --source "H:\VIDEO\05-05-12 18\15._01".

To select all available disks with the archive use the “all” value of the “source” parameter: Axxon_player.exe --source "all".

To display the window of the Axxon_Player.exe utility over other windows use the “topmost” parameter with “1” value when opening video files using the command line. For opening in a normal mode use “0” value of this parameter. For instance, the Axxon_player.exe --source "H:\VIDEO\05-05-12 18\15._01" --topmost "1" command starts the utility in the displaying over other windows mode. By default the “topmost” parameter has “0” value.

To start the Axxon_Player.exe utility in a single mode prohibiting simultaneous opening several windows of the utility, use the “single” parameter of the command line with “1” value. To start using several windows of the utility use **0** value of this parameter. For instance, using the Axxon_player.exe --source "H:\VIDEO\05-05-12 18\15._01" --single "1" command the Axxon_Player.exe utility starts with prohibition of simultaneous opening of several utility windows. By default the “single” parameter has “1” value.

12.17.4 Configuring the interface of the Axxon_Player.exe utility

To configure the interface of the “Axxon_Player.exe” utility do the following:

1. Go to the setting panel of the Axxon_Player.exe utility. For this click the button (Figure 12.17—8, 1).

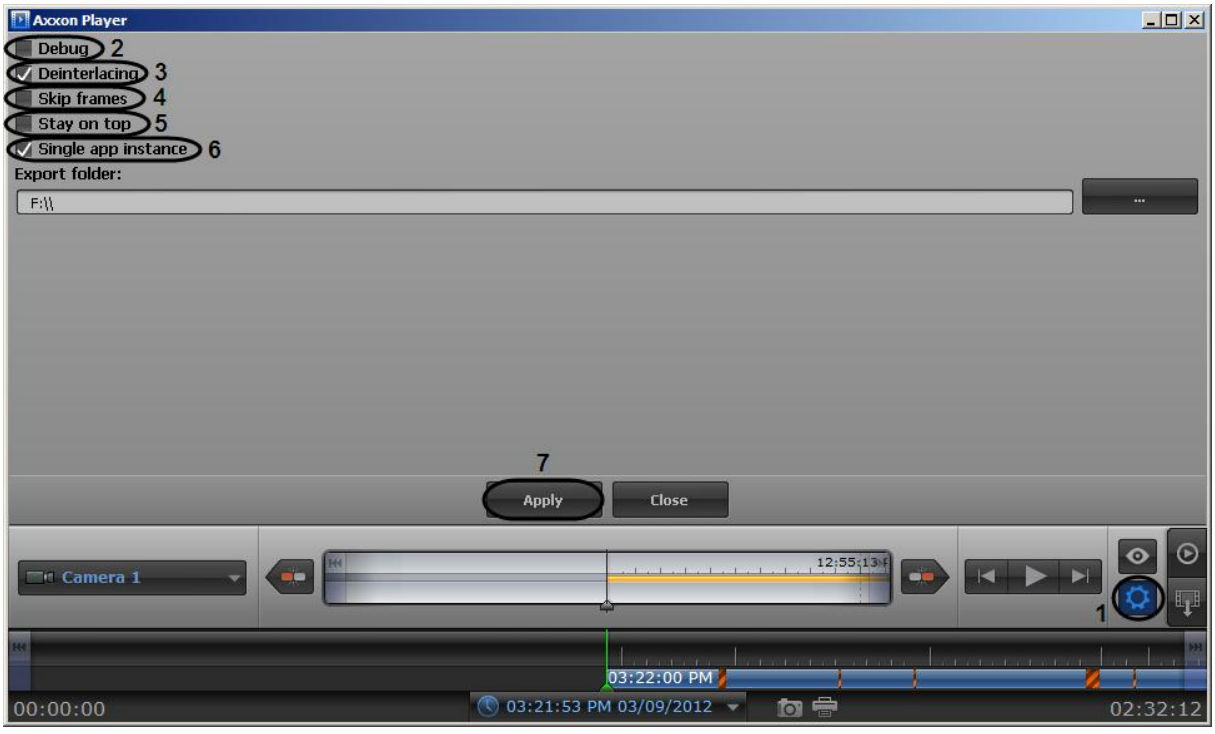


Figure 12.17—8 Enabling deinterlacing

2. To display a semi-transparent debug window over each image set the “Debug” checkbox (Figure 12.17—8, 2).
3. To enable deinterlacing set the “Deiterlacing” checkbox (Figure 12.17—8, 3). To disable deinterlacing remove this checkbox.
   Deinterlacing allows avoiding artifacts in the video image (Figure 12.17—9).

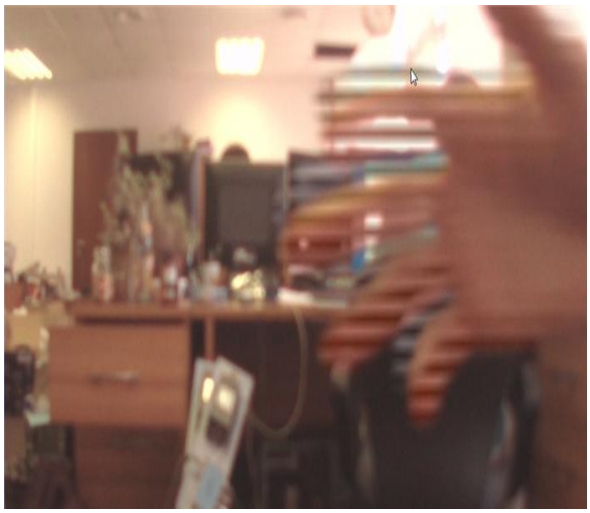


Image with artifacts

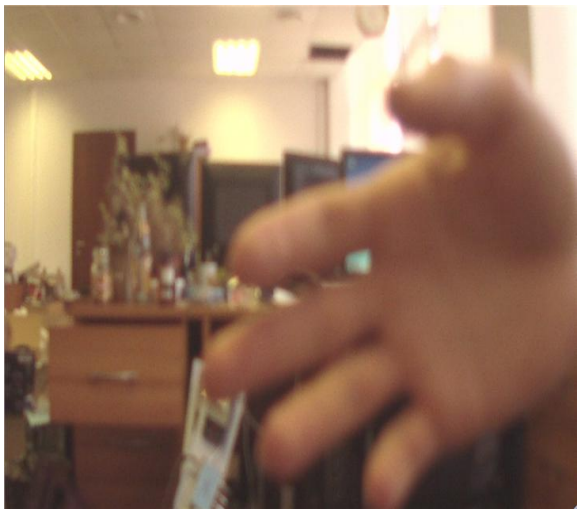


Image with no artifacts

Figure 12.17—9 Image with artefacts and without them

4. To enable the option of frames skipping when there is fast playback set the “Skip frames” checkbox (Figure 12.17—8, 4). This functionality is used to reduce the Server load.
5. To display the utility window over other windows set the “Stay on top” checkbox (Figure 12.17—8, 5).
6. To disable the simultaneous opening of several utility windows set the “Single app instance” checkbox (Figure 12.17—8, 6)
7. Click the “Apply” button (Figure 12.17—8, 7).

Deinterlacing configuration is now completed.

12.17.5 Viewing video using the AxxonPlayer.exe utility

12.17.5.1 *Playback control panel*

Archive playback control using the “AxxonPlayer.exe” utility is performed in the utility window on the playback control panel (Figure 12.17—10).

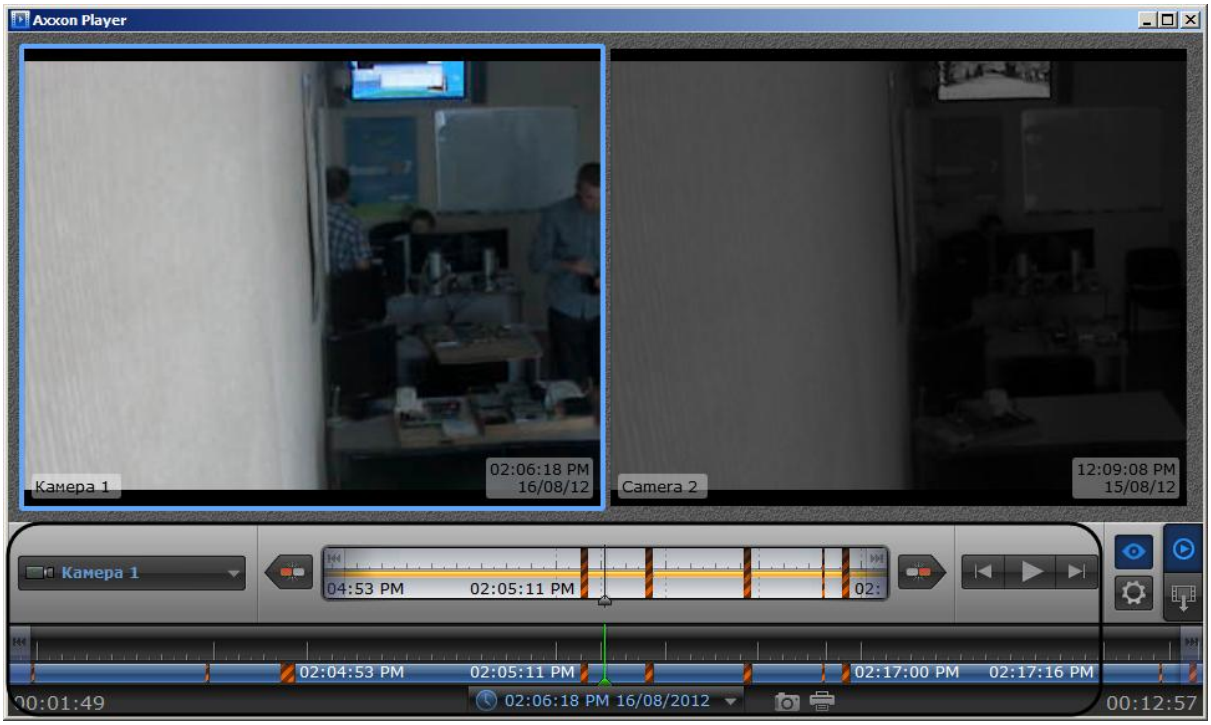
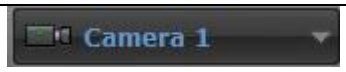


Figure 12.17—10 Playback control panel

Click the button to go to the playback control panel.

Elements description of the playback control panel is given in Table 12.17-1

Table 12.17-1 Elements of playback control panel

Control element	Performed function
	Start the archive playback on cameras on which there are records on specified date. Synchronic archive playback is available.
	Playback stop.
	Playback speed up in two times relatively the current speed if the playback launched (maximum ×16 speed up is available). Go to the next frame if the playback stopped.
	Playback speed down in two times relatively the current speed if the playback launched (maximum ×16 speed down is available). Go to the previous frame if the playback stopped.
	Go to the current record beginnig.
	Go to the current record ending.
	Go to the archive ending in the main time scale. Go to the archive ending of selected camera on additional time scale.
	Go to the archive beginning in the main time scale. Go to the archive beginning of selected camera on additional time scale.
	Select active camera for archive playback in full-screen mode if several cameras selected for archive playback.
	Saving the frame. Frame is saved in Tools\Screenshots folder of INTELLECT™ software installation directory.
	Printing the frame.

11:06:03 09/04/2012	Specifying time and date for archive record to be played.

Time and archive marks in the both scales are to be taken into consideration while controlling playback. Their description is given in Table 12.17-2.

Table 12.17-2 Time and archive marks on time scales

Mark	Description
	This mark means that there is no compressed archive. The more interval without archive, the thicker the mark is.
Time mark 1 (Figure 12.17—11, 1)	Time period from archive begin to the current moment.
Time mark 2 (Figure 12.17—11, 2)	Time period from the current period to archive ending.
Time mark 3 (Figure 12.17—11, 3)	Time of recording start.
Time mark 4 (Figure 12.17—11, 4)	Time of recording finish.

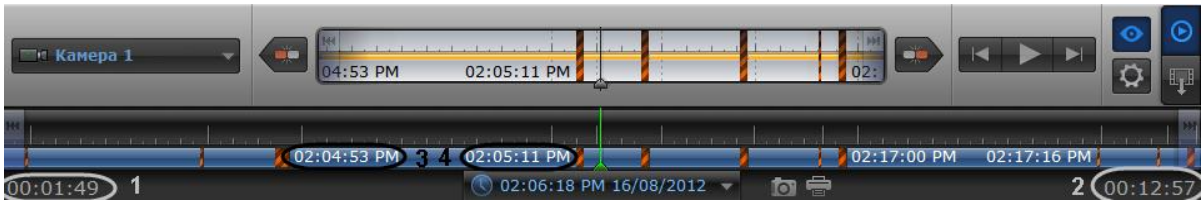


Figure 12.17—11 Time and alarm marks on time scales

12.17.5.2 *Archive navigation using the calendar*

Archive navigation can be performed using the "Calendar" tool (Figure 12.17—12). This tool is designed to specify the date the archive on which is to be played back.

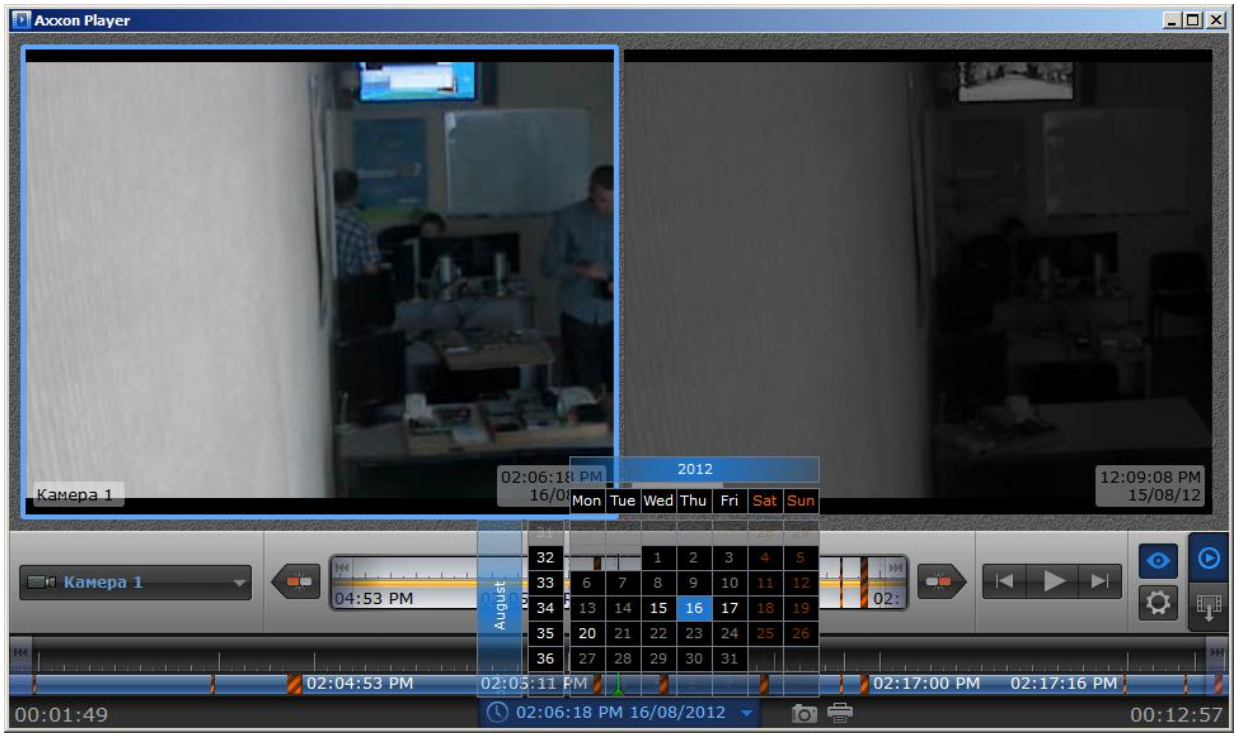


Figure 12.17—12 The Calendar tool

To specify date of archive viewing do the following:

1. Click the or button to access the “Calendar” tool (Figure 12.17—13, 1).

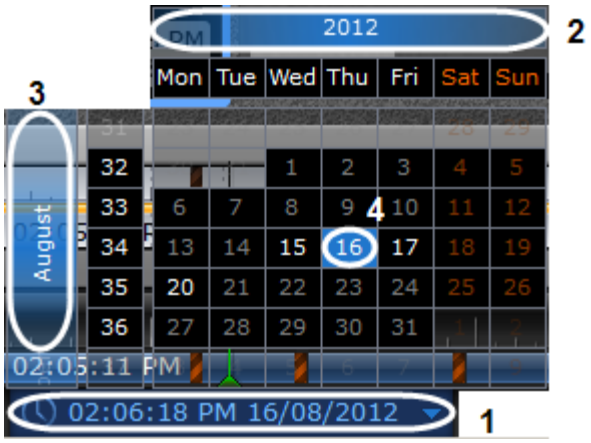


Figure 12.17—13 Specifyong the date for viewing the archive

2. Specify the year by dragging the calendar field left or right (Figure 12.17—13, 2).

1. Specify the month by dragging the calendar field up or down (Figure 12.17—13, 3).

2. Select the needed day by left-clicking the mouse (Figure 12.17—13, 4). Days for which records are stored in archive are highlighted with white.

Going to the first archive record at the specified date is performed when the required date is selected in the calendar.

Date specifying for archive viewing is completed.

12.17.5.3 *Archive navigation using the time scale*

Archive navigation can be performed using the time scales.

Time scales contain color indicators of records presence per period – tracks.

There are following time scale types in the “AxxonPlater.exe” utility:

1. Main time scale (Figure 12.17—14, 1). This scale displays tracks from all cameras selected to view.

2. Additional time scale (Figure 12.17—14, 2). This scale displays tracks from the active camera.

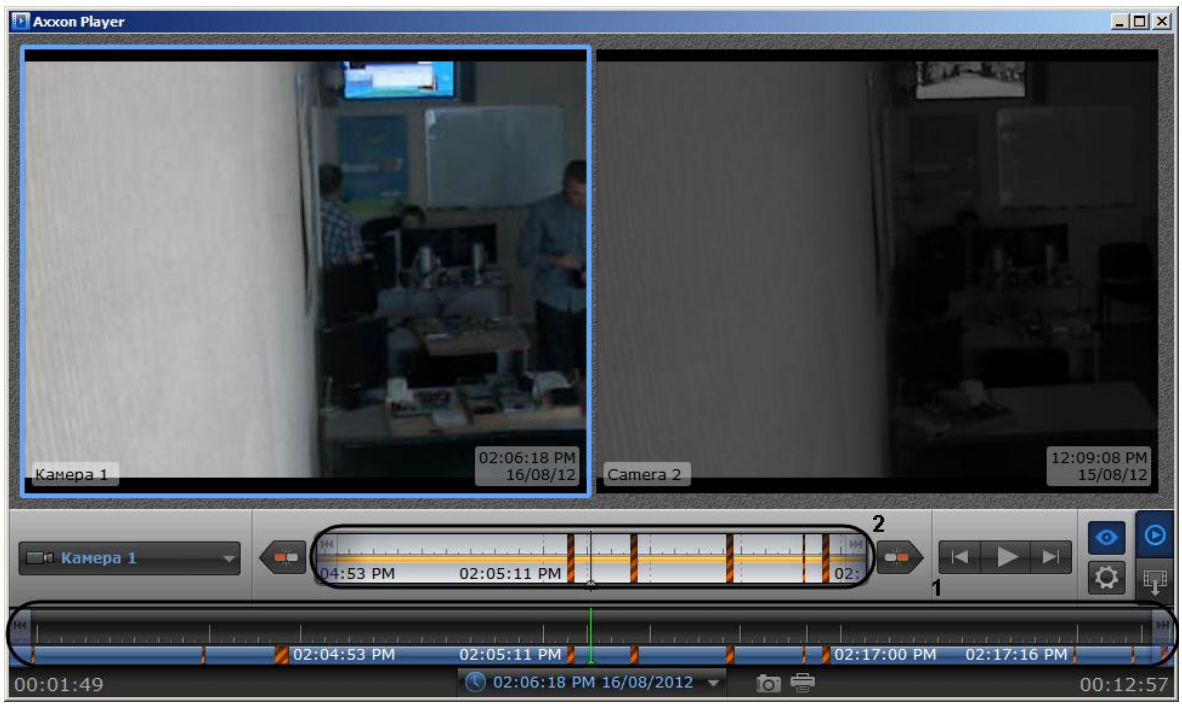


Figure 12.17—14 Main and additional time scales

Archive navigation is performed in two ways:

1. By dragging the scale relatively the indicator (Figure 12.17—15). When the indicator is matched to the point on the time scale then there is going to the moment on the record corresponding to this point.

2. By left-clicking the mouse on required period on the time scale.

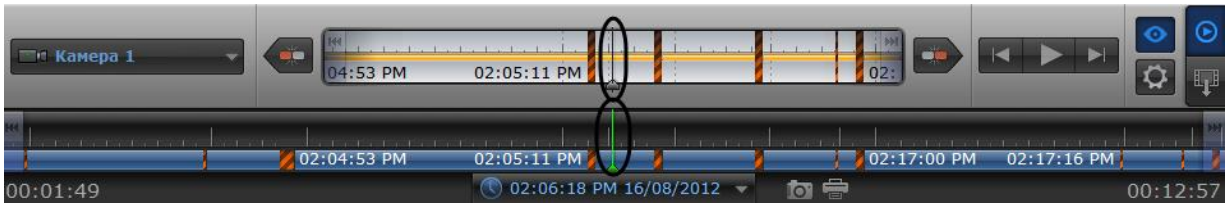


Figure 12.17—15 Time scale indicators

Going in the main and additional scale is sincronized.

It is possible to size time scales. Zoom in and zoom out of time scales are performed using the scroll wheel in required area of the time scale.

12.17.5.4 *Scaling the video image*

It is possible to scale viewing video images in the “AxxonPlayer.exe” utility.

Zoom in and zoom out of video image size are performed using the scroll wheel in the camera area (Figure 12.17—16).

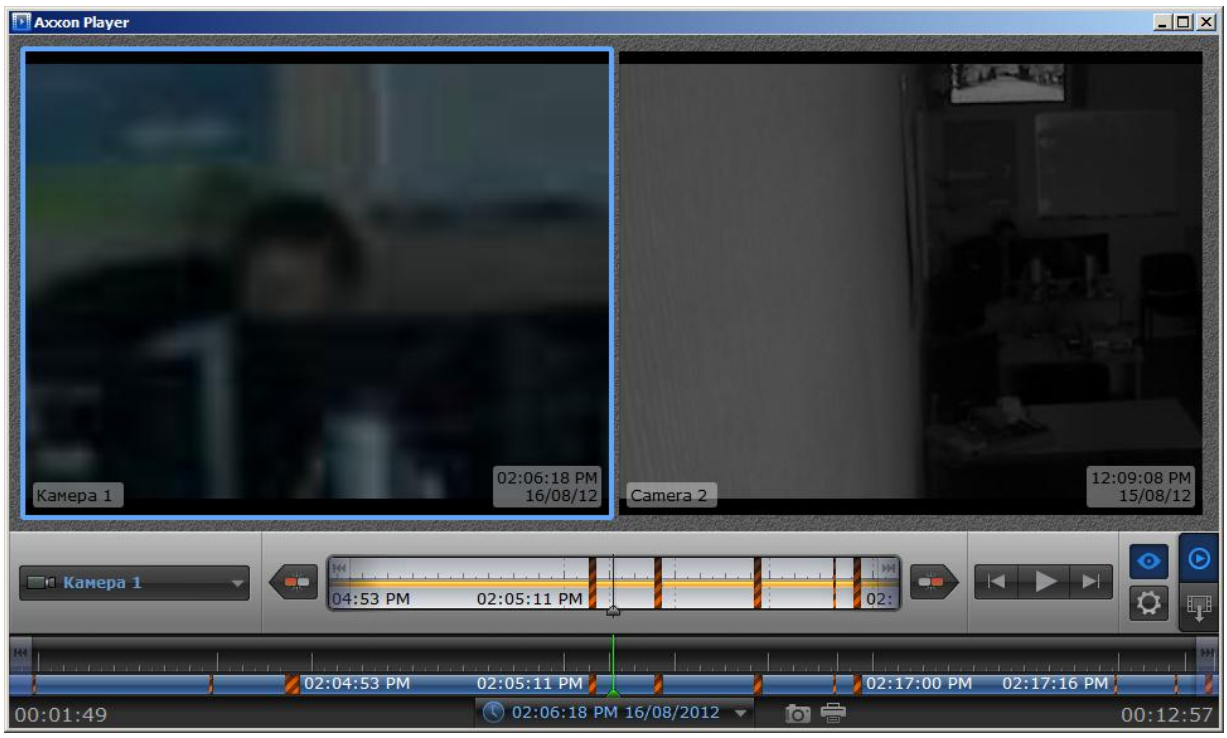


Figure 12.17—16 Scaling the video image on Camera 1

Navigation over the blowup video is performed using the mouse cursor moving with holding the middle mouse button (wheel) pressed.

