Moxa VPort IP Video Devices Software User's Manual ONVIF Profile S Version

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ONVIF Profile S Version

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Before Getting Started

Before using your VPort IP camera, be sure to read the following instructions:

- ❒ To prevent damage or problems caused by improper use, read the **Quick Installation Guide** (the printed handbook included in the package) before assembling and operating the device and peripherals.

Important Note

- ❒ Surveillance devices may be prohibited by law in your country. Since the VPort is both a high performance surveillance system and networked video server, verify that the operation of such devices is legal in your locality before installing this unit for surveillance purposes.

Table of Contents

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Introduction

This software user's manual is designed for the VPort IP camera's ONVIF Profile S firmware.

The following topics are covered in this chapter:

- **Overview**
- **Version Information**

Overview

The ONVIF specification is an open standard protocol for communicating between IP-based security devices. An ONVIF profile is described by a fixed set of functionalities through a number of services that are provided by the ONVIF standard. ONVIF Profile S allows the ONVIF device and client to communicate information about the PTZ, audio and metadata streaming, and relay outputs.

VPort IP cameras with ONVIF Profile S compliance can work with most VMS software for building a complete IP surveillance system immediately, without needing to spend time integrating your hardware and software. ONVIF Profile S saves both time and resources when using VPort IP cameras with VMS software.

Version Information

The current version information is listed below:

- ONVIF Core specifications: V2.2
- ONVIF Test tool: 13.12
- VPort Models

Model	Firmware Version
VPort 56-2MP series	V2.0
VPort 36-1MP series	V2.2
VPort 26A-1MP series	V2.2
VPort P06-1MP-M12 series	V2.2
VPort P16-1MP-M12 series	V1.0
VPort P16-1MP-M12-IR series	V1.0
VPort 66-2MP series	V1.0
VPort 06-2 series	V1.0
VPort P16-2MR series	V1.0
VPort 36-2L series	V1.0
VPort 06EC-2V series	V1.0

NOTE The version information given here may change as new versions of the firmware are developed. Check www.moxa.com/support for the latest firmware information, and to download updated user's manuals.

NOTE To see which VPort models support Profile S, check the ONVIF website at http://www.onvif.org/ for updated information related to VPort models.

NOTE Different VPort IP cameras support different sets of functions. For this reason, not all of the functions described in this user's manual are supported by all VPort IP cameras. Please check your own VPort's specifications to see which functions are supported by your camera.

Patent http://www.moxa.com/doc/operations/Moxa_Patent_Marking.pdf

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Getting Started

This chapter includes information about how to get started with the VPort's software configuration.

The following topics are covered in this chapter:

- **Introduction**
- **Software Installation**

Introduction

In what follows, "user" refers to those who can access the IP camera, and "administrator" refers to the person who knows the root password that allows changes to the IP camera's configuration and has the right to assign general access to other users. Administrators should read this part of the manual carefully, especially during installation.

Software Installation

Step 1: Configure the VPort's IP address

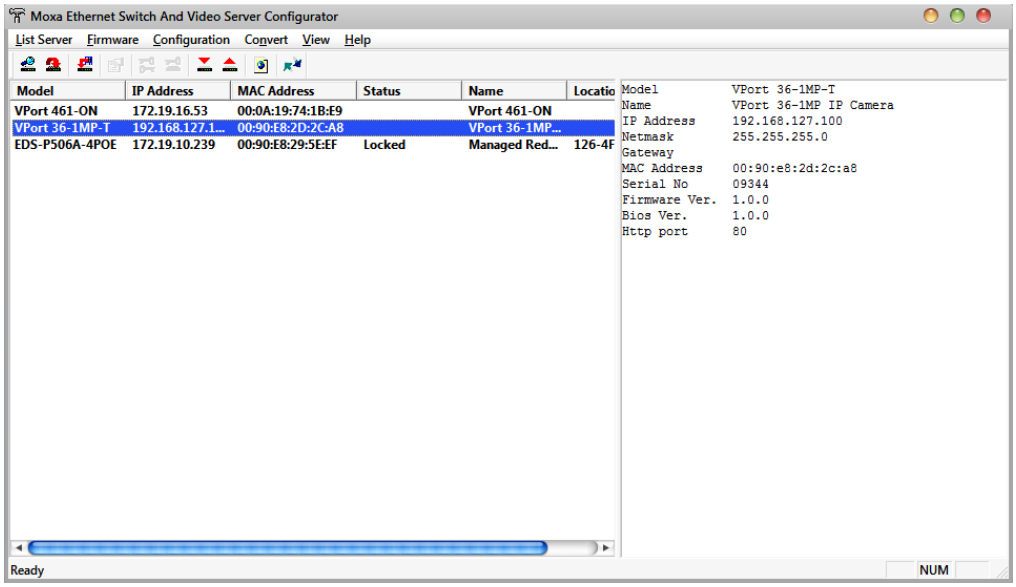
When the VPort is first powered on, the POST (Power On Self Test) will run for about 30 to 40 seconds. The network environment determines how the IP address is assigned.

Network environments with a DHCP server

In this case, the unit's IP address will be assigned by the network's DHCP server. Refer to the DHCP server's IP address table to determine the unit's assigned IP address. You may also use the Moxa VPort and EtherDevice Configurator Utility (edscfgui.exe), as described below:

Using the Moxa VPort and EtherDevice Configurator Utility (edscfgui.exe)

1. Run the **edscfgui.exe** program to search for the VPort. After the utility's window opens, you may also click on the **Search** button  to initiate a search.
2. When the search has concluded, the Model Name, MAC address, IP address, serial port, and HTTP port of the VPort will be listed in the utility's window.



3. Double click the selected VPort, or use the IE web browser to access the VPort's web-based manager (web server).

Network environments that do NOT have a DHCP server

If your VPort is connected to a network that does not have a DHCP server, then you will need to configure the IP address manually. The default IP address of the VPort is 192.168.127.100 and the default subnet mask is 255.255.255.0. Note that you may need to change your computer's IP address and subnet mask so that the computer is on the same subnet as the VPort.

To change the IP address of the VPort manually, access the VPort's web server, and then navigate to the **System Configuration** → **Network** → **General** page to configure the IP address and other network settings. Checkmark **Use fixed IP address** to ensure that the IP address you assign is not deleted each time the VPort is restarted.

Step 2: Access the VPort's web-based manager

Type the IP address in the web browser's address input box and then press enter.

