axxon Intellect

Quick Start Guide

Quick Start Guide. Introduction

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Document purpose

This document, titled Quick Start Guide, is intended to be used as a concise guide for installing and starting the Intellect software package as well as for configuring and using its main functions (video surveillance, audio surveillance, pan/tilt/zoom devices management).

The details on how to install and configure the Intellect software package is presented in the document titled Administrator's Guide; and information on how to configure and use its basic and additional functions is presented in the document titled Operator's Guide.

Purpose of the Intellect software package

Intellect software is designed to build industrial scalable and flexible (adaptable) integrated security systems based on video surveillance and audio monitoring digital systems.

The *Intellect* system offers the following functionality:

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 video analytics systems for objects (events) tracking and recognition.
3. Single-source registration and processing of events, generation of notifications and system responses based on flexible algorithms.
4. Ultimately unlimited capabilities for system scaling and customizing, reallocation of resources with changes in the number or quality of monitoring tasks at guarded locations.

Before you start the Intellect system

Preparations for start-up of the *Intellect* software package consist of installing the hardware and software components of the software package.

The requirements for computers onto which the Intellect software package will be installed are as follows:

1. Select the processor in accordance with the computer configuration using the on-line calculator: https://sale.axxonsoft.com/calc/calculator.jsf. Documentation on the calculator is available here.
2. RAM – at least 2 Gb.
3. HDD space available for Intellect installation – 10 Gb for installation of Intellect software + 20Gb for installation of SQL Server 2012 Express Edition (for Server and RAW).
4. HDD space available for storing video footage – as per requirements to the video archive capacity (for Server and RAW).
5. Video card: Nvidia GeForce GT520 1GB RAM or more productive
6. Windows XP SP2 (Professional), Windows XP SP3, Windows Server 2003 R2 SP2, Windows Vista SP2, Windows Server 2008 SP2, Windows Server 2008 R2 SP1, Windows 7 SP1, Windows Storage Server 2008 R2 SP1, Windows Small Business Server 2011 SP1, Windows Home Server 2011 SP1, Windows Server 2012, Windows 8, Windows 8.1 or Windows Server 2012 R2.

Installation of the *Intellect* software package includes the following stages:

1. connect the video capture cards to the Servers;

2. connect the video cameras and microphones to the video capture cards;
3. connect pan/tilt/zoom (PTZ) devices to the Servers;
4. install the Intellect software package to the Servers, RAW and RMW.

The first stage of the *Intellect* software package installation involves installing equipment for digitizing video and audio signals on the PC. The *Intellect* installation kit includes one or several video capture cards (depending on the type of license) intended to digitize video and audio signals. To install the video capture cards, perform the following steps:

1. Cut off power to the computer onto which the video capture card will be installed.
2. Remove the case cover from the system unit.
3. Install the video capture card into a free PCI (PCI Express) slot.

4. Restore the case cover back onto the system unit.

The video capture card is now installed.

The second stage of installation involves connecting video cameras and microphones to the video capture cards. The connections are made using the provided interface cables with numbered BNC connectors (to connect video cameras) and RCA connectors (to connect microphones). Connect the microphones and video cameras to the video capture card as follows:

1. Connect the interface cables to the appropriate connectors on the video capture card.

2. Connect the video cameras to any of the 16 (8, 4) BNC connectors of the interface cable in the numerical order.

3. Connect the microphones to any of the RCA connectors of the interface cable with numbers in the range of 1 to 8.

Video cameras and microphones are now connected to the video capture cards.

If necessary, the third stage of installation involves connecting available PTZ devices. PTZ devices are connected to the Server via serial (COM) ports (RS-232 interface). Since PTZ devices typically use an RS-422 or RS-485 interface, they must be connected using special RS-422/485 Þ RS-232 converters.

Before connecting the PTZ devices, refer to the appropriate documentation in order to become familiar with the pinout schemes of the PTZ devices and of the utilized converters.

The fourth and final stage of Intellect installation involves installing the software provided in the installation kit. You must have Windows OS administrator rights to proceed with installation.

