eneo®

Full Manual

iNEX Client

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Chapter 1 — Introduction

This manual describes installation and operation of iNEX Standard software, which is designed to be used with network cameras, network video transmitters and digital video recorders (DVRs).

1.1 Features

iNEX Standard is a software that controls monitoring and recording of live video and playback of recorded video.

- Remote monitoring of live images
- Remote monitoring of live images in multiple Client systems through a streaming service (the number of channels that can be streamed equals the number of channels that can be recorded unless streaming WIBU-Keys have been added)
- Stable steaming by using the load balancing function in installation with more than one streaming server
- Video analytics of live images through a video analytics service
- Up to 64 simultaneous connections to the iNEX system
- Remote software upgrades and system setup (supported only for devices which provide the functions)
- Display of system log information (supported only for devices which use the iNEX protocol)
- Map monitoring of live images
- Centralized system operation and management and event handling
- Decompression algorithm for H.264, MPEG-4 and M-JPEG
- Enhanced security using the SSL function
- Two-way audio communication
- Enhanced security by setting up different authorities for each user group
- Intuitive GUI
- The following are supported only for network cameras and network video transmitters:
  - Recording of video and playback of the recorded video
  - Multiple recording servers for advanced recording performance
  - Instant Recording of monitored images
  - Audio recording
  - Stable recording using proprietary video database file system
- The following are supported only for DVRs:
  - Playback of video recorded in DVRs
  - Remote control of panic recording
- Number of services and devices that can be registered and channels that recording, streaming and video analytics are available for:
  - Service Registration: One monitoring service, one to four streaming services, 32 video analytics services, 64 recording services, 64 backup services (the number of streaming services that can be registered differs depending on the type and number of WIBU-Keys purchased. Backup services are sold separately)
  - Device Registration: Maximum of 1,024 devices including devices which do not use the iNEX protocol (The devices which do not use the iNEX protocol can be registered up to the maximum number of available recording channels. For example, if your iNEX software supports four-channel recording, up to four devices that do not use the iNEX protocol can be registered.)
  - Recording (not supported for DVRs): Maximum of four to 256 channels depending on the type and number of the WIBU-Keys (up to 256 channels per recording server with up to 64 recording servers)
  - Streaming: The number of channels that can be streamed equals the number of channels that can be recorded unless streaming WIBU-Keys have been added (maximum of 512 to 2,048 channels depending on the type and number of the WIBU-Keys when WIBU-Keys have been added).
  - Video Analytics: Up to 8 channels per video analytics service are available.

NOTES:

- Ask your dealer or distributor about the number of channels that can be recorded or streamed using your iNEX software. If the device is a four-channel network video transmitter which uses the iNEX protocol, all four cameras are counted even if some of the four cameras are disabled, and four channels per network video transmitter are deducted from the number of channels available for recording, streaming and video analytics.
- Several types of WIBU-Keys are available and support different numbers of channels for streaming, recording or backup. You can increase the number of channels by buying a license file increasing the number of channels supported by a WIBU-Key or by buying additional WIBU-Keys. Refer to 4.1 Service Manager (p. 31) for details about the license file.
- The iNEX Backup and iNEX Federation software are supported to allow you to build better surveillance systems. Ask your dealer or distributor about purchasing the software and details about it.
- This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (*http://www.openssl.org/*).
- The software included in this product contains some Open Sources. You may obtain the complete corresponding source code from us. See the Open Source Guide on the software CD (*OpenSourceGuide\ OpenSourceGuide.pdf*) or as a printed document included along with the User's Manual.

1.2 System Diagram

Multi-Server
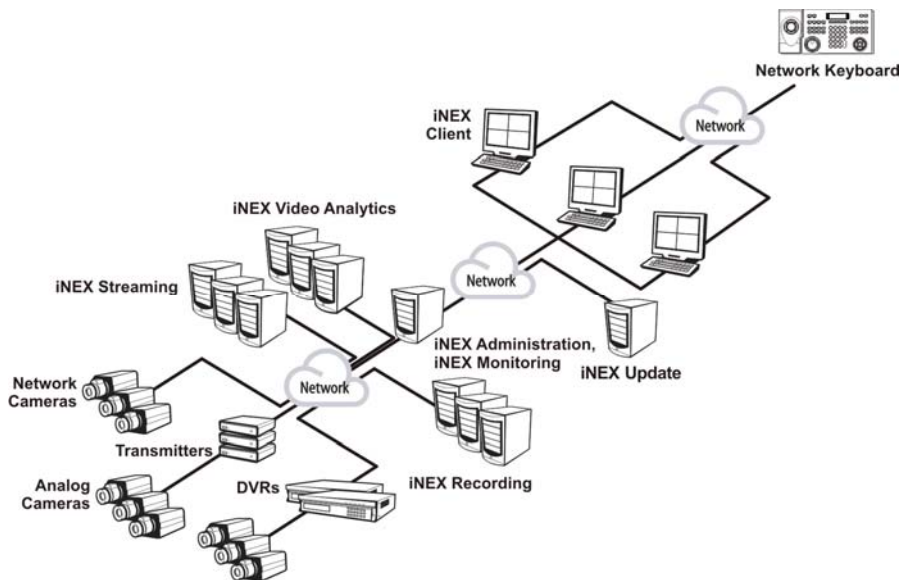
NOTES:

- The administration service and monitoring service can run on separate PCs.
- The update service can run on a client PC or a PC with other iNEX service programs installed.

Single-Server
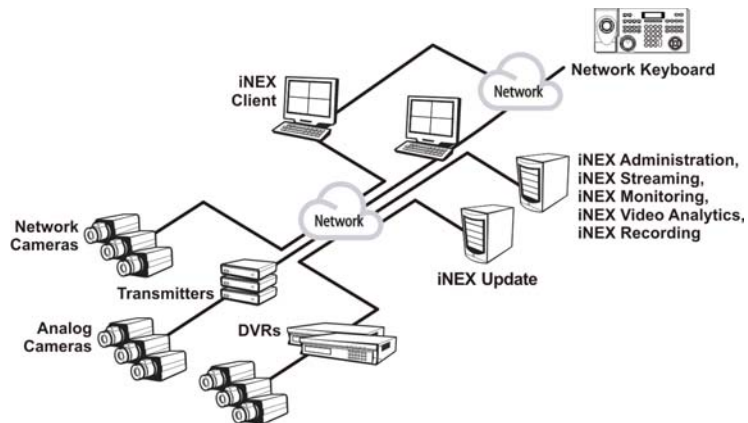
NOTES:

- When 256 or more devices are registered, it might take several minutes or longer to change the settings of the Setup program.
- It is suggested that you run the recording, streaming and video analytics services on separate PCs.
- The update service can run on a client PC or a PC with other iNEX service programs installed.

Chapter 2 — Installation

2.1 Product Information

Package Contents

- Installation CD
- User's Manual
- WIBU-Key (USB Dongle)

NOTES:
- Up to four WIBU-Keys can be recognized by one administration server.
- If a WIBU-Key is disconnected from an administration server, the iNEX program will not operate properly.
- Stop running all services before connecting or disconnecting a WIBU-Key.

System Requirements

Server System

- Operating System: Microsoft® Windows® XP x86 (32 Bit)/Vista (Home Standard, Business, Ultimate, Enterprise), Microsoft® Windows® 7 (Home Premium, Professional, Ultimate), Microsoft® Windows® Server 2003/2008
- CPU: Intel Core II Quad 8200 2.33 GHz/Intel Xeon 3.0 GHz or faster
- RAM: 2GB or more
- VGA: ATI RadeonTM HD 2400 or NVIDIA GeForce FX5500 (ATI recommended) (1024x768, 24bpp or higher)
- Hard Disk Drive: 5 GB or more free space for each service (for example, 10 GB or more free space when installing administration and monitoring services)
- LAN: Gigabit Ethernet or faster

Client System

Recommended Requirements

- Operating System: Microsoft® Windows® XP x86 (32 Bit)/Vista (Home Basic, Business, Ultimate, Enterprise), Microsoft® Windows® 7 (Home Premium, Professional, Ultimate)
- CPU: Intel Core II Quad 8200 2.33 GHz or faster
- RAM: 2GB or more
- VGA: ATI RadeonTM HD 3650 or NVIDIA GeForce 8400GS (ATI recommended) (1024x768, 24bpp or higher)
- Hard Disk Drive: 350 MB or more free space
- LAN: Gigabit Ethernet or faster

Minimum System Requirements

- Operating System: Microsoft® Windows® XP Home SP 3
- CPU: Intel Pentium IV 3.0 GHz or faster
- RAM: 1.5 GB or more
- VGA: ATI RadeonTM HD 2400 or NVIDIA GeForce FX5500 (ATI recommended) (1024x768, 24bpp or higher)

- Hard Disk Drive: 350 MB or more free space
- LAN: 10/100 Mbps Ethernet or faster

NOTES:
- In this manual, the "server or server system" refers to a PC on which a iNEX service is running. The "client system" refers to a PC running the Client program.
- It is recommended to add a new unformatted hard disk drive to ensure stable recording. If you are setting up a hard disk drive which contains data, however, you are to delete partition(s) and the file system in advance after formatting. Refer to the PC/server user's manual or consult with the PC/server manufacturer for details about how to format or delete the partition(s) and file system.

2.2 Installation

NOTES:
- It is recommended to install the recording, streaming and video analytics services on separate PCs for better performance of video recording, monitoring and playback.
- In the Windows Start menu, go to *Control Panel*. Double click the *Power Options* to open the Management Properties dialog box. Under the *Power Schemes* tab, set both *Turn off monitor* and *Turn off hard disks* to *Never*.

CAUTION: If an older version of iNEX software is installed on your computer, a screen appears asking you to upgrade the software. In this case, you are required to upgrade the software according to the instructions in the screen.

Server System

Administration Server

1. Insert the software CD in the administration server.

2. Run the Setup.exe file in the Setup folder of the software CD.

NOTE: The *User Account Control* window might appear when using the Microsoft® Windows® Vista or later operating system. Click *Allow* and install the software following the instructions.

3. Select the language in which to run the program and then click OK.

NOTES:
- To properly display the selected language, your PC's operating system should be set to support the selected language.
- To change the iNEX program's language after the software has been installed, select *Language Selector* in the *iNEX → Utility* folder of the *Start* menu before running the *iNEX* program.

4. When the following screen appears, select Install and click Next.

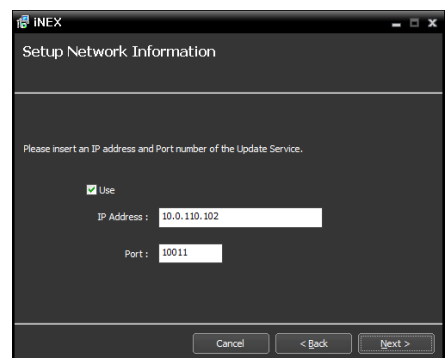5. Select Administration Service and Monitoring Service, and click Next. If the administration service and monitoring service are installed on separate PCs, select the service to install and click Next.
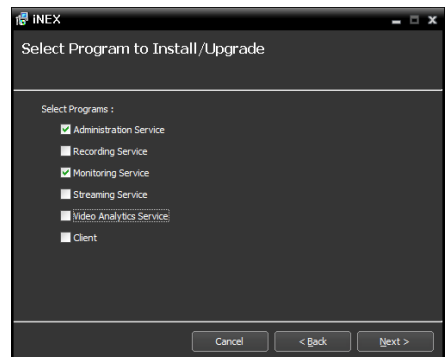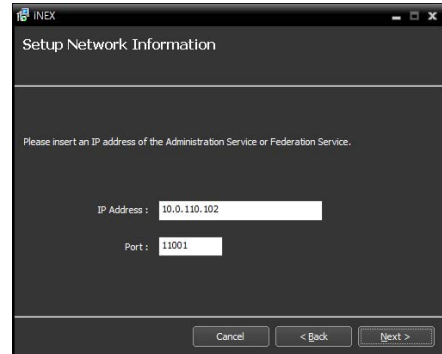
6. Designate the folder path to install the services. Clicking the Disk Cost… button shows the available and required disk space for each hard disk drive for the installation. Then click Next.
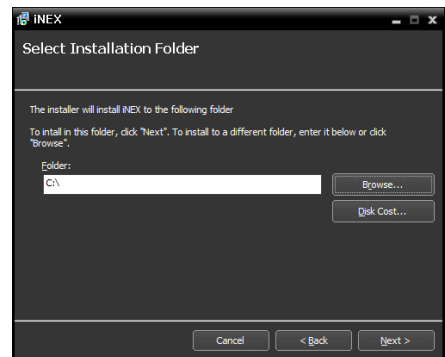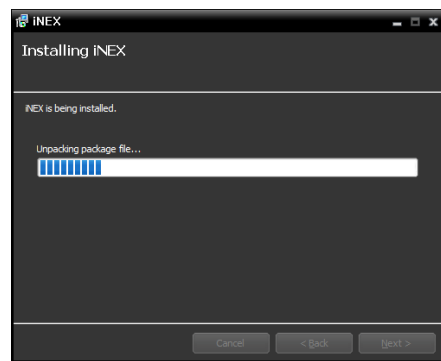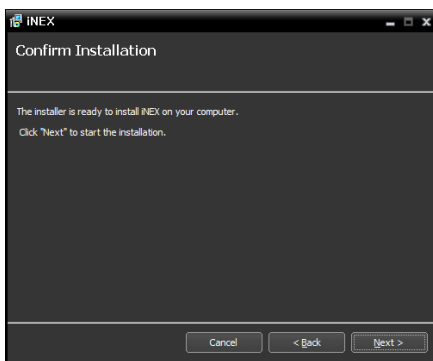
7. If you use the update service, it is required to enter the IP address and port number of the update server when installing the administration service. You can change the settings in the Service Manager program after completing installation. Refer to 2.3 Automatic Upgrade, Update Service Setup (p.14) for details.
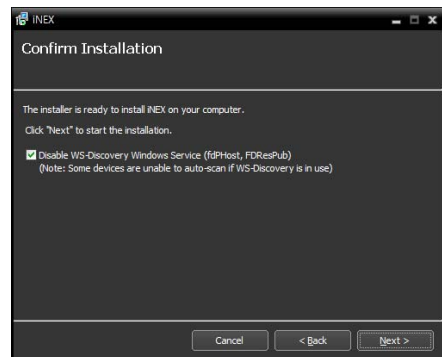
8. If the service is installed on separate PCs, it is required to enter the IP address and port number of the administration server when installing the monitoring. You can change the settings in the Service Manager program after completing installation. When the installation is complete, the monitoring service is connected to the administration service via the network if the services are operating.
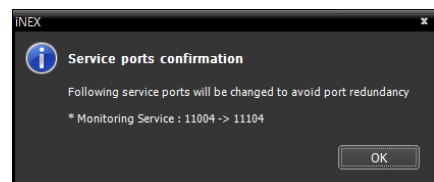

9. When the following screens appear, click Next.

NOTE: The following screen appears when using Microsoft[®] Windows[®] Vista or later operating systems. It is recommended that you check the *Disable WS-Discovery Windows Service (fdPHost, FDResPub)* box. If you do not check the box, the iNEX program cannot auto-scan devices using ONVIF[TM] Conformance protocol when scanning devices for device registration.

NOTE: The following screen appears when the port number of the service being installed is already in use, and the screen displays the port number that will be changed. The changed port number will be applied when the service starts operating after installation.

NOTE: *.NET Framework* and the *Visual C++ Runtime Libraries* are installed automatically, and it may take some time. This installation step will be skipped if the programs are already installed on your computer.

10. Disconnect the WIBU-Key from the server if a WIBU-Key is connected. Then install the WIBU-Key device driver following the instructions.
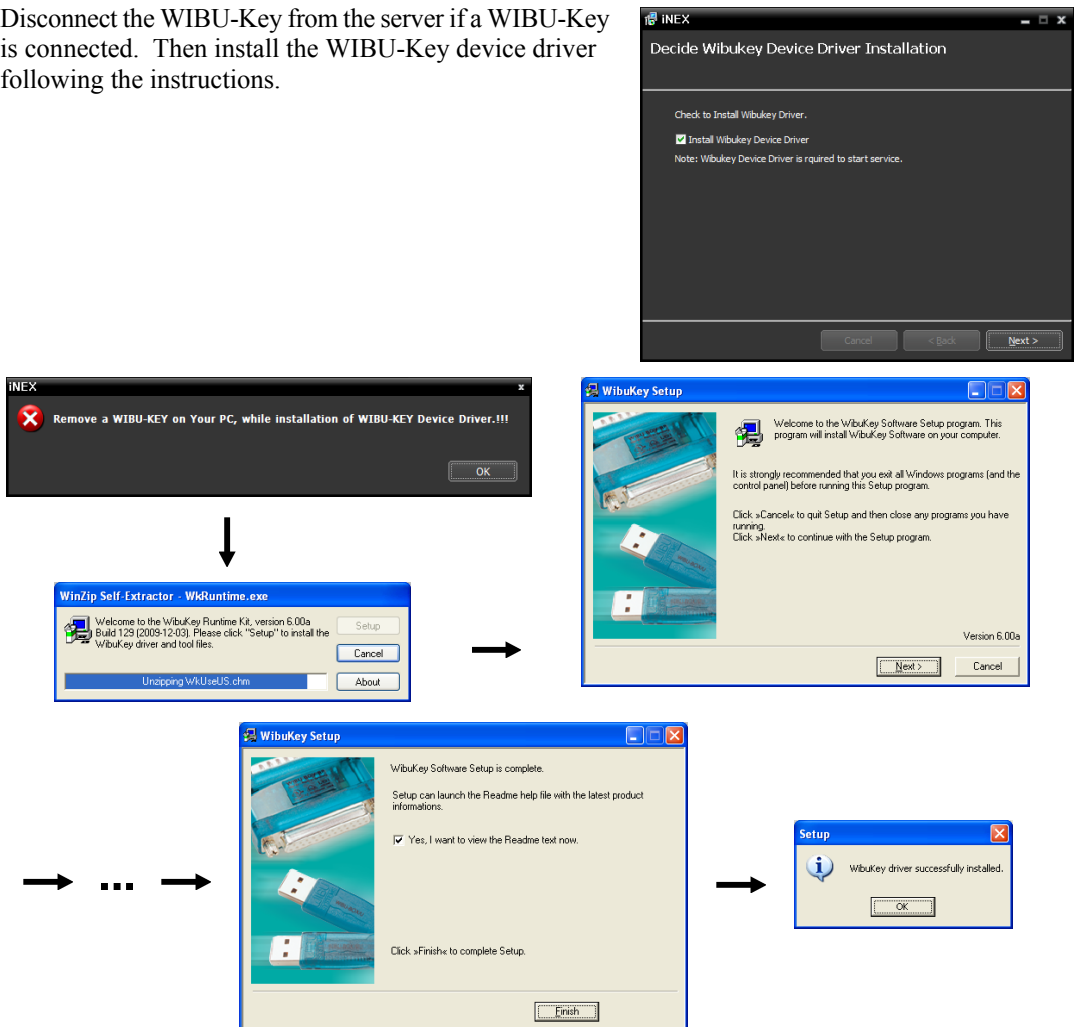
11. When the following screen appears, click the Close button to complete the installation.

NOTE: After successfully installing the services, the services, Service Manager program (the icon is displayed in the notification area of the task bar) and Setup program run automatically.
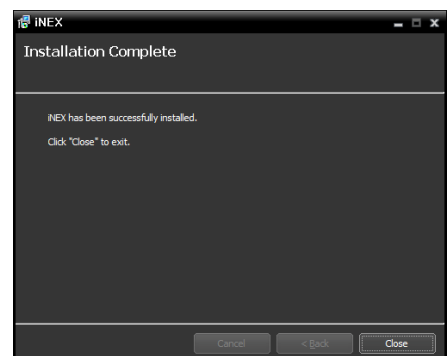
12. Connect WIBU-Keys to the administration server.

Recording Server / Streaming Server / Video Analytics Server

1. Insert the software CD in the server.

2. Run the Setup.exe file in the Setup folder of the software CD.

NOTE: The *User Account Control* window might appear when using the Microsoft® Windows® Vista or later operating system. Click *Allow* and install the software following the instructions.

3. Select the language in which to run the program and then click OK.

NOTES:
- To properly display the selected language, your PC's operating system should be set to support the selected language.
- To change the iNEX program's language after the software has been installed, select *Language Selector* in the *iNEX → Utility* folder of the *Start* menu before running the *iNEX* program.

4. When the following screen appears, select Install and click Next.

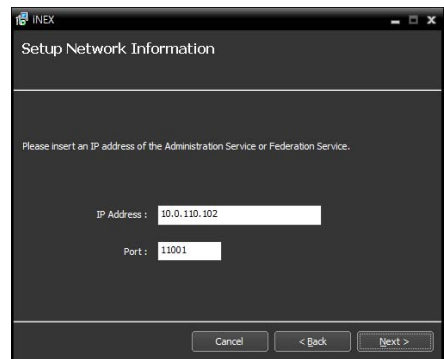5. Select a service to install and click Next.
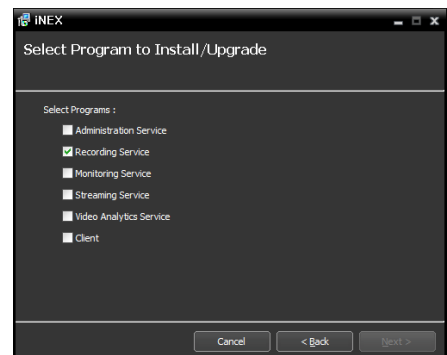
6. Designate the folder path to install the service. Clicking the Disk Cost… button shows the available and required disk space for each hard disk drive for the installation. Then click Next.
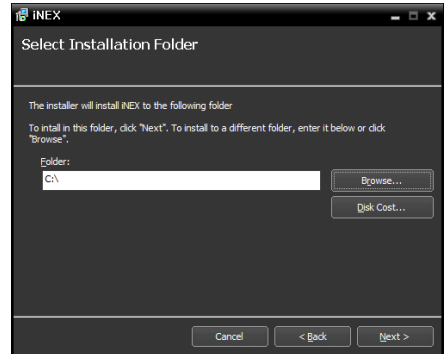
7. Enter the IP address and port number of the administration server and click Next. You can change the settings in the Service Manager program after completing installation. When the installation is complete, the installed service is connected to the administration service via the network if the services are operating.

8. When the following screens appear, click Next.

NOTE: The following screen appears when using Microsoft® Windows® Vista or later operating systems. It is recommended that you check the *Disable WS-Discovery Windows Service (fdPHost, FDResPub)* box. If you do not check the box, the iNEX program cannot auto-scan devices using ONVIF™ Conformance protocol when scanning devices for device registration.

NOTE: The following screen appears when the port number of the service being installed is already in use, and the screen displays the port number that will be changed. The changed port number will be applied when the service starts operating after installation.

NOTE: *.NET Framework* and the *Visual C++ Runtime Libraries* are installed automatically, and it may take some time. This installation step will be skipped if the programs are already installed on your computer.

9. When the following screen appears, click the Close button to complete the installation.

NOTE: After successfully installing the service, the service, Service Manager program (the 🖳 icon is displayed in the notification area of the task bar) and Setup program run automatically.
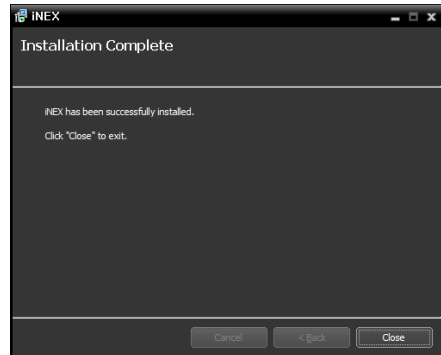
10. Connect WIBU-Keys to the administration server.

Client System

1. Insert the software CD in the Client PC.

2. Run the Setup.exe file in the Setup folder of the software CD.

NOTE: The *User Account Control* window might appear when using the Microsoft® Windows® Vista or later operating system. Click *Allow* and install the software following the instructions.

3. Select the language in which to run the program and then click OK.

NOTES:
- To properly display the selected language, your PC's operating system should be set to support the selected language.
- To change the iNEX program's language after the software has been installed, select *Language Selector* in the *iNEX → Utility* folder of the *Start* menu before running the *iNEX* program.

4. When the following screen appears, select Install and click Next.
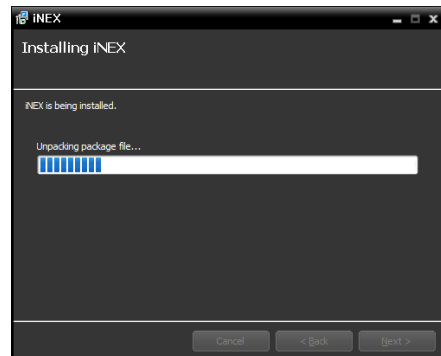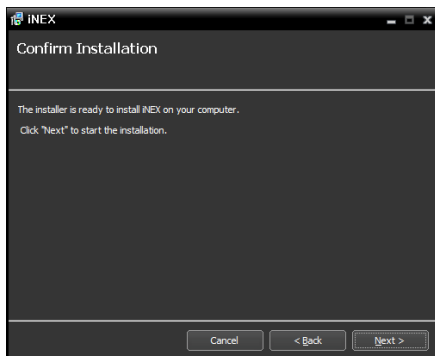
5. Select Client and click Next.
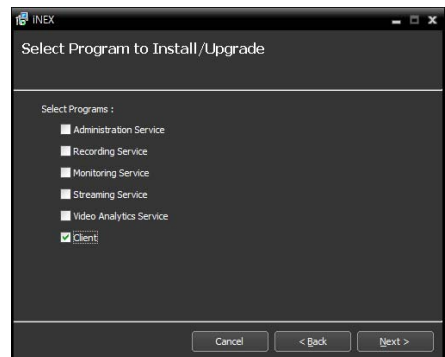
6. Designate the folder path to install the Client program. Clicking the Disk Cost… button shows the available and required disk space for each hard disk drive for the installation. Then click Next.
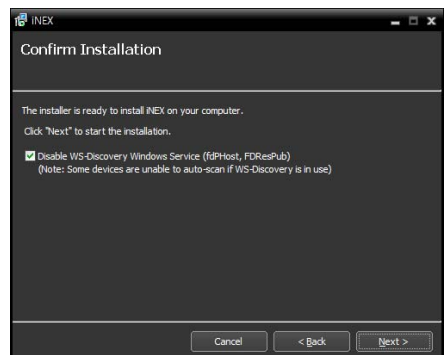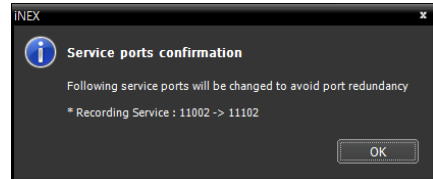
7. When the following screens appear, click Next.
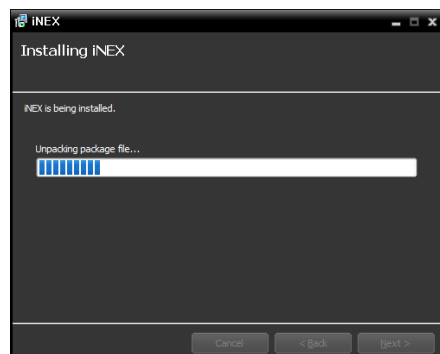
NOTE: The following screen appears when using Microsoft® Windows® Vista or later operating systems. It is recommended that you check the *Disable WS-Discovery Windows Service (fdPHost, FDResPub)* box. If you do not check the box, the iNEX program cannot auto-scan devices using ONVIF™ Conformance protocol when scanning devices for device registration.

NOTE: *.NET Framework* and the *Visual C++ Runtime Libraries* are installed automatically, and it may take some time. This installation step will be skipped if the programs are already installed on your computer.

8. When the following screen appears, click the Close button to complete the installation.
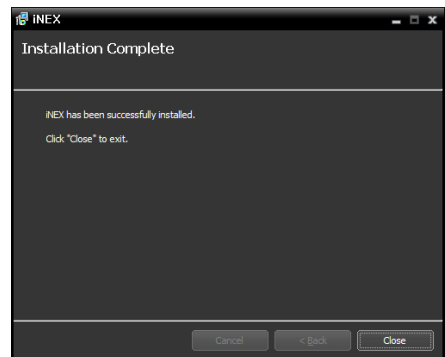
2.3 Automatic Upgrade

You can upgrade all services automatically by running the update service and designating the installation file of the software version to upgrade.

Update Service Setup

1. Run the Service Manager program in the administration server.
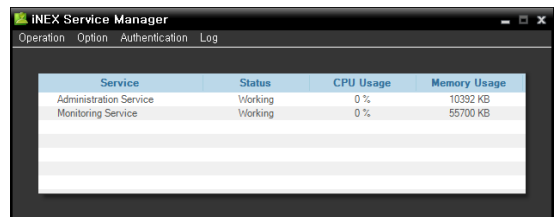
2. Click Option menu and select Update Package and then select Update Service tab. Check the Use box and enter the IP address and port number of the update server.
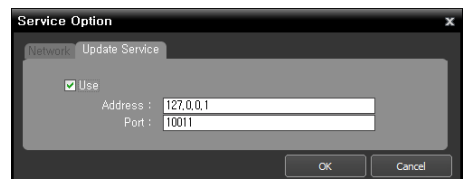
Update Service Installation

1. Insert the software CD in the update server.

2. Run the Setup.exe file in the Update folder of the software CD.

NOTE: The *User Account Control* window might appear when using the Microsoft® Windows® Vista or later operating system. Click *Allow* and install the software following the instructions.

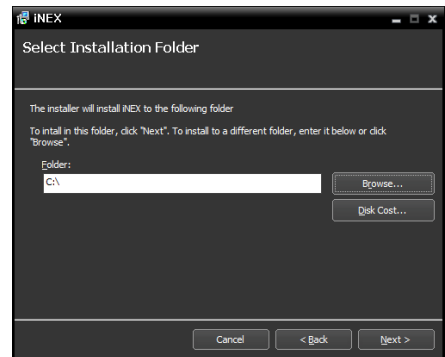3. Select the language in which to run the program and then click OK.

   NOTES:
   - To properly display the selected language, your PC's operating system should be set to support the selected language.
   - To change the iNEX program's language after the software has been installed, select *Language Selector* in the *iNEX → Utility* folder of the *Start* menu before running the *iNEX* program.

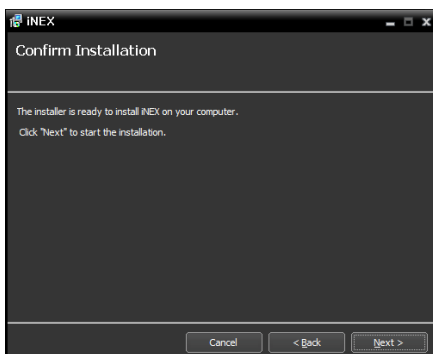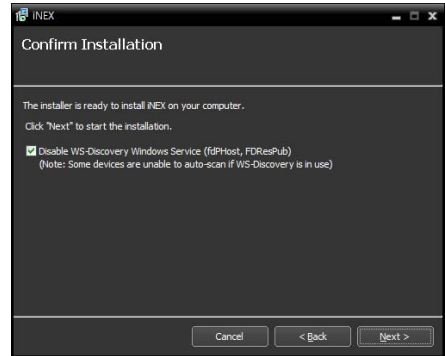4. When the following screen appears, select Install and click Next.

5. Designate the folder path to install the service. Clicking the Disk Cost… button shows the available and required disk space for each hard disk drive for the installation. Then click Next.
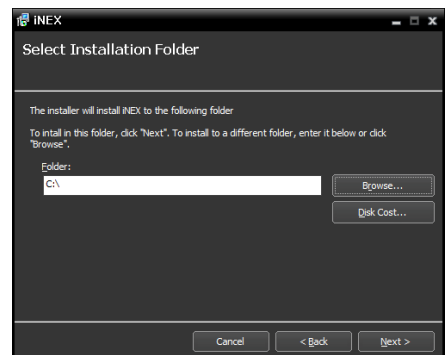
6. When the following screens appear, click Next.
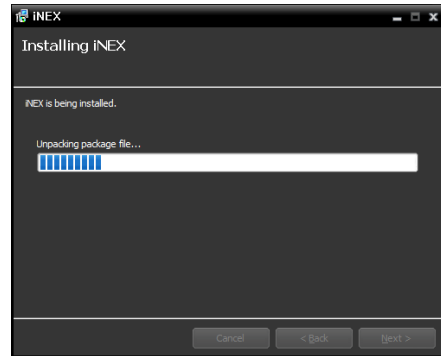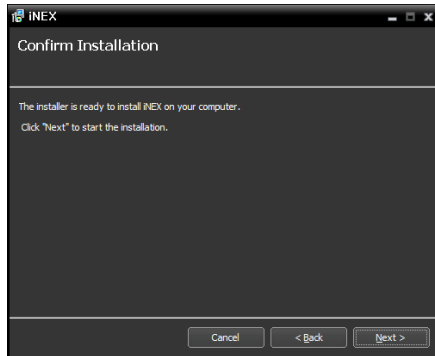
**NOTE:** *.NET Framework* and the *Visual C++ Runtime Libraries* are installed automatically, and it may take some time. This installation step will be skipped if the programs are already installed on your computer.

7. When the following screen appears, click the Close button to complete the installation.
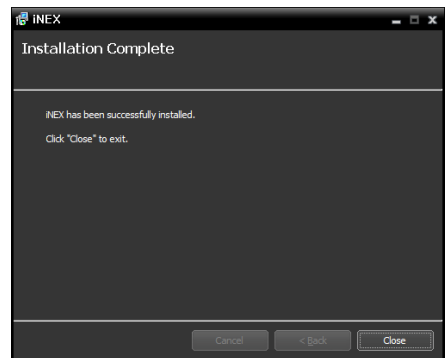
Upgrade

1. Go to the Start Menu in the update server → Click iNEX → Run the Update Manager program.
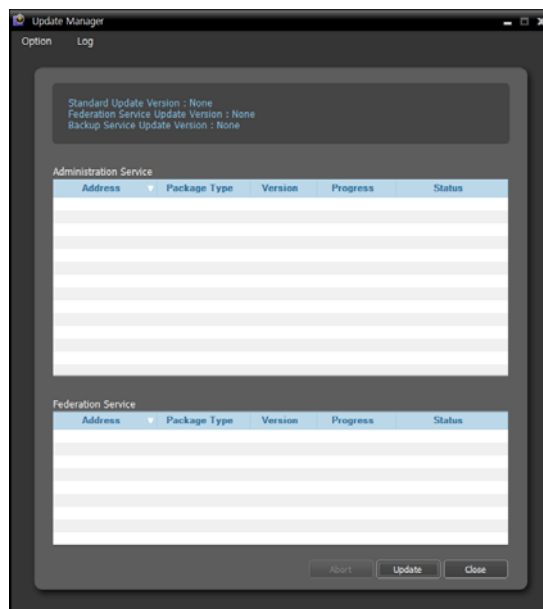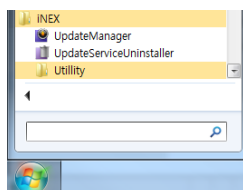
- **Option**: Designates the upgrade file or sets up the port number of the update server.
  - **Update Package**: Designates the folder path of the upgrade installation file.
  - **Port Setup**: Sets the port number of the update server.
- **Log**: Selecting **Show Log** allows you to check and search the system log.
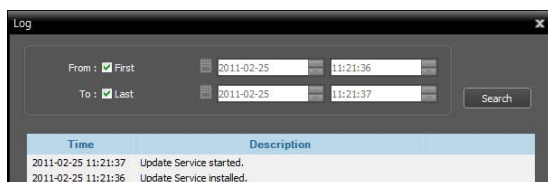
Setting up the time range of the log and clicking the **Search** button displays the log information. Selecting **First** displays from the oldest log entries regardless of date. Selecting **Last** displays to the newest log entries regardless of date.

2. Click the **Option** menu and select **Update Package**.
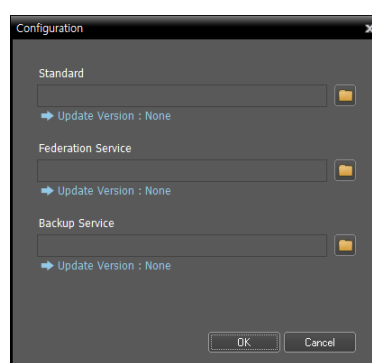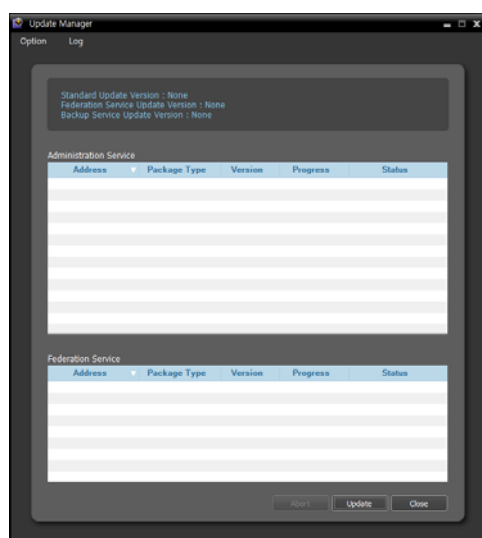
Click the 📁 button and designate the folder path of the upgrade installation file. Click the **OK** button.

3. Click the **Update** button at the bottom of the **Update Manager** screen. For a Client system with no iNEX service program installed, clicking the **Update** button upgrades the Client program. For server systems, each service connects to the update service periodically and automatically upgrades if necessary.

2.4 Uninstall

1. Stop running the services and Client program first.

NOTE: The iNEX software might not be uninstalled correctly if you uninstall it while the services or Client program is running.

CAUTION: The iNEX software should be uninstalled following the procedures below. If you delete the installation folder manually, the iNEX software cannot be uninstalled or reinstalled.

2. Go to the **Start** Menu, and click iNEX. Click **Uninstall iNEX**.

NOTE: You can uninstall the software by using the software CD. Insert the software CD in the server or Client PC and run the *Setup.exe* file. Select *Remove* and click *Next*.

3. Click Yes when the following screen appears.
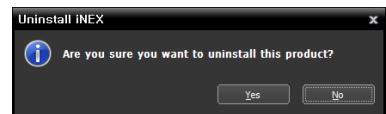
4. Click the Remove All or Do not remove button when the following screen appears. Clicking the Remove All button deletes all saved data including recorded video and previous settings in the system. Clicking the Do not remove button uninstalls the software without deleting any saved data in the system and keeps all saved data in the system.
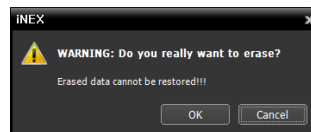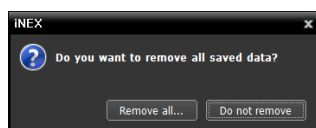
NOTE: The deleted data cannot be restored once the data is deleted.

5. Click the OK button to complete the uninstall process.

Chapter 3 — Getting Started

The iNEX software consists of Service Manager, Setup and Client programs, and services should be running on the iNEX servers for the iNEX program to operate. Refer to Chapter 4 — System Overview (p. 31) for details about Service Manager, Setup and Client programs.

NOTE: In this manual, the "server or server system" refers to a PC on which a iNEX service is running, the "client system" refers to a PC on which the Client program is running and the "network video device" refers to a network video transmitter or network camera.

3.1 Running Services

NOTE: A "service" in the iNEX program is a process that runs in the background and performs a specified operation.

When the services are installed, the services run automatically. You can also start or stop running the services manually. Go to the Start Menu → Click iNEX → Run the Service Manager program.
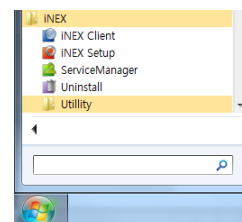
Administration Server

Recording / Streaming / Video Analytics Server

Check the status of services. If any of the services are not listed as Working under Status, start the services manually. Refer to 4.1 Service Manager (p. 31) for details about the Service Manager program.

3.2 Log In

You are required to log in to the administration service as follows when running the Setup and Client programs.

Go to the Start Menu → Click iNEX → Run the iNEX Setup or iNEX Client program and enter login information.
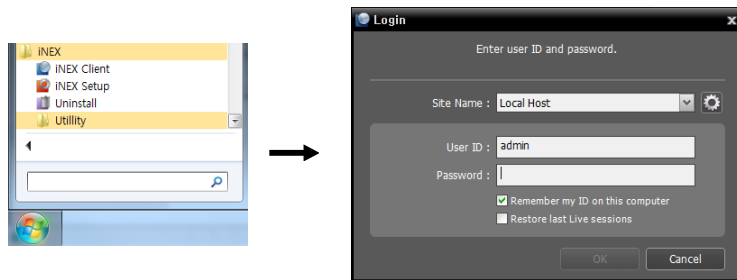
- **Site Name**: Select the administration service to connect to from the list. Select **Local Host** as the default setting if the administration service is running in the current system. You can add other administration services to the list or modify information about the administration service in the list by clicking the ⚙ button at the right.
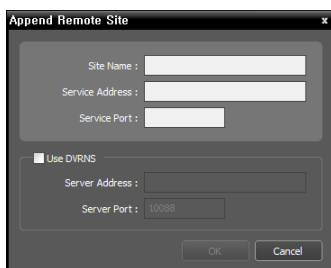
  – **Site Name**, **Service Address**, **Service Port**: Designate the name of the administration service and enter the IP address and port number of the administration server (default: 11001).

- **User ID**, **Password**: Enter your user ID and password. The default user ID is **admin** and default password is **12345678**. You can change the user ID and password in the User menu. Refer to **Chapter 14 — User Management** (p. 123) for details.
- **Remember my ID on this computer**: Check the box if you want to save your ID for logging on.
- **Restore last Live sessions**: Check the box if you want to restore the previous live monitoring sessions in the current Live panels of the Client program (supported only for the Client program).

3.3 Registering Services

You must register recording, monitoring, streaming and video analytics services on the administration service to start the iNEX program. Services that are installed on the administration server are registered on the administration service automatically.

Go to the **Start** Menu → Click **iNEX** → Run the **iNEX Setup** program and enter login information.

Select the **Service** menu, and then register recording, monitoring, streaming and video analytics services following the procedures below.
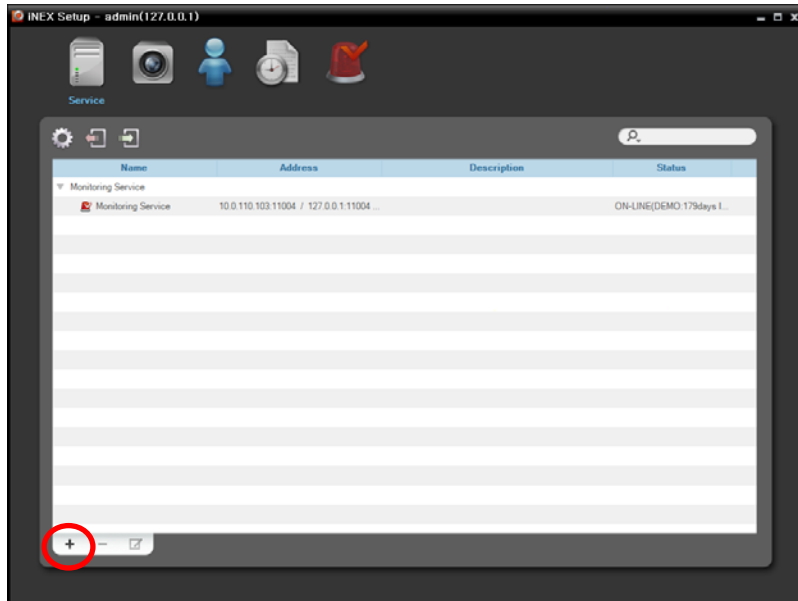
1. Click the ✚ button at the bottom. The Service Registration window appears, and a list of available services is displayed with information about each service.
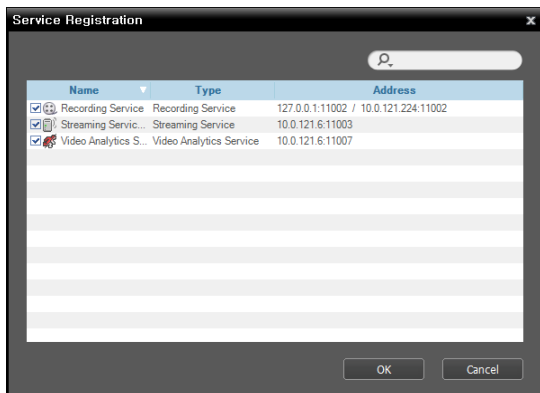
- **Name**: Displays services that are currently connected to the administration service via the network.
- **Type**: Displays the service type.
- **Address**: Display the IP address and port number of each server.

NOTE: The administration server information required when installing the services should match the information of the currently connected administration server.

2. Select recording, monitoring, streaming and video analytics services to register on the iNEX system, and the selected services are displayed in the service list.
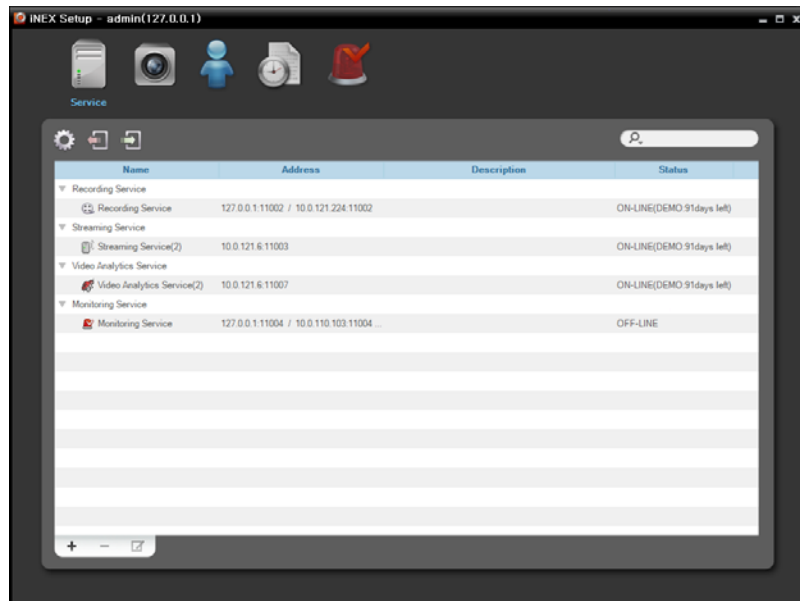
3.4 Registering Devices

You must register devices on the administration service and add the devices to a device group in order to perform any operation.

