

Moxa SoftNVR-IA™ IP Surveillance Software User's Manual

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Moxa SoftNVR-IA™ IP Surveillance Software User's Manual

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Product Information

The following topics are covered in this chapter:

- ❑ **Overview**

- ❑ **Features**

- OPC Communication
- Live View
- Video Record
- Playback and Search
- Schedule
- Alarm Event
- System

- ❑ **Recommended System Requirements**

- ❑ **Video Performance Reference**

- ❑ **SoftNVR-IA Package Contents**

- ❑ **Release Notes**

Overview

SoftNVR-IA is a 64-channel IP surveillance software for industrial applications. The key feature of SoftNVR-IA is built-in OPC server, which can directly communicate with industrial automation systems, such as SCADA and HMI. The video recording and alarm handling functions are not only able to be triggered by SoftNVR-IA supported events (ex. Digital Input, Video Loss), but also by the events of the automation system to enhance system intelligence. Most importantly, SoftNVR-IA offers boundless potential for integrating IP surveillance systems with automation systems for industrial system integrators.

Features

OPC Communication

- Receive event tags sent from the automation system to trigger video recording and other actions
- Send event tags to the automation system including system information and the status of each channel

Live View

- Supports 1, 4, 6, 9, 10, 13, 16, 25, 32, 64 live displays, as well as video rotate and full screen display
- Supports MJPEG, MPEG4, and H.264 video streams (with VPort models, excluding the VPort 2000 series and VPort 3310)
- Supports up to 64 channels in the camera list
- Easy-to-use with a drag and drop video display selection
- Provides snapshot images (in JPEG format)
- Supports image tuning, including brightness, saturation, contrast, and hue
- Supports 2-way audio for voice communication between field sites and the control center
- Supports dual monitor and full screen displays
- Supports display screen rotation
- Supports the PTZ control panel defined by VPort products

Video Record

- Video recording can be triggered by event or manually activated
- Video files are in AVI format and can be played back on all popular media players (requires FFDSHOW codec)
- Supports the FIFO recycle function for long-time video recording
- The number of days recorded video files are stored is user definable
- Supports up to 30 seconds of pre-event video recording
- Storage hard disk can be selected from the network hard drives

Playback and Search

- Plays back up to 4 recorded videos simultaneously
- Supports timeline selection when in video playback mode
- Supports stop, speed up, slow down, rewind frame-by-frame, and forward frame-by-frame
- Search video records by camera, time, or event
- Supports snapshot taking when in video playback mode

Schedule

- A weekday schedule can be set up
- Schedule settings can be based on the camera and events

Alarm Event

- Alarm events: Digital input, Video Loss, camera IVA trigger
- Accepts events from the automation system via OPC communication
- Alarm triggered actions: popup display, go preset, play sound, trigger DO (relay)

System

- Automatic search or manual detection of a video device's IP address on the LAN
- Server name is user configurable
- Configure multiple email addresses for receiving alarm messages
- Folder and file names of snapshot images can be customized
- Language version: English, Traditional Chinese, and Simplified Chinese

Recommended System Requirements

- Intel Core 2 Duo QX6700 or above
- 2GB RAM or above
- Windows XP with SP3
- Motherboard: Intel 945 or 965 chip, Intel chipset recommended
- Display card: NVIDIA GeForce GT210 or above (dual monitoring requires 2 output)

Video Performance Reference

The video performance reference below is based on lab tests following Moxa's recommended system requirement. The total FPS displayed (frames per second) means the total FPS we tested in the given video channels, where each video channel is in 30FPS video stream, and monitor display. For the video recording, all the video streams are in 30FPS, but display capabilities may be influenced by the PC's resource.

Video Channels	Monitor Display	Total FPS displayed in Full D1 (720x480) resolution		Total FPS displayed in CIF (352x240) resolution	
		MPEG4	H.264	MPEG4	H.264
16 channels	Single Monitor	440	330	480	400
	Dual Monitors	440	300	460	400
20 channels	Single Monitor	525	325	600	515
	Dual Monitors	455	365	580	485
25 channels	Single Monitor	Not recommend	Not recommend	750	650
	Dual Monitors			715	635
32 channels	Single Monitor			885	800
	Dual Monitors			805	775

NOTE The system requirements listed above are the basic recommendation for running SoftNVR-IA. For advanced video performance when viewing and recording video images, you may choose to install a better video card, more memory, and better computing power.

NOTE It is not recommended to display 25 or 32 videos channels in full D1 (720x480 or 720x576) simultaneously. To simultaneously display 25 or 32 video channels in Full D1 resolution you must lower the FPS of each VPort, or the video will be abnormally displayed . For example, if 25 channels of videos need to be simultaneously displayed in Full D1 resolution, each video stream must lowered to $455 \div 25 \approx 18$ FPS or lower.

SoftNVR-IA Package Contents

- Software CD (includes user's manual)
- USB Key Pro

Release Notes

SoftDVR-IA

Version 1.0

Date 2010/2/28

Release Note

- Newly released

SoftNVR-IA™ Installation

The following topics are covered in this chapter:

- ❑ **Before Installing the Software**
- ❑ **Starting the Installation**
- ❑ **USB Key Pro**

Before Installing the Software

Make sure your PC has DirectX 9.0C or above installed.

Starting the Installation

Step 1: Insert the installation CD.

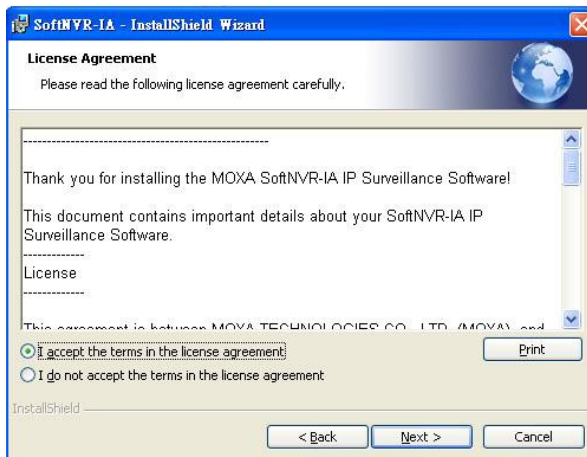
Step 2: Run SoftNVR-IA_Vxx.exe from the CD-ROM directory. A language selection table will pop up. Select the language of your choice.



ATTENTION

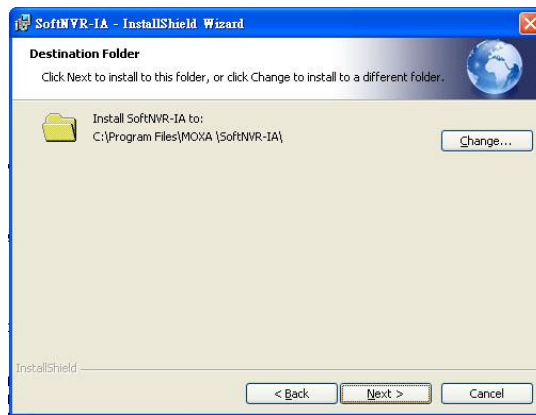
SoftNVR-IA V1.0 supports 3 languages: English, Traditional Chinese, and Simplified Chinese. If you require another language, contact Moxa's sales representative.

Step 3: Select "I accept the terms of the license agreement" and click **Next** to continue.

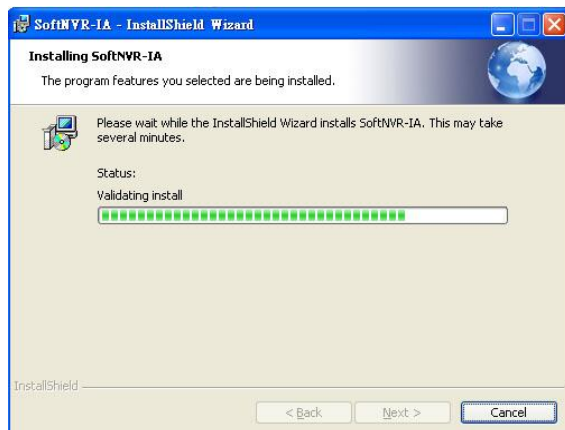
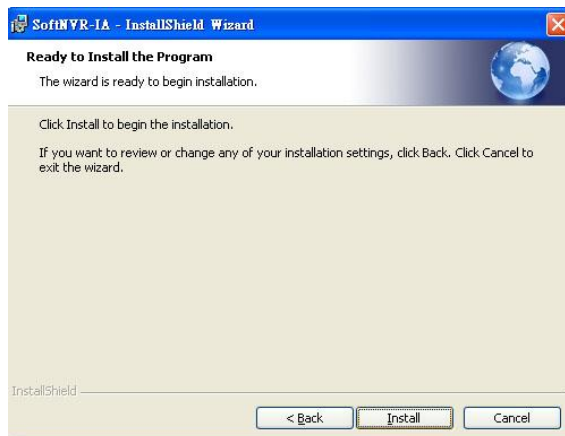


NOTE The NET 2.0 framework must be installed on this PC or server in order for SoftNVR-IA to work properly. If the NET 2.0 framework is not currently installed, please install it before continuing with the SoftNVR-IA installation.

Step 4: Select the installation folder.



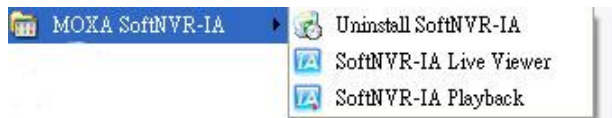
Step 5: Select **Install** to start the installation.



Step 6: Finish the installation process by selecting **Finish**.



Step 7: Verify the MOXA SoftNVR-IA folder is in the Program list. There are three programs: SoftNVR-IA Live Viewer, SoftNVR-IA Playback, and Uninstall SoftNVR-IA. If any of the three is missing, you will need to initiate the installation process again.



NOTE To uninstall SoftNVR-IA, run the Uninstall SoftNVR-IA, or the SoftNVR-IA_Vxx.exe again, and follow the instruction for the removal of SoftNVR-IA.

USB Key Pro

The "Key Pro" located in your CD box must be plugged into your computer's USB port to enable proper SoftNVR-IA operations. The driver was automatically installed during the SoftNVR-IA installation.



NOTE The USB "Key Pro" protects the SoftNVR-IA license and does not influence normal PC or server functions.

NOTE Without the USB "Key Pro", SoftNVR-IA will automatically close after three hours of use.

SoftNVR-IA™ Live Viewer

The following topics are covered in this chapter:

- ❑ **Login to SoftNVR-IA Live Viewer**
- ❑ **SoftNVR-IA Live Viewer**
- ❑ **Tool Bar**
- ❑ **System Information**
- ❑ **Camera List**
- ❑ **PTZ Control Panel**
- ❑ **Alarm History**
- ❑ **Live Video Display**
 - Image Caption
 - Device Connection
 - Popup Menu
 - Dual Monitor Display
- ❑ **Menu**
 - Project
 - View
 - Settings
 - Display
 - Service
 - Help

Login to SoftNVR-IA Live Viewer

When SoftNVR-IA Live Viewer starts, you will be prompted to login with user name and password. The default user name is "Admin" without password.