You can install the Intellect software package in one of the following configurations:

1. **Server** – the full-featured Intellect software kernel (the intellect.exe software module). The video surveillance system based on INTELLECT™ software uses Servers to receive and process video signals from analog and IP surveillance cameras.
2. **Remote Admin Workstation (RAW)** – the full-featured Intellect software kernel (the intellect.exe software module). The video surveillance system based on INTELLECT™ software uses Remote Admin Workstations for remote administering of INTELLECT™ software installed on Servers and other Remote Admin Workstations of the distributed video surveillance system, as well as the specialized platforms: videogate, remote archive server, remote web server etc.
3. **Remote Monitoring Workstation (RMW)** – the software kernel with limited functionality intended for an operator workstation (the slave.exe software module). RMW provides remote video surveillance and audio monitoring, i.e. acts as a Client.

Install the software as follows:

1. Power up the PC and load the operating system.
2. Insert the Intellect installation CD into the CD-ROM drive.
3. Start the Intellect software installation.
4. Install the required configuration of Intellect (Server/RMW/RAW) by following the setup prompts.

> ⓘ **Note**
> During the installation the software of other producers (required for *Intellect* and video capture card driver operation) will be installed.

Intellect is now installed.

# Starting and shutting down the Intellect software

Starting

Check readiness for operation of the entire communication environment, cameras, microphones and other system components before starting the system.

> **Note**
> If the path to the intellect.sec key file was not specified during the installation, it is necessary to put intellect.sec into the Intellect software root directory. In the absence of the key file starting will be in the DEMO mode.

The Intellect system can be started either:

1. Automatically. The software starts automatically after the operating system loads.
2. Manually. Intellect can be started through the **Start** menu: **Start All Programs Intellect**. To start Server configuration click the **Intellect** menu item, while for Client configuration go to **Client Workstation**.

The start-up window will be displayed.
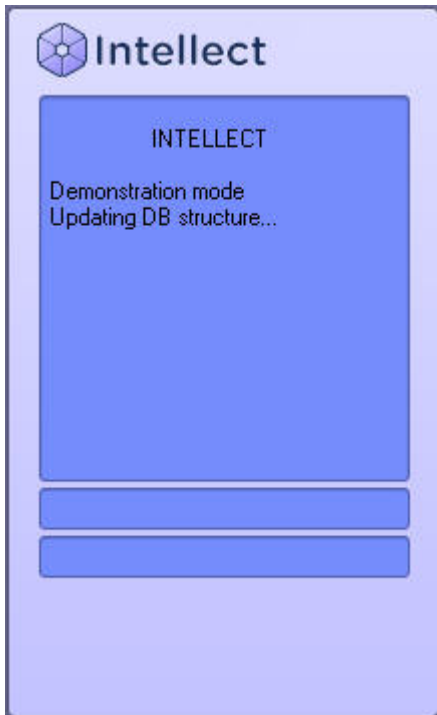
If user rights restrictions were implemented during software configuration, then a password will be required from the user during start-up of the software. Enter the password and click the **Registration** button.

If Windows authentication is used for authorization, login and password input is not neccessary. To start the *Intellect* software just click the **Registration** button. **Login** and **Password** fields are to be empty in this case.

> ⓘ **Note**
> The *Intellect* software package provides with three types of user rights: administration, controlling and monitoring

Confirmation by supervisor is required while the user log-in to the system if the authorization by four-eyes rule is configured in the system. After clicking the **Registration** button it will be proposed to enter the supervisor login and password. After entering the supervisor password click the **Registration** button again.

The password change can be required if there is the corresponding setting in the *Intellect* software. It may occur at the first user login to the system or after the current password time-out. In this case after clicking the **Registration** button you will be proposed to enter and confirm a new password.

The password can be changed by user request if there is the corresponding setting in the *Intellect* software. In this case click the **Change password** button and then enter and confirm the new password.

> ⓘ **Note.**
> If the user is forbidden to change the password by request, the corresponding message will be displayed

> ⚠️ **Attention!**
> The new password is not to be the same as the previous one.

To start the *Intellect* software after entering the new password click the **Registration** button.

Shutting down

Shut down the Intellect software as follows:

1. Point the mouse to the upper right corner of the screen and the Intellect Quick Access Toolbar (QAT) will appear.
2. Click the ▤ button in the QAT.
3. Select the **Shutdown** menu item.

> ⓘ **Note.**
>
> The **Log off** menu item is also available in the menu that appears when left-clicking the 🖳 symbol in the Windows system tray, or by holding the F8 hotkey.