Go to the Start Menu → Click iNEX → Run the iNEX Setup program and enter login information.
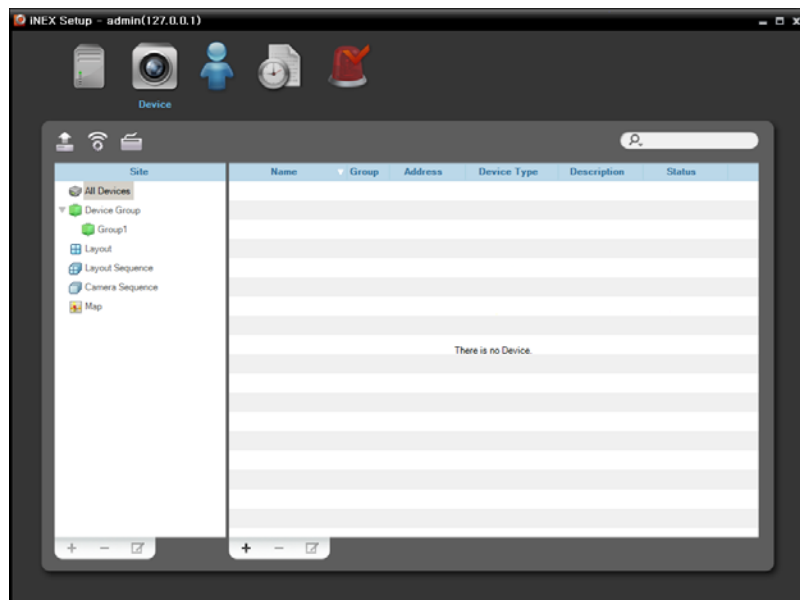
1. Select the Device menu.

2. Click All Devices in the Site panel, and then the ✚ button at the bottom of the Site List panel. The Device Scan window appears.

- **Protocol**: Select the protocol or manufacturer of the device to scan. Event related functions may not be supported depending on the protocol that the device uses (supported for the iNEX protocol and some versions of the Axis protocol), and some other functions may not be supported depending on the settings of the device.
- **Scan Mode**: Select the scan mode. Clicking the Start Scan button displays the results in the list. If the IP address range of the device is different from that of the administration server, the iNEX program considers the IP address invalid. In this case, you must change the device's IP address to register the device.
  - **Auto Scan (LAN)**: Lists devices in a LAN environment (supported only for the network video devices). If the device uses the ONVIF[TM] Conformance protocol, this function is supported only when you have checked the Disable WS-Discovery Windows Service (fdPHost, FDResPub) box during the software installation in Microsoft® Windows® Vista or later operating systems. Also, if the device uses the ONVIF[TM] Conformance protocol, it is recommended that the device not be networked via DHCP (Dynamic Host Configuration Protocol). If the device is networked via DHCP, connection to the device may not be made properly depending on changes in the external network environment.
  - **IP Address**: Allows you to enter the IP address of a device. You can search more than one device at a time by entering a range of IP addresses. It is recommended that the device not be networked via DHCP (Dynamic Host Configuration Protocol). If the device is networked via DHCP, connection to the device may not be made properly depending on changes in the external network environment.
  - **DVRNS**: Allows you to enter the device name registered on a DVRNS server if the device uses the DVR Name Service (DVRNS) function. Ensure the DVRNS server information on which the device is registered is correct. If the DVRNS server information is not correct, the device will not be found.

- **Domain Name**: Allows you to enter the device's domain name registered on a DNS server if the device uses the Domain Name Service.
- ☑ : Select the devices to register by checking the box beside each device name in the list. Selecting the **Select All** box selects all devices in the list.

NOTES:
- Depending on the model, the device may not be supported even though the iNEX program supports the device's protocol. Ask your dealer or distributor about supported models.
- If the device uses the ONVIF[TM] Conformance protocol, you can select either the manufacturer (or iNEX protocol) or the ONVIF[TM] Conformance protocol. However, it is possible that one or both of them are not supported depending on the device model. Ask your dealer or distributor for details. Refer to the device User's Manual about enabling the ONVIF[TM] Conformance protocol in the device, as procedures may differ for each model.

3. Click the **Add Devices** button at the bottom.

- **Name**, **Address**, **Device Type**: Displays the name, IP address and type of the selected device. The name will be updated automatically depending on the settings of the device.
- **ID**, **Password**: Enter the user ID and password which you set in the device in order to connect to that device remotely. The connection to the device is allowed only to the users under the **Administrator** group of the device, and recording is allowed only to the **admin** user under the **Administrator** group of the device.
- **Recording Service**: Select a recording server from the list to record video from the selected device (supported only for the network video devices). The device is registered on the recording server and the recording server performs recording according to a recording schedule. It is recommended that you do not change the recording server once any recording has been made. If you change the recording server after some recording has been done, you cannot search or play back the video recorded on the original recording server. The number in the recording server list indicates the maximum number of cameras that can be registered, and the name indicates the name of a recording service, which was set during the Service menu setup. The maximum number of cameras that can be registered differs depending on the type and number of the WIBU-Keys connected to the administration server. When selecting the **Do not record** option, the iNEX program treats the device during the Schedule setup as though it was not registered and does not perform any of the scheduled activities associated with the device. You can check the list of devices registered on the recording server on a **Device Setup** tab while setting up the recording server in the Service menu. Refer to **Chapter 15 — Storage Management** (p. 125) for details.

- **Streaming Service**: Select whether or not to use the streaming service for monitoring video from the device. If you use the streaming service, the iNEX program transmits video from the device to the client system through the streaming server, and it allows multiple users to monitor video simultaneously. The number of channels that can be streamed equals the number of channels that can be recorded unless streaming WIBU-Keys have been added. When you register more than one streaming service by buying additional WIBU-Keys, the iNEX program chooses any one of the streaming services depending on the system load of the streaming server. Refer to Chapter 11 — Streaming (p. 97) for details.
- **Apply to All Devices**: Select to apply the same user ID and password to all selected devices if you selected more than one device and the selected devises have the same user ID and password.

NOTES:
- If the device is a DVR, it might be necessary to enter the DVR port numbers depending on the specifications and version of the DVR.
- When registering a four-channel network video transmitter which uses the iNEX protocol, all four cameras are automatically registered even if some of the four cameras are disabled.

4. Click Device Group in the Site panel, and then the ✚ button at the bottom of the Site panel. The Add Device Group window appears.
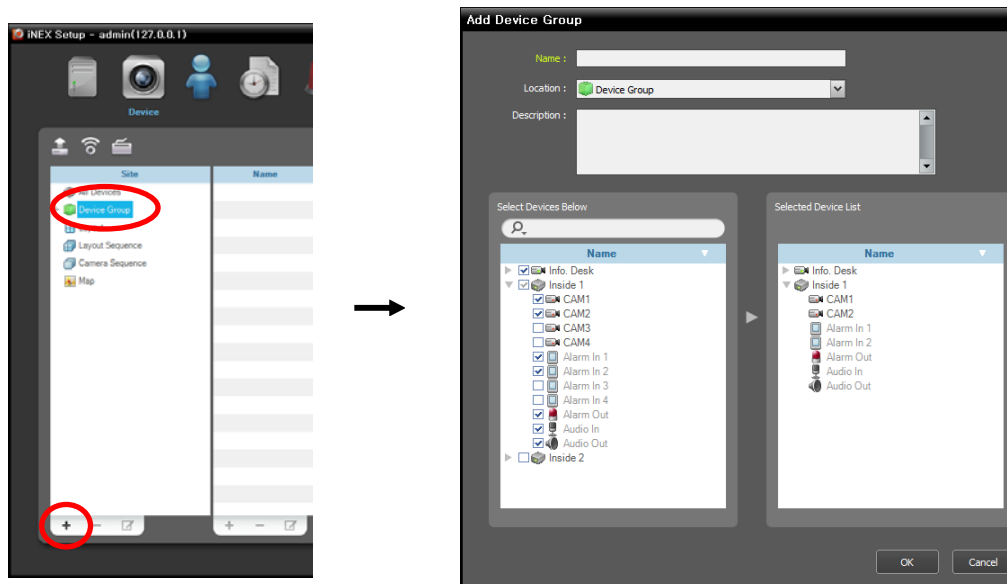
- **Name**: Enter the device group name.
- **Location**: Select an upper group to which the device group will belong.
- **Select Devices Below**, **Selected Device List**: Check the box beside cameras in the left panel, and the selected cameras are added to the right panel.

Clicking the OK button completes the device group registration.

5. Check that the device was added to the device group correctly. Click Device Group in the Site panel and then the arrow button (▶ 🟢) beside Device Group. Clicking the registered group displays the list of devices added to the device group and connection status in the Site List panel. If the connection was not made properly, the network disconnection log is displayed (only for devices registered on the recording service). Refer to Appendix – Network Disconnection Log (p. 151) for details about the network disconnection log.

Selecting the registered device group, and then the ☑ button at the bottom of the Site List panel displays the Edit Device Group window and allows you to edit the selected device group. Refer to Chapter 13 — Device Management (p. 107) for details.

3.5 Live Video Monitoring

Go to the Start Menu → Click iNEX → Run the iNEX Client program and enter login information.
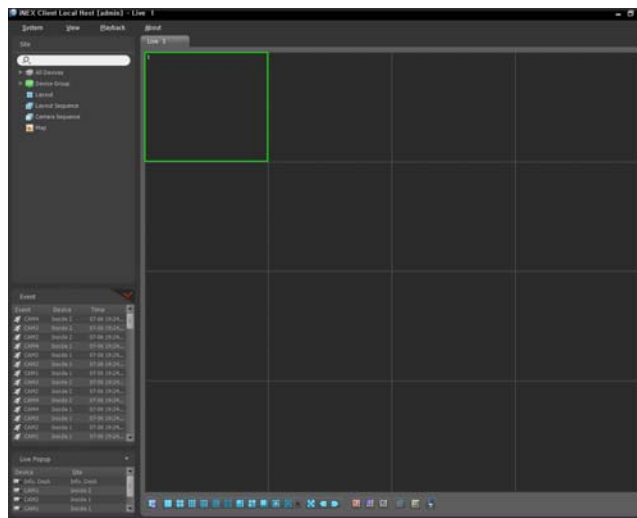
1. Check that the devices were added to a device group in the Site list.

2. Click the Live tab on the tab panel → Select a site to connect to from the Site list, and drag and drop it on the Live screen. Live video from the selected site is displayed on the screen. Refer to Chapter 5 — Live Video Monitoring (p. 51) for details.
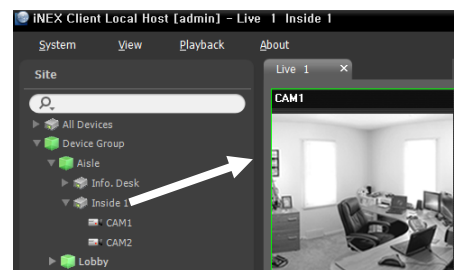
3.6 Recording

You have to allocate storage and set up recording schedule. Go to the Start Menu → Click iNEX → Run the iNEX Setup program and enter login information.

Check that the devices were added to a device group in the Device menu.
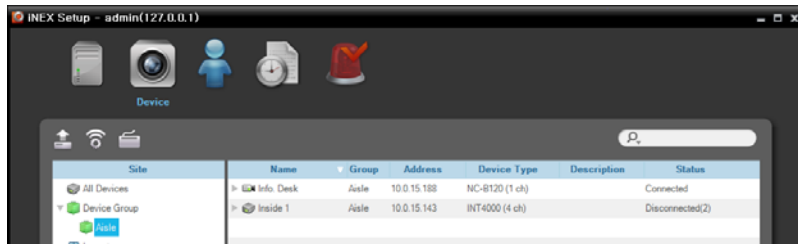
Allocating Cameras and Storage

Select the Service menu. Then select a recording server and allocate storage to hard disk drives in the selected server following the procedures below. Refer to 6.1 Setting up Recording Storage (p. 65) for details.

1. Select a recording service and click the ◻ button at the bottom. The Setup – Recording Service window appears. Select the Device Setup tab.

The list of cameras registered on the current recording service is displayed. Clicking the Add button at the bottom allows you to register additional cameras on the current recording service.

NOTES:

• The number of devices that can be recorded in a recording server differs depending on the type and number of the WIBU-Keys connected to the administration server.

• If you remove a device for which some recording has been done and register the device again, the iNEX system considers the device as a new device. In this case, you can search or play back video recorded before the device was removed as follows: go to the *Play* panel → click the 🖳 (Additional Menu) button → select *Removed Devices*.

• Recording is not supported for DVRs.

2. Select the Storage Setup tab and click the Add button at the bottom.

3. Select a hard disk drive from the list and click the Add button at the bottom. Allocate storage when the Add Storage window appears.
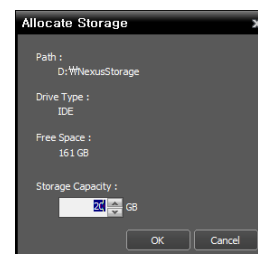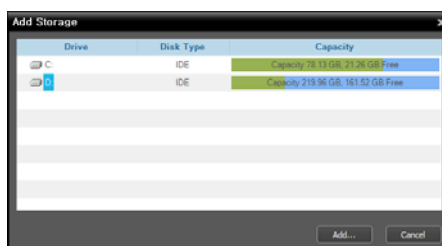
Setting up Recording Schedule

Select the Recording Schedule menu and set up the recording schedule following the procedures below. Refer to 6.2 Setting up Recording Schedule (p. 69) for details.
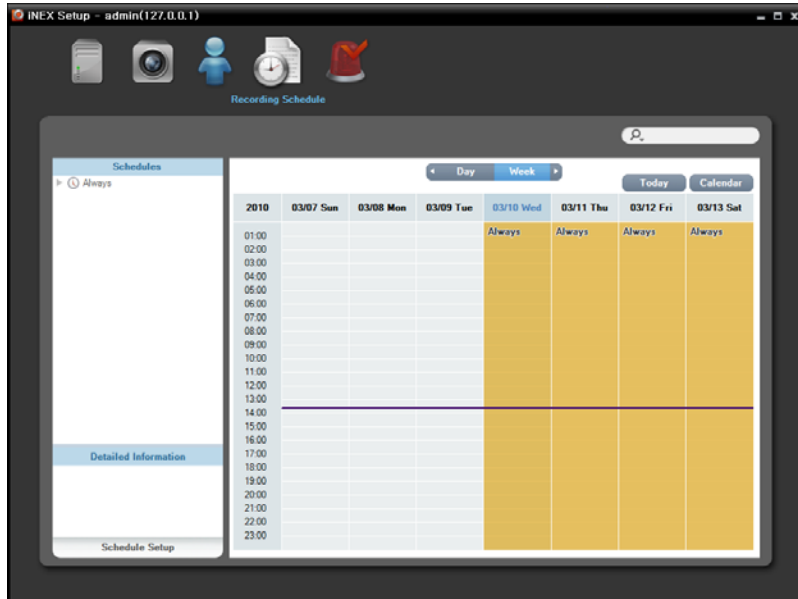
1. Click the Schedule Setup button at the bottom. The Schedule Setup window appears, and schedule windows are displayed with the current settings for each Preset.
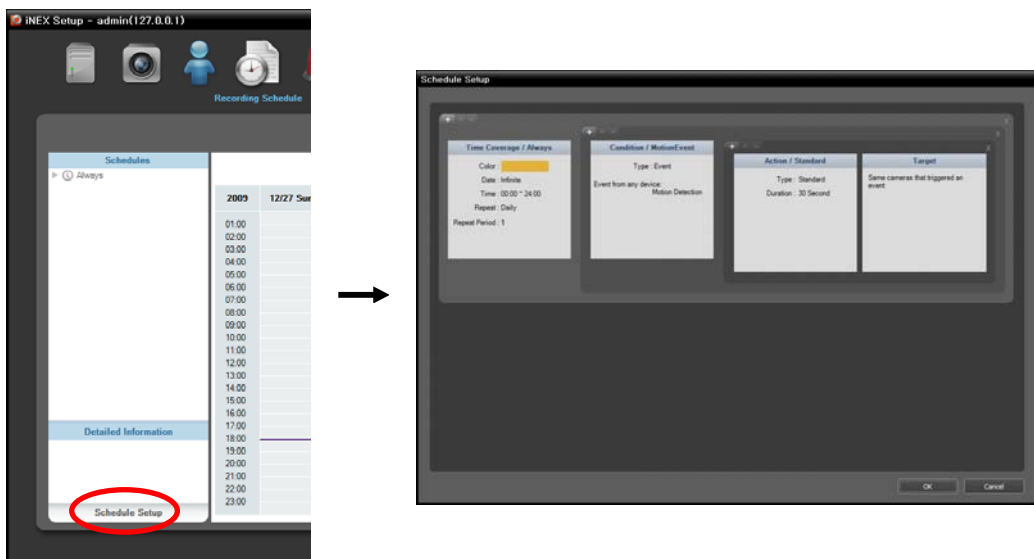
2. Double click anywhere in the empty space of each schedule window, and the Preset setup window appears.

3. Select a desired Preset from the Preset list, or click the ⊞ button to add a new Preset. Selecting a Preset from the list and clicking the ⊟ or ✎ button deletes the selected Preset or allows you to edit the selected Preset settings. Clicking the OK button applies the settings.

3.7 Playing Recorded Video

Go to the Start Menu → Click iNEX → Run the iNEX Client program and enter login information.

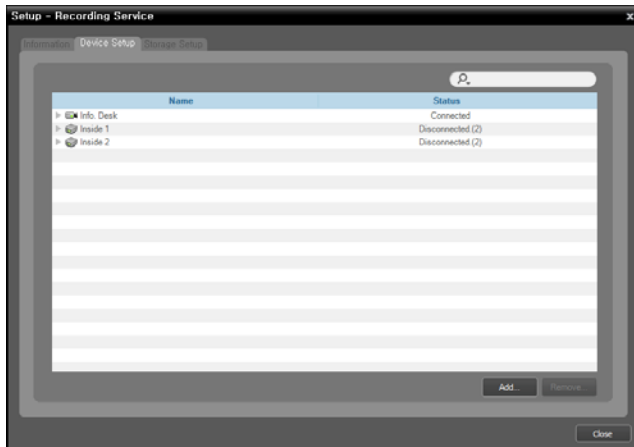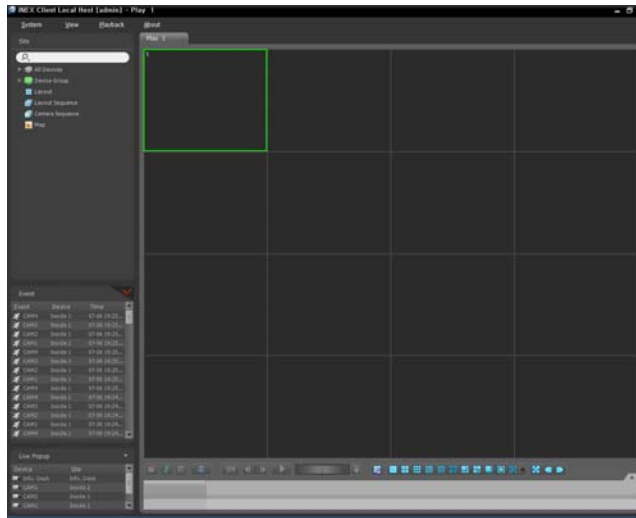1. Check that the devices were added to a device group in the Site list.

2. Click the Play or DVR Search tab on the tab panel → Select a site to connect to from the Site list, and then drag and drop it on the Play or DVR Search screen. Recorded video from the selected site is displayed on the screen. You can search and play back recorded video by using the panel toolbar and timetable at the bottom of the Play or DVR Search panel. Refer to Chapter 7 — Recorded Video Playback & Exportation (p. 79) for details.
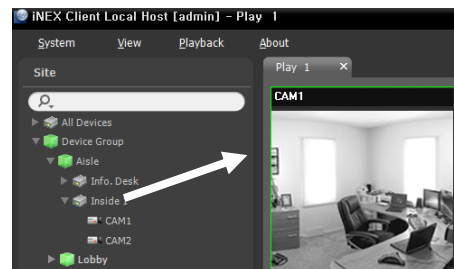
Chapter 4 — System Overview

The iNEX software consists of the following programs:

- Service Manager: Controls the operation of services or displays system log. Refer to 4.1 Service Manager (p. 31) for details.
- Setup: Allows you to add service, devices and users, or set up recording schedules, event management schedules and storage. Refer to 4.2 Setup (p. 35) for details.
- Client: Allows you to monitor video from registered cameras, play back recorded video from storage, export recorded video and check the system log and devices' status. Refer to 4.3 Client (p. 40) for details.

NOTE: The following programs are provided apart from the iNEX program running (Go to the *Start* Menu → Click *iNEX* and then *Utility*).

– ProblemReporter, SecretKey: You will use them following the directions of your dealer or distributor when your dealer or distributor requests.
– Wibukey Tester: Use it to check information of the WIBU-Keys or whether or not the WIBU-Keys have any problem.
– LanguageSelector: Use it to change the iNEX program's language.

4.1 Service Manager

Services should be running on the system to operate the iNEX program. Go to the Start Menu → Click iNEX → Run the Service Manager program.
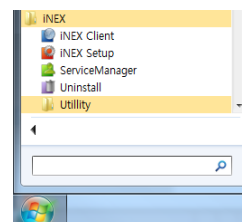
Administration Server
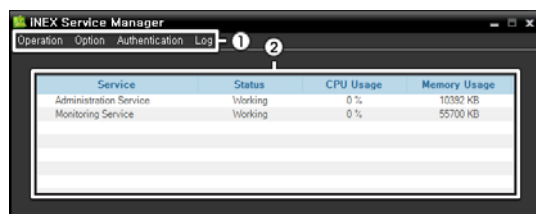
Recording / Streaming / Video Analytics Server
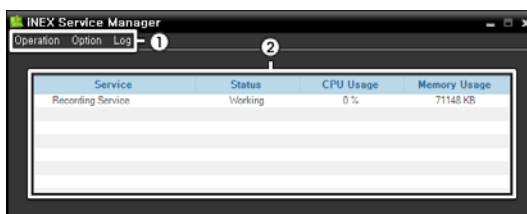
① Menu: Allows you to control the operation of the services or display the system log.
② Status Display: Displays the status of services.

Menu

- Operation: Starts or stops all services. When the services are stopped, you cannot run the services and Client program, and the system does not record. If you have changed any settings of the Service Manager program, stop and restart all services to apply the changes.
- Option
  − Server Option: Sets up the information for connection to the administration service from the current server. Also, you can change the watchdog setting.
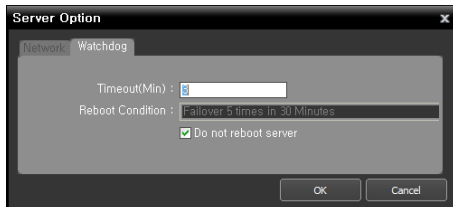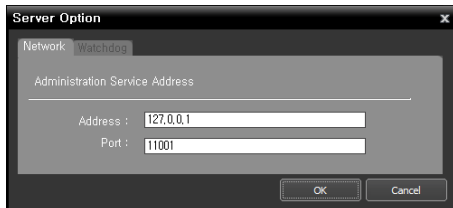
Network Tab

- **IP, Port**: Enter the IP address and port number of the administration server.

CAUTION: If the IP address or port number of the administration server is wrong, the iNEX program will not work.

Watchdog Tab

- **Timeout (Min.)**: Set up the waiting time to restart services when services fail to operate. The service checks the system status. When the services fail to operate during the designated waiting time, the system restarts services automatically.
- **Reboot Condition**: Set up the reboot condition when services fail to operate. Checking the Do Not Reboot Server option allows the system to restart services without rebooting.

NOTE: "Watchdog" in the iNEX program is a function that periodically checks the operation of the current server and restarts services automatically when services fail to operate during the predefined time.

− **Service Option**: Selecting a service from the service list and Service Option allows you to set up the information for connection to the selected service.

Administration Service
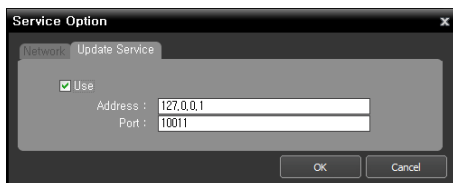
Network Tab

- **Service Port**: Enter the port number for connection to the service.

Update Service Tab

- **Use**: Check the box if you want to use the update service and enter the IP address and port number of the update server. The administration service connects to the update service periodically to check if an upgrade is available and automatically upgrades if necessary.

Recording Service / Streaming Service / Video Analytics Service
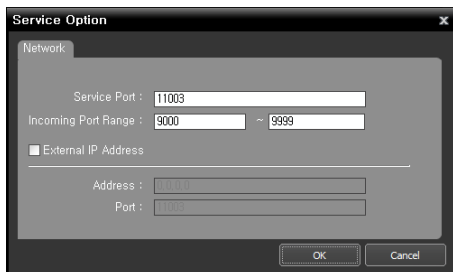
- **Service Port**: Enter the port number for connection to the service.
- **Incoming Port Range**: Enter the port range if a device which transmits images using the RTP protocol is registered. Port range settings must be changed if the network firewall or local network allows only specific UDP/RTP port numbers. The port numbers should not conflict with the RTP port numbers of Client system or port numbers of other streaming programs. If an RTP port number conflicts with others, iNEX program recording/ streaming/video analytics function may not be available.
- **External IP Address**: Enter the external IP address and port number for connection to the service from an external network.

Monitoring Service
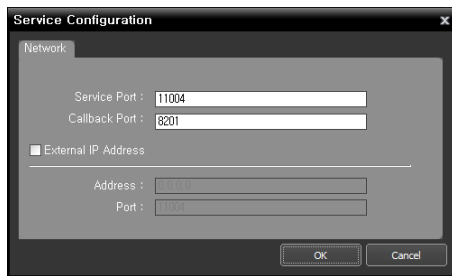
- **Service Port**: Set up the port number for connection to the service.
- **Callback Port**: Set up the port number to receive a callback message from the device. The port number you enter should match the port number set on the device for remote callback.
- **External IP Address**: Set up the external IP address and port number for connection to the selected service from an external network.

- **Authentication**: Selecting Authentication allows you to increase the number of available recording, or streaming channels (supported only for an administration service). Select the authentication method.
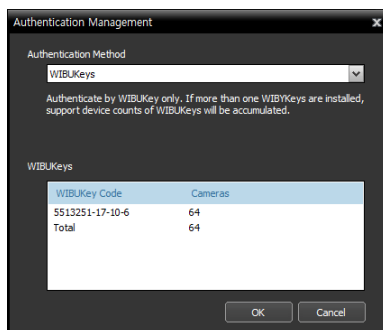
- **WIBUKeys**: Select to increase the number by connecting more WIBU-Keys to the administration server. A maximum of four WIBU-Keys can be connected to one administration server.
  - **WIBUKeys**: Displays the unique code and the number of channels for the WIBU-Keys currently connected to the administration server.
- **WIBUKey and License**: Select to increase the number by inserting the license file. In this case, only one WIBU-Key should be connected to the administration server. Ask your dealer or distributor about purchasing the license.
  - **iNEX Code**: Displays the unique code of the WIBU-Key currently connected to the administration server.
  - **License**: Click the Insert License button and set up the file path of the purchased license file. The software compares the iNEX code and the license file. If the iNEX code does not match to the license file, authentication fails and the iNEX program will not operate properly.
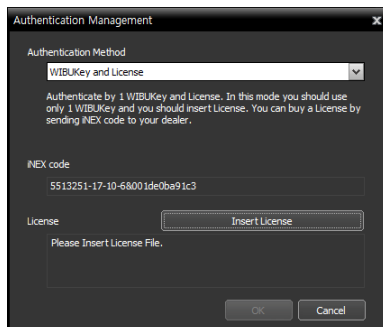
- **Log**: Selecting Show Log allows you to check and search the system log.

Setting up the time range of the log and clicking the Search button displays the log information. Selecting First displays from the oldest log entries regardless of date. Selecting Last displays to the newest log entries regardless of date.

Status Display

- **Service**: Displays the list of services supported by the current server.
  - Administration Service: Manages information of services, devices, users and schedules for operating the iNEX program. When the administration service is not working, the iNEX program does not work.

- Recording Service: Records video transmitted from the network video device. When the recording service is not working, the iNEX program does work but the system will not record and playback of previously recorded video will not be available.
- Monitoring Service: Notifies live events and callback events detected at the device registered in the administration service to the Client system.
- Streaming Service: Streams images from devices to multiple client systems simultaneously.
- Video Analytics Service: Enables video analytics function.

- **Status**: Displays the working status of each service.
  - **Working**: Indicates the service is working properly. You can operate the services and Client program, and the system performs recording based on the recording schedule.
  - **Stopped**: Indicates the service was stopped by a user. You cannot operate the services and Client program, and the system does not record.
  - **Failed**: Indicates the service failed to run because of an unknown problem. The system restarts the services or reboots the system based on the Watchdog settings. Refer to **Menu** (p. 31) for details about Watchdog settings.
- **CPU Usage**: Displays the CPU usage of each service.
- **Memory Usage**: Displays the memory usage of each service.

Service Database Backup/Restore

(Service Database Backup) button allows you to save the setting values related to services as an .iexp file. (Service Database Restore) button allows you to apply the saved setting values to the current iNEX system.

NOTE: This function is supported only when all services registered on the administration service are currently connected to the administration service via network connections.

Run the iNEX Setup program.
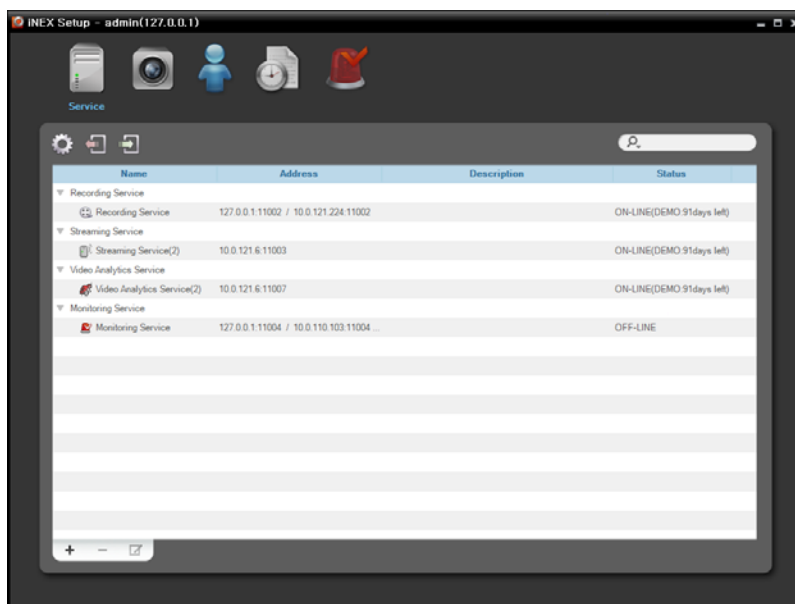
Service Database Backup

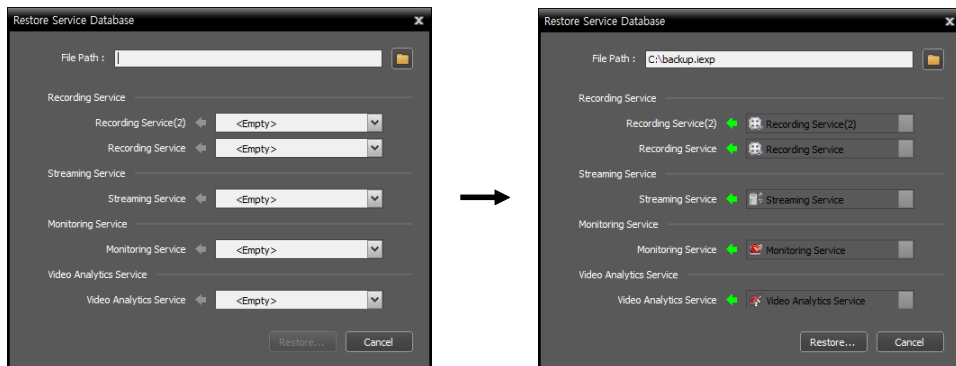Click the ▦ (Service Database Backup) button → Enter the name of the setup file to save the current setting values → When saving is complete, the list of Services is displayed.

Service Database Restore

Click the ▦ (Service Database Restore) button.

Click the ▦ button at the top right corner and select a setup file to apply → Services that are connected to the current administration service are displayed to the left of the ◄ icon. Services that are saved in the setup file are displayed to the right of the ◄ icon. Select the service to apply from the drop-down menu to the right of the ◄ icon. If there is only one service for a service type to the left of the ◄ icon or the services in the setup file are the services that were backed up from the current administration service, the services in the setup file will be applied automatically → Click the Import button at the bottom → The iNEX Setup program restarts after applying is complete.

NOTE: This is not supported in the following cases:
– When the software version of the services to the right of the ◄ icon is later than that of the services to the left of the ◄ icon.
– When the type or number of the services to the left and right of the ◄ icon differs.

4.2 Setup

Go to the Start Menu → Click iNEX → Run the iNEX Setup program and enter login information. Refer to 3.2 Log In (p. 19) for details about the login.

- Service: Allows you to register and manage services and storage. Refer to Service (p. 36) for details.
- Device: Allows you to register and manage sites. Refer to Device (p. 37) for details.
- User: Allows you to register and manage users or user groups. Refer to User (p. 38) for details.
- Recording Schedule: Allows you to set up recording schedules. Refer to Recording Schedule (p. 39) for details.

- **Event Management**: Allows you to set up event management schedules. Refer to Event Management (p. 40) for details.

NOTE: An alert message is displayed at the bottom of the iNEX Setup screen in the following cases:
– No monitoring service is registered.
– No storage is allocated to a recording service.
– Storage for recording is full.

Service

The Service menu allows you to register and manage services and storage.
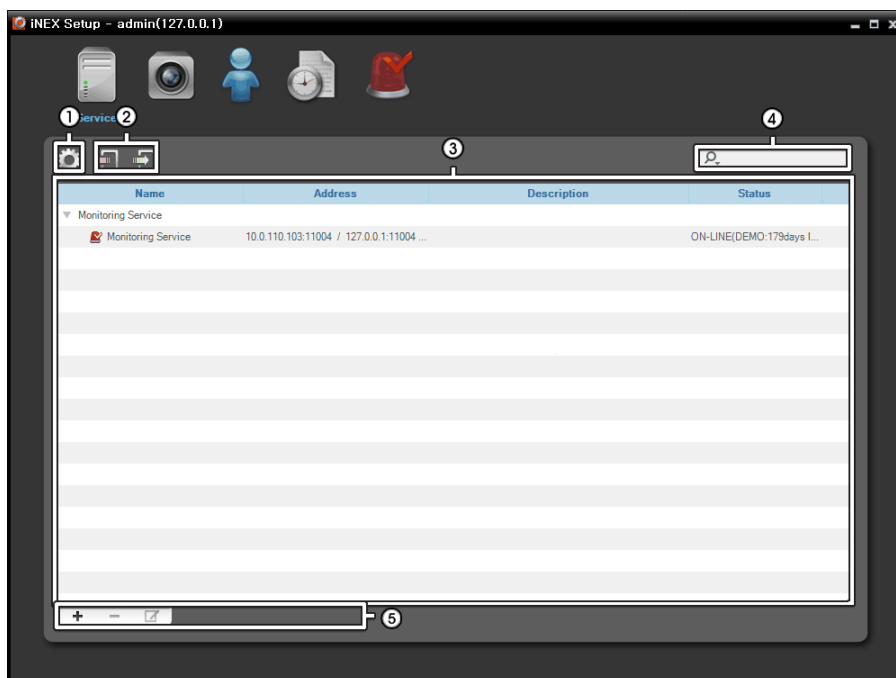
① ▣ (System Setup): Allows you to enter information of the DVRNS server on which a device is registered if there is a device that uses DVRNS (DVR Name Service) function. If this setting is not correct, registration of the device and connection to the device will not be made.

② ▣ (Service Database Backup), ▣ (Service Database Restore): Allows you to save the setting values related to services as an .iexp file. It also allows you to apply the saved setting values to the current iNEX system. Refer to 4.1 Service Manager, Service Database Backup/Restore (p. 34) for details.

③ Service List: Displays list of services supported in the iNEX program. Clicking the arrow button (▶) beside each service displays the list and information about services registered in the iNEX program.
  - Address: Displays the IP address and port number.
  - Status: Displays the connection status.

④ ▣ (Incremental Search): Allows you to search for a service registered in the administration service. Entering text that you want to search for causes the search results to be displayed. Search results are displayed immediately as matching text is found. As you enter more text, the results narrow.

⑤ ✚ (Add), ▬ (Remove), ▣ (Edit): Allow you to add, remove and edit a service and storage. Refer to Chapter 15 — Storage Management (p.125) for details about adding storage for a recording.

Device

The Device menu allows you to register and manage sites.
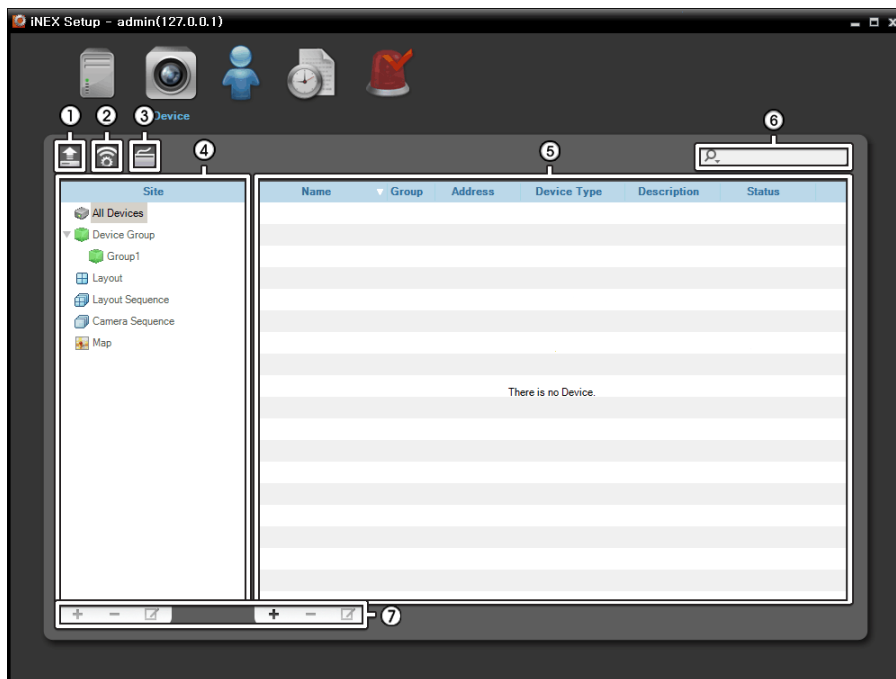
① ⬆ (Multiple Firmware Upgrade): Allows you to upgrade software for several devices at the same time. Refer to 13.2 Managing Devices, Upgrading Device's Software (p. 114) for details.

② 🏠 (Multiple Remote Setup): Allows you to change settings of several devices at the same time using a setup file. Refer to 13.2 Managing Devices, Changing Device's Setting Remotely (p. 114) for details.

③ ▤ (Network Keyboard Setup): Allows you to add, remove and edit a network keyboard. You can control the Client program with a network keyboard. Refer to Chapter 18 — Controlling With a Network Keyboard (p. 143) for details.

④ Site Panel: Displays site group lists supported by the iNEX program.

⑤ Site List Panel: Displays the list and information about sites registered in each group. If the connection was not working properly, the network disconnection log is displayed (only for devices registered on the recording service). Refer to Appendix – Network Disconnection Log (p. 151) for details about the network disconnection log. Clicking the arrow button (▶ 🐷) beside each device name displays the status of video in, alarm in/out and audio in/out supported by the device (Record: During Time-Lapse recording or Event-Based recording, Panic: During Instant recording, Idle: Ready to record).

⑥ 🔍 (Incremental Search): Allows you to search for a device or site registered in each group. Selecting a group in the Site panel and entering text that you want to search for causes the search results to be displayed. Search results are displayed immediately as matching text is found within the selected group. As you enter more text, the results narrow.

⑦ ✚ (Add), ━ (Remove), ▱ (Edit): Allow you to add, remove and edit a device or a site. You can also delete sites from the group or to edit registration information by using the menu that is displayed when selecting a site and clicking the right mouse button. If you select a device, you can connect to it and change its settings or upgrade its software remotely. If you delete a device from All Devices, it will not be available to search and play back previously recorded data even if the device is registered again (network video devices only). Refer to Chapter 13 — Device Management (p. 107) for details about registering a device or device group, or Chapter 5 — Live Video Monitoring (p. 51) for details about registering a layout or sequence.

NOTE: In this manual, a "site" refers to a device group, layout or sequence registered on the administration service.

User

The User menu allows you to register and manage users or user groups.
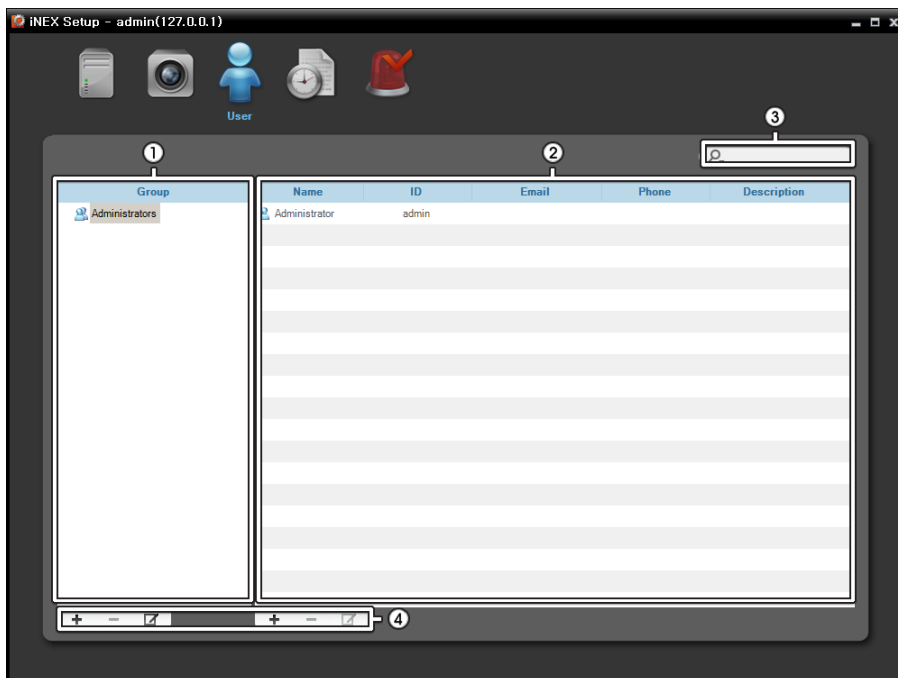
① **Group Panel**: Displays a user group list. The Administrators group has authority to perform all functions, and the authority settings cannot be edited.
② **User List Panel**: Displays the list and information about users registered in each group.
③ 🔍 (Incremental Search): Allows you to search for a user registered in each group. Selecting a group in the Group Panel and entering text that you want to search for causes the search results to be displayed. Search results are displayed immediately as matching text is found within the selected group. As you enter more text, the results narrow.
④ ✚ (Add), ━ (Remove), ▱ (Edit): Allow you to add, remove and edit a user group or user.

Recording Schedule

The Recording Schedule menu allows you to set up the schedule for recording.
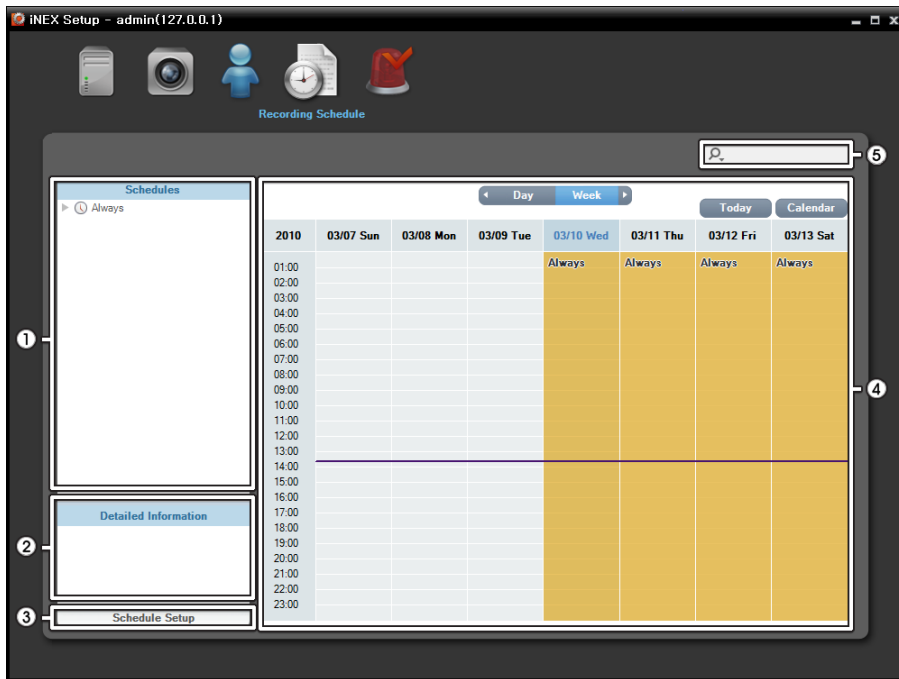
① Schedule Panel: Displays a registered schedule list. The iNEX program performs recording based on the schedule.

② Detailed Information Panel: Displays setting values of the selected recording schedule.

③ Schedule Setup: Allows you to register recording schedules for Time-Lapse Recording or Event-Based Recording or to set up recording settings for Instant Recording. Refer to 6.2 Setting up Recording Schedule (p. 69) for details.

④ Schedule Table: Displays the current recording schedule by day or week. Clicking the Today button displays the today's recording table. Clicking the Calendar button displays a calendar.

⑤ ⌕ (Incremental Search): Allows you to search for a registered schedule. Entering text that you want to search for causes the search results to be displayed. Search results are displayed immediately as matching text is found within the registered schedule. As you enter more text, the results narrow.

Event Management

The Event Management menu allows you to set up event management schedules.
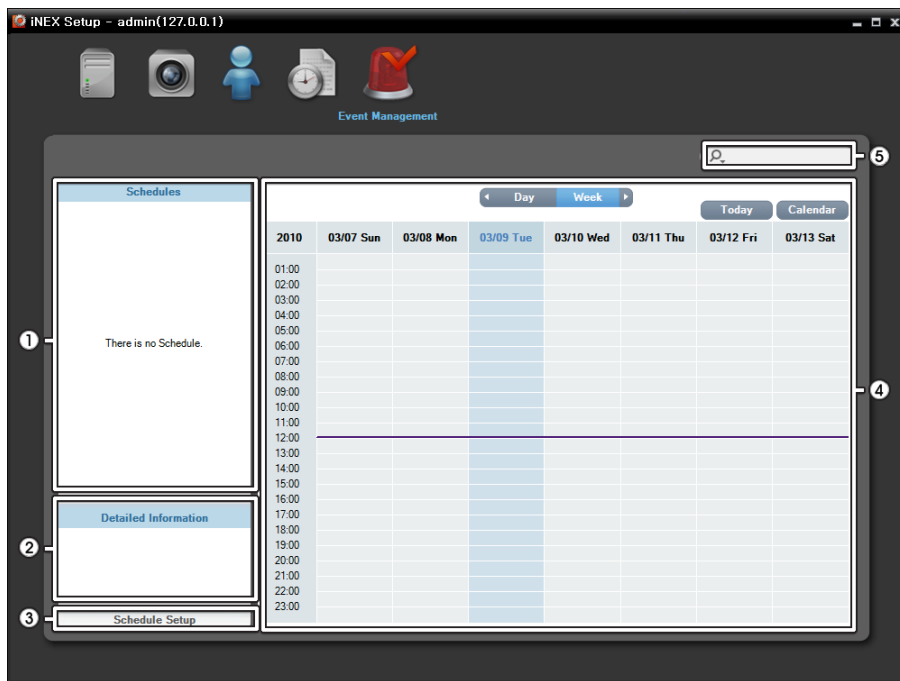
① **Schedule Panel**: Displays a registered schedule list. The iNEX program manages events based on the schedule.