SoftNVR-IA Live Viewer



Tool Bar

Live video display control



Dual monitor control



Video record control



Take snapshot images



Open playback window



Start OPC server



Open E-map



Enable audio



NOTE Here is an example to show how the Rotate function works:

When there is 7 videos,

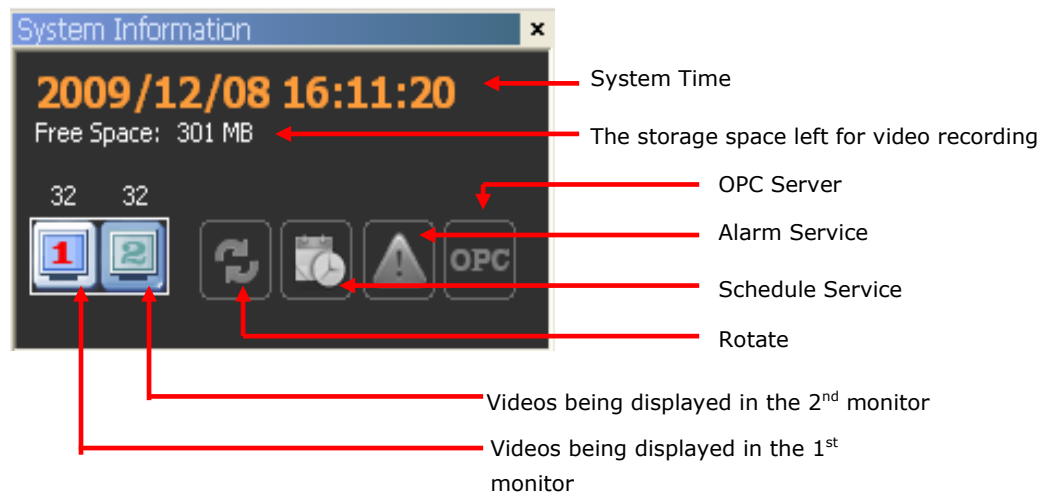
1-screen display: 1 → 2 → 3 → 4 → 5 → 6 → 7 → 1 → 2 → 3...

4-screen display: 1+2+3+4 → 5+6+7 → 1+2+3+4 → 5+6+7 → ...

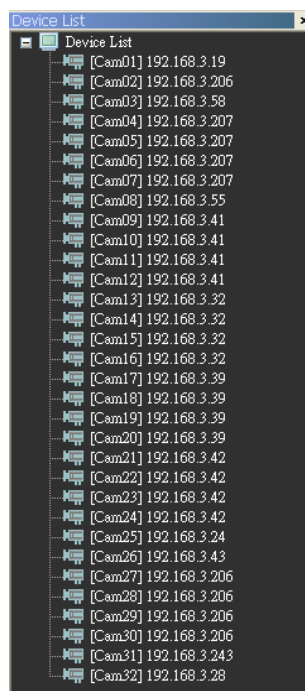
6-screen display: 1+2+3+4+5+6 → 7 → 1+2+3+4+5+6 → 7 → ...

9-screen display: 1+2+3+4+5+6+7 → 1+2+3+4+5+6+7 → ...

System Information

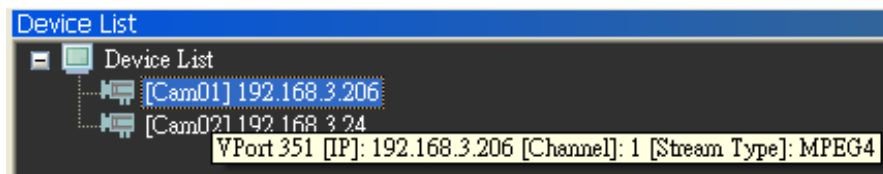


Camera List



A maximum of 64 cameras can be listed in the camera list.

Move the cursor to the selected camera, and then a tooltip will show the model name, IP address, channel number, and stream type. Double click on the selected VPort to open this VPort's web console.



PTZ Control Panel

SoftNVR-IA's PTZ control commands are identical to the VPort's PTZ control commands.

PTZ control with extra commands



PTZ control with custom commands



Alarm History

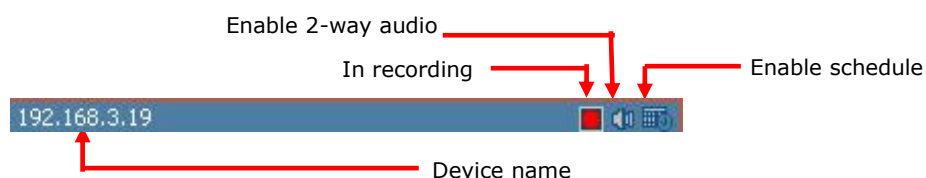
Device Name	Start Time	Event Type	Description
[Cam01] 192.168.3.39	2010/01/20 11:16:51	OPC Trigger	OPC Test Event
[Cam01] 192.168.3.39		OPC Trigger	OPC Test Event
[Cam01] 192.168.3.39		OPC Trigger	Test
[Cam03] 192.168.3.55		Manual Record	Manual Record
[Cam02] 192.168.3.244	2010/01/20 11:15:10	Manual Record	Manual Record
[Cam01] 192.168.3.39	2010/01/20 11:15:10	Manual Record	Manual Record
[Cam01] 192.168.3.39	2010/01/20 11:14:55	Always Record	Always Record
[Cam01] 192.168.3.39	2010/01/20 11:14:20	Video Loss	Video Loss
[Cam03] 192.168.3.55	2010/01/20 11:12:07	Manual Record	Manual Record
[Cam02] 192.168.3.244	2010/01/20 11:12:07	Manual Record	Manual Record
[Cam01] 192.168.3.39	2010/01/20 11:12:07	Manual Record	Manual Record

The alarm history shows SoftNVR-IA's events. The maximum number of events is 500. Click on the right button of mouse for a popup menu to clear all the alarms (**Clear All**) or show the 50 latest alarms (**Show Latest 50 Records**).

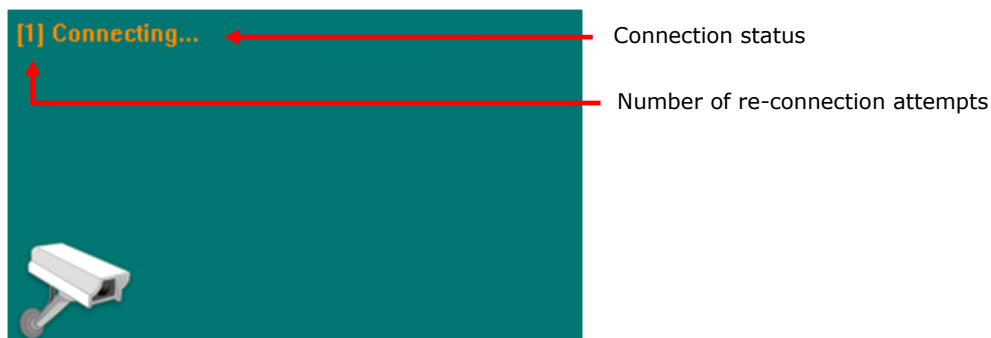
Live Video Display

To display video in the live video display area, just drag and drop the selected camera from the camera list to the Live Video Display area.

Image Caption



Device Connection



Popup Menu



Right click on the image for the popup menu:.

- **Full Screen:** Change to full screen display
- **2-Way Audio:** enable the 2-way audio
- **Snapshot:** take snapshot image
- **Connect:** when the retry connection has failed 5 times, select this function to re-start the retry connection.

- **Manual Record:** manually enable or disable the video recording. If the schedule is enabled, then "Manual Record" will be greyed out..
- **Alarm Confirmed:** In the event of an alarm, the image will be surrounded a continuously flashing red frame. Use "Alarm Confirmed" to manually stop the event alarm and the flashing red frame.
- **Digital Zoom:** Zoom in or out video image by scrolling mouse wheel



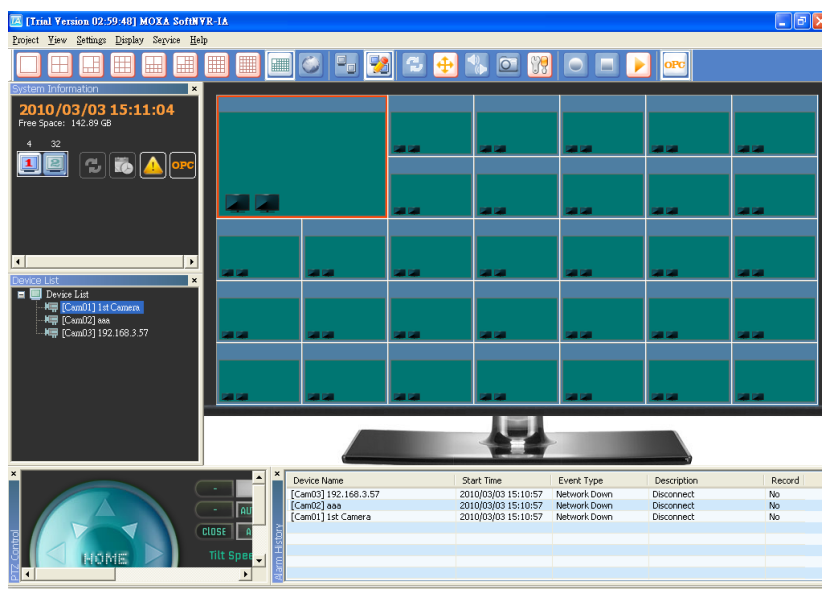
- **I-Frame Decode Only:** Decode i-Frame only for video display
- **Start PTZ Patrol:** Start PTZ Patrol (Group1~4 configurable)
- **Stop PTZ Patrol:** Stop PTZ Patrol

NOTE When SoftNVR-IA receives an alarm notification, it can only be disabled via Alarm Confirmed.

Double click on the video image to display the video image in full screen mode. You may use the cursor to drag the video image to view different parts of the image.

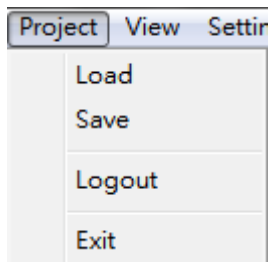
Dual Monitor Display

SoftNVR-IA supports dual monitor display to accommodate the needs of different video applications. Users can click on the "Dual Monitor Editor" button in the "Tool Bar" to edit the 2nd monitor's video display. Use drag and drop to configure the video cameras being displayed on the 2nd monitor.