12.17.5.5 *Saving the frame from the command line*

It is possible to export frame from archive using the command line. The following parameters of axon_player.exe executive file are used:

- help – reference on parameters of executive file;
- source arg – specifying the video file/catalogue;
- channels arg – specifying the video camera id for frame export;
- destination arg – specifying the catalogue for frame export;
- time – specifying the time of export frame in YYYY-MM-DD HH:MM:SS.ZZZ format.

Example.

« --source "D:\VIDEO" --destination "D:\CmdExportFolder" --channels "1 3 5" --time "2011-11-02 15:40:11.123"»

or

«--source "D:\VIDEO" --destination "D:\CmdExportFolder\UserFrame.jpg" --channels "1" --time "2011-11-02 15:40:11.123"»

File names like “dd-MM-yyyy hh-mm-ss-zzz channelID.jpg" are assigned automatically in the first case. In the second case file names are specified by the user and it is possible to save the frame in jpg, bmp or png formats.

If the **channels** parameter is not specified, then all existing channels are to be saved both for the video and images.

12.17.6 Exporting the Intellect video archive using the AxxoPlayer.exe utility

12.17.6.1 *Order of video archive export*

Exporting the INTELLECT™ software archive using the “AxxonPlayer.exe” is performed in the following order:

1. Specify the path to the folder to which archive files are to be exported.
2. Go to the export panel.
3. Create the export task.
4. Start the archive export.

12.17.6.2 *Specifying the export folder*

To specify the export folder do the following:

1. Click the button. The settings panel of the “AxxonPlayer.exe” utility is opened (Figure 12.17—17, 1).

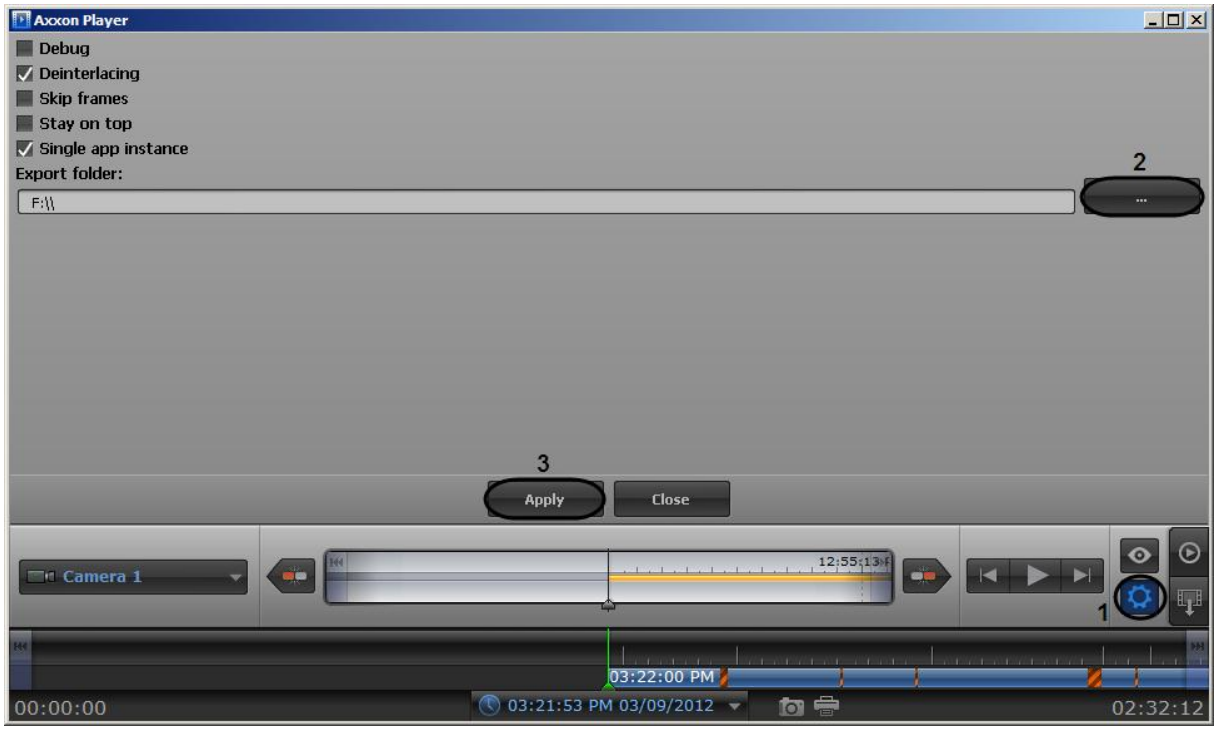


Figure 12.17—17 Export flder configuration

2. Click the button and select the export folder using the standard dialog of path selection to the Windows OS folder (Figure 12.17—17, 2).

1. Click the “Apply” button (Figure 12.17—17,3).

Specifying the export folder is completed.

12.17.6.3 *Going to the export panel*

To go to the export panel click the button (Figure 12.17—18).

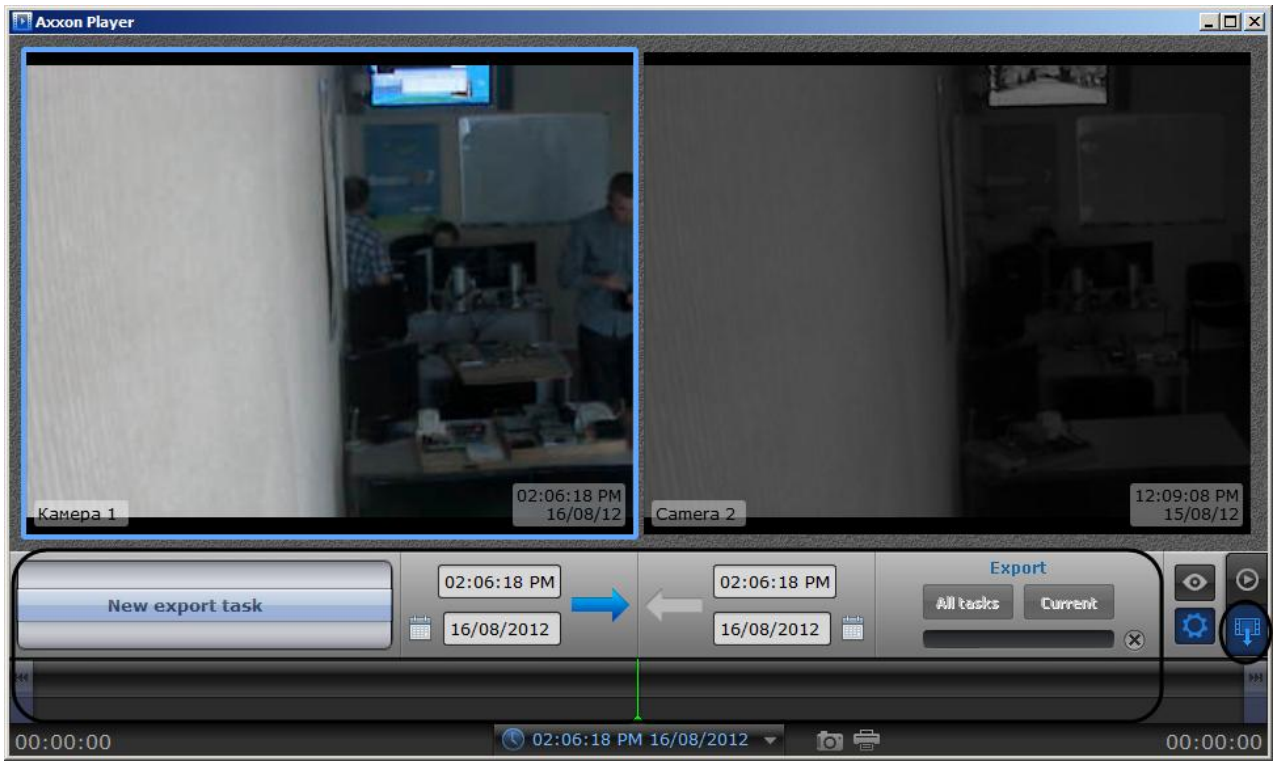


Figure 12.17—18 The export panel

12.17.6.4 *Creating the export task*

To create the export task do the following:

1. Select the “New export task” value in the list (Figure 12.17—19). The value selection is performed by dragging the list items up or down until the aligning with the list center.

Figure 12.17—19 First step in export task creation

2. Select the image from the required camera and drag it to the list using the left mouse button (Figure 12.17—20).

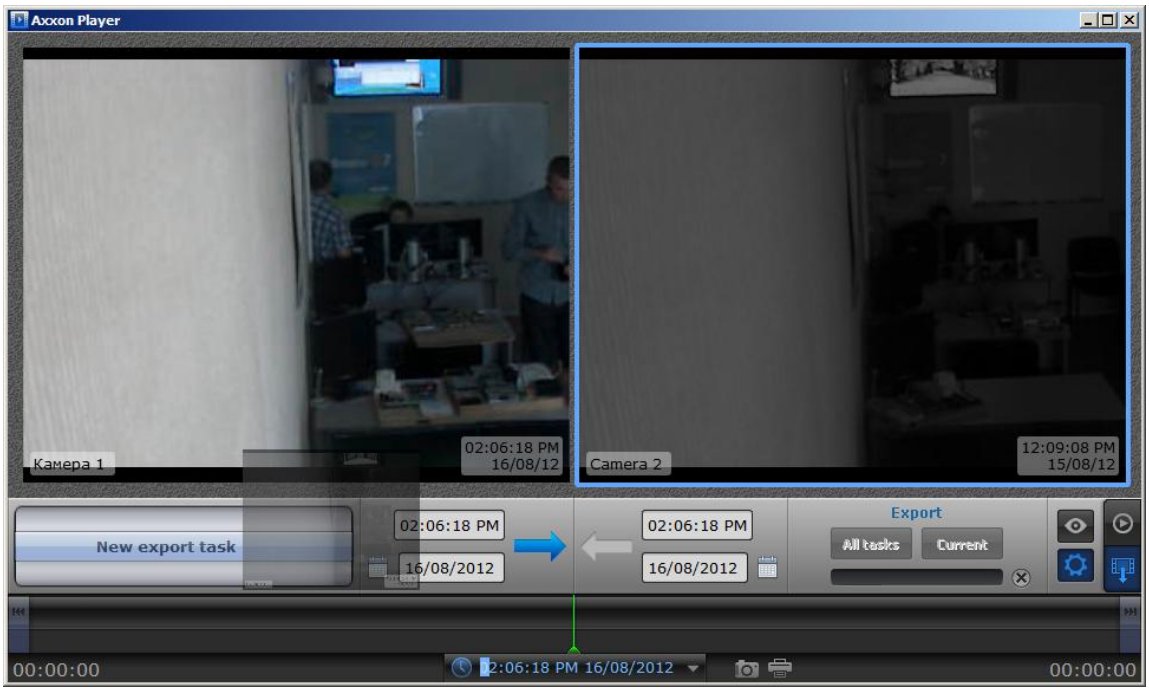


Figure 12.17—20 Dragging the image from the camera to the task list

Cameras are to be added to the export list (Figure 12.17—21, 1).

Note. To remove the cameras from the list click the button.

Figure 12.17—21 Specifying the export interval

1. Specify the start export date by one of the following ways:

   1.1 Enter the required value in the field manually (Figure 12.17—21, 2).

   1.2 Click the button and use the “Calendar” tool (Figure 12.17—21, 3). Calendar operation procedure is equal to the archive navigation procedure (see «Archive navigation using the calendar» chapter).

   1.3 Click the button (Figure 12.17—21, 4) and specify the start value of export by dragging the time scale relatively the indicator (Figure 12.17—21, 8).

2. Specify the end export date by one of the following ways:

   2.1 Enter the required value in the field manually (Figure 12.17—21, 5).

   2.2 Click the button and use the “Calendar” tool (Figure 12.17—21, 6). Calendar operation procedure is equal to the archive navigation procedure (see «Archive navigation using the calendar » chapter).

2.3 Click the button (Figure 12.17—21, 7) and specify the end value of export by dragging the time scale relatively the indicator (Figure 12.17—21, 8).

Export task creation is completed.

12.17.6.5 *Run the archive export*

To run the export do the following:

Click the “All tasks” button for export of all created tasks (Figure 12.17—22, 1)

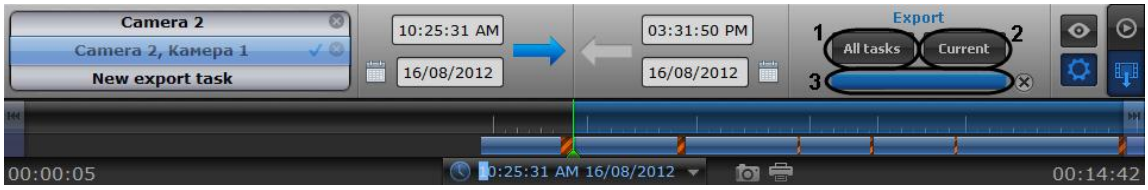


Figure 12.17—22 Run the archive export

1. Click the “Current” button to run the export of task selected in the task list (Figure 12.17—22, 2).

The export state is displayed by the indicator of process display (Figure 12.17—22, 3). Archive files will be copied to the export catalogue in the «drive_<Disk letter with the «Intellect» software archive>» after the export completion, e.g. «drive_D».

Note. Click the *button to stop the export. None of files will be exported.*

Export of video archive is completed.

12.17.6.6 *Set the export parameters from the command line*

It is possible to set the export parameters from the Windows command line. The following parameters of the axon_player.exe executive file are used:

— help – reference output by parameters of executive file;

— source arg – specify the video file/catalogue;

— channels arg – specify the video camera id for export through the space button ;

— destination arg – specify the export catalogue;

— from arg – specify the start export time in YYYY-MM-DD HH:MM:SS.ZZZ format;

— to arg – specify the end export time in YYYY-MM-DD HH:MM:SS.ZZZ format.

Example of line for export: «--source "D:\VIDEO" --channels "1 3 5" --destination "D:\CmdExportFolder" --from "2011-11-02 15:40:05.123" --to "2011-11-02 15:40:17.123"»

13 Appendix 3. Relevant information on using Windows operating system

13.1 Working with Windows OS registry

13.1.1 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 13.1-1.

Table 13.1-1

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 13.1—1 shows the main elements of the registry.

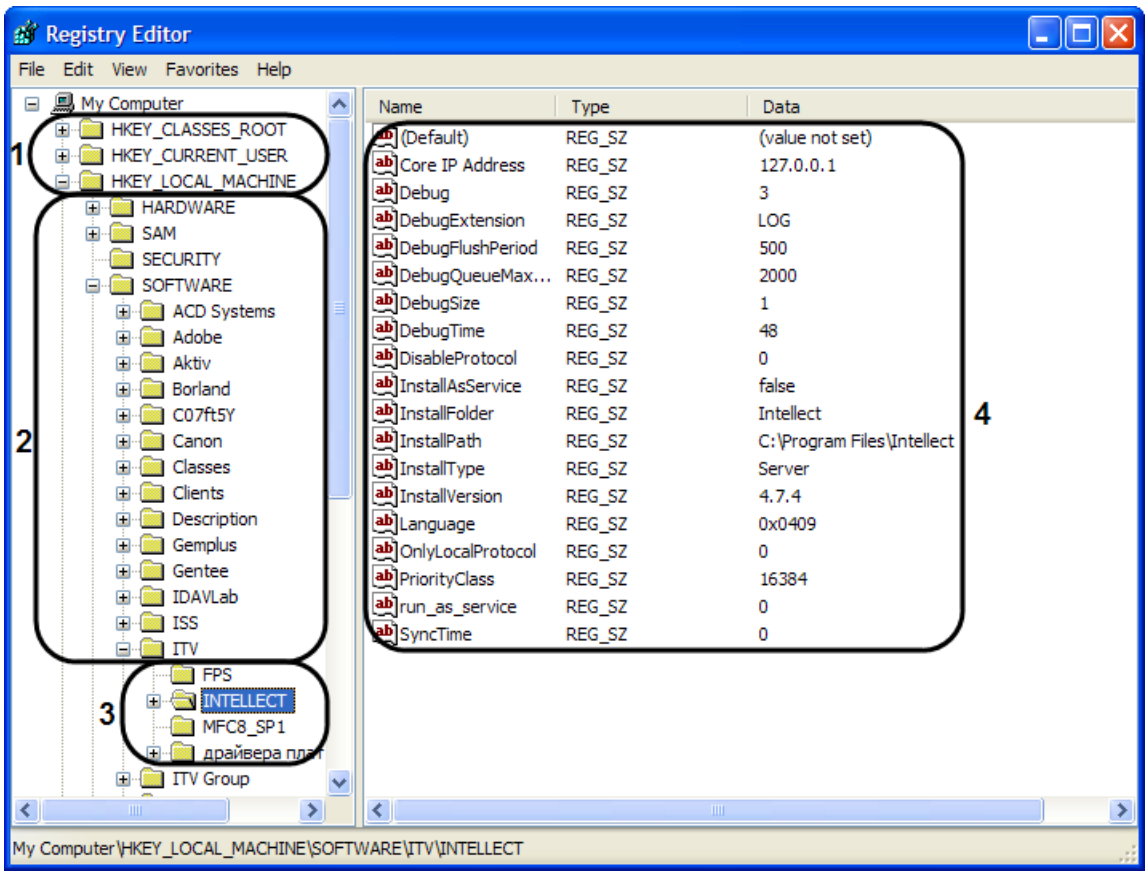


Figure 13.1—1. Main elements of the registry

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 13.1-2.

Table 13.1-2

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

Data type	Description	Purpose
		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.

13.1.2 Using the registry editor

13.1.2.1 *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 13.1—2).

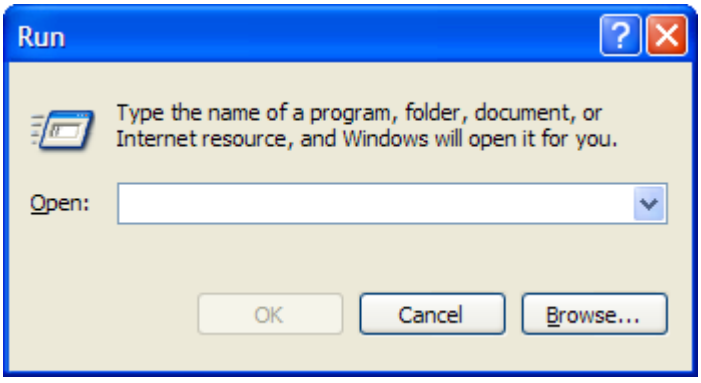


Figure 13.1—2. The Run dialog box

b. Enter “regedit” in the Open field of the dialog box.

c. Click OK.

The registry editor window will open (Figure 13.1—3).

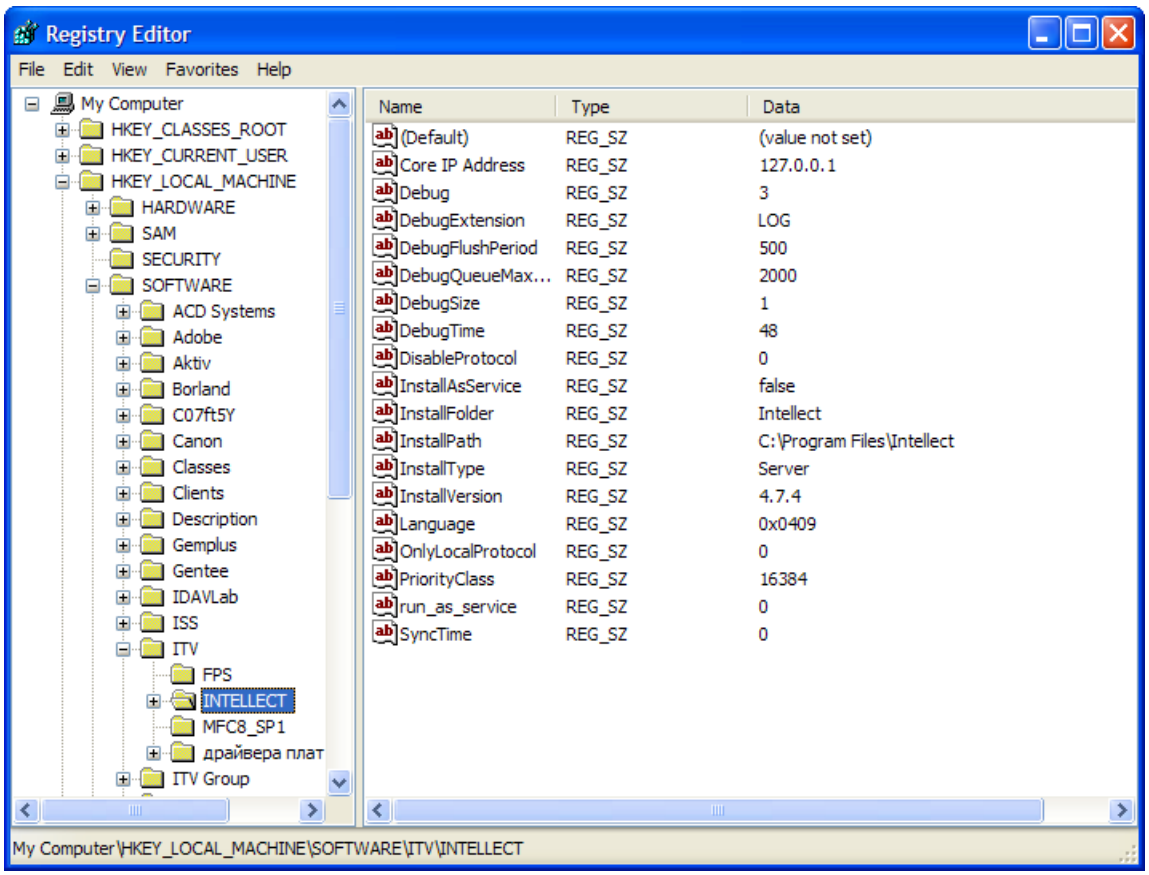


Figure 13.1—3 Registry editor window

To close the registry editor, click the button, or select Exit from File menu (Figure 13.1—4).