② **Detailed Information Panel**: Displays setting values of the selected event management schedule.

③ **Schedule Setup**: Allows you to register event management schedules. Refer to 16.1 Setting up Event Management Schedule (p. 129) for details.

④ **Schedule Table**: Displays the current event management schedule by day or week. Clicking the `Today` button displays the today's event management table. Clicking the `Calendar` button displays a calendar.

⑤ `🔍` (Incremental Search): Allows you to search for a registered schedule. Entering text that you want to search for causes the search results to be displayed. Search results are displayed immediately as matching text is found within the registered schedule. As you enter more text, the results narrow.
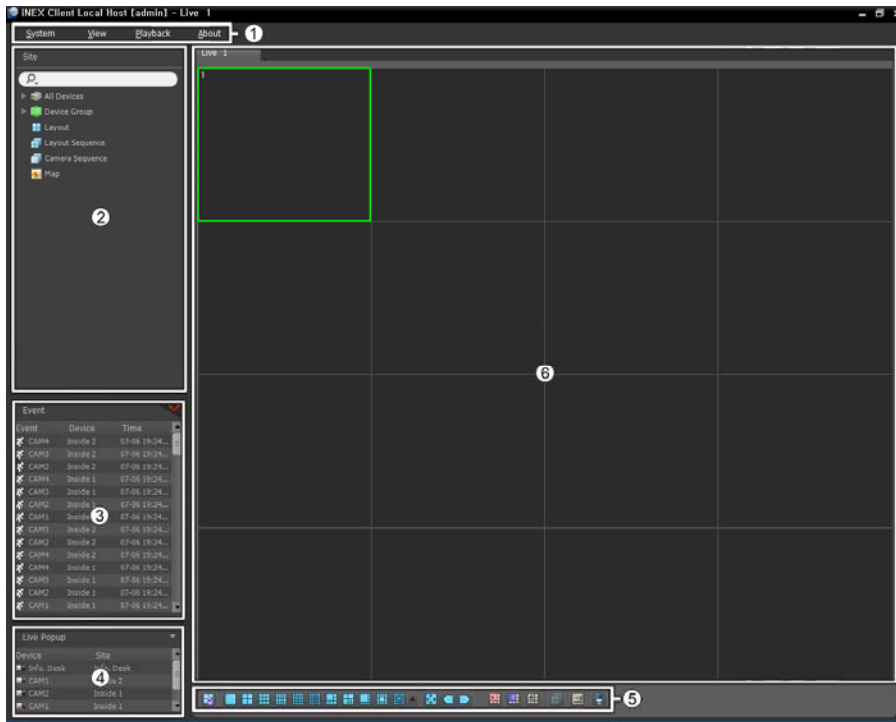
4.3 Client

Go to the Start Menu → Click iNEX → Run the iNEX Client program and enter login information. Refer to 3.2 Log In (p. 19) for details about the login.

① **Menu**: Allows you to control the Client program. Refer to **Menu** (p. 42) for details.

② **Site List**: Allows you to connect to the registered site by using the mouse drag and drop. Refer to **Site List** (p. 43) for details.

③ **Instant Event List**: Displays live and callback events from registered devices. Event related functions may not be supported depending on the protocol that the device uses (supported for the iNEX protocol and some versions of the Axis protocol). Refer to **Chapter 8 — Event Handling** (p. 89) for details. Clicking the ❤ button displays the **Event Manager** panel. Refer to **16.1 Setting up Event Management Schedule** (p. 129) for details.

④ **Live Popup List**: Displays the list of live popup screens currently displayed on the monitor. Refer to **16.2 Managing Events, Live Popup** (p. 136) for details about the live popup screen.

⑤ **Panel Toolbar/Timetable**: Displays the toolbar or timetable depending on the panel. Refer to **Chapter 5 — Live Video Monitoring** (p. 51) or **Chapter 7 — Recorded Video Playback & Exportation** (p. 79) for details.

⑥ **Panel**: Allows you to select which panel to use. Refer to **Panel** (p. 43) for details.

Menu

System
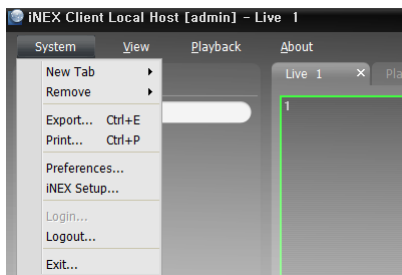
- **New Tab**: Adds panels. A maximum of 12 panels are supported for Live, Play, Backup Search, DVR Search and Map panels altogether (no more than 2 of Map panels and no more than 4 of each for the other panels). One of each is supported for Event, Event History, Report, Health and Status panels.
- **Remove**: Removes selected devices or cameras or all cameras from Live or Play screen.
- **Export**, **Print**: Exports or prints images or lists displayed on the panel on the selected tab (not supported for all panels).
- **Preference**: Displays the Preference window allowing you to change the basic settings of the Client program. Refer to Menu – Preference Settings (p. 45) for details.
- **iNEX Setup**: Runs the Setup program.
- **Login**, **Logout**, **Exit**: Logs in, logs out or exits the Client program.

View
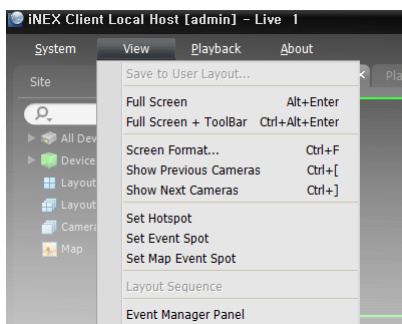
- **Save to User Layout**: Saves the current screen format.
- **Full Screen**: Displays the selected Live or Play panel in full-screen format.
- **Full Screen+Toolbar**: Displays the selected Live or Play panel in full-screen format with a panel toolbar.
- **Screen Format**: Allows you to change the screen format.
- **Show Previous Cameras**, **Show Next Cameras**: Moves to the previous or next camera group.
- **Set Hotspot**: Sets up a selected camera screen as a hotspot screen. Refer to 5.1 Monitoring Video, Hotspot Setup (p. 52) for details.
- **Set Event Spot**: Sets up a selected camera screen as an event spot screen. Refer to 5.1 Monitoring Video, Event Spot Setup (p. 52) for details.
- **Set Map Event Spot**: Sets up a selected camera screen as a map event spot screen. Refer to 5.1 Monitoring Video, Map Event Spot Setup (p. 53) for details.
- **Layout Sequence**: Starts or stops the layout sequence. Refer to 5.1 Monitoring Video, Layout Sequence Monitoring (p. 55) for details.
- **Event Manager Panel**: Displays an event manager panel. Refer to Chapter 16 — Event Management (p. 129) for details.

### Playback
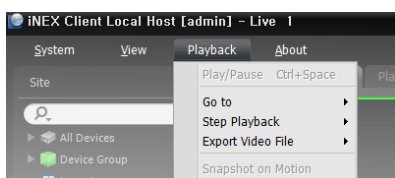
- **Play/Pause**: Plays or pauses playback of recorded video.
- **Go To**: Selects a specific point of video to be played. Refer to 7.1 Playing back Recorded Video, Panel Toolbar (p. 80) for details.
- **Step Playback**: Moves the video forward or backward in the frame or time unit.
- **Export Video File**: Exports recorded video as a self-player file (.exe) or an AVI file (.avi).
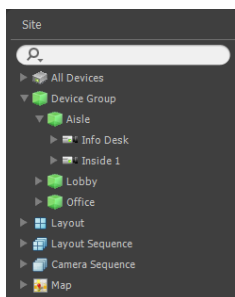
- **Snapshot on Motion**: Displays snapshot of images recorded during the event-based recording (event and pre-event) in the Play panel. Refer to 7.1 Playing back Recorded Video, Snapshot on Motion Event (p. 83) for details.

About
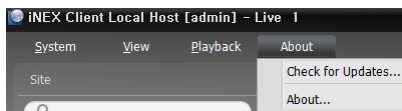
- **Check for Updates**: Displays available software upgrades.
- **About**: Displays the software version and copyright information.

## Site List

Displays the list of registered sites.

- (Incremental Search): Allows you to search for a registered device or site. Entering text that you want to search for causes the search results to be displayed. Search results are displayed immediately as matching text is found. As you enter more text, the results narrow.
- **All Devices**: Displays the list of devices registered on the administration service. Clicking a device in the list, and dragging and dropping it in the desired location on the screen allows you to monitor video from the cameras connected to the device or to play back recorded video from the cameras. This is supported only for the users in the Administrator group.
- **Device Group**: Displays the list of registered device groups. Clicking a device in the list, and dragging and dropping it in the desired location on the screen allows you to monitor video from the cameras connected to the device or to play back recorded video from the cameras. Refer to 5.1 Monitoring Video (p. 51) or 7.1 Playing back Recorded Video (p. 79) for details.
- **Layout**: Displays the list of registered layouts. Clicking a layout in the list, and dragging and dropping it on the screen starts layout monitoring or playback. Refer to 5.1 Monitoring Video (p. 51) or 7.1 Playing back Recorded Video (p. 79) for details.
- **Layout Sequence**: Displays the list of registered layout sequences. Clicking a layout sequence in the list, and dragging and dropping it on the screen starts layout sequence monitoring. Refer to 5.1 Monitoring Video, Layout Sequence Monitoring (p. 55) for details.
- **Camera Sequence**: Displays the list of registered camera sequences. Clicking a camera sequence in the list, and dragging and dropping it in the desired location on the screen starts camera sequence monitoring. Refer to 5.1 Monitoring Video, Camera Sequence Monitoring (p. 57) for details.
- **Map**: Displays the list of registered maps. Clicking a map in the list, and dragging and dropping it in the desired location on the screen starts map monitoring. Refer to 5.2 Map Monitoring (p. 58) for details.
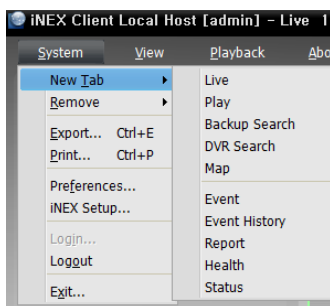
Panel
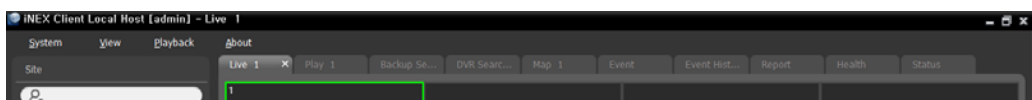
- **Live**: Displays live images. Refer to 5.1 Monitoring Video (p. 51) for details.
- **Play**: Allows you to play back video recorded in a recording server (supported only for the network video devices). Refer to Chapter 7 — Recorded Video Playback & Exportation (p. 79) for details.

- **Backup Search**: Allows you to play backed-up video from a backup server. Refer to the iNEX Backup User's Manual for details. This is supported only when Backup Services are registered in the iNEX program. Ask your dealer or distributor about purchasing the iNEX Backup software.
- **DVR Search**: Allows you to play back the recorded video in DVRs or SD (SDHC) memory cards inserted to network cameras using the iNEX protocol. Refer to Chapter 7 — Recorded Video Playback & Exportation (p. 79) for details.
- **Map**: Displays maps. Refer to 5.2 Map Monitoring (p. 58) for details.
- **Event**: Displays the list of events recorded during Event recording. Double clicking an event in the event list, or selecting an event in the event list and then clicking the right mouse button allows you to play back event-recorded video and event-associated video in the play screen. Refer to Chapter 7 — Recorded Video Playback & Exportation (p. 79) for details.
- **Event History**: Displays log entries of events displayed on the Event Manager panel. Refer to Chapter 16 — Event Management (p. 129) for details.
- **Report**: Displays log entries of the iNEX program. Refer to Chapter 10 — Log Search (p. 95) for details.
- **Health**: Displays the results of self-diagnostics for the devices in a device group (supported only for network video devices). Refer to 9.1 Health Monitoring (p. 93) for details.
- **Status**: Displays the status of a desired device in real-time (supported only for devices which use the iNEX protocol). Refer to 9.2 Status Monitoring (p. 94) for details.

NOTE: You can change the panel name by clicking the right mouse button on each panel tab.

Adding/Deleting Panel

Go to the System menu → Click New Tab → Select a panel to add.

Clicking the ✕ button beside each tab deletes the panel.

Floating/Docking Panel

Clicking a panel tab causes it to fly out and dragging it floats the panel on the screen. Clicking the tab of a floating panel, and dragging and dropping it to its original position docks the panel. You can change the order of panel tabs by dragging and dropping with the mouse.

- Maximizing a floating panel: Clicking the window maximize/restore button in the upper-right corner of the floating panel maximizes or restores the window. Only one of each panel type can be maximized.
- Displaying/hiding a site list in the floating panel: Clicking the right mouse button in the camera screen of the panel and selecting the Remote Site Panel from the screen menu displays or hides a site list in the floating panel. This is not supported for every panel.

Menu – Preference Settings

You can set the basic settings of the Client program to meet your preferences. Go to the System Menu → Click Preference, and the Preference window appears.
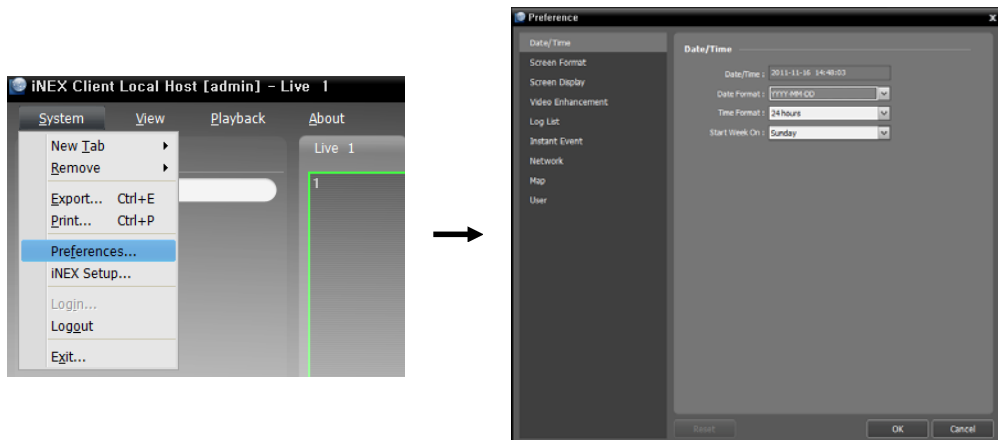
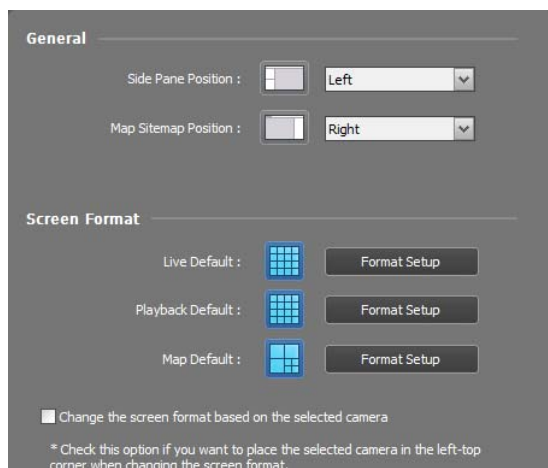### Date/Time
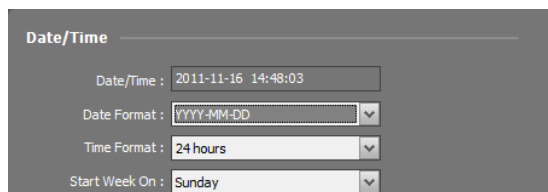
- Date/Time: Displays the current date and time.
- Date Format, Time Format: Set up the system date/time format.
- Start Week On: Set up the day of the week to start.

Screen Format

- Side Pane Position, Map Sitemap Position: Set up the position of side panels and the position of the root map list in the Map panel.
- Live Default, Playback Default, Map Default: The default screen formats for the Live, Play and Map screens are displayed. Clicking the Format Setup button allows you to change the default screen format.
- ☑ Change the screen format based on the selected camera: Displays video from a camera selected from the current screen format in the first camera screen of the new screen format when you change screen formats.

Screen Display
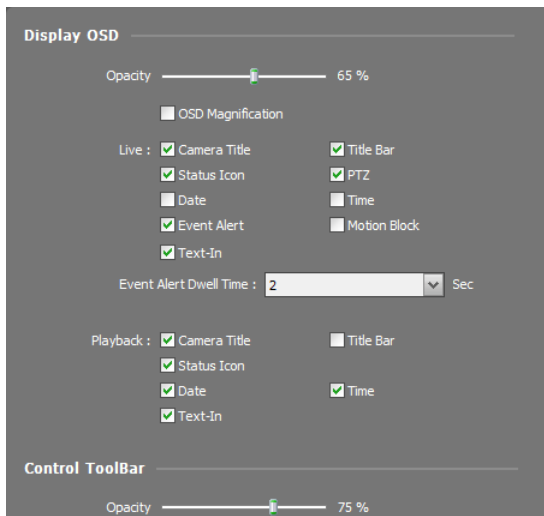
- Display OSD: Sets up the OSD display setting and information to be displayed on a camera screen. The Opacity slide bar allows you to adjust the opacity of OSD (On Screen Display), OSD Magnification changes the OSD size depending on the screen size. See below about OSD information.
  - ☑ Camera Title: Displays the camera name set in the iNEX program.
  - ☑ Title Bar: Separates the title display area from an image display area at the top.
  - ☑ Status Icon: Displays status OSD. (● (Red): During Time-Lapse or Event-Based recording, ● (Orange): During Instant recording, P: In the PTZ mode, ☐: In the camera sequence mode, ⊕: In the zoom mode, 🔊: In the two-way audio communication mode)
  - ☑ PTZ: Displays direction control buttons which is displayed on the camera screen when controlling a PTZ camera.
  - ☑ Date, ☑ Time: Displays the date and time of the administration server.
  - ☑ Event Alert: Highlights the camera title bar in red when an event occurs in the device. The alert will release after the event dwell time (sec.) from the time an event is detected or when you select the camera screen if you set up the Event Alert Dwell Time setting to Manual Off.
  - ☑ Motion Block: Displays the area where motion is detected with red blocks when a motion detection event occurs in the device (supported only for network video transmitters which use the iNEX protocol).
  - ☑ Text-In: Displays the text-in information on the screen when a text-in event occurs in the device (1x1 screen format only). This feature is supported only for devices which use the iNEX protocol.
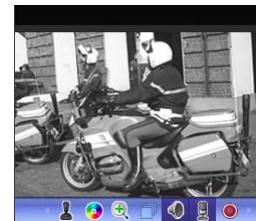- Control Toolbar: Adjusts the opacity of the control toolbar on the camera screen.
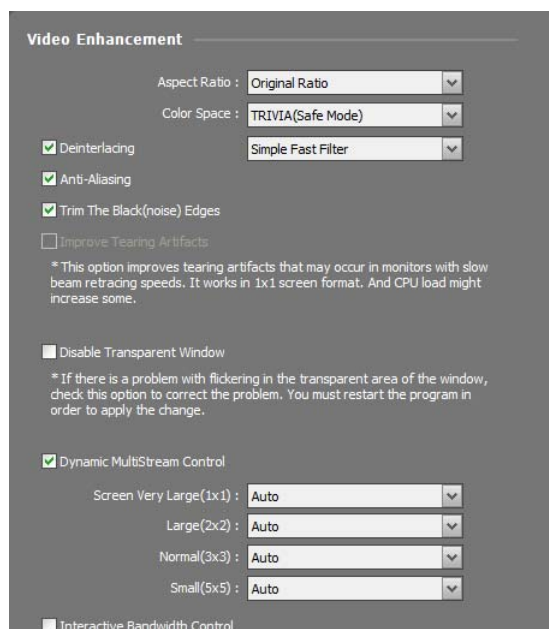

Camera Title, Status Icon, Date/Time
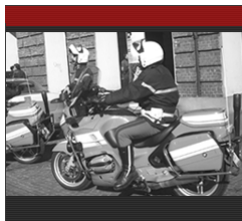
Event Alert
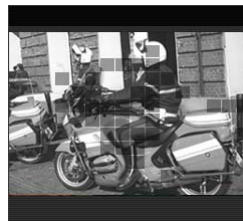
Motion Block

Control Toolbar

Video Enhancement

- **Aspect Ratio**: Select the proper image aspect ratio.
  - **Original Ratio**: Fits images within the screen size while maintaining their original ratio.
  - **Fit to Screen**: Fits images to the screen size regardless of the aspect ratio.
  - **Fit to Screen (Aspect Ratio)**: Fits images to the screen size keeping the aspect ratio. This might cause top and bottom or left and right side of images to be cropped depending on the screen size. This aspect ratio is not supported and Original Ratio is applied for camera screens that the following functions are activated: Image Zoom, Hotspot, Event Spot, Draw Motion Block, Draw Video Analytics.
  - **Actual Size (x1)**: Displays images in their original size.
- **Color Space**: Select the color space standard to display video on the screen. The color quality or display performance of video might be affected depending on the color space standard selected.

- ☑ **Deinterlacing**: Enhances image display quality of interlaced video on the screen by eliminating horizontal scan lines or noise in areas with motion. Select the desired deinterlace filter.
- ☑ **Anti-Aliasing**: Enhances image display quality of video on the screen by eliminating stair-stepping (aliasing) effects in the enlarged image.
- ☑ **Trim The Black (noise) Edges**: Trims the black line (noise) displayed at the edge of the image.
- ☑ **Improve Tearing Artifacts**: Improves tearing artifact caused when the monitor's scanning line retracing speed is slow (1x1 screen format only). This might increase the CPU load.
- ☑ **Disable Transparent Window**: Disables using a transparent window style and opacifies windows including the control toolbar to correct the problem of transparent areas of the window flickering. The change will be applied the next time the program is run.
- ☑ **Dynamic Multistream Control**: Allows you to use a different stream depending on the screen format (supported only for devices in which more than one stream is used). Selecting Auto allows the iNEX program automatically to choose the proper stream based on the screen format.
- ☑ **Interactive Bandwidth Control**: Controls the network bandwidth by automatically adjusting the resolution and the frame rate of the device depending on a screen format (1x1 screen format: the maximum resolution and frame rate supported by the device, Multi-screen format: the resolution and frame rate decreased to an appropriate level for each screen format). This function enhances the network bandwidth efficiency and decreases a drop in performance of the Client system which might be caused by the network congestion. For this function to work, the device must be also set up to use the function. This function works only for monitoring video.

Log List
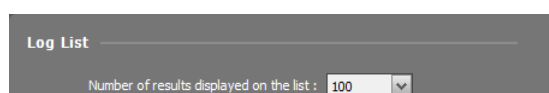
Set up the number of log entries to be displayed at once (in the case of Device Log, maximum 100 logs at once regardless of the setting).

Instant Event

- **Time Range**: Set up the length of time for an event notification to be displayed in the Instant Event List after notification of the event detection (If the event list has 100 or fewer items, the event list will remain on the Instant Event List even if the length of time has expired).
- **Column**: Select the information to be displayed in Instant Event List.
- **Callback Port**: Set up the port number to receive a callback message from the device. This setting will be used only when the monitoring service does not run. The iNEX system uses the callback port of the monitoring service, which is set in the Service Manager program when the monitoring service runs. The port number you enter should match the port number set on the device for remote callback.
- **Event Sound**: Set up to sound by playing back an audio file when an event is detected. Select a desired event and set up an audio file (.wav) by clicking the ... button. Clicking the ► button allows you to test the sound by playing back the selected audio file.
- **Event Spot**: Set up the duration for images to be displayed on an event spot screen when an event is detected. When another event is detected while the current event is displayed on the event spot screen, the current event is displayed during the minimum monitoring dwell time and then another event is displayed.

Network

- ☑ **Use buffering for live Mega-pixel images**: Displays images on the screen more smoothly by using buffering when monitoring mega-pixel video images (supported only for devices which use the iNEX protocol). Buffering may be delayed or real-time monitoring may decrease depending on the network environment. This function is supported only in a dual-core CPU or higher systems for up to four cameras in each Live panel.
- **RTP Incoming Port Range**: Set up the port range if a device which transmits images using the RTP protocol is registered. Port range settings must be changed if the network firewall or local network allows only specific UDP/RTP port numbers. The port numbers should not conflict with the RTP port numbers of Recording servers or port numbers of other streaming programs. If an RTP port number conflicts with others, monitoring may not be available.

- **Don't display broken frames**: It is possible that frames will be broken or lost when using the RTP protocol depending on the network environment. Select whether or not to display the broken frames in Live or Play panels.
- **Buffering Frame Count**: Set up the number of buffering frames to use for the RTP protocol. The higher the number is, the less the video stutter. The lower the number is, the higher the real-time monitoring.
- ☑ **Use Network Keyboard**: Allows you to control the Client program by using a network keyboard. Set up the port number that the Client program will use when it is controlled by a network keyboard. Selecting Use large mouse cursor enlarges the mouse cursor size.

Map

- ☑ **Activate Auto Focusing**: Enlarges the area where the event-detected device is placed when an event is detected.
  - – **Focusing Event**: Select a desired event for auto focusing.
  - – **Focusing Duration**: Set up the duration for auto focusing to last.
  - – **Focusing Minimum Dwell**: Set up the duration for auto focus to last for the first detected event when events are detected in more than one device consecutively. Auto focusing moves to the later detected event after the preset time expires.
- **Zoom Finder**: Displays or hides the PIP screen. The rectangle in the PIP screen indicates the enlarged area. When set to Auto, the PIP screen is displayed only while a canvas is enlarged.
- **Map Event Spot**: Video from the event-detected camera is displayed on the map event spot screen when an event is detected.
  - – **Event monitoring dwell**: Set up the duration for video to be displayed on the map event spot screen.
- – **Minimum monitoring dwell**: Set up the event monitoring dwell time for the current event when other events are detected while event-detected video is displayed. Video from other events is displayed after the preset time is expired.
- **Instant Viewer**: Set up the duration for the instant view to be displayed. Instant Viewer is displayed when clicking a camera on a map.

User
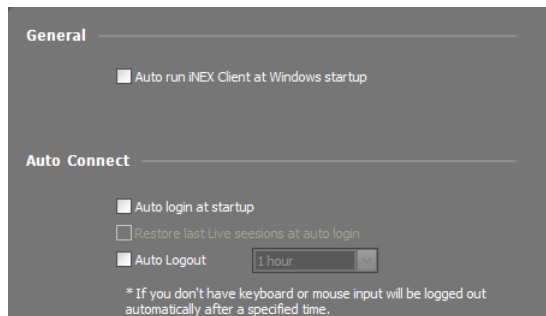
- Auto run iNEX Client at Windows startup: The Client program automatically runs when logging onto Windows.
- Auto login at startup: The Client program automatically logs in with the login information from the previous connection when it starts. Checking the Restore last Live sessions at auto login box restores the previous live monitoring sessions in the current Live panels.
- Auto Logout: The Client program automatically logs out when there are no mouse or keyboard inputs for more than preset time.

Chapter 5 — Live Video Monitoring

You can monitor live video of each group. The Client system displays video from devices based on the settings in the device on the Live screen. If the streaming service is running, the Client system displays video transmitted through the streaming server, and it allows multiple users to monitor video simultaneously.

First, check the following and run the Client program.

- Services should be running in the system. Refer to 3.1 Running Services (p. 19) for details.
- Devices should be added to a device group. Refer to Chapter 13 — Device Management (p. 107) for details.

5.1 Monitoring Video

Live video monitoring is supported in the Live panel (maximum 4). If the Live tab is not on the tab panel, go to the System menu, click New Tab, and then Live.
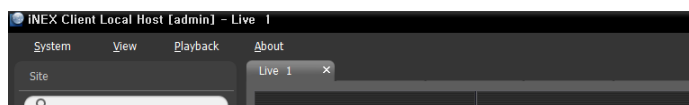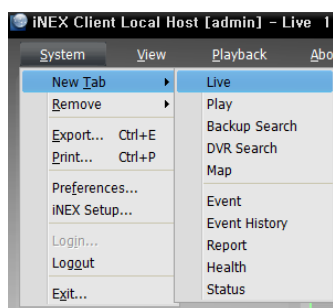
Click the Live tab on the tab panel → Select a camera, device or device group from the Site list, and drag and drop it on the Live screen. Live video from each camera is displayed on the screen. You can move a camera screen to the desired location on the Live screen without disconnecting the current connection while monitoring video. Select a camera screen and drag and drop it on the desired location.
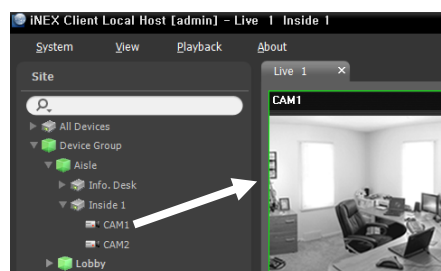
NOTE: The Client system performance might seriously deteriorate when simultaneously monitoring or playing back video with 1280x720 or higher resolution on more than one camera screen.

Panel Toolbar

The panel toolbar at the bottom allows you to control the Live panel.

- ▦ (Save to User Layout): Saves the current screen format.
- ▦▦▦▦▦▦▦▦▦▦▦▦▲▦◀▶ (Screen Format): Changes the screen format. Clicking the ▲ button displays more available screen formats. Clicking the ◀ or ▶ button moves to the previous or next camera groups.

- ▦ (Layout Sequence): Starts or stops layout sequence. Refer to 5.1 Monitoring Video, Layout Sequence Monitoring (p. 55) for details.
- ▦ (Hotspot): Sets up a selected camera screen as a hotspot screen. Refer to Hotspot Setup (p. 52) for details.
- ▦ (Event Spot): Sets up a selected camera screen as an event spot screen. Refer to Event Spot Setup (p. 52) for details.
- ▦ (Map Event Spot): Sets up a selected camera screen as a map event spot screen. Refer to Map Event Spot Setup (p. 53) for details.
- ▤ (Export/Print Image): Allows you to export or print the images currently displayed on the screen.
- ▣ (Audio Broadcast): Broadcasts audio to all devices in the current Live tab.

Hotspot Setup

NOTE: The "hotspot" in the iNEX program is a predefined camera screen in which video from any camera among those currently displayed can be monitored with emphasis. The hotspot screen is surrounded by a red outline.
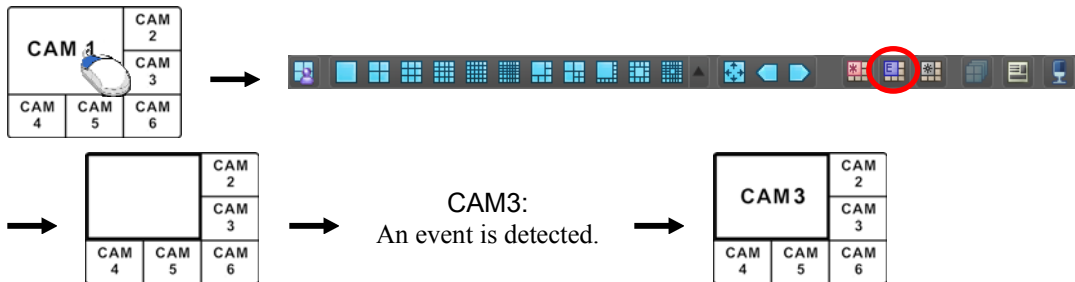
1. Select a camera screen to set up as a hotspot screen on the current monitoring screen.
2. Click the ▦ (Hotspot) button on the toolbar at the bottom of the Live panel, and the current connection in the selected camera screen is released. The hotspot screen is surrounded by a red outline.
3. Select any camera on the screen. Video from the selected camera is displayed on the hotspot screen, and you can control the camera.
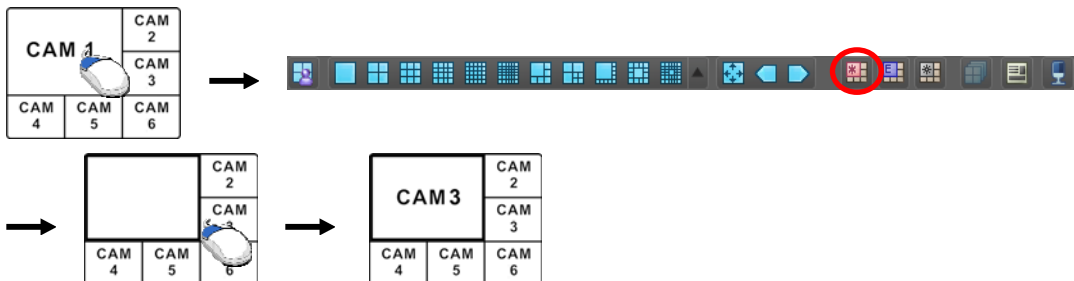
Event Spot Setup

NOTE: The "event spot" in the iNEX program is a predefined camera screen in which video from a camera which an event is detected among cameras currently displayed can be monitored with emphasis. The event spot screen is surrounded by a blue outline.

1. Select a camera screen to set up as an event spot screen on the current monitoring screen.
2. Click the ▦ (Event Spot) button on the toolbar at the bottom of the Live panel, and the current connection in the selected camera screen is released. The event spot screen is surrounded by a blue outline.
3. When an event is detected, video from the event-detected is displayed on the event spot screen.

Map Event Spot Setup

NOTE: The "map event spot" in the iNEX program is a predefined camera screen in which video from a camera which an event is detected among cameras on a map can be monitored with emphasis. The map event spot screen is surrounded by a gray outline.

1. Select a camera screen to set up as a map event spot screen on the current monitoring screen.
2. Click the 🔲 (Map Event Spot) button on the toolbar at the bottom of the Live panel, and the current connection in the selected camera screen is released. The map event spot screen is surrounded by a gray outline.
3. When an event is detected, video from the event-detected is displayed on the map event spot screen.
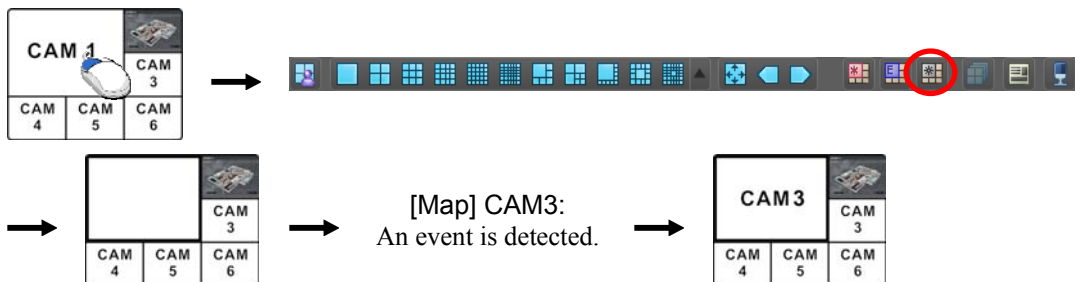

Layout Monitoring

You can monitor video from multiple cameras in a predefined layout. A layout should be registered on the administration service for layout monitoring. Refer to the following explanation for details about layout registration.

NOTE: A "layout" in this manual refers to a screen organization created by arranging specific cameras in a specific screen format.

Select a desired layout from the Layout list, and drag and drop it on the Live screen. Video from cameras added to the Layout is displayed in the predefined screen format on the screen.
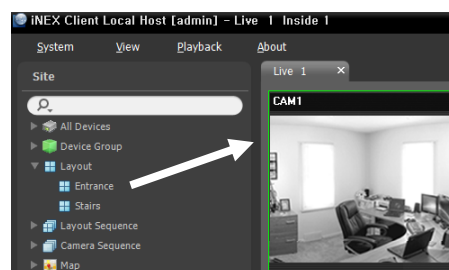
Registering Layouts

1. Go to the System menu, and click iNEX Setup, and select the Device menu.

2. Click Layout in the Site panel, and then the ✚ button at the bottom of the Site List panel on the right. The Add Layout window appears.
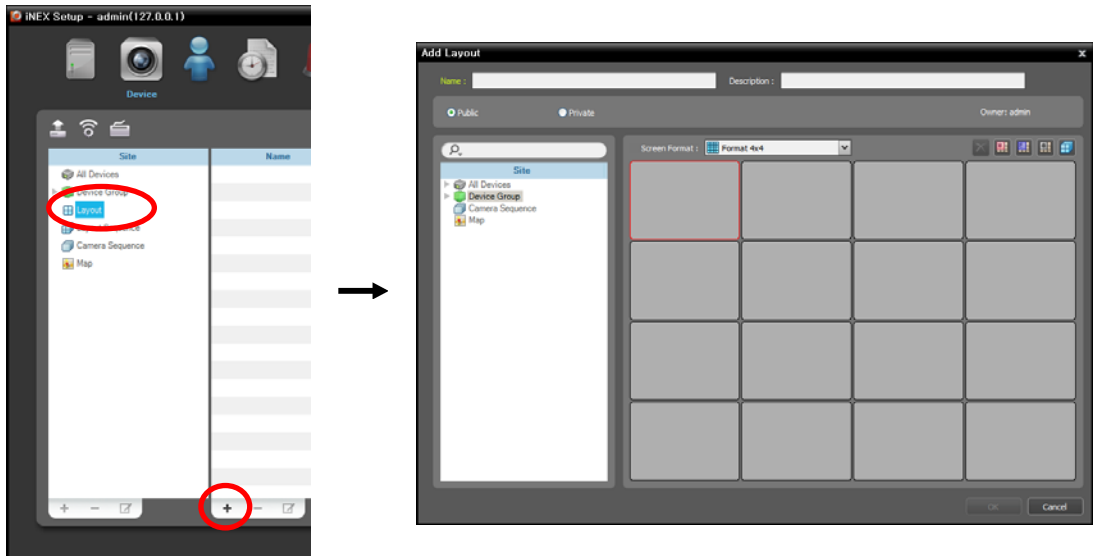
- Name: Enter the layout name.
- Site: Displays a list of registered devices, cameras or camera sequences. You can search for a registered device or camera sequence by entering text beside the 🔍 icon. Entering text that you want to search for causes the search results to be displayed. Search results are displayed immediately as matching text is found. As you enter more text, the results narrow.
- Public/Private: Displays the layout to all users (Public) or to a current user only (Private). The admin user can see all layouts.
- Owner: Displays the user ID of the person who created the layout.
- Screen Format: Select a screen format for the layout to be registered. Select a device, a camera or camera sequence to assign to the layout in the Site panel, and drag and drop it in the desired camera screen of the layout screen.
- ✖ (Remove): Selecting a camera screen in the layout screen and clicking this button deletes the camera assigned to the camera screen from the layout screen.
- ▦ (Hotspot): Selecting a camera screen in the layout screen and clicking this button sets up the camera screen as a hotspot screen.
- ▦ (Event Spot): Selecting a camera screen in the layout screen and clicking the button sets up the camera screen as an event spot screen.
- ▦ (Map Event Spot): Selecting a camera screen in the layout screen and clicking the button sets up the camera screen as a map event spot screen.
- ▦ (Camera Sequence): Selecting a camera screen in the layout screen and clicking this button allows you to create a camera sequence and assigns the created camera sequence to the camera screen.

Clicking the OK button completes registration of the layout.

Layout Sequence Monitoring

You can monitor video from multiple cameras sequentially in more than one predefined layout. A layout sequence should be registered on the administration service for layout sequence monitoring. Refer to the following for details about layout sequence registration.

NOTE: A "layout" in this manual refers to a screen organization created by arranging specific cameras in a specific screen format.
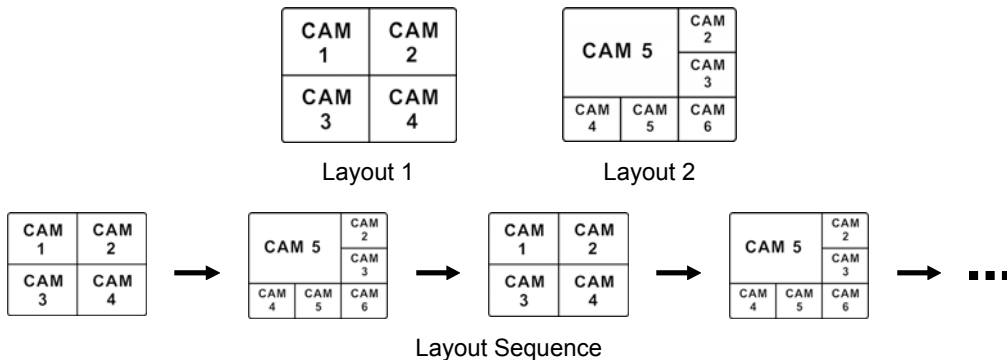
1. Select a desired layout sequence from the Layout Sequence list, and drag and drop it on the Live screen. Video from cameras added to the layout sequence is displayed in the screen format for each layout sequentially.
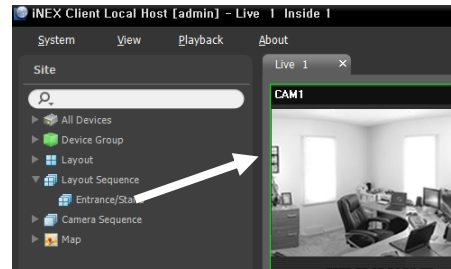
2. Clicking the ▦ (Layout Sequence) button of the toolbar at the bottom of the panel stops or starts the layout sequence.


Example

Layout 1   Layout 2

Layout Sequence

Registering Layout Sequences

1. Go to the System menu, and click iNEX Setup, and select the Device menu.

2. Click Layout Sequence in the Site panel, and then the ✚ button at the bottom of the Site List panel on the right. The Add Layout Sequence window appears.

3. If no layout to be sequenced is registered, click the Add Layout button. The Add Layout window appears. Register layouts to sequence referring to Layout Monitoring (p. 53). At least two layouts must be registered for sequencing.
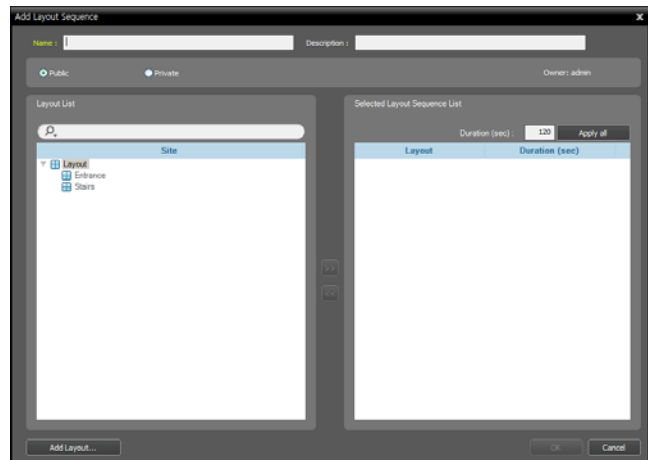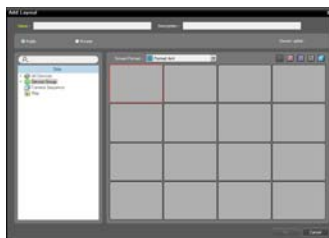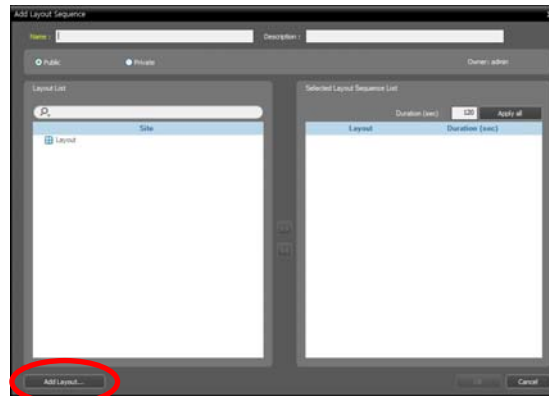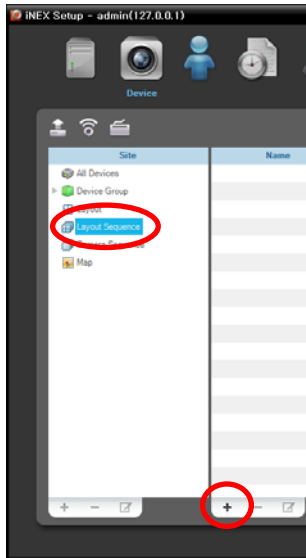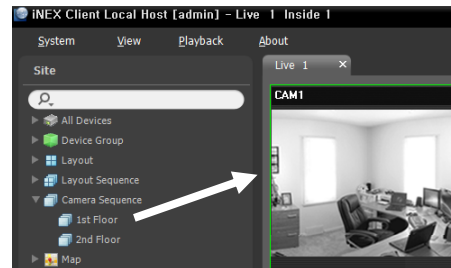
- **Name**: Enter the layout sequence name.
- **Public/Private**: Displays the layout sequence to all users (Public) or to a current user only (Private). The admin user can see all layout sequences.
- **Owner**: Displays the user ID of the person who created the layout sequence.
- **Layout List**: Displays a list of registered layouts. You can search for a registered layout by entering text beside the 🔍 icon. Entering text that you want to search for causes the search results to be displayed. Search results are displayed immediately as matching text is found. As you enter more text, the results narrow.
- **Selected Layout Sequence List**: Displays the list of layouts registered for the layout sequence. Duration (sec) displays the duration for each layout to be displayed on the screen. Clicking the Apply all button applies the duration setting to all layouts in the list.

Select a layout from Layout List, click the ⏩ button, and the selected layout is added to Selected Layout Sequence List. Clicking the OK button completes registration of the layout sequence.

Camera Sequence Monitoring

You can monitor video from multiple cameras in the same camera screen sequentially. A camera sequence should be registered on the administration service for camera sequence monitoring. Refer to the following for details about camera sequence registration.
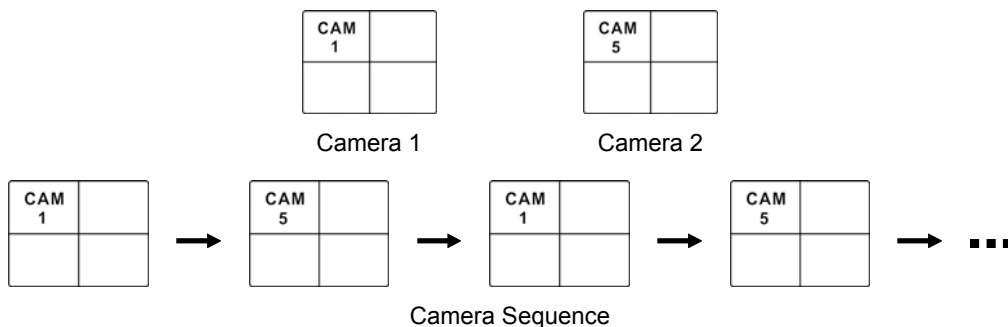
1. Select a desired camera sequence from the Camera Sequence list, and drag and drop it on the Live screen. Video from cameras added to the camera sequence is displayed on the screen sequentially.