Software shutdown will begin, and a password will be required if one is set. Enter the password and click the **Shutdown** button.

> ℹ **Note.**
> When shutting down *Intellect* in RMW configuration in a way that somehow differs from one listed above, particularly when restarting the computer without shutting down *Intellect,* the interface parameters may remain unsaved. For example, the data about saved layouts on the Video monitor can be lost.

> ℹ **Note**
> The software can be configured to forbid logging off/shutdown. Then the **Shutdown** item is not listed in the menu.

# Configuring the Intellect software package

Depending on the customer requirements to the Intellect based security system, you should configure the I*ntellect* software objects that represent the following security system components:

1. video subsystem;
2. PTZ subsystem (a system for managing pan/tilt/zoom devices and cameras' lenses);
3. audio subsystem;
4. automated video analytics subsystem;
5. sensor/relay subsystem;

6. notification subsystem (over various communication channels);
7. data back-up subsystem;
8. video/audio network data exchange subsystem;
9. user rights management subsystem;
10. software performance monitoring subsystem;
11. automated control subsystem;
12. user interfaces subsystem.

> ⓘ **Note**
>   The set of available *Intellect* system objects is defined in the intellect.sec key file

Use QAT, system tray or short-time holding the "hot" button F8 to open **System Settings** and configure the *Intellect* software objects.
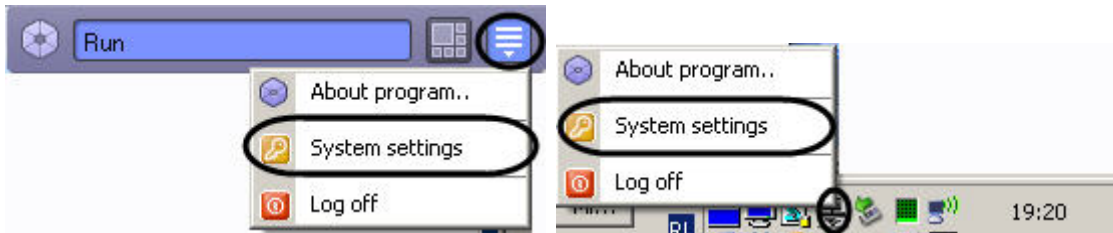
The **System Settings** dialog window contains:

1. tabs panel;
2. objects tree (not present in the **Architecture** tab);
3. object settings panel tree (not present in the **Architecture** tab);
4. the **Apply** and **Cancel** buttons.
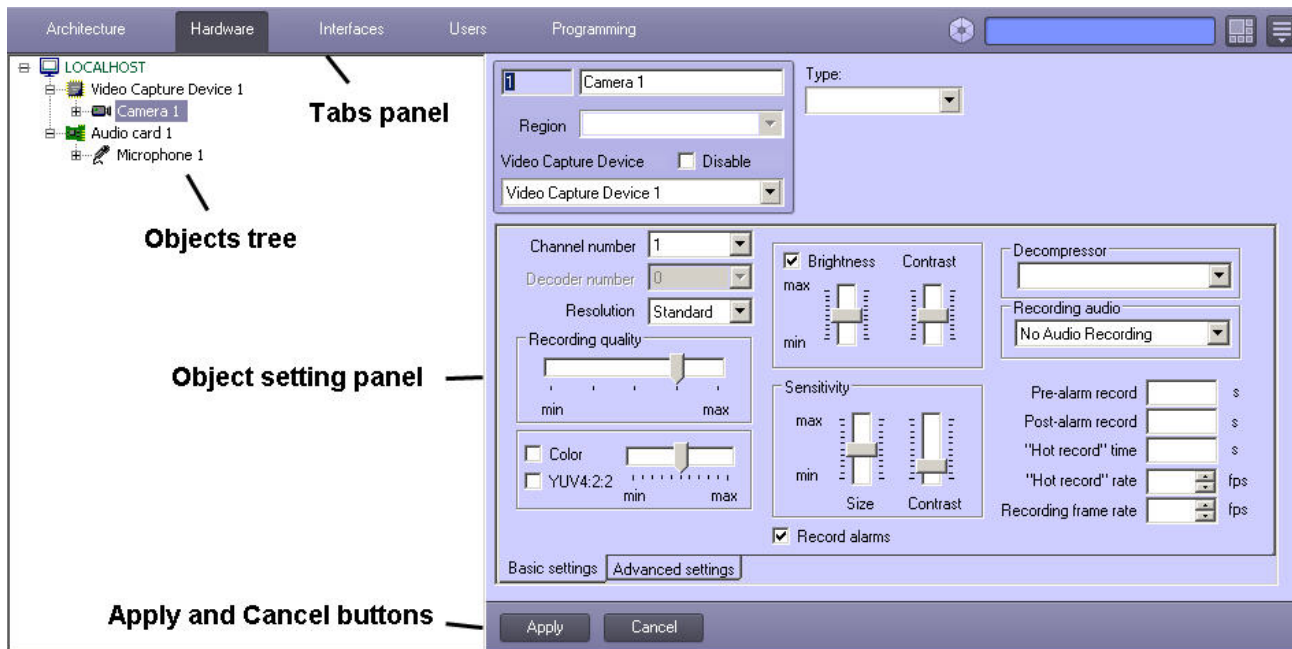
You typically configure objects as follows: create or select an object in the objects tree, assign parameter values in its settings panel and then save changes clicking the **Apply** button. Quick Start Guide offers a list of objects and a brief description of their functionality. Configuring the specified interface objects is described in detail in the document titled Administrator's Guide.