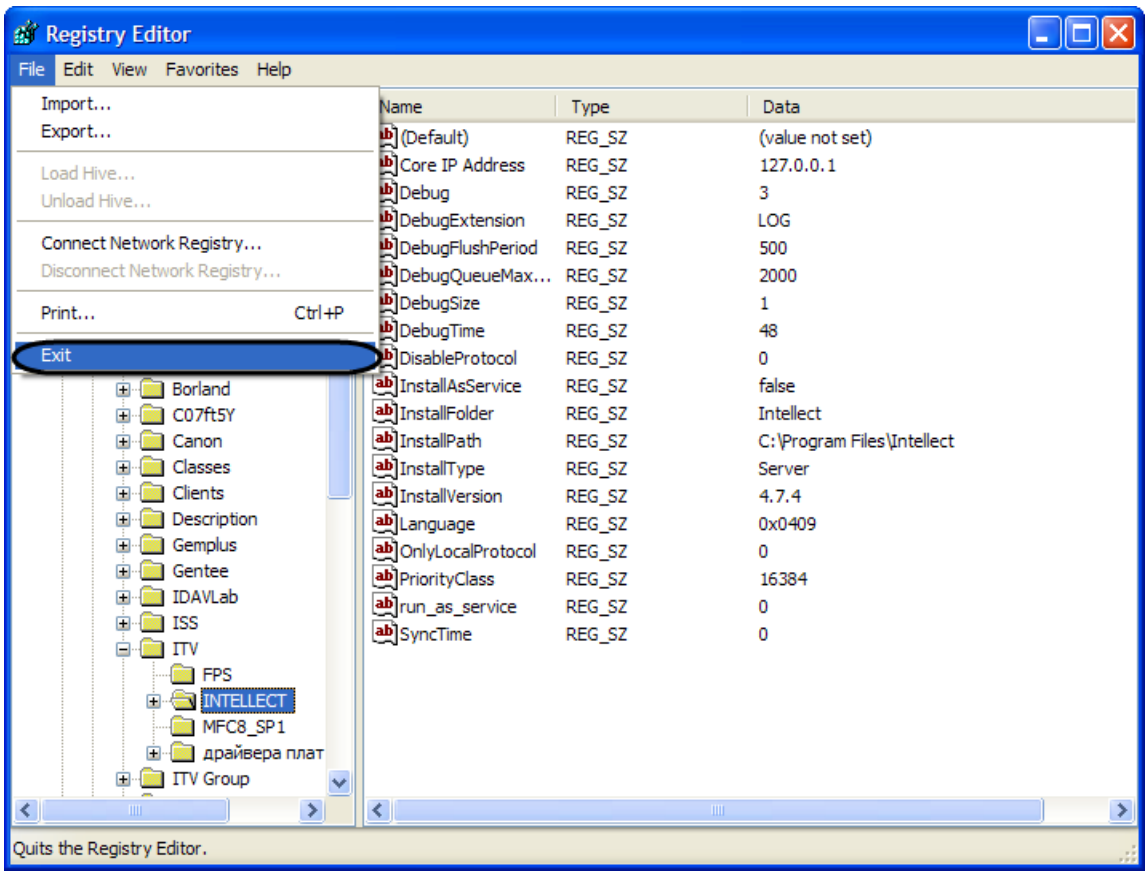


Figure 13.1—4. Closing the registry editor

13.1.2.2 *Interface elements*

Figure 13.1—5 shows the elements of the registry editor window.

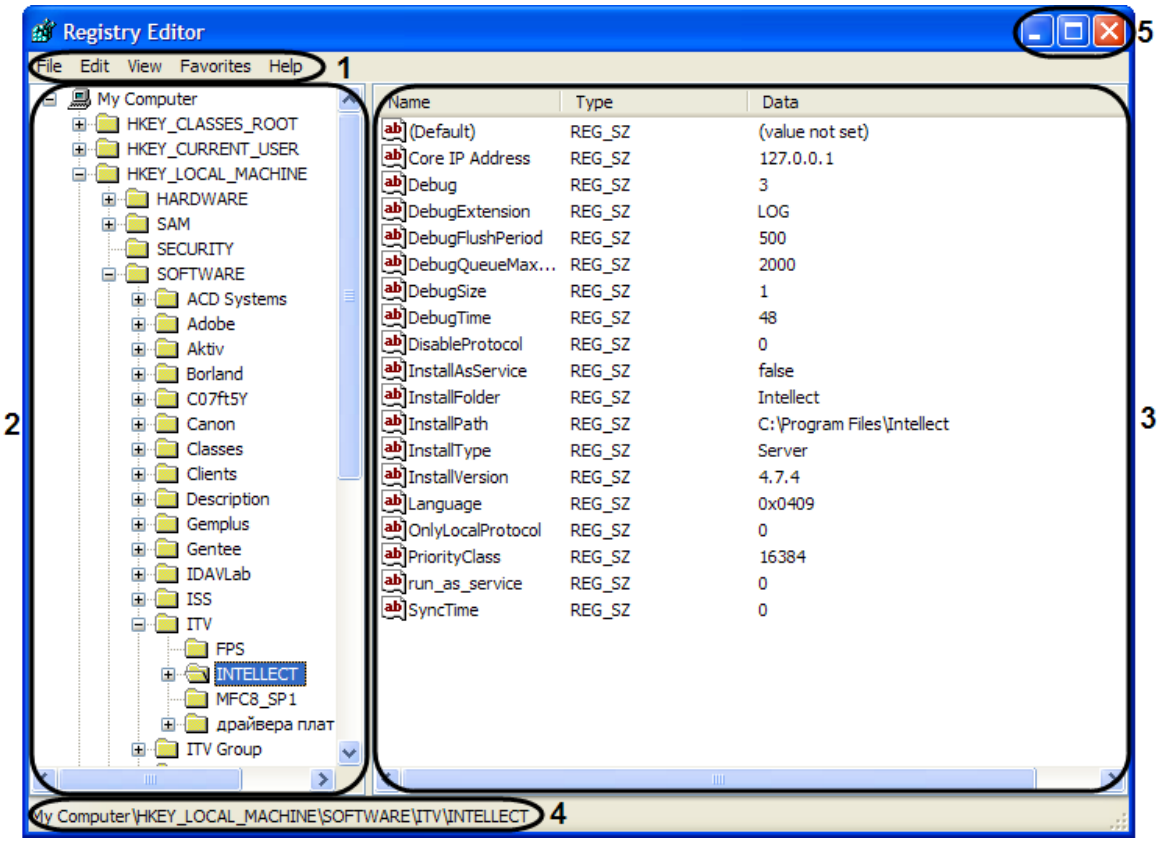


Figure 13.1—5. Interface elements of the registry editor window

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.

13.1.2.3 *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 13.1—6).

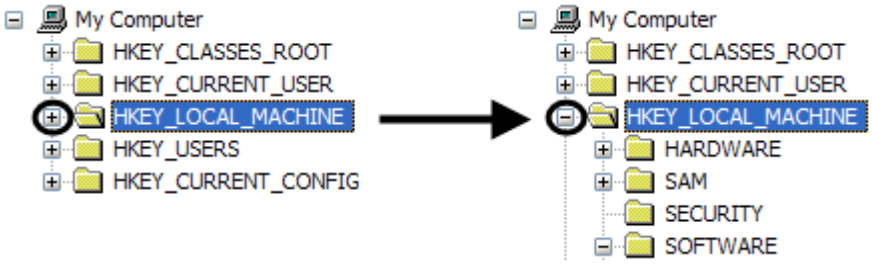


Figure 13.1—6. Expanding a branch in the registry tree

To contract the branch, click the minus icon next to it.

13.1.3 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 13.1—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.

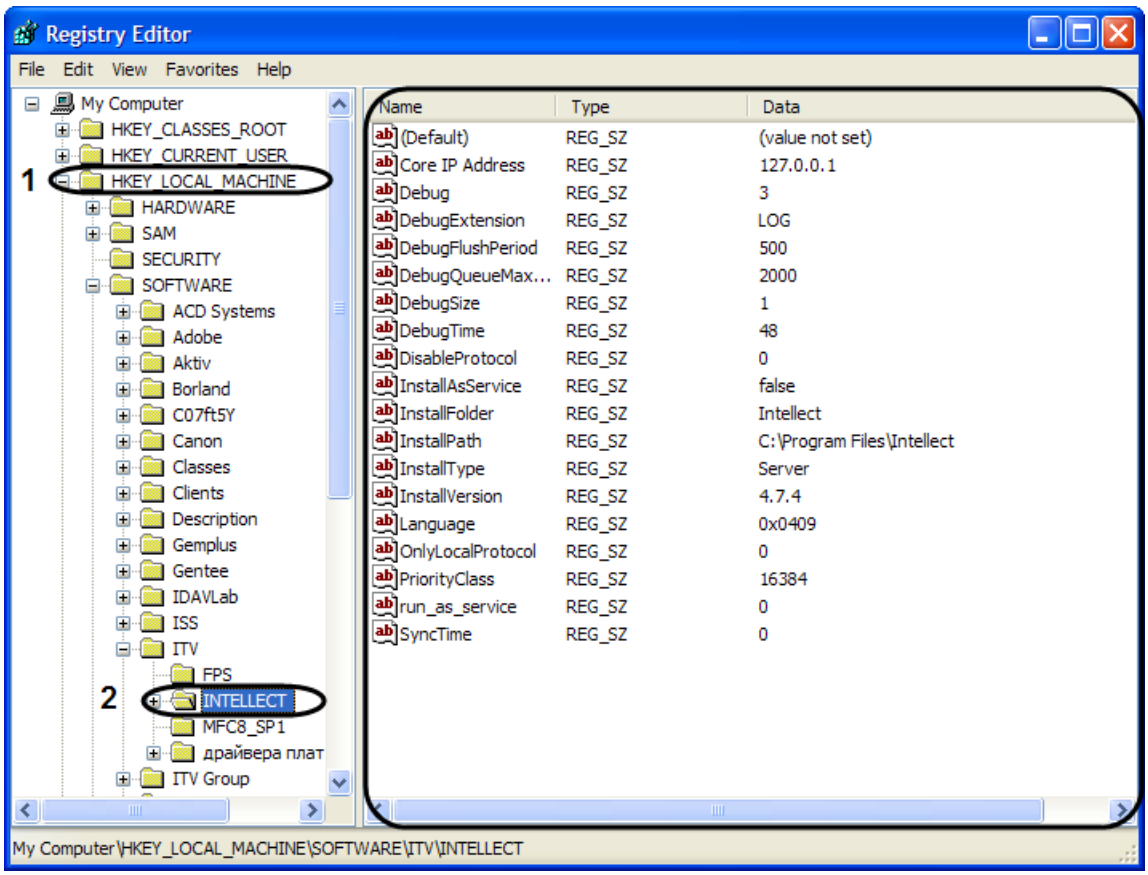


Figure 13.1—7. Selecting a folder in the tree

3. In the main menu, select Edit, then New, then String Value (Figure 13.1—8).

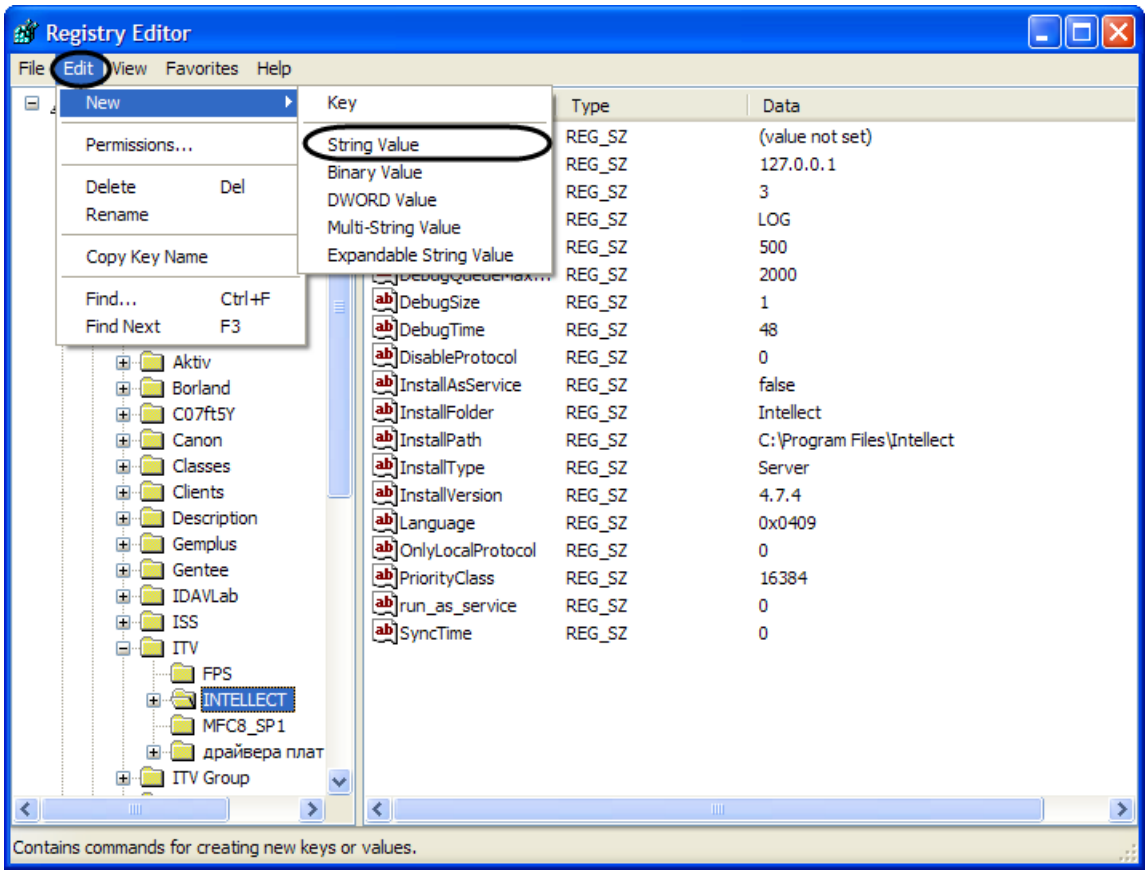


Figure 13.1—8. Creating a new string parameter

A new string parameter will be created (Figure 13.1—9).

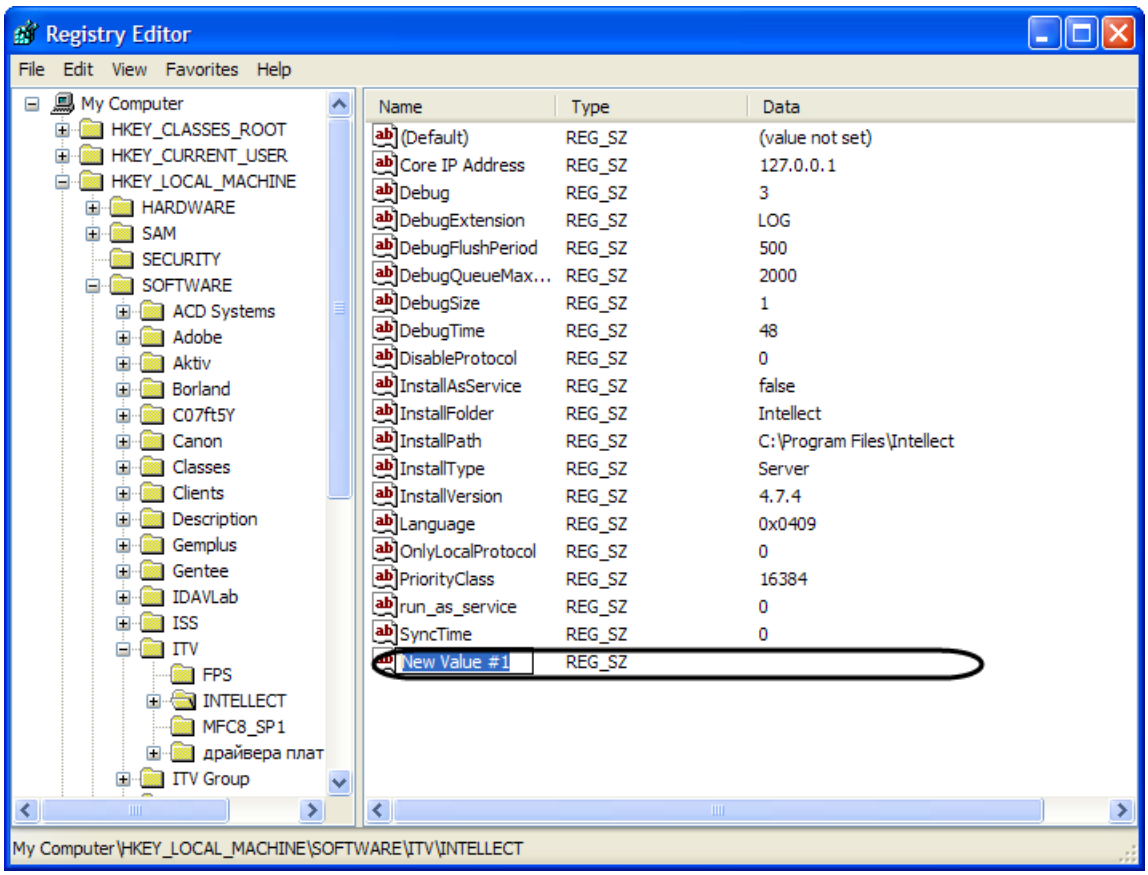


Figure 13.1—9. A new string parameter is created

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 13.1—10).

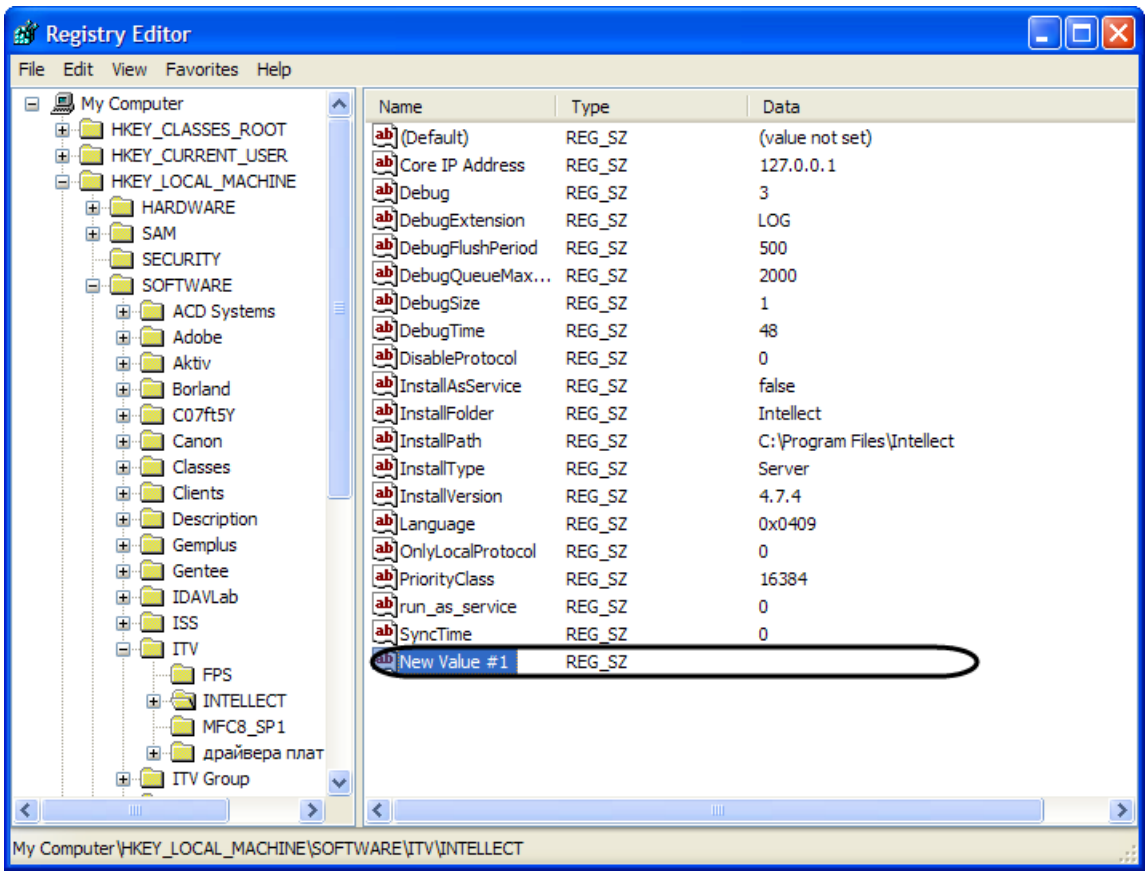


Figure 13.1—10. The new parameter is assigned a name

5. Specify the value of the new parameter. Double-click the parameter name. The Edit String dialog box will open (Figure 13.1—11).

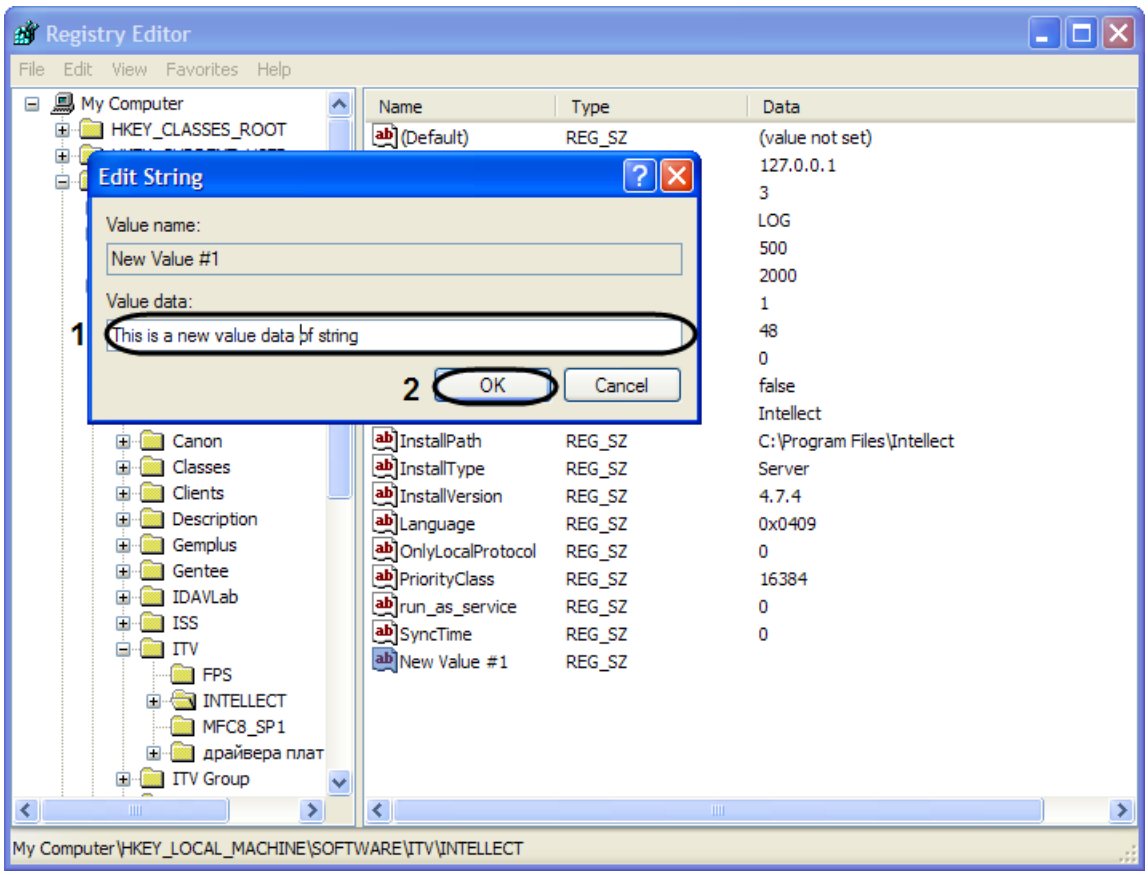


Figure 13.1—11. Edit String dialog box

Enter the value into the Value Data field (Figure 13.1—11, 1) and click OK (Figure 13.1—11, 2).

A string parameter with a specified value will be created (Figure 13.1—12). To edit the value, repeat step 5.