2. Clicking the (Camera Sequence) button on the camera screen control toolbar stops or starts the camera sequence.

<u>**Example**</u>

Camera 1   Camera 2

Camera Sequence
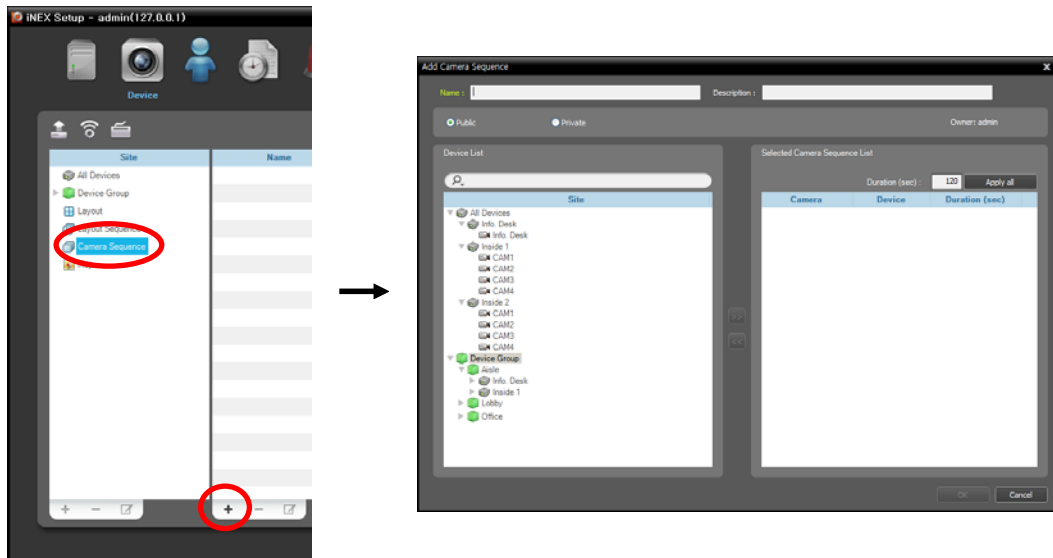
<u>**Registering Camera Sequences**</u>

1. Go to the System menu, and click iNEX Setup, and select the Device menu.

2. Click Camera Sequence in the Site panel, and then the ✚ button at the bottom of the Site List panel on the right. The Add Camera Sequence window appears.

- **Name**: Enter the camera sequence name.
- **Public/Private**: Displays the camera sequence to all users (Public) or to a current user only (Private). The admin user can see all camera sequences.
- **Owner**: Displays the user ID of the person who created the camera sequence.
- **Device List**: Displays a list of registered devices. You can search for a registered device by entering text beside the 🔍 icon. Entering text that you want to search for causes the search results to be displayed. Search results are displayed immediately as matching text is found. As you enter more text, the results narrow.
- **Selected Camera Sequence List**: Displays the list of cameras registered for the camera sequence. Duration (sec) displays the duration for video from each camera to be displayed on the screen. Clicking the Apply all button applies the duration setting to all cameras in the list.

Select a camera from Device List, click the ⏩ button, and the selected camera is added to Selected Camera Sequence List. Clicking the OK button completes registration of the camera sequence.
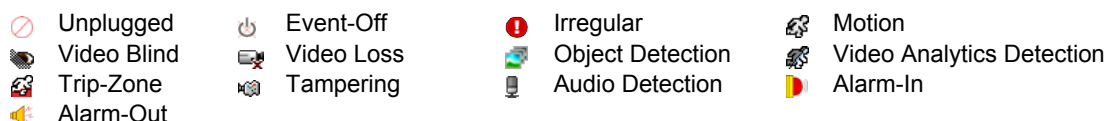
5.2 Map Monitoring

You can monitor video from cameras, event detection and input/output device status on a map for devices registered on the administration service. A map should be registered on the administration service for map monitoring. Refer to Chapter 17 — Map Editor (p. 139) for details about map registration.

Map monitoring is supported in the Live panel (maximum 4) and Map panel. If the Live or Map tab is not on the tab panel, go to the System menu, click New Tab, and then Live or Map.

Select a desired map from the Map list, and drag and drop it on the Live screen. The selected map is displayed on the screen. You can move a map to the desired location on the Live screen without disconnecting the current connection while monitoring video. Selecting an input/output device on the map, and dragging and dropping it on the Live screen, Play panel or Device Status panel allows you to monitor or play back video or to monitor device status.
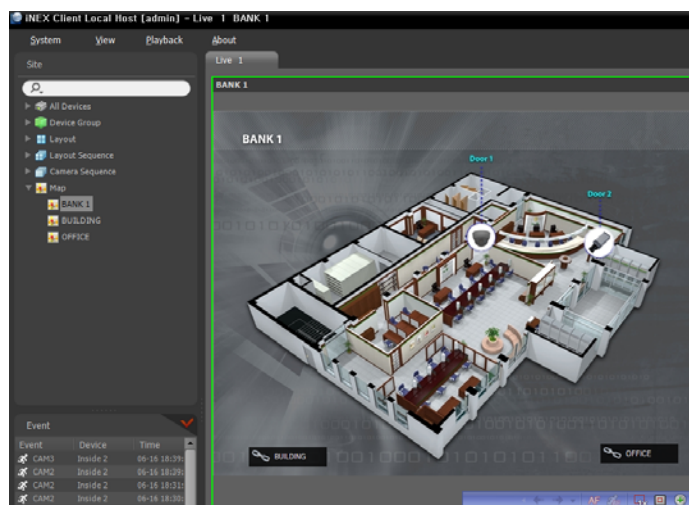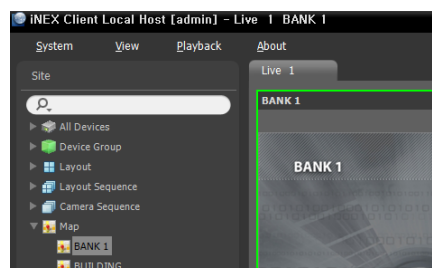
Hovering the mouse cursor over the input/output device on the map displays the event detection and status of the input/output device. When the input/output device detects any event or is not working properly, the following icons appear sequentially to the maximum of 4 at a time (some event icons may not be supported, depending on the specifications and version of the device):

|			
Unplugged	Event-Off	Irregular	Motion
Video Blind	Video Loss	Object Detection	Video Analytics Detection
Trip-Zone	Tampering	Audio Detection	Alarm-In
Alarm-Out			

Event detection is displayed according to the event detection settings, and Irregular is based on the system check settings on the device that the input/output device is connected.

Event detection and status are displayed in unique colors if you have set up status color during the map setup. When more than one event or status is detected at the same time, the color reflecting each event detection or status is displayed sequentially.

Path Sequence

You can monitor video from multiple cameras sequentially on a map in the same camera screen during map monitoring. A path sequence should be set up for path sequence monitoring. Refer to 17.2 Setting up Map, Path Sequence (p. 142) for details about the path sequence setup.

Select a desired path of the path sequence from the map, and drag and drop it on the Live screen. Video from the cameras associated to the path sequence is displayed sequentially during the preset duration period.
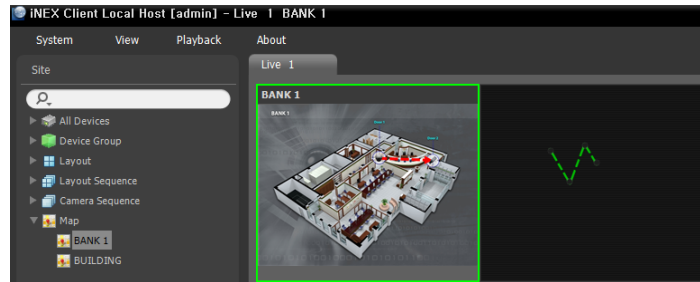
5.3 Controlling Cameras

A control toolbar and a screen menu are provided for controlling camera.

Control Toolbar

When selecting a camera screen and hovering the mouse cursor over the camera screen, the control toolbar is displayed over that camera screen. The control toolbar allows you to control the selected camera. Hovering the mouse cursor over a button displays a tooltip for the button.
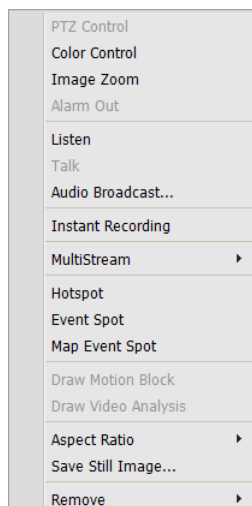

- 👤 (PTZ Control): Allows you to control PTZ for a camera that supports PTZ control. Refer to PTZ Control (p. 61) for details.
- 🔵 (Color Control): Adjusts the brightness, contrast, saturation and hue of the current video. Clicking the 🔄 button cancels the adjustment and reloads the original image.
- 🔍 (Image Zoom): Zooms in on the image. Refer to PTZ Control (p. 61) for details.

- 🗗 (Camera Sequence): Starts or stops camera sequence. Refer to 5.1 Monitoring Video, Camera Sequence Monitoring (p. 57) for details.
- 🔊 / 🎤 (Listen/Talk): Receives audio from the device or sends audio to the device.
- 🔴 (Instant Recording): Starts or stops the Instant recording (supported only for devices registered on one of recording services). During Instant recording, the Instant Recording OSD is displayed in the upper-right corner of the camera screen and Time-Lapse recording or Event-Based recording stops. Recording might be delayed depending on system congestion, and the recording OSD might be displayed later or for longer than the scheduled time. Refer to 6.2 Setting up Recording Schedule, Setting up Instant Recording (p. 77) for details.

  NOTE: The instant recording is a function that allows you to manually record video which is currently being monitored. You can record desired video with higher performance if the codec, resolution, frame rate and quality have been set up at higher values for instant recording.

Live Screen Menu

The screen menu is displayed when selecting a camera screen and clicking the right mouse button. The screen menu allows you to control the selected camera.

PTZ Control
Color Control
Image Zoom
Alarm Out
Listen
Talk
Audio Broadcast...
Instant Recording
MultiStream ▸
Hotspot
Event Spot
Map Event Spot
Draw Motion Block
Draw Video Analysis
Aspect Ratio ▸
Save Still Image...
Remove ▸

- **PTZ Control, Color Control, Image Zoom, Listen, Talk, Instant Recording**: These function the same as clicking the individual buttons on the control toolbar. Refer to Control Toolbar (p. 60) for details.
- **Audio Broadcast**: Broadcasts audio to all devices in the current Live tab.
- **Alarm Out**: Activates or deactivates alarm out.
- **MultiStream**: Allows you to choose the desired stream if the device is in the multistream mode for live monitoring (supported only for devices which use the iNEX protocol).
- **Hotspot**: Sets up a selected camera screen as a hotspot screen. Refer to Hotspot Setup (p. 52) for details.
- **Event Spot**: Sets up a selected camera screen as an event spot screen. Refer to Event Spot Setup (p. 52) for details.
- **Map Event Spot**: Sets up a selected camera screen as a map event spot screen. Refer to Map Event Spot Setup (p. 53) for details.

- **Draw Motion Block**: Displays the area where motion is detected with red blocks when a motion detection event occurs for the selected camera (supported only for connection of network video transmitters which use the iNEX protocol).
- **Draw Video Analytics**: Displays video analytics detection results on the screen (supported only for devices which are registered on the video analytics service).
  - **All detection objects**: Displays detection results of any objects which there were any changes on the monitoring screen.
  - **Event triggering object only**: Displays detection results of the events triggered according to the rules preset in the Setup program. Refer to 12.2 Configuring Video Analytics Detection Events (p. 103) for details of setting rules.
  - **Not Display**: Does not display any detection results.
- **Aspect Ratio**: Select the proper image aspect ratio.
  - **Fit to Screen**: Displays images by fitting them to the screen size regardless of the aspect ratio.
  - **Fit to Screen (Aspect Ratio)**: Displays images by fitting them to the screen size keeping the aspect ratio. This might cause top and bottom or left and right side of images to be cropped depending on the screen size. This aspect ratio is not supported and Original Ratio is applied for camera screens that the following functions are activated: Image Zoom, Hotspot, Event Spot, Draw Motion Block, Draw Video Analytics.
  - **Original Ratio**: Displays images by fitting them within the screen size while maintaining their original ratio.
  - **Half Size (x0.5)** to **Quadruple Size (x4)**: Selecting the desired image size displays images in the selected size. Options are enabled if the selected camera screen can display images in that size.
- **Save Still Image**: Saves the current image on the screen as an image file at its original size.
- **Remove**: Disconnects the current connection.

PTZ Control

Clicking the ♟ (PTZ Control) button on the control toolbar displays the PTZ control toolbar and allows you to control PTZ. Depending on the PTZ camera specifications, some features may not work.

- ▲ (Direction Control): Displays or hides the ▦ (Direction Control Panel). You can control the direction of the PTZ camera by clicking the arrow buttons on the direction control panel or by clicking and dragging the mouse on the camera screen.
- ⊕ ⊖ (Zoom In/Out): Zooms the camera lens in or out.
- ◉ ◎ (Focus Far/Near): Focuses on near or far objects.
- ◎ ◎ (Iris Open/Close): Opens or closes the iris of the camera lens.
- ▣ ▣ (Set/View Preset): See PTZ Preset Control (p. 62) for an explanation of this function.
- ▤ (Advanced Menu): Displays the Advanced Menu window and allows you to use more features that the PTZ camera supports. Refer to the PTZ camera manufacturer's manual for details about additional features.
- ✕ (Close): Exits the PTZ mode and returns to the control toolbar.

PTZ Preset Control

You can save camera directions as a Preset so that you can move the camera directly to a saved direction.

1. Move the PTZ camera to the desired position.

2. Click the ▣ (Set Preset) button on the PTZ control toolbar, and the Set Preset window appears. Enter a name for the Preset and click the OK button. The current position is saved as the Preset name.

3. Click the ▣ (View Preset) button on the PTZ control toolbar, and the View Preset window appears. Select the desired Preset, and the PTZ camera moves to the position of the selected Preset.
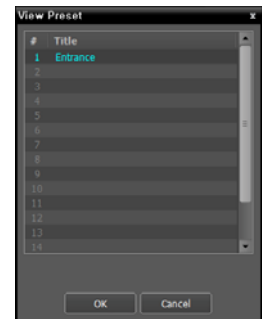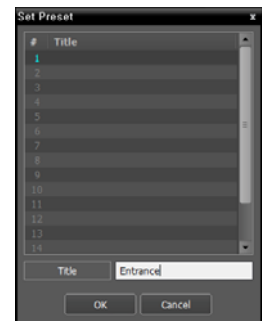
Zoom Control

Clicking the ⊕ (Image Zoom) button on the control toolbar allows you to zoom in on the current video.

NOTE: "PIP" is an abbreviation of *Picture in Picture* and describes a smaller screen within a screen.

Dragging the mouse on the camera screen moves the zoomed-in area.

- ▮▬▬▬▬ (Slide Bar): Adjusts the enlargement ratio. You can adjust the enlargement ratio also by using the mouse scroll wheel.
- ⊡ (Actual Size Zoom): Enters the actual size zoom mode. In the actual size zoom mode, the image is displayed in its original size regardless of the camera screen size or image's aspect ratio.
- ▣ (Zoom Finder): Displays or hides the PIP screen. The rectangle in the PIP screen indicates the zoomed-in area.

5.4 Controlling Maps

A control toolbar and a screen menu are provided for controlling a map.

Control Toolbar

When selecting a map and hovering the mouse cursor over the map, the control toolbar is displayed over that map. The control toolbar allows you to control the selected map. Hovering the mouse cursor over a button displays a tooltip for the button.

- ⬅, ➡ (Previous Map, Next Map): Moves to the previous or next connected map of the maps that have been connected to the current map screen. Maps can be connected by using map link or by selecting a map from the map list and dragging and dropping it on the current map screen.
- 𝐀𝐅 (Auto Focusing): Enlarges the area where the event-detected device is placed when any event is detected. When events are detected in more than one device at the same time, the canvas is enlarged as much as possible while still displaying all event-detected devices. When events are detected in more than one device consecutively, the focusing moves to the later detected event after the preset time expires. Refer to 4.3 Client, Menu – Preference Settings, Map (p. 49) for details about the auto focusing setting.
- 🐾 (Focusing Event): Allows you to select a desired event for auto focusing.
- ⊡ (Actual Size (x1)): Displays a map in its original size regardless of the map screen size or canvas's aspect ratio.
- ▣ (Zoom Finder): Displays or hides the PIP screen. The rectangle in the PIP screen indicates the enlarged area. When set to Auto, the PIP screen is displayed only while a canvas is enlarged.
- ⊕ (Zoom In): Allows you to adjust the enlargement ratio of the canvas.

Example

- When Zoom Finder is set to Off;

Map Monitoring		Event Detection		Auto Focusing
	➡		➡	

• When Zoom Finder is set to Auto or On;

Map Monitoring   Event Detection   Auto Focusing

Map Screen Menu

The screen menu is displayed when selecting a map screen and clicking the right mouse button. The screen menu allows you to control the selected map.
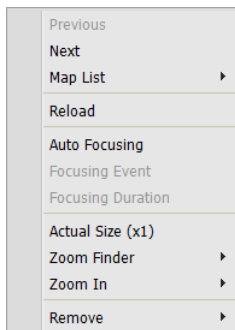
• Previous, Next, Auto Focusing, Actual Size (x1), Zoom Finder, Zoom In: These function the same as clicking the individual buttons on the control toolbar. Refer to Control Toolbar (p. 60) for details.

• List: Displays the list of the previous or next connected maps. Selecting a map from the list moves to the selected map.

• Reload: Reloads the connection of the current map.

• Focusing Event, Focusing Duration: Allows you to set up auto focusing events and duration. Refer to 4.3 Client, Menu – Preference Settings (p. 45) for details.

• Remove: Disconnects the current connection.

Chapter 6 — Recording

You can record video from cameras connected to devices registered in the administration service and iNEX program provides three types of recording: Time-Lapse Recording, Event-Based Recording (Event and Pre-Event) and Instant Recording. During Time-Lapse recording or Event-Based recording, the system performs recording based on the settings of schedule Presets during the scheduled time. Instant recording can be manually started or stopped while monitoring video.

When more than one recording mode is set up for the same period, the iNEX program records video with the recording settings of the highest priority recording mode. The priority order of recording modes is as follows: Pre-Event recording (lowest) → Time-Lapse recording or Event recording → Instant recording (highest). In the same recording mode or between the Time-Lapse recording and Event recording mode, the schedule higher up the list in the Schedule Setup window has priority over the other schedules. You can change a schedule's priority by changing its position in the schedule list.

First, check the following and run the Setup program.

- Services should be running on the system. Refer to 3.1 Running Services (p. 19) for details.
- Devices should be added to a device group. Refer to Chapter 13 — Device Management (p. 107) for details.

NOTE: Recording is not supported for DVRs.

6.1 Setting up Recording Storage

You must allocate storage in order to record video from cameras. Go to the Start Menu → Click iNEX → Run the iNEX Setup program → Select the Service menu, and allocate storage following the procedures below.

NOTES:
- USB hard disks, network hard disks and hard disks set to *Dynamic* cannot be allocated storage.
- It is recommended to add a new unformatted hard disk drive to ensure stable recording. If you are setting up a hard disk drive which contains data, however, you are to delete partition(s) and the file system in advance after formatting. Refer to the PC/server user's manual or consult with the PC/server manufacturer for details about how to format or delete the partition(s) and file system.
- When removing a hard disk drive that contains recorded video from a recording server and installing it in another recording server, you cannot search or play back the video recorded on the original recording server.
- The total amount of storage for one recording server cannot exceed 50,000 GB.

Registering Recording Service

If any recording service is not registered, select the Service menu and register recording services following the procedures below.

1. Click the ✚ button at the bottom. The Service Registration window appears, and a list of available services is displayed with information about each service.

- Name: Displays services that are currently connected to the administration service via the network.
- Type: Displays the service type.
- Address: Display the IP address and port number of each server.

NOTE: The administration server information required when installing the services should match the information of the currently connected administration server.

2. Select a recording service to register on the iNEX system.

Allocating Storage

Select the Service menu. Then select a recording server and allocate storage to hard disk drives in the selected server following the procedures below.

1. Select a recording service and click the ☑ button at the bottom. The Setup – Recording Service window appears. Select the Device Setup tab.
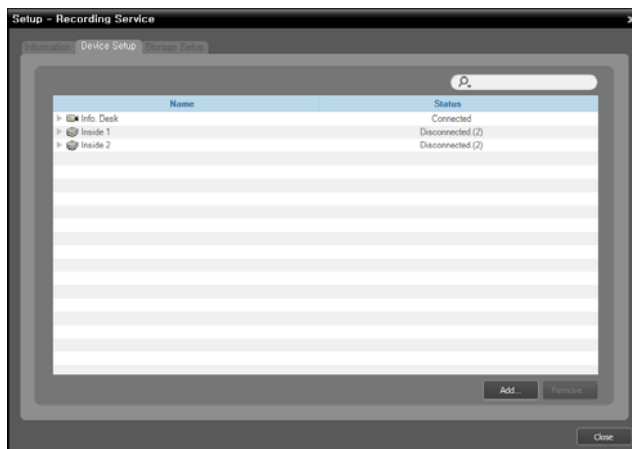
The list of cameras registered on the current recording service is displayed. Clicking the Add button at the bottom allows you to register additional cameras on the current recording service.

NOTES:

• The number of devices that can be recorded in a recording server differs depending on the type and the number of the WIBU-Keys connected to the administration server.

• If you remove a device for which some recording has been done and register the device again, the iNEX system considers the device as a new device. In this case, you can search or play back video recorded before the device was removed as follows: go to the *Play* panel → click the ☐ (Additional Menu) button → select *Removed Devices*.

2. Select the Storage Setup tab and click the Add button at the bottom.

3. The Add Storage window appears, and a list of available hard disk drives is displayed with information about each drive.

- **Drive**: Displays the drive name and volume label. If a file system has not been created on a hard disk drive, 'PHYSICALDRIVE No.' will be displayed instead of the drive name and volume label. The iNEX program considers any hard disk drive that does not use Windows file system (FAT32, NTFS) as if no file system has been created.
- **Disk Type**: Displays the type of hard disk drive.
- **Capacity**: Displays the total storage capacity and available storage capacity.

4. Select a hard disk drive to allocate storage and click the Add button at the bottom. The Allocate Storage window appears.

- **Path**: Displays the storage folder path.
- **Drive Type**: Displays the type of hard disk drive.
- **Free**: Displays the available storage capacity.
- **Storage Capacity**: Sets up the storage capacity to be allocated to the hard disk drive (Min. 20GB). If the Windows operating system is installed on the hard disk drive, you must reserve more than 10GB of free hard disk space for proper system operation. If no file system has been created on the hard disk drive, the recording server automatically creates a proprietary video database file system when storage is allocated to ensure more stable recording and allocates storage to the entire hard disk drive automatically.

6.2 Setting up Recording Schedule

Go to the Start Menu → Click iNEX → Run the iNEX Setup program → Select the Recording Schedule menu, and set up the recording schedule following the procedures below.

NOTES:
- The recording function is supported only for the device registered as the *admin* user.
- If the same device is registered on another recording service which is registered on another administration service, only the first recording server that is connected to the device records video. Once a recording service connects to the device, other recording servers will not record video from the device unless the connection of the first recording service is released.
- The iNEX program performs recording with the settings of codec, resolution, frame rate and quality set in the device if the device uses protocols other than iNEX or ONVIF^{TM} Conformance.
- If the device uses the ONVIF^{TM} Conformance protocol, the iNEX program performs recording with the settings of the profile designated in the iNEX program among preset profiles. You can designate which profile to use for recording when editing the device settings. Refer to *13.2 Managing Devices, Editing Device Information* (p. 112) and *13.3 Remote Setup of ONVIF^{TM} Conformance Protocol Devices, Profiles* (p. 120) in *Chapter 13 — Device Management* for details.
- When the recording speed and resolution set in the iNEX program are higher than the *Frame Rate* and *Max. Resolution* set on the device, the recording servers will record video at the *Frame Rate* and *Max. Resolution* set on the device (four-channel network video transmitters only which use the iNEX protocol).
- If network connection is temporarily lost between the device and the recording server because of network problems or recording server reboot, the device saves video temporarily while the network is down (supported only for devices which use the iNEX protocol). When network connection is re-established, the device transmits the saved video to the recording server at a time. In this case, video recording during the period might be made with different settings from those in the recording schedule.
- Recording speed might be decreased depending on the network conditions or system performance.
- Recording might be delayed because of system congestion, and the recording OSD might be displayed later or for longer than the scheduled time.
- Video playback might not be smooth during recording depending on the recording server's system performance.
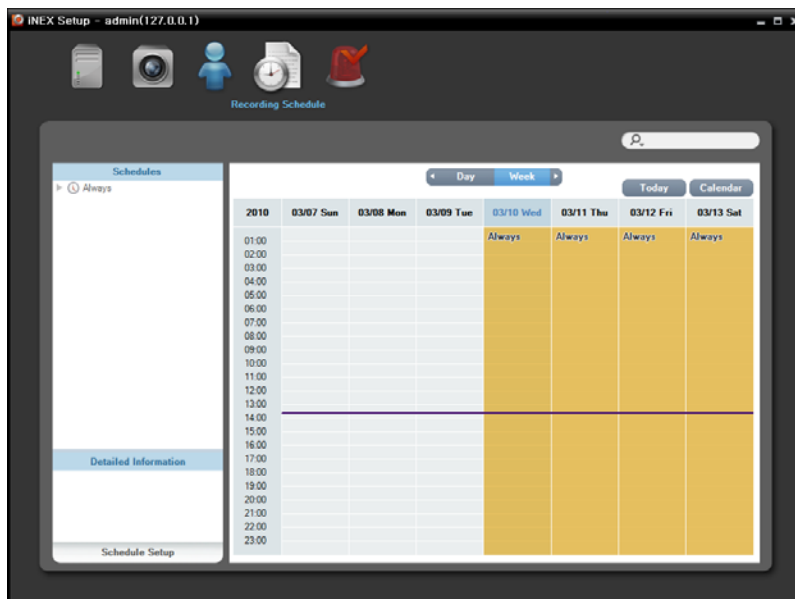
Click the Schedule Setup button at the bottom. The Schedule Setup window appears, and schedule windows are displayed with the current settings for each Preset.
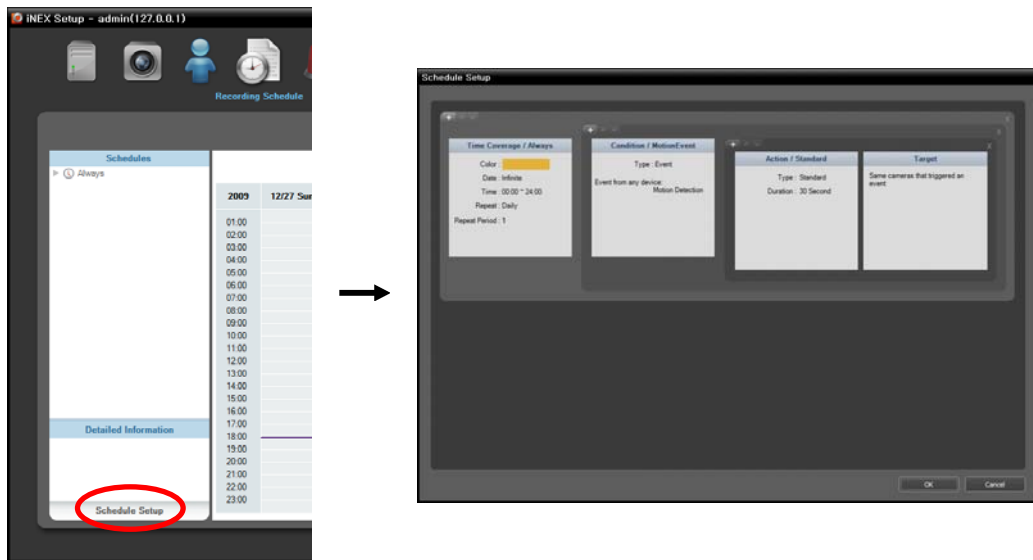
- Time Coverage: Sets up the schedule time. You can set up more than one time range. The higher the schedule position is in the Schedule Setup window, the higher its priority is.
- Condition: Sets up the recording type. You can set up more than one recording type for the same recording period. The higher the schedule position is in the Schedule Setup window, the higher its priority is. Some of recording types may not be supported depending on the protocol that the device uses (supported for the iNEX protocol and some versions of the Axis protocol).
- Action: Sets up the stream to use for recording (network cameras only) or the recording settings (network video transmitters only). You can set up more than one recording setting for the same recording type. This function is supported only for devices which use the iNEX protocol.
- Target: Sets up the cameras to be recorded.

NOTE: In the schedule setup, "Preset" indicates a single setting in which the setting values of *Time Coverage*, *Condition* or *Action* are saved.

Setting up Time-Lapse Recording

During Time-Lapse recording, the recording server performs recording continuously based on the schedule settings for the scheduled time (supported only for devices registered on one of recording services).

1. Set up the schedule time by double clicking the Time Coverage schedule window, and then selecting a desired Preset.
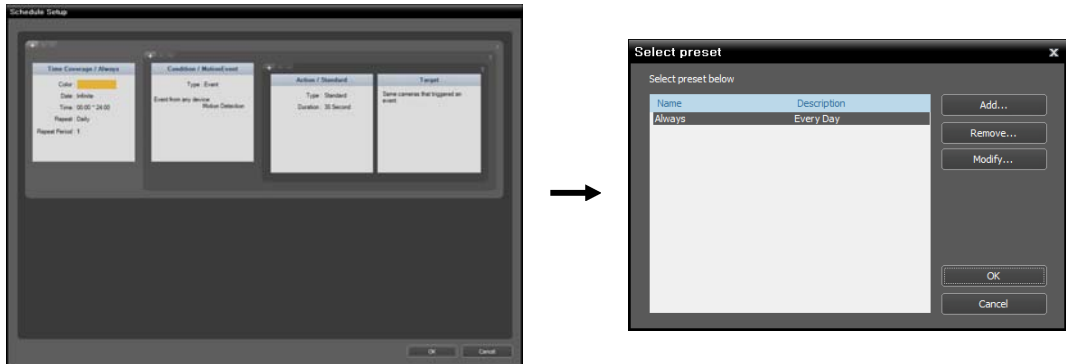
You can add a new Preset or edit a saved Preset by clicking the Add or Modify button. Refer to the following explanation for setting up a schedule.
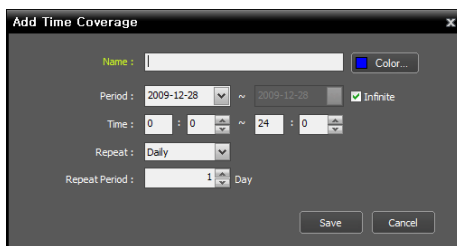
- **Name**: Enter the Preset name.
- **Color**: Click the button and select a desired color. The scheduled time section will be highlighted with the selected color in the schedule table.
- **Period**: Set up the schedule time. Selecting the Infinite option causes continuous recording based on the Condition, Action and Target preset settings without limiting the period.

- **Time**: Set up the schedule time.
- **Repeat**, **Repeat Period**: Set up the recording interval and interval period. The recording server will perform recording at the designated interval during the interval period.

2. Set the recording mode to the Time-Lapse Recording mode by double clicking the Condition schedule window and selecting a desired Preset of time condition.
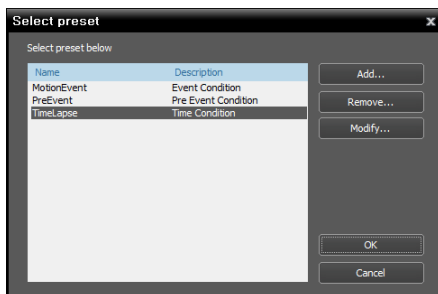
You can add a new Preset or edit a saved Preset by clicking the Add or Modify button. Clicking the Add or Modify button displays the following setup screen.

Enter the Preset name and select Time Condition from the Condition Type list.

3. Double click the Action schedule window and select the desired Preset (supported only for devices which use the iNEX protocol).
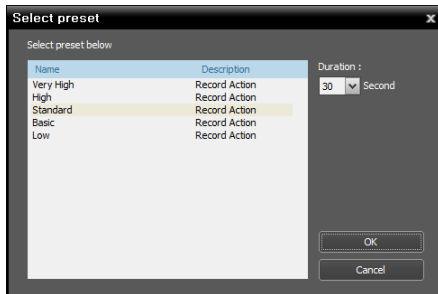
A stream to use for recording (network cameras only) or a codec, resolution, frame rate and quality setting values (network video transmitters only) are allocated to each Preset. The stream or setting values allocated to each Preset is different depending on the device. Refer to 13.2 Managing Devices, Editing Device Information (p. 112) for details.

- Duration: This is not supported for time-lapse recording.

4. Select the cameras to be recorded after double clicking the Target schedule window.
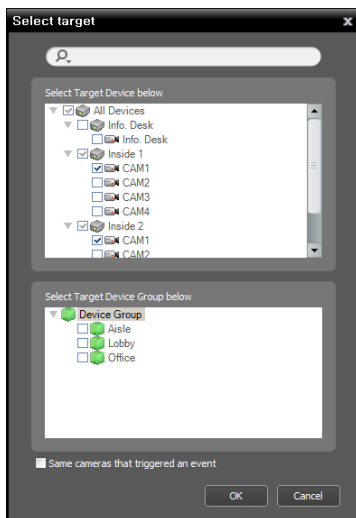
Select cameras from the device list to record video or select device groups from the device group list. The Same cameras that triggered an event option is not supported during Time-Lapse recording.

5. You can check the recording status in the Device menu. Click All Devices in the Site panel and all registered devices are displayed in the Site List panel. Click the arrow button (▼ 📷) beside the device name, and check the status (Record: During Time-Lapse recording or Event-Based recording, Panic: During Instant recording, Idle: Ready to record). The Time-Lapse Recording or Event-Based Recording OSD (🔴) is displayed in the upper right corner of the camera screen of the Live screen in the Client program.
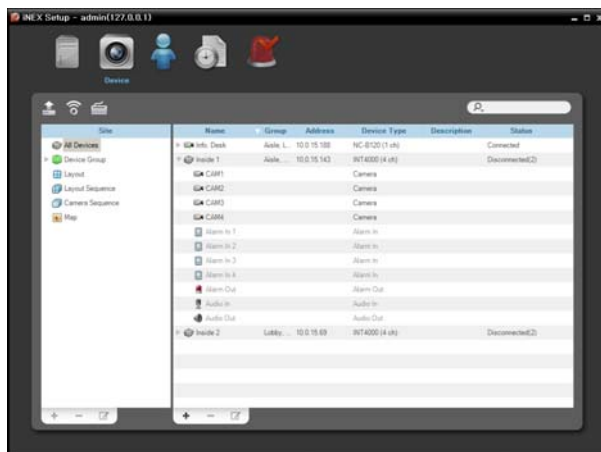
Setting up Event-Based Recording

During Event or Pre-Event recording, the recording server records video based on the event detection for the scheduled time (supported only for devices registered on one of recording services). Event related functions may not be supported depending on the protocol that the device uses (supported for the iNEX protocol and some versions of the Axis protocol).

1. Set the schedule time by double clicking the Time Coverage schedule window, and then selecting a desired Preset. The way to set up the schedule time for Event or Pre-Event recording is identical to the way to set up for Time-Lapse recording. Refer to Setting up Time-Lapse Recording (p. 70) for details.

2. Set up the recording mode to Event Recording or Pre-Event Recording by double clicking the Condition schedule window. Then select a desired Preset of event or pre-event condition.
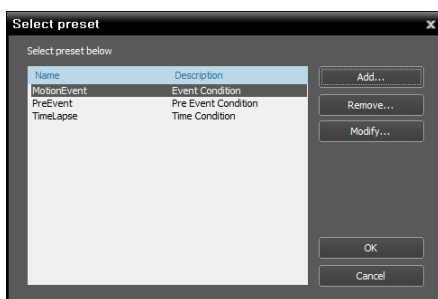
You can add a new Preset or edit a saved Preset by clicking the Add or Modify button. Clicking the Add or Modify button displays the following setup screen.

Event Recording Condition

The recording server records when predefined events are detected. This function may not be supported depending on the protocol that the device uses (supported for the iNEX protocol and some versions of the Axis protocol).
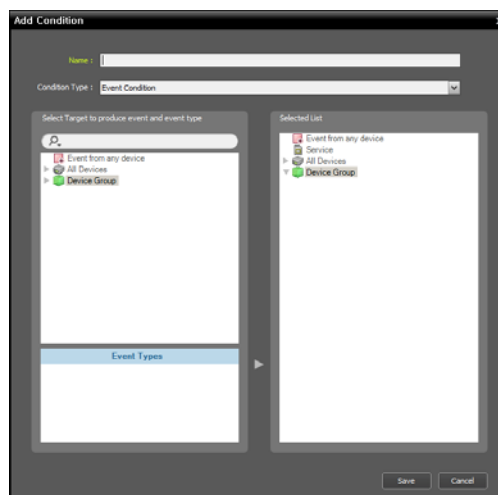
- Name: Enter the Preset name.
- Condition Type: Select Event Condition.
- Select Target to produce event and event type: Select event types that trigger video recording.

– Event from any device: Select to record video when user-defined types of events are detected.

Click Event from any device, and the list of event types is displayed in Event Types below → Select the desired event types, and the selected event types are added to the list under Event from any device on the right.
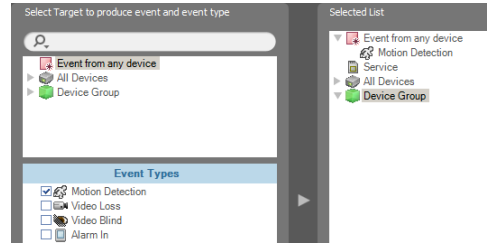
– All Devices: Select to record video when user-defined types of events are detected from the selected device or camera.

Click All Devices, and the list of registered devices and cameras is displayed → Under All Devices, click a device or camera to trigger event recording, and the list of event types supported by the device or camera is displayed in Event Types below → Select the desired event types, and the selected event types are added along with the selected device or camera to the list under All Devices on the right.
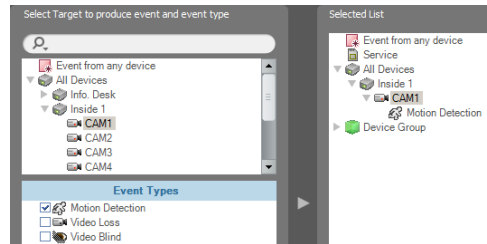
– Device Group: Select to record video when the user-defined types of events are detected in the selected device group.

Click Device Group, and the list of registered device groups is displayed → Under Device Group, click a device group to trigger event recording, and the list of event types is displayed in Event Types below → Select the desired event types, and the selected event types are added along with the selected device group to the list under Device Group on the right.
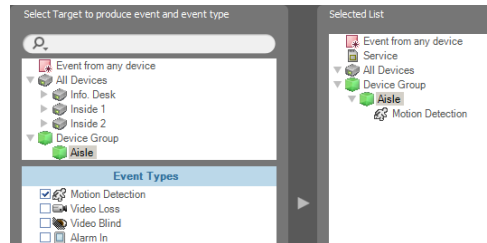
Pre-Event Recording Condition

The recording server records video prior to event detection when predefined events are detected (supported only for devices which use the iNEX protocol).

Enter the Preset name and select Pre Event Condition from the Condition Type list.

3. Double click the Action schedule window, and then select a desired Preset (supported only for devices which use the iNEX protocol).
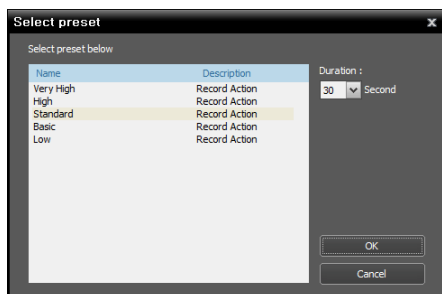
A stream to use for recording (network cameras only) or a codec, resolution, frame rate and quality settings (network video transmitters only) are allocated to each Preset. The stream or settings allocated to each Preset is different depending on the device. Refer to 13.2 Managing Devices, Editing Device Information (p. 112) for details.

- Duration: Set up the duration (maximum of 60 seconds) of recording when a predefined event is detected. For Event recording, the system records video for the duration from the time an event is detected. For Pre-Event recording, the system records video for the duration prior to event detection.

4. Select the cameras to record after double clicking the Target schedule window.
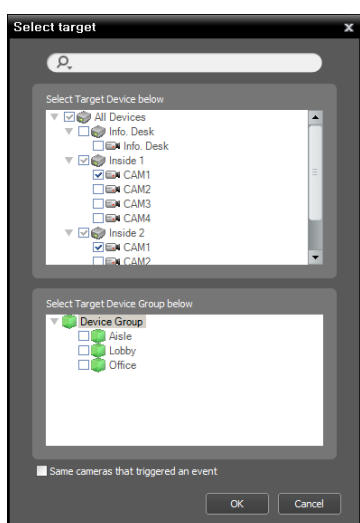
Select cameras from the device list or device groups from the device group list from which to record video whenever any predefined event is detected. Selecting the Same cameras that triggered an event option records video only from the camera where the predefined event is detected (not supported for alarm-in events and audio detection events). The Same cameras that triggered an event option is not supported for Pre-Event recording.

5. You can check the recording status in the Device menu. Click All Devices in the Site panel and all registered devices are displayed in the Site List panel. Click the arrow button (▼ 🔴) beside the device name, and check the status (Record: During Time-Lapse recording or Event-Based recording, Instant Recording: During Instant recording, Idle: Ready to record, Not Use: Camera disabled, Video Loss: On video loss). The Time-Lapse Recording or Event-Based Recording OSD (🔴) is displayed in the upper right corner of the camera screen of the Live screen in the Client program.
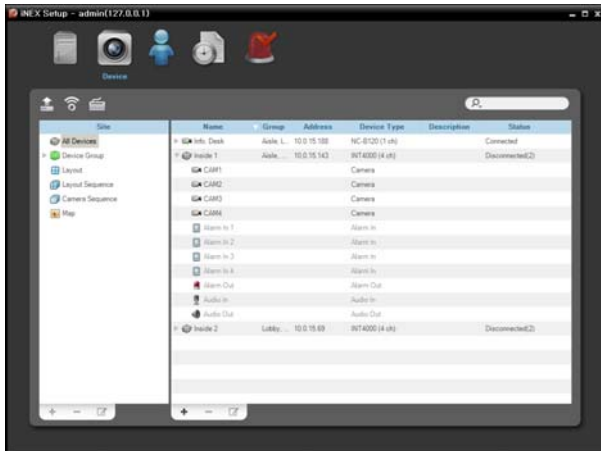
Managing Schedule

Adding a New Schedule

- Adding a new schedule with a different time range: Clicking the ⊞ button in the upper left corner of the Time Coverage schedule window allows you to add a new schedule with a different time range.
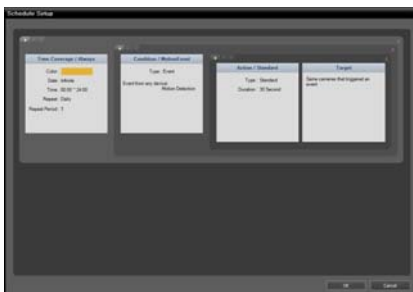
- Adding a new schedule with the same time range: Clicking the ⊞ button in the upper left corner of the Condition schedule window allows you to add a new schedule with the same time range.
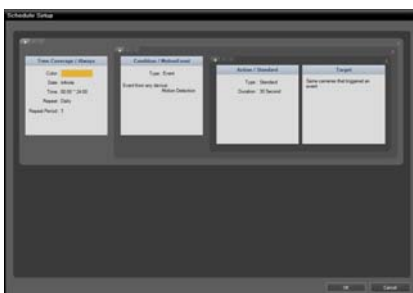
- Adding a new schedule with the same time range and target: Clicking the ⊞ button in the upper left corner of the Action schedule window allows you to add a new schedule with the same time range and target.
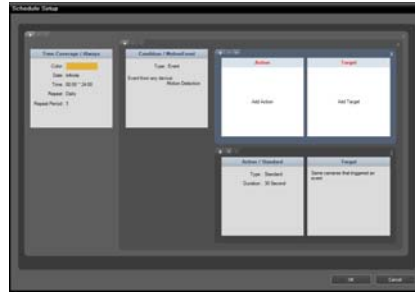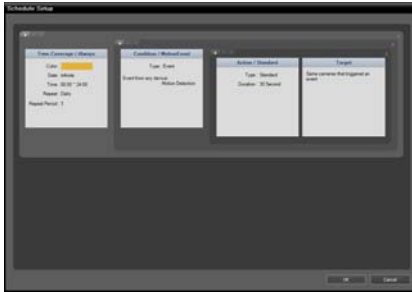
Deleting a Schedule

Clicking the ▓ button in the upper right corner of any schedule window deletes the schedule.

Changing Schedule Priority

Clicking the ▲ or ▼ button in the upper left corner of each schedule window changes the priority of the schedules. The higher the schedule position is in the Schedule Setup window, the higher its priority is. The Pre-Event Recording mode has no priority over the Time-Lapse Recording or Event Recording mode.

Setting up Instant Recording

Instant recording can be manually started or stopped while monitoring video (supported only for devices registered on one of recording services).