Step 3: Install the ActiveX Control plug-in

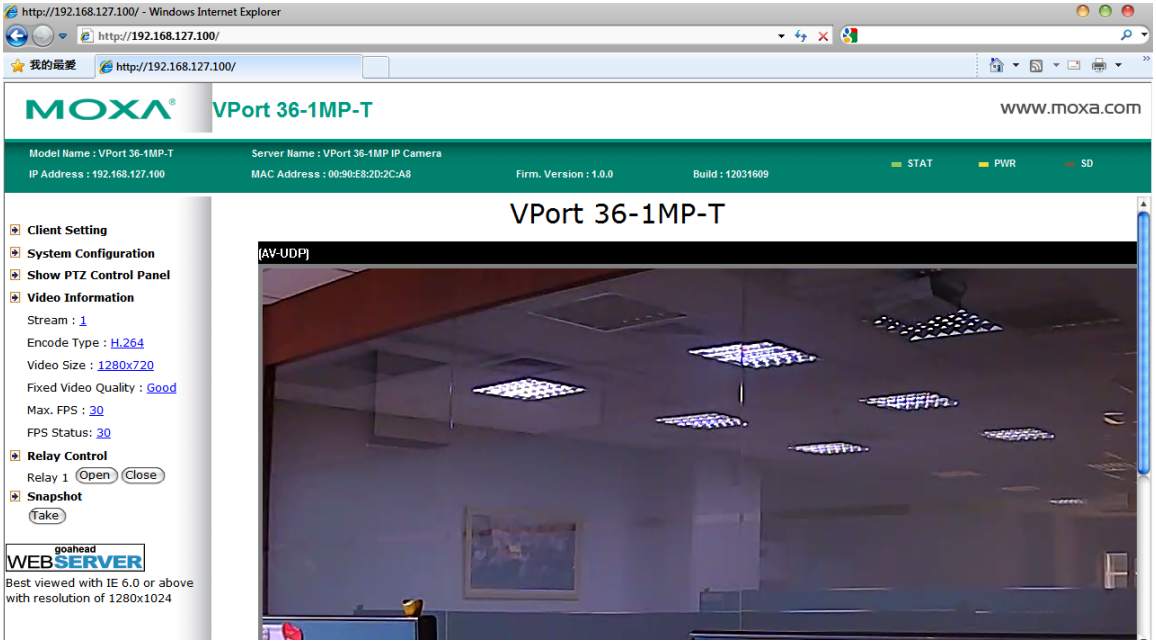
A security warning message will appear the first time you access the VPort's web-based manager. The message is related to installing the VPort ActiveX Control component on your PC or notebook. Click **Install** to install this plug-in to enable the IE web browser for viewing video images.

NOTE For Windows XP SP2 or above operating systems, the ActiveX Control component will be blocked for system security reasons. In this case, the VPort's security warning message window may not appear. Unlock the ActiveX control blocked function or disable the security configuration so that you can install the VPort's ActiveX Control component.

Step 4: Access the homepage of the VPort camera's web-based manager

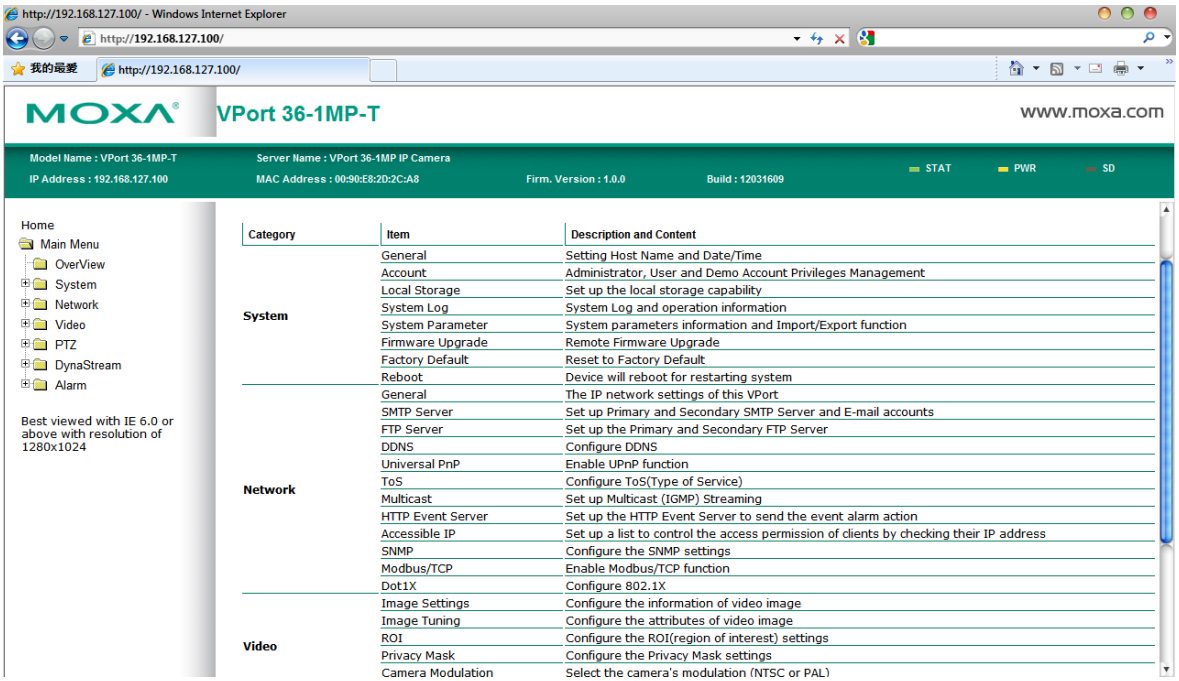
After installing the ActiveX Control component, the homepage of the VPort's web-based manager will appear. Check the following items to make sure the system was installed properly:

1. Video Images
2. Video Information



Step 5: Access the VPort's system configuration

Click on **System Configuration** to access the system configuration overview to change the configuration. **Model Name**, **Server Name**, **IP Address**, **MAC Address**, and **Firmware Version** appear in the green bar near the top of the page. Use this information to check the system information and installation.



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Accessing the VPort's Web-based Manager

This chapter includes information about how to access the VPort IP camera for the first time.

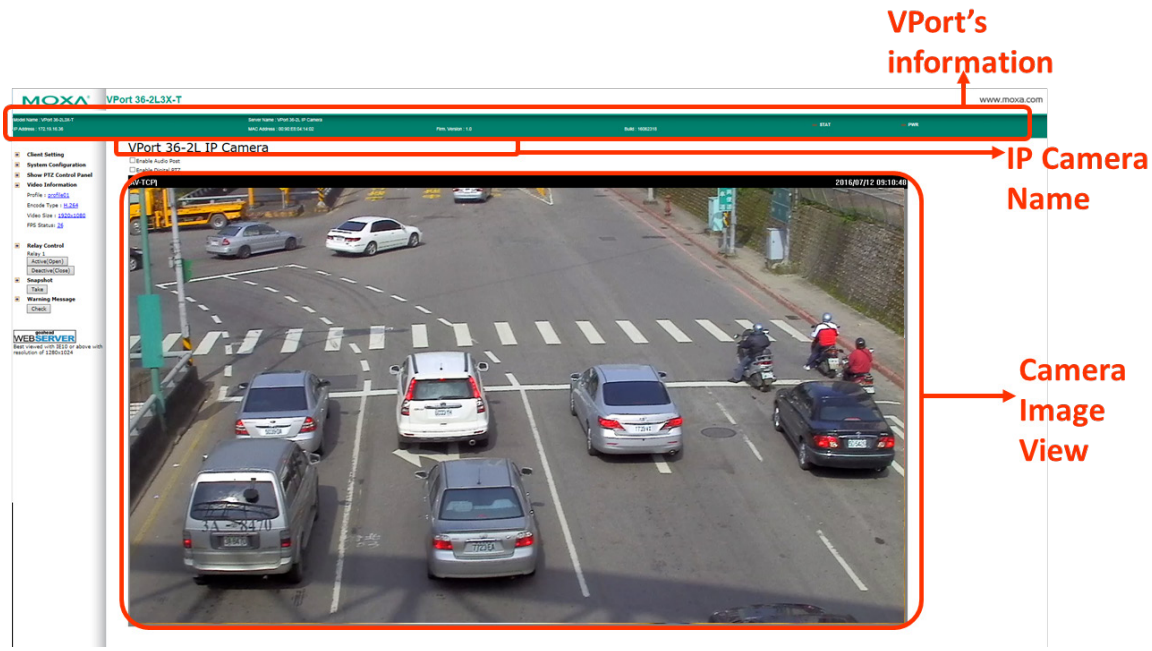
The following topics are covered in this chapter:

- **Functions Featured on the VPort's Web Homepage**
  - VPort's Information
  - IP Camera Name
  - Camera Image View
  - Digital PTZ (not supported by all VPort models)
  - Client Settings
  - System Configuration
  - Video Information
  - Show PTZ Control Panel (not supported by all VPort models)
  - Snapshot
  - Relay Control (not supported by all VPort models)

Functions Featured on the VPort's Web Homepage

The homepage of the VPort's web console shows information specific to that VPort, the camera image, and configurations for the client and server.

NOTE The best screen resolution for viewing VPort's web homepage depends on the resolution of the camera image. For example, if the camera image can be viewed at resolutions up to HD (1280 x 720), the screen resolution should be 1280 x 1024. We strongly recommend using IE 6.0 (Microsoft Internet Explorer) or above to avoid incompatibility with the ActiveX Plug-in.



VPort's Information

This section shows the VPort's model name, server name, IP address, MAC address, firmware version, and the display status of the LEDs located on the VPort's front panel.

NOTE The VPort LEDs shown on the VPort's web homepage are updated every 10 seconds (applies only to those VPort products that have LED indicators).

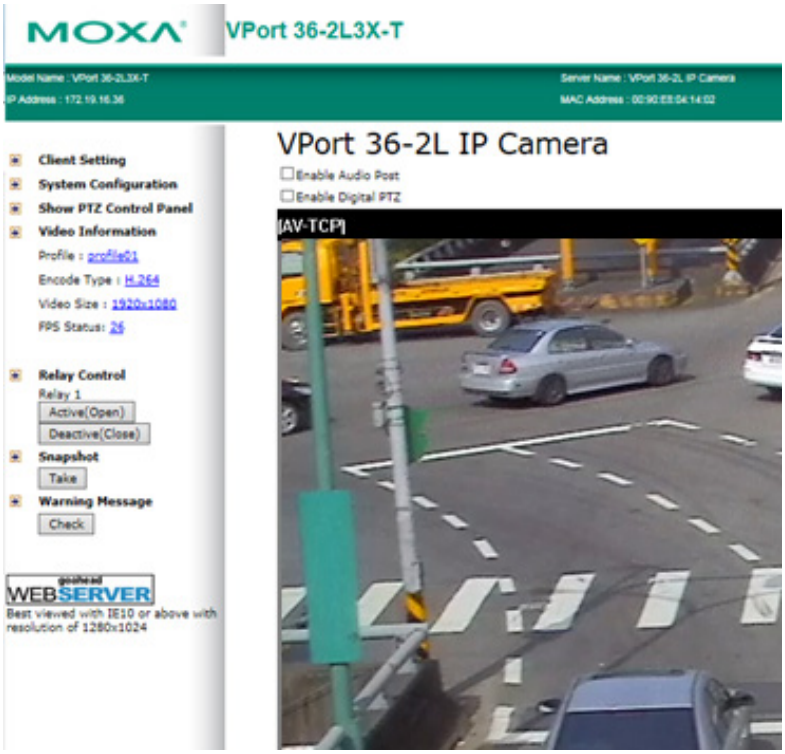
IP Camera Name

A server name can be assigned to each server. Administrators can change the name in **System Configuration/System/General**. The maximum length of the sever name is 40 bytes.

Camera Image View

The assigned image description and system date/time will be displayed in the caption above the image window. You may disable the caption or change the location of the image information in **System Configuration/Video/Image Setting**. Note that if the VPort's motion detection function is active, some windows in the video picture might be framed in red.

Digital PTZ (not supported by all VPort models)



Enable the digital PTZ function by selecting the checkbox above the image view. Once the function has been enabled, you can zoom in and out on the image using the mouse wheel, and implement Pan and Tilt by pressing right button and dragging the cursor to the spot in the image you would like to focus on.

NOTE The Pan and Tilt functions can only be used after zooming in on an image.

Client Settings

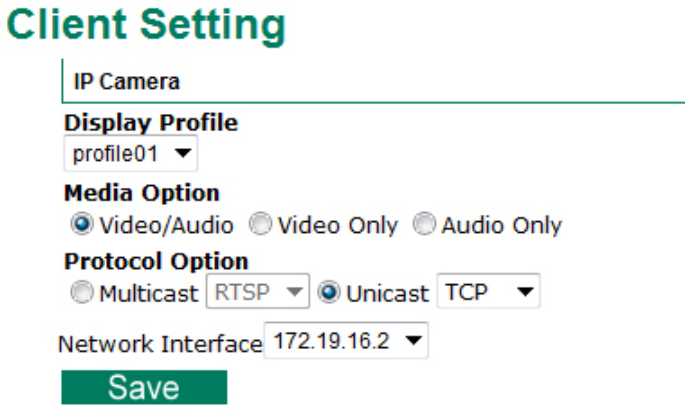
The following functions can be configured in **Client Settings**.

1. **Display profile:** Shows the profile currently being used. There are 3 or 4 default profiles: profile01, profile02, profile03 and profile04. Each profile refers to one independent video stream with a unique codecs, resolution, frame rate (FPS), and video quality. If you need to, you can create additional profiles, but keep in mind that more profiles mean more video streams. Enabling too many video streams could reduce the frame rate and overall video performance of each stream. For configuring the profile, go to **System Configuration/profile**.
2. **Media options:** Some VPort IP cameras support a line-in or microphone audio input. In this case, you can select from the following options: Video/Audio, Video Only, Audio Only.
3. **Protocol Options:** Choose one of four protocols to optimize your usage—Multicast (RTSP or Push) or Unicast (UDP, TCP, HTTP).
   - **Multicast Protocol** can be used to send a single video stream to multiple clients. In this case, a lot of bandwidth can be saved since only one video stream is transmitted over the network. However, the network gateway (e.g., a switch) must support the multicast protocol (e.g., IGMP snooping). Otherwise, the multicast video transmission will not be successful.
     - **RTSP:** Enable the multicast video stream to be sent using RTSP control, which means the multicast video stream will be sent only if it receives the client's request.
     - **Push:** Enable the multicast video stream to be sent using Push control, which means that after this setting is selected, the multicast video stream will be sent continuously even without any client requests.