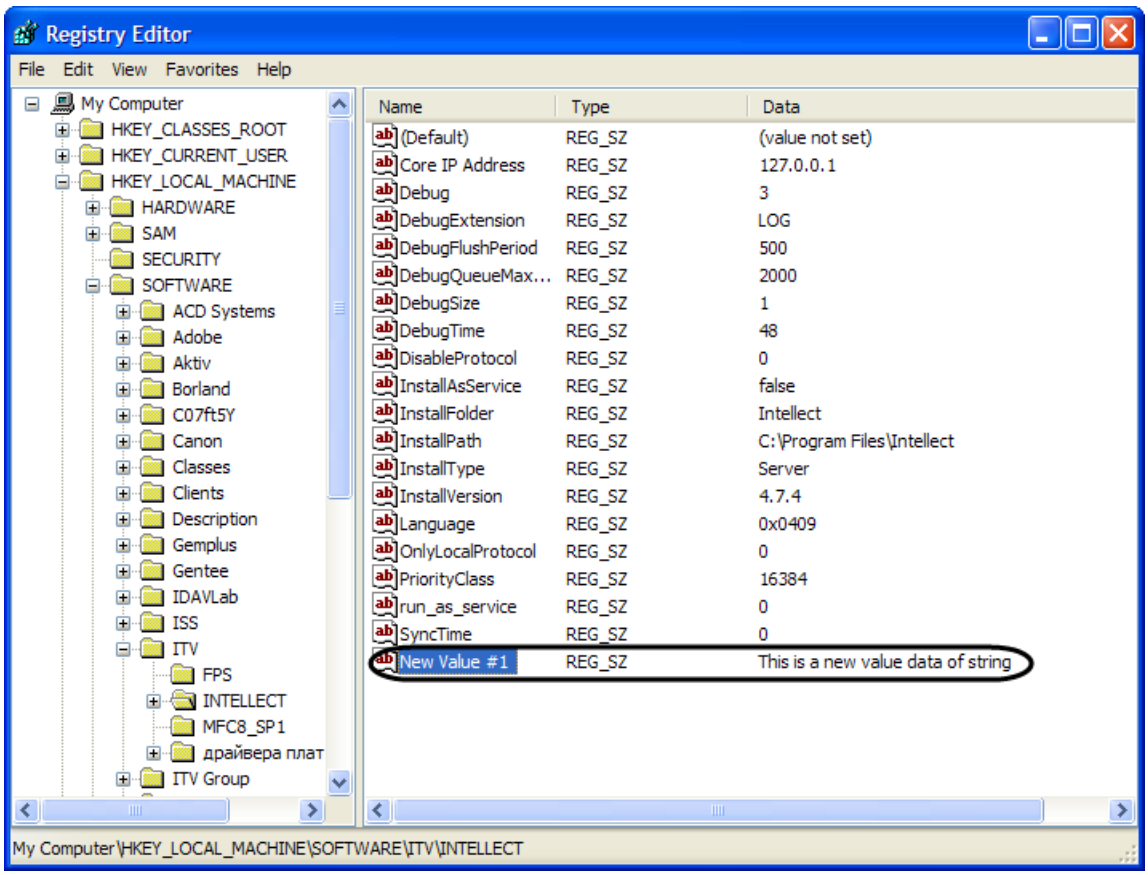


Figure 13.1—12. A string parameter is created

13.1.4 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 13.1—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.

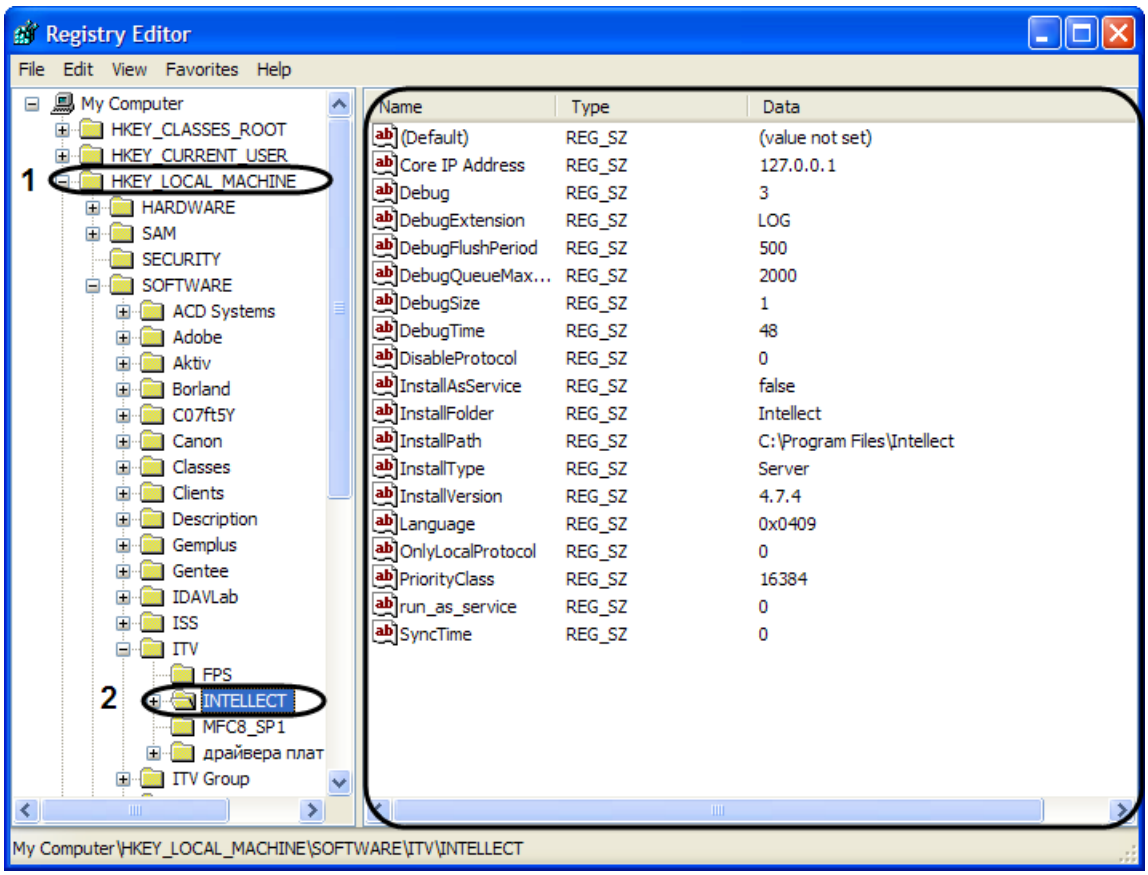


Figure 13.1—13. Selecting a folder in the tree

3. Select the parameter to be modified (Figure 13.1—14).

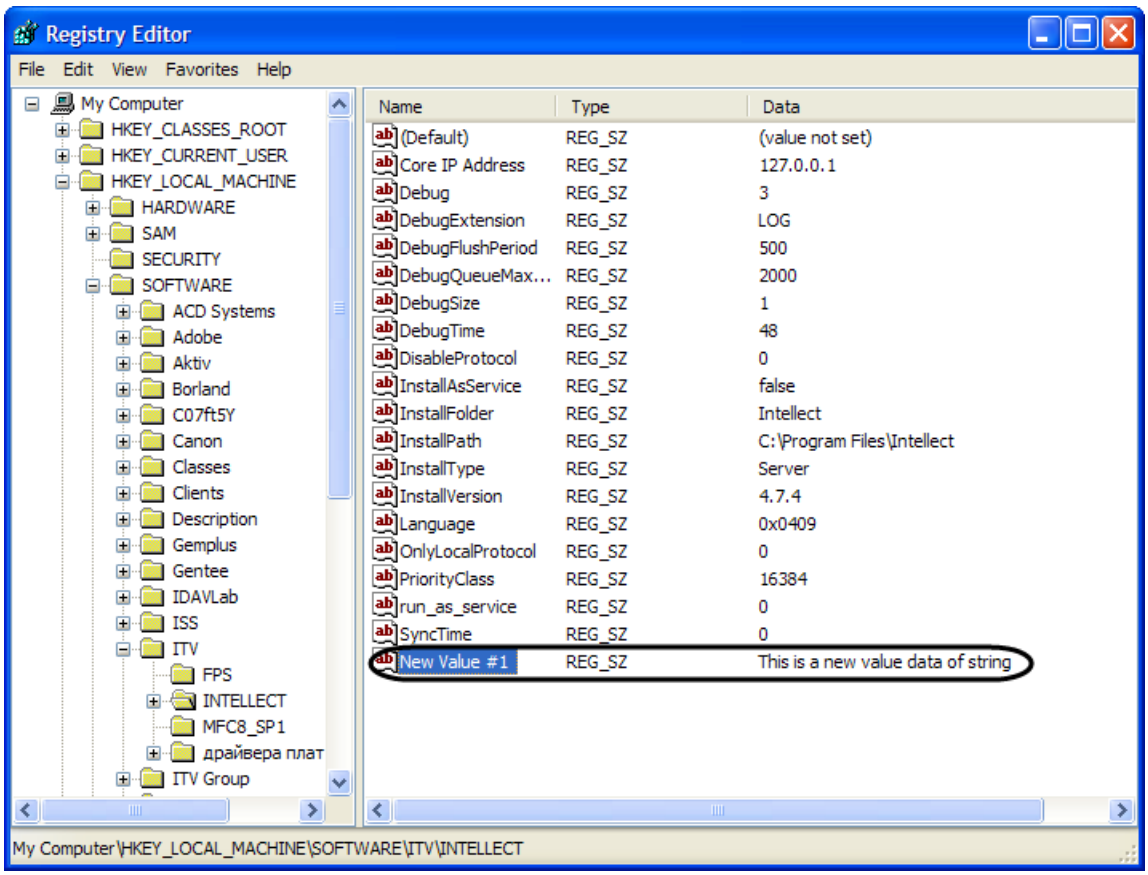


Figure 13.1—14. Selecting the parameter to be modified

4. In the menu, select Edit, then Modify (Figure 13.1—15).

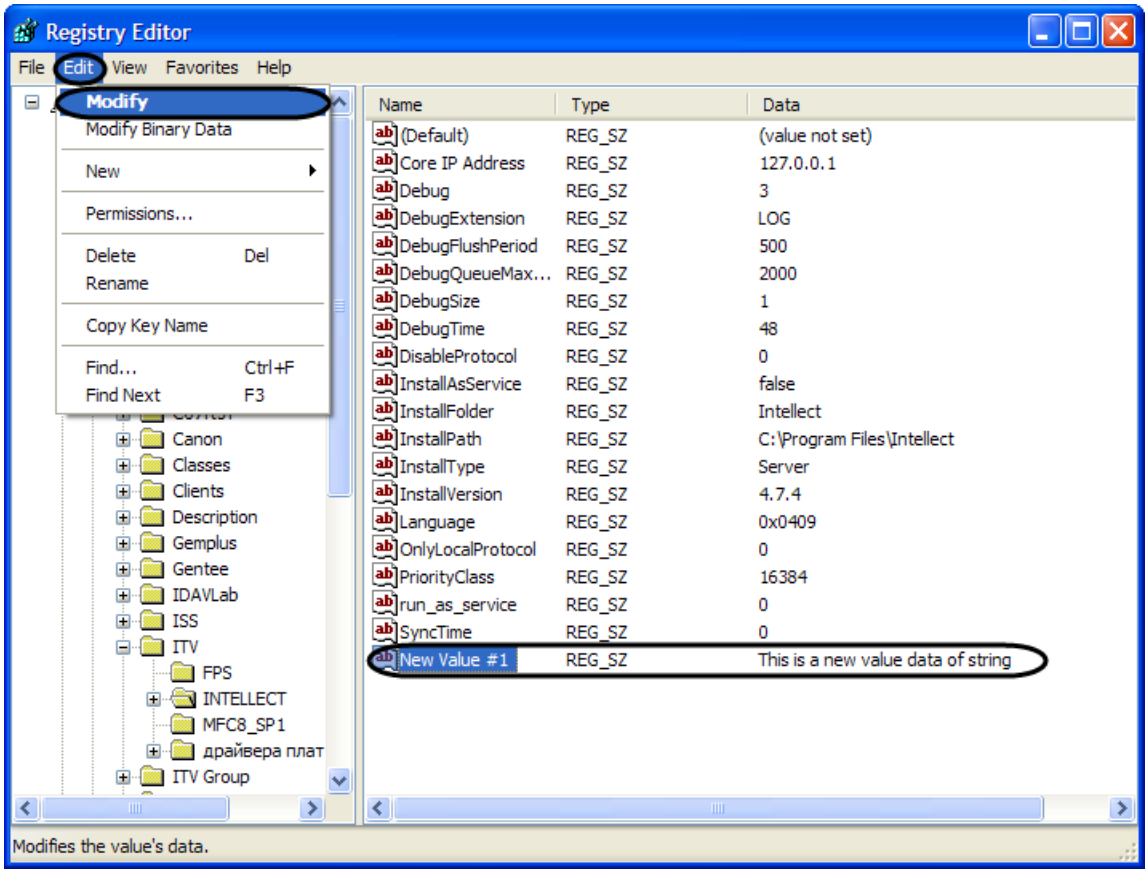


Figure 13.1—15. Selecting a menu command for modifying a parameter

The Edit String dialog box will open (Figure 13.1—16).

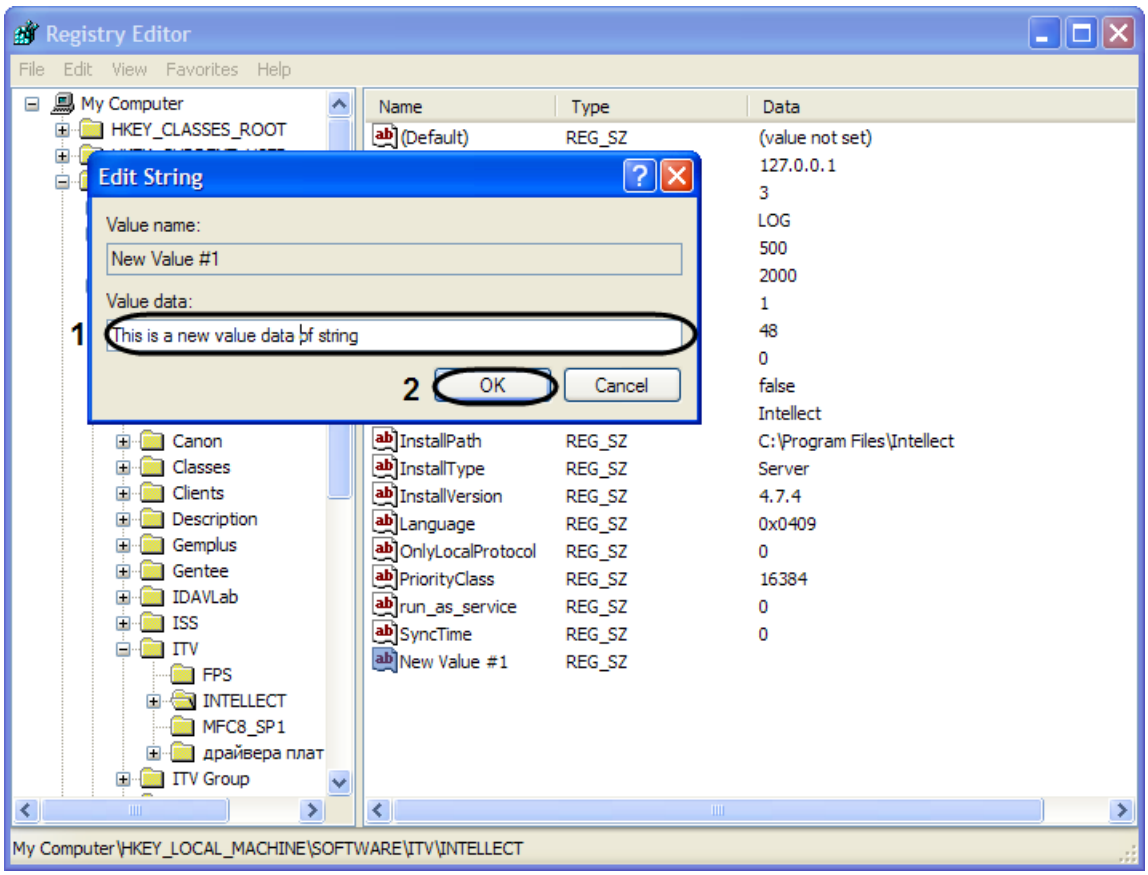


Figure 13.1—16. Edit String dialog box

5. Modify the value of the parameter. Delete the old value and enter a new one into the Value Data field (Figure 13.1—16, 1). Click OK (Figure 13.1—16, 2).

The value of the parameter will be changed (Figure 13.1—17).

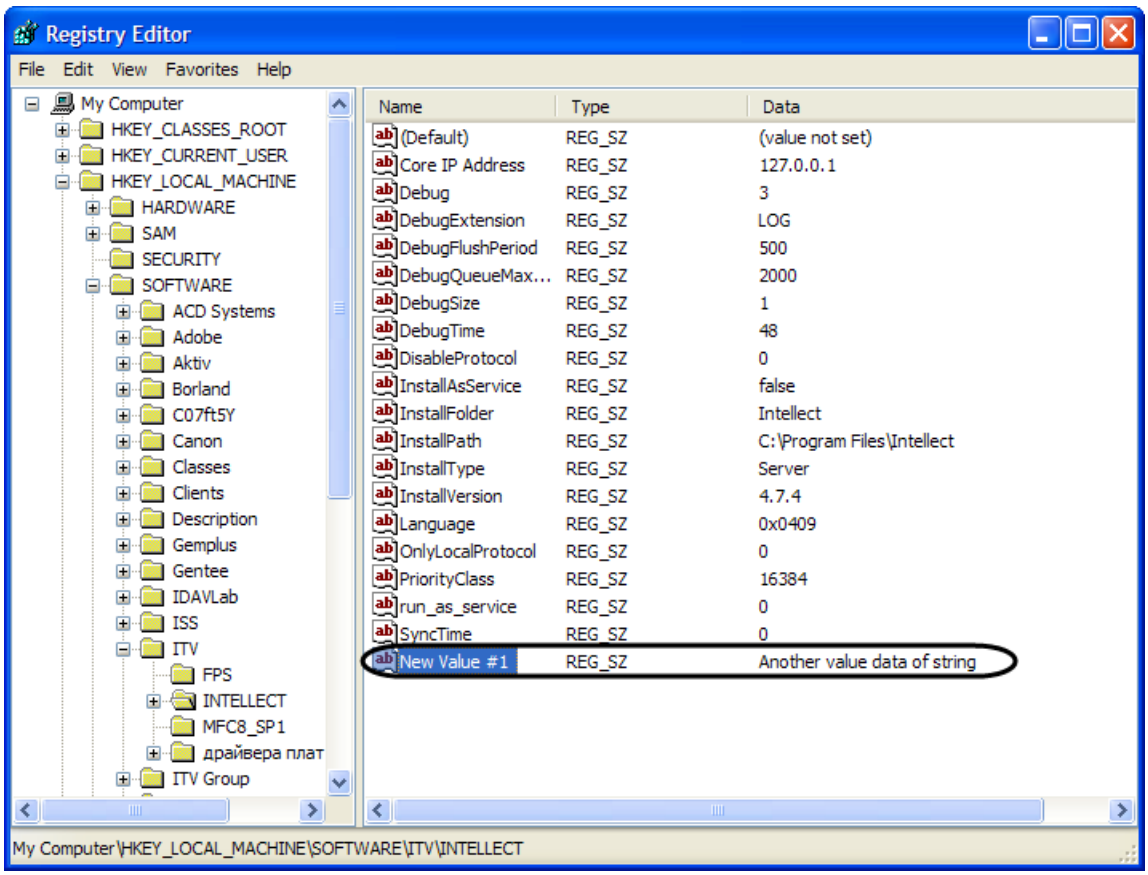


Figure 13.1—17. The parameter value is modified

13.1.5 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 13.1—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.