1. Select the Device menu.
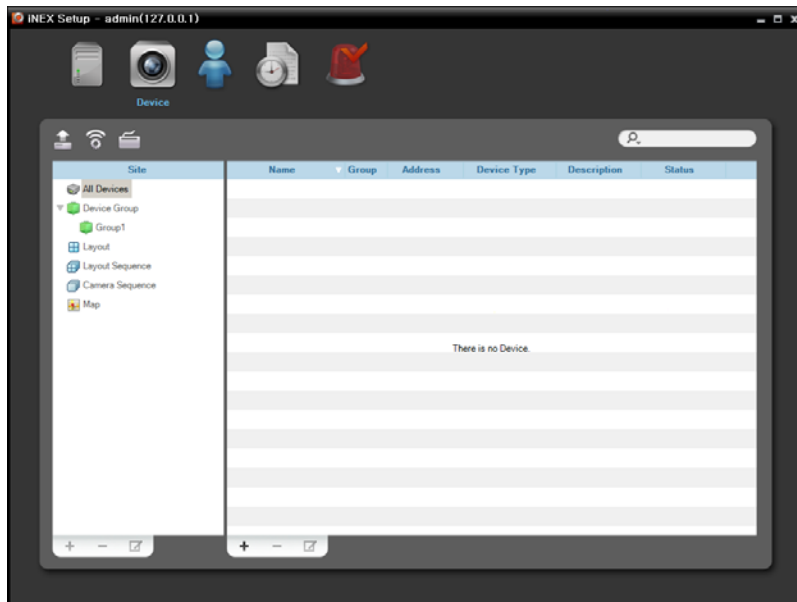
2. Click a device group in the Site panel and then click a device in the Site List panel. Clicking the ▧ button at the bottom of the Site List panel, or clicking the right mouse button displays the device menu.
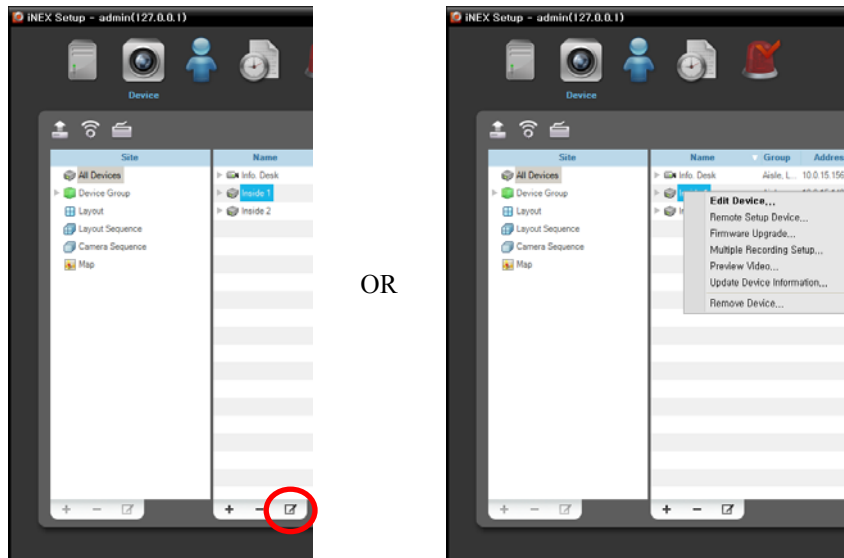
OR

3. Select Edit Device from the device menu. Select the Recording Schedule tab.
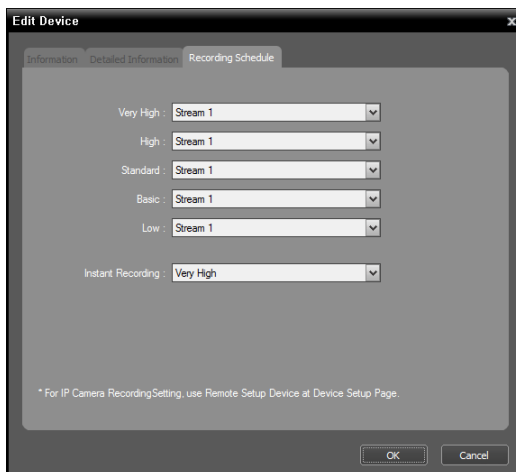
- Instant Recording: Select a Preset to use for instant recording. Refer to 13.2 Managing Devices, Editing Device Information (p. 112) for details about setting up the Preset.

4. Run the Client program. Select a camera screen (on the Live screen) on which video to record is displayed and click the ⬤ (Instant Recording) button on the control toolbar. The Instant Recording OSD (⬤) is displayed at the top right corner of the camera screen, and the system starts recording with the Preset selected in the Recording Schedule tab above. Clicking the ⬤ (Instant Recording) button again stops recording. Recording might be delayed because of system congestion, and the recording OSD might be displayed later or for longer than the scheduled time.

Chapter 7 — Recorded Video Playback & Exportation

You can play back recorded video or export recorded video to USB devices.

First, check the following and run the Client program.

- Services should be running on the system. Refer to 3.1 Running Services (p. 19) for details.
- Devices should be added to a device group. Refer to Chapter 13 — Device Management (p. 107) for details.
- There should be recorded data in the allocated storage. Refer to 6.1 Setting up Recording Storage (p. 65) for details.

7.1 Playing back Recorded Video

1. Search and playback of video recorded in a recording server are supported in the Play panel (maximum 4) and search and playback of video recorded in DVRs or SD (SDHC) memory cards inserted to network cameras using the iNEX protocol are in the DVR Search panel (maximum 4). If the Play or DVR Search tab is not on the tab panel, go to the System menu, click New Tab and then Play or DVR Search.
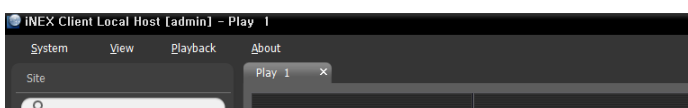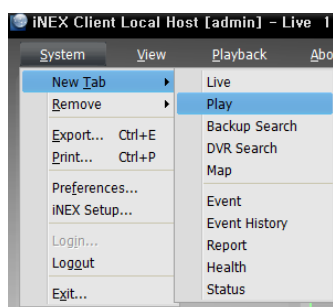
2. Click the Play or DVR Search tab on the tab panel → Select a camera, device or device group from the Site list and drag and drop it on the Play or DVR Search screen. Recorded video from each camera is displayed on the screen. You can move a camera screen to the desired location on the Play or DVR Search screen without stopping the current playback while playing back video. Select a camera screen and drag and drop it on the desired location.
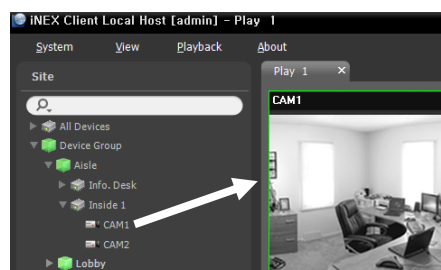
   If a layout is registered on the administration service, you can play video in the layout format by selecting a desired layout from the Layout list and dragging and dropping it on the Play screen. Refer to 5.1 Monitoring Video, Layout Monitoring, Registering Layouts (p. 54) for details about the registration of a layout.

NOTES:
- The Client system performance might seriously deteriorate when simultaneously monitoring or playing back video with 1280x720 or higher resolution on more than one camera screen.
- A "layout" in this manual refers to a screen organization created by arranging specific cameras in a specific screen format.

3. A panel toolbar, a timetable, a control toolbar and a screen menu are provided for playing back recorded video.

Panel Toolbar

The toolbar at the bottom of the panel allows you to search and play back recorded video.

Play Panel

DVR Search Panel

- ■ / ⊙ (Event Search/Time-Lapse Search): Switches search mode between event search and time-lapse search. Refer to Timetable/Event List (p. 81) for details.
- ▢ (Search Filter): Sets search conditions for event search. Refer to the DVR User's Manual for details about the search condition.
- ▦ (Calendar): Searches video for a specific date. Selecting a date displays the recorded data for that date in the timetable. The dates containing recorded images are enabled in the calendar.
- ▮ (Move to): Searches video for a specific time.
  - Go To: Displays a time setup window. Entering a specific time moves to the image for that time.
  - Move First: Moves to the first recorded image in the data displayed in the timetable.
  - Move Last: Move to the last recorded image in the data displayed in the timetable.
- ▤ (Additional Menu): Displays a menu.
  - Export Image File, Print Image: Exports or prints the images currently displayed on the screen.
  - Removed Devices: Allows you to search for a removed device and play back video from that device if video was recorded in the iNEX system before the device was removed (supported only for the Play panel).
  - Select Segment: Allows you to select a video segment when the DVR's time and date have been reset to a time that is earlier than previously recorded video and there is more than one video segment in the same time range due to time overlap (supported only for DVRs which provide the hour segments timetable).
  - Data Source: Selects the data source to be searched (supported only for the DVR Search panel).
    Search on Local: Searches recorded data on primary storage installed in the DVR.
    Search on Archive: Searches archived data on backup storage installed in the DVR.
    Search on Other: Searches recorded or archived data on Storage used for another DVR then installed in the DVR. This may not be supported, depending on the specifications and version of the DVR.
- ▤ (Export Video File): Exports recorded video as a self-player file (.exe) or an AVI file (.avi). Refer to 7.2 Exporting Recorded Video (p. 85) for details.
- ▦ (Snapshot on Motion Event – Play panel): Displays snapshot of images recorded during the event-based recording (event and pre-event) in the Play panel. Refer to Snapshot on Motion Event (p. 83) for details.
- ◀ⅠF▶ (Step Playback): Moves the video forward or backward based on the setting displayed between the ◀Ⅰ and Ⅰ▶ buttons. Clicking the arrow between the ◀Ⅰ and Ⅰ▶ buttons allows you to change the interval the video moves.
- ◀◀ / ▶▶ (Fast Backward/Fast Forward): Plays back recorded video fast backward or fast forward.
- ▢ / ▶ (Stop/Play): Stops or plays recorded video on the screen.

- ![Jog Shuttle Play panel] (Jog Shuttle – Play panel): You can adjust the playback direction and speed by using the jog shuttle. The vertical line in the jog shuttle indicates the current playback direction and speed. Video is played backward when the vertical line is to the left of center and video is played back forward when the vertical line is to the right of center. The farther the position is from the center, the faster video is played back. Clicking the vertical line and dragging it to the desired position on the jog shuttle and holding it plays video at a constant speed. Releasing the mouse button causes the vertical line to return to the center position. Clicking the ![Play] (Play) button plays video at normal speed. Clicking the ![Shuttle Lock] (Shuttle Lock) button and dragging and dropping the vertical line to a desired position fixes the vertical line in that position.

- ![Jog Shuttle DVR Search panel] **x 1.0** (Jog Shuttle – DVR Search panel): You can adjust the playback speed by using the jog shuttle. The vertical line in the jog shuttle indicates the current playback speed.

- ![Save to User Layout] (Save to User Layout): Saves the current screen format.

- ![Screen Format icons] (Screen Format): Changes the screen format. Clicking the ![up] button displays additional screen formats. Clicking the ![left] or ![right] button moves to the previous or next camera groups.

Timetable/Event List

- Time-Lapse Search Mode: When in the time-lapse search mode, the timetable is displayed at the bottom of the screen and it displays the recording information for each camera. Clicking the ![up] button in the top right corner of the timetable displays the recording information for all cameras. Clicking the ![down] button displays the recording information for the selected camera on the screen.

**NOTE:** The timetable will differ depending on the model of the device.

① Current Playback Date/Time: Indicates the video time for the current playback location on the timetable.

② Recorded Period: Displays the date and time period of the recorded data. Clicking anywhere in the empty space and dragging it to the left or right moves to the earlier or later date or time. Scrolling the mouse wheel while holding the Ctrl key on the keyboard zooms in and out the time section.

③ Camera Title: Displays the camera title.

④ Recorded Data: Displays the recorded data by time in one minute or one hour segments depending on the device.
  - Minute Segments Timetable (all devices except some DVR models)
    - Red vertical line: Indicates the current playback location of video on the timetable. Clicking the mouse on the desired time displays the first image recorded within the time.
    - Yellow separation line: Separates segments when time overlap occurs. In this case, the recorded data in the time range located after the separation line is the latest. Clicking the ![Calendar] (Calendar) button in the Play panel allows you to move to a specific segment directly (Click the ![Calendar] (Calendar) button → Select a date → Select a segment → The first image recorded within the selected segment is displayed on the screen).
    - The color of the bar: Indicates different recording modes (Navy blue for Time-lapse, Pink for Event, Purple for Pre-event, Sky blue for Instant Recording and Orange for Irregular recording caused by temporary disconnection from the device).
  - Hour Segments Timetable (some DVR models only)
    - Yellow color bar: Indicates the current playback location of video on the timetable.

- Pink color bar/Gray color bar: Indicates the segment of video that is currently displayed/not displayed on the screen when time overlap occurs. Clicking the ▣ (Additional Menu) button in the DVR Search panel allows you to change the segment to be displayed on the screen (Click the ▣ (Additional Menu) button → Select the Select Segment menu → Select a desired segment → The first image recorded within the selected segment is displayed on the screen).

NOTE: If the administration server's or DVR's time and date have been reset to a time that is earlier than previously recorded video, it is possible that there is more than one video segment in the same time range due to time overlap. In this case, you can individually play video recorded during the overlapping time by selecting a segment.

For example, when the administration server or DVR has recorded video from one to five o'clock and the user changes the time backward from five to three o'clock and then continues recording until six o'clock, there will be two segments from three to five o'clock.
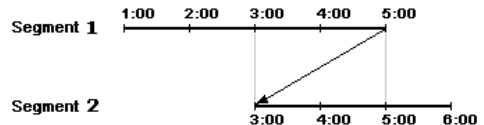
- Event Search Mode: When in the event search mode, the event list is displayed at the bottom of the screen (supported only for the DVR Search panel). Clicking an event from the list displays the event-detected image on the screen. Clicking the [Q▸] button in the top right corner of the event list displays next results.

Control Toolbar

The control toolbar is displayed over a selected camera screen when hovering the mouse cursor over the camera screen. Hovering the mouse cursor over each button displays a tooltip for the button.

- 🔍 (Object/Motion Search): Allows you to search for changes or motion in recorded images in the iNEX system. Refer to Object/Motion Search (p. 83) for details.
- 🔍 (Image Zoom): Zooms in on the image. Refer to Zoom Control (p. 84) for details.
- 🎨 (Color Control): Adjusts the brightness, contrast, saturation and hue of the current video. Clicking the ↻ button cancels the adjustment and reloads the original image.
- 🖼 (Image Effect): Adjusts the image effect. Refer to Image Effect (p. 84) for details.
- 🔊 (Audio Play): Plays audio when playing back video that has recorded audio (1x1 screen format only).

Play Screen Menu

The screen menu is displayed when selecting a camera screen and clicking the right mouse button.


- Image Zoom: Functions as the same as clicking the button in the control toolbar. See Control Toolbar (p. 82) for details.
- Object/Motion Search: Allows you to search for changes or motion in the recorded images in the iNEX system. Refer to Object/Motion Search (p. 83) for details.
- Image Processing: Enhances playback images. Refer to Control Toolbar (p. 82) for details.
- Aspect Ratio: Select the proper image aspect ratio.

- − Fit to Screen: Displays images by fitting them to the screen size regardless of the aspect ratio.
- − Fit to Screen (Aspect Ratio): Displays images by fitting them to the screen size keeping the aspect ratio. This might cause top and bottom or left and right side of images to be cropped depending on the screen size. This aspect ratio is not supported and Original Ratio is applied for camera screens that the following function is activated: Image Zoom.
- − Original Ratio: Displays images by fitting them within the screen size while maintaining their original ratio.
- − Half Size (x0.5) to Quadruple Size (x4): Selecting the desired image size displays images in the selected size. Options are enabled when the selected camera screen can display images in that size.
- • Save Still Image: Saves the current image on the screen as an image file at its original size.
- • Remove: Disconnects the current connection.

Snapshot on Motion Event

Clicking the ▦ (Snapshot on Motion Event) button on the panel toolbar displays snapshot of images recorded during the event-based recording (event and pre-event) in the Play panel.
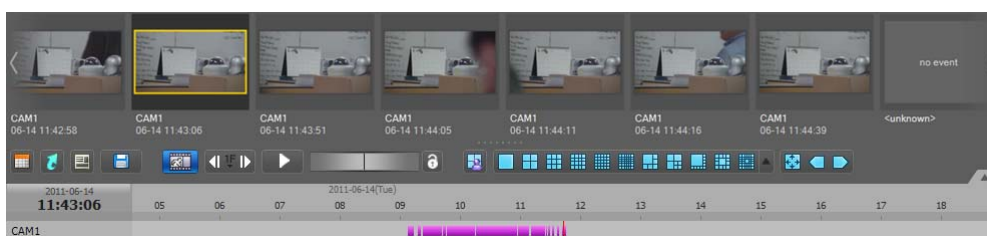

The timetable displays the recording information of the selected snapshot. Clicking anywhere on the recorded data in the timetable displays a snapshot of the selected time. Hovering the mouse cursor over each snapshot displays a popup viewer screen above the snapshot.

| ✓ | Use Popup Viewer |
| | Close |
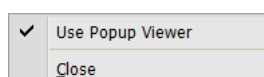
- • Use Popup Viewer: Enables display of the popup viewer screen.

Object/Motion Search

Clicking the 🔍 (Object/Motion Search) button on the control toolbar displays the object/motion search panel at the bottom and allows you to search for changes or motion in recorded images in the iNEX system.
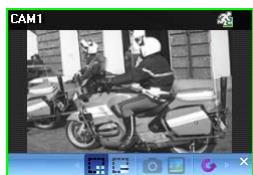
- • 🔲 (Draw Search Zone): Allows you to define the area to search for changes or motion on the camera screen by dragging the mouse. The search zone is displayed with red blocks.
- • 🔲 (Erase Search Zone): Allows you to erase the search zone set on the camera screen by dragging the mouse.
- • 🔲 (Set Ref. Image): Sets the image currently displayed on the camera screen as a reference image for change detection (Object Search only).
- • 🔲 (View Ref. Image): Displays or hides a PIP screen with the reference image (Object Search only).

- **Find Method**: Selects a search method.
  - − **Motion Search**: Searches for images with changes in the Search Zone between two consecutive images (for example, when there was movement).
  - − **Object Search**: Searches for images with changes which last for the Activation Time in the Search Zone when compared to the reference image (for example, when an object disappeared).
- **Sensitivity**: Sets the sensitivity of the change detection. The higher the number is, the more sensitive it is.
- **Num of diff. block**: Sets the minimum number of blocks that must be activated to be considered as a change (Motion Search only).
- **Diff. % to ref. image**: Sets the minimum proportion (%) of blocks that must be activated to be considered as a change (Object Search only).
- **Activation Time**: Sets the duration that the change must last to be considered as a change. If a change is detected but does not last as long as the Activation Time, the change is not considered as a change.

Zoom Control

Clicking the 🔍 (Zoom) button on the control toolbar allows you to zoom on the current video.

NOTE: "PIP" is an abbreviation of *Picture in Picture* and indicates the smaller screen within a screen.

Dragging the mouse on the camera screen moves the zoomed-in area

- 🔳━━━ (Slide Bar): Adjusts the enlargement ratio. You can adjust the enlargement ratio also by using the mouse scroll wheel.
- 🔳 (Actual Size Zoom): Enters the actual size zoom mode. In the actual size zoom mode, the image is displayed in its original size regardless of the camera screen size or image's aspect ratio.
- 🔲 (Zoom Finder): Displays or hides the PIP screen. The rectangle in the PIP screen indicates the zoomed-in area.

Image Effect

Clicking the 🔳 (Image Effect) button on the control toolbar displays the image effect control toolbar and allows you to control image effect.

- 💧 (Blur): Blurs the image to reduce noise.
- 🔺 (Sharpen): Sharpens an image.
- 🔳 (High-Boost): Increases the brightness and contrast of images.
- 🔳 (Histogram Equalization): Equalizes the image brightness to make it more natural.
- 🔳 (Edge Detection): Extracts the image edge.
- 🔳 (Revert): Cancels the adjustment and reloads the original image.

7.2 Exporting Recorded Video

You can export recorded video to USB devices. Click the ▣ (Export Video File) button on the toolbar at the bottom of the panel, and the export menu is displayed.

- A-B Export Video File: Sets up the section of video to be exported by using the timetable. Select A-B Export Video File from the export menu. Click the starting point in the timetable and drag to the ending point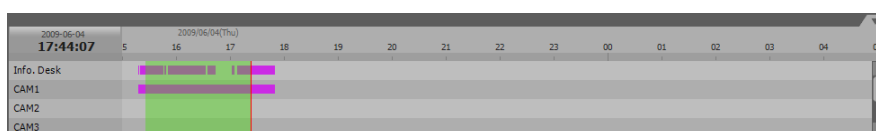. The Export Video File window appears and allows you to export video of the selected period as a self-player file (.exe) or an AVI file (.avi). Refer to Exporting as a Self-Player File (p. 85) and Exporting as an AVI File (p. 87) for details.

- Export Video File: Sets up the section of video to be exported by entering the date and time manually. Select Export Video File from the export menu. The Export Video File window appears and allows you to export video for the period as a self-player file (.exe) or an AVI file (.avi). Refer to Exporting as a Self-Player File (p. 85) and Exporting as an AVI File (p. 87) for details.

Exporting as a Self-Player File

The recorded video is exported as a self-player file (.exe).
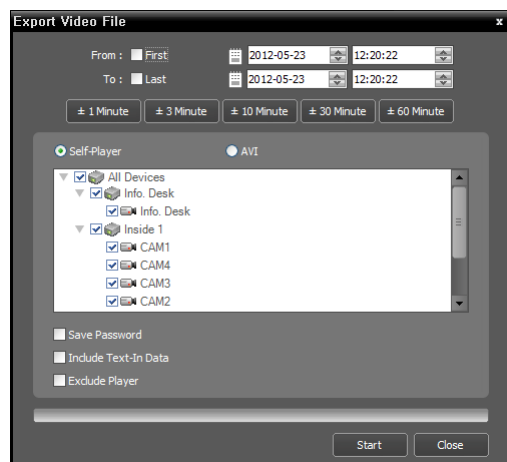
- From, To: Enter the date and time of video to export. Selecting First sets the date and time to the date and time of the first available recorded video. Selecting Last sets the date and time to the date and time of the last available recorded video. Clicking the ± 1 Minute, ± 3 Minute, ± 10 Minute, ± 30 Minute or ± 60 Minute button increases or decreases the time by the selected amount from the time selected on the timetable.
- Self-Player, AVI: Select Self-Player.
- ☑ Save Password: Set up a password for playing back the exported video. You will be asked to enter the password to initiate the Player program.
- ☑ Include Text-In Data: Includes text-in data when saving video if the video was recorded with text-in data (supported only for the DVR Search panel).
- ☑ Exclude Player: Saves the recorded data without including the Self-Player program (supported only for the DVR Search panel). The file size will be smaller, and it will take less time to save, but you will need to run the Self-Player program (ClipPlayer.exe) which is provided in the iNEX installation folder (\Client\selfplayer) to play the saved file. This may not be supported, depending on the specifications and version of the device.

Playing Self-Player File

You do not need to install any special software to play video exported as a self-player file because the self-player file contains a player program (Clip Player). Double clicking the target file starts the Player program, and video is displayed on the screen. Clicking the slide bar at the bottom of the Player program displays the playback image of the selected time on the screen. Clicking the ▨ button exits the Player program.

NOTES:
- It is suggested that the computer used for the Player program has at least an 800MHz Pentium III (Intel Pentium Dual Core 2.2GHz recommended). If your CPU is slower than this, video clips recorded at maximum speed with very high image quality will be played back slowly. Also DirectX 9.0 or higher is required to install, and the VGA card with 16MB or higher video RAM is recommended for proper operation.
- Proper image display depends on the display settings of your PC. If you are experiencing display problems, click the right mouse button on the background screen and select *Properties → Settings* then set the *Color quality* to "*32 bit*". Then select *Advanced → Troubleshoot*, and then set the *Hardware Acceleration* to "*Full*". Please make sure that DirectX version 9.0 or higher has been installed if the display problem continues. To check the version of DirectX, click *Start → RUN* and type "dxdiag" then hit the enter key which will display DirectX Diagnostic Tool dialog box. Then move to the *Display* tab and make sure *DirectDraw Acceleration* is set to "*Enabled*". Test DirectDraw by selecting the *DirectDraw Test* button when using the Microsoft® Windows® XP operating system. Please check the driver version of the video card and update it to the latest version available. If you still have display problems after changing all display settings as described above, try replacing the video card. Video cards with an ATI chipset are recommended.
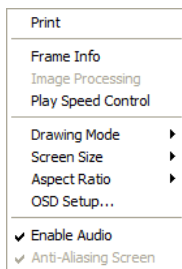- If you selected the *Exclude Player* option when saving recorded video, you must run the Self-Player program (ClipPlayer.exe) which is provided in the iNEX installation folder (\Client\selfplayer) to play the saved file.

- ⏮ : Goes to the beginning of the video.
  - ⏪ : Plays the video in fast reverse.
  - ◀❙ : Goes backward one frame of the video.
  - ▶ : Plays the video at regular speed.
- ⏭ : Goes to the end of the video.
  - ⏩ : Plays the video in fast forward.
  - ❙▶ : Goes forward one frame of the video.
- ⊞ : Shows the previous camera group if there is recorded video in the previous camera group based on the current screen format.
- ▦ : Cycles through the screen formats. It cycles through 2x2, 1+7, 3x3, 4x4, 4x5, 5x5 and 1+32.
- ⊞▸ : Shows the next camera group if there is recorded video in the next camera group based on the current screen format.
- ▨ : Sets up the properties of the player program.

Print

Frame Info

Image Processing

Play Speed Control

Drawing Mode ▶

Screen Size ▶

Aspect Ratio ▶

OSD Setup…

✓ Enable Audio

✓ Anti-Aliasing Screen

– **Print**: Prints the current image.
– **Frame Info.**: Displays Channel, Title, Time, Type, Size and Resolution information about the image.
– **Image Processing**: Controls brightness, blur and sharpness of playback images. (1x1 screen format only)
– **Play Speed Control**: Changes the playback speed (Play) or fast forward/backward playback speed (FF/RW).
– **Drawing Mode**: Selects the draw mode level. If you are not sure about the best draw mode level for your system, try each level until the image displays properly.
– **Screen Size**: Changes the screen size of the player program.
– **Aspect Ratio**: Changes the image aspect ratio displayed on each camera screen.
– **OSD Setup…**: Selects options to be displayed on the screen.
– **Enable Audio**: Plays audio while playing back recorded video that has recorded audio. (1x1 screen format only)
– **Anti-Aliasing Screen**: Enhances image display quality on the screen by smoothing stair-stepping (aliasing) effects in the enlarged image. If video plays slow because of your CPU's slow speed, releasing the Anti-Aliasing Screen option might improve playback speed.

• 🖫 : Saves the current images.

Save as Image

Save as Image (Actual Size)
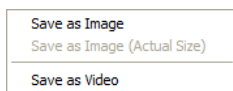
Save as Video

– **Save as Image**: Saves the current image as a bitmap or JPEG file.
– **Save as Image (Actual Size)**: Saves the current image as a bitmap or JPEG file in its actual size. (1x1 screen format only)
– **Save as Video**: Saves video of desired time range as an AVI file.

• 🔍 : Selects the image size option to enlarge the image or display the image in its actual size (1x1 screen format only). You can move the enlarged image by clicking the left mouse button and dragging.
• ▦ : Displays the image in the full screen.
• 🟢, ❌ : Is displayed at the bottom-right corner of the screen. 🟢 indicates that the clip file has not been tampered with, and ❌ indicates that the system has detected tampering and playback stops.

Exporting as an AVI File

The recorded video is exported as an AVI file (.avi).
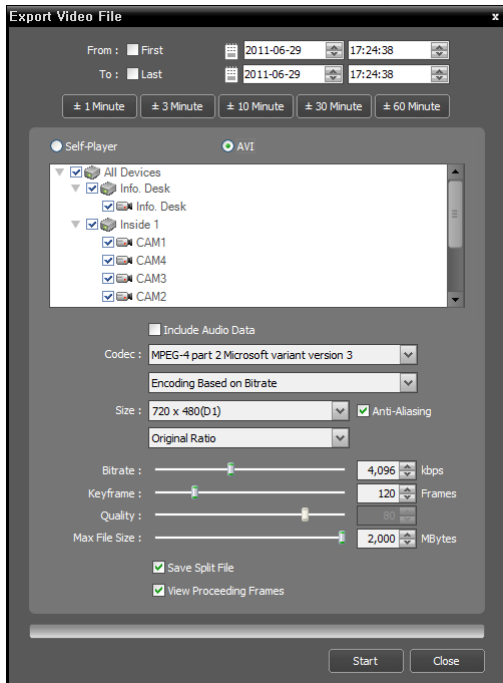
- **From**, **To**: Enter the date and time of video to export. Selecting **First** sets the date and time to the date and time of the first available recorded video. Selecting **Last** sets the date and time to the date and time of the last available recorded video. Clicking the **± 1 Minute**, **± 3 Minute**, **± 10 Minute**, **± 30 Minute** or **± 60 Minute** button increases or decreases the time by the selected amount from the time selected on the timetable.
- **Self-Player**, **AVI**: Select **AVI**.
- ☑ **Include Audio Data**: Includes audio data when saving video with recorded audio. This option is not available when more than one camera is selected. Audio might not be saved properly when the recording speed is set to less than 1 ips.
- **Codec**, **Bitrate**, **Quality**: Set up the desired values for compressing the file.
    - **Encoding Based on Bitrate**: Encodes video based on the bitrate. Selecting this option enables the **Bitrate** setting below.
    - **Encoding Based on Video Quality**: Encodes video based on the quality. Selecting this option enables the **Quality** setting below.
- **Size**: Set up the file size for compressing the file.
    - **Original Ratio**: Saves images with fitting within the screen size while maintaining their original ratio.
    - **Fit to Screen**: Saves images with fitting to the screen size regardless of the aspect ratio regardless of the aspect ratio.
    - **Fit to Screen (Aspect Ratio)**: Saves images with fitting to the screen size keeping the aspect ratio. This might cause top and bottom or left and right side of images to be cropped depending on the screen size. This aspect ratio is not supported and **Original Ratio** is applied for camera screens that the following function is activated: Image Zoom.
- ☑ **Anti-Aliasing**: Enhances image display quality for all cameras on the screen by eliminating stair-stepping (aliasing) effects in the enlarged image.
- **Keyframe**: Sets up the keyframe for compressing the file.
- **Max. File Size**: Sets up the maximum file size.
- ☑ **Save Split File**: Exports video by creating multiple files of the **Max. File Size** units set above when the data file reaches the maximum file size. If this option is not selected, it exports only as much as the maximum file size.
- ☑ **View Proceeding Frames**: Displays a popup window showing the video currently being exported.

Playing AVI File

Run the video player program and open the exported AVI file. If the codec selected during exporting video as an AVI file is not installed, you will need to install the codec manually.

Chapter 8 — Event Handling

You can monitor video from a camera where an event is detected and play back event-recorded video. Event related functions may not be supported depending on the protocol that the device uses (supported for the iNEX protocol and some versions of the Axis protocol).

First, check the following and run the Client program.

- Services should be running on the system. Refer to 3.1 Running Services (p. 19) for details.
- Devices should be added to a device group. Refer to Chapter 13 — Device Management (p. 107) for details.
- There should be recorded data in the allocated storage. Refer to 6.1 Setting up Recording Storage (p. 65) for details.
- The event detection functions of the device should be enabled.

8.1 Handling a Monitoring Event

You can monitor live video from a camera where an event is detected or play back event-recorded video if video of the selected event has been recorded.
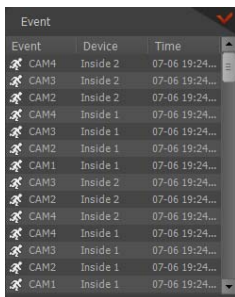
The event list displays live and callback events from the registered devices. The callback events are listed only when the remote callback function is set up in the device.

You can change the options of the event list display during Menu – Preference Settings. Refer to 4.3 Client, Menu – Preference Settings (p. 45) for details.

The description of event icons which are displayed in the event list is as follows (some event icons may not be supported, depending on the specifications and version of the device):

	Motion Detection		Video Blind		Video Loss
	Object Detection		Audio Detection		Video Analytics Detection
	Trip-Zone		Tampering		Text-In
/	Alarm-In On/Off	/	Alarm-In Bad/Good	/	External Storage In/Out
/	Device Connected/Disconnected				System Boot Up
	System Alive		System Restart		System Shut Down
	Recorder Bad		Disk S.M.A.R.T.		Disk Bad
	Disk Full		Disk Almost Full		Disk Config Change
	Disk Temperature	/	Panic Recording On/Off	/	Fan Error On/Off

Monitoring Video

Monitoring video from a camera where an event is detected is supported in the Live panel (maximum 4). If a Live tab is not on the tab panel, go to the System menu, click New Tab and Live.
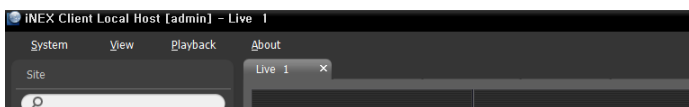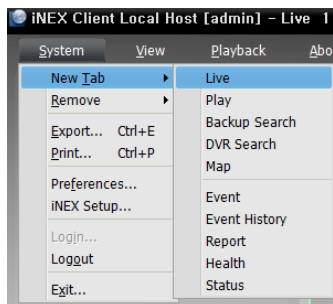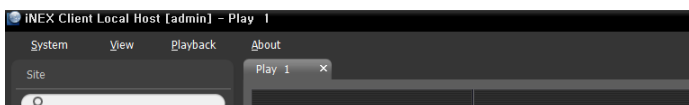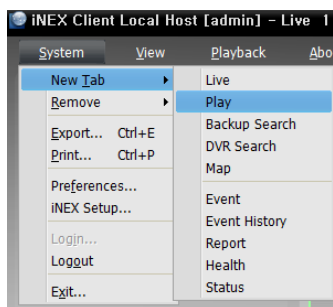
Click the Live tab in the tab panel → Select a desired event
from the event list and drag and drop it on the Live screen.
Live video from the camera where the selected event occurred is
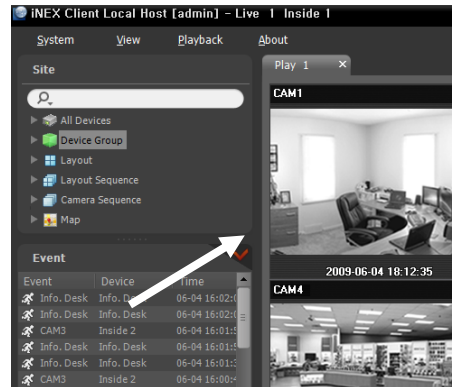displayed on the screen.
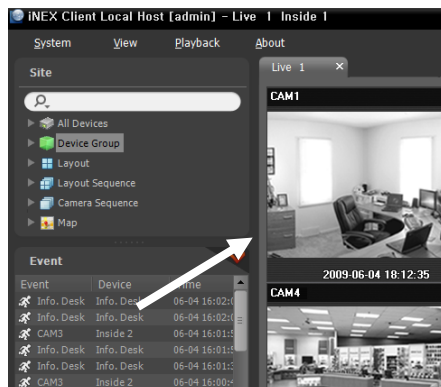
Playing Video

Playing event-recorded video is supported in the Play panel. If the Play tab is not on the tab panel, go to
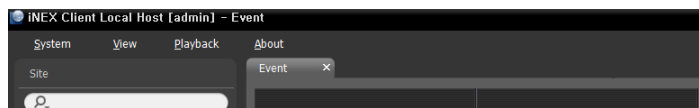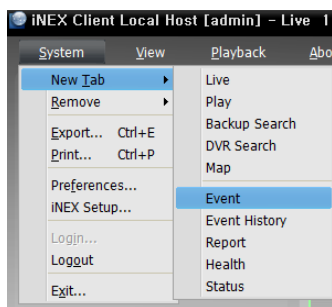the System menu, click New Tab and Play.

Click the Play tab on the tab panel → Select a desired event from the event list and drag and drop it on the Play screen. The event-recorded video is displayed on the screen.

8.2 Handling Event Recorded Video

You can play back video which is recorded during Event recording.

Playback of event-recorded video is supported in the Event panel. If the Event tab is not on the tab panel, go to the System menu, click New Tab and Event.

1. Click the Event tab on the tab panel → Select a device or camera to connect to from the Site list, and drag and drop it on the Event panel. The list of events recorded during Event recording is displayed in the Event panel. Clicking the right mouse button on a column header displays a menu and allows you to sort data as you want.
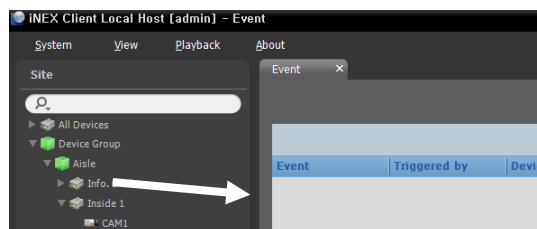
2. Double click the desired event in the Event panel. the Play panel is displayed and the event video is displayed on the Play screen. Clicking the right mouse button allows you to select a desired Play panel. If other cameras were associated with the Event Recording, recorded video from the associated cameras is displayed together on the screen.
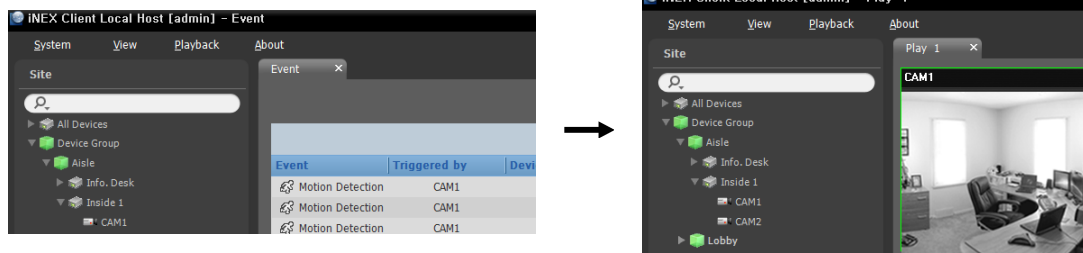
Event Toolbar

The toolbar at the bottom of the panel allows you to search events recorded during Event recording.
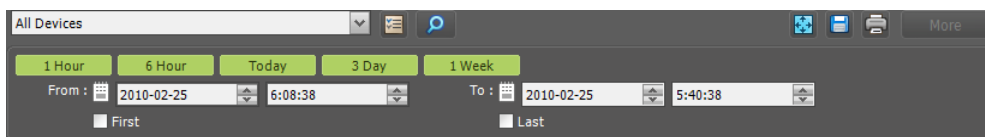

- From, To: Set up the date and time of the event to search. Enter a specific date and time or select First or Last. Clicking the 1 Hour, 6 Hour, Today, 3 Day or 1 Week button adjusts the time interval between From and To. Selecting First or Last searches events from the first recorded or to the last recorded.
- ▤ (Condition): Selects an event type to search.
- ○ (Search): Starts searching events based on search conditions.
- ❖ (Full Screen): Displays the Event panel in full-screen format.
- ▤ (Export): Exports the resulting event search list as a text file (.txt) or CSV file (.csv).
- ▤ (Print): Prints the resulting event search list.
- More: Displays more results.

# Chapter 9 — System Health & Status Monitoring

You can simultaneously check the system status and device status of registered devices.

First, check the following and run the Client program.

- Services should be running on the system. Refer to 3.1 Running Services (p. 19) for details.
- Devices should be added to a device group. Refer to Chapter 13 — Device Management (p. 107) for details.

9.1 Health Monitoring

System health monitoring is supported in the Health panel (supported only for network video devices). If the Health tab is not on the tab panel, go to the System menu, click New Tab and Health.
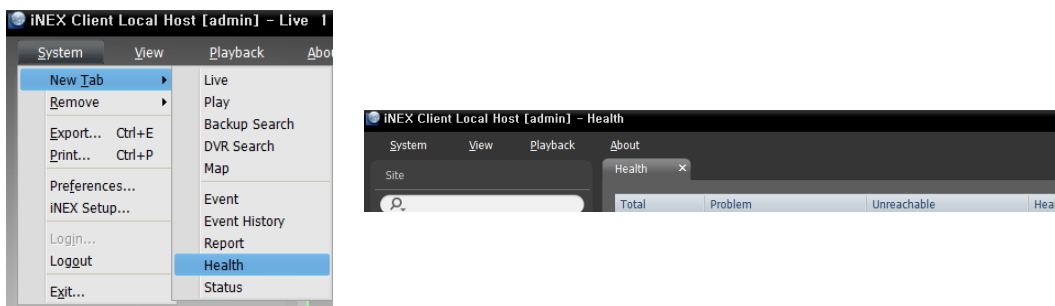

The Client program automatically displays the health monitoring results when the Health tab is added.
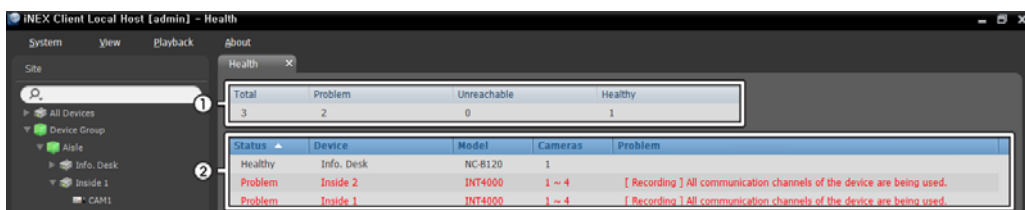
① Summary List: Displays the health monitoring status of devices for all device groups in summary.
- Total: Displays the number of devices in all device groups.
- Problem: Displays the number of devices where a problem is detected.
- Unreachable: Displays the number of devices that are not connected.
- Healthy: Displays the number of devices where no problem is detected.

② Detailed List: Displays the status of each device in detail.
- Status: Displays the status (Healthy: No Problem detected; Problem: Video loss is detected or login failed because of the lack of available screens or because the software version is invalid; Unreachable: The device is not connected to the network).
- Device: Displays the device name.
- Model: Displays the device's model name.
- Cameras: Displays the number of cameras supported by the device.
- Problem: Displays details regarding the problem.

9.2 Status Monitoring

Device status monitoring is supported in the Status panel (only for devices which use the iNEX protocol). If the Status tab is not on the tab panel, go to the System menu, click New Tab and Status.
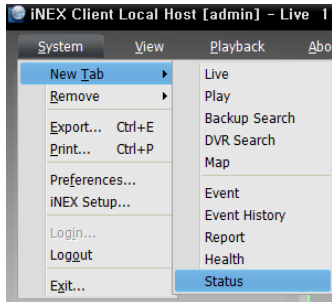
Select a device to connect to from the Site list, and drag and drop it on the Status panel. The status of the selected device is displayed.
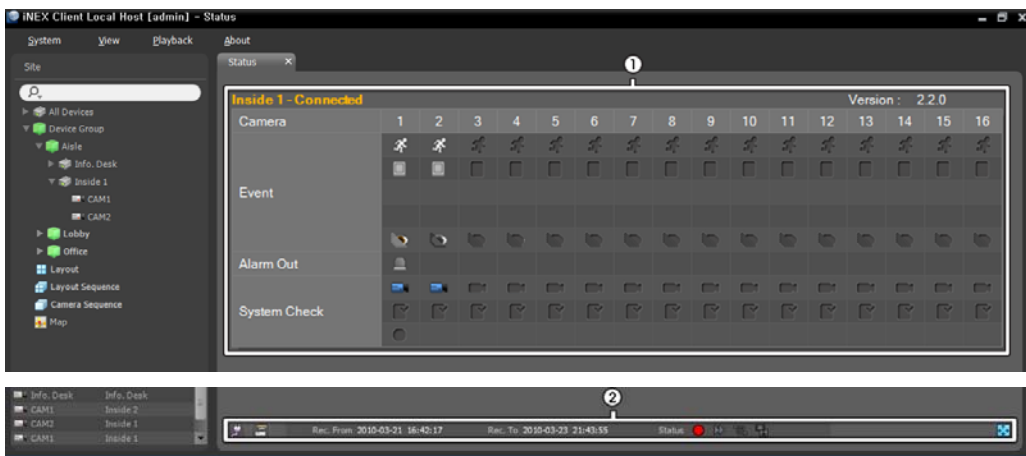
① Status Display Window: Displays the status as icons.
  – Camera: Displays the camera numbers.
  – Version: Displays the system version information.
  – Event: Displays the status of event detection. When an event is detected, the icon is displayed in corresponding color. Hovering the mouse cursor over an icon displays the event type in a tooltip.
  – Alarm Out: Displays status of the alarm-out signals.
  – System Check: Displays the function status of the device and recording.

② Function Buttons
  – (Disconnect): Disconnects the current connection on the Status panel.
  – (Panic Recording): Starts or stops panic recording remotely (supported only for DVRs with the panic recording function).
  – Rec. From/To: Displays the recording period.
  – Status: Displays the status of recording, playback, archiving, exporting of recorded video.
 – (Full Screen): Displays the Status panel in full-screen format.

Chapter 10 — Log Search

You can search log entries for the iNEX program and the devices.

First, check the following and run the Client program.

- Services should be running on the system. Refer to 3.1 Running Services (p. 19) for details.
- Devices should be added to a device group. Refer to Chapter 13 — Device Management (p. 107) for details.

Log search is supported in the Report panel. If the Report tab is not on the tab panel, go to the System menu, click New Tab and Report.
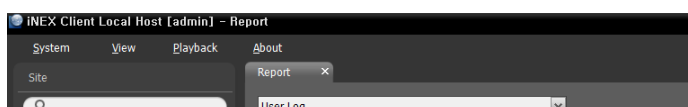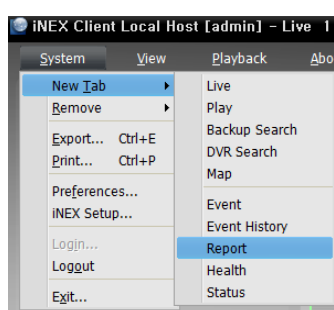
The various types of log entries are displayed. Clicking the right mouse button on a column header displays a menu and allows you to sort data as you want.
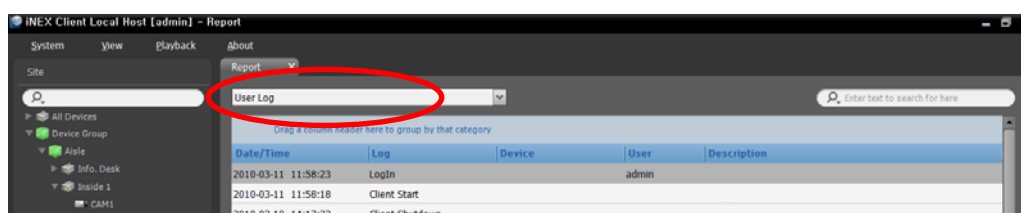
Select a log type to search from the drop-down list.

- User Log: Displays log entries from the Client program.
- Health Log: Displays log entries of the system health monitoring for the registered devices.
- Admin Service Log: Displays log entries from the administration service.
- Recording Service Log: Displays log entries for each recording service for all registered recording services.
- Streaming Service Log: Displays log entries for each streaming service for all registered streaming services.
- Video Analytics Service Log: Displays log entries for each video analytics service for all registered video analytics services.
- Monitoring Service Log: Displays log entries for each monitoring service for all registered monitoring services.
- Device System Log: Displays system log entries from the devices.

- **Device Event Log**: Displays event log entries from the devices.

If the connection was not made properly, the network disconnection log is displayed (only for devices registered on the recording service). Refer to **Appendix – Network Disconnection Log** (p. 151) for details.

Report Toolbar

The toolbar at the bottom of the panel allows you to search for the desired log entries.
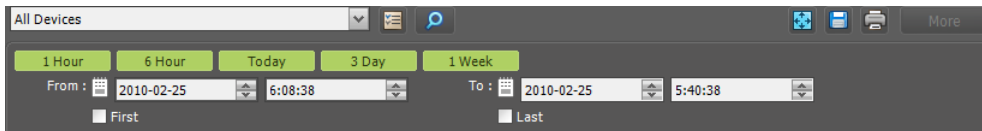
- **From**, **To**: Set up the date and time of the log entry to search. Enter a specific date and time or select **First** or **Last**. Clicking the **1 Hour**, **6 Hour**, **Today**, **3 Day** or **1 Week** button adjusts the time interval between **From** and **To**. Selecting **First** or **Last** searches log entries from the first or to the last.
- ▤ (Condition): Selects a log type to search.
- 🔍 (Search): Starts searching log entries based on search conditions.
- ✣ (Full Screen): Displays the Report panel in full-screen format.
- ■ (Export): Exports the searched log entries as a text file (.txt) or a CSV file (.csv). System and service log entries can also be exported as an encrypted HTML file (.html) which will ask you to enter a password to view the file.
- 🖶 (Print): Prints the searched log entries.
- **More**: Displays more results.