- **Unicast Protocol** is used to send a single video stream to one client.
  - **UDP** can be used to produce audio and video streams that are more real-time. However, some packets may be lost due to network burst traffic, and images may become blurred.
  - **TCP** can be used to prevent packet loss, which results in a more accurate video display. The downside of using TCP is that the real-time delay is worse than with UDP protocol.
  - **HTTP** can be used to prevent being blocked by a router's firewall. The downside of using HTTP is that the real-time delay is worse than with UDP protocol.
- **Network Interface** designates the connection interface for multicast video streams selection. The box lists the current NIC interfaces. Select which NIC interface will receive multicast streams.

Once the IP camera is connected successfully, **Protocol Options** will indicate the selected protocol. The selected protocol will be stored on the user's PC, and will be used for the next connection.

NOTE For multicast video stream settings, see **System Configuration → Network → Multicast**.

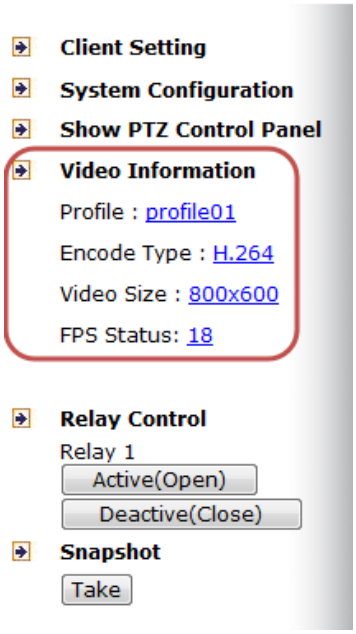


System Configuration

A button or text link on the left side of the system configuration window only appears on the administrator's main page. For detailed system configuration instructions, refer to Chapter 4, **System Configuration**.

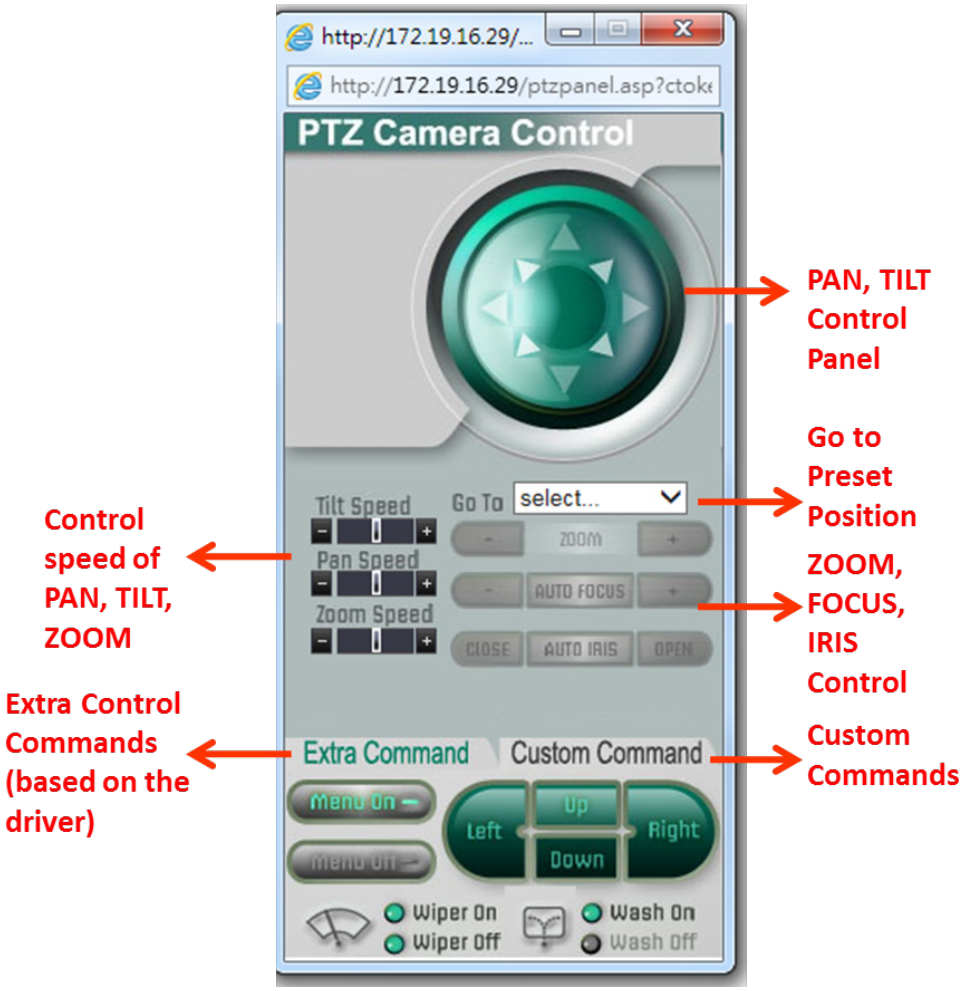
Video Information

You can easily monitor the current video performance by looking at the **Video Information** section on the left side of the homepage. The following properties are shown: Profile, Encoder type, Video Size, and FPS status. (Some models also include Display FPS and Process FPS. Display FPS means the FPS of live video displayed by computer, and Process FPS means the FPS provided by the camera). For multichannel encoders, you can select the target camera image to view the camera's video performance.



Show PTZ Control Panel (not supported by all VPort models)

Some VPort IP cameras support PTZ (Pan, Tilt, Zoom) or digital zoom capability. You can control PAN, TILT, ZOOM from the PTZ control panel.



NOTE Not all the functions are supported by all VPorts. For example, some VPorts may only support digital zoom, and some VPorts may not support the extra commands and custom commands.

Custom PTZ Camera Commands

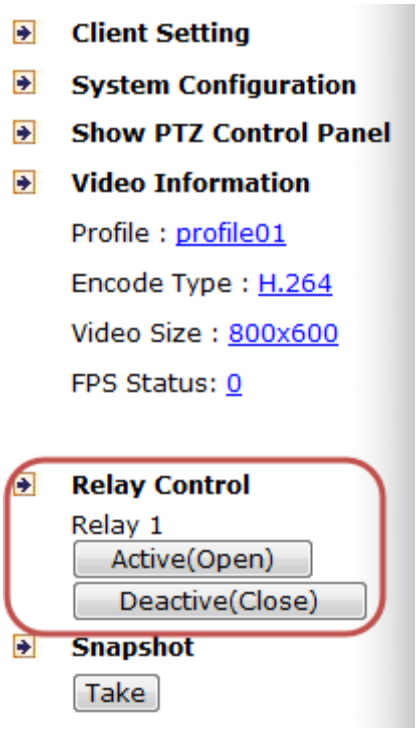
In addition to the default pan, tilt, zoom, and focus controls, an additional 24 buttons are available for custom commands to control the attached motorized (PTZ) cameras. Custom commands are set up by administrators, and are used for functions such as activating or deactivating the dome wiper. Refer to the attached motorized device's user's manual to see which functions can be controlled with these additional buttons.

