AxxonSoft

INTELLECT™ Software Package

Quick Start Guide

Version 1.0.6

Moscow 2013

axxon

Video Surveillance and Security Solutions

Contents

CONTENTS 2

1 INTRODUCTION 3

1.1 Document purpose 3

1.2 Purpose of the Intellect software package 3

2 BEFORE YOU START THE INTELLECT SYSTEM 4

3 STARTING AND CLOSING THE INTELLECT SOFTWARE 7

4 CONFIGURING THE INTELLECT SOFTWARE PACKAGE 9

4.1 System Settings dialog window 10

4.1.1 Tabs panel 10

4.1.2 Objects tree 11

4.1.3 Object settings panel 11

4.1.4 The Apply and Cancel buttons 12

4.2 Basic system objects 12

4.3 Advanced system objects 13

5 OPERATING THE INTELLECT SOFTWARE PACKAGE 15

5.1 Monitor 15

5.2 Audio Player 16

5.3 Map 17

5.4 Telemetry Panel 17

5.5 Event Viewer 18

6 CONCLUSION 19

1 Introduction

1.1 Document purpose

This document, titled “Intellect. 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).
More detailed information on installing and configuring the Intellect software package is presented in the document titled “Intellect. The Administrator’s Guide”; and information on configuring and using its basic and additional functions is presented in the document titled “Intellect. The Operator’s Guide”.

1.2 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.

2 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. disable Hyper-threading in BIOS;
2. RAM – at least 1 Gb;
3. HDD space available for Intellect installation -at least 20 Gb;
4. HDD space available for storing video footage - as per requirements to the video archive capacity (for Servers only);
5. at least 256 Mb PCI-E graphic card for video playback;
6. Windows XP SP2 (Professional) OS, Windows XP SP3, Windows Server 2003 R2 SP2, Windows Vista SP2, Windows Server 2008 SP2, Windows Server 2008 R2 SP1, Windows 7 SP1.

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 and Client PCs.

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 for digitizing 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 (Fig. 2-1).

Fig. 2-1 Installation of video capture cards

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

Installation of video input cards is now finished.

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). To connect the microphones and video cameras to the video capture card, perform the following steps:

1. Connect the interface cables to the appropriate connectors on the video capture card (Fig. 2-2).

Fig. 2-2 Connection of the interface cable

2. Connect the video cameras to any of the 16 (8, 4) BNC connectors of the interface cable in the their numerical order (Fig. 2-3).

Fig. 2-3 Connecting video cameras to the BNC connectors

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

Connecting the video cameras and microphones to the video capture cards is now completed.

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 ⇒ 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);
2. Client – the software kernel with limited functionality intended for an operator workstation (the slave.exe software module).

To install the software, perform the following steps:

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/Client) by following setup prompts.

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

Installation of Intellect is now finished.

3 Starting and closing the Intellect software

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 wasn't specified during the installation, it's necessary to put intellect.sec into the Intellect PC root directory. In the absence of the key file starting will be in DEMO mode.

The Intellect system can be started either way:

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 on Intellect in the menu, while for Client configuration go to Client Workstation.

The start-up window will be displayed (Fig. 3-1).

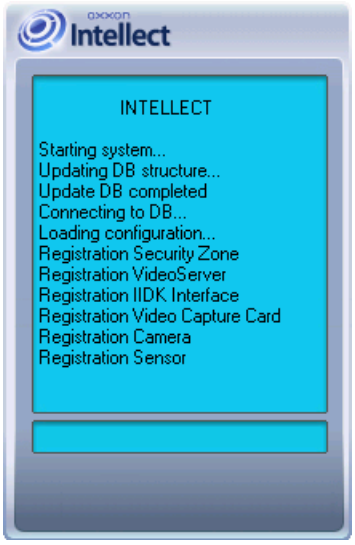


Fig. 3-1 Starting Intellect Server

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 on Registration.

If Windows authentication is used for authorisation, 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 for three types of user rights: administration, controlling and monitoring.