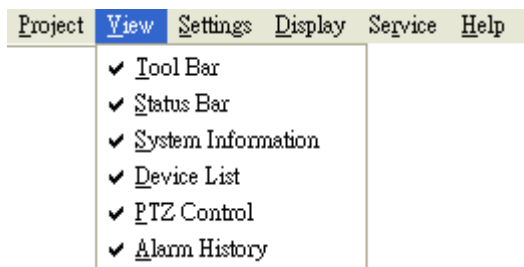
Menu

Project



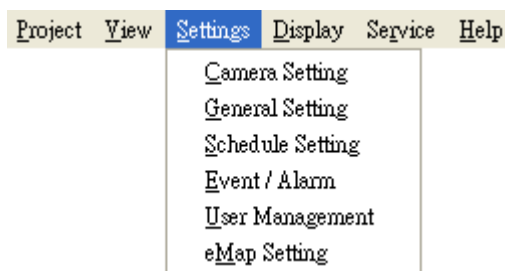
- Load: Import system configuration file
- Save: Export system configuration file
- Logout: log out of SoftNVR-IA (V1.1 and up)
- Exit: close SoftNVR-IA

View



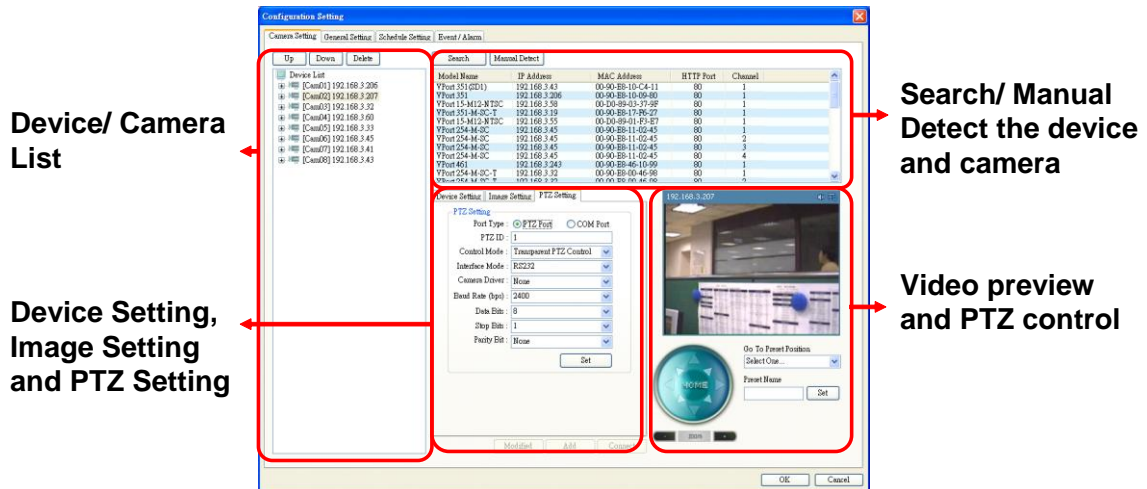
Show or hide the Tool Bar, Status Bar, System Information, Device List, PTZ Control, and Alarm History

Settings



Camera Setting

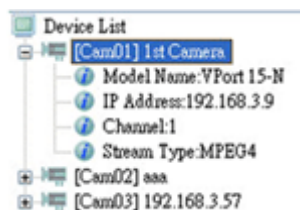
To add, delete, and edit the device list.



Search and Manual Detection of devices and cameras: to add a camera, use the “Search” or “Manual Detect” button to detect the VPort devices on the LAN.

NOTE SoftNVR-IA supports Moxa VPort series product only (except the VPort 2110, VPort 2310, VPort 2140, VPort 2141, and VPort 3310).

- **Video Preview and PTZ Control:** Select the VPort device from the device list or select the device you want to search or manually detect, and this will enable its video to be previewed here. In addition, you may try out the PTZ control function here.
- **Device/ Camera List:** This list shows the devices or cameras in the device list. Click on each camera’s + to see the device’s model name, IP address, channel number, and streaming type.



Device Setting, Image Setting, and PTZ Setting:

- **Device Setting:** These settings are identical to the VPort's settings, which means the VPort device's settings will also be updated when you make modifications here.

The screenshot shows the 'Device Setting' tab with the following fields and options:

- Device Name: 192.168.3.39
- IP Address: 192.168.3.39
- User Name: admin
- Password: *****
- HTTP Port: 80
- RTSP Port: 554
- Channel: 1
- Stream ID: 1
- Video Format: ☒ MPEG4 ☐ MJPEG ☐ H.264
- Protocol: ☐ UDP ☒ TCP ☐ HTTP
- ☐ Multicast ☐ Multicast Push
- Group Address: [Empty]
- NIC Address: [Empty]
- Video Port: [Empty]
- Audio Port: [Empty]

Buttons at the bottom: Modify, Add, Connect.

- **Image Setting:** These settings are identical to the VPort's settings, which means the VPort device's settings will also be updated when you make modifications here.

The screenshot shows the 'Image Setting' tab with the following fields and options:

- Mode: ☐ Frame Rate ☐ Resolution
- Camera Module: ☒ NTSC ☐ PAL
- Resolution: 720*480
- Frame Rate: 30
- ☐ Fixed Bitrate: 600Kbps
- ☒ Fixed Quality: Good
- Buttons: Set, Default
- Image Tuning:
 - Brightness: 1
 - Saturation: 0
 - Contrast: 0
 - Hue: 0
 - Buttons: Default

- **PTZ Setting:** These settings are identical to the VPort's settings, which means the VPort device's settings will also be updated when you make modifications here.



PTZ Setting

Port Type : ☒ PTZ Port ☐ COM Port

PTZ ID : 3

Control Mode : Transparent PTZ Control

Interface Mode : RS232

Camera Driver : Pelco D

Baud Rate (bps) : 9600

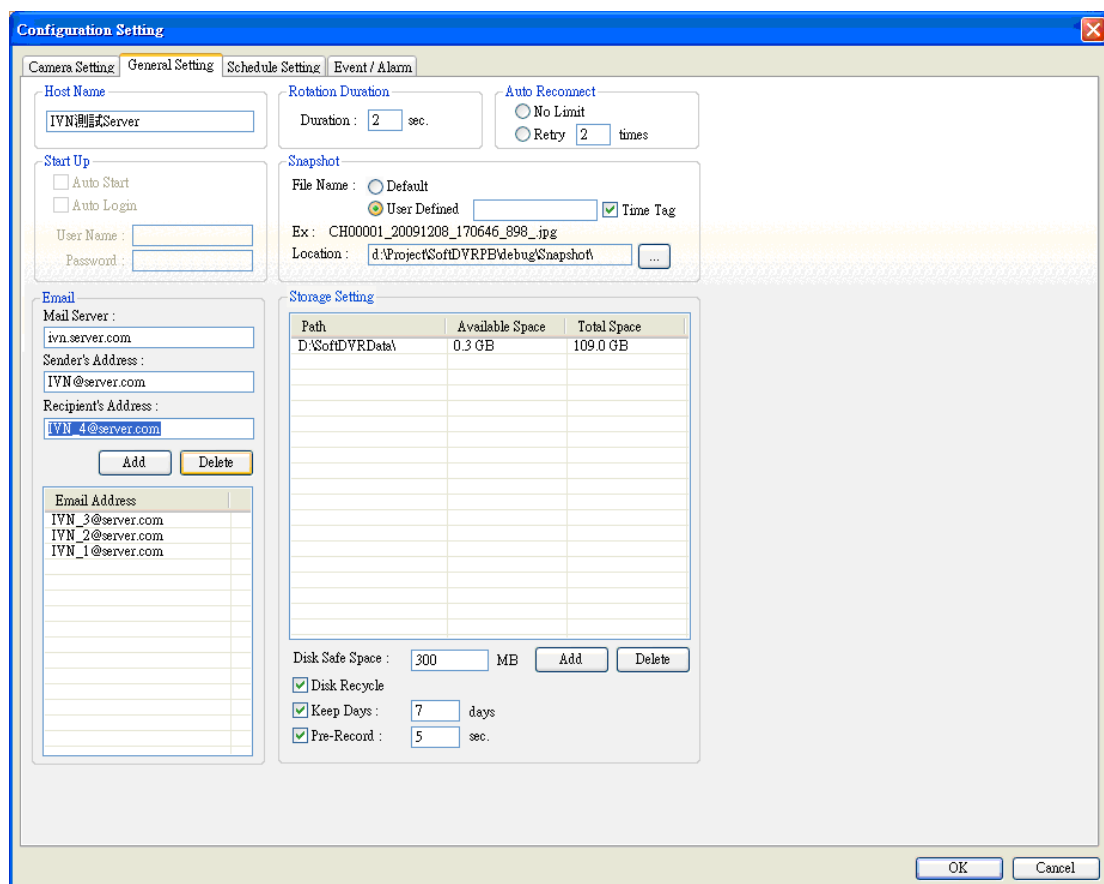
Data Bits : 8

Stop Bits : 1

Parity Bit : None

Set

General Setting



Configuration Setting

Camera Setting | General Setting | Schedule Setting | Event / Alarm

Host Name : IVN测试Server

Rotation Duration : Duration : 2 sec.

Auto Reconnect : ☐ No Limit ☐ Retry 2 times

Start Up : ☐ Auto Start ☐ Auto Login

User Name : Password :

Email : Mail Server : ivn.server.com

Sender's Address : IVN@server.com

Recipient's Address : IVN_4@server.com

Add Delete

Email Address : IVN_3@server.com IVN_2@server.com IVN_1@server.com

Snapshot : File Name : ☐ Default ☒ User Defined Time Tag

Ex : CH00001_20091208_170646_898_.jpg

Location : d:\Project\SoftDVRPE\debug\Snapshot\

Storage Setting

Path	Available Space	Total Space
D:\SoftDVRData\	0.3 GB	109.0 GB

Disk Safe Space : 300 MB Add Delete

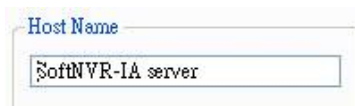
☒ Disk Recycle

☒ Keep Days : 7 days

☒ Pre-Record : 5 sec.

OK Cancel

- **Host Name:** The server name of SoftNVR-IA will be shown on the caption of the main screen window.



Host Name

SoftNVR-IA server

[Trial Version 02:59:23] MOXA SoftNVR-IA [SoftNVR-IA server]

- **Startup:** System startup conditions

Auto Start: Once the server boots up, SoftNVR-IA will start automatically.

Auto Login: Once SoftNVR-IA executes, it will automatically log in with the provided user name and password.

Note: This function is available for V1.1 and up

- **Email:** Setup email account(s) to receive system or alarm messages.

Mail Server: The name of the mail server.

Sender's Address: The sender's email address.

Recipient's Address: A maximum of 30 recipient's email can be setup to receive messages.

- **Rotation Duration:** The duration before a camera rotates to the next position.
- **Auto Reconnect:** The number of re-connection attempts can be set by inputting any given number, alternatively it can be set to unlimited attempts.
- **Snapshot:** snapshot image's configurations

File name: Set the file name with the default name or a user-defined name—with or without a time tag. The file name format is listed below:

File name explanation :

CH00001_20091210_140235_IVN.jpg

CH00001= Channel 1

20091210 = Year 2009, December, 10th.

140235= 14 hour, 02 minutes, 35 seconds

IVN = user-defined name.

Location: the storage folder for the snapshot images.

- **Storage Setting:** Storage setup settings.