Snapshot

You can take snapshot images for storing, printing, and editing by clicking the **Snapshot** button. To save the image, right-click and select the **Save** option.

Relay Control (not supported by all VPort models)

Some VPort models have relay outputs for external devices, such as alarms. Administrators and permitted users can click on **Active(Open)** to show the command and Normal Open digital output pins, or click on **Deactive (Close)** to show the command and Normal Close digital output pins.



WARNING

There is a Check button for acknowledging and disabling the warning message which pops-up due to an error, such as lack of space on the SD card.

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System Configuration

After installing the hardware, the next step is to configure the VPort's settings. You can do this with the web console.

The following topics are covered in this chapter:

- **System Configuration by Web Console**
  - Profiles
  - System
  - Network
  - Video
  - Audio (not supported by all VPort models)
  - Metadata (not supported by all VPort models)
  - Streaming
  - PTZ (not supported by all VPort models)
  - Serial Port (not supported by all VPort models)
  - Event
  - Actions

System Configuration by Web Console

System configuration can be done remotely with Internet Explorer. To access the server, type the system configuration URL, **http://<IP address of Video Server>/overview.asp**, to open the configuration main page.

Each of the configuration categories—**Profiles, System, Network, Video, Audio, Metadata, Streaming, PTZ, Serial Port, Focus, Event, Action**—are described below:

Category	Item	Description and Contents
Profiles	Configuration	Configure ONVIF Profile settings
System	General	Set Server Name, Contact, and Location
	System Report	Get system information
	Time	Set Date/Time
	Accounts	Administrator, User, and Demo Account Privileges Management
	Storage	Setup local storage/network storage capability
	System Log	System Log and operation information
	System Parameter	System parameter information and Import/Export functions
	System I/O	Digital Input and Relay settings
	Firmware Upgrade	Remote Firmware Upgrade
	Factory Default	Reset to Factory Default
	Reboot	Device will reboot to restart the system
Network	General	IP network settings of this VPort
	IPv6	Configure IPv6 settings
	DDNS	Configure Dynamic DNS service
	Universal PnP	Enable UPnP function
	ToS	Configure ToS (Type of Service)
	Accessible IP	Set up a list to control access permission of clients by IP address
	SNMP	Configure SNMP settings
	Moxa Service	Moxa Service is for the device search capability by Moxa's software or utility
	Modbus/ TCP	Enable Modbus/TCP function
	MoxaCmd	Moxa search protocol
	Dot1X	Configure Dot1X
	SSH	Configure SSH
	Telnet	Configure Telnet
	LLDP	Configure LLDP
	TRDP	Turn on/off TRDP
Video	Image Settings	Configure video image information
	Camera Settings	Configure the camera's attributes
	Day/Night Settings	Configure the day and night settings
	Privacy Mask	Configure Privacy Mask settings
	Video Encoder	Set up the Encode Standard (MJPEG or H.264), Size (Resolution), FPS, Quality, and Multicast settings
Audio	Pre Alarm	Setup Pre Alarm parameters
	Audio Encoder	Configure Audio Encoder Multicast settings
Metadata	Metadata	Configure the stream metadata
Streaming	CBR Pro	Configure CBR Pro Settings
	Streaming Status	Get the connection status of the stream
PTZ	PTZ Config	Configure PTZ settings and Add/Modify/Remove the Presets
	Serial Port	Configure Serial Port usage and settings
Serial Port	PTZ Port	Configure PTZ port settings
Focus	Focus Setting	Configure the Focus settings

Event	Enable Event	Enable/Disable all Event Producer
	System Event	Configure system related events (e.g. CPU, Shock, Humidity)
	Motion Detection	Configure Motion Detection settings
	Camera Tamper	Configure Camera Tamper settings
	Digital Input	Configure the Digital Input Alarm
	Sequential Snapshot	Configure Sequential Snapshot settings, Schedule, and transmit destinations

Category	Item	Description and Contents
Action	Action Config	Configure detailed Action activation settings
	Action Trigger	Configure the Action Trigger for the Event trigger condition based on the specific Action Config chosen for this trigger.

This table can also be found on the **System Configuration** → **Overview** webpage.

NOTE Not all of the functions listed in this user's manual are supported by all VPort IP cameras. Please check your VPort's specifications to see which functions are supported.

System Configuration

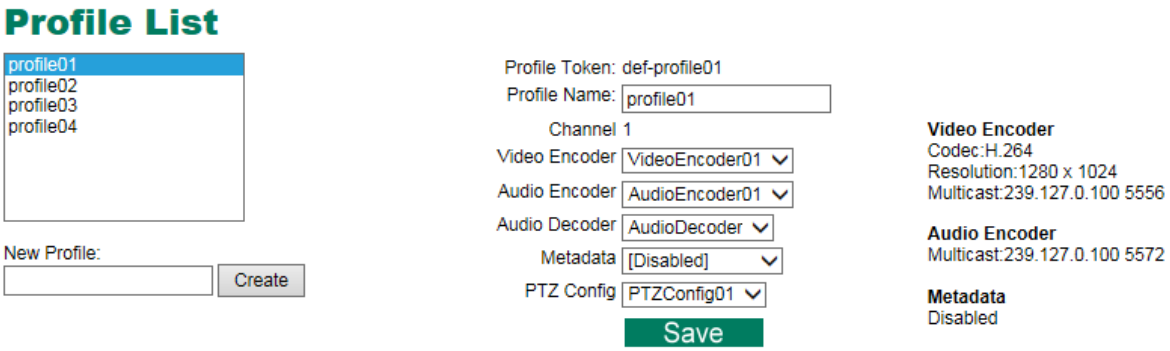
Welcome to the System Configuration pages. A brief description of each configuration group is given below. Click on a plus sign in the left pane to expand a group, and then click on the name of the page you would like to open.

Category	Item	Description and Content
Profiles	Configuration	Configure ONVIF Profile settings
System	General	Setting Host Name, contact and Location
	Time	Setting Date/Time
	Account	Administrator, User and Demo Account Privileges Management
	Storage	Setup the local storage / network storage capability
	System Log	System Log and operation information
	System Parameter	System parameters information and Import/Export function
	System I/O	Digital Input and Relay settings
	Firmware Upgrade	Remote Firmware Upgrade
	Factory Default	Reset to Factory Default
	Reboot	Device will reboot for restarting system
Network	General	The IP network settings of this VPort
	IPv6	Configure IPv6 settings
	DDNS	Configure DDNS
	Universal PnP	Enable UPnP function
	ToS	Configure ToS(Type of Service)
	Accessible IP	Setup a list to control the access permission of clients by checking their IP address
	SNMP	Configure the SNMP settings
	Moxa Service	Moxa Service is for the device search capability by Moxa software or utility
	SSH	Configure SSH
	LLDP	Configure LLDP
	TRDP	Turn on/off TRDP
Video	Image Setting	Configure the information of video image
	Camera Setting	Configure the attributes of video image
	Day Night Setting	Configure Day Night Setting
	Corridor	Configure the corridor mode
	Privacy Mask	Configure the Privacy Mask settings
	Video Encoder	Setup the Encode Standard(MJPEG or H.264), Size (Resolution), FPS, Quality and Multicast settings
	PreAlarm	Setup PreAlarm Parameters
Metadata	Metadata	Configure Metadata settings
Streaming	CBRPro	Configure CBRPro settings
	Streaming Status	Get Stream Connection Status
Event	Enable Event	Enable/Disable all Event Producer
	System Event	Configure System Event settings
	Motion Detection	Configure Motion Detection settings
	Camera Tamper	Configure Camera Tamper settings
	Sequential Snapshot	Configure Sequential Snapshot settings, Schedule and transmit destinations
Actions	Action Config	Configure detail Action activation.
	Action Trigger	Configure Action Trigger for Event trigger condition specify Action Configs