To shut down the Software, perform the following steps:

1. Point the mouse to the upper right corner of the screen and the Intellect Quick Access Toolbar (QAT) will open.

2. Click on « » in the QAT.

3. Select Shutdown in the menu that opens.

Program shutdown will begin, and a password will be required if one is set (Fig. 3-2). Enter the password and click on Shutdown.

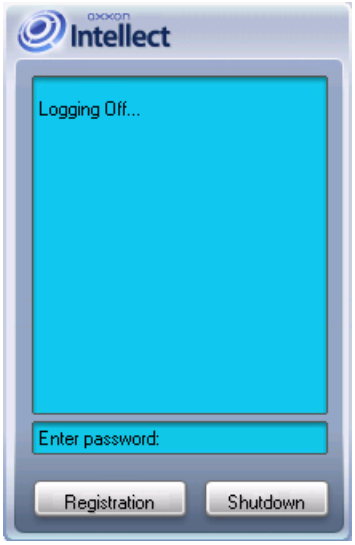


Fig. 3-2 Shutting down Intellect Server Configuration with password request

NOTE: The Software can be configured to forbid logging off/shutdown. Then the Shutdown command is not listed in the menu.

4 Configuring the Intellect software package

Depending on the customer requirements to the Intellect based security system, you should configure the Intellect 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 to open System Settings and configure the Intellect software objects (Fig. 4-1).

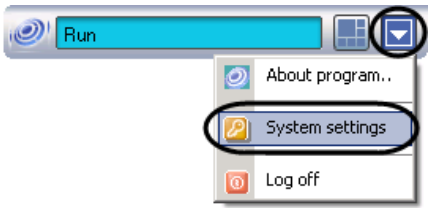


Fig. 4-1 Quick Access Toolbar (QAT)

The System Settings dialog window (Fig. 4-2) 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.

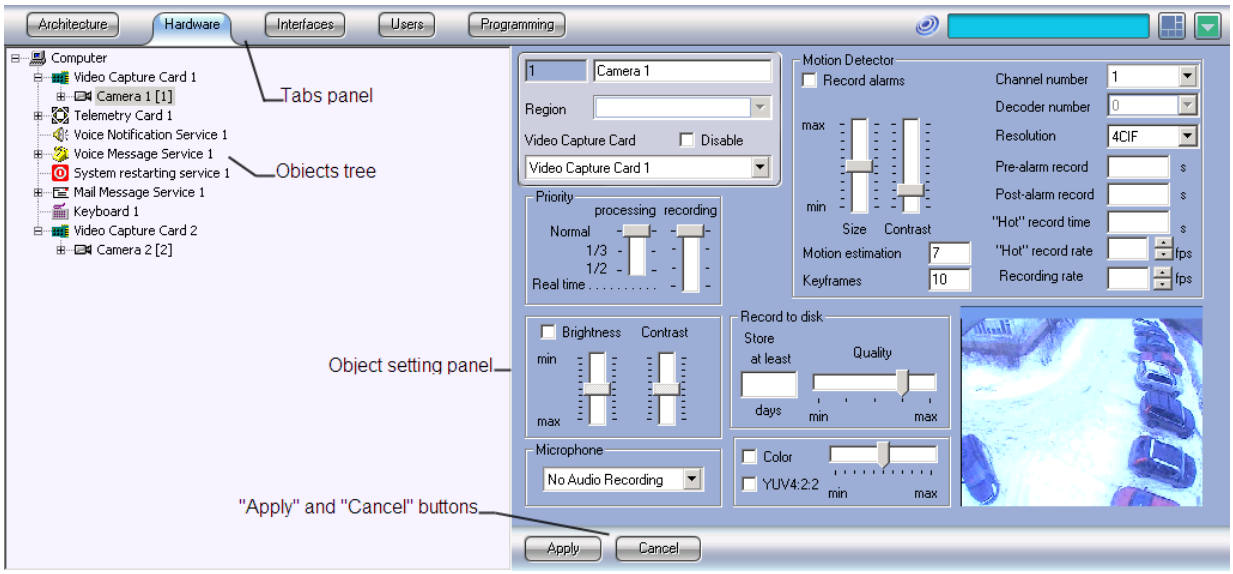


Fig. 4-2 System Settings dialog window

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. The Intellect 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 “Intellect Software Package: Administrator’s Guide”.