[illegible]

Path list: The storage folder path list

Add: Add a storage folder path to the list

Delete: Delete a storage folder path from the list

Disk Safe Space: Set the storage disk safe space (MB) to ensure the stability of the storage system.

Disk Recycle: Selecting “Disk Recycle” allows for the oldest file to be deleted to accommodate the latest recorded video files when the storage disk is full.

Keep Days: Set the number of days for keeping recorded video files in the system. The video files over the “Keep Days” will be deleted automatically. The maximum “Keep Days” is 7.

Pre-Record: Set the pre-record video time frame before an event. The time frame starts from 5 to 30 seconds.

Schedule Setting

[illegible]

- Setup a schedule

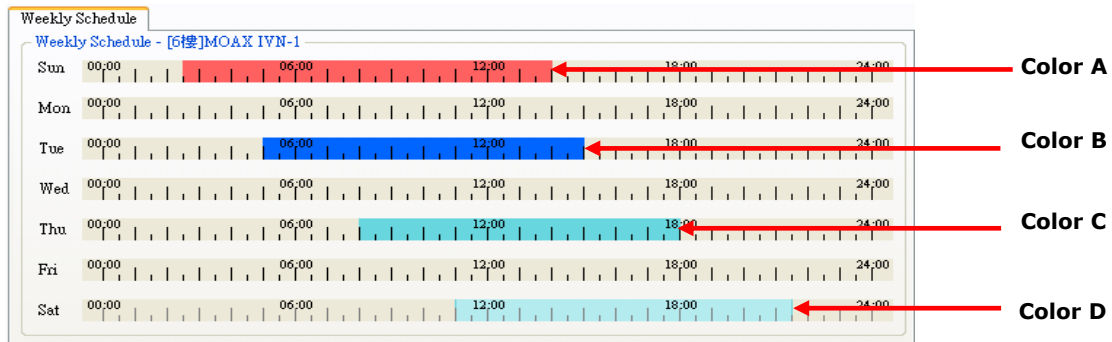
Step 1: select a device/ camera from the device list

Step 2: set the weekly schedule

Step 3: set the record setting

Step 4: click Add/Modify to add the schedule to the list on the right

- Weekly Schedule



- Color A: non-stop recording
- Color B: record by event
- Color C: marked area for Add/Delete/Modified schedule
- Color D: drag and drop color C to erase marked area

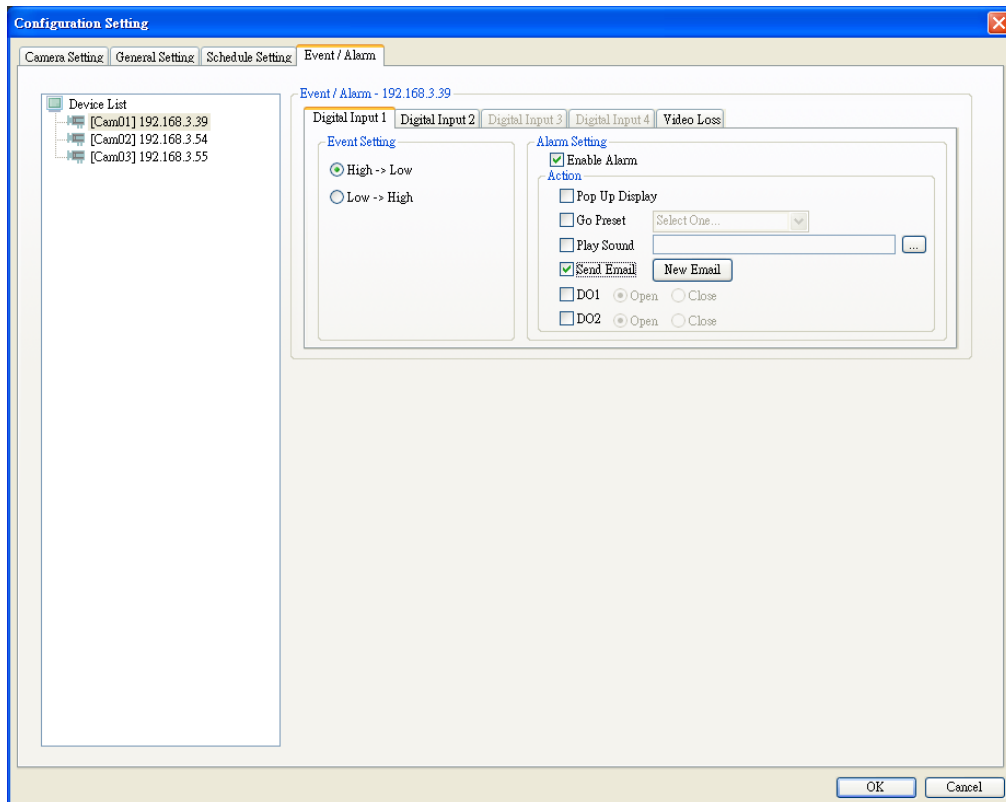
- Setting

[illegible]

- Always Record: non-stop video recording
- Record by Event: video recording is triggered by events
- Schedule List: lists the schedule for the camera. Click on Add/ Modify to add a new schedule. Click on "Delete" to delete a selected schedule.

NOTE Some VPort devices only have 2 digital inputs. Therefore, it is useless for the digital input 3 and 4 in these VPort devices.

Event/Alarm



- Setup an Event/ Alarm

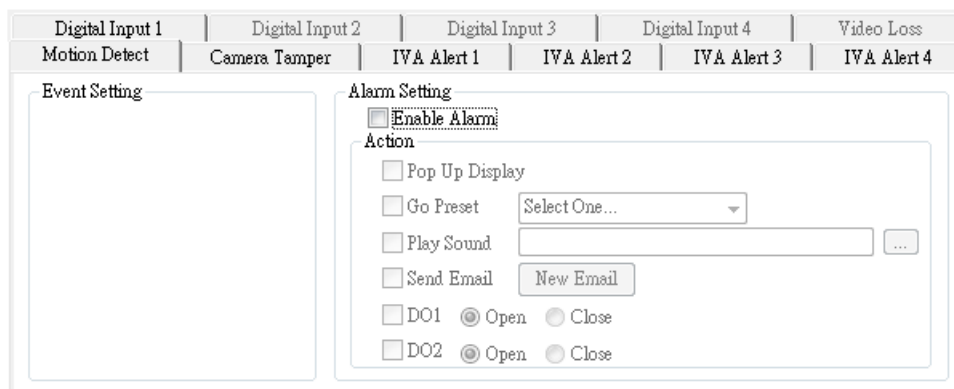
Step 1: select a device/ camera from the device list

Step 2: set the event/ alarm type

Step 3: set the event/ alarm action

Step 4: click on "OK" to save the event/ alarm

- Event Type and Action



- Digital Input: Set the digital input trigger conditions
- Video Loss: Once the video signal is lost, a event notification is triggered
- IVA Alert: An event notification is triggered when an IVA alert is received from a connected camera
- Pop Up Display: The video of selected camera will pop up (full window screen) once an event is triggered
- Go to Preset: The camera will move to a preset position once an event is triggered.
- Play Sound: The PC or server will play a preselected sound once an event is triggered.

- Send Email: An email will be sent to the selected email address(es) from the recipients' email list once an event is triggered. The subject, attached snapshot images, and message can be edited

The 'New Email' window shows fields for 'From' (IVN_Sender@ivn.mail.com), 'To', 'CC', and 'Subject' (DI1 Event Message). It has a checked 'Attach Snapshot File' option and a text area containing 'DI1 event has been triggered'. The 'Recipient List' window shows a list of email addresses: IVN_1@ivn.mail.com, IVN_2@ivn.mail.com, IVN_3@ivn.mail.com (checked), IVN_4@ivn.mail.com (checked), IVN_5@ivn.mail.com, and IVN_6@ivn.mail.com. Both windows have 'OK' and 'Cancel' buttons.

- DO1 & DO2: the DO (Relay Output) will be activated once an event is triggered.

User Management

The 'Configuration' window has tabs for Camera Setting, General Setting, Schedule Setting, Event / Alarm, User Management (selected), and eMap Setting. The 'User Information' table shows two users: Admin and IVN_Admin. The 'Setting' section for IVN_Admin shows fields for User Name, Group (Admin), Password, Confirm Password, and Description. The 'Privilege' section has checkboxes for Audio Post, Snapshot, Manual Record, Playback, PTZ, OPC Server, Alarm Service, Schedule Service, Alarm History, and Configuration. The 'Device List' section shows a list of devices: [Cam01] 192.168.127.103, [Cam02] 192.168.3.206, [Cam03] 192.168.3.12, [Cam04] 192.168.3.42, and [Cam05] 192.168.127.100. Buttons for 'Add / Modify', 'Delete', 'OK', and 'Cancel' are at the bottom.

User Name	Group	Device List	Audio...	Snapshot	Manua...	Playb...	PTZ	OPC	Alarm	Sched...	Alarm...	Con...	Description
Admin	Admin	Cam01	0	0	0	0	0	0	0	0	0	0	
IVN_Admin	Admin	Cam01	0	0	0	0	0	0	0	0	0	0	
		Cam02											
		Cam03											
		Cam04											
		Cam05											

- Information will be displayed in the setting area based on the account selected from the user list
- A maximum of 32 user accounts can be created (not counting the Admin account)

Setting - Admin

- Privileges and the accessible device list for the default Admin cannot be changed; only the password and description can be edited.

Setting - Operator

- Privileges cannot be changed, but the accessible device list of the operator account can be changed.

Guest

- Privileges cannot be changed, but the accessible device list of the guest account can be changed.

User Defined

Setting

User Name :

Group : **User Defined** ▼

Password :

Confirm Password :

Description :

Privilege

☐ Audio Post ☐ Snapshot ☐ Manual Record
☐ Playback ☐ PTZ ☐ OPC Server
☐ Alarm Service ☐ Schedule Service ☐ Alarm History
☐ Configuration

Device List

- ☐ Device List
- ☐ [Cam01] 192.168.127.103
- ☐ [Cam02] 192.168.3.206
- ☐ [Cam03] 192.168.3.12
- ☐ [Cam04] 192.168.3.42
- ☐ [Cam05] 192.168.127.100

Add / Modify

Delete

- All configuration items are open for user defined accounts.

eMap Setting

Configuration

Camera Setting | General Setting | Schedule Setting | Event / Alarm | User Management | **eMap Setting**

Load Delete

Device List
 [Cam01] 192.168.3.206
 [Cam02] 192.168.127.106
 [Cam03] 192.168.3.12
 [Cam04] 192.168.3.42
eMap List
 [Map01] eMap Sample

eMap Information

Load eMap

eMap Name : eMap Sample

File Path : D:\Project\SoftNVR-IA\SoftDVR\release\eMap ...