Profiles

In the ONVIF Profiles specifications, one video profile represents one video stream, which can have a unique codecs (H.264, MJPEG), resolution, FPS (frame rate), and video quality.

Configuration



Profile List

Setting	Description	Default
profile01 profile02 profile03 profile04	Chose the video profile. Profile information shown on this page includes Profile Token, Profile Name, Channel number, Video encoder, Audio Encoder	profile01

Profile Information

Setting	Description	Default
Profile Token*	Reply when queried by another device asks	<variable>
Profile Name	Configure the profile name, max. 40 bytes	profile01
Channel*	Current video channel of this ONVIF device	<variable>
Video Encoder	Select which video encoder this profile will use	VideoEncoder01
Audio Encoder	Select which audio encoder this profile will use	AudioEncoder01
Audio Decoder	Select which audio decoder this profile will use (only available for models with Audio Decoder function)	AudioDecoder
Metadata	Enable or disable the metadata being used with the profiles	metadataCfg01
PTZ Config	Select which PTZ configuration this profile will use (only available for models with PTZ functionality)	PTZConfig01

***This item cannot be edited.**

New Profile

You can create additional profiles if needed. Input the name of the new profile and then click **Create**. When the new profile appears in the Profile List, select the new profile and then configure its video encoder and audio encoder to generate the video streams. Click **Save** to save the new profile. To remove a profile, select the profile you wish to remove, and then click **Remove**.

System

General Settings/Date/Time

On the **General Settings** page, administrators can set up the IP camera **Server name** and the **Date and Time**, which is included in the caption of all images.

Server name

Setting	Description	Default
Max. 40 characters	Use a different server name for each server to help identify your servers. The name appears on the web homepage.	VPort XXXX IP camera

Server contact

Setting	Description	Default
Max. 40 characters	Input the name of the operator who is responsible for this camera server	Blank

Server location

Setting	Description	Default
Max. 40 characters	Input the location of this camera server	Blank

Time zone

Setting	Description	Default
Time Zone	Configure the time zone	GMT
Manual Time Zone (POSIX 1003.1):	Manually configure the specified time zone. To enable this configuration, select **manual setting** from the Time Zone drop-down box	Blank
Enable daylight saving time	Enable/disable daylight saving time (Only for Manual Time Zone settings)	Disable

Date and Time

Setting	Description	Default
Keep current date and time	Use the current date and time as the VPort's time setting	Keep current date and time
Sync with computer time	Synchronize the VPort's data and time setting with the local computer time	
Manual	Manually change the VPort's date and time setting	
Automatic	Use the NTP server to set the VPort's date and time setting	

IEEE 1588

Setting	Description	Default
Transport of PTP	Set the Precision Time Protocol	IPv4
Domain Number	Set the domain of the PTP	_DFLT(0)
Clock Mode	Set E2E or P2P clock mode	E2E
Grandmaster Identity	Show the identity of the Grand Master	N/A

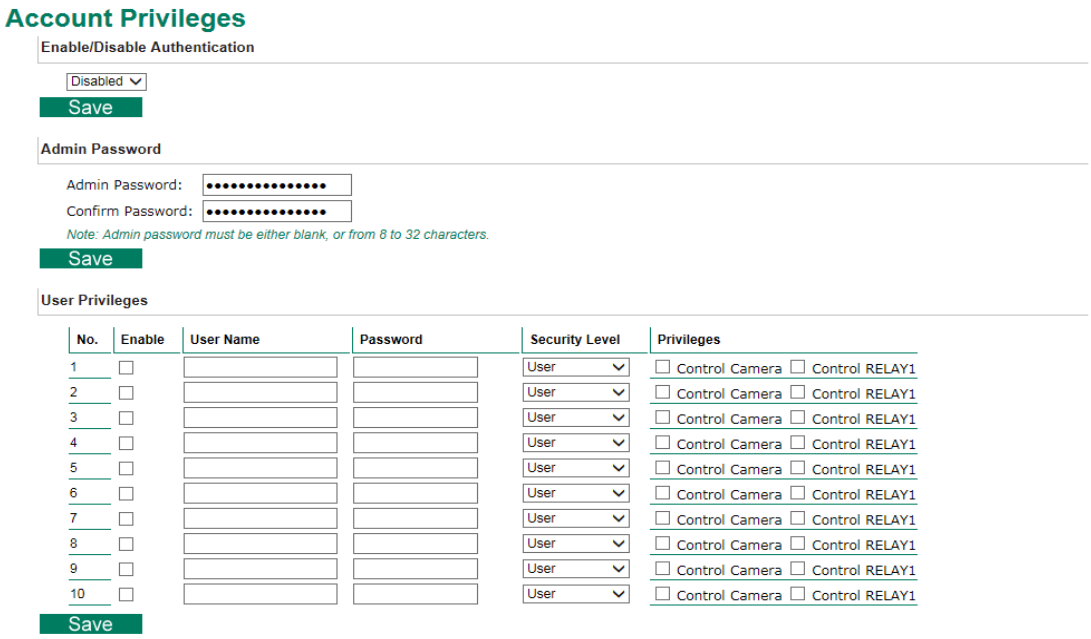
NOTE Select the **Automatic** option to force the VPort to synchronize automatically with timeservers over the Internet. However, synchronization may fail if the assigned **NTP server** cannot be reached, or the VPort is connected to a local network. Leaving the **NTP server** blank will force the VPort to connect to default timeservers. Enter either the Domain name or IP address format of the timeserver if the DNS server is available.

You can configure two NTP servers as backups; the update interval can be configured from a minimum of 5 seconds up to one month.

Don't forget to set the **Time zone** for local settings. Refer to Appendix B for your region's time zone.

Account

Different account privileges are available for different purposes.



Authentication Enable

Setting	Description	Default
Authentication Enable	Enable/disable the account protection of web-based manager access	disabled

Admin password (VPort P06-1MP/P16-1MP/P26A-1MP/36-1MP Series)

Setting	Description	Default
Admin Password (max. 15 characters)	Input the administrator password	–
Confirm Password (max. 15 characters)	If a new password is typed in the **Admin Password** box, you will need to retype the password in the **Confirm Password** box before updating the new password.	