4.1 System Settings dialog window

4.1.1 Tabs panel

You can use the Tabs panel (Fig. 4-3) to switch to different objects settings groups:

Fig. 4-3 Tabs panel of the System Settings dialog window

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 of the Intellect software and dividing the secured facility/territory into areas and regions.

4.1.2 Objects tree

The objects tree is arranged as a multi-level list of embedded objects (Fig. 4-4).

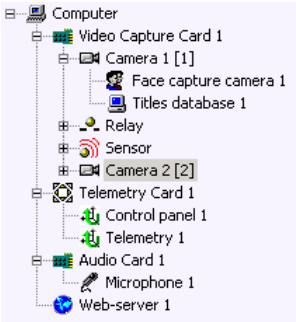


Fig. 4-4 Objects tree of the Hardware tab

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 (Fig. 4-5).

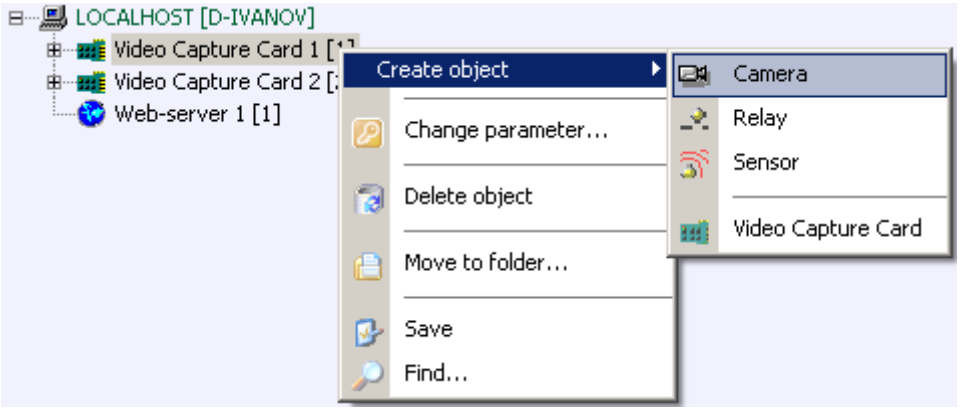


Fig. 4-5 Creation of the “Camera” child object under the “Video capture card” parent object

You can expand the objects tree and all its groups (threads) or collapse them to hide irrelevant objects.

4.1.3 Object settings panel

The object settings panel is intended for activation and configuration of the selected object (Fig. 4-6).

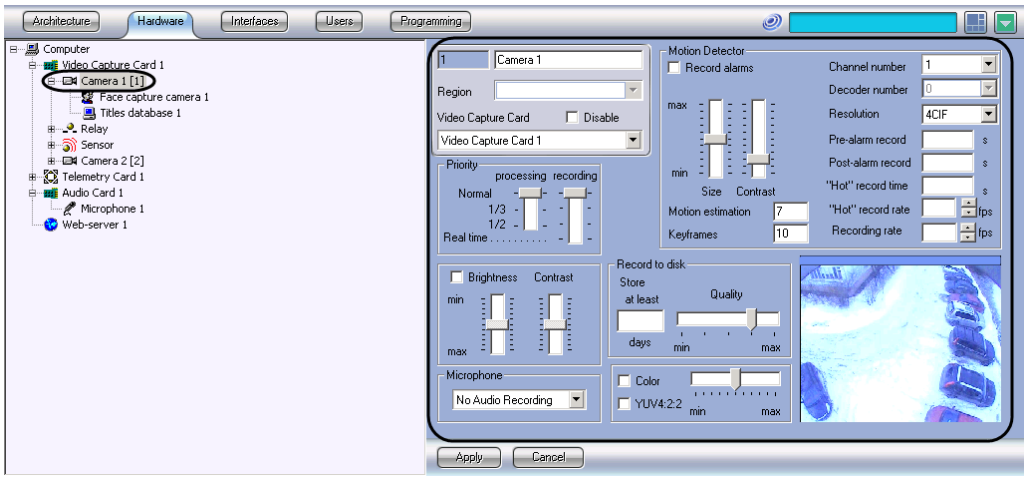


Fig. 4-6 The Camera object settings panel

The fields displayed in the settings panel depend on the selected object type.