Add Cancel

Indicator Information

Name

Link

Icon

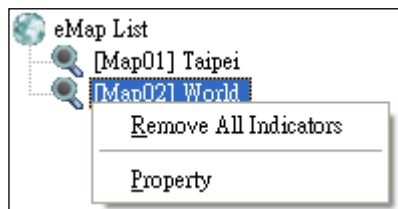
Direction

Modify

Remove

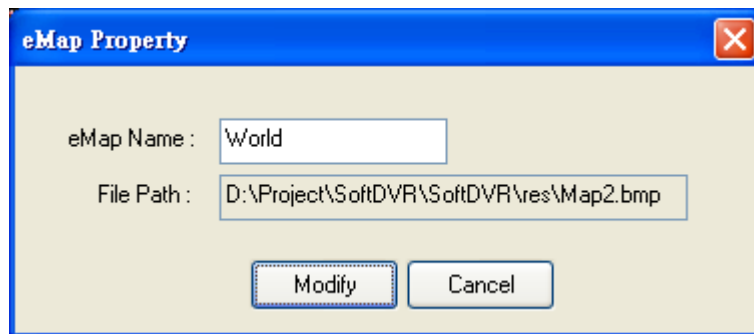
OK Cancel

- Press "Load" to import a map image file and create an e-map. The created e-map will be listed in the eMap list below.
 - Press "Delete" to remove the selected eMap from the list.
 - You can drag the device or eMap from the tree list to the map image on the right; an icon indicator for the device or eMap will be created on the map image accordingly.
- NOTE: One device or eMap can only be displayed on one map at a time.*
- The maximum number of supported eMaps is 32.



Right clicking on a map item in the eMap list causes a menu to pop up.

- Remove All Indicators : Remove all indicators from this map.
- Property: Open the eMap Property window to change the name (as shown below).



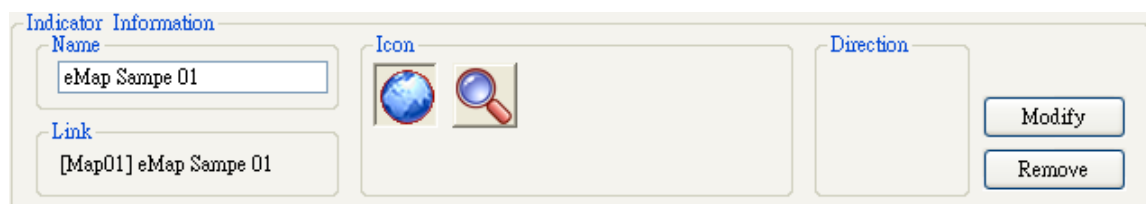
Indicator Information

From Device List



- - Name: The name of the indicator
- - Link : Show the camera to which the indicator is linked
- - Icon : Three different types of camera icon
- - Direction: Choose the direction of the camera
- - Modify: To change the indicator configuration
- - Remove: Remove this indicator

From eMap List



- - Name: The name of the indicator
- - Link: Show the eMap to which the indicator is linked
- - Icon: Two different types of eMap icon
- - Modif: To change the indicator configuration
- - Remove: Remove this indicator

Display



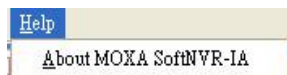
Show or hide the control or information window.

Service



- Start Alarm: enable or disable event/ alarm detections and actions.
- Start Schedule: enable or disable the schedule
- Start OPC Server: enable or disable OPC Server communications.

Help



Shows the version number and company information

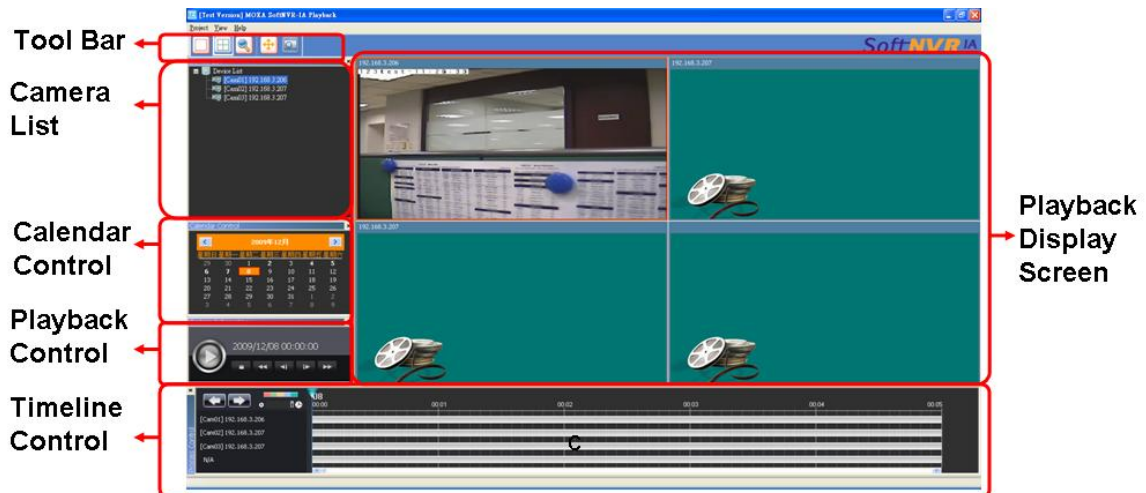


SoftNVR-IA™ Playback

The following topics are covered in this chapter:

- ❑ **SoftNVR-IA Playback**
- ❑ **Tool bar**
- ❑ **Search Recorded Videos**
- ❑ **Calendar Control**
- ❑ **Playback Control**
- ❑ **Timeline Control**
- ❑ **Playback Display Screen**

SoftNVR-IA Playback



Tool bar

Playback video display control



Event Search



Full Screen Display

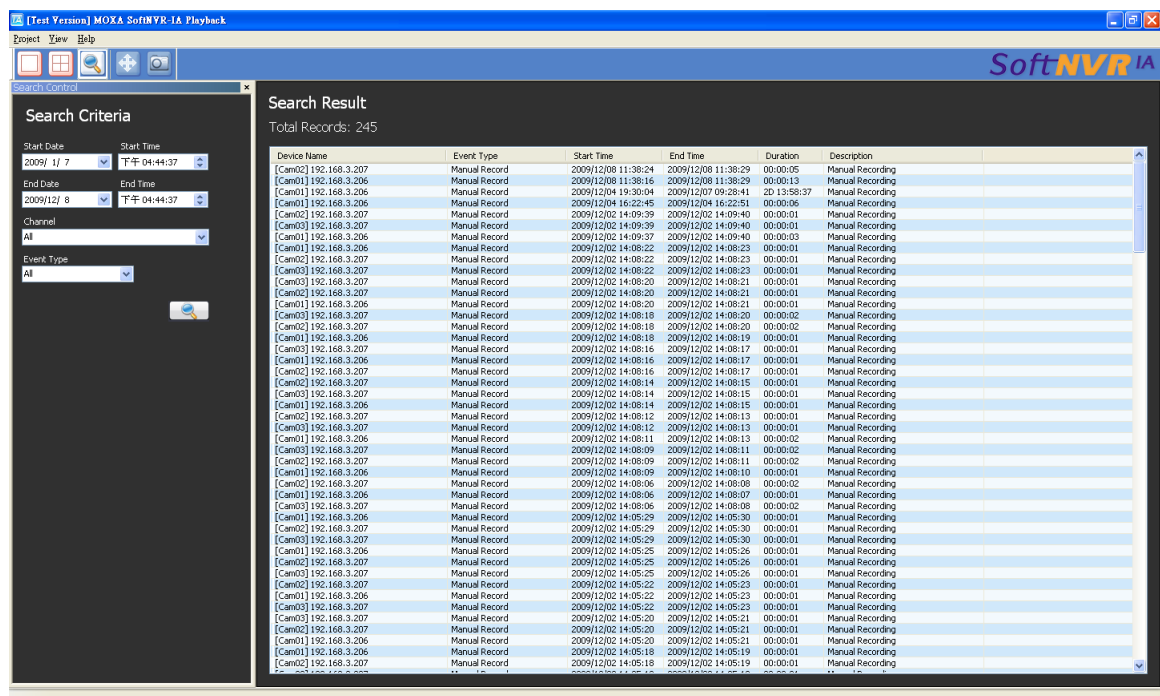


Take snapshot image



Search Recorded Videos

Click on the "Event Search" button, and the "Event Search" window will pop up.



Step 1: Set the **Start Date** and **Start Time**

Step 2: Set the **End Date** and **End Time**

Step 3: Select the **Channel** for searching the recorded videos based on the camera

Step 4: Select the **Event Type** for searching the recorded videos based on the event

Step 5: Click the **Event Search** button, and then the search results will be listed on the right

Step 6: Double click any one of the recorded video being searched, and the video will be displayed on the main playback screen

Export Recorded File

After searching, right click on the search result list to open the menu and then choose Export File.

Search Result
Total Records: 9

Device Name	Event Type	Start Time	End Time	Duration
[Cam02] 172.19.16.33	Manual Record	2013/12/30 13:50:57	2013/12/30 13:51:40	00:00:43
[Cam03] 172.19.16.50	Manual Record	2013/12/30 13:50:57	2013/12/30 13:51:40	00:00:43
[Cam04] 172.19.16.14	Manual Record	2013/12/30 13:50:57	2013/12/30 13:51:40	00:00:43
[Cam05] 172.19.16.60	Manual Record	2013/12/30 13:50:57	2013/12/30 13:51:40	00:00:43
[Cam06] 172.19.16.60	Manual Record	2013/12/30 13:50:57	2013/12/30 13:51:40	00:00:43
[Cam07] 172.19.16.60	Manual Record	2013/12/30 13:50:57	2013/12/30 13:51:40	00:00:43
[Cam08] 172.19.16.60	Manual Record	2013/12/30 13:50:57	2013/12/30 13:51:40	00:00:43
[Cam09] 172.19.16.143	Manual Record	2013/12/30 13:50:57	2013/12/30 13:51:40	00:00:43
[Cam01] 172.19.16.228	Manual Record	2013/12/30 13:49:03	2013/12/30 13:51:40	00:02:37

Export File

Export File

Information

Device Name: [Cam01] 172.19.16.228

Event Type: Manual Record

Time: 2013/12/30 13:49:03 ~ 2013/12/30 13:51:40

Duration: 00:02:37

Option

☐ Time Edit:

2013/12/30 下午 01:49:03 ~ 2013/12/30 下午 01:51:40

Duration: 00:02:37

☐ Export to folder: d:\stuart_chen\Desktop\123\

☒ Merge to file: d:\stuart_chen\Desktop\Merge_Cam01_20131230_134903.avi

Start Exit

A video export window will display after choosing **export file**. Three options are available in the export window.

- Time Edit: Choose the time period of the video recording to export.
- Export to folder: Choose the folder the exported video will be saved to.
- Merge to file: Check this item to merge all recorded files into a single exported video file.