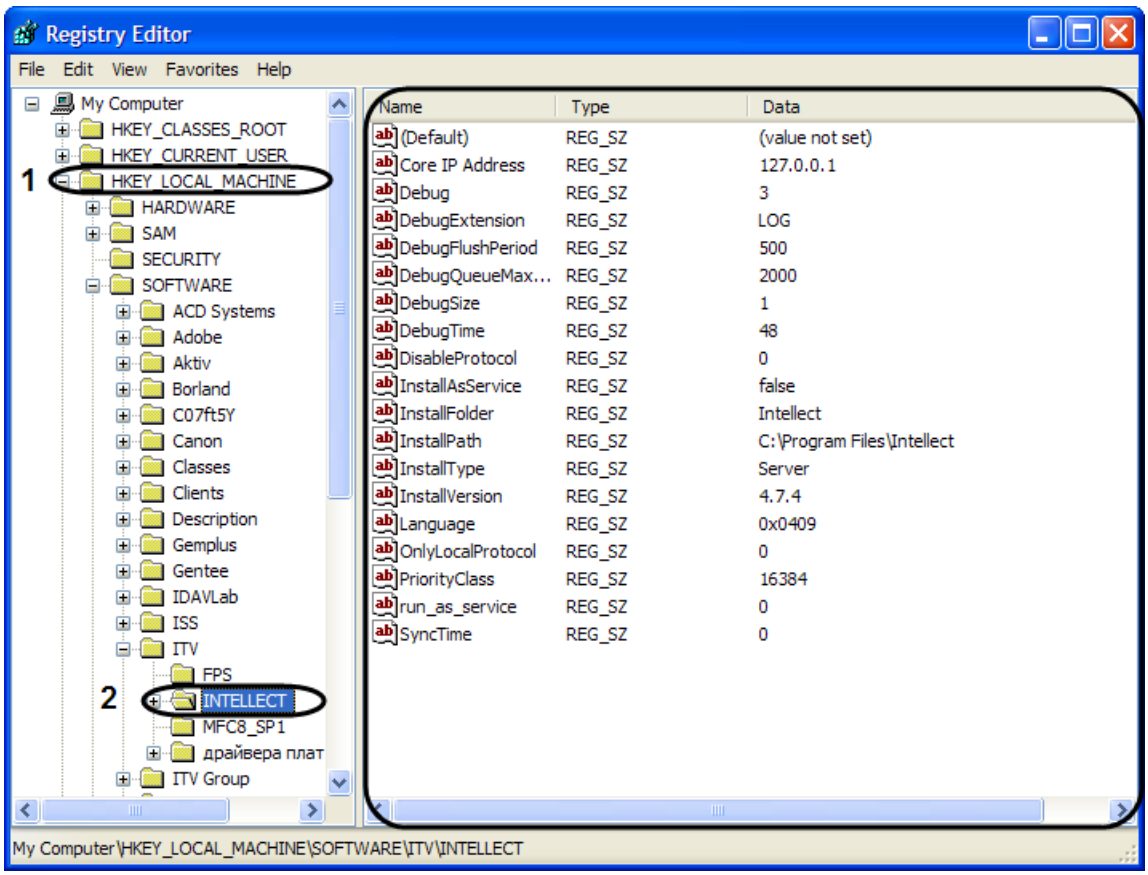


Figure 13.1—18. Selecting a folder in the tree

3. Select the parameter to be deleted (Figure 13.1—19).

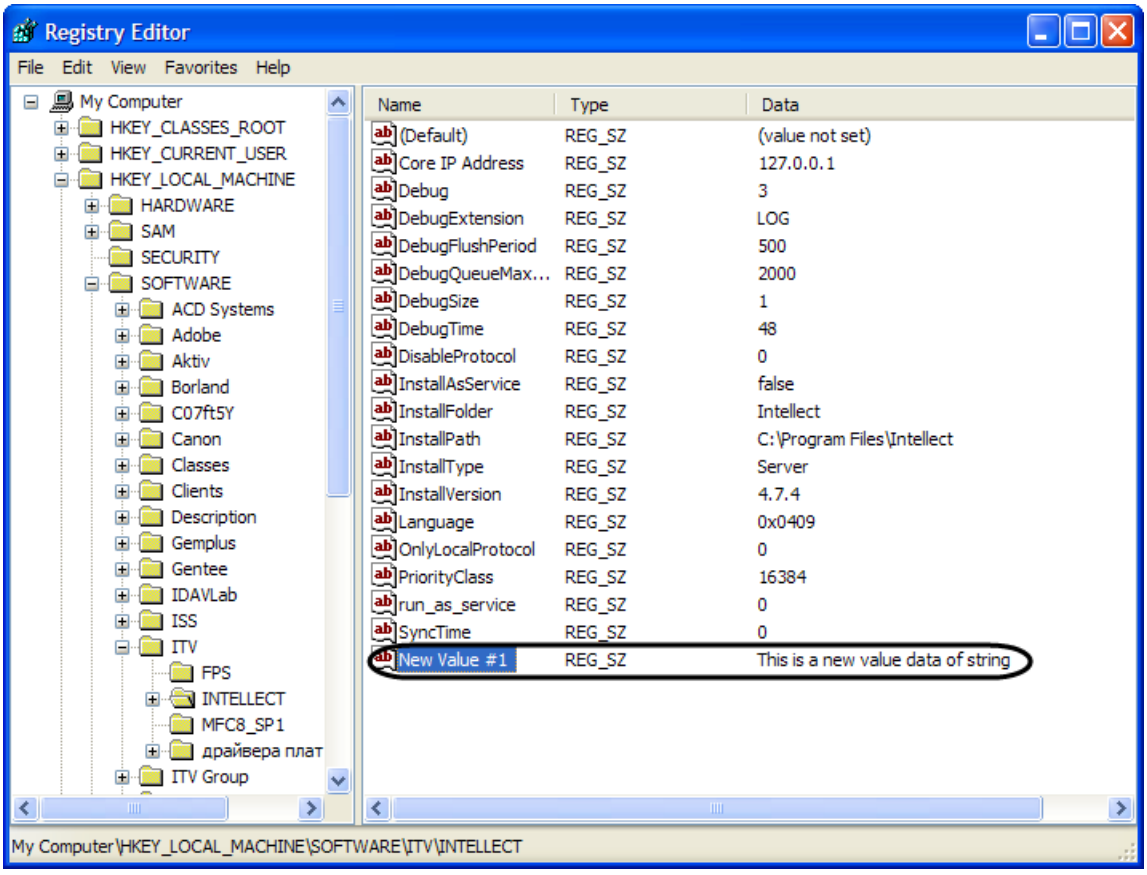


Figure 13.1—19. Selecting the parameter to be deleted

4. In the menu, select Edit, then Delete (Figure 13.1—20).

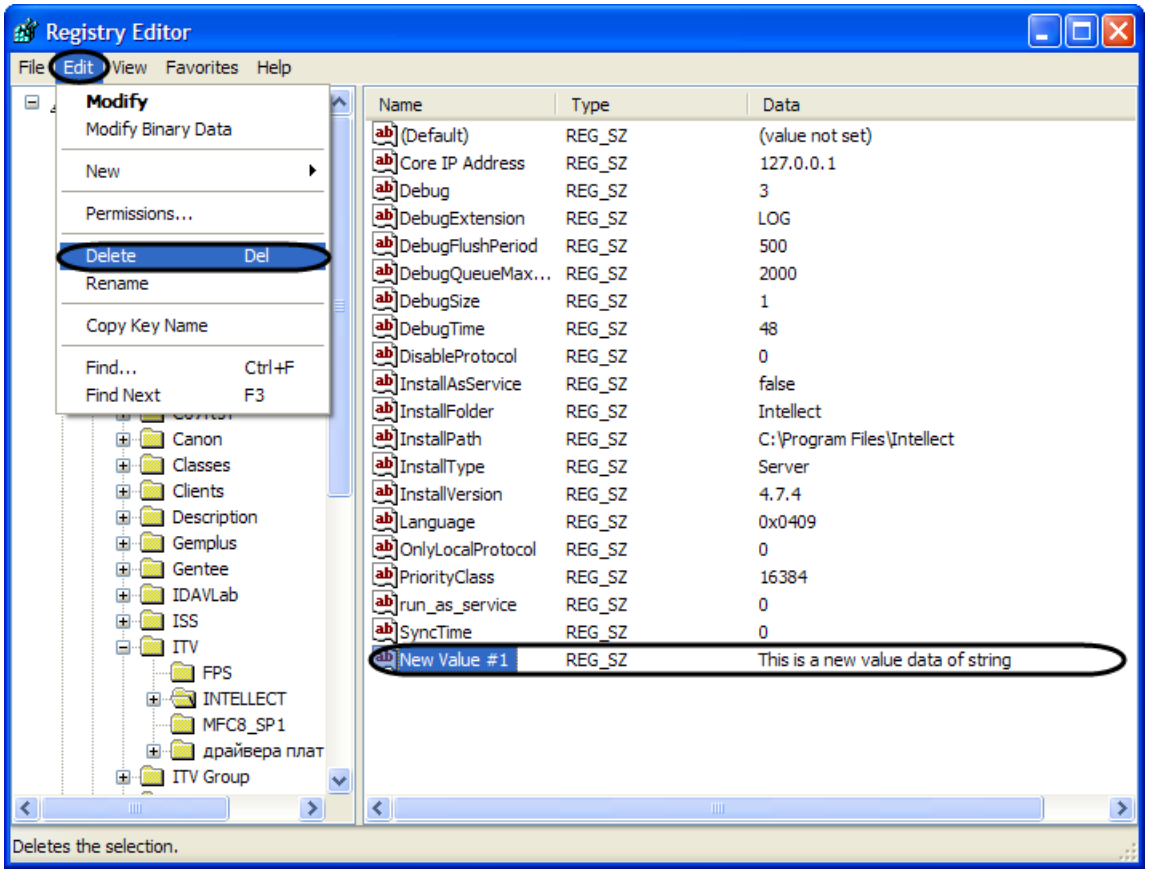


Figure 13.1—20. Deleting a string parameter

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.

13.1.6 Setting up the User Account Control (UAC) in Windows OS for operating Intellect PC

If you don't want Windows OS to ask for confirmation of Intellect PC running processes when the User Account Control (UAC) is on and to suspend the system operation while waiting for the user answer, you should create EnableLinkedConnections key in the registry. To carry this out do the following:

1. Open subsection of HKEY_LOCAL_MACHINE \ SOFTWARE \Microsoft \Windows \CurrentVersion \Policies \System registry.
2. Create new DWORD value (Figure 13.1—21).

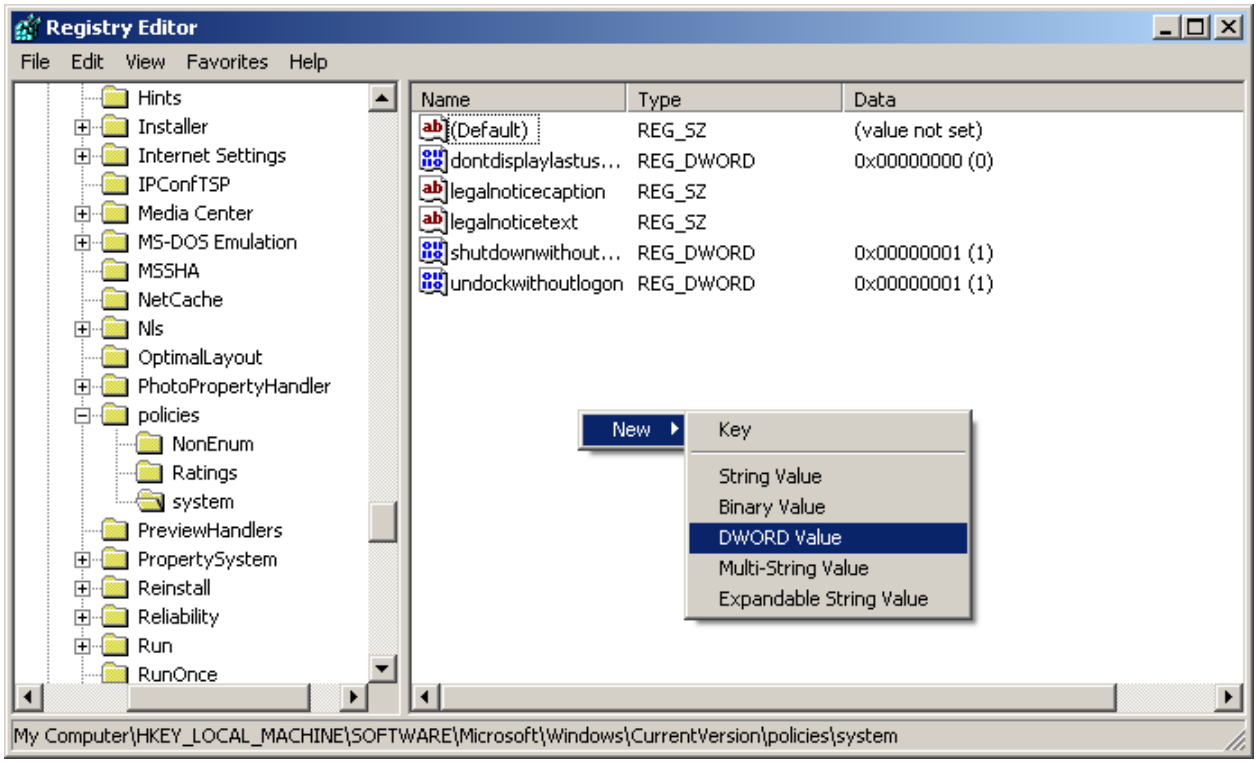


Figure 13.1—21 DWORD Value creation

3. Set EnableLinkedConnections name to the new value and click Enter (Figure 13.1—22).

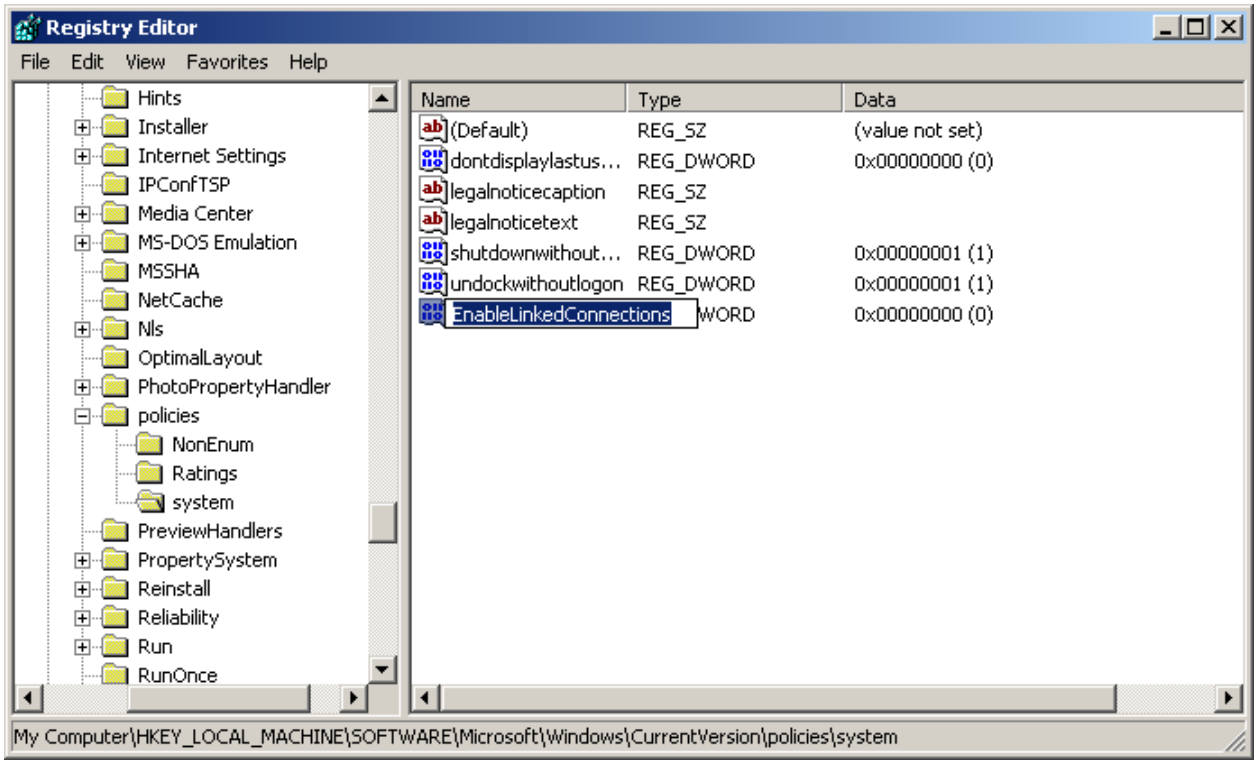


Figure 13.1—22 Appellation of a new name to the value

4. Set value=1 to EnableLinkedConnections. Click OK (Figure 13.1—23).

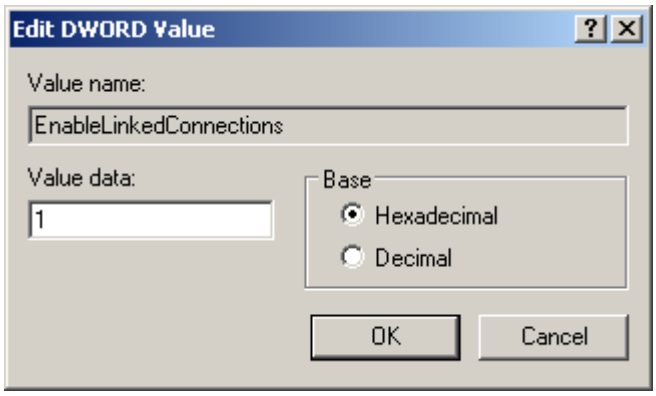


Figure 13.1—23 Value edition

5. Close registry editor and restart your computer.

EnableLinkedConnections registry key is created.

13.2 Connecting network disks in Windows Vista and Windows 7 OS

In some cases net discs are not displayed in Intellect PC settings in Windows Vista and Windows 7 OS when UAC is on. In order to net discs appear in Intellect PC settings, connect them in Windows OS under administrator, the following way:

1. Call a command line. Select **Run** in **Start** menu and enter «cmd» in entry field and click **OK**.
2. Enter «net use Z: \\Address\Folder» in command line; **Z** is letter of Roman alphabet that will represent net disc in the system, , **Address** is IP-address of net disc, **Folder** is a name of folder (Figure 13.2—1).

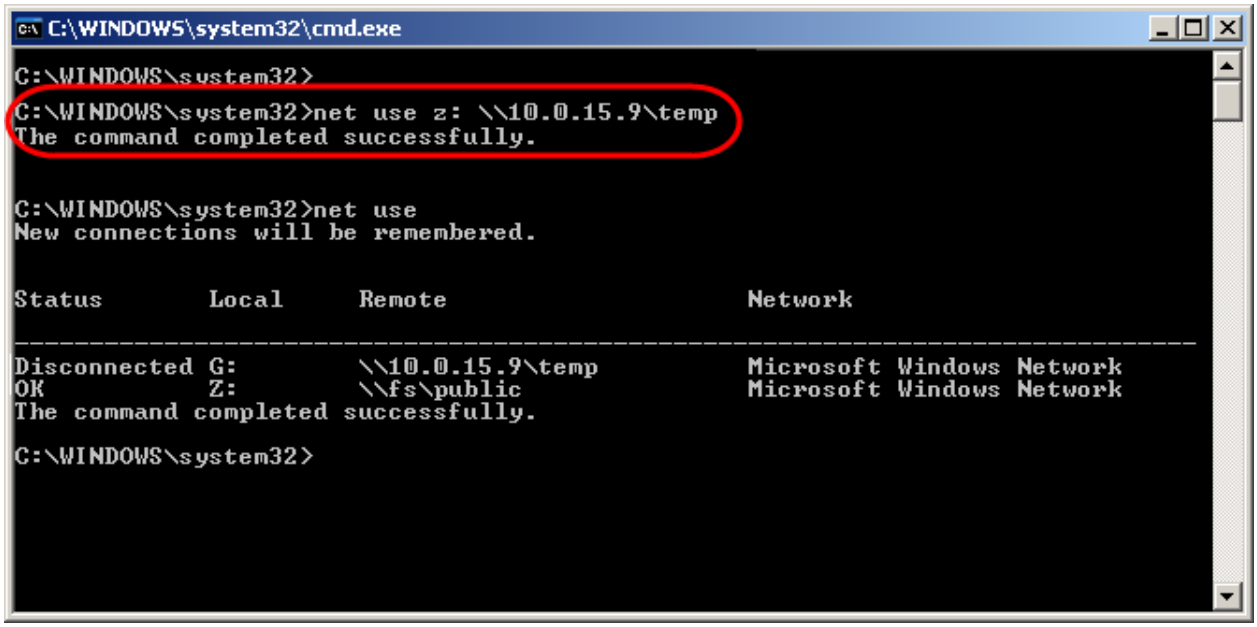


Figure 13.2—1 Windows command line box

After connection net disc appears in Intellect PC settings.

13.3 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 13.3—1).

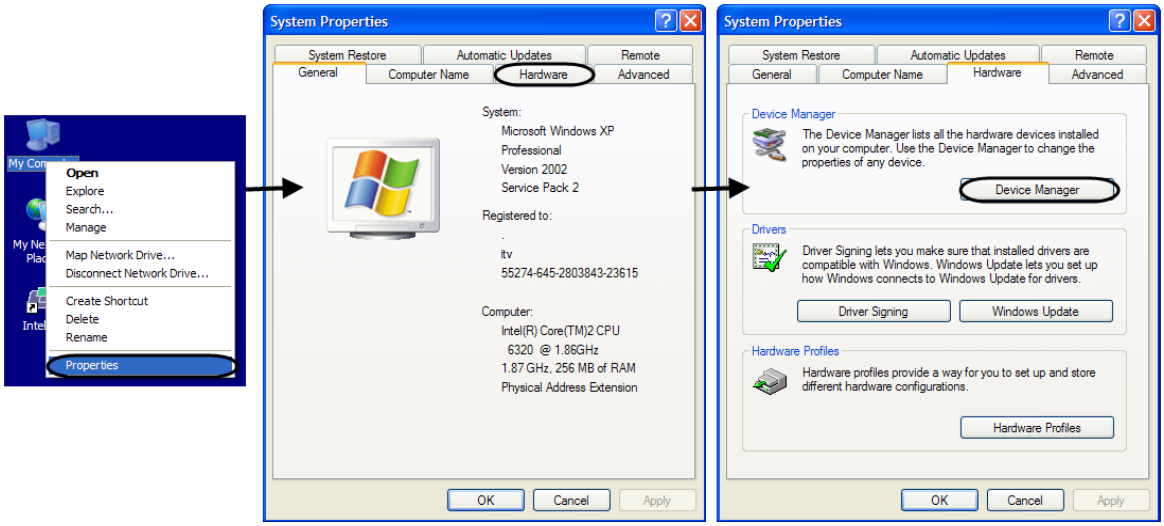


Figure 13.3—1. Starting the Device Manager

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 13.3—2).

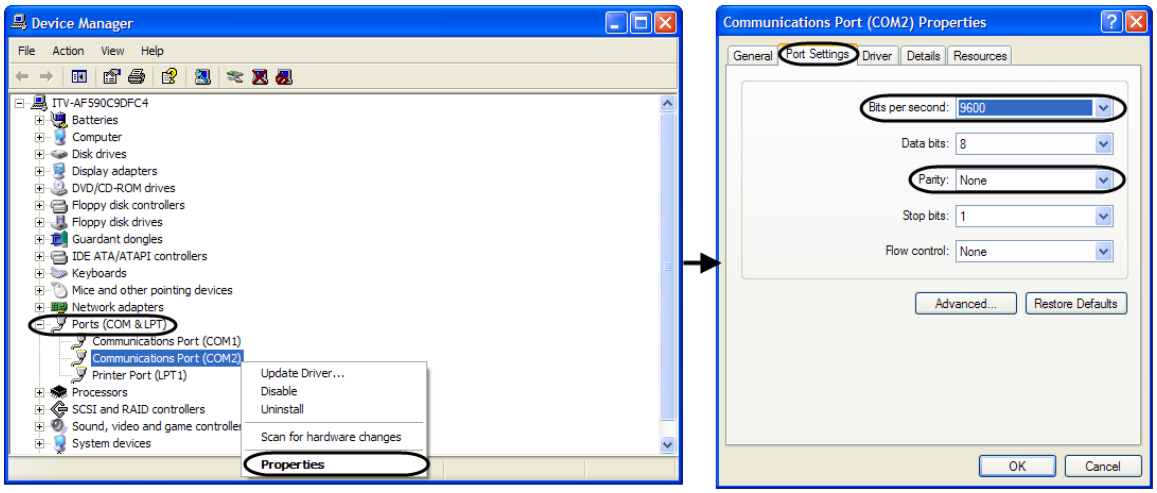


Figure 13.3—2. Opening the Port Properties window

13.4 Working with Windows OS services for operating Intellect PC that is installed as a Service

13.4.1 General information about Intellect PC operation as a Service

Intellect PC, that is installed as a service, is started before user authorization in 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. The user can't exit Intellect PC by clicking "Log off" on fact access panel to Intellect PC (Figure 13.4—1).

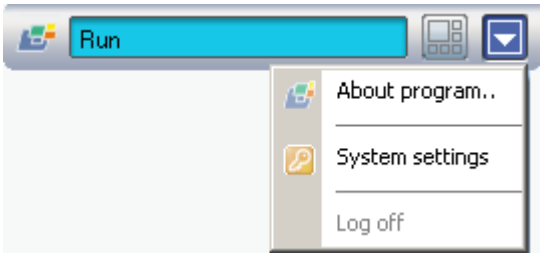


Figure 13.4—1 Fact access panel to Intellect PC in "Intellect as a service" mode

Note1. If Intellect PC wasn't installed as a service and you want to make it such, it's necessary to reinstall Intellect PC and set "Set Intellect as a service" check box or use programs of third-party producers to create this service in Windows OS.

Note2. Intellect PC that is installed as a service operates without user interface in Windows Vista OS, Windows 7 and Windows Server 2008. To set up the system complete the service with "net stop intellect" command and run intellect.exe. program file. After finishing setting up, upload Intellect PC and run the service with "net start intellect" command.

13.4.2 Working with network disks of INTELLECT™ installed as a Service

If it's necessary to use network disks for working with archive in Intellect PC that is installed as a Service you should add them by setting UNC path, the following way:

1. Go to last line in the list of disks and click «↓» (Figure 13.4—2).

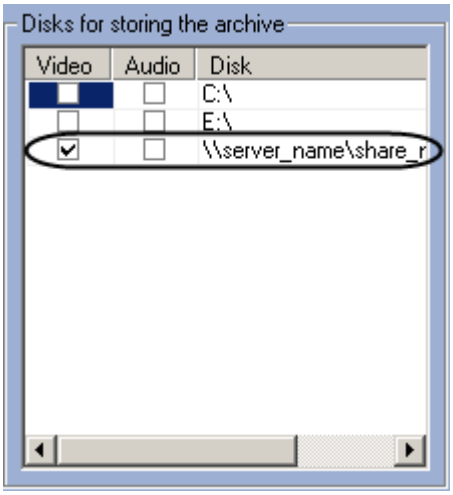


Figure 13.4—2 Setting UNC path to network disk

2. Set a path to the network disk in appeared linein “Disk” column (Figure 13.4—2). UNC path is set in «\\server_name\share_name» format where «server_name» is a name of file server and «share_name» is a network name of public folder.
3. Set check box for created disk in “Video” column.

*Note. If network disk is added not by setting UNC path then recording on it is unavailable in **Intellect PC is installed as a Service** mode.*

Attention! If Intellect PC is installed as a Service on Windows XP OS, it’s impossible to record on network disks.