The System Settings dialog box

On the page:
• The Tabs panel
• The Object tree
• The Object settings panel
• The Apply and Cancel buttons

The Tabs panel

You can use the tabs panel to switch to different objects settings groups:

1. The **Architecture** tab is designed for describing the system structure and network settings for data exchange between the PCs of the distributed network.
2. The **Hardware** 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 GUI, i.e. such objects as the **Custom Dialog Box** and **Alarm Notification Window**.

3. The **Interfaces** tab is designed for creation and configuration of virtual screens and GUI components in them, i.e., video surveillance monitors, audio players and control panels of various devices and modules.
4. The **Users** tab is designed for creation of user accounts (registration) in the digital video surveillance and audio monitoring system, access control (user rights management) and assigning passwords to users.
5. The **Programming** tab is designed for creation of macros, programs and scripts, as well as for scheduling the Intellect software operation and dividing the secured facility/territory into areas and regions.

The Object tree

The object tree is arranged as a multi-level list of embedded objects.

The top-down structure of embedded objects reflects the objects hierarchy where low-order (child) objects can only be created under the higher-order (parent) objects.
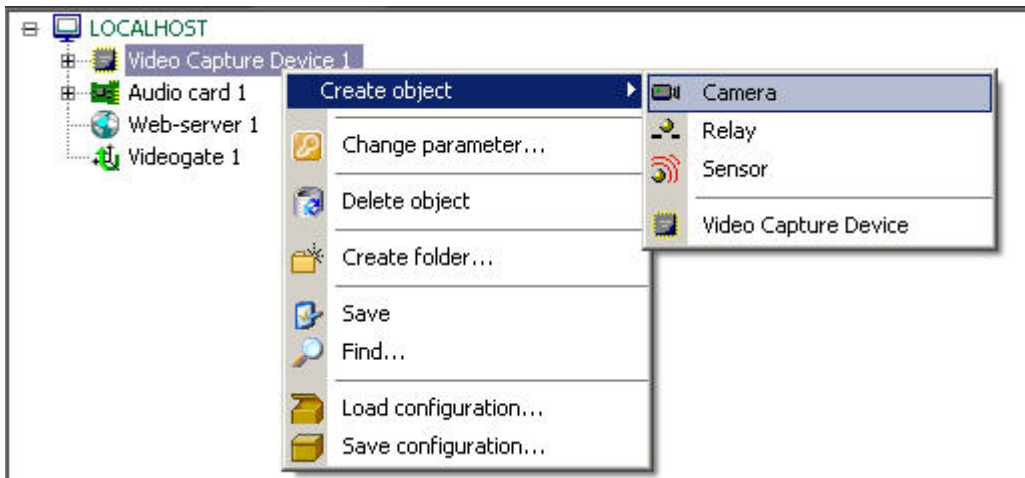
You can expand the objects tree and all its groups (threads) or collapse them to hide irrelevant objects.