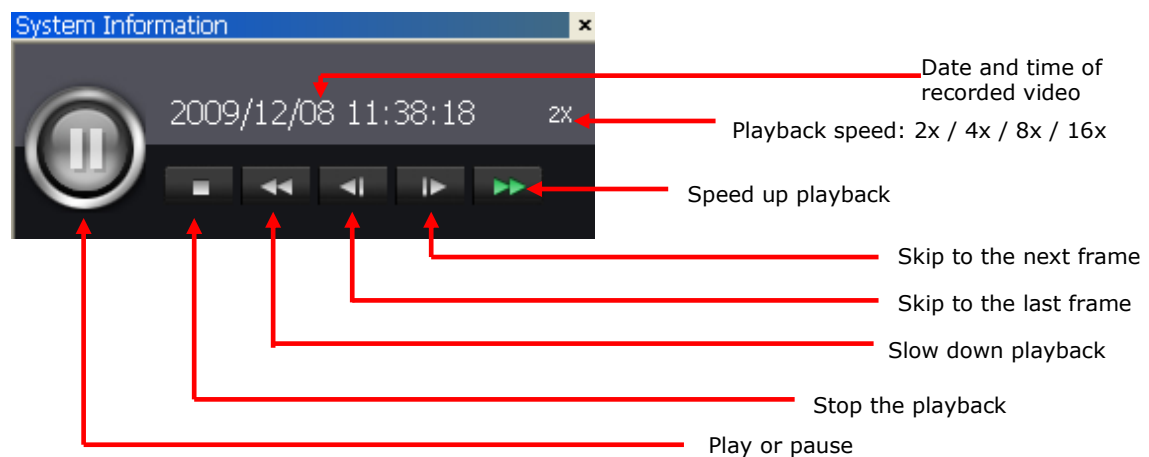
Calendar Control

The calendar function provides useful information about recorded videos. Users can select by day to display that day's recorded videos in the "Timeline Control" area. The bolded days mean there are recorded videos on this day, and a red frame around a day indicates the current date. For example, according to the calendar below, the 2nd, 4th, 5th, 6th, 7th and 8th of December have recorded videos, and the current date is the 8th of December.



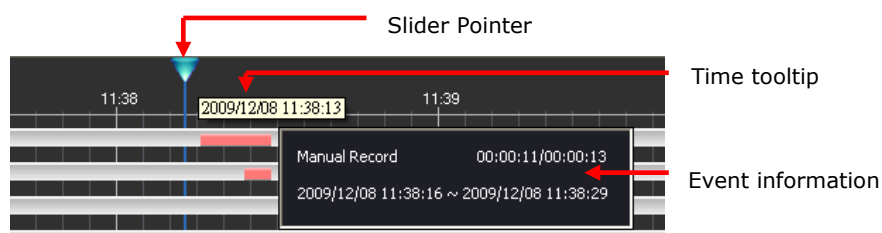
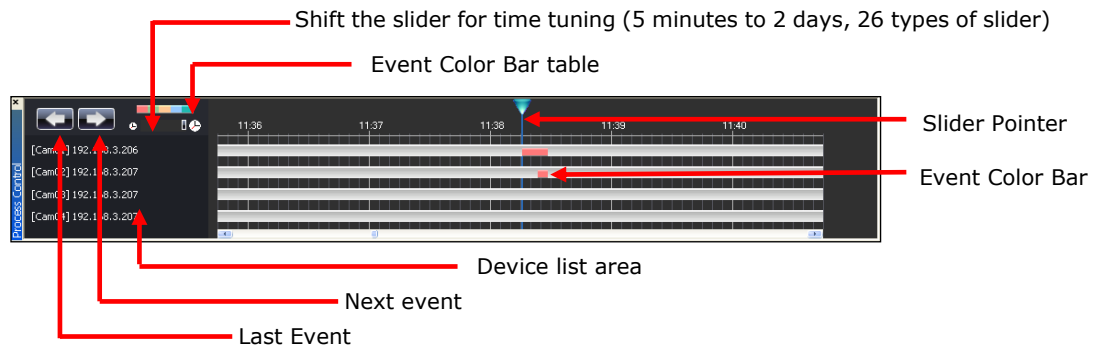
Playback Control

This playback control is for playing recorded videos.



Timeline Control

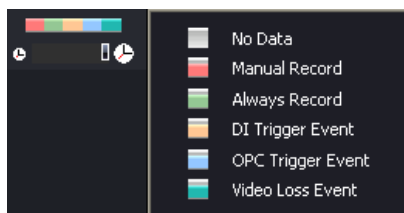
The timeline control is specifically for controlling video playback through a mouse.



Click the right button of mouse in the event color bar to show the event information.

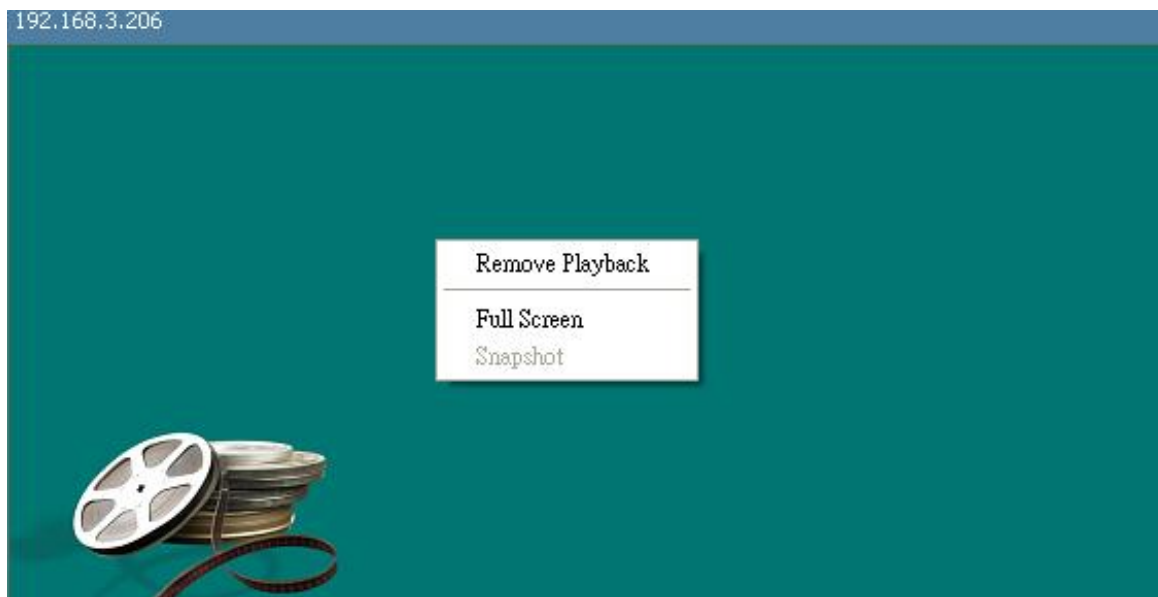
Drag the "Slider Pointer" in the time line to show the time of this point.

Scroll the mouse's scroller to tune the display ratio of the time line.



The different types of events on the time line will be displayed in different colors.

Playback Display Screen



Click on the mouse's right button, for the above menu to pop up.

- Remove Playback: remove the camera/ device in the playback
- Full Screen: 1 channel or 4 channels full screen display
- Snapshot: capture the current video image in BMP format.

Remote Access

A remote access function is available with SoftNVR-IA 2.0. This chapter applies to SoftNVR-IA, version v2.0 or above.

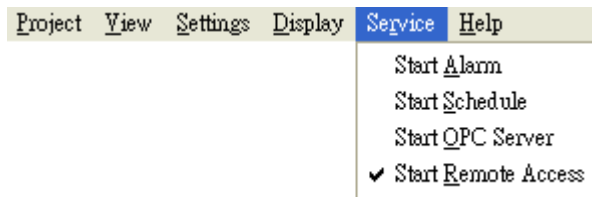
The following topics are covered in this chapter:

- ❑ **Enable Remote Access Service**
- ❑ **Remote Access Instructions**
- ❑ **Remote LiveView**
- ❑ **Remote Playback**

Enable Remote Access Service

First enable remote access service from the SoftNVR-IA menu bar as shown below before accessing SoftNVR-IA from the remote browser.

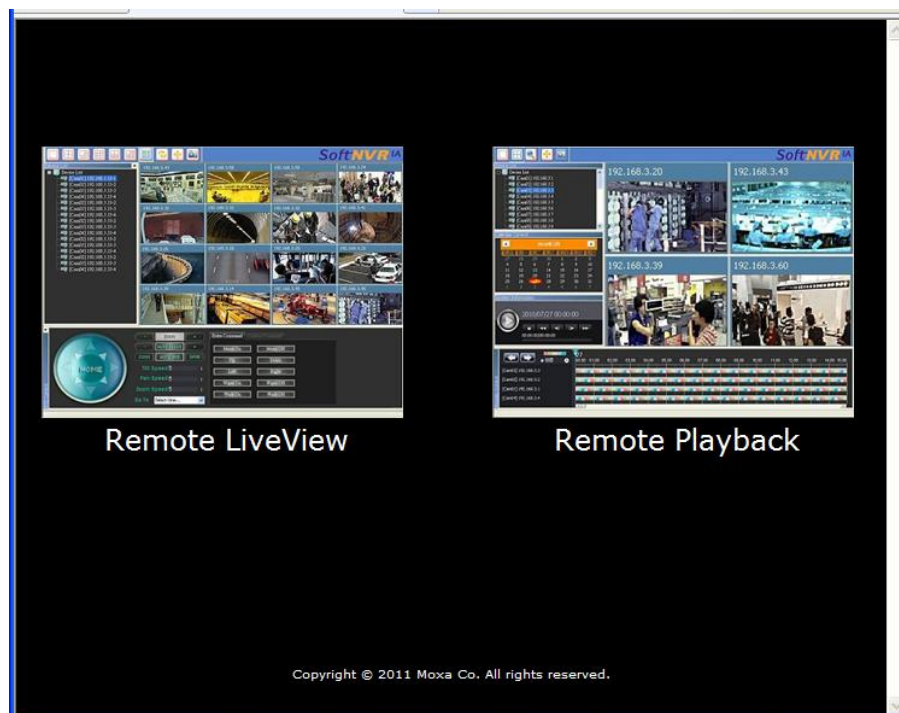
Menu - Service



- **Start OPC Server:** Activate remote access service in SoftNVR-IA

Remote Access Instructions

1. Open IE browser and input the IP and Port No. of your SoftNVR-IA server.
E.g., <http://172.21.3.39:8080/>
2. You will see a webpage as shown below.
 - Choose Remote LiveView for live view monitoring
 - Choose Remote Playback for playback recorded video