13.4.3 Disabling of Intellect PC as a Service startup

Services utility is used for setting up the operation of Intellect PC asa service in Windows OS.

To disable the starting of Intellect PC as a server do the following:

1. Start **Services** utility by opening **Control panel** => **Administrative tools**=> **Services** (Figure 13.4—3).

Note. If Control panel view is set “by categories” open Control panel => Performance and maintenance=> Administrative tools => Services .

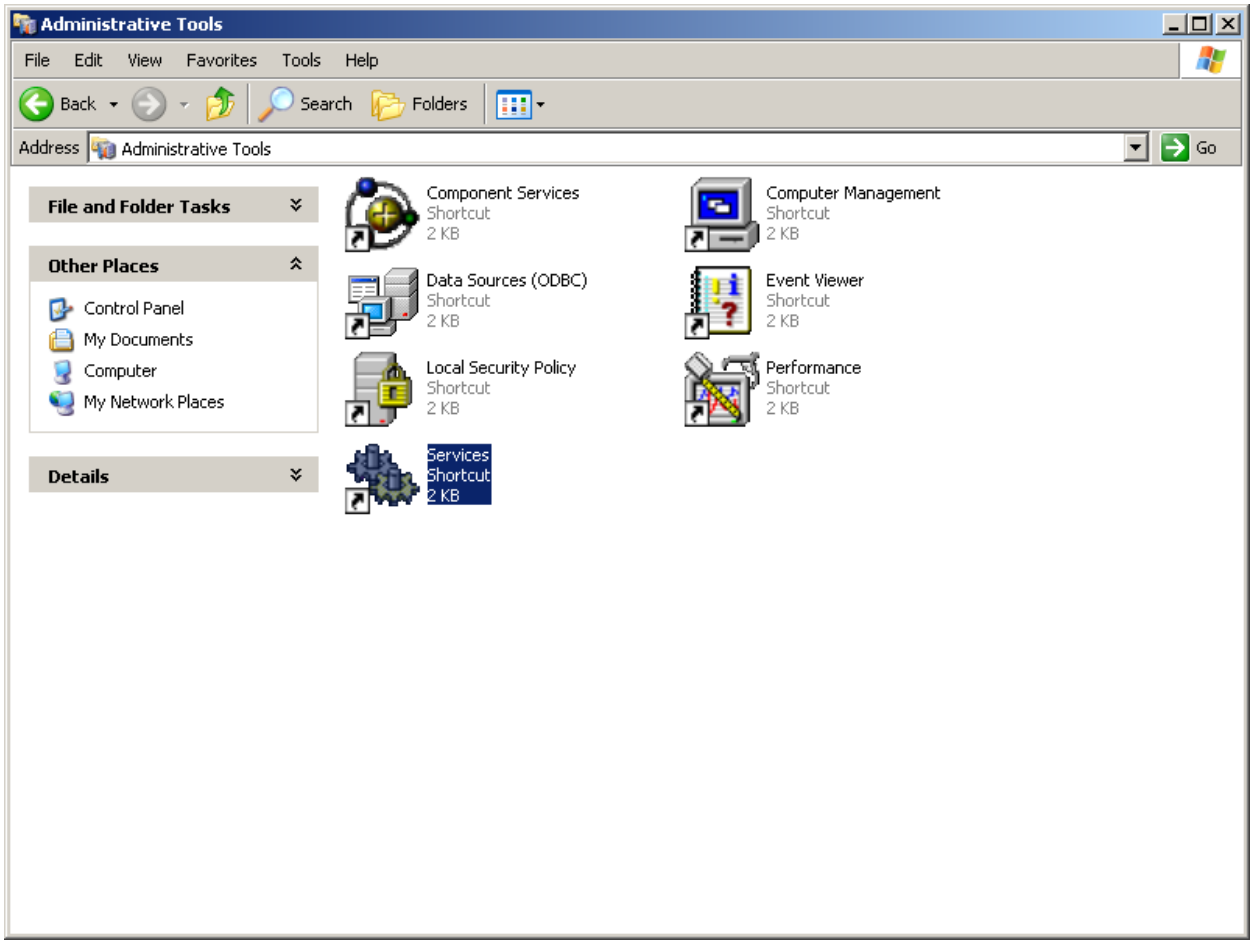


Figure 13.4—3 Srart “Services” program

2. Services list will be displayed in the open window. Find *ITV Intellect Core Server* service in the list (Figure 13.4—4).

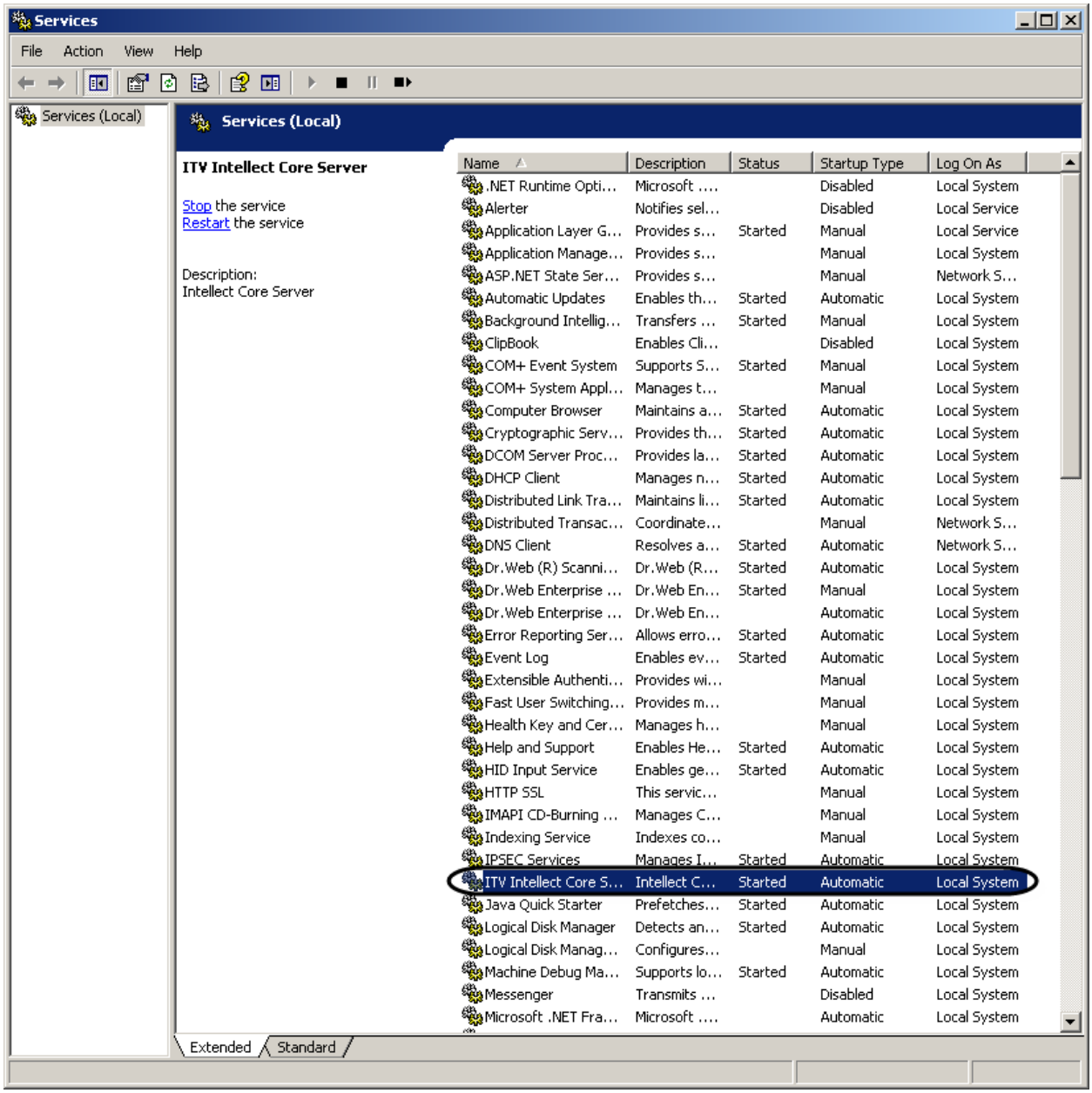


Figure 13.4—4 List of services

3. Select **Properties** in contextual menu of *ITV Intellect Core Server* service.
4. In open window change **Startup type** for **Disabled** (Figure 13.4—5):

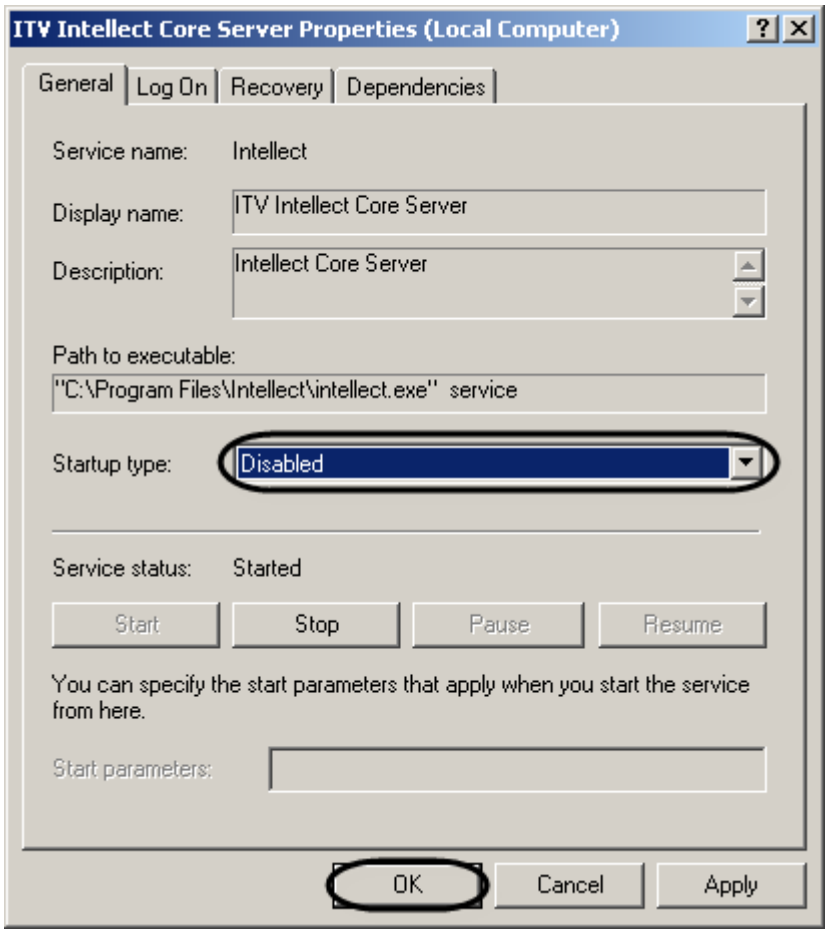


Figure 13.4—5 ITV Intellect Core Server Properties window

5. Click **OK.**

Disabling of Intellect PC startup is completed.

13.5 The list of TCP ports, used in Intellect PC

The list of TCP ports, used in Intellect PC is given in Table 13.5-1. 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 13.5-1

№ 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
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	-	-

№ 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
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	-	-

14 Appendix 4. 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. 13.5-1).

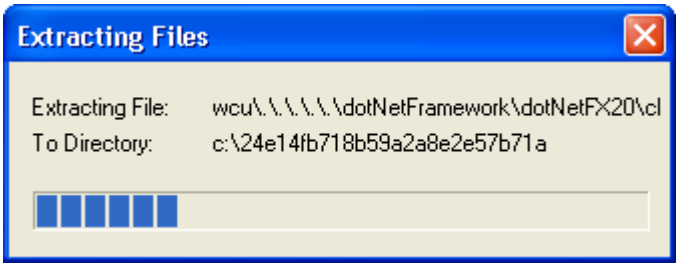


Fig. 13.5-1 Extracting the files «Microsoft .NET Framework 3.5 SP1»

4. Then «Microsoft .NET Framework 3.5 SP1» setup window will be displayed (Fig. 13.5-2).

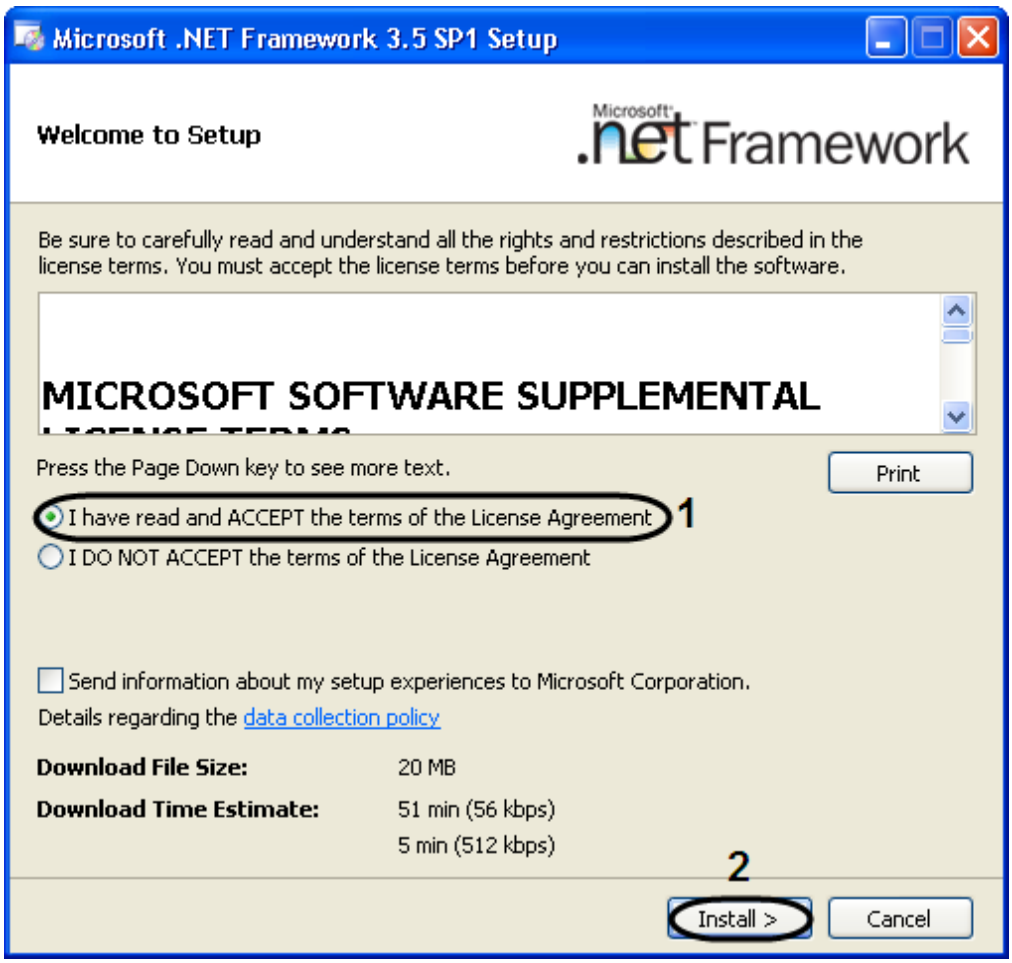


Fig. 13.5-2 «Microsoft .NET Framework 3.5 SP1» setup

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. 13.5-2, 1).
6. Click«Install>» (Fig. 13.5-2, 2).
7. Install process dialog window will be displayed in result (Fig. 13.5-3).

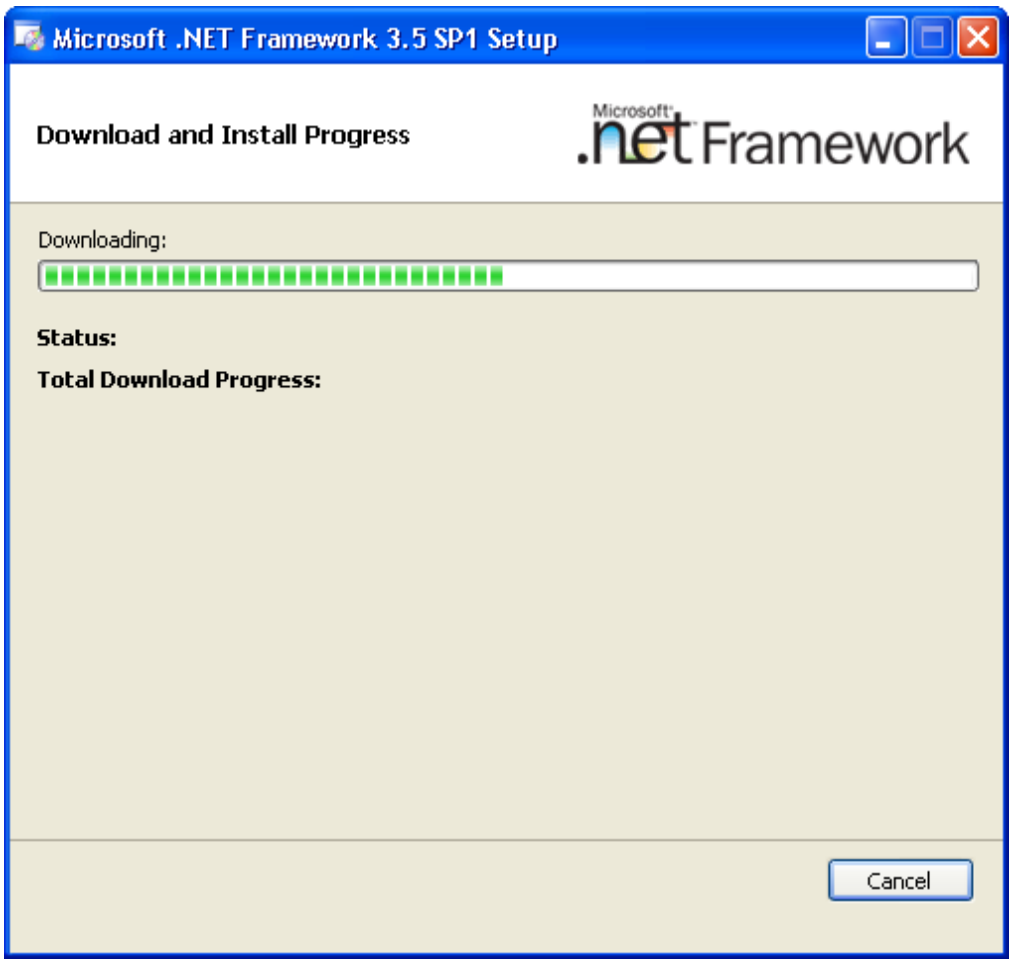


Fig. 13.5-3 Downloading window

8. «Download complete.You can now disconnect from the internet» message will be displayed after finishing the download process (Fig. 13.5-4).

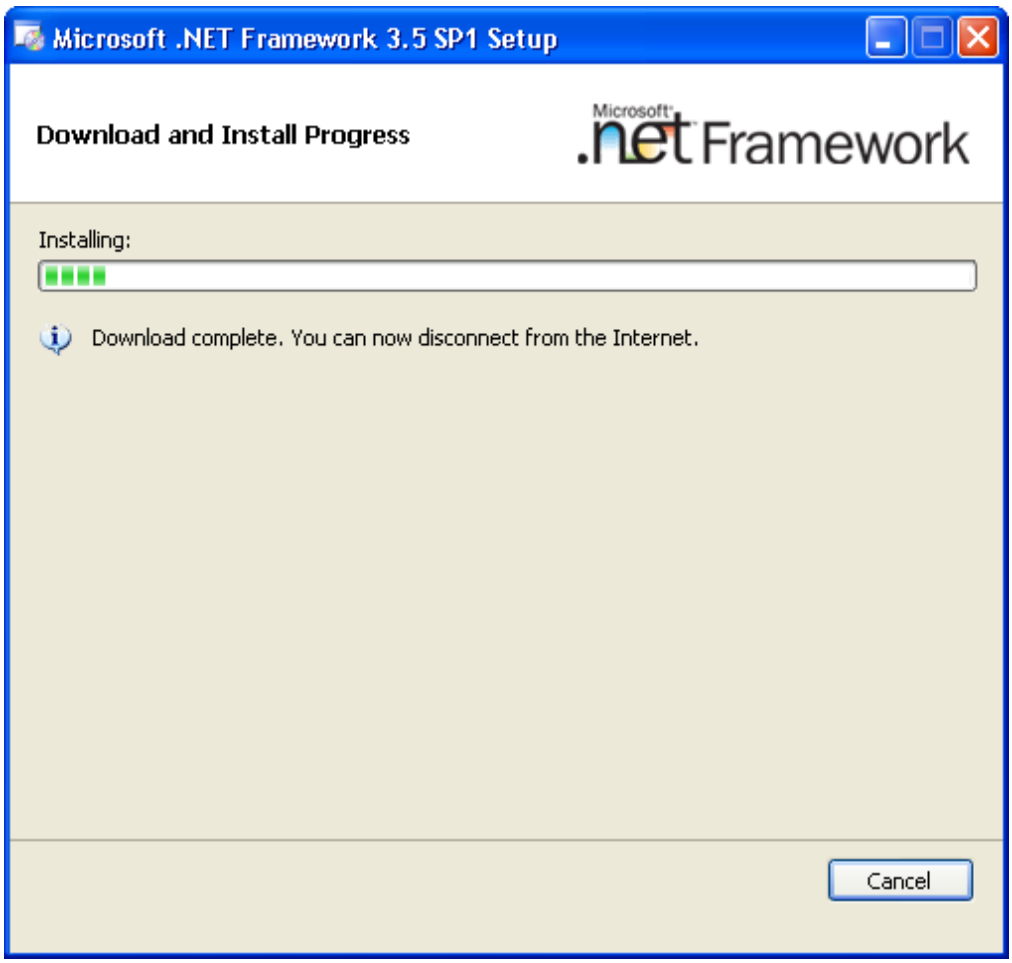


Fig. 13.5-4 Message Download complete

9. Then «Microsoft .NET Framework 3.5 SP1» setup complete dialog window will be displayed (Fig. 13.5-5).

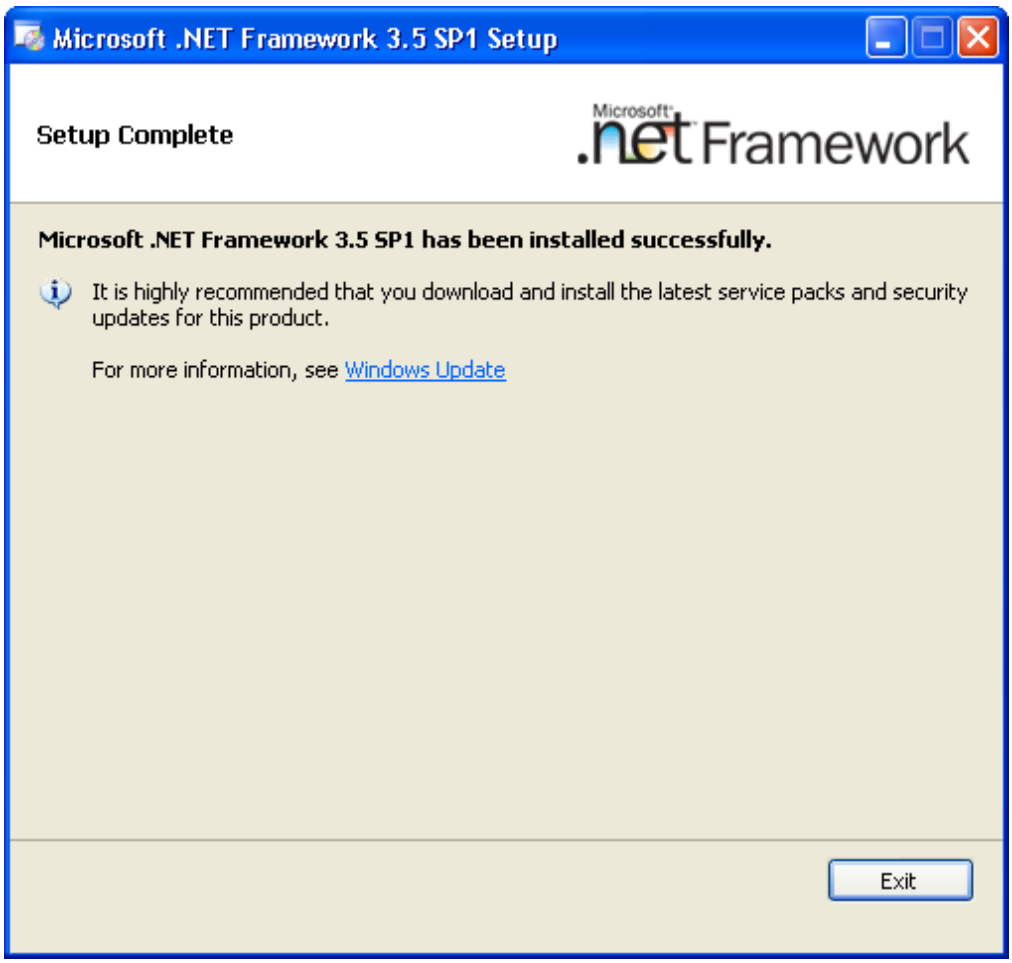


Fig. 13.5-5"Microsoft .NET Framework 3.5 SP1" setup completion

10. Click Exit button to complete the setup process (Fig. 13.5-5).

«Microsoft .NET Framework 3.5 SP1» setup is completed.