The Object settings panel

The object settings panel is intended for activation and configuration of the selected object.
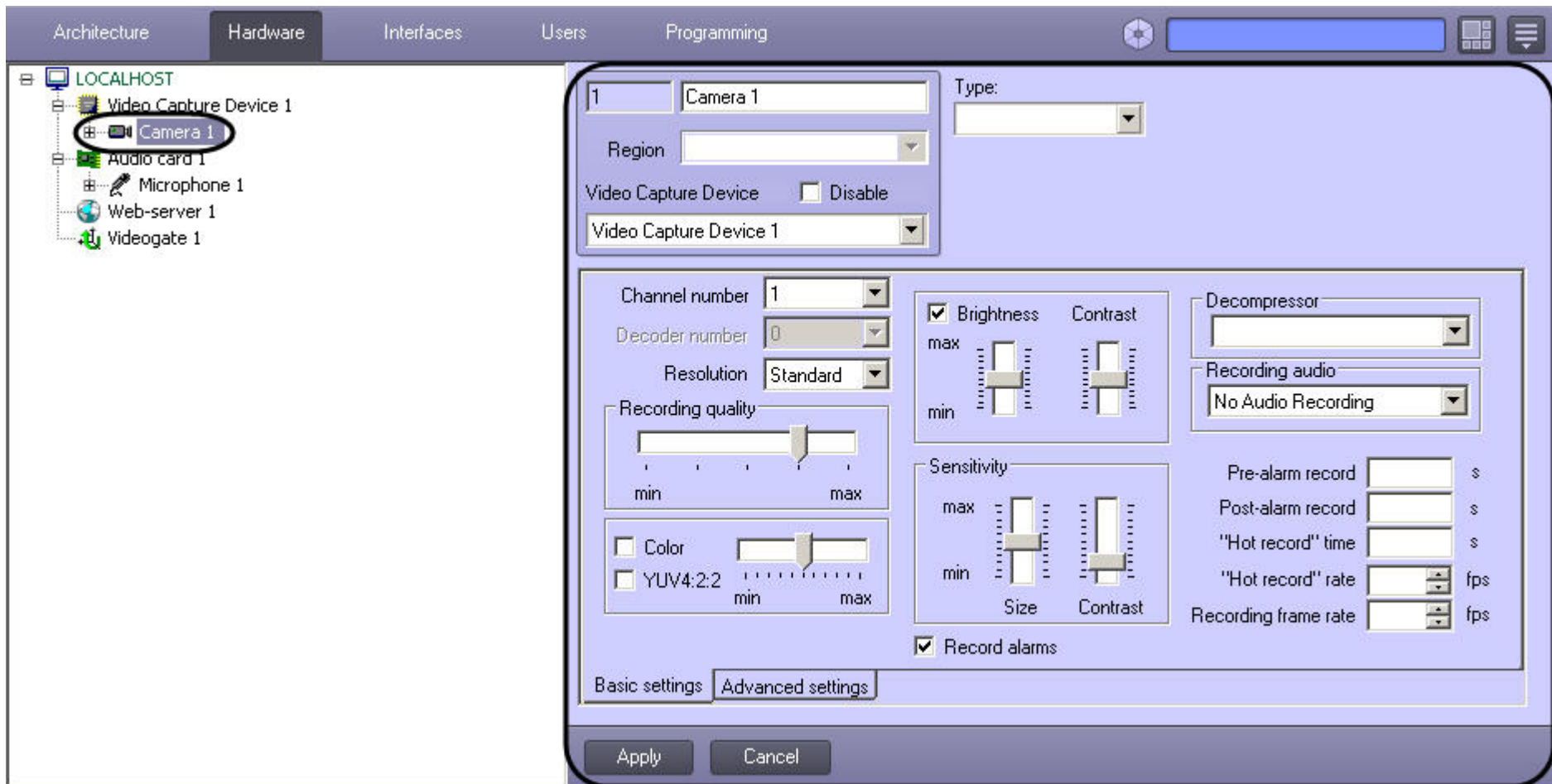
The fields displayed in the settings panel depend on the type of selected object .

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 discard changes and return to the previous object identification and setting parameters.