Remote LiveView

1. Install ActiveX – nvriv.cab by clicking the message bar in IE browser



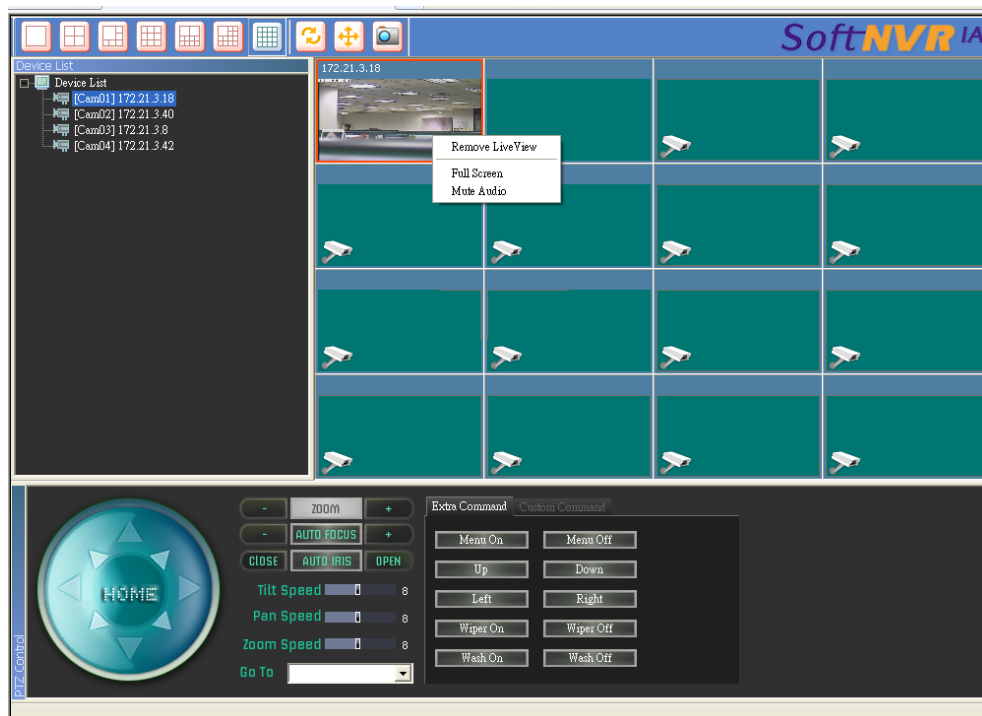
2. You will see the Remote LiveView interface after installing .cab file. Remote LiveView shares the same user interface with SoftNVR-IA server.



3. Drag a camera channel from the camera tree list on the left side of the window to the live display split to view a live video.



4. Right click on each split channel to access a pop-up menu with options [Remote LiveView], [FullScreen], [Mute Audio].



[Remote LiveView]: Remove this channel from LiveView split

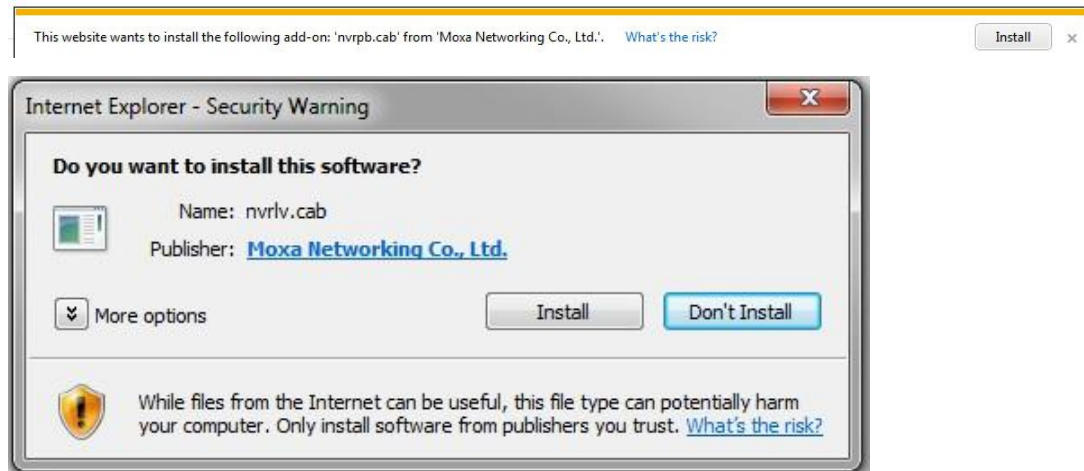
[FullScreen]: Display in full-screen mode

[Mute Audio]: Mute the sound of this channel

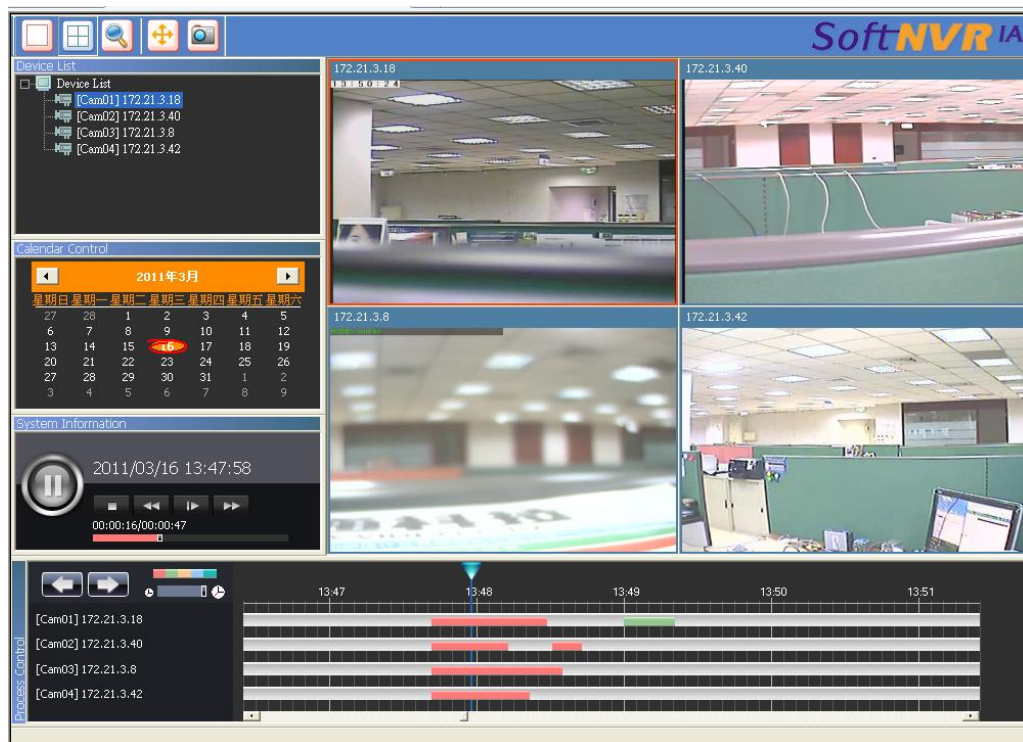
5. Snapshots made in Remote LiveView will be stored in the following folder:
X:\My Documents\My Pictures\NVR (X is the drive where MyDocuments is located)

Remote Playback

1. Install ActiveX – nrvlv.cab by clicking the message bar in IE browser.



2. You will see the Remote LiveView interface after installing the .cab file. Remote LiveView shares the same user interface with SoftNVR-IA server.



3. Snapshots made in Remote LiveView will be stored in the following folder:
X:\My Documents\My Pictures\NVR (X is the drive where MyDocuments is located)

OPC Communications

SoftNVR-IA's built-in OPC server enables direct communication with automation systems for device status notifications and event handling.

The following topics are covered in this chapter:

❑ **OPC Tags**

- NVR Information
- Each Channel's Information
- Event Trigger Operation

❑ **OPC Trigger with Video Pop Up**

OPC Tags

NVR Information

Status of SoftNVR-IA's main program (All Read-only)

Tag Name	Type	Internal Name	Description
NVR-IA.Name	String	eNVR_NAME	SoftNVR-IA host name
NVR-IA.IPAddress	String	eNVR_IPADDRESS	Host's IP address
NVR-IA.TotalCH	INT	eNVR_TOTALCHANNEL	Number of currently displayed channels
NVR-IA.IsSchedule	BOOL	eNVR_IsSCHEDULE	Schedule is enabled or disable
NVR-IA.IsAlarm	BOOL	eNVR_IsALARM	Alarm is enabled or disabled
NVR-IA.IsDualMonitor	BOOL	eNVR_IsDUALMONITOR	Dual monitor is enabled or disabled
NVR-IA.Version	String	eNVR_VERSION	Version number

Each Channel's Information

The status of each channel in the device list (All Read-only)

Tag Name	Type	Internal Name	Description
NVR-IA.CHxx .Index	INT	eCAM_CAMERAINDEX	Channel index
NVR-IA.CHxx .Device_Name	String	eCAM_DEVICENAME	Device name
NVR-IA.CHxx .Connect_Status	INT	eCAM_CONNECT_STATUS	connect status 0:connecting 1:connected 2:connect fail 3:disconnect
NVR-IA.CHxx. DI1_Status	INT	eCAM_DI1_STATUS	Di1 status
NVR-IA.CHxx. DI2_Status	INT	eCAM_DI2_STATUS	Di2 status
NVR-IA.CHxx. DI3_Status	INT	eCAM_DI3_STATUS	Di3 status
NVR-IA.CHxx. DI4_Status	INT	eCAM_DI4_STATUS	Di4 status
NVR-IA.CHxx. DI5_Status	INT	eCAM_DI5_STATUS	Di5 status
NVR-IA.CHxx. DI6_Status	INT	eCAM_DI6_STATUS	Di6 status
NVR-IA.CHxx. DI7_Status	INT	eCAM_DI7_STATUS	Di7 status
NVR-IA.CHxx. DI8_Status	INT	eCAM_DI8_STATUS	Di8 status
NVR-IA.CHxx. DO1_Status	INT	eCAM_DO1_STATU	Do1 status
NVR-IA.CHxx. DO2_Status	INT	eCAM_DO2_STATU	Do2 status
NVR-IA.CHxx. DO3_Status	INT	eCAM_DO3_STATU	Do3 status
NVR-IA.CHxx. DO4_Status	INT	eCAM_DO4_STATUS	Do4 status

Tag Name	Type	Internal Name	Description
NVR-IA.CHxx. Video_Loss	INT	eCAM_VIDEO_LOSSs	Video loss
NVR-IA.CHxx.FPS	INT	eCAM_FPS	Frames per seconds
NVR-IA.CHxx. Stream_Type	INT	eCAM_STREAM_TYPE	The type of video stream (H.264, MJPEG or MPEG4)
NVR-IA.CHxx .Server_Channel	INT	eCAM_SERVER_CH_ID,	Video Encoder's Channel ID
NVR-IA.CHxx. IsAudioPost	BOOL	eCAM_IsAUDIOPOST,	Audio post is enabled or disabled
NVR-IA.CHxx. IsRecord	BOOL	eCAM_IsRECORD,	Video recording is enabled or disabled.
NVR-IA.CHxx. IPAddress	String	eCAM_IPADDRESS,	VPort's IP address
NVR-IA.CHxx. Username	String	eCAM_USERNAME,	VPort's connection's username
NVR-IA.CHxx. Password	String	eCAM_PASSWORD,	VPort's connection's password
NVR-IA.CHxx. Reserved1	String	eCAM_RESERVED1,	reserved
NVR-IA.CHxx. Reserved2	String	eCAM_RESERVED2,	reserved
NVR-IA.CHxx. Reserved3	String	eCAM_RESERVED3,	reserved
NVR-IA.CHxx. Reserved4	String	eCAM_RESERVED4,	reserved