4.1.4 The Apply and Cancel buttons

The Apply button (Fig. 4-7) 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.

Fig. 4-7 The Apply and Cancel buttons

NOTE: The parameters entered and confirmed with the Apply button cannot be cancelled with the Cancel button.

4.2 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 under 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 Card 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 Card is used for configuring the PTZ ports.

9. Telemetry enables you to configure how a camera and its pan/tilt/zoom drive interact.

The objects under the Interfaces tab:

1. Screen is for configuring how the selected interface objects are diplayed.
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 under the Users tab:

1. User Rights allows to manage access rights for system objects.

The objects under 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.

4.3 Advanced system objects

Additional objects of the system are as follows.

The objects under the Hardware tab:

1. Video Gate 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. Active Archiving 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. Query 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 Restarting 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. With Event Counter you can configure which events during within what time span will be counted.

The objects under the Interfaces tab:

1. Panel of Active Archiving– 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 Panel allows to configure PTZ controls, focusing and zooming controls for selected video cameras.

4. Titles Search 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.

5 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 (Fig. 5-1). You can hide all the active displayed Screens with the Close All command.

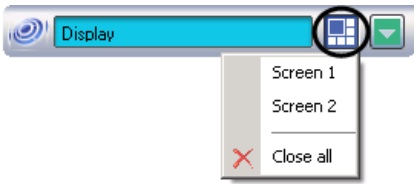


Fig. 5-1 Quick Access Toolbar (QAT) Interfaces/Windows button

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 "Intellect Software Package: The Operator's Guide".

5.1 Monitor

The Video Surveillance Monitor window (Fig. 5-2) enables you to display and manage Video Surveillance Windows (camera windows/tiles) that show video from video cameras connected to the Server.

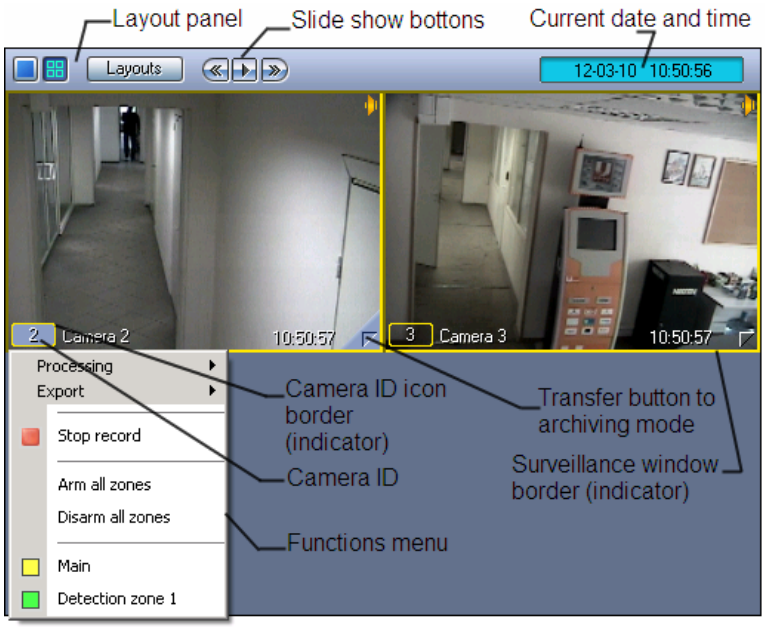


Fig. 5-2 An example of a typical Video Surveillance Monitor window

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.

5.2 Audio Player

The Audio Player window (Fig. 5-3) 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.