> ⓘ **Note**
> The parameters entered and confirmed with the **Apply** button cannot be cancelled with the **Cancel** button

Basic system objects

The basic objects of the system requiring preliminary configuration for correct operation of the *Intellect* software package are as follows:

The objects in the **Hardware** tab:

1. **Computer** - is a unique image of each PC running the *Intellect* software. This is a parent object for all the hardware objects which provide the settings for the hardware plugged into that PC.
2. **Video Capture Device** provides the settings for connected video capture cards or IP video processing devices.
3. **Camera** allows to configure and control video cameras.
4. **Audio Card** provides for configuration of connected sound cards.
5. **Microphone** is intended for configuration of audio input devices.
6. **Sensor** allows to configure sensors.
7. **Relay** allows to configure relays.
8. **Telemetry Controller** is used for configuring the PTZ ports.
9. **PTZ device** enables you to configure how a camera and its pan/tilt/zoom drive interact.

The objects in the **Interfaces** tab:

1. **Display** is for configuring how the selected interface objects are displayed.
2. **Monitor** allows to configure how video is displayed in camera windows (tiles) and set up camera controls.
3. **Audio player** enables you to configure microphones and play back audio.
4. **Map** allows you to configure and control security devices represented by system objects plotted on the map of the secured facility/territory.
5. **Event viewer** is configured to display the events log.

The objects in the **Users** tab:

1. **User permissions** allows to manage access rights for system objects.

The objects in the **Programming** tab:

1. **Area** is intended for dividing the secured facility/territory into areas of interest.
2. **Region** is intended for dividing the areas of secured facility/territory into regions of interest.

Additional system objects

Additional objects of the system are as follows.

The objects under the **Hardware** tab:

1. **Videogate** channels video from videoservers to remote workstations.
2. **Web-server** enables to configure monitoring video streams transmitted with the TCP/IP protocol in Internet browser window
3. **Backup archive** enables to configure archive file backup to local and network discs and USB drives.
4. **Control panel** is used for configuring analog PTZ devices.
5. **Detection zone** allows to configure detectors that provide automatic video image analysis to recognize events occurring within the observed scene.
6. **Titles Database** –here you can configure how the content of receipts (i.e. titles) are superimposed over video image.
7. **SNMP** allows you to configure the SNMP-notifications for operator.
8. **Operator query pane** allows you to model user dialog windows with any static or dynamic content.
9. **Alarm Message Window** – here you can configure the interface window used to inform operator of registered alarms and system events.
10. **Voice notification service** is used to configure audio notification of alarm events registered by the system.
11. **Voice Message Service** is used to configure voice messages transmitted over telephone lines.
12. **Short Message Service** allows to configure SMS messages delivery to cell phones of the system users.

13. **Mail Message Service** allows to configure email messages delivery to the system users.
14. **System restart service** enables you to configure rebooting Intellect modules if they are not responding.
15. **Keyboard** – configure the special keyboard for on-the-fly control of basic *Intellect* object functions.
16. **Event counter** – configure which events within specified time span will be counted.

The objects under the **Interfaces** tab:

1. **Panel of Backup archive** – here you configure the interface object for backing-up your data.
2. **External window** is created under the **Screen** object to configure the windows of external applications.
3. **Telemetry control panel** allows to configure PTZ controls, focusing and zooming controls for selected video cameras.
4. **Search by titles** is used to configure queries for the titles database.

The objects under the **Programming** tab:

1. **Macro** is used for setting up interactions of the objects that do not have the functionality to perform the required tasks.
2. **Program** allows to set up scenarios if the **Macro** object does not offer the functionality to perform the required tasks. It is implemented using a programming language embedded in *Intellect.*
3. **Script** allows to set up scripts if the **Macro** object does not have the functionality to perform the required tasks. It is basically a code written in JScript.
4. **Time Zone** is one of the Intellect scheduling tools used to set up time-frames.
5. **Timer** is the other Intellect scheduling tool used to set up time-instances.

Operating the Intellect software package

The *Intellect* interface objects (hereinafter called windows) are intended for displaying information processed by the system objects. Intellect windows are grouped together for display through the **Screen** objects. All windows grouped together under a particular **Screen** object, are displayed simultaneously.