Admin password (VPort 06-2/P16-2MR/36-2L/56-2MP/66-2MP Series)

Setting	Description	Default
Admin Password (max. 15 characters)	Input the administrator password	moxamoxa
Confirm Password (max. 15 characters)	If a new password is typed in the **Admin Password** box, you will need to retype the password in the **Confirm Password** box before updating the new password.	

NOTE The default account name for administrator is **admin**; the administrator account name cannot be changed.

User's Privileges

Setting	Description	Default
User name	Type a specific user name for user authentication.	None
Password	Type a specific password for user authentication.	
Security Level	You may select from 3 ONVIF roles: Administrator, Operator, and User. Different roles have different privileges. Refer to ONVIF Specifications for the user's access policy.	User
Privileges	Select the privileges: Control camera, Control Relay 1	Blank

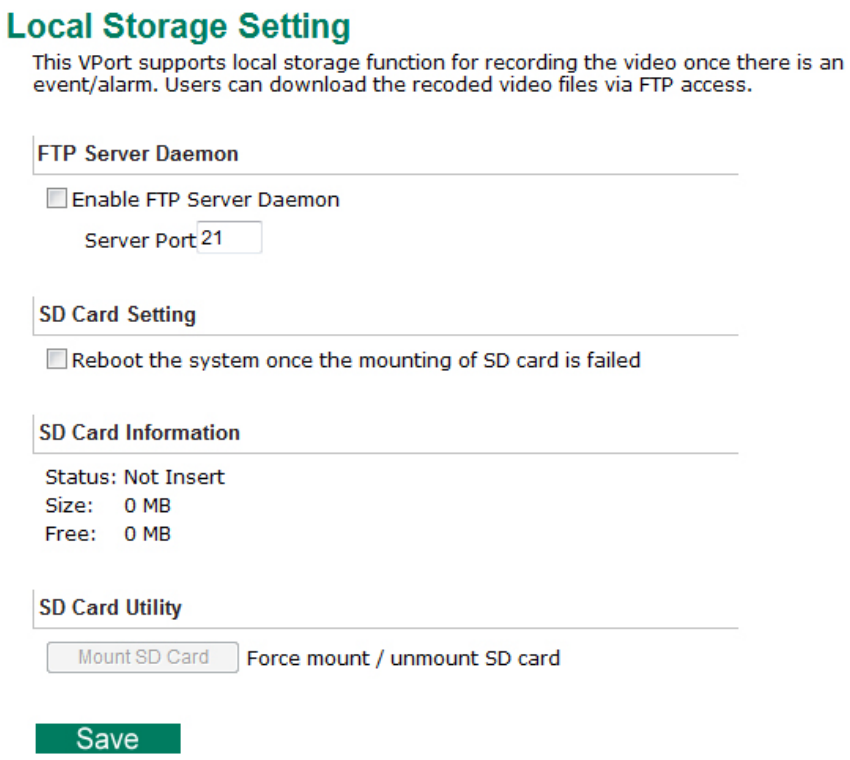
NOTE The FPS of the video stream will be reduced as more and more users access the same VPort. Currently, the VPort camera is only allowed to send 10 unicast video streams. To avoid performance problems, limit the number of users who can simultaneously access a VPort camera.

Storage

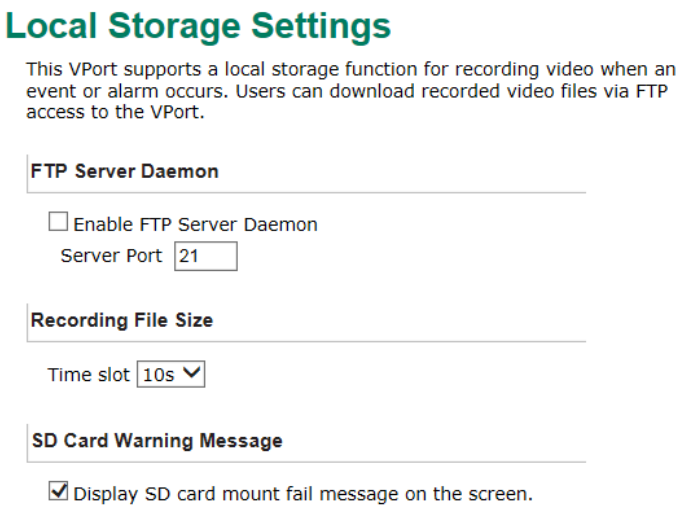
Local Storage (not supported by all VPort models)

Some VPorts support an SD card slot (SDHC interface) for recording video when an event/alarm is detected. The administrator can download these recorded videos via FTP, or directly copy the files from the SD card using a card reader device.

For the VPort 56/66 Series



For the VPort 06-2/P16-2MR/36-2L/06EC-2V Series



FTP Daemon

Setting	Description	Default
Enable FTP daemon	Enable FTP service to allow the administrator to download recorded video files	Disable
Server Port	The FTP server port number	21

SD card setting

Setting	Description	Default
Reboot the system when the SD card fails to mount	This function can reboot the system when the SD card mount fails to re-detect the SD mount	Disable

SD Card Utility

Setting	Description	Default
Mount SD card	Force mount/ unmount the SD card	Disable

Format SD card

Setting	Description	Default
Format SD card	Force format the SD card.	Disable

Recording File Size

Setting	Description	Default
Recording File Size	Set the time slot of each recording file	10s