Chapter 11 — Streaming

Multiple users can monitor video from devices through the streaming server. When the streaming service is not running, monitoring is still available, but it is restricted to fewer users based on the maximum number of simultaneous connections supported by the device.

When you register more than one streaming service by buying additional WIBU-Keys, the iNEX program distributes streaming workload to the several streaming servers by using the load balancing function, and it increases monitoring stability. If one of the streaming servers stops operating for any system problem, other streaming servers take that server's place within the limit of the number of channels that can be streamed.

There is no difference in the way to monitor video whether or not the streaming service is running. Refer to Chapter 5 — Live Video Monitoring (p. 51) for details about monitoring.

First, check the following and run the Setup program.

• Services should be running on the system. Refer to 3.1 Running Services (p. 19) for details.
• Devices should be added to a device group. Refer to Chapter 13 — Device Management (p. 107) for details.

Select the Service menu, and then register a streaming service following the procedures below.
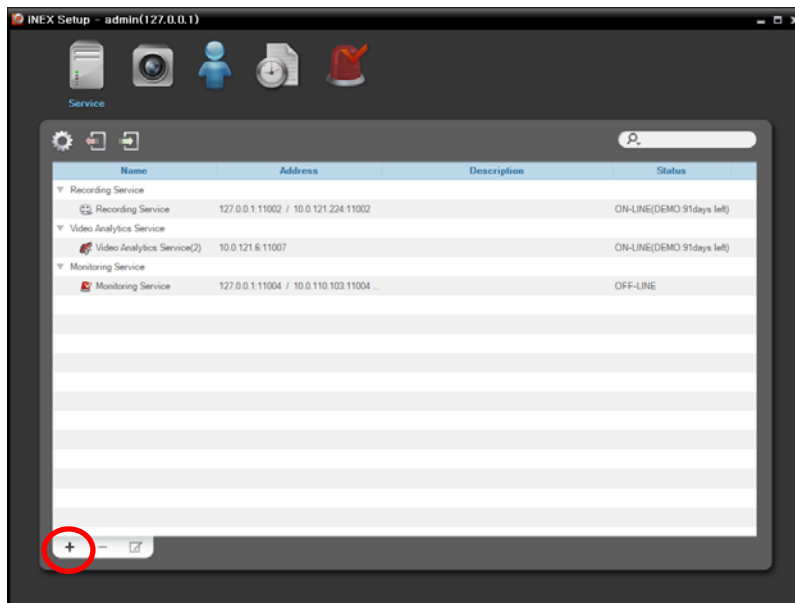
1. Click the ✚ button at the bottom. The Service Registration window appears, and a list of available services is displayed with information about each service.
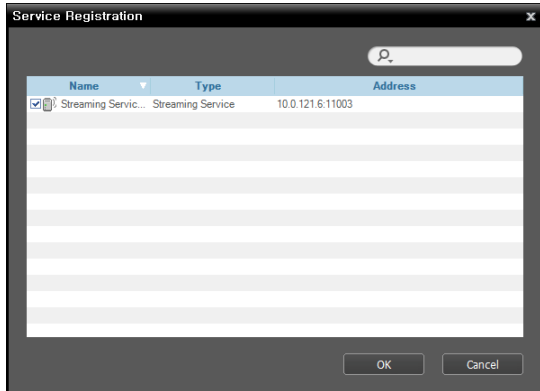
- **Name**: Displays services that are currently connected to the administration service via the network.
- **Type**: Displays the service type.
- **Address**: Display the IP address and port number of each server.

NOTE: The administration server information required when installing the services should match the information of the currently connected administration server.

2. Select the streaming service to register on the iNEX system, and the selected services are displayed in the service list.
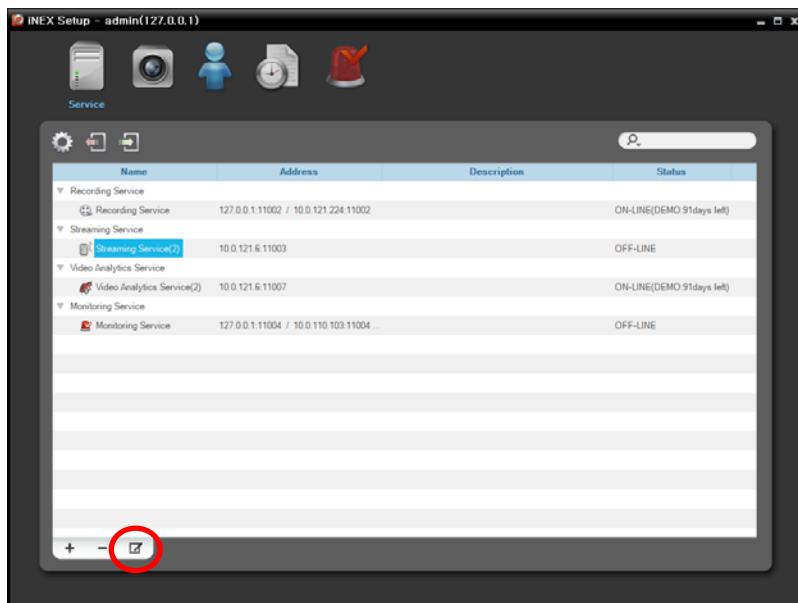
3. Select a streaming service and click the ☑ button at the bottom. The **Setup – Streaming Service** window appears. Select the **Information** tab.
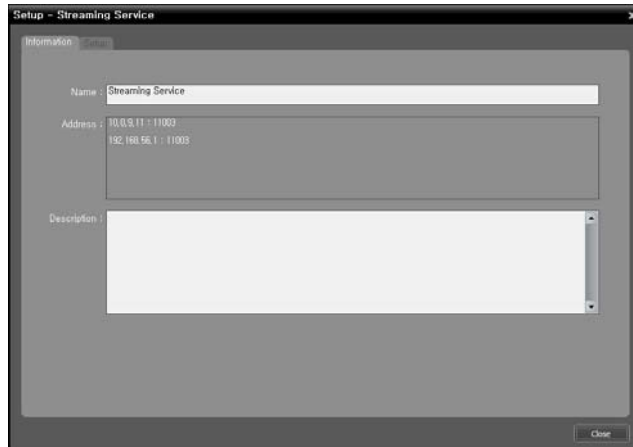
4. Enter the streaming service's name and select the Setup tab.
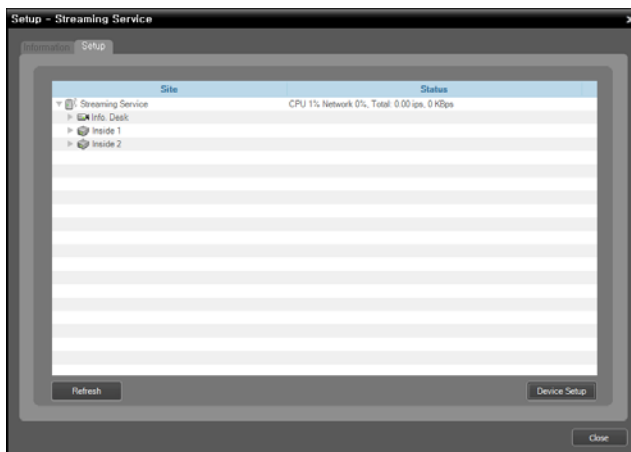
The list of cameras registered on the current streaming service is displayed. Clicking the Device Setup button at the bottom allows you to register additional cameras on the current streaming service or removes a camera from the current streaming service.

5. Video from the registered cameras on the current streaming service is streamed to the Client system.

Chapter 12 — Video Analytics

The video analytics service enables video analytics function. When the settings are configured properly, the video analytics is detected according to the preset rules and the iNEX program considers the video analytics as an events. Refer to 12.2 Configuring Video Analytics Detection Events (p. 103) for details about setting up rules for the video analytics detection. The iNEX program allows displaying the detection results on the monitoring screen. Refer to 5.3 Controlling Cameras, Live Screen Menu (p. 60) for details.

NOTE: For the video analytics function to work properly, cameras should be installed properly. Refer to *Appendix – Camera Installation Guide for Video Analytics Detection* (p. 152) for the proper installation of cameras for the video analytics function.

First, check the following and run the Setup program.

• Services should be running on the system. Refer to 3.1 Running Services (p. 19) for details.
• Devices should be added to a device group. Refer to Chapter 13 — Device Management (p. 107) for details.

12.1 Registering Service

Select the Service menu, and then register a video analytics service following the procedures below.
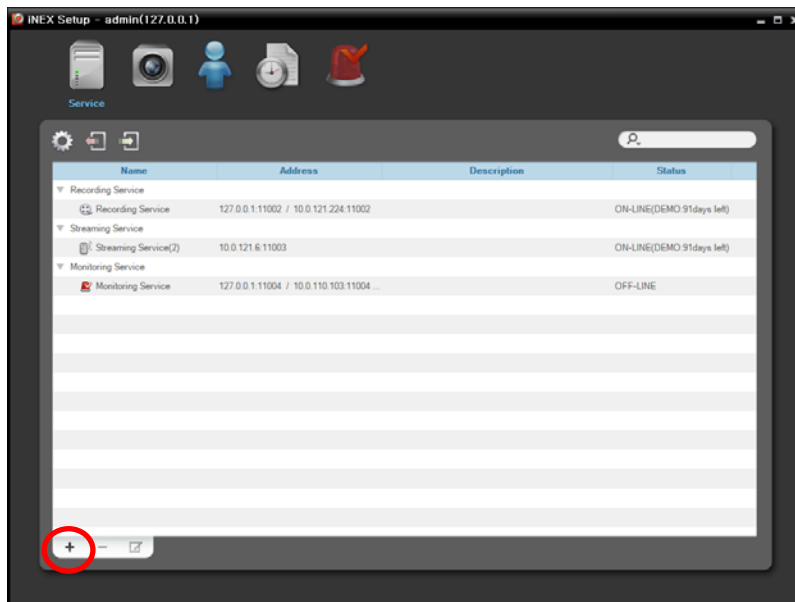
1. Click the ✚ button at the bottom. The Service Registration window appears, and a list of available services is displayed with information about each service.
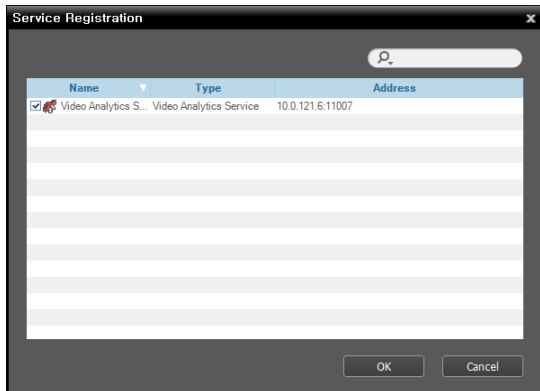
- Displays services that are currently connected to the administration service via the network.
- **Type**: Displays the service type.
- **Address**: Display the IP address and port number of each server.

NOTE: The administration server information required when installing the services should match the information of the currently connected administration server.

2. Select the video analytics service to register on the iNEX system, and the selected services are displayed in the service list.
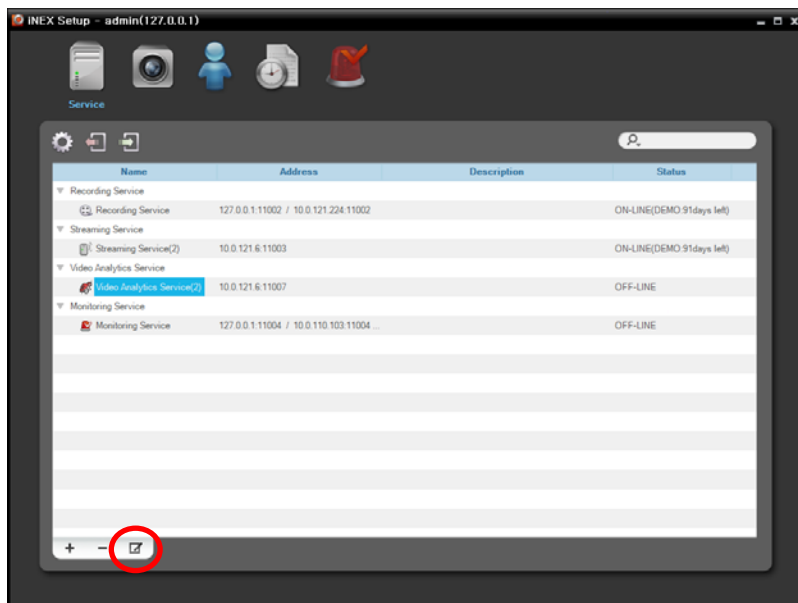
3. Select a video analytics service and click the ☑ button at the bottom. The **Setup – Video Analytics Service** window appears. Select the **Information** tab.
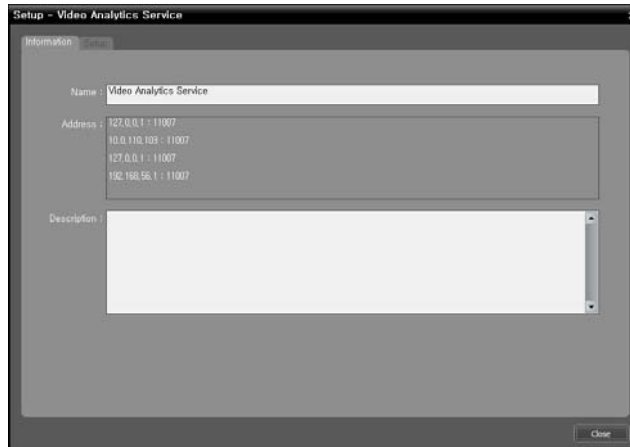
6. Enter the video analytics service's name and select the Setup tab.
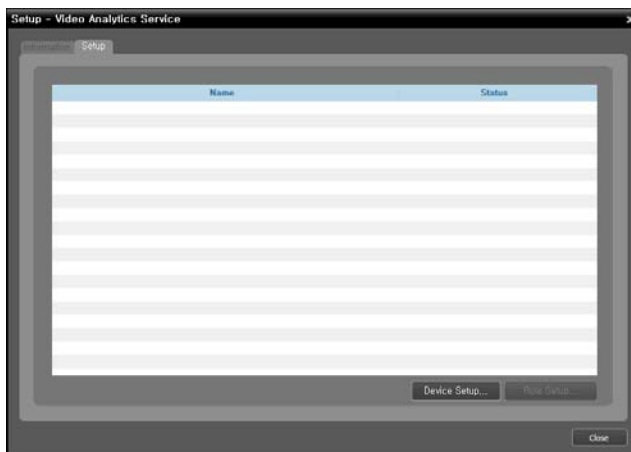
- Device Setup: Allows you to register devices to the video analytics service.
- Rule Setup: Selecting a camera from the list of registered devices and clicking the button allows you to set up the video analytics detection events.

7. Configure video analytics detection events.

12.2 Configuring Video Analytics Detection Events

1. Click the Rule Setup button in the Setup – Video Analytics Service window.
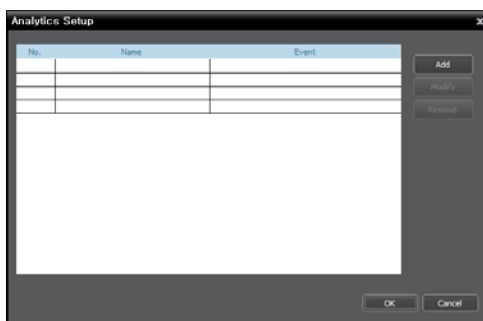
The list of preset rules is displayed. Clicking the Add button allows you to add other rules.

- No.: Displays the rule number. The maximum of four rules are available.
- Name, Event: Displays the rule name and event type. You can change them by clicking the Modify button.

2. Click the Add button and set up the rules for the video analytics detection.

- **Camera**: Displays video of the current camera.
- **Name**: Enter a rule name.
- **Event Types**: Select an event type and set up events by clicking the Edit button. Refer to the following for details about setting up events. When the video analytics satisfying the settings is detected, the iNEX program considers the video analytics as an event.
  - − **Single Event**: When the video analytics satisfying the settings of Event 1 is detected, the iNEX program considers it as an event.
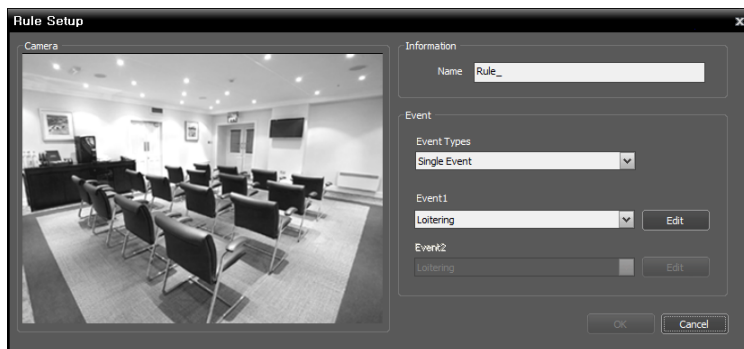 - − **Double Event**: When the video analytics satisfying the settings of both Event 1 and Event 2 is detected in order, the iNEX program considers it as an event.

Loitering

When any objects in motion are detected in the detection area during the loitering time, the iNEX program considers it as an event.
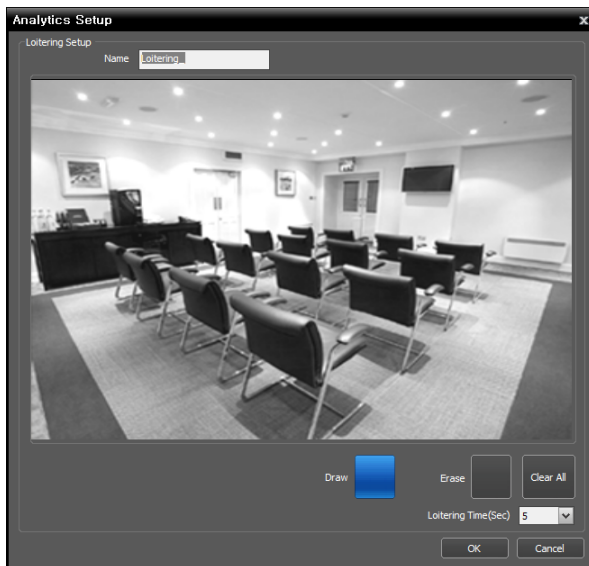
- **Name:** Enter the event name. The name will be displayed in the rule list.
- **Draw, Erase:** Allows you to set up detection areas by enabling blocks on the screen. Click the button and enable or disable blocks by using the mouse drag and drop on the screen.
- **Loitering Time (sec):** Set up the length of time for the detection to last and to be recognized as an event.

Left/removed Object Detection

When an object is separated from another object in the detection area and left or removed during the required time for detection, the iNEX program considers it as an event.

- **Name:** Enter the event name. The name will be displayed in the rule list.
- **Draw**, **Erase:** Allows you to set up detection areas by enabling blocks on the screen. Click the button and enable or disable blocks by using the mouse drag and drop on the screen.
- **Required time for detection (sec):** Set up the length of time for the detection to last and to be recognized as an event.

Trip-Zone

When any objects enter into the detection area or exit out from the detection area, the iNEX program considers it as an event.
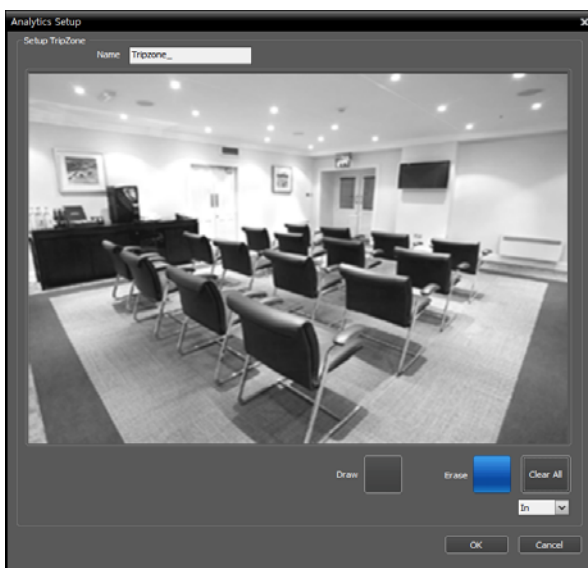
- **Name:** Enter the event name. The name will be displayed in the rule list.
- **Draw**, **Erase:** Allows you to set up detection areas by enabling blocks on the screen. Click the button and enable or disable blocks by using the mouse drag and drop on the screen.
- **In/Out:** Selecting In considers as an event when any objects enter into the detection area. Selecting Out considers as an event when any objects exit out from the detection area.

Chapter 13 — Device Management

You can edit or delete the device from a list. You can also connect to a device to change its settings or upgrade its software remotely. Go to the Start Menu → Click iNEX → Run the iNEX Setup program and enter login information → Select the Device menu.
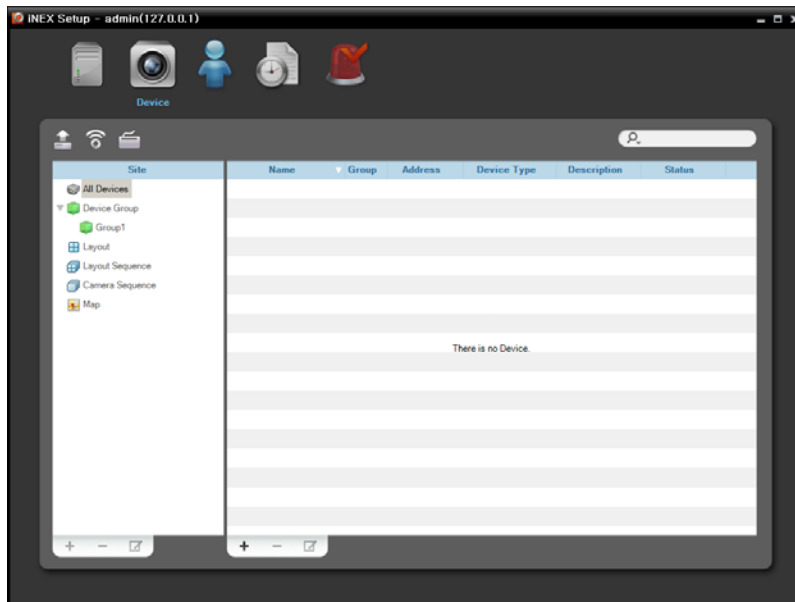
- **All Devices**: Displays devices registered in the administration service. If you delete a device from All Devices, it will not be available to search and play back previously recorded data even if the device is r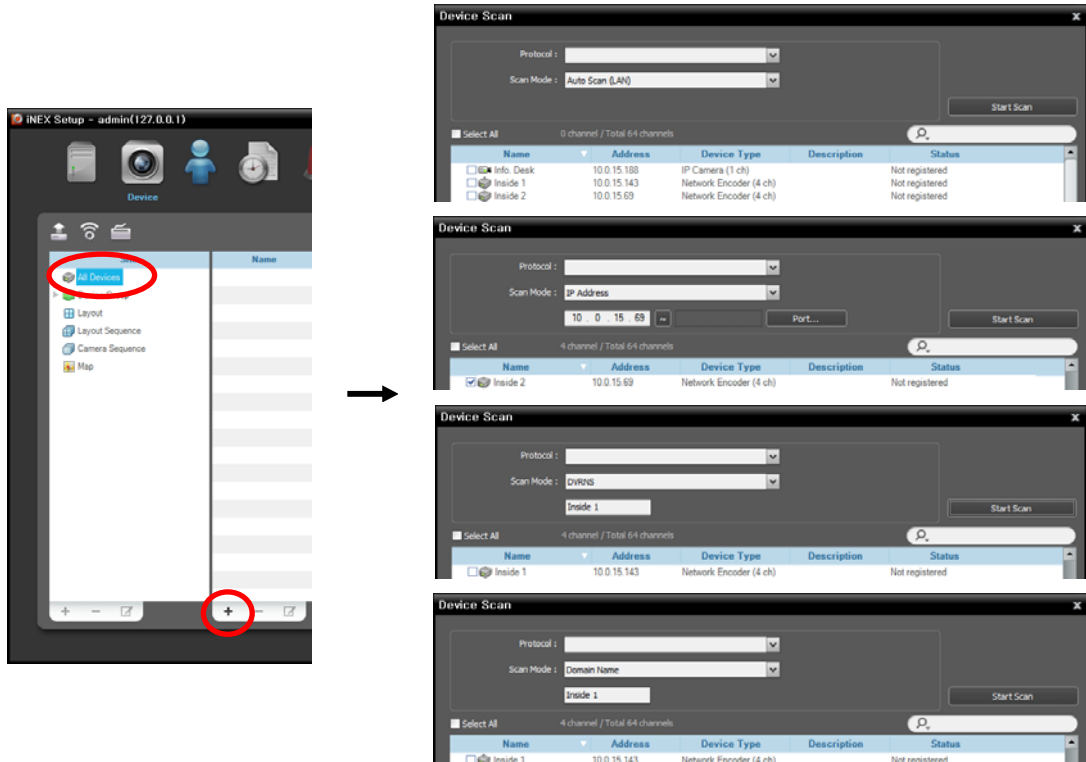egistered again (network video devices only). Refer to 13.1 Registering Devices (p. 108) for details about registering devices.
- **Device Group**: Displays registered device groups. You can monitor or play back recorded video from the cameras in device groups. You must register devices in the administration service and add the devices to a device group to perform any operation. Refer to 13.1 Registering Devices (p. 108) for details about registering device groups.
- **Layout**: Displays the registered layouts. You can monitor video from multiple cameras in a predefined layout. Refer to 5.1 Monitoring Video, Layout Monitoring (p. 53) for details.
- **Layout Sequence**: Displays the registered layout sequences. You can monitor video from multiple cameras sequentially in more than one predefined layout. Refer to 5.1 Monitoring Video, Layout Sequence Monitoring (p. 55) for details.
- **Camera Sequence**: Displays the registered camera sequences. You can monitor video from multiple cameras sequentially in the same camera screen. Refer to 5.1 Monitoring Video, Camera Sequence Monitoring (p. 57) for details.
- **Map**: Displays the registered maps. You can monitor video from cameras, event detection and input/output device's status on a map. Refer to 5.2 Map Monitoring (p. 58) for details.

13.1 Registering Devices

1. Click All Devices in the Site panel, and then the ➕ button at the bottom of the Site List panel. The Device Scan window appears.
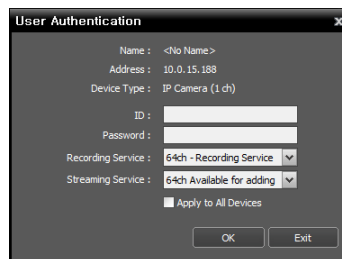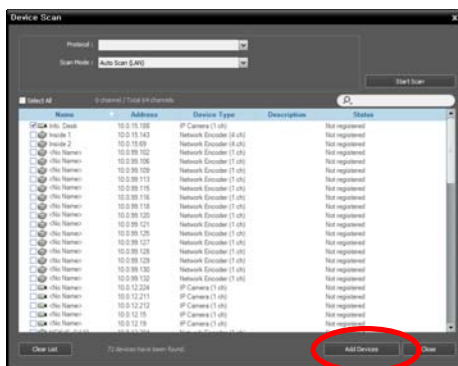

- **Protocol**: Select the protocol or manufacturer of the device to scan. Event related functions may not be supported depending on the protocol that the device uses (supported for the iNEX protocol and some versions of the Axis protocol), and some other functions may not be supported depending on the settings of the device.
- **Scan Mode**: Select the scan mode. Clicking the Start Scan button displays the results in the list. If the IP address range of the device is different from that of the administration server, the iNEX program considers the IP address invalid. In this case, you must change the device's IP address to register the device.
  - **Auto Scan (LAN)**: Lists devices in a LAN environment (supported only for the network video devices). If the device uses the ONVIF^{TM} Conformance protocol, this function is supported only when you have checked the Disable WS-Discovery Windows Service (fdPHost, FDResPub) box during the software installation in Microsoft® Windows® Vista or later operating systems. Also, if the device uses the ONVIF^{TM} Conformance protocol, it is recommended that the device not be networked via DHCP (Dynamic Host Configuration Protocol). If the device is networked via DHCP, connection to the device may not be made properly depending on changes in the external network environment.
  - **IP Address**: Allows you to enter the IP address of a device. You can search more than one device at a time by entering a range of IP addresses. It is recommended that the device not be networked via DHCP (Dynamic Host Configuration Protocol). If the device is networked via DHCP, connection to the device may not be made properly depending on changes in the external network environment.

- DVRNS: Allows you to enter the device name registered on a DVRNS server if the device uses the DVR Name Service (DVRNS) function. Ensure the DVRNS server information on which the device is registered is correct. If the DVRNS server information is not correct, the device will not be found.

- Domain Name: Allows you to enter the device's domain name registered on a DNS server if the device uses the domain name service.

- ☑ : Select the devices to register by checking the box beside each device name in the list. Selecting the Select All box selects all devices in the list.

NOTES:

- Depending on the model, the device may not be supported even though the iNEX program supports the device's protocol. Ask your dealer or distributor about supported models.

- If the device uses the ONVIF™ Conformance protocol, you can select either the manufacturer (or iNEX protocol) or the ONVIF™ Conformance protocol. However, it is possible that one or both of them are not supported depending on the device model. Ask your dealer or distributor for details. Refer to the device User's Manual about enabling the ONVIF™ Conformance protocol in the device, as procedures may differ for each model.

2. Click the Add Devices button at the bottom.


- Name, Address, Device Type: Displays the name, IP address and type of the selected device. The name will be updated automatically depending on the settings of the device.

- ID, Password: Enter the user ID and password which you set in the device in order to connect to that device remotely. The connection to the device is allowed only to the users under the Administrator group of the device, and recording is allowed only to the admin user under the Administrator group of the device.

- Recording Service: Select a recording server from the list to record video from the selected device (supported only for the network video devices). The device is registered on the recording server and the recording server performs recording according to a recording schedule. It is recommended that you do not change the recording server once any recording has been made. If you change the recording server after some recording has been done, you cannot search or play back the video recorded on the original recording server. The number in the recording server list indicates the maximum number of cameras that can be registered, and the name indicates the name of a recording service, which was set during the Service menu setup. The maximum number of cameras that can be registered differs depending on the type and number of the WIBU-Keys connected to the administration server. When selecting the Do not record option, the iNEX program treats the device as though it was not registered during the Schedule setup and does not perform any of the scheduled activities associated with the device. You can check the list of devices registered on the recording server on a Device Setup tab while setting up the recording server in the Service menu. Refer to Chapter 15 — Storage Management (p. 125) for details.

- **Streaming Service**: Select whether or not to use the streaming service for monitoring video from the device. If you use the streaming service, the iNEX program transmits video from the device to the client system through the streaming server, and it allows multiple users to monitor video simultaneously. The number of channels that can be streamed equals the number of channels that can be recorded unless streaming WIBU-Keys have been added. When you register more than one streaming service by buying additional WIBU-Keys, the iNEX program chooses any one of the streaming services depending on the system load of the streaming server. Refer to **Chapter 11 — Streaming** (p. 97) for details.
- **Apply to All Devices**: Select to apply the same user ID and password to all selected devices if you selected more than one device and the selected devises have the same user ID and password.

NOTES:
- If the device is a DVR, it might be necessary to enter the DVR port numbers depending on the specifications and version of the DVR.
- When registering a four-channel network video transmitter which uses the iNEX protocol, all four cameras are automatically registered even if some of the four cameras are disabled.
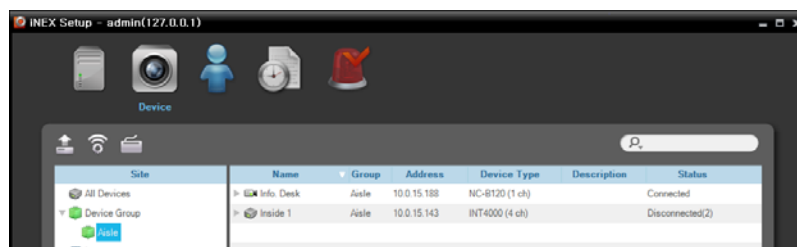
3. Click **Device Group** in the **Site** panel, and then the ✚ button at the bottom of the **Site** panel. The **Add Device Group** window appears.
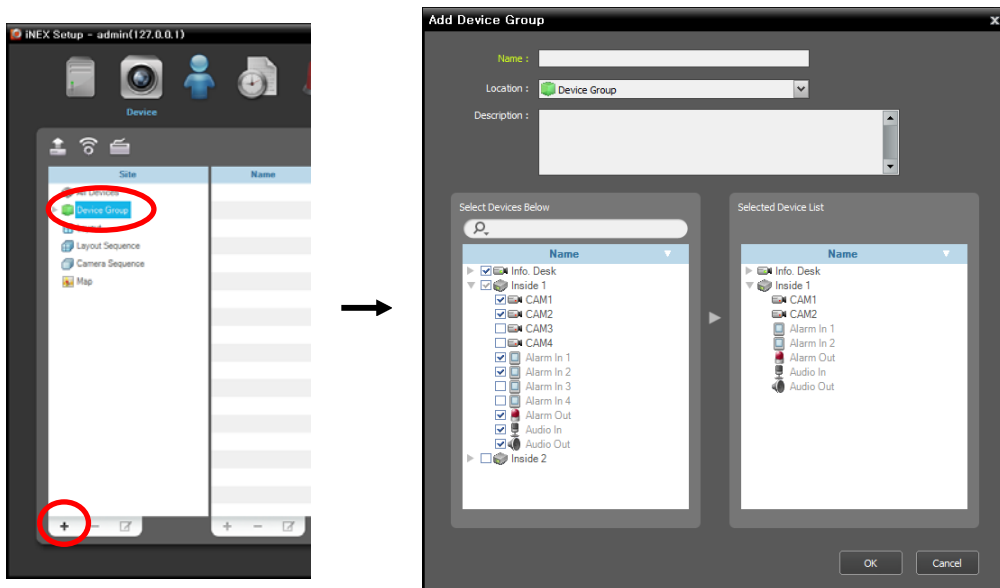
- **Name**: Enter the device group name.
- **Location**: Select an upper group to which the device group will belong.
- **Select Devices Below**, **Selected Device List**: Check the box beside cameras in the left panel, and the selected cameras are added to the right panel.

Clicking the **OK** button completes the device group registration.

4. Check that the device was added to the device group correctly. Click **Device Group** in the **Site** panel and then the arrow button (► 🖼) beside **Device Group**. Clicking the registered group displays the list of devices added to the device group and connection status in the Site List panel. If the connection was not made properly, the network disconnection log is displayed (only for devices registered on the recording service). Refer to **Appendix – Network Disconnection Log** (p. 151) for details about the network disconnection log.

Selecting the registered device group, and then the ▨ button at the bottom of the Site panel displays the Edit Device Group window and allows you to edit the selected device group.

13.2 Managing Devices

Click a device group in the Site panel and then click a device in the Site List panel. Clicking the ▨ button at the bottom of the Site List panel, or clicking the right mouse button displays the device menu.

OR
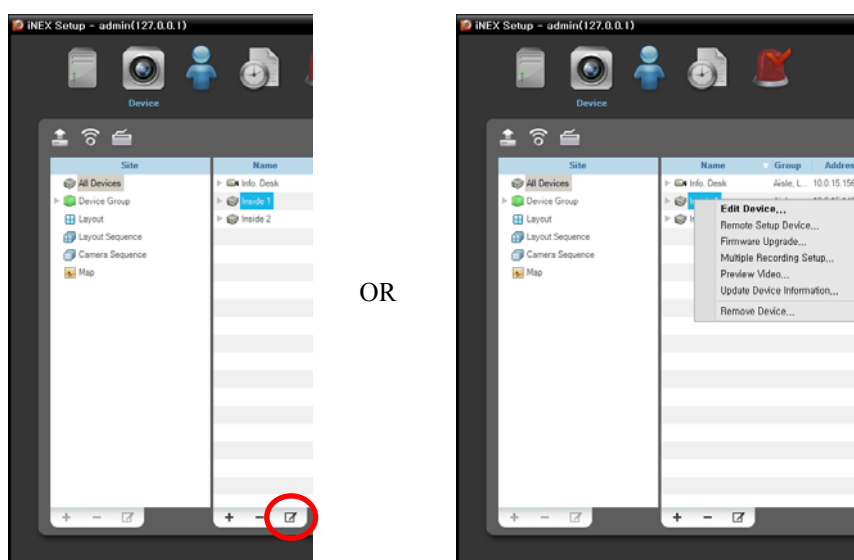
- Edit Device: Allows you to change information for connection to the device and each Preset of Recording Schedule – Action. Refer to Editing Device Information (p. 112) for details.
- Remote Setup Device: Allows you to change the device's settings remotely. Refer to Changing Device's Setting Remotely (p. 114) for details.
- Firmware Upgrade: Allows you to upgrade the device's software remotely (supported only for devices which use the iNEX protocol). Refer to Upgrading Device's Software (p. 114) for details.
- Multiple Recording Setup: Allows you to set up each Preset of Recording Schedule – Action with the same values for more than one device. This is supported only for the same type of devices (network cameras/network video transmitters).
- Preview Video: Allows you to preview the device's video.
- Update Device Information: Allows you to update the registered device's information. If the input/ output devices connected to the registered device are not displayed in the list, it is recommended that you update the registered device's information.

Editing Device Information

Select Edit Device from the device menu.

Information

It allows you to change information for connection to the device.

- Name: Edit the device name. You can use the same name for more than one device. By selecting the Disable Device option, the iNEX program no longer considers the device registered in the administration service. Selecting Device Name Sync automatically updates the name based on the settings in the device (supported only for devices which use the iNEX protocol).
- Address Type: Select device's address type.
    - Auto Scan (LAN): Allows you to enter the device's mDNS number when you edit the device's address.
    - IP Address: Allows you to enter the device's IP address when you edit the device's address.
    - DVRNS: If the device uses the DVRNS (DVR Name Service) function, this allows you to enter the device name which is registered on the DVRNS server when you edit the device's address. The name should match the one set during the DVRNS setup in the device.
    - Domain Name: If the device uses the domain name service, this allows you to enter the device's domain name registered on a DNS server when you edit the device's address.
- Address: Edit the device's address based on the selected address type above.
- Port: Edit the port numbers. The port numbers you enter should match the port numbers set in the device for remote connection (Admin), remote monitoring (Watch), recording (Record) and two-way audio communication (Audio).
- ID, Password: Edit the user ID and password for connection to the device.
- Connection Test: Click the button to test the connection to the device with the information entered above.
- Stream Protocol: Select the protocol for streaming (supported only for devices which use the ONVIF™ Conformance protocol).
- Record Protocol: Select the protocol for recording (supported only for devices which use the ONVIF™ Conformance protocol).
- ONVIF Profiles: Select a preset ONVI^{FTM} profile (supported only for devices which use the ONVIF™ Conformance protocol). Refer to 13.3 Remote Setup of ONVIFTM Conformance Protocol Devices, Profiles (p. 120) for details.

Detailed Information

It displays the device's registration information.

- Group, Service: Displays the list of device groups and services that the device is registered on.
- Device Type: Displays the device type.

Record Preset


It is supported only for network video transmitters.

- Codec, Resolution, Frame Rate, Quality: Select the compression codec, resolution, frame rate and quality for recording. The frame rate cannot exceed 15 ips when video is recorded with the H.264 codec and 4CIF resolution.

Recording Schedule

It allows you to change each Preset of Recording Schedule – Action (supported only for devices which use the iNEX protocol).
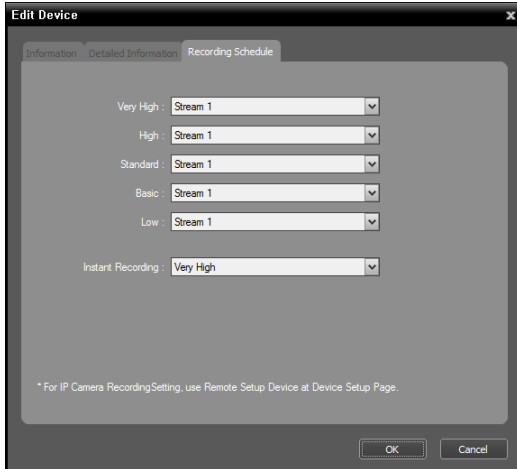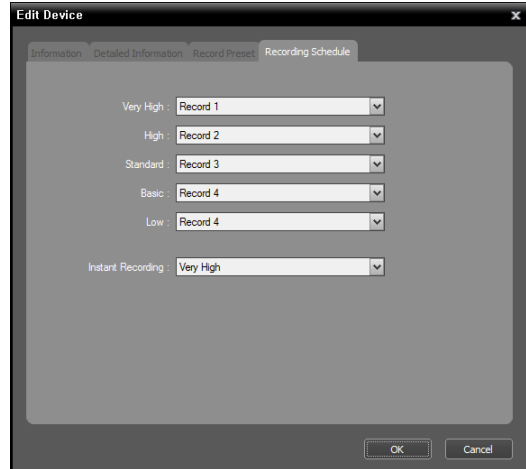
Network Camera   Network Video Transmitter

- **Network Camera**: Allocates a stream to use for recording to each Preset.
- **Network Video Transmitter**: Allocates values for recording to each Preset.
- **Instant Recording**: Select a Preset to use for instant recording.

Changing Device's Setting Remotely

Selecting Remote Setup Device from the device menu allows you to change the device's settings remotely. Changing the device's settings remotely might not be available for some settings. If the device supports more than one protocol, the settings for remote setup in the iNEX program might be different depending on the protocol in use. Refer to the device's User's Manual for details about the settings. Refer to 13.3 Remote Setup of ONVIF™ Conformance Protocol Devices (p. 116) in this manual for details about remote setup of a device which uses the ONVIF™ Conformance protocol.

You can change settings of several devices at the same time using a setup file. Clicking the 📷 (Multiple Remote Setup) button above the Site panel displays the following screen.
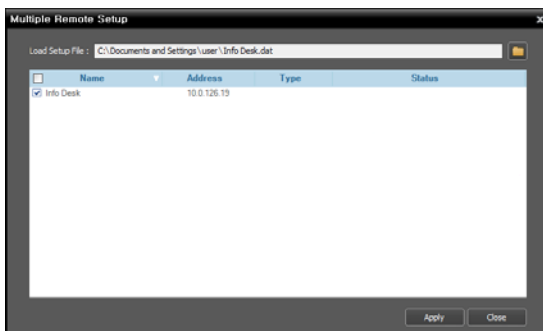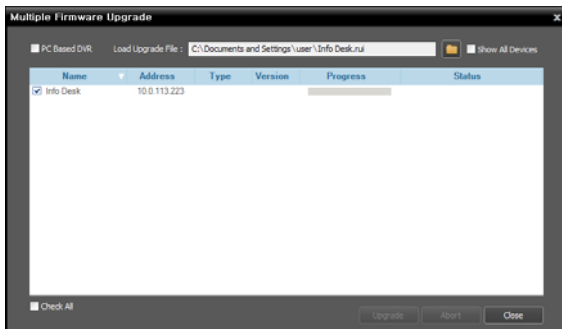

Click the 📁 button at the top right corner and select a setup file. The list of available devices is displayed. This function might not be supported depending on the device model, and the devices that this function is not supported for will not be displayed in the list even if the setup file is available for the devices. Select devices and click the Apply button at the bottom to apply the change.

Upgrading Device's Software

If you have an upgrade file, selecting Firmware Upgrade from the device menu allows you to upgrade the device's software remotely (supported only for devices which use the iNEX protocol).

You can upgrade software of several devices at the same time. Clicking the ▣ (Multiple Firmware Upgrade) button above the Site panel displays the following screen (supported only for devices which use the iNEX protocol).

Click the ▣ button at the top right corner and select an upgrade file. If the device is a PC-based DVR, check the PC Based DVR box and click the ▣ button. The list of available devices is displayed. Selecting Show all devices displays all registered devices. Select devices and click the Upgrade button at the bottom to start upgrading.
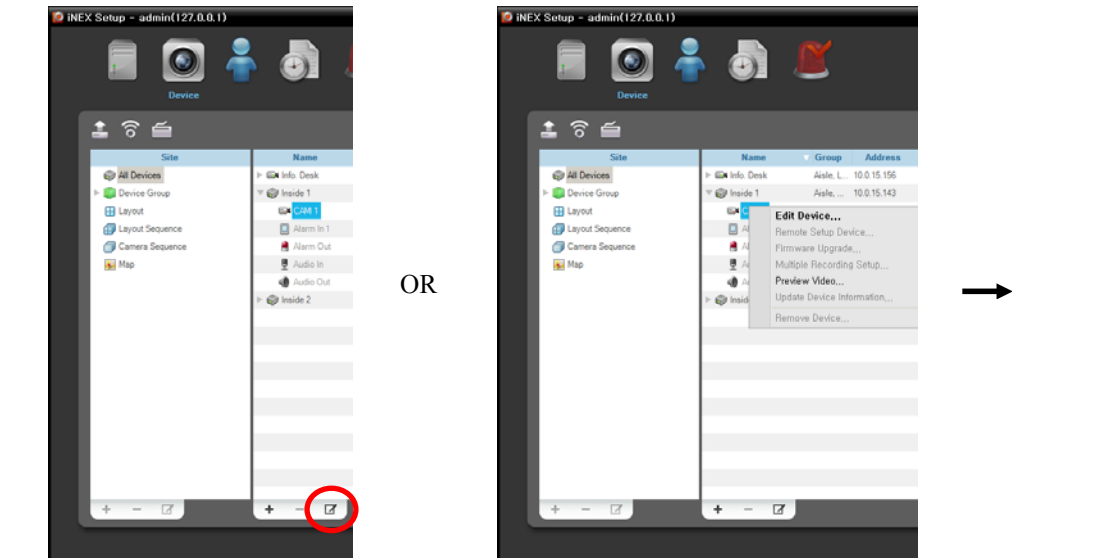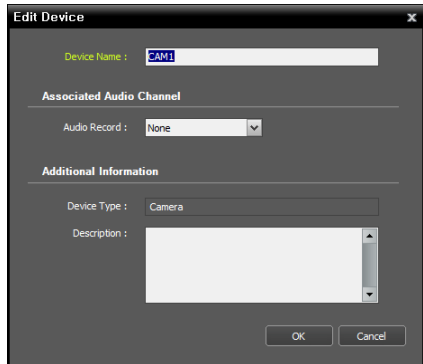
Checking Device Status
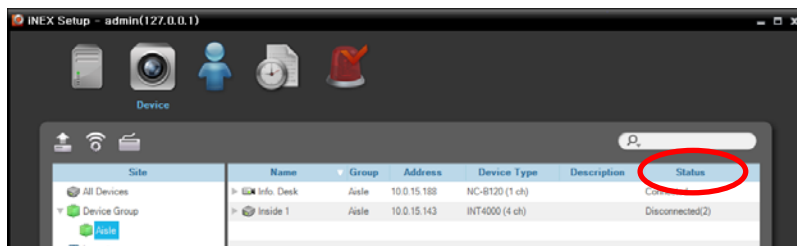
Click All Devices in the Site panel and then a device in the Site List panel. The device status is displayed in the Recording Status field (Connected: Recording is available, Disconnected: Recording is not available). Clicking the arrow button (▶ 🖥) beside each device name displays the list of inputs and outputs supported by the device. You can check the input and output device's status (Record: During recording in the Time-Lapse Recording or Event-Based Recording mode, Panic: During recording in the Instant Recording mode, Idle: Ready to record).