To browse Screens use the **Windows/Interfaces** button on the system's QAT. You can hide all the active displayed Screens with the **Close All** command.
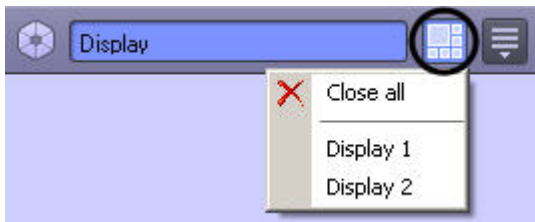

This guide briefly discusses the operation of the following *Intellect* windows:

1. Monitor;
2. Audio Player;
3. Map;
4. Telemetry Panel;
5. Event Viewer.

Operation of the specified interface objects (windows) is described in detail in the document titled Operator's Guide.

Monitor

The Video Surveillance Monitor window enables you to display and manage **Video Surveillance Windows** (camera windows/tiles) that show video from video cameras connected to the Server.
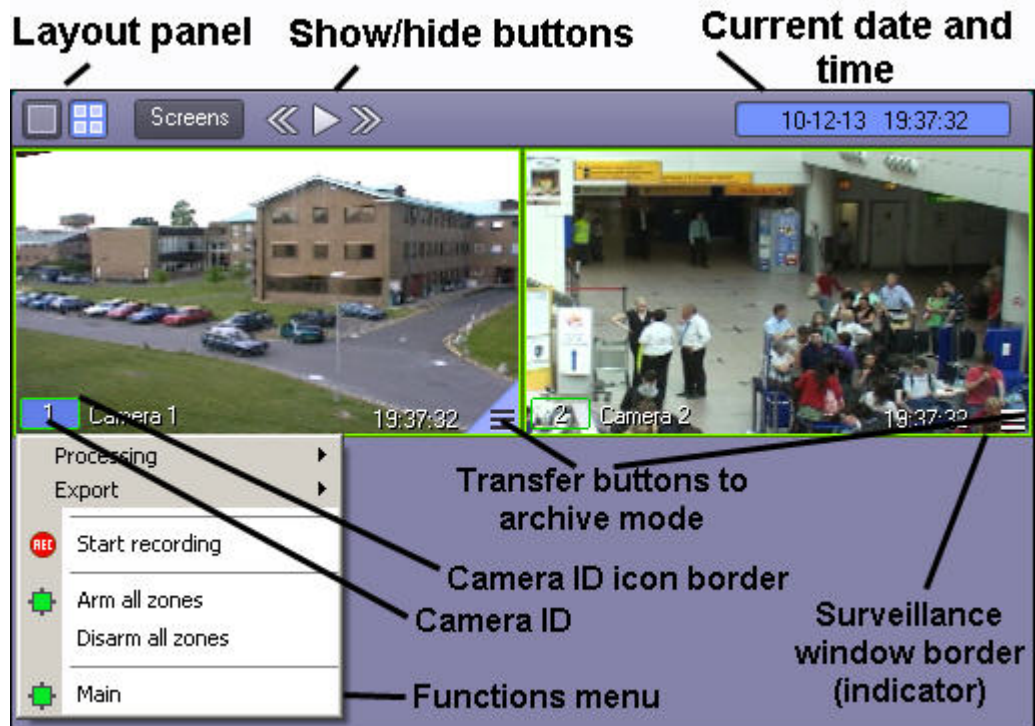
The Video Surveillance Monitor enables you to:

1. view cameras;
2. control surveillance modes;
3. process video feeds from cameras;
4. control recording of video sequences from cameras;
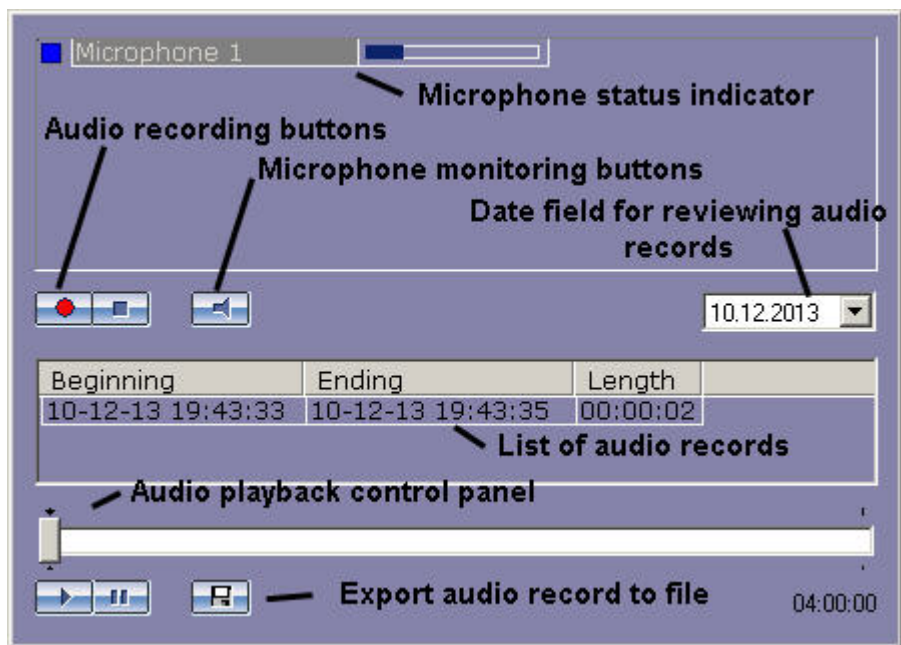5. work with archives;
6. display data on camera status.