Event Trigger Operation

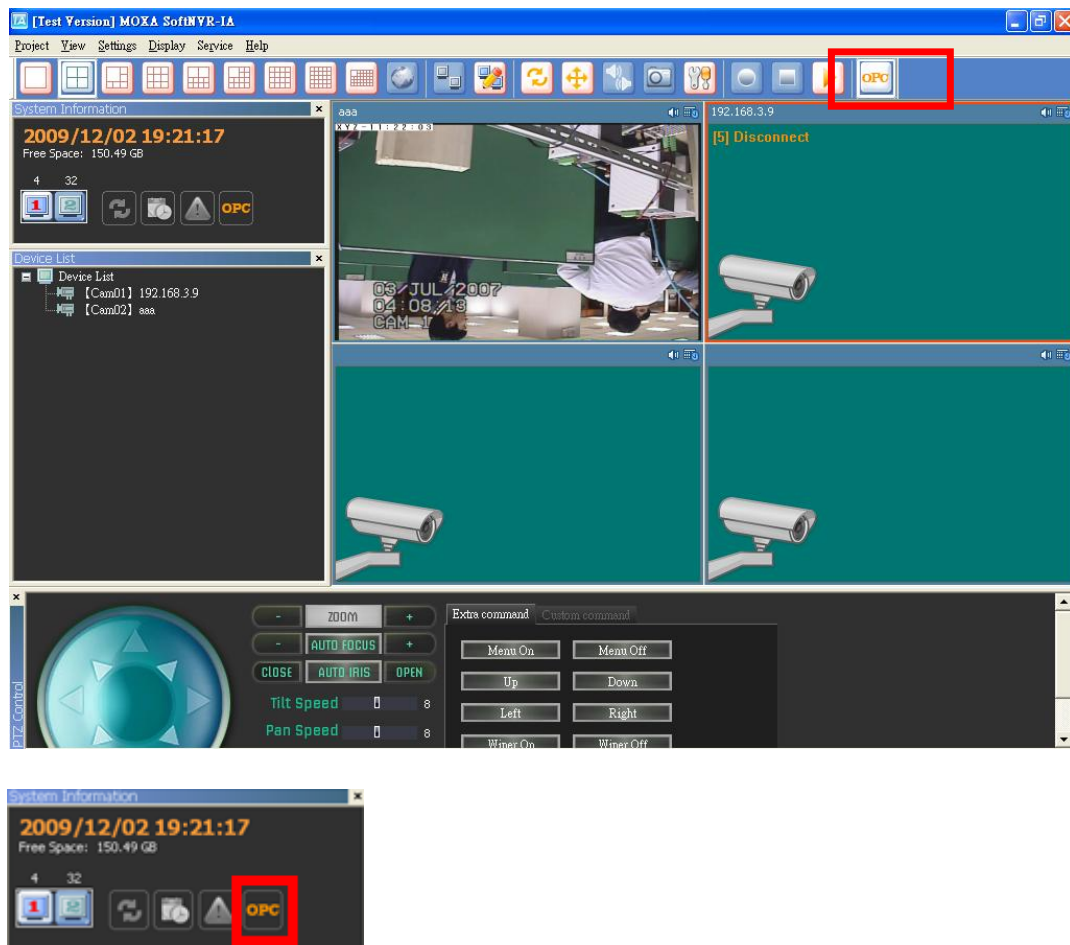
Trigger actions and messages of each channel from OPC client (Read/write)

Tag Name	Type	Internal Name	Description
NVR-IA.CHxx. Event.Trigger	INT	eEVENT_TYPE	Trigger video recording 0:stop 1:rec+pop up 2:rec 3:pop up 4:Alarm Confirmed 5:Resume Display
NVR-IA.CHxx Message	String	eEVENT_DESCRIPTION	description

OPC Trigger with Video Pop Up

Video popup trigger by OPC client Step by Step Instructions

Step 1: Enable built-in OPC Server

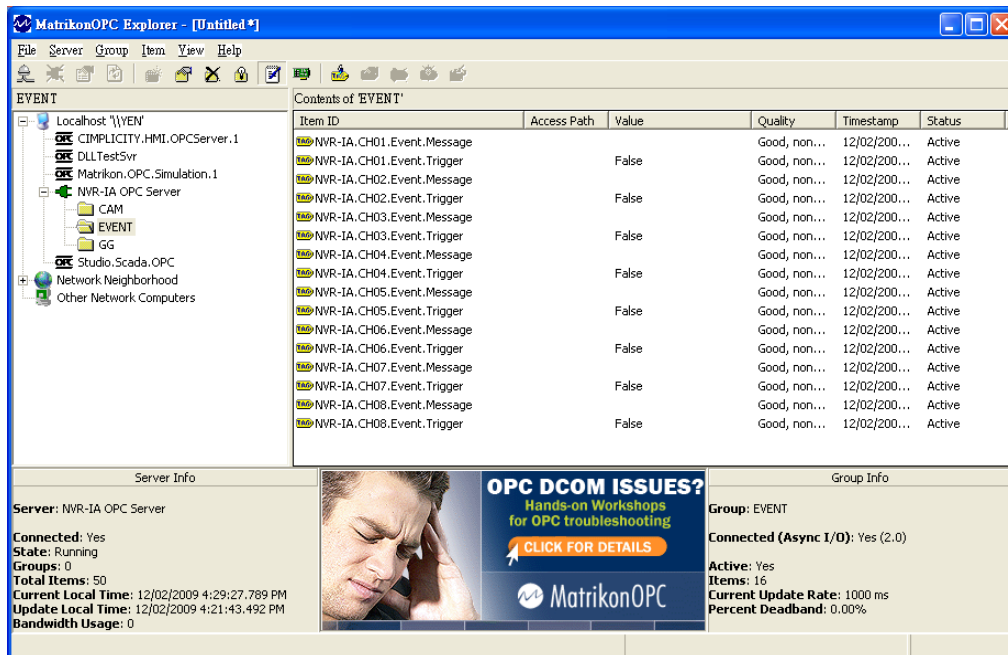


Once the OPC server is enabled, the OPC button in the system information will be highlighted.

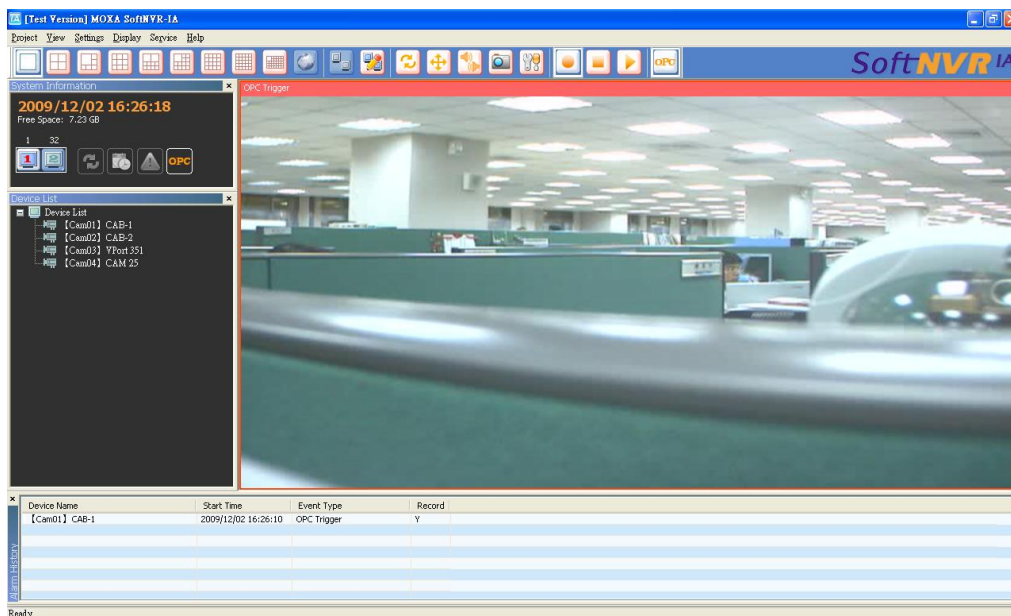
Step 2: OPC Client Tag Trigger

Set NVR-IA.CH01.Event.Message = "From OPC Tag Trigger test"

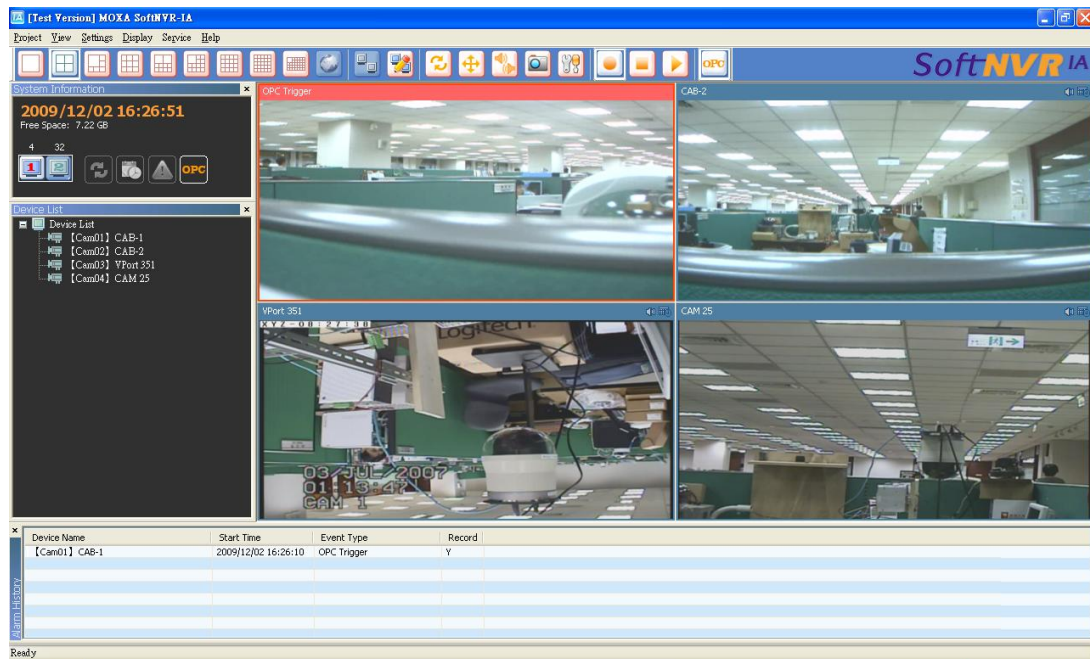
Set NVR-IA.CH01.Event.Trigger = 1



Step 3: Once SoftNVR-IA receives a trigger from the OPC Client, SoftNVR-IA will adjust to a single video screen and the target video will pop up. There will be a flashing red frame around the caption.



Step 4: In alarm history, this OPC event will be added to the list with the time, and the video recording action will also be enabled for the configured video channels.



Step 5: To disable this OPC trigger, click on the mouse's right button on the video image that you would like to disable, and then select the "Alarm Confirmed" in the menu.

Step 6: Video recording can also be stopped by unchecking "Manual Record".