Editing Input/Output Device Information

Click All Devices in the Site panel and then the arrow button (▶ 🖥) beside each device name in the Site List panel. Click the input/output device in the list of video in, alarm in/out and audio in/out supported by the device. Clicking the ▣ button at the bottom of the Site List panel, or clicking the right mouse button and selecting Edit Device from the menu displays the Edit Device window.

OR

- **Device Name**: Edit the name of the input/output device. You can use the same name for more than one input/output device. The name will be updated automatically when the name of the device to which the input/output device is connected is updated.
- **Associated Audio Channel**: Select the audio channel to associate with the camera for audio recording (supported only for a camera). The selected audio channel will be recorded when video from the camera is recorded.
- **Associated Device**: Select a camera channel to associate with the alarm-in or audio-in device for display on the event spot screen (supported only for an alarm in or audio-in device). Video from the selected camera channel will be displayed on the event spot screen when an alarm-in or audio-in event is detected.

13.3 Remote Setup of ONVIF^{TM} Conformance Protocol Devices

If the device uses the ONVIF^{TM} Conformance protocol, the iNEX program displays live video or records video with the settings set during the device remote setup in the iNEX program. Click a device group in the Site panel and then click a device in the Site List panel. Clicking the ☑ button at the bottom of the Site List panel, or clicking the right mouse button displays the device menu. Selecting Remote Setup Device displays the following setup screen and allows you to change the device's settings. The setup menu and options may be different depending on the model of the device.
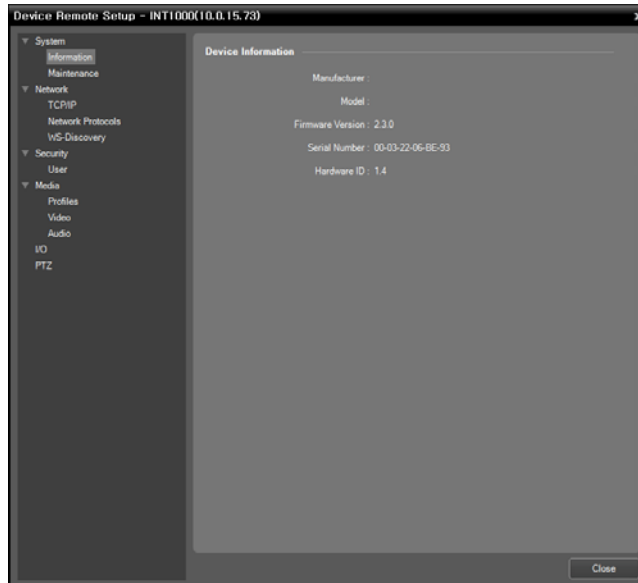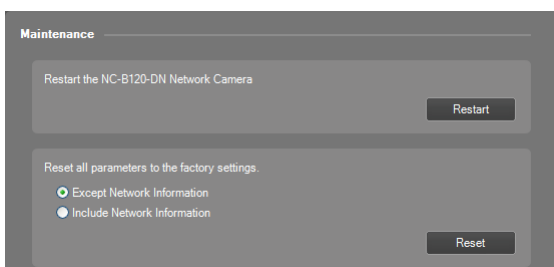
Clicking the Apply button after changing the settings applies the changes.

Information
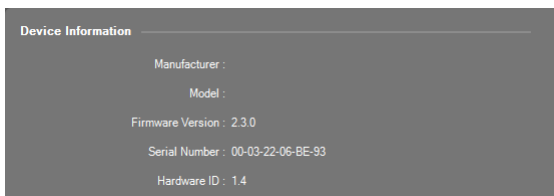
Displays the device information.

Maintenance

- Restart: Clicking the button restarts the system. The iNEX remote setup is closed when the system restarts.
- Reset: Returns all the settings of the system to the original factory settings
  - Except Network Information: Returns all the settings except network settings to the original factory settings.
  - Include Network Information: Returns all the settings including network settings to the original factory settings. The iNEX remote setup is closed when the network settings are included.

TCP/IP

- **IP Address Configuration**: Sets up the device's IP address. Select the type of device's network configuration.
  - **Set Manually**: Select when the device is using a static IP address for network connection, and set up LAN parameters manually.
  - **DHCP**: Select when the device is networked via DHCP (Dynamic Host Configuration Protocol). Click the Apply button, and network information is automatically assigned to the device.

- **DNS Configuration – Type**: Enter the IP address of the DNS server. Select the type of DNS server's network configuration sets up the DNS server's network information.
  - **Set Manually**: Allows you to set up manually.
  - **DHCP**: Assigns the information automatically. Clicking the Apply button applies the change, and the changed information is displayed the next time it is connected. This will not be supported when the device's IP address is set to Set Manually.

DDNS

- **Update Type**: Updates the device's IP address information in the iNEX system automatically when the device's IP address is changed.
  - **No Update**: Does not update the device's IP address information automatically.
  - **Device Update, DHCP Server Update**: Updates the IP address of the device or that is registered on the DHCP server.
- **Name**: Sets up the DNS name.
- **TTL** (Time to Live): Sets up the interval that the DHCP is to be updated.

Zero Configuration

- **Enable Zero Configuration**: Allocates an appropriate IP address proper for the current network condition automatically (supported only for devices that provide the function).

Network Protocols

*   **Network Protocols**: Changes the port numbers of the network protocols that are used in the device (supported only for the protocols that are used in the device).

NOTE: When the HTTP server's port number is changed, the setup screen closes, and you should change the HTTP port number in the iNEX Setup program too. Refer to *13.2 Managing Devices*, *Editing Device Information* (p. 112) for details.

WS-Discovery

*   **Scope Parameters**: Click the + button and add the scope parameters of WS-Discovery (Web Services Discovery) protocol if necessary.
*   **Discovery Mode**: Sets whether or not to permit discovery of the device. When **Non-Discoverable** is selected, the Auto Scan function is not supported for the devices which use the ONVIF[TM] Conformance protocol during the device registration.
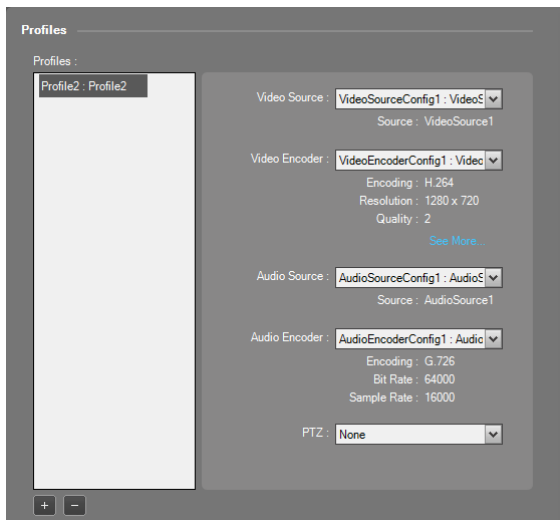
User

You can add or delete a user. Clicking + button allows you to add a user.

Profiles

Set up the profiles using the following procedures.

Select a profile from the profile list. Clicking ⊞ button allows you to add a new profile. → Set up media. See the explanation below for details about setting media. → Click the Apply button at the bottom. → The settings are applied, and the iNEX system displays live video or records video based on the settings of the selected profile.

- **Video Source**: Select the desired video source from the list of video sources supported in the device.
- **Video Encoder**: Select a video encoder configuration. Clicking the See More button allows you to check the details of the selected video encoder configuration. Refer to Video (p. 120) for details about the video encoder configuration.
- **Audio Source**: Select a desired audio source from the list of audio sources supported in the device. When None is selected, audio monitoring and recording for the device will not be supported.
- **Audio Encoder**: Select an audio encoder configuration. Clicking the See More button allows you to check the details of the selected audio encoder configuration. Refer to Audio (p. 121) for details about the audio encoder configuration.
- **PTZ**: Select a PTZ setting. When None is selected, PTZ control of the device will not be supported.

Video
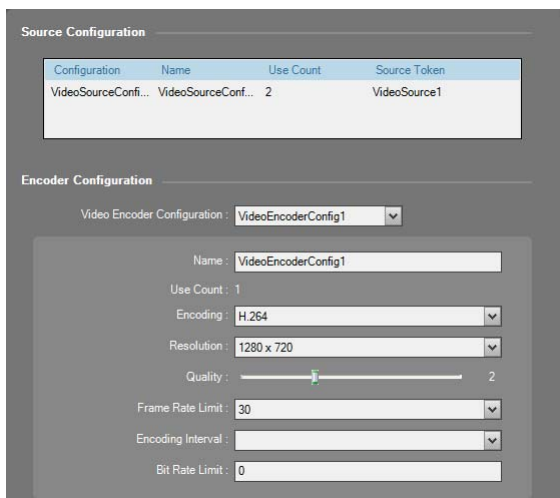
- **Source Configuration**: Displays the source configuration information (Configuration: video source, Name: source name, Use Count: the number of profiles that use the source, Source Token: the number of tokens).
- **Encoder Configuration**: Set up an encoder.
  - **Video Encoder Configuration**: Select a video encoder from the list of video encoders supported in the device.
  - **Name**: Assign a name to the selected video encoder.
  - **Use Count**: Displays the number of profiles that use the selected video encoder.
  - **Encoding, Resolution, Quality**: Select a video compression codec, video resolution and video quality. The frame rate cannot exceed 15 ips when recording video with the H.264 codec and 4CIF resolution if the device is a network video transmitter.
- **Frame Rate Limit**: Select a maximum frame rate.
- **Encoding Interval**: Select an encoding interval. The higher the value, the higher the bit rate and the worse the video quality.

− **Bit Rate Limit**: Enter the maximum bit rate. You can control the network bandwidth by limiting the bit rate depending on the network traffic.

Audio

- **Source Configuration**: Displays the source configuration information (Configuration: audio source, Name: source name, Use Count: the number of profiles that use the source, Source Token: the number of tokens).
- **Encoder Configuration**: Set up an encoder.
  − **Audio Encoder Configuration**: Select an audio encoder from the list of the audio encoders supported in the device.
  − **Name**: Assign a name to the selected audio encoder.
  − **Use Count**: Displays the number of profiles that use the selected audio encoder.
  − **Encoding**: Select an audio compression codec.
  − **Bit Rate**: Select a bit rate.
  − **Sample Rate**: Select the sampling rate. The higher the value is, the better the sound quality and the larger the data size.

I/O

- **Mode**: Set the relay mode for the input and output devices.
  − **Monostable**: After setting the idle state, the relay returns to its idle state once the delay time expires.
  − **Bistable**: After setting the idle state, the relay remains in this state.
- **Delay Time**: Set the delay time until the relay returns to its idle state in the Monostable mode.
- **Idle State**: Set the physical idle state of a relay output.
  − **Open**: Indicates that the relay is open when the relay state is set to Inactive and closed when the state is set to Active.
  − **Closed**: Indicates that the relay is closed when the relay state is set to Inactive and is open when the state is set to Active.
- **Action**: Controls the relay state.
  − **Active**: Clicking the button sets the relay state to Active.
  − **InActive**: Clicking the button sets the relay state to InActive.

## PTZ

- PTZ Node: Displays the node information (Node: PTZ node, Name: source name, Maximum Preset: the maximum number of presets, Home Supported: availability of the home function).
- PTZ Configuration: Set up the PTZ.
  - PTZ Configuration: Select a PTZ from the list of the PTZs supported in the device.
  - Name: Assign a name to the selected PTZ.
  - Use Count: Displays the number of profiles that use the selected PTZ.
  - Node: Select a PTZ node. A PTZ node indicates mechanical PTZ drivers, uploaded PTZ driver or digital PTZ drivers.
  - Absolute Pan/Tilt Position: Select the movement setting to move to a certain position. If the position cannot be reached, the operation fails.
  - Absolute Zoom Position: Select the zoom setting to zoom in a certain position. If the position cannot be zoomed, the operation fails.
 - Relative Pan/Tilt Translation: Select the movement setting to move in a certain direction based on the current position.
  - Relative Zoom Translation: Select the zoom setting to zoom in in a certain direction based on the current position.
  - Continuous Pan/Tilt Velocity: Select the movement setting to move continuously in a certain direction based on the current position with a defined speed.
  - Continuous Zoom Velocity: Select the zoom setting to zoom in continuously in a certain direction based on the current position with a defined speed.
  - Pan/Tile Speed: Select the speed setting to move to a certain position or in a certain direction.
  - Zoom Speed: Select the speed setting to zoom in a certain position or in a certain direction.
  - PTZ Timeout: Set the duration of the PTZ operation. The operation will automatically stop after the timeout period.

Chapter 14 — User Management

You can assign every user different authority levels for each function of the iNEX program. The Administrators group has authority for all functions, and the authority settings are not editable. Go to the Start Menu → Click iNEX → Run the iNEX Setup program and enter login information → Select the User menu.
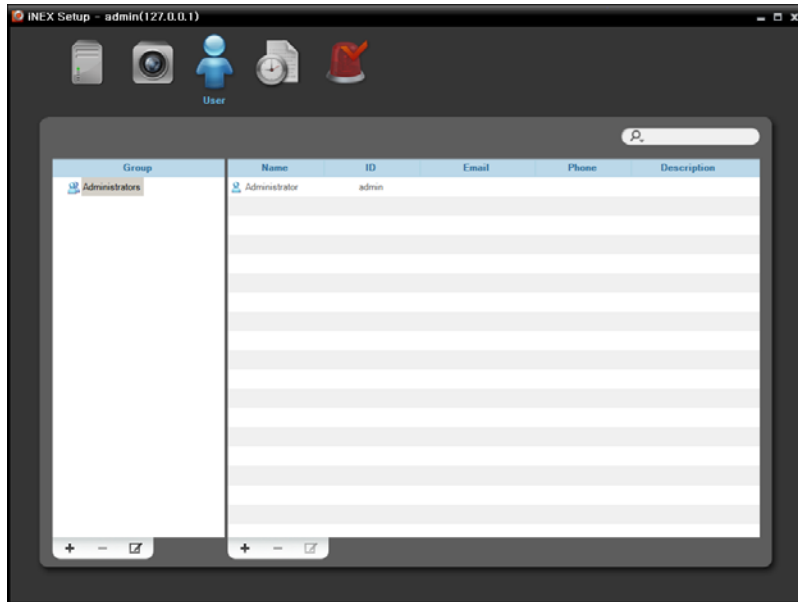
1. Click the ✚ button at the bottom of the user group list. The Add User Group window appears.
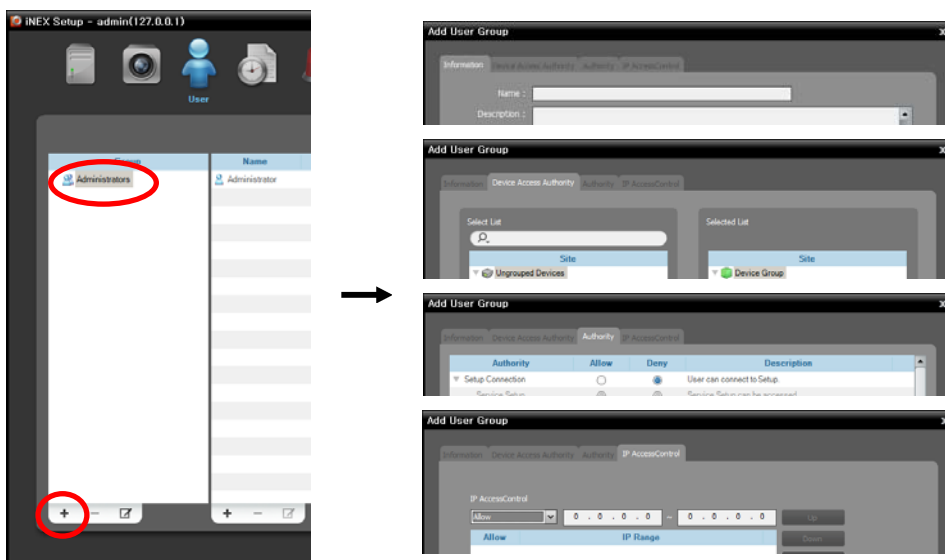
- Information tab: Enters the user group name.
- Device Access Authority tab: Grants or limits authority for the access to each device.
- Authority tab: Grants or limits authority for each function.

- **IP Access Control** tab: Grants or limits access from users using the IP addresses within a certain range.

Clicking the **OK** button completes registration of the user group.

2. Click the added user group in the **Group** list, and then the ✚ button at the bottom of the user list. The **Add User** window appears.
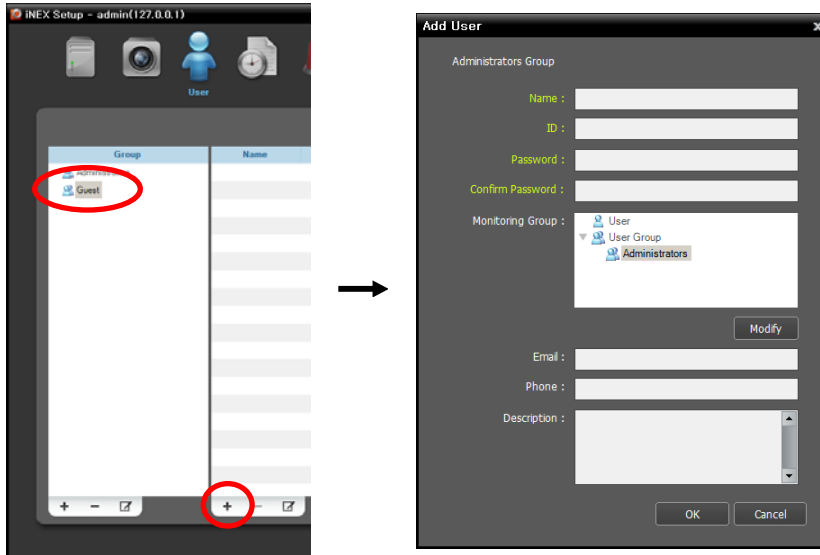

- **Name**: Enter the user name.
- **ID**, **Password**, **Confirm**: Enter a unique user ID and password (four to 32 characters without spaces) for access to the iNEX program.
- **Monitoring Group**: Displays the user who will be forwarded notification of events when events occur. Clicking the Modify button allows you to edit the users. Refer to **16.2 Managing Events, Event Acknowledgement** (p. 136) for details about the event forwarding.
- **E-Mail**: Enter the email address of the user if you want to notify event detection to the user via E-mail. An email address must include the "**@**" character to be a valid address. Refer to **Chapter 16 — Event Management** (p. 129) for details about notifying event detection via E-mail.
- **Phone**, **Description**: Enter the telephone number and description of the user if you want. Only numbers and "**–**" are allowed when entering a telephone number.
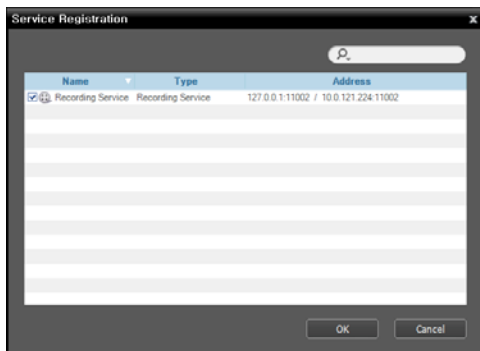
Click the **OK** button at the bottom.

3. Clicking the registered user group or a user in the list, and then the 🗹 button at the bottom allows you to edit the information.

Chapter 15 — Storage Management

You can allocate and mange storage for recording. Go to the Start Menu → Click iNEX → Run the iNEX Setup program → Select the Service menu.
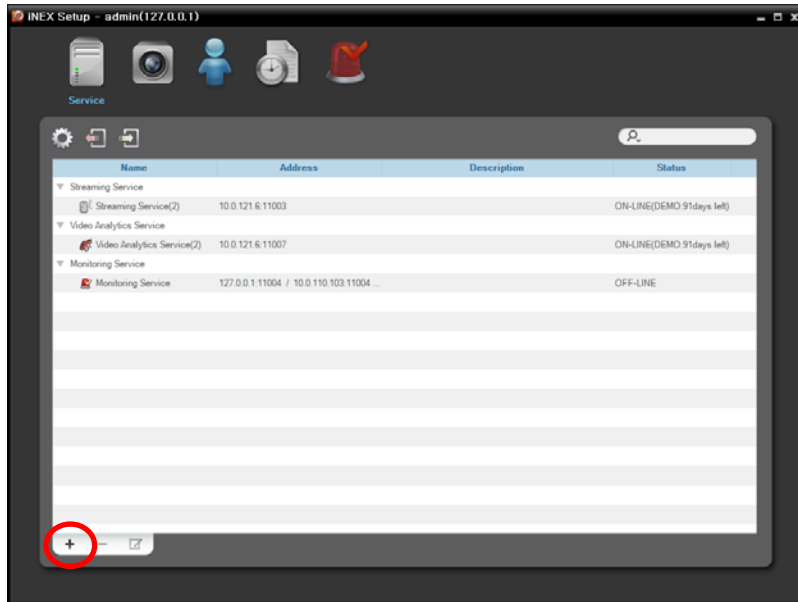
1. If any recording service is not registered, select Recording Service and click the ✚ button at the bottom. The Service Registration window appears, and a list of available services is displayed with information about each service.

- Name: Displays services that are currently connected to the administration service via the network.
- Type: Displays the service type.
- Address: Display the IP address and port number of each server.

NOTE: The administration server information required when installing the services should match the information of the currently connected administration server.

2. Select a recording service to register in the iNEX system.

Allocating Storage

Select the Service menu, and then select a recording server and allocate storage to hard disk drives of the selected recording server following the procedures below.
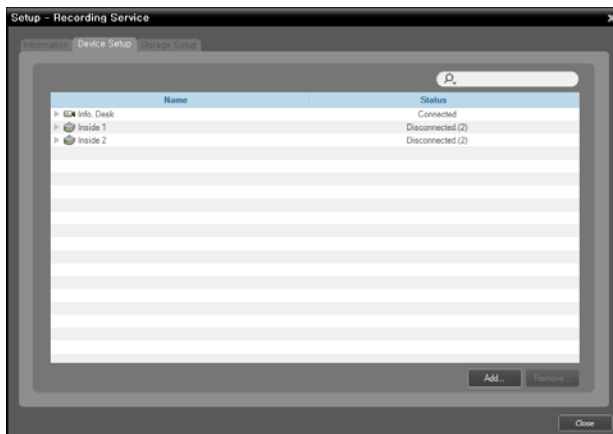
NOTE: USB hard disks, network hard disks and hard disks set to *Dynamic* cannot be allocated storage.

NOTES:

- It is recommended to add a new unformatted hard disk drive to ensure stable recording. If you are setting up a hard disk drive which contains data, however, you are to delete partition(s) and the file system in advance after formatting. Refer to the PC/server user's manual or consult with the PC/server manufacturer for details about how to format or delete the partition(s) and file system.
- When removing a hard disk drive that contains recorded video from a recording server and installing it in another recording server, you cannot search or play back the video recorded on the original recording server.
- The total amount of storage for one recording server cannot exceed 50,000 GB.

1. Select a recording service and click the ✎ button at the bottom. The Setup – Recording Service window appears. Select the Device Setup tab.
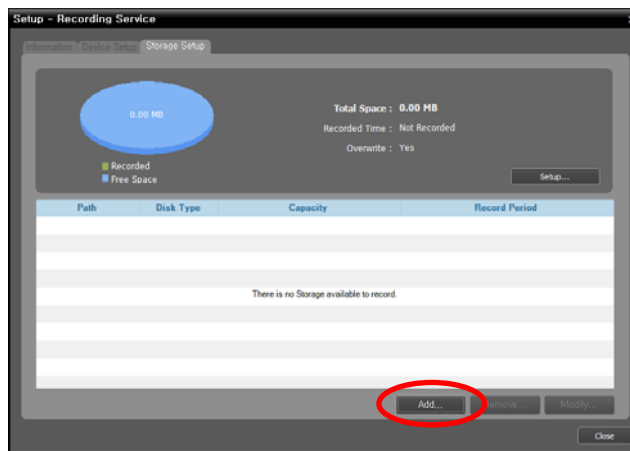

The list of cameras registered on the current recording service is displayed. Clicking the Add button at the bottom allows you to register other cameras on the current recording service. Selecting a device and clicking the Remove button deletes the device from the current recording service.

NOTE: The number of devices that can be recorded in a recording server differs depending on the type and number of the WIBU-Keys connected to the administration server.

NOTES:

- If you remove a device for which some recording has been done and register the device again, the iNEX system considers the device as a new device. In this case, you can search or play back video recorded before the device was removed as follows: go to the *Play* panel → click the 🖻 (Additional Menu) button → select *Removed Devices*.
- Recording is not supported for DVRs.

2. Select the Storage Setup tab and click the Add button at the bottom.

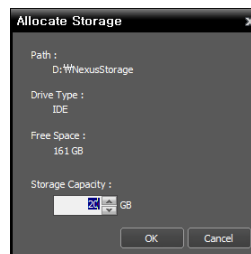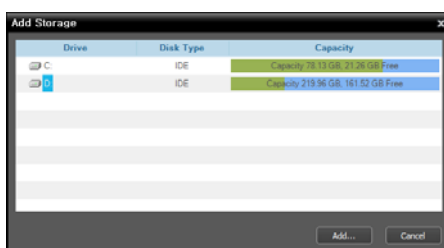3. The Add Storage window appears, and a list of available hard disk drives is displayed with information about each drive.

- Drive: Displays the drive name and volume label. If a file system has not been created on a hard disk drive, 'PHYSICALDRIVE No.' will be displayed instead of the drive name and volume label. The iNEX program considers any hard disk drive that does not use Windows file system (FAT32, NTFS) as if no file system has been created.
- Disk Type: Displays the type of hard disk drive.
- Capacity: Displays the total storage capacity and available storage capacity.

4. Select a hard disk drive to allocate storage and click the Add button at the bottom. The Allocate Storage window appears.

- Path: Displays the storage folder path.
- Drive Type: Displays the type of hard disk drive.
- Free: Displays the available storage capacity.
- Storage Capacity: Sets up the storage capacity to be allocated to the hard disk drive (Min. 20GB). If the Windows operating system is installed on the hard disk drive, you must reserve more than 10GB of free hard disk for proper system operation. If no file system has been created on the hard disk drive, the recording server automatically creates a proprietary video database file system when storage is allocated to ensure more stable recording and allocates storage to the entire hard disk drive automatically.

Managing Storage

You can manage storage of all hard disk drives used in the current recording server or of a specific hard disk.

Storage of All Hard Disk Drives

Click the Setup button. The Storage Setup window appears.
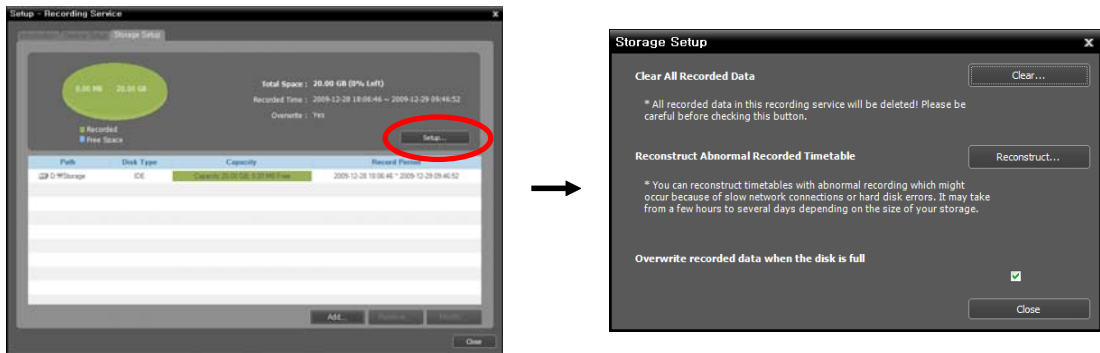
- Clear All Recorded Data: Deletes all recorded data on all hard disk drives used in the current recording server.
- Reconstruct Abnormal Recorded Timetable: When the network connection between the recording server and the devices is too slow or a hard disk drive in the recording server is damaged, the recorded data and the timetable information of the recorded data might not match and the timetable in the Client program might display incorrect information. In this situation, clicking the button reconstructs the timetable to display recorded data correctly on the timetable in the Client program.
- Overwrite recorded data when the disk is full: Checking the box records over the oldest video data once all available storage space has been used.

Storage of a Specific Hard Disk Drive

Click the storage to edit in the storage list, and then the Modify button at the bottom. The Edit Storage window appears.

- Resize Storage: Allows you to increase the storage capacity.
- Clear Storage: Allows you to delete all data recorded in the selected storage.

NOTE: Search or playback of recorded data will be stopped when storage is resized or cleared.

CAUTION: Clearing storage deletes all data recorded in the storage and the deleted data cannot be restored.

Chapter 16 — Event Management

You can manage event detection notification to the Client system based on a preset event management schedule and monitor or play back the event-detected video on the Client system. Event related functions may not be supported depending on the protocol that the device uses (supported for the iNEX protocol and some versions of the Axis protocol).

16.1 Setting up Event Management Schedule

First, check the following and run the Setup program.

• Services should be running on the system. Refer to 3.1 Running Services (p. 19) for details.
• Devices should be added to a device group. Refer to Chapter 13 — Device Management (p. 107) for details.

Go to the Start Menu → Click iNEX → Run the iNEX Setup program → Select the Event Management menu, and set up the event management schedule following the procedures below.
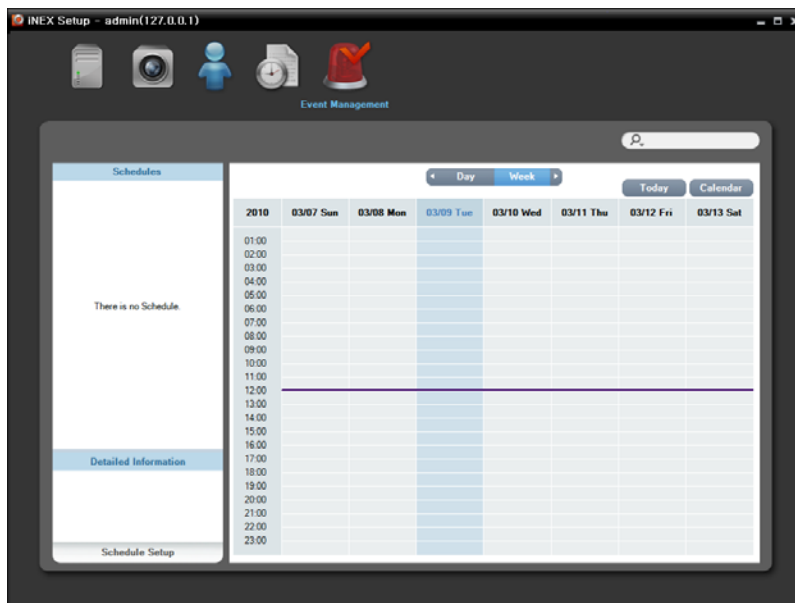
Click the Schedule Setup button at the bottom. The Schedule Setup window appears, and schedule windows are displayed with the current settings for each Preset.
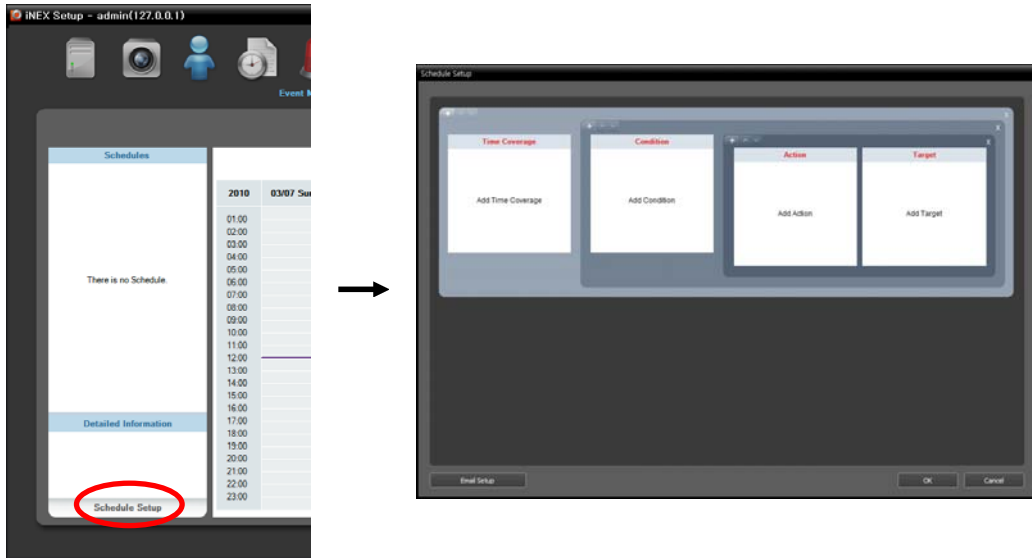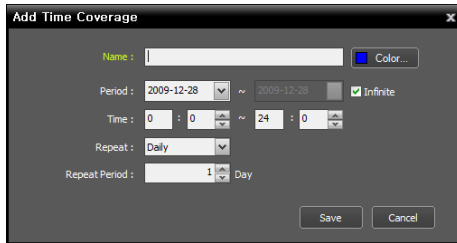
- Time Coverage: Sets up the schedule time. You can set up more than one time range.
- Condition: Sets up the event condition. You can set up more than one event condition for the same schedule time.
- Action: Sets up the event action. You can set up more than one event action for the same event condition.
- Target: Sets up the users to manage the events.
- Email Setup: Sets up the SMTP server information for sending email. This only works when the action type is set to Email Notification during the Action Preset setup.

NOTE: In the schedule setup, "Preset" indicates a single setting in which the setting values of *Time Coverage*, *Condition* or *Action* are saved.

1. Set up the schedule time by double clicking the Time Coverage schedule window, and then selecting a desired Preset.

You can add a new Preset or edit a saved Preset by clicking the Add or Modify button. Refer to the following explanation for setting up a schedule.
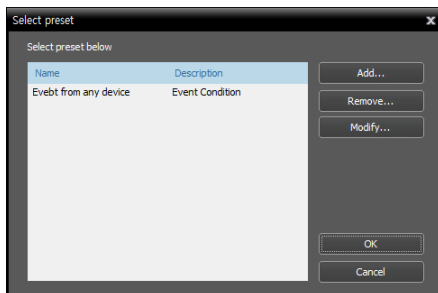
- **Name**: Enter the Preset name.
- **Color**: Click the button and select a desired color. The scheduled time section will be highlighted with the selected color in the schedule table.
- **Period**: Set up the period for the schedule time. Selecting the Infinite option causes continuous notification based on the Condition, Action and Target preset settings without limiting the period.

- **Time**: Set up the time for schedule time.
- **Repeat**, **Repeat Period**: Set up the interval and interval period. Events will be notified to the preset users at the designated interval during the interval period.

2. Set the event condition by double clicking the Condition schedule window and selecting a desired Preset of event condition.
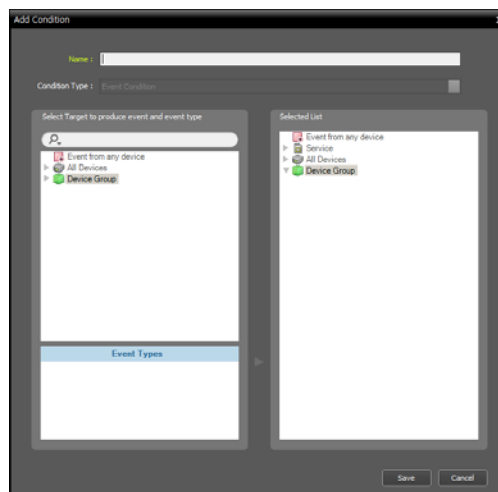
You can add a new Preset or edit a saved Preset by clicking the Add or Modify button. Clicking the Add or Modify button displays the following setup screen.


- **Name**: Enter the Preset name.
- **Select Target to produce event and event type**: Select event types that trigger event notification.
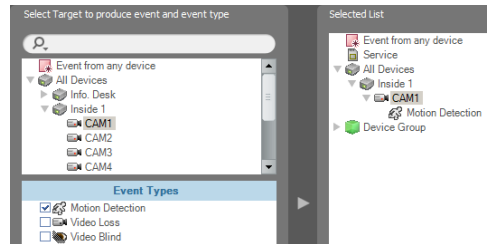
- **Event from any device**: Select to notify events when user-defined types of events are detected.

  Click **Event from any device**, and the list of event types is displayed in **Event Types** below → Select the desired event types, and the selected event types are added to the list under **Event from any device** on the right.
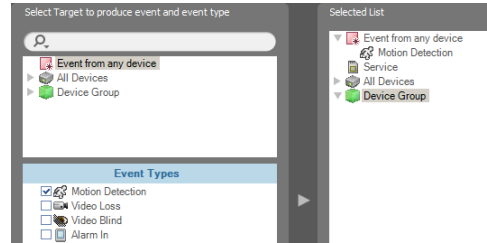
- **All Devices**: Select to notify events when user-defined types of events are detected from the selected device or camera.

  Click **All Devices**, and the list of registered devices and cameras is displayed → Under **All Devices**, click a device or camera to trigger event notification, and the list of event types supported by the device or camera is displayed in **Event Types** below → Select the desired event types, and the selected event types are added along with the selected device or camera to the list under **All Devices** on the right.

- **Device Group**: Select to notify events when the user-defined types of events are detected in the selected device group.

  Click **Device Group**, and the list of registered device groups is displayed → Under **Device Group**, click a device group to trigger event notification, and the list of event types is displayed in **Event Types** below → Select the desired event types, and the selected event types are added along with the selected device group to the list under **Device Group** on the right.
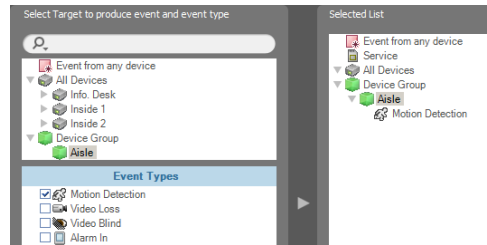
3. Set up the event action by double clicking the **Action** schedule window and selecting a desired action type.

   • **Email Notification**: Select to send an email to Client users when an event is detected based on the event condition setting.
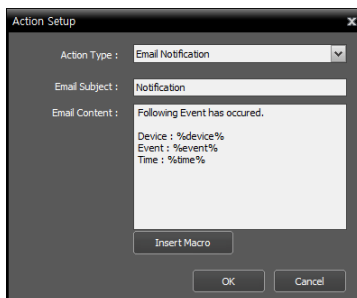
- **Email Subject**: Enter the email subject.
- **Email Content**: Enter the contents of the email. Clicking the **Insert Macro** button displays a list of available macros. Selecting a macro from the list applies the macro when sending an email.

For this to work properly, you should enter the SMTP server information for sending email and enter the email address of the user to be notified. Click the **Email Setup** button in the **Schedule Setup** window to enter the SMTP server information as follows. Refer to **Chapter 14 — User Management** (p. 123) for details about entering the email address of the user to be notified.

– **Address**, **Port**: Enter the email address and port number of the SMTP server. Select Use SSL/TLS if the SMTP server requires SSL (Secure Sockets Layer) authentication.
– **Sender**: Enter the sender's email address.
– **Use Authentication**: Select and enter the ID and password if the SMTP server requires user authentication.

- **Live Popup**: Select to pop up a live video (maximum 36) from the event-detected camera in the Client system when an event is detected based on the event condition setting. Refer to 16.2 Managing Events, Live Popup (p. 136).

– **Duration**: Enter the duration for the display of popup video to last.
– **Select popup Cameras**: Select the cameras (maximum 4) from which video will pop up. Selecting the Same cameras that triggered an event option pops up video only from the camera where an event is detected (not supported for alarm-in events and audio detection events).

- **Event Acknowledgement**: Select to display an event log in the Client program when an event is detected based on the event condition setting. Refer to 16.2 Managing Events, Event Acknowledgement (p. 136).

– **Message**: Enter the message to be displayed in the Client program.
– **Priority**: Select the priority of the event. The priority will be displayed in the event log.

- **Move PTZ**: Select to move the PTZ camera to a Preset position when an event is detected based on the event condition setting (supported only for devices which use the iNEX protocol).
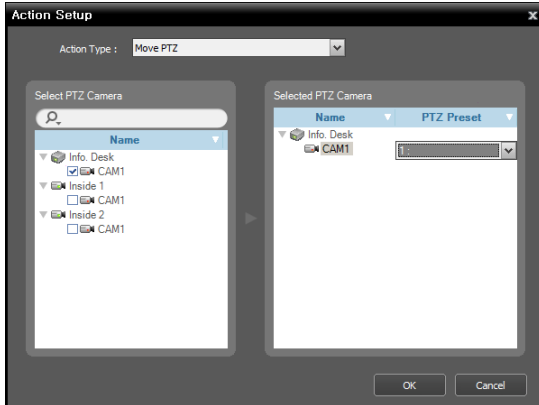
- **Select PTZ Camera**: Select cameras to move. This is supported for PTZ cameras only.
- **Selected PTZ Camera**: Displays the selected cameras and allows you to select a Preset position for the camera to move. Refer to **5.3 Controlling Cameras**, **PTZ Control**, **PTZ Preset Control** (p. 62) about setting up Preset positions.

- **Alarm Out**: Select to activate alarm out when an event is detected based on the event condition setting (supported only for devices which use the iNEX protocol).
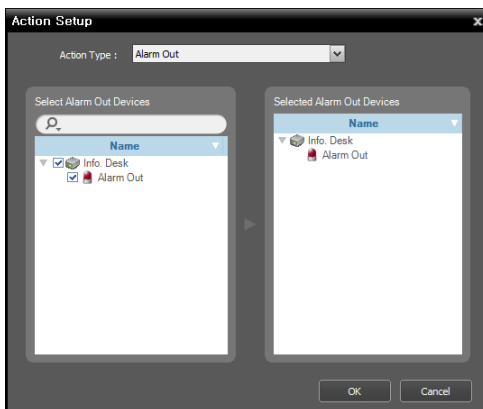
- **Duration**: Enter the duration for the alarm out to last.
- **Select Alarm Out Devices**: Select alarm out devices to activate.

4. Select the users to be notified the events after double clicking the **Target** schedule window.
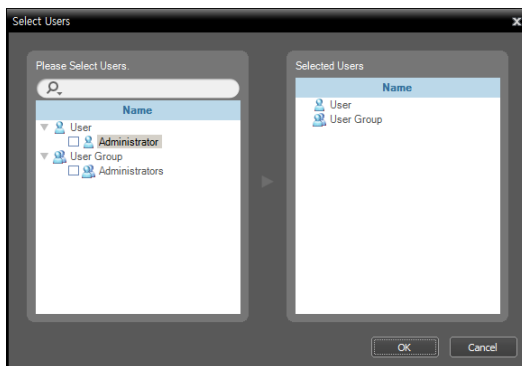
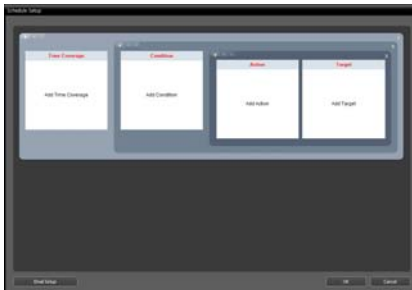## Managing Schedule

Adding a New Schedule

- **Adding a new schedule with a different time range**: Clicking the ⊞ button in the upper left corner of the **Time Coverage** schedule window allows you to add a new schedule with a different time coverage.
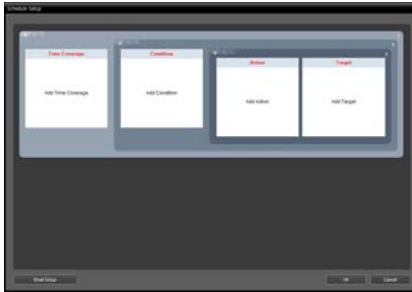
- Adding a new schedule with the same time range: Clicking the ⊞ button in the upper left corner of the Condition schedule window allows you to add a new schedule with the same time coverage.
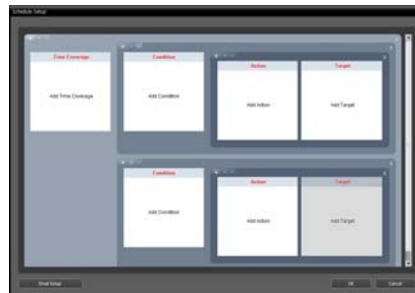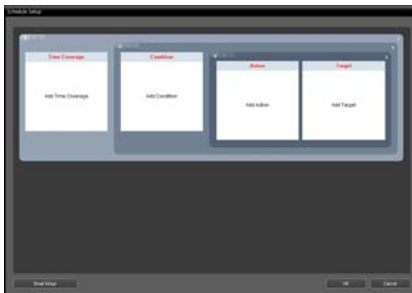
- Adding a new schedule with the same time range and target: Clicking the ⊞ button in the upper left corner of the Action schedule window allows you to add a new schedule with the same time range and target.

Deleting a Schedule

Clicking the ✕ button in the upper right corner of any schedule window deletes the schedule.

Changing Schedule Position

Clicking the ⏶ or ⏷ button in the upper left corner of each schedule window changes the position of the schedules. There is no priority between schedules and all schedules will be performed.

16.2 Managing Events

You can monitor or play back video of notified events based on the event management schedule.

First, check the following and run the Client program.

- Services should be running on the system. Refer to 3.1 Running Services (p. 19) for details.
- Devices should be added to a device group. Refer to Chapter 13 — Device Management (p. 107) for details.
- Event management schedules should be set up. Refer to 16.1 Setting up Event Management Schedule (p. 129) for details.
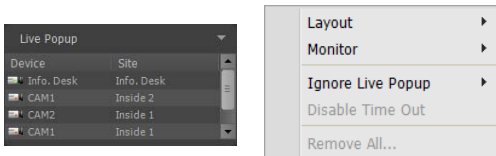
Live Popup

Popup Screen

You can monitor live video from a camera with a detected event. Popup screens appear based on the event management schedule (Action schedule window: Live Popup action) when events are detected. The Live Popup list displays the list of live popup screens currently displayed on the monitor.

When selecting a popup screen and hovering the mouse cursor over the popup screen, the control toolbar is displayed over that popup screen. The control toolbar allows you to control the camera. Hovering the mouse cursor over a button displays a tooltip for the button. Refer to 5.3 Controlling Cameras, Control Toolbar (p. 60) for details about the toolbar buttons.