Audio Player

The Audio Player window is used to operate the audio monitoring subsystem, that provides audio monitoring and recording for secured locations.

> ⓘ **Note**
> To operate **Audio Player** you should plug in headphones or speakers

The Audio Player functionality enables you to:

1. listen to audio on viewed camera;
2. record event audio;
3. playback audio recordings on triggering events;
4. save event audio as a standard Windows .wav file.

The Map

The Map window is used to monitor and control various devices throughout the surveillance system (cameras, microphones, sensors, relays), and to run macros.
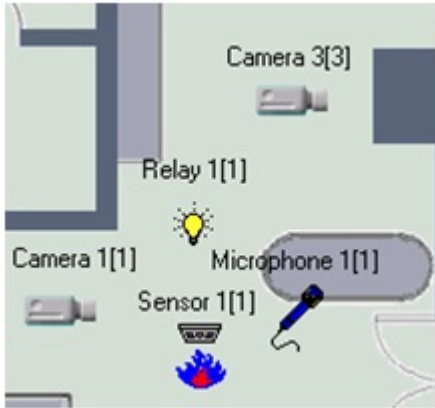
The Map enables you to:

1. create an interactive multilevel hierarchical **Map** object (graphical chart) of a secured facility;
2. to monitor the status of all security devices on the **Map**;
3. draw virtual lines to divide the secured facility/location into regions and areas;
4. switch automatically to the alarm layer and follow up on recursive alert links through map layers;
5. control actuating devices by clicking them on the **Map**;
6. run macros.

How you structure your **Map** depends on the secured location structure/floor plan. You can configure the shape of a Map while configuring the *Intellect* system.

Security system devices on the map are represented by their icons. The status of each device is displayed, and you can access its functions menu by right clicking on the device icon on the map.

The Map may have multiple Layers. To toggle the layers click on the layer link icon .

Telemetry control panel

The Telemetry control panel is used to control PTZ (pan/tilt/zoom) devices (e.g., PTZ cameras).

The Telemetry control panel enables you to:

1. control cameras' PTZ devices;
2. control cameras' lens zoom (magnification);
3. control cameras' lens focus;
4. choose and assign user settings for a PTZ device.

Event Viewer

The Event Viewer is designed to display data on events, registered by the system (with data filtering by event type option).

The Event Viewer enables you to:

1. list events of a given type;
2. display event source, name, region, date and time of event registration, additional information on event;
3. create and print reports on events;
4. go to event's source on the map;
5. view event camera footage in the **Event Viewer** tile.

Conclusion

More detailed information on the Intellect software package is presented in the documents titled:

1. Administrator's Guide;
2. Operator's Guide;
3. Programming Guide (JScript);
4. Installing and configuring security system components guide.

If you have faced difficulties and problems while operating the given software product, you are welcome to contact us. However, before addressing us, we kindly ask you to answer the following questions:

1. What is the problem?
2. When did the problem occurr and what had happened before it occurred?
3. Which conditions gave rise to the problem?

Remember, that the more detailed and precise information you give us, the faster our experts will resolve your problem.

We are striving to improve the quality of our products, and hence welcome any proposals and suggestions how to improve our software and documentation.

Please send your comments or requests concerning this Guide to the AxxonSoft Training and documentation development division at (documentation@itv.ru).