15 Appendix 5. «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.

Note.If there is «Microsoft SQL Server installation error» during SQL Server 2008 installation, check recommendations at website «http://connect.microsoft.com/SQLServer/feedback/details/440343/failure-to-install-sql-server-2008-service-pack-1-kb968369-error-code-84b30001». To solve this problem reboot your computer and restart «Microsoft SQL Server 2008 Express» installation.

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. 13.5-1).

Fig. 13.5-1 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. 13.5-2).

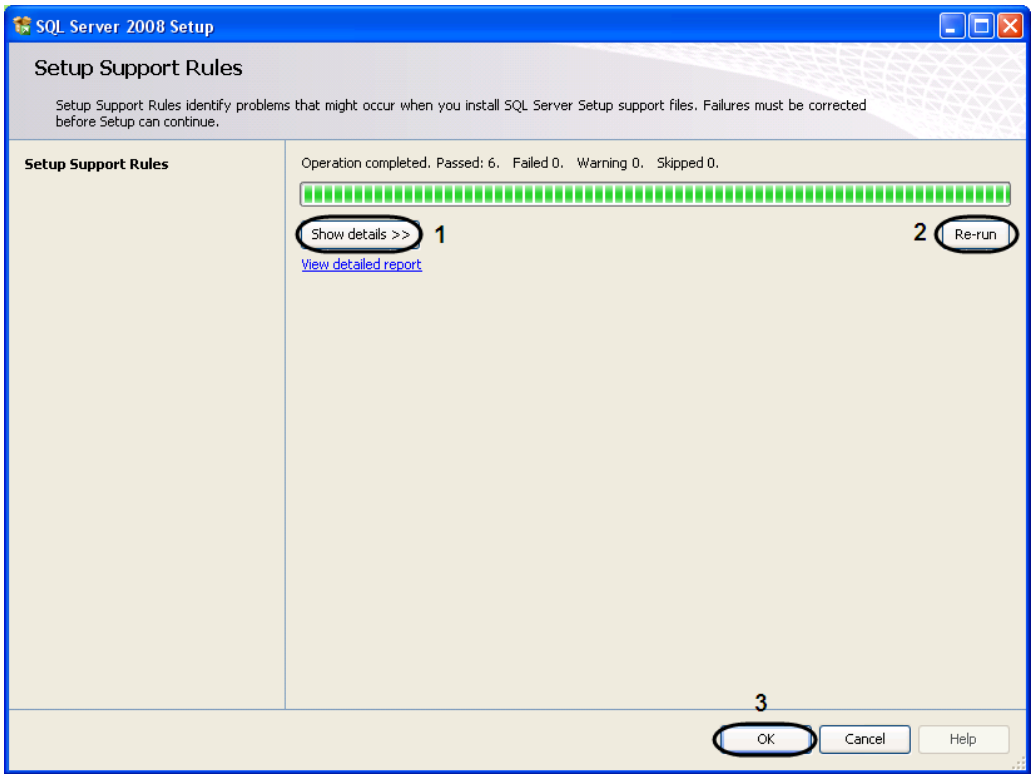


Fig. 13.5-2 "Setup Support Rules" window

3.1. To view the detailed report concerning installation click «Show details>>» (Fig. 13.5-2, 1).

3.2. To rerun the installation click «Re-run» (Fig. 13.5-2, 2).

3.3. To close the window click«OK» (Fig. 13.5-2, 3).

4. Then «Please wait while SQL Server 2008 R2 Setup processes the current operation» message will be displayed (Fig. 13.5-3).

Fig. 13.5-3 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. 13.5-4).

Note. This version MS SQL Server 2008 Express R2 is free of charge and does not require activation.

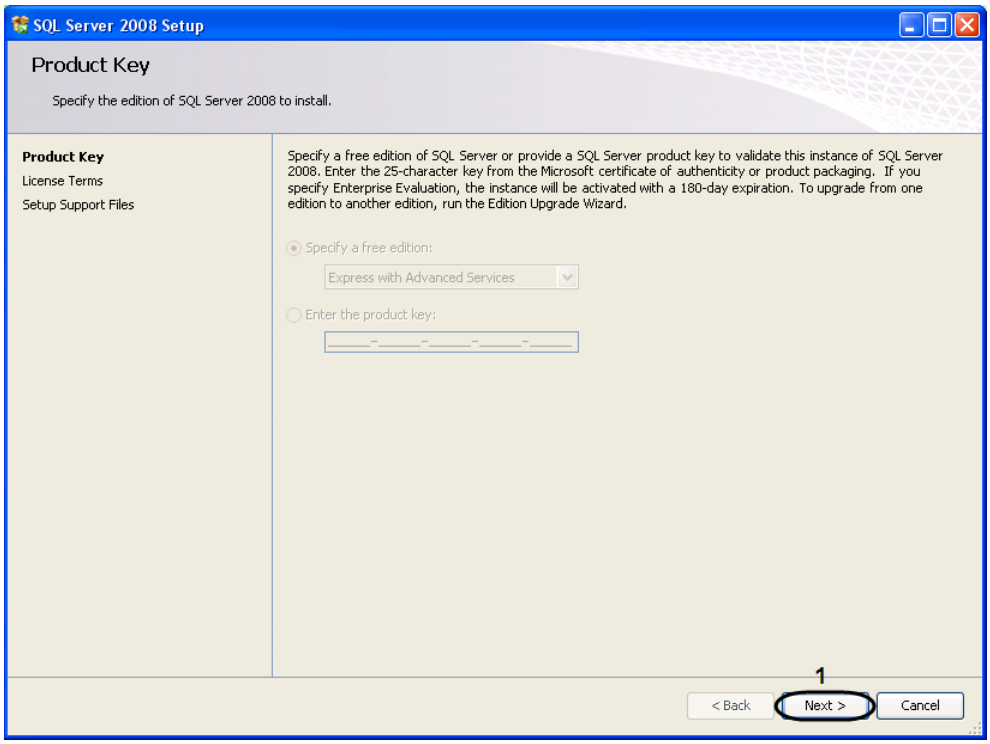


Fig. 13.5-4 "Product Key" window

6. Click «Next>» to go to the next window (Fig. 13.5-4, 1).
7. Then «License Terms» window will be displayed with License Terms (Fig. 13.5-5).

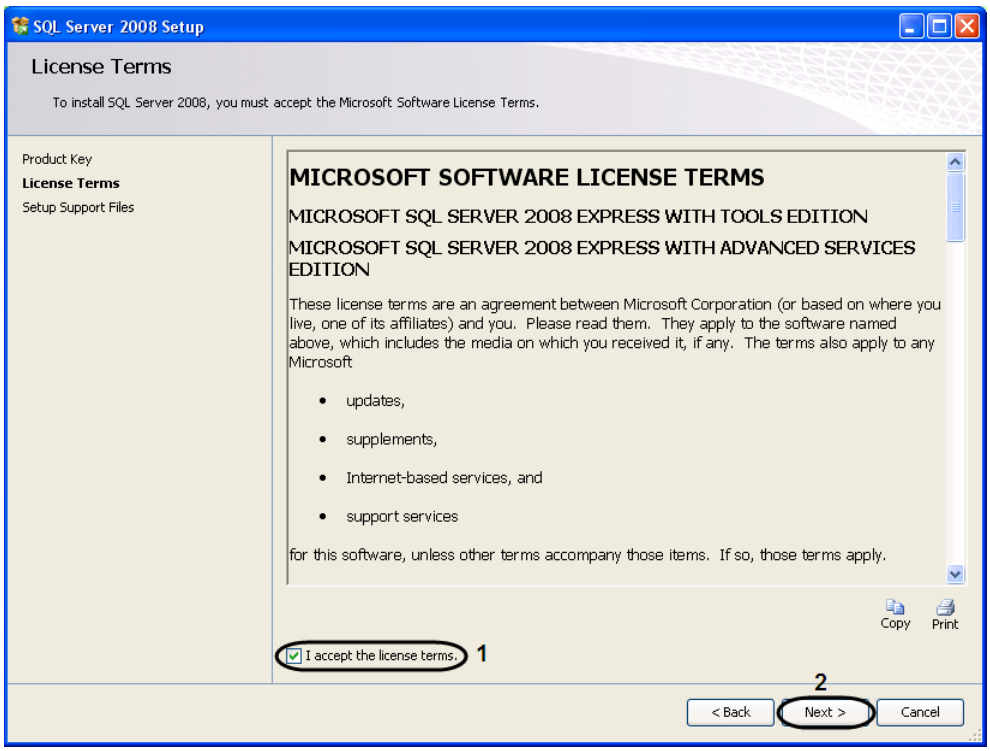


Fig. 13.5-5 "License Terms" window

7.1. Confirm the acceptance of license terms by setting the checkbox «I accept the license terms» (Fig. 13.5-5, 1).

7.2. Click «Next>» to go to the next window (Fig. 13.5-5, 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. 13.5-6, 1).

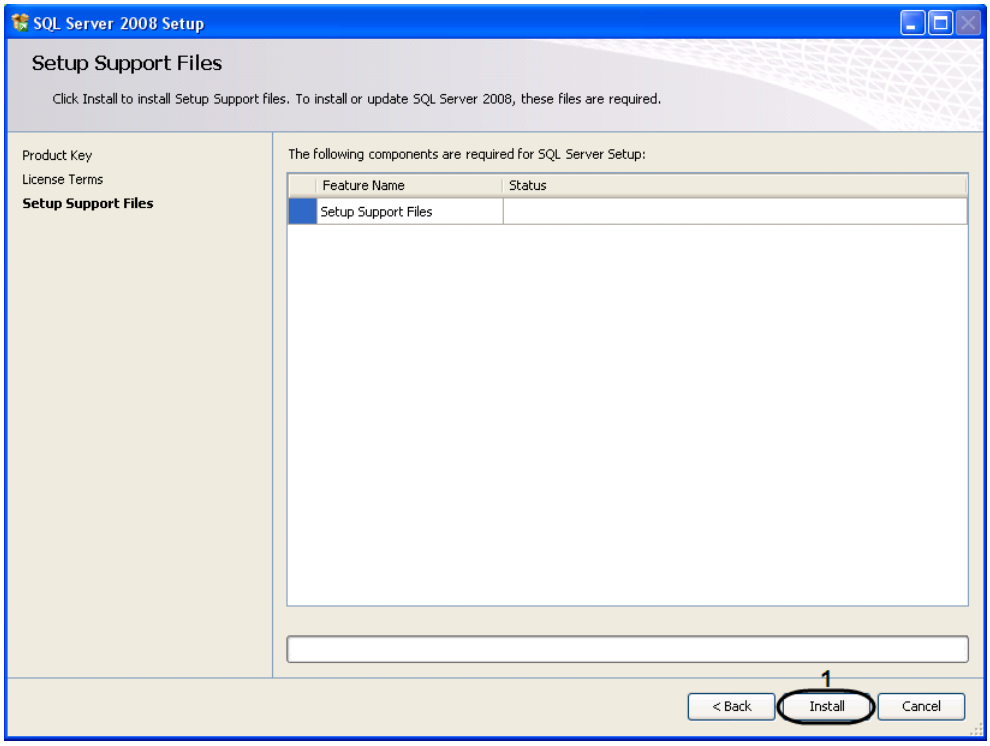


Fig. 13.5-6 "Setup Support Files" window

9. Then «Please wait while SQL Server 2008 R2 Setup processes the current operation» message will be displayed (Fig. 13.5-7).

Fig. 13.5-7 Processing the current operation window

10. In the «Setup Support Rules» dialog window setup the support rules of MS SQL Server 2008 R2(Fig. 13.5-8)

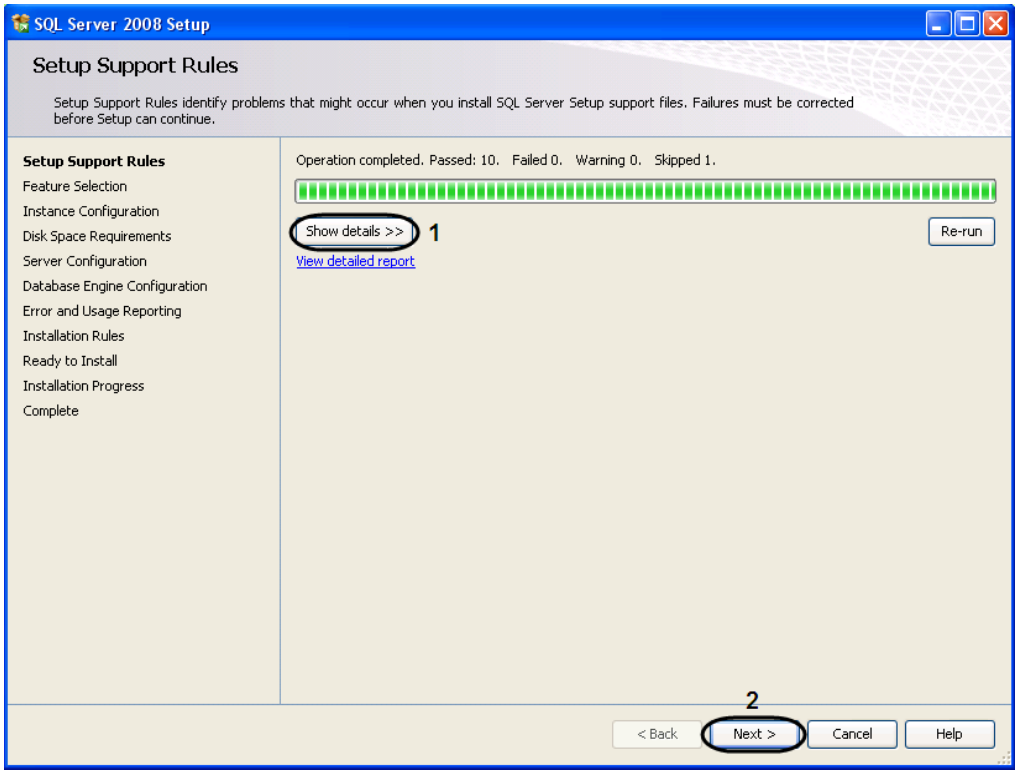


Fig. 13.5-8 "Setup Support Rules" window

10.1. To view the detailed report concerning installation click «Show details>>» (Fig. 13.5-8, 1).

10.2. Click «Next>» to go to the next window (Fig. 13.5-8, 2).

11. Then MS SQL Server 2008 R2«Feature Selection» setup dialog window will be displayed (Fig. 13.5-9).

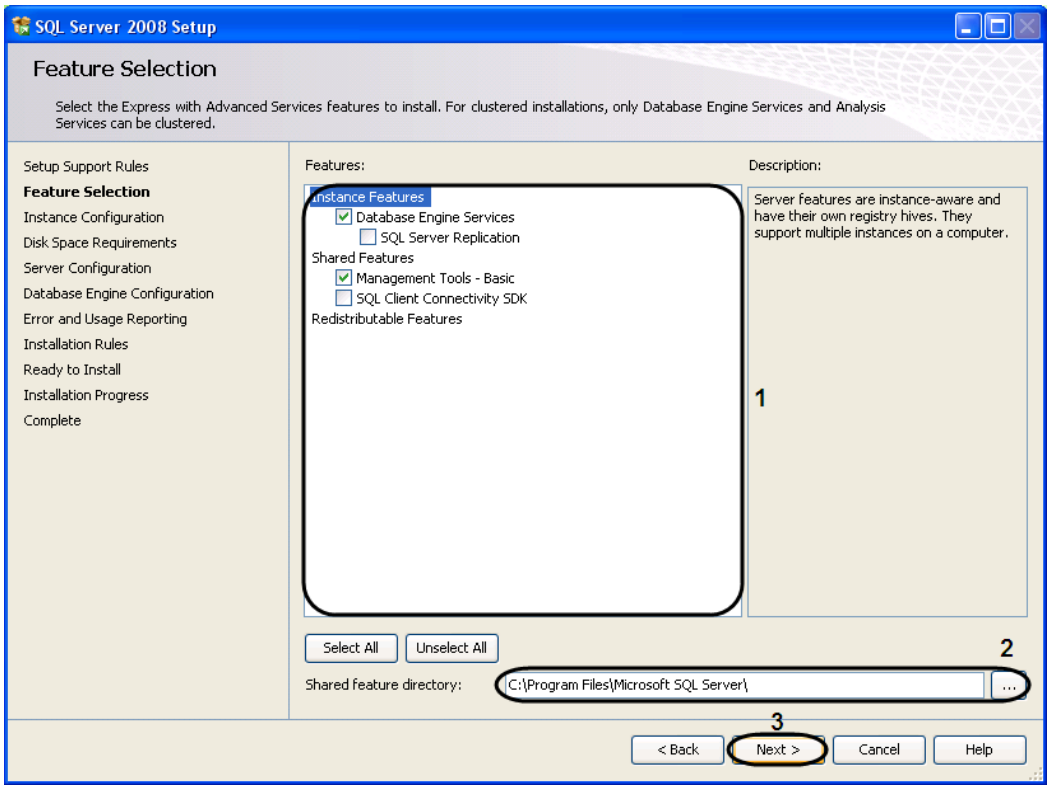


Fig. 13.5-9 "Feature Selection" window

11.1. Set the checkboxes in the field «Features: » next to the components that are to be installed (Fig. 13.5-9, 1).

11.2. State the path to the installation directory in the field «Shared feature directory:» (Fig. 13.5-9, 2).

11.3. Click «Next>» to go to the next window (Fig. 13.5-9, 3).

12. Then «Instance Configuration» dialog window will be displayed for setting the configuration of MS SQL Server 2008 R2 instatnce (Fig. 13.5-10).

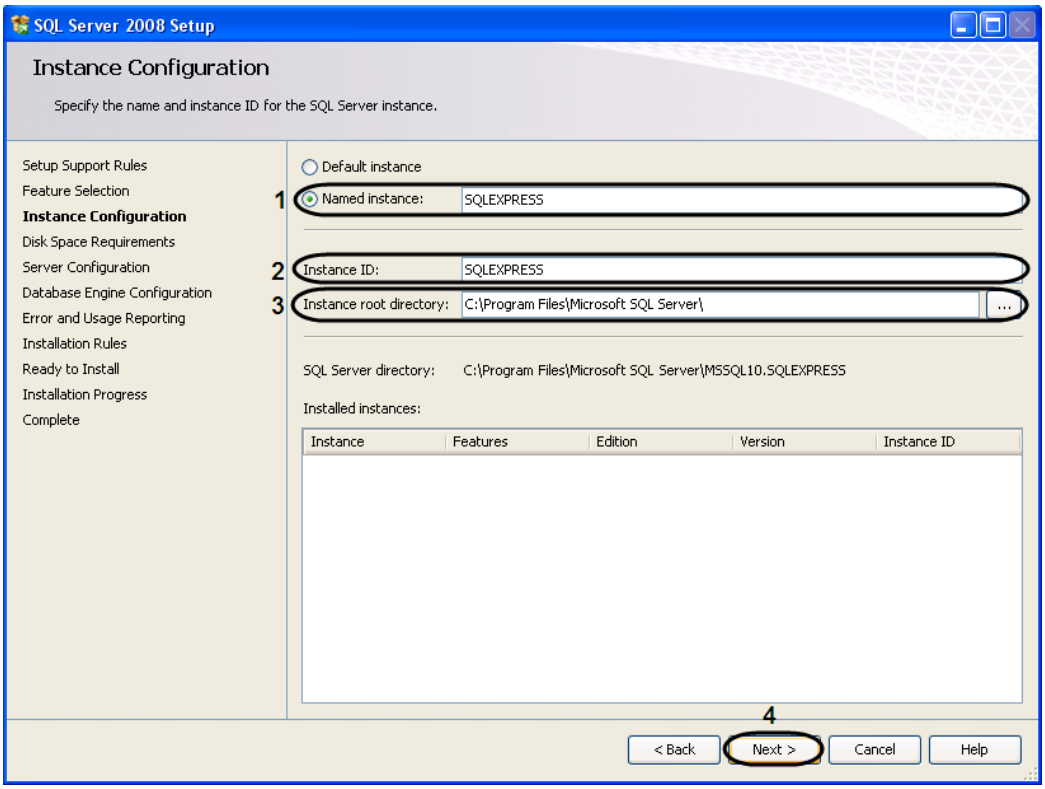


Fig. 13.5-10 "Instance Configuration" window

12.1. Set the switcher to the position «Named instance» and enter the name of named instance in the field - «SQLEXPRESS» (Fig. 13.5-10, 1).

12.2. Enter the value of the «SQLEXPRESS» instance identifier in the field «Instance ID» (Fig. 13.5-10, 2).

12.3. State the path to the root directory for setting up the MS SQL Express in the field «Instance root directory» (Fig. 13.5-10, 3).

12.4. Click «Next>» to go to the next window (Fig. 13.5-10, 4).

13. Then «Disk Space Requirements» window will be displayed (Fig. 13.5-11).

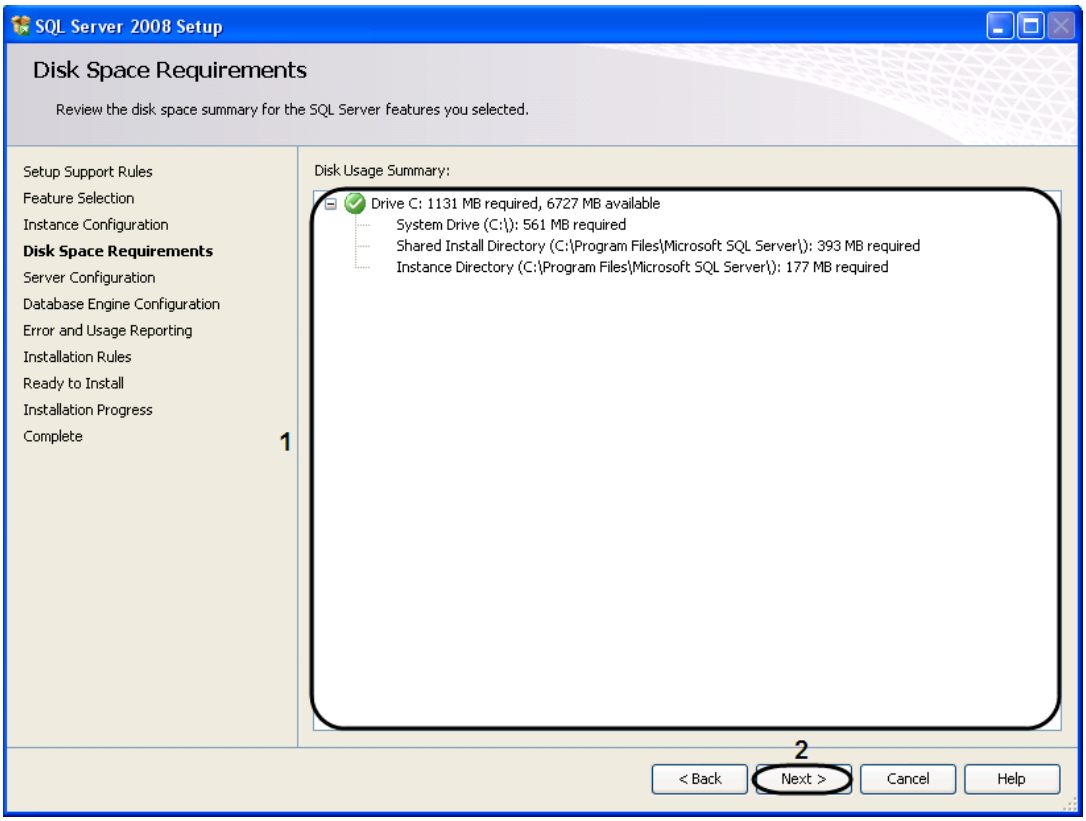


Fig. 13.5-11 "Disk Space Requirements" window

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. 13.5-11, 1).