When clicking the right mouse button on the popup screen, a popup screen menu is displayed. The screen menu allows you to change the popup screen settings or to control the camera. Items related to controlling a camera in the menu function the same way as those in the live screen menu. Refer to 5.3 Controlling Cameras, Live Screen Menu (p. 60) for details.

Live Popup List

Clicking the arrow button in the upper right corner displays a live popup menu. The live popup menu allows you to change the popup screen settings.

- Layout: Select the display format of popup screens.
- Monitor: Select the monitor on which popup screens are displayed if you use dual monitors.
- Ignore Live Popup: Select a time span to disable the live popup function regardless of the event management schedule settings (Action schedule window: Live Popup action).
- Disable Time Out: Click if you want to close the popup screen manually regardless of the preset duration for the popup screen to be displayed.
- Remove All: Deletes the list.

Event Acknowledgement

You can monitor live video from the event-detected camera when an event is detected or play back event-detected video if the selected event has been recorded. The Event Manager panel appears automatically when events are detected based on the event management schedule (Action schedule window: Event Acknowledge action), or you can display the Event Manager panel manually as follows:

Go to the View menu, click Event Manager Panel. Or, click the ❤ button in the Instant Event List.


OR
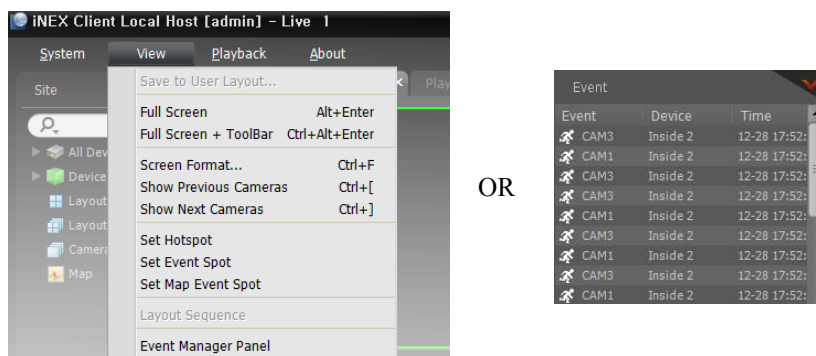
The Event Manager panel is displayed.
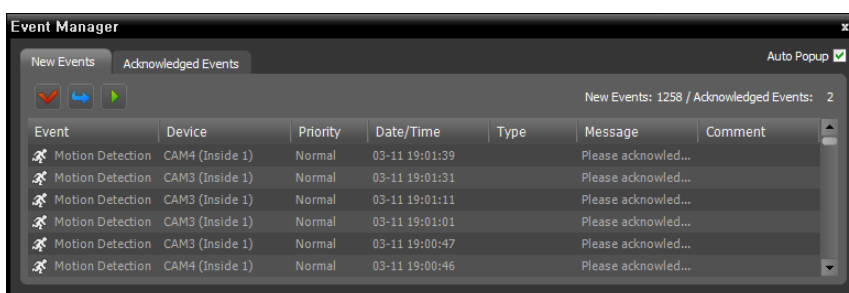
The list of events is displayed that notified to the Client system based on the preset event management schedule.

- Auto Popup ☑: Pops up the Event Manager panel automatically when the Client system is notified of an event.
- New Events: Displays events that the Client system is notified of but not yet acknowledged.
  − ❤ (Acknowledge Event): Acknowledges the selected event in the list, and the selected event is moved to the Acknowledged Events list.
  − ↩ (Event Forwarding): Forwards the event to all users or the users defined in the Monitoring Group setting during the User setup. Only users currently connected to the Client system will be notified. Refer to Chapter 14 — User Management (p. 123) for details about the Monitoring Group setting.
  − ▶ (Playback): Plays the event-detected video if the selected event has been recorded.
- Acknowledged Events: Displays events acknowledged by the client system.

Log Search

You can search log entries of events displayed in the Event Manager panel. Log search is supported in the Event History panel. If the Event History tab is not on the tab panel, go to the System menu, click New Tab and Event History.
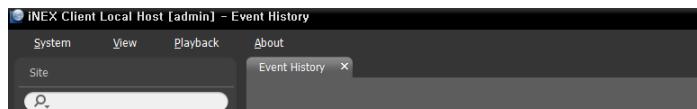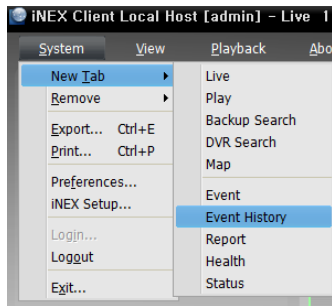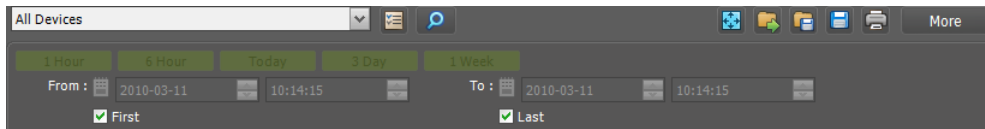
The log entries are displayed. Clicking the right mouse button on a column header displays a menu and allows you to sort data as you want.
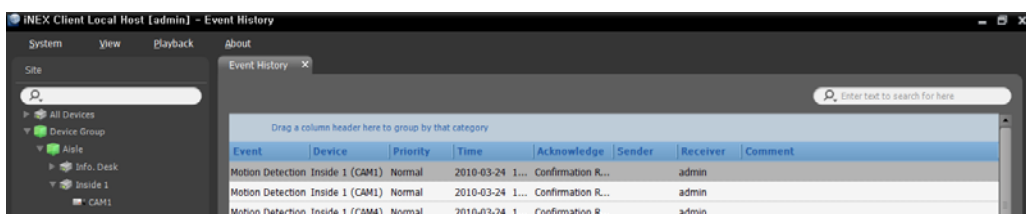
Event History Toolbar

The toolbar at the bottom of the panel allows you to search for the desired log entries.

- From, To: Set up the date and time of the log entry to search. Enter the specific date and time or select First or Last. Clicking the 1 Hour, 6 Hour, Today, 3 Day or 1 Week button adjusts the time interval between From and To. Selecting First or Last searches log entries from the first one or to the last one.
- (Condition): Selects a log type to search.
- (Search): Starts searching log entries based on the search conditions.
- (Full Screen): Displays the Event History panel in full-screen format.
- (Load Preset): Applies the column sorting saved in the Client system.
- (Save Preset): Saves the current column sorting in the Client system.
- (Export): Exports the searched log entries as a text file (.txt) or a CSV file (.csv).
- (Print): Prints the searched log entries.
- More: Displays more results.

Chapter 17 — Map Editor

You can register a map to monitor video from cameras, event detection and input/output device's status of devices registered on the administration service on a map on the Client system.

NOTE: This function is supported only for devices which use the iNEX protocol, but monitoring video from cameras supported also for devices which use the *Axis* or *ONVIF Conformance* protocol.

17.1 Registering Map

1. Go to the Start menu, and click iNEX Setup, and select the Device menu.

2. Click Map in the Site panel, and then the ✚ button at the bottom of the Site List panel on the right. The Map Editor window appears.
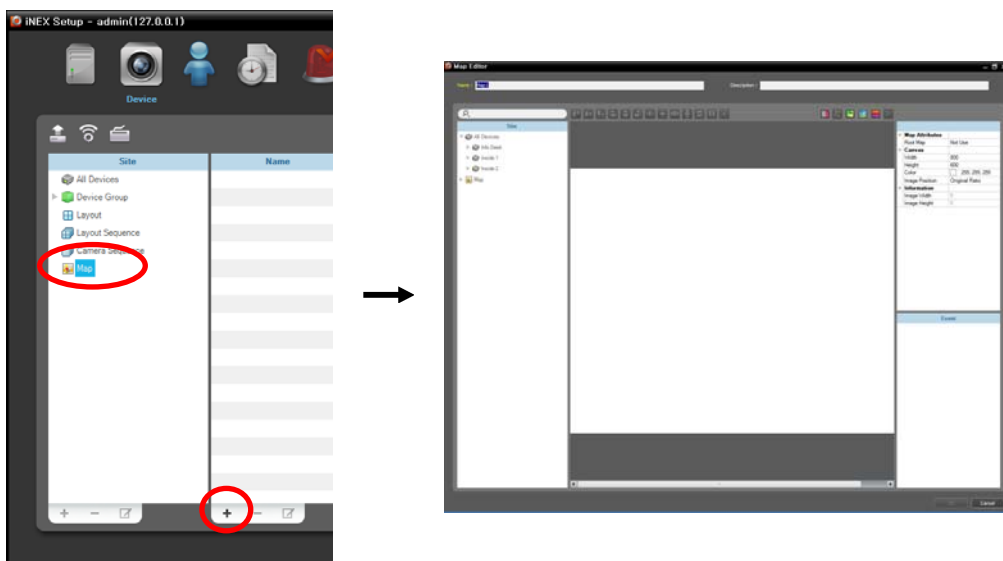
3. Select an input/output device connected to a device or a sub-map in the Site panel and drag and drop it on the canvas.

4. Set up the map. Refer to 17.2 Setting up Map (p. 140) for details.

5. Entering a map name and clicking the OK button completes registration of the map.

17.2 Setting up Map
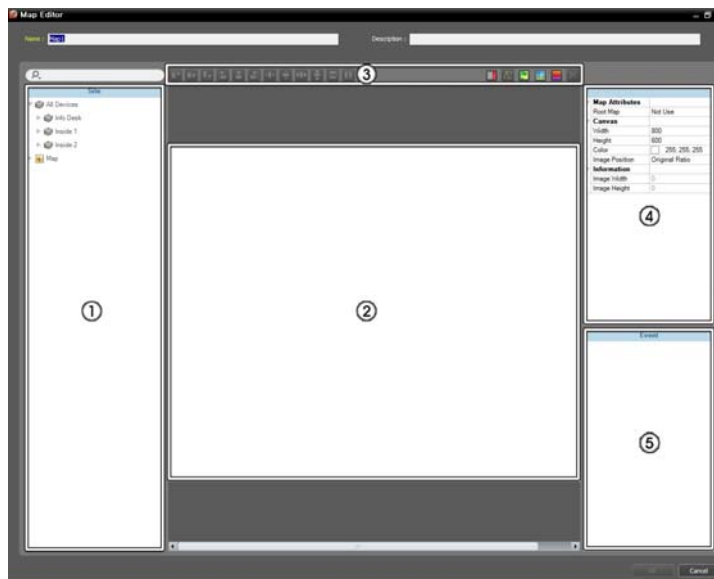
① **Site**: Displays a list of registered devices and map. You can search for a registered device and map by entering text beside the 🔍 icon. Entering text that you want to search for causes the search results to be displayed. Search results are displayed immediately as matching text is found. As you enter more text, the results narrow.

② **Canvas**: Allows you to create a map by inserting a background image and placing input/output device icons or map links from the Site list.

③ **Setup Buttons**: Sets up the map.
  - Align: Aligns the input/output device icons or map links on the canvas.
  - ▮ (Text Box): Inserts a box which allows you to enter text.
  - 🖼 (Path Sequence): Sets up a path sequence. Refer to **Path Sequence** (p. 142) for details.
  - 🖼 (Synchronize Map Objects Name): Synchronizes the input/output device's name based on the settings in the device.
  - 🖼 (Background Image): Inserts a background image on a canvas.
  - ▤ (Status Color): Sets up a unique color for each event detection or status of input/output devices.
  - ✖ (Delete): Selecting an input/output device icon or a map link on the canvas and clicking this button deletes the icon or link from the canvas.

④ **Property**: Sets up the property of the map, canvas, input/output device icons or map links.

⑤ **Event Action**: Sets up the event action of the input/output device icons. When you monitor video on the map and events are detected, notification on the map is made based on the event action settings.

Icon Alignment

You can adjust the alignment on the canvas and size of one or more input/output device icons or map links at a time by selecting the icons or links and clicking the icon alignment button.

- 🔳 / 🔳 (Position): Aligns one or more icons to the center vertically or horizontally on the background image.

- $\boxed{\text{T}}$ / $\boxed{\text{L}}$, $\boxed{\text{u}}$ / $\boxed{\text{B}}$, $\boxed{\text{L}}$ / $\boxed{\text{d}}$ (Position): Aligns two or more icons to the top or bottom, to the vertical or horizontal center, or to the left or right based on the last selected icon.
- $\boxed{\text{u}}$ / $\boxed{\text{H}}$ (Distance): Equalizes the distance between each icon of three or more icons.
- $\boxed{\text{d}}$ / $\boxed{\text{II}}$ / $\boxed{\text{o}}$ (Size): Equalizes the width, height, or size of two or more icons (supported only for icons that are of the same type but of a different width-height ratio).

Property

You can set up properties of the canvas, or input/output device icons or map links on the canvas. Select the canvas, icons or map links, and then each field of the property. You can enter or select a value from the drop-down list.

Map Attributes	
Root Map	Not Use
Canvas	
Width	800
Height	600
Color	255; 255; 255
Image Position	Original Ratio
Information	
Image Width	0
Image Height	0

General	
Name	Alarm In
Icon	Alarm In Sensor
Ratio	50
X Coordinate	416
Y Coordinate	75
Width	32
Height	32
Associated Camera	Select target
Halo effect	Not Use
Information	
Name	Alarm In
IP Address	10.0.15.47
Device Num	1

General	
Name	BANK 1
X Coordinate	139
Y Coordinate	401
Width	128
Height	32
Text Color	255; 255; 255
Background Color	85; 110; 215
Opacity	80
Align Text	Left
Information	
Name	BANK 1

General	
Text	test
Font	Microsoft Sans Serif
Font Size	9
Text Color	0; 0; 0
Background Color	255; 255; 255
Align Text	Left, Top
Bold	Not Use
Italic	Not Use
Underline	Not Use
Strikethrough	Not Use
X Coordinate	149
Y Coordinate	171
Width	61
Height	25

- **Map Attributes**: Sets the properties of the map.
  - Root Map: Displays a list of devices registered on the map at the right of the Map panel during the map monitoring (supported only for the Map panel).
- **Canvas**: Sets the properties of the canvas and background image inserted on the canvas.
  - Width, Height, Color: Sets the width, height and color of the canvas.
  - Image Position: Sets the position of the background image.
  - Information: Displays the width and height of the background image.
- **Input/Output Device**: Sets the properties of the input/output device icon.
  - Name: Sets the name of the device icon.
  - Icon, Ratio: Sets the image and ratio of the device icon.
  - X Coordinate/Y Coordinate, Width/Height: Sets the position and size of the device icon. You can also sets the position and size by using the mouse drag and drop on the canvas.
  - Associated Camera: Associates the device with a camera (supported only for an alarm in or audio-in device). You can monitor video from the associated camera when an event is detected.
  - Halo Effect: Sets the color of the background of the icon. It allows you to more easily find the device icon on the map.
  - Information: Displays the information about the device.
- **Map Link**: Sets the properties of the map link.
  - Name: Sets the name of the map link. The name will be displayed on the map link.
  - X Coordinate/Y Coordinate, Width/Height: Sets the position and size of the map link. You can also sets the position and size by using the mouse drag and drop on the canvas.
  - Text Color, Background Color: Sets the text color and background color of the map link.
  - Opacity: Sets the opacity of the background color of the map link.
  - Align Text: Aligns the name text of the map link.
  - Information: Displays the map name.
- **Text Box**: Sets the properties of the text box.
  - Text: Sets the text. The text will be displayed on the map.

- − Font, Font Size: Sets the font and font size.
- − Text Color, Background Color: Sets the text color and background color of the text box.
- − Align Text: Aligns the text.
- − Bold, Italic, Underline, Strikethrough: Makes the text bold, italicizes the text, underlines the text, draws a line through the text.
- − X Coordinate/Y Coordinate, Width/Height: Sets the position and size of the text box. You can also sets the position and size by using the mouse drag and drop on the canvas.

Path Sequence

It allows you to set up a path sequence and monitor video from multiple cameras sequentially in the same camera screen during map monitoring. A path sequence should be set up for each camera on the canvas for path sequence monitoring (Click the 🅼 (Path Sequence) button → Click each camera icon on the canvas in order of monitoring → Click the right mouse button to finish the setting).

General	
Name	Path Sequence 1
Color	50; 100; 255
Opacity	70
Width	5
Shape	Ellipse
Background Color	0; 0; 255
Opacity	63
Margin	4; 4; 4; 4
Reverse	
Associated Device	
CAM1	Disconnect
Duration	10
CAM2	
Duration	10

- • Name: Sets the name of the path sequence.
- • Color/Opacity/Width: Sets the color/opacity/width of the path displayed on the map.
- • Shape: Sets the shape of the alert icon to distinguish a camera when displaying video from a camera set for the path sequence during map monitoring.
- • Background Color/Opacity/Margin: Sets the color/opacity/margin of the alert icon when displaying video from a camera set for the path sequence during map monitoring.
- • Reverse: Reverses the direction of the path sequence.
- • Associated Device: Displays the list of cameras set for the path sequence. Video from cameras in the list is displayed on the screen sequentially for the Duration period. Clicking a camera in the list and the Disconnect button deletes the camera from the path sequence.

Event Action

You can set up event actions to be taken when events are detected by the input/output devices. Select the icon, and then each field of the property. You can enter or select a value from the drop-down list.

Event	
Action	
Click	
Instant Viewer	Use
Motion Detection	
Live Popup	Not Use
Event Spot	Use
Object Detection	
Live Popup	Not Use
Event Spot	Use
Video Loss	
Live Popup	Not Use
Video Blind	
Live Popup	Not Use
Event Spot	Use

- • Click: Sets the Instant Viewer window to be displayed when clicking the input/output device icon on the map. When clicking an alarm-in icon, clicking activates or deactivates alarm out.
- • Motion Detection, Object Detection, Video Loss, Video Blind, Alarm In, etc.: Enables or disables event actions to be taken when each event is detected. The event actions will be disabled regardless of the settings below if you disabled the event actions of the input/output devices during the map monitoring (Disabling event actions: Place the mouse cursor over the input/output device on the map → Click the right mouse button → Select Ignore Event Action).
  - − Live Popup: Pops up video from a camera (associated camera if the device is not a camera).
  - − Event Spot: Displays video from a camera (associated camera if the device is not a camera) on the event spot screen.
 - − Event Sound: Sounds by playing back a selected audio file (.wav).

Chapter 18 — Controlling With a Network Keyboard

You can control the Client program by using a network keyboard.

NOTE: This function is supported only for a specific model of a network keyboard.

18.1 Registering

1. Register the network keyboard on the administration service: Go to the Start Menu → Click iNEX → Run the iNEX Setup program and enter login information → Select the Device menu→ Click ▱ (Network Keyboard Setup) button, and the Network Keyboard Scan window appears. The way to register a network keyboard is identical to the way to register a device. Refer to 13.1 Registering Devices (p. 108) about registering a device.
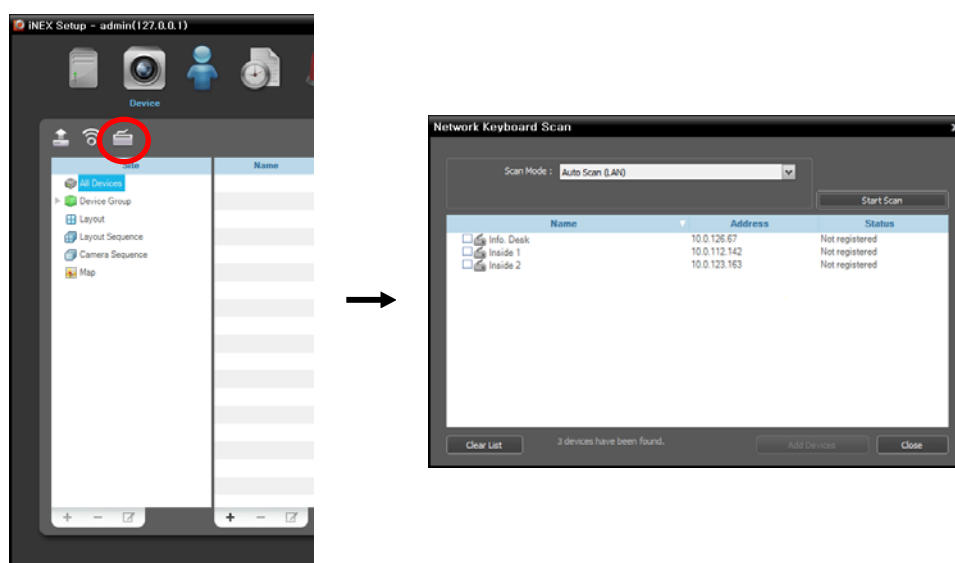
2. Register the Client system on the network keyboard. Refer to the network keyboard User's Manual for details.
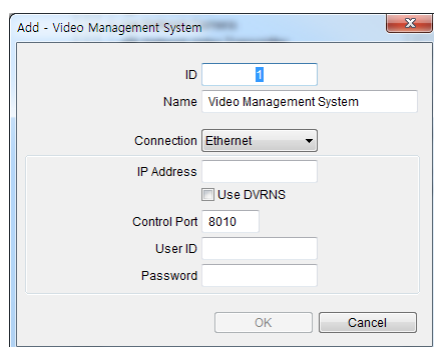
- ID (Client system ID): The network keyboard assigns the ID automatically when the Client system is registered, and you can change the ID. The ID is used to distinguish the Client system from other Client systems when controlling it with a network keyboard, so each must have a unique ID.
- Name: Set up a Client system name for your reference.
- IP Address: Enter the Client system's IP address. Do not check Use DVRNS.
- Control Port: Enter the Control port number set in the Client System (Check the Control port number in the System menu → Preference → Network → Network Keyboard setting).

- **User ID**, **Password**: Enter the user ID and password for the connection to the Client system.

3. Enable a network keyboard in the Client system by checking the Use Network Keyboard option.
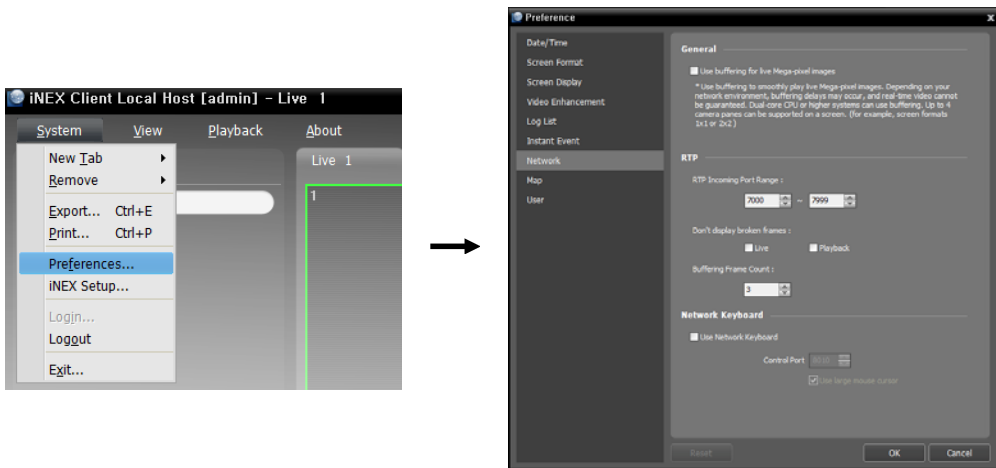
18.2 Connecting

Network Keyboard LCD Display

1. Press the Client system ID on the network keyboard.

2. Press the DEV button. The network keyboard connects to the Client system. When the connection is succeeded, a unique ID is displayed on each camera screen and panel tab as follows.
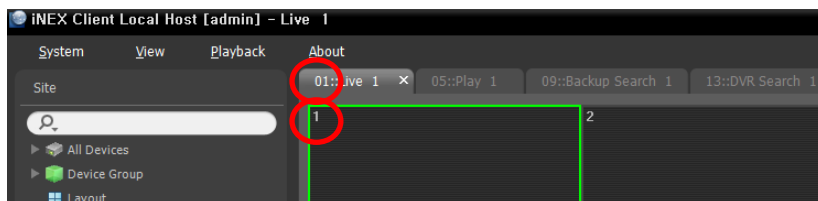
3. Pressing the SHIFT and DEV button at the same time releases the connection.

18.3 Operating

Monitoring Video
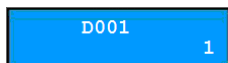
1. Press the Live tab ID on the network keyboard.

D001

2. Press the DEV button.

D001
1

3. Press the camera screen ID.

D001

4. Press the PANE button.

5. Select a site to connect to from the Site list, and drag and drop it on the Live screen by using the mouse connected to the network keyboard. Live video from the selected site is displayed on the screen.
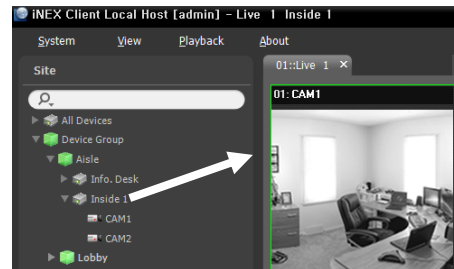
D001

6. Press the (Menu) button. The live screen menu is displayed.

7. Moving to the desired item by using arrow buttons and pressing the enter button (↵) selects the item in the menu or releases the selection. If you want to exit the current item setting, press the (Menu) button and releases the selection.

PTZ Control
Color Control
Image Zoom
Alarm Out

Listen
Talk
Audio Broadcast...

Instant Recording

MultiStream ▶

Hotspot
Event Spot
Map Event Spot

Draw Motion Block
Draw Video Analysis

Aspect Ratio ▶
Save Still Image...

Remove ▶
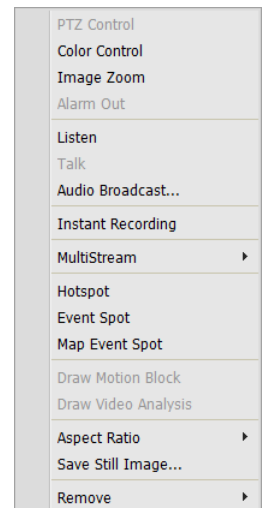
8. Refer to 18.4 Network Keyboard Buttons, Buttons for Client System Control (p. 147) for the explanations about other functions.

Playing Back Recorded Video

D001
1

1. Press the Play or DVR Search tab ID on the network keyboard.

D001

2. Press the DEV button.

D001	
	1

3. Press the camera screen ID.

D001	

4. Press the PANE button.

5. Select a site to connect to from the Site list, and then drag and drop it on the Play or DVR Search screen by using the mouse connected to the network keyboard. Recorded video from the selected site is displayed on the screen.

D001	
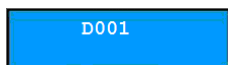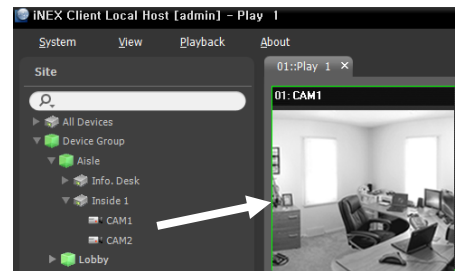
6. Press the 🖻 (Menu) button. The play screen menu is displayed.

7. Moving to the desired item by using arrow buttons and pressing the enter button (↵) selects the item in the menu or releases the selection. If you want to exit the current item setting, press the 🖻 (Menu) button and releases the selection.

Image Zoom
Motion/Object Search
Image Processing ▶
Aspect Ratio ▶
Save Still Image...
Remove ▶
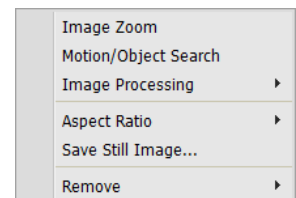
8. Refer to 18.4 Network Keyboard Buttons, Buttons for Client System Control (p. 147) for the explanations about other functions.

18.4 Network Keyboard Buttons

The following is an explanation of the network keyboard buttons used to control the Client system. Refer to the network keyboard User's Manual regarding buttons for PTZ control.

Buttons for Operation Commands

Button	Designation	Operation
1	Number (1 to 9)	• ID → MON, PANE, DEV: Selects a monitor, camera screen, panel tab or Client system to control.
0	Number (0)	• Does not function as a command button.
SHIFT	Shift	• SHIFT → Button : Performs the secondary function for buttons that support two functions.
ESC	ESC	• ESC : Cancels a command during its operation.

	Connection	• Client system ID → DEV : Connects to the Client system.
(DEV)	Disconnection	• SHIFT & DEV : Releases the connection to the Client system.
	Panel Tab	• Tab ID → DEV : Selects the panel tab.
(PANE)	Camera Screen	• Camera Screen ID → PANE : Selects the camera screen.
(MON)	Monitor	• Monitor ID → MON : Selects the monitor.
(−)	–	• (−) : Releases the connection of the currently selected camera screen or device.
F1	Function (1 to 8)	• F1: Displays monitor ID when using more than one monitor. • F7 (SHIFT & F3) : Allows you to change the settings of the System menu → Preference. Pressing the button again cancels the operation. • F8 (SHIFT & F4) : Displays the Client program's software version. Pressing the button again cancels the operation.

Buttons for Client System Control

NOTE: Some functions may not be supported, depending on the connected device.

Button	Designation	Operation
❗	Instant Recording On	• Camera Screen ID → ❗ : Starts instant recording for the selected camera screen.
	Instant Recording Off	• Camera Screen ID → SHIFT & ❗ : Stops instant recording for the selected camera screen.
🔔	Alarm Out On	• Camera Screen ID → 🔔 : Activates the alarm out 1 of the device connected to the selected camera screen. • 'Alarm-out device No.' → 🔔 : Activates the selected alarm out.
	Alarm Out Off	• Camera Screen ID → SHIFT & 🔔 : Deactivates alarm out 1 of the device connected to the selected camera screen. • 'Alarm-out device No.' → SHIFT & 🔔 : Deactivates the selected alarm out.
⊞	Display	• ⊞ : Allows you to change a screen format. Select a screen format by using arrow buttons and enter button (↵). • SHIFT & ⊞ : Changes to the 1x1 screen format. Pressing the button again returns to the previous screen format.
🎛	Group	• 🎛 : Moves to the next camera group.
❄	Freeze	• ❄ : Freezes the current live images on the screen.
	Zoom	• SHIFT & ❄ : Zooms in the current live images on the screen. You can move the zoomed-in area by using arrow buttons and enter button (↵).
▣	Full Screen	• 'Panel tab ID' → ▣ : Displays the panel tab in full-screen format.

|		
🛐	Search/Live	• 🛐 : Displays the Play or DVR Search panel and allows you to search and play back recorded video of the device connected to the selected camera screen in the Live panel is connected. • SHIFT & 🛐 : Returns to the previous Live panel.
◀◀	Fast Backward Play	• ◀◀ : Plays video backward at high speed in the playback mode.
	Backward Step	• SHIFT & ◀◀ : Plays video backward image-by-image in the playback mode.
▶/�II	Play, Pause	• ▶/II : Plays back video. Pressing the button while playing back video pauses the video.
▶▶	Fast Forward Play	• ▶▶ : Plays video forward at high speed in the playback mode.
	Forward Step	• SHIFT & ▶▶ : Plays video forward image-by-image in the playback mode.
🖳	Menu	• Displays the screen menu of the selected camera screen.
⊚	Enter Button (↵)	• Selects an item in the screen menu of the selected camera. • Toggles the zoom size when in the zoom mode.
⊛	Arrow Buttons	• Navigates through items in the screen menu of the selected camera screen. • Moves the zoomed-in area when in the zoom mode.
◎	Jog Dial	• Functions only when in the playback mode. • Plays video forward or backward image-by-image by turning the jog dial clockwise or counterclockwise when playback video has been paused.
◎	Shuttle Ring	• Functions only when in the playback mode. • Plays video when in the playback mode. The shuttle ring is spring loaded and returns to the center position when released. Turning the ring clockwise or counterclockwise plays video forward or backward. The playback speed varies with the amount the ring is turned: fast forward and rewind. • Controls the playback speed in the DVR Search panel.

Appendix

Schedule Setup Examples of Event Recording Mode

NOTE: Event recording is supported only for network video devices which use the iNEX protocol.

Example I

If motion detection events are detected at camera 1 on the Inside 1 device, and you want to record video from that camera, set up as follows:
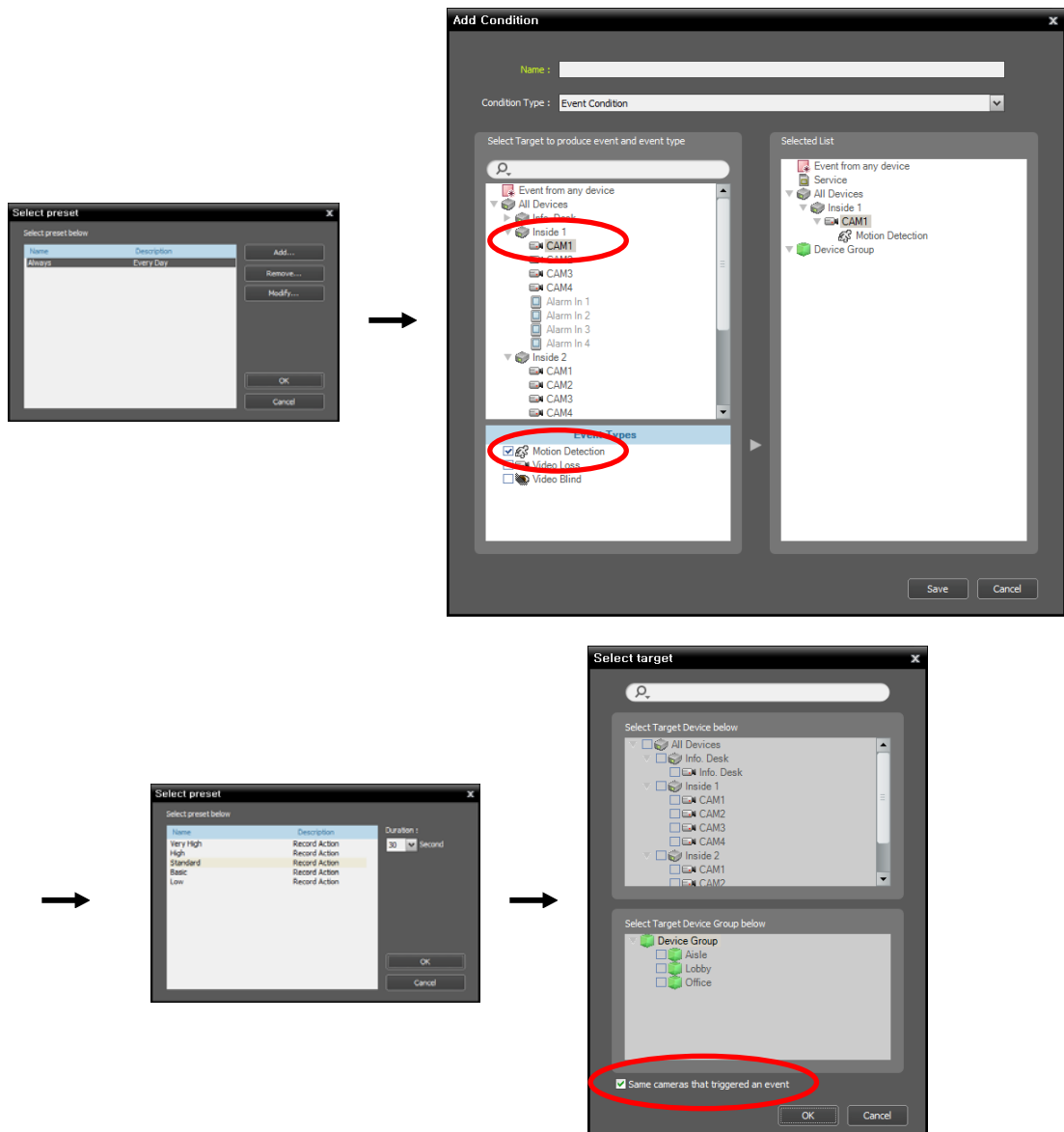
- Time Coverage preset: Select the Always preset.
- Condition preset
  − Condition Type: Select Event Condition.
  − Select Target to produce event and event type: Select All Devices, Inside 1, and CAM1 in order.
  − Event Types: Select Motion Detection.
- Action preset: Select a desired Preset.
- Target preset: Select the Same cameras that triggered an event option.

Example II

If motion detection events are detected at camera 1 on the Inside 1 device, and you want to record video from that camera and camera 1 of the Inside 2 device, set up as follows:
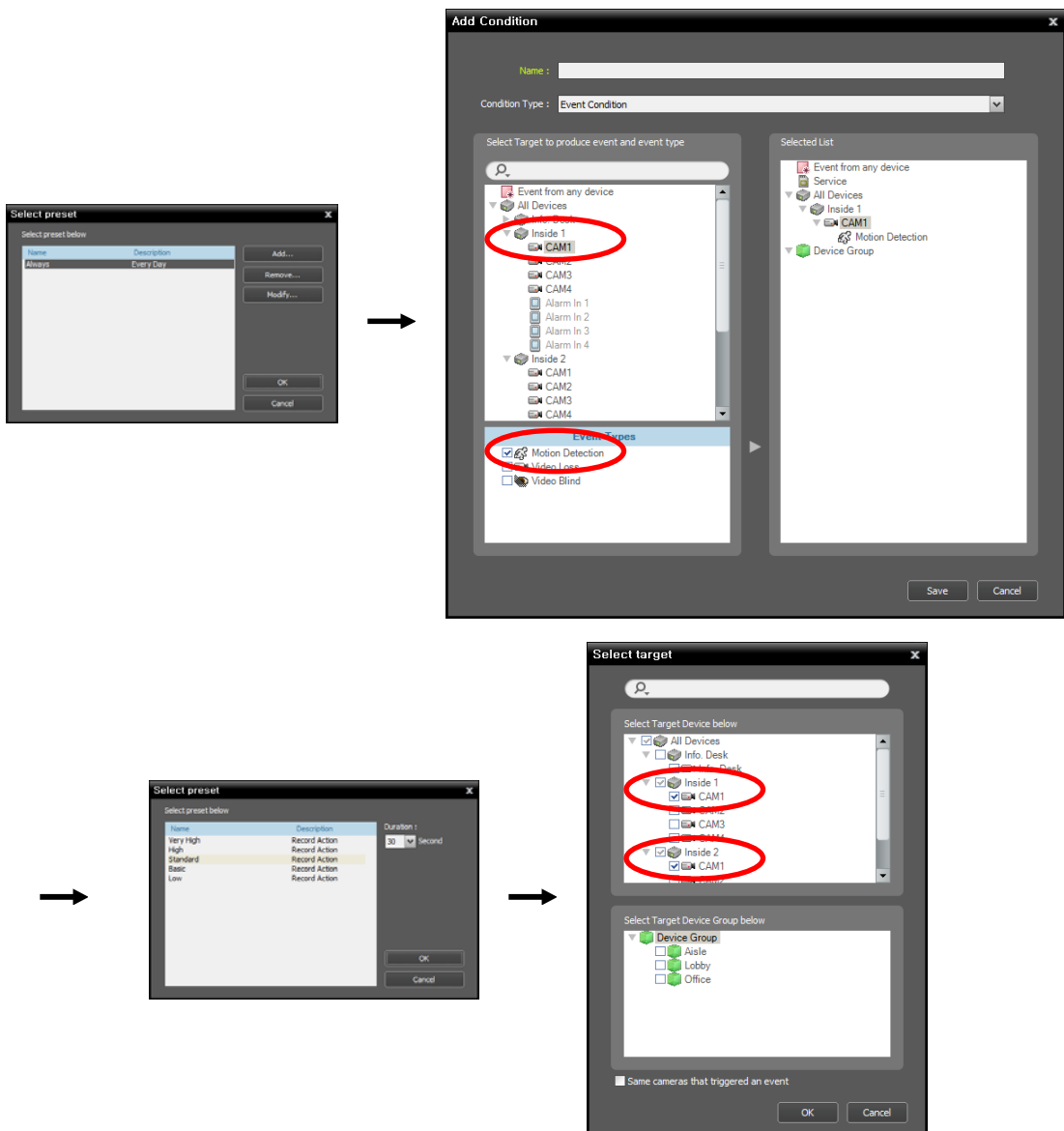
- Time Coverage preset: Select the Always preset.
- Condition preset
  - − Condition Type: Select Event Condition.
  - − Select Target to produce event and event type: Select All Devices, Inside 1, and CAM1 in order.
  - − Event Types: Select Motion Detection.
- Action preset: Select a desired Preset.
- Target preset: Release the Same cameras that triggered an event option → Select CAM1 of the Inside 1 device and CAM1 of the Inside 2 device from the All Devices list.

OSD Information

The OSD (On Screen Display) is displayed in each camera screen in the Live screen of the Client program.

- Camera Title: Indicates the camera name set in the iNEX program (upper left corner of the screen).
- ◁》 (Listen or Talk): Indicates the Client system can receive audio from or sends audio to the device (upper right corner of the screen).
- P (PTZ): Indicates PTZ control is enabled (upper right corner of the screen).
- ☐ (Camera Sequence): Indicates the cameras are being sequenced (upper right corner of the screen).
- ● (Red: Is displayed during recording in Time-Lapse Recording or Event-Based Recording mode), ◉ (Orange: Is displayed during recording in Instant Recording mode): Indicates video is being recorded in a recording server (upper right corner of the screen).
- ⊕ (Zoom In): Indicates video is zoomed in (upper right corner of the screen).
- Date, Time: Indicates the date or time of the administration server (bottom of the screen).
- Event Alert: Indicates an event detected (highlights the camera title bar in red).
- Motion Block: Indicates a motion event detected in the boxed area (on image) (supported only for network video transmitters which use the iNEX protocol).

Network Disconnection Log

ID	Explanation
0	Unknown error.
1	Logout.
2	All channels of the device are being used.
3	Invalid product version.
4	Invalid user ID or password.
10	No device is running.
11	Network is down.
12	Cannot reach the device's network.
13	Connection timeout.
15	Cannot reach the recording service.
16	No route is found to the device.
20	Connection cancelled.

Camera Installation Guide for Video Analytics Detection

For the video analytics detection to work properly, the cameras must be installed properly.

Location

- Indoors: Check the lighting condition.
    - ─ Low Light: Degrades the performance of the video analytics detection.
    - ─ Bright Light: See the Lighting section below.
- Outdoors: Check the weather condition.
    - ─ Rain & Snow: Makes it difficult to distinguish objects from rain and snow and can cause false detection.
    - ─ Light: Swarms of bugs and birds which are attracted to the bugs can cause false detection. It is recommended to position lights as far as possible from cameras by using a bracket if possible.

Lighting

- Sunlight: If the camera is pointed directly at the sun, the video analytics function will not work.
    - ─ Do NOT point cameras directly east or west which can blind the camera at sunrise or sunset.
    - ─ Extend the camera's sun shield if possible to increase protection from direct sunlight and protect the lens from dust and weather.
- Artificial Light: If the camera is pointed directly at a light, the video analytics function will not work.
    - ─ If lights are in front of the camera, avoid pointing the camera directly at the light or light reflected from shiny floors.

Camera Position

- Height/Angle: Greater heights with steeper angles provide more pronounced sensation of movement in the detection area. The camera must be mounted higher than people's heads.
- Object Size: If an object size is too big or too small, the object cannot be recognized by video analytics detection. The object has to be large enough but not too big to be detected (bigger than 1/4 and smaller than 3/4 of the screen vertically and horizontally). If the object size is too big on the screen, place the camera farther from the object or use a shorter lens. Do NOT use digital zoom in order to adjust the object size. Refer to the images below for the detectable ratio of the object size.

NOTE: The detectable object size on the screen might be different from the ratios shown below depending on the camera installation environment. Check the proper image size for detection on the screen in the current environment and adjust the camera position accordingly.

Recommended	Undetectable	
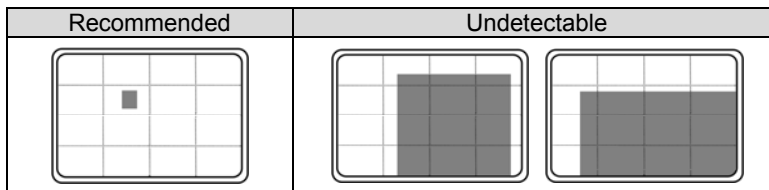
Background

- Floor: If the floor is made of glossy or transparent material and reflects light to the camera, place the camera as parallel as possible to the floor.
- Windows: If windows reflect sunlight or lights into the camera, place the camera as parallel as possible to the windows.

Camera Settings

- Focus: The focus settings for night might be different from the settings from day. Check and adjust the focus to be optimized for both day and night.
- BLC: If the camera has an automatic backlight feature, disable the feature.
- Shutter Speed Control: If the camera has a slow shutter feature where the shutter speed is automatically reduced at night, disable the feature.

Troubleshooting

Problem	Possible Solution
Login fails indicating no server running.	• Click the ⚙ button in the login screen and check that information about the administration server is set up correctly.
Monitoring is not available.	• Check that devices have been added to a device group. • Check that you have authority for monitoring.
The connection was released during monitoring and the Client system repeats reconnecting.	• Check the device status and the network connections for the device and iNEX system. • Check that the streaming service is running. When the streaming service is not running, monitoring is still available but it is restricted to fewer users based on the maximum number of simultaneous connections supported by the device.
No live video.	• Check the camera connections in the device. • Video display might lag because of system or network congestion.
Two-way audio communication is not available.	• Check the speaker and microphone connections in the device and the iNEX system. • Check the audio input and output settings of the device. • Two-way audio communication is one-to-one communication. If the device is already in audio communication with another system, try again when the other audio communication is disconnected.
Recording is not available.	• Check that storage is allocated and a recording schedule is set up. • Check the device registration information. The recording function is supported only for a device registered as admin user. • Check the recording status of the device. If the same device is registered on another recording service which is registered on another administration service, only the first recording server that is connected to the device records video. Once a recording service connects to the device, other recording servers will not record video from the device unless connection of the first recording service is released. To record video in the current recording server, delete the device registration or disable the device in the administration service on which the other recording service is registered by editing the device information.
Recording OSD is not displayed.	• The recording OSD might be displayed later or for longer than the scheduled time because of the recording delays caused by system congestion.
A WIBU-Key is not recognized.	• Disconnect the WIBU-Key from the current USB port and connect it to other USB ports. The problem might occur when you try to connect other USB devices to the same administration server as the WIBU-Key is connected.

Cannot operate the iNEX program because of wrong ID and password.	• Run the SecretKey program (Go to the **Start** Menu → Click **iNEX** and then **Utility**). When you provide the result to your dealer or distributor, you will receive a new user ID and password. • Uninstall and reinstall the iNEX program. You must delete all saved data, and the deleted data cannot be restored.
Cannot operate the iNEX program because of wrong port number.	• Check that the current port number is used in other programs or filtered or blocked for security purposes and change the port number during the Service Manager program setup. The default port number of administration service is 11001, recording service is 11002, monitoring service is 11004, streaming service is 11003 and video analytics service is 11007.

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WEEE (*Waste Electrical & Electronic Equipment*)

Correct Disposal of This Product
(Applicable in the European Union and other European countries with separate collection systems)