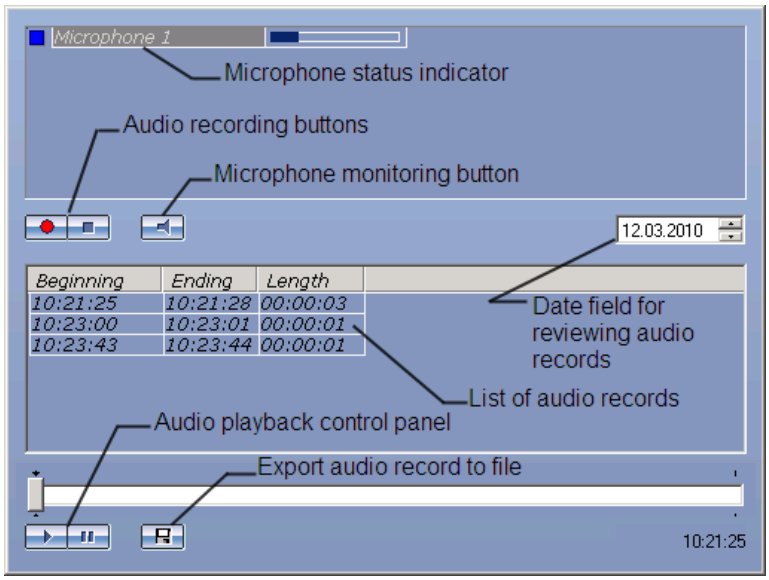


Fig. 5-3 An example of a typical Audio Player window

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.

5.3 Map

The Map window (Fig. 5-4) 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.

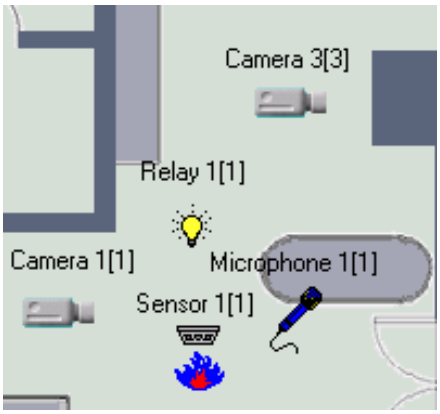


Fig. 5-4 A typical Map window

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 .

5.4 Telemetry Panel

The Telemetry Panel (Fig. 5-5) panel is used to control PTZ (pan/tilt/zoom) devices (e.g., PTZ cameras).

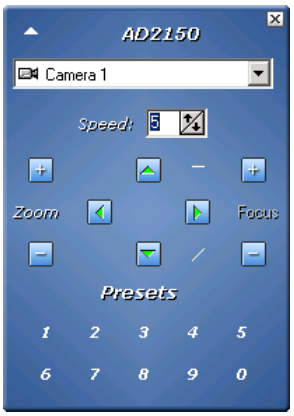


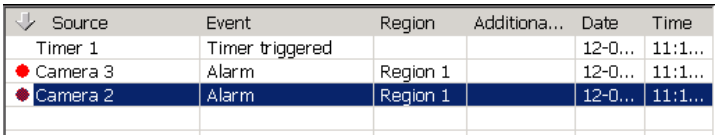
Fig. 5-5 The Telemetry panel

The Telemetry 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.

5.5 Event Viewer

The Event Viewer (Fig. 5-6) is designed to display data on events, registered by the system (with data filtering by event type option).



Source	Event	Region	Additiona...	Date	Time
Timer 1	Timer triggered			12-0...	11:1...
Camera 3	Alarm	Region 1		12-0...	11:1...
Camera 2	Alarm	Region 1		12-0...	11:1...

Fig. 5-6 A typical Event Viewer window

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.

6 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).

Please do not hesitate to send in your comments or requests concerning this Guide should be directed to the AxxonSoft Technical Documentation Department at documentation@axxonsoft.com.

Axxon Soft Inc., Beryozovaya alleya, building5, section 5a, Moscow, Russia, 127273 , www.axxonsoft.com