13.2. Click «Next>» to go to the next window (Fig. 13.5-11, 2).

14. Then «Server Configuration» window will be displayed, click «Next >» to continue (Fig. 13.5-12, 1).

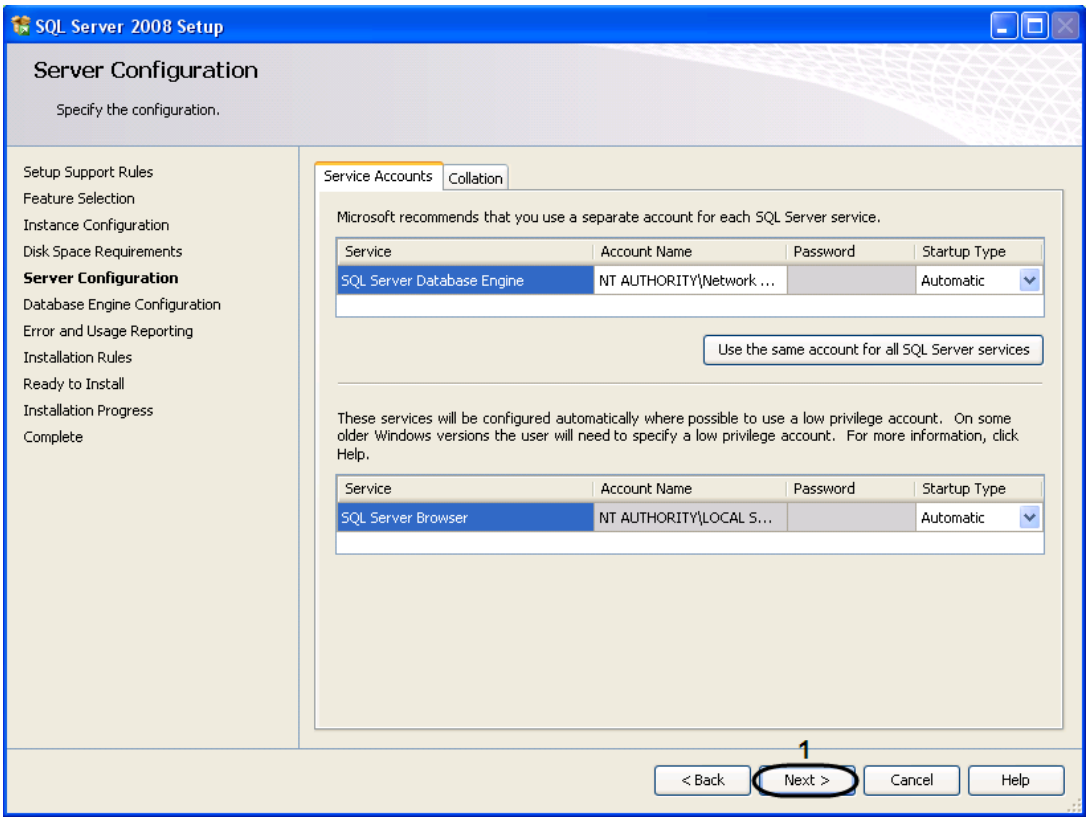


Fig. 13.5-12 "Server Configuration" window

15. Then «Database Engine Configuration» window will be displayed, click «Next >» (Fig. 13.5-13, 1).

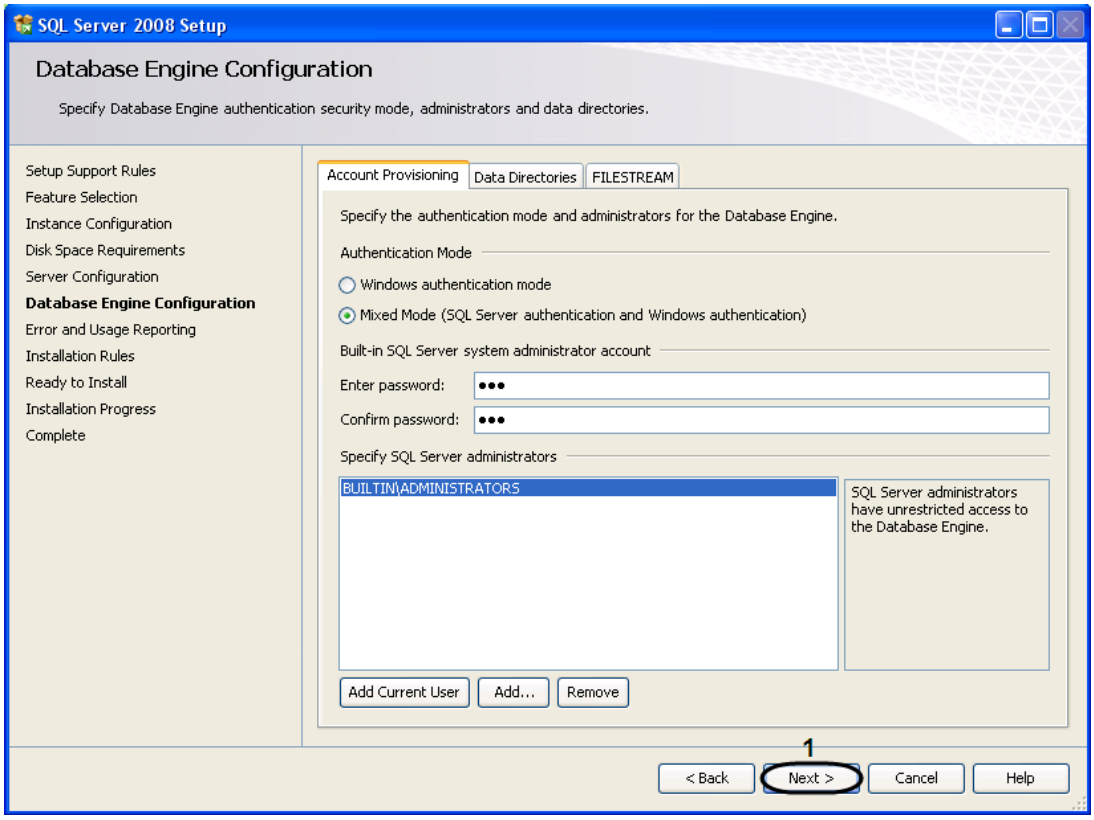


Fig. 13.5-13 "Database Engine Configuration" window

16. Then «Error and Usage Reporting» window will be displayed, for resending the errors and reports of using the SQL Server to Microsoft (Fig. 13.5-14).

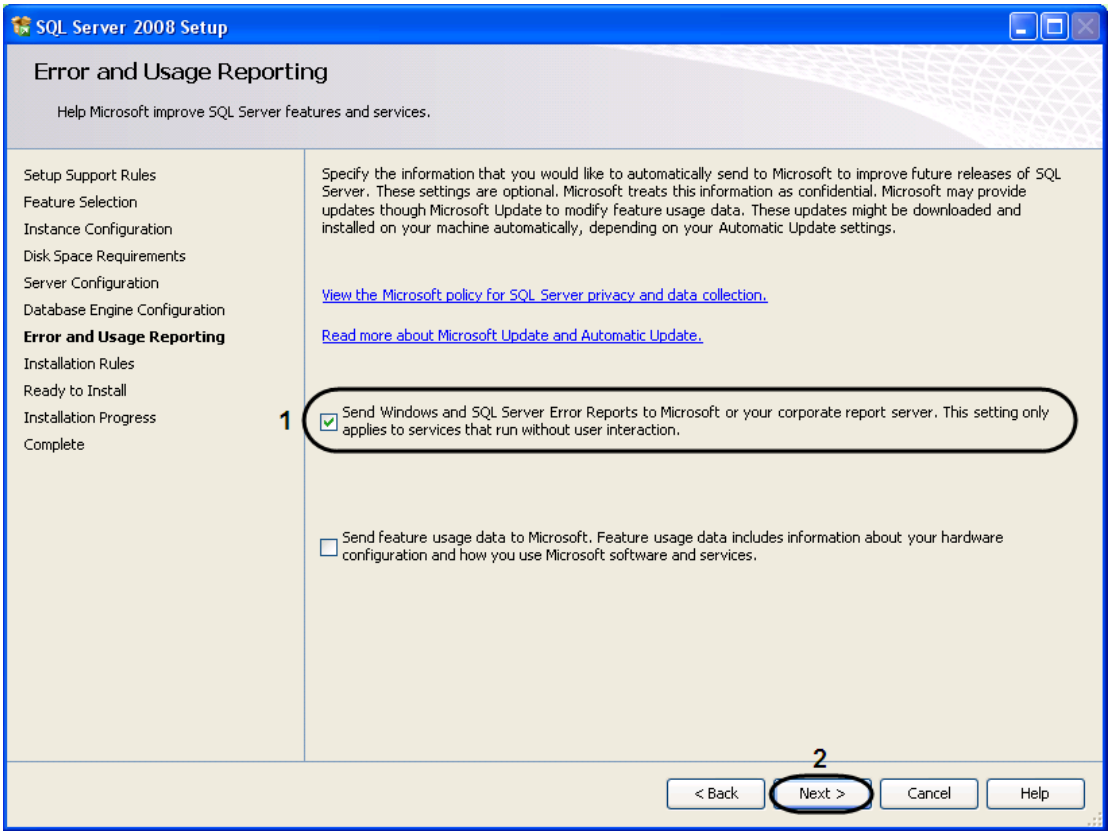


Fig. 13.5-14 "Error and Usage Reporting" window

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. 13.5-14, 1).

16.2. Click «Next>» to go to the next window (Fig. 13.5-14, 2).

17. Then «Installation Rules» window will be displayed (Fig. 13.5-15).

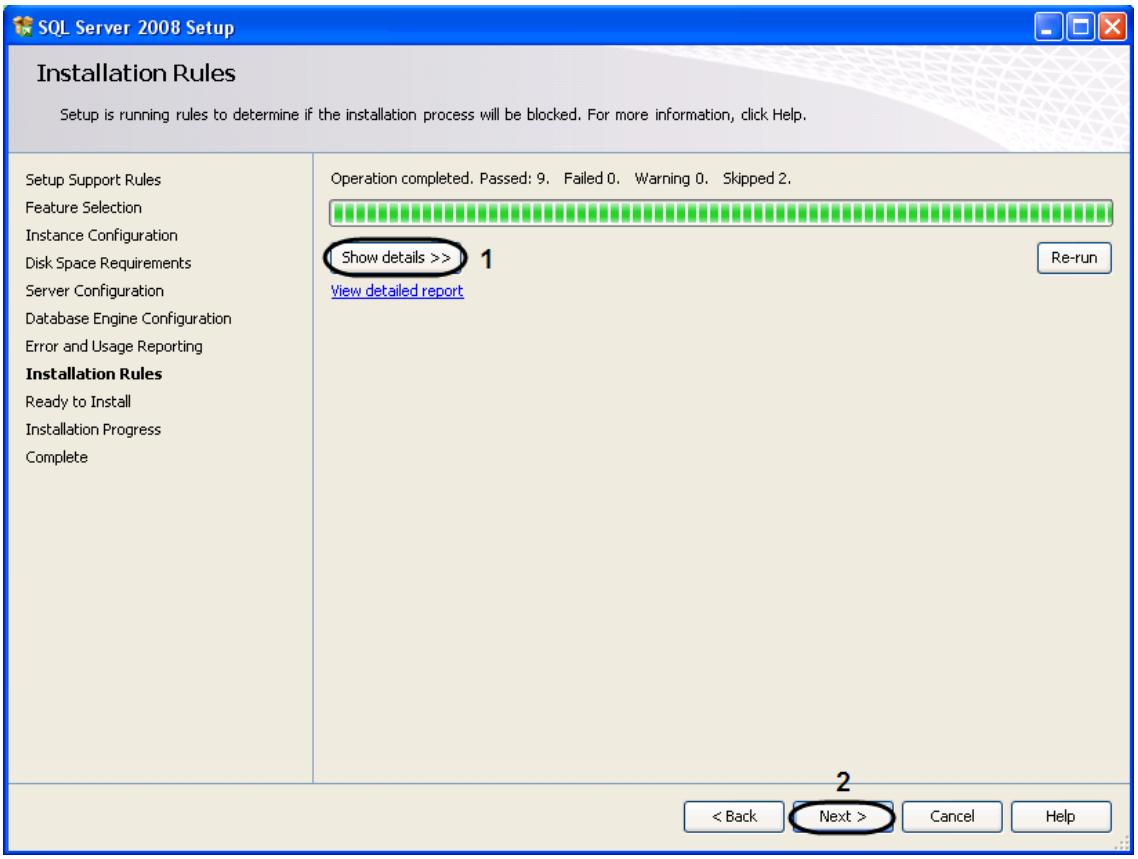


Fig. 13.5-15 "Installation Rules" window

17.1. To view the detailed report concerning installation click «Show details>>» (Fig. 13.5-15, 1).

17.2. Click «Next>» to go to the next window (Fig. 13.5-15, 2).

18. Then «Ready to Install» window will be displayed (Fig. 13.5-16).

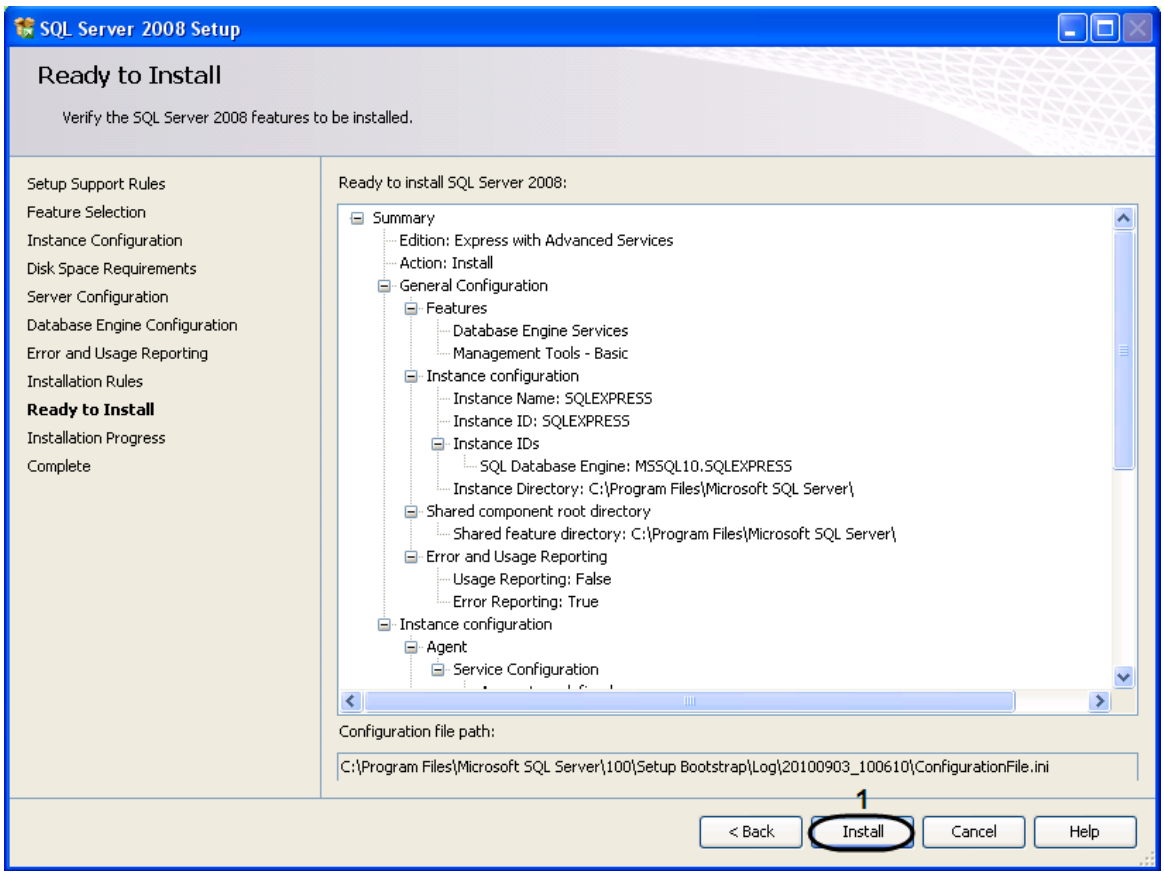


Fig. 13.5-16 "Ready to Install" window

19. Click «Install» to run the installation process(Fig. 13.5-16, 1).
20. Then «Please wait while SQL Server 2008 R2 Setup processes the current operation» message will be displayed (Fig. 13.5-17).

Fig. 13.5-17 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. 13.5-18, 1).

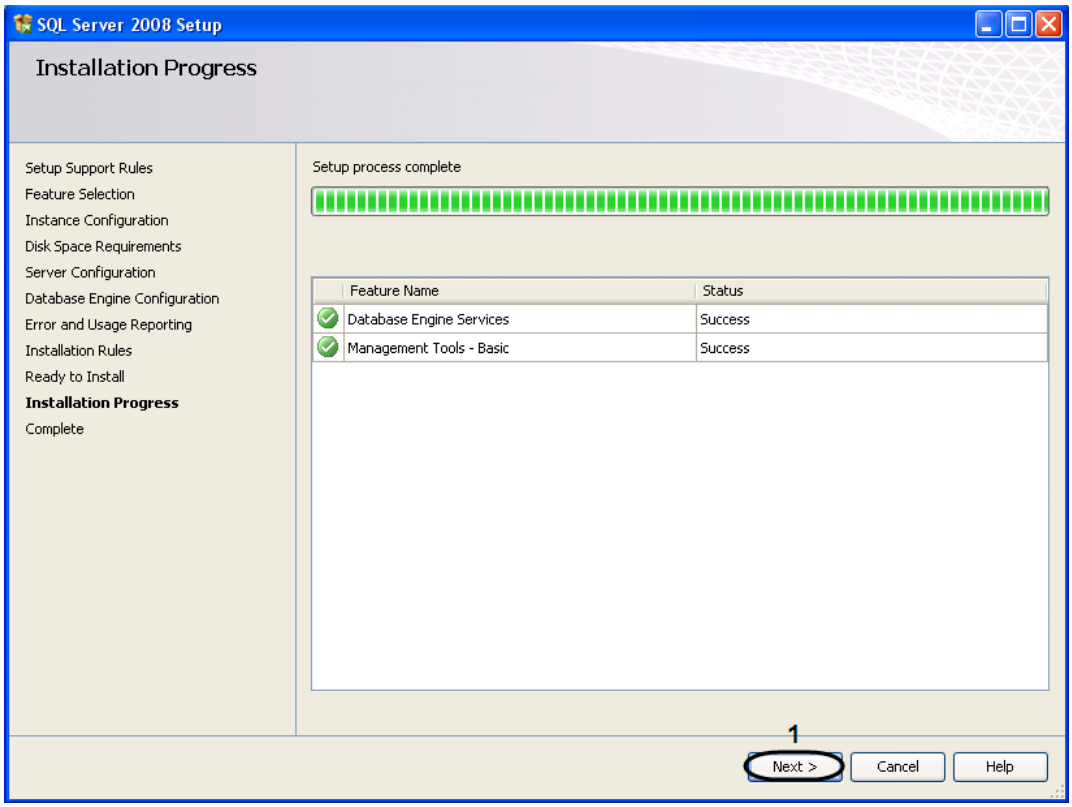


Fig. 13.5-18 "Installation Progress" window

22. Then «Complete» window will be displayed to provide information about the MS SQL Server 2008 R2 installation completion (Fig. 13.5-19, 1).

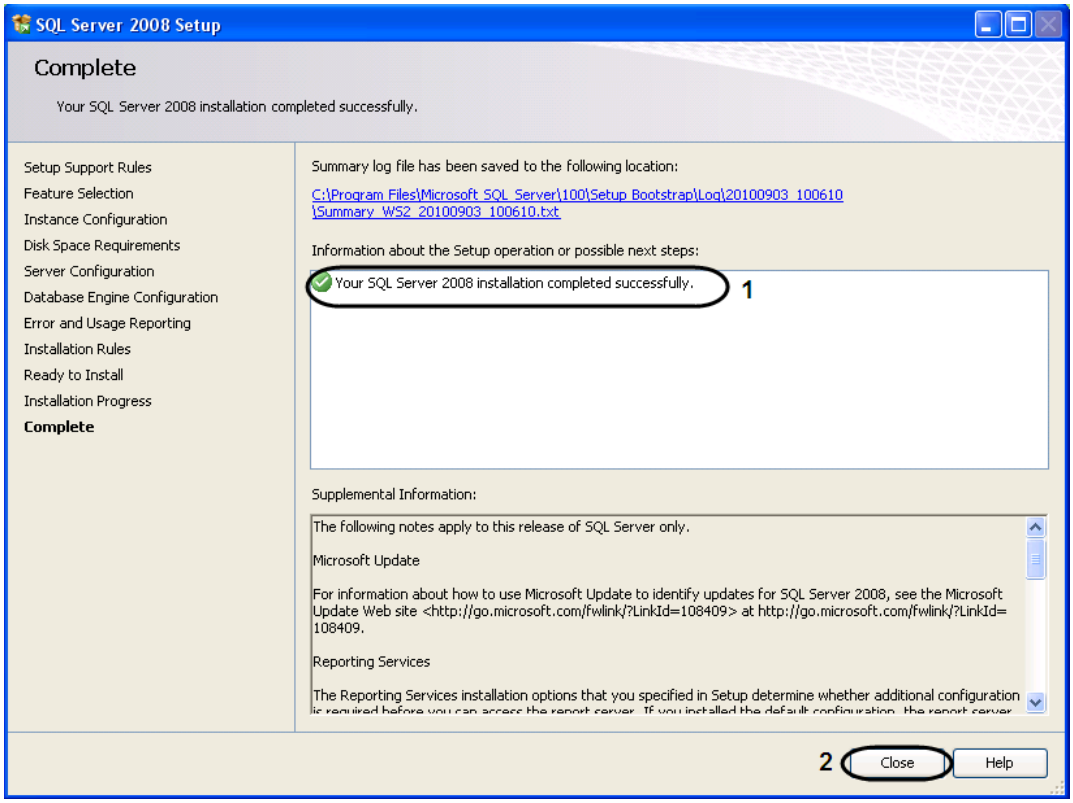


Fig. 13.5-19 "Complete" window

23. «Close» to quit the installation process (Fig. 13.5-19, 2).

«Microsoft SQL Server 2008 Express R2» setup is completed.