SD Card Warning Message

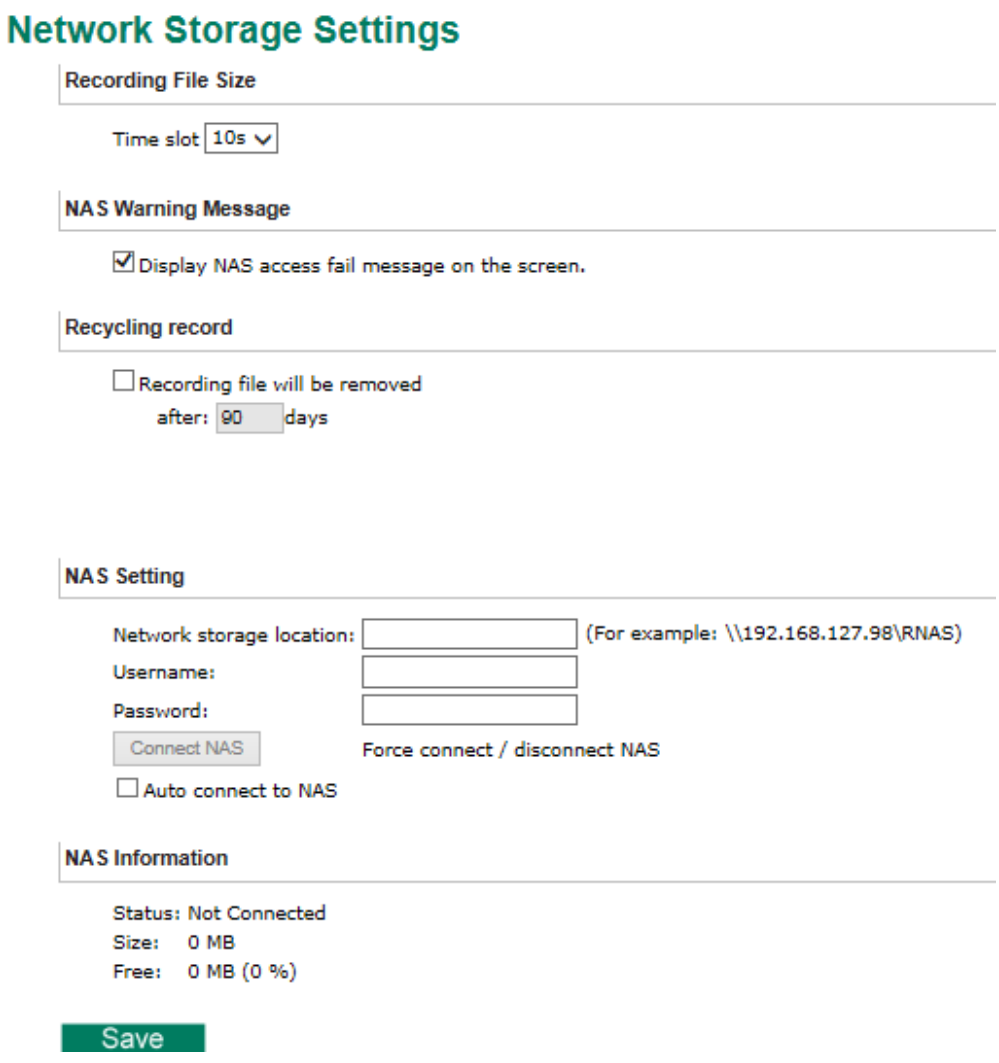
Setting	Description	Default
SD Card Warning Message	Enables the message to be displayed on the screen when the SD card was not mounted successfully.	Disable

Recycling record

Setting	Description	Default
Recording file will be removed	Enable recycling record	Disable
Days	Set the time period for recycling	90

NOTE The recorded videos are stored in the "/VPortfolder" folder. Ten seconds of video is recorded on each file. The videos are stored as AVI files, which can be played back using any popular media player.

Network Storage Settings



Recording File Size

Setting	Description	Default
Recording File Size	Set the time slot of each recording file	10s

NAS Warning Message

Setting	Description	Default
NAS Warning Message	Enables the message to be displayed on the screen when the NAS access fail	Enable

Recycling record

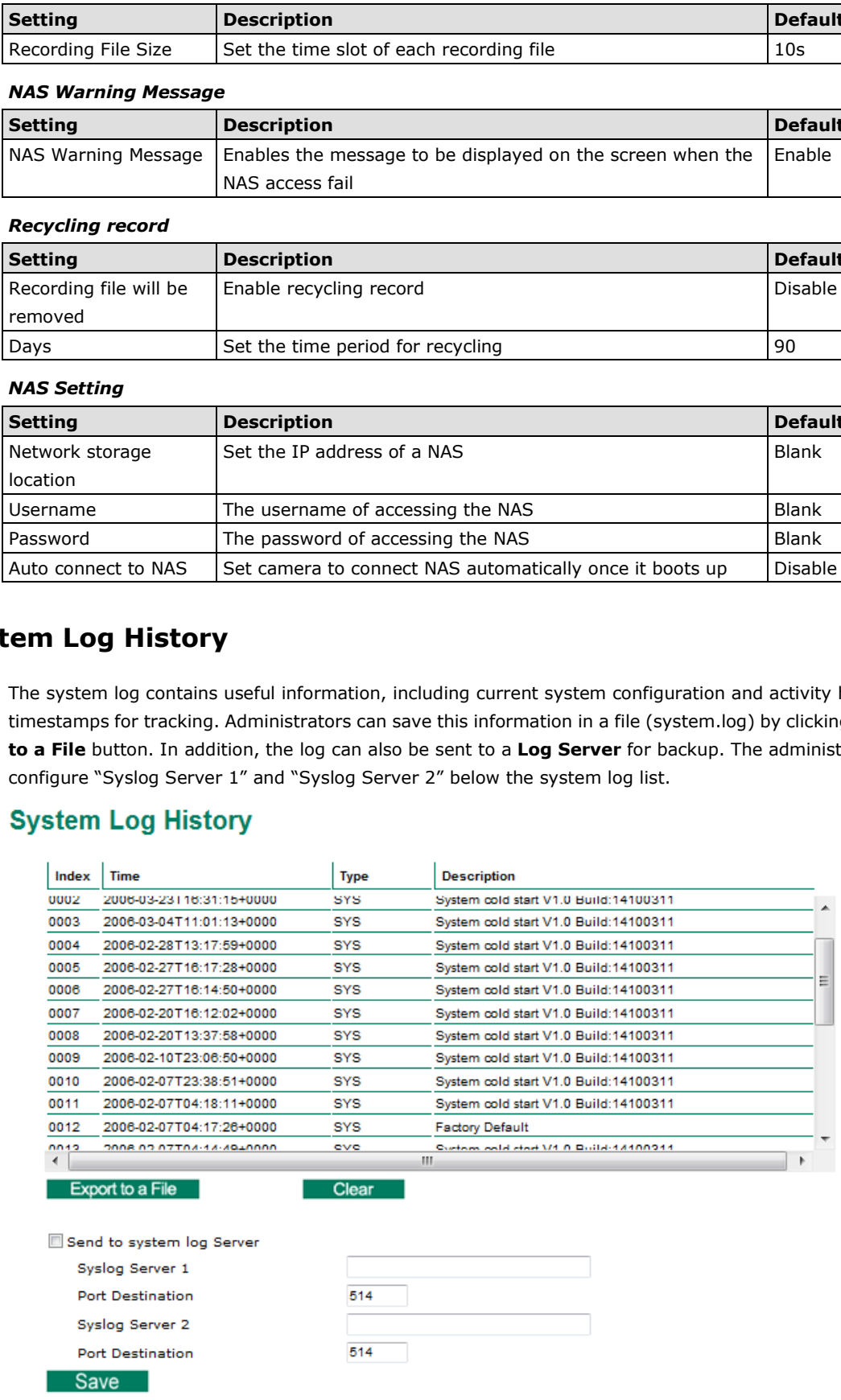
Setting	Description	Default
Recording file will be removed	Enable recycling record	Disable
Days	Set the time period for recycling	90

NAS Setting

Setting	Description	Default
Network storage location	Set the IP address of a NAS	Blank
Username	The username of accessing the NAS	Blank
Password	The password of accessing the NAS	Blank
Auto connect to NAS	Set camera to connect NAS automatically once it boots up	Disable

System Log History

The system log contains useful information, including current system configuration and activity history with timestamps for tracking. Administrators can save this information in a file (system.log) by clicking the **Export to a File** button. In addition, the log can also be sent to a **Log Server** for backup. The administrator can configure "Syslog Server 1" and "Syslog Server 2" below the system log list.



Send to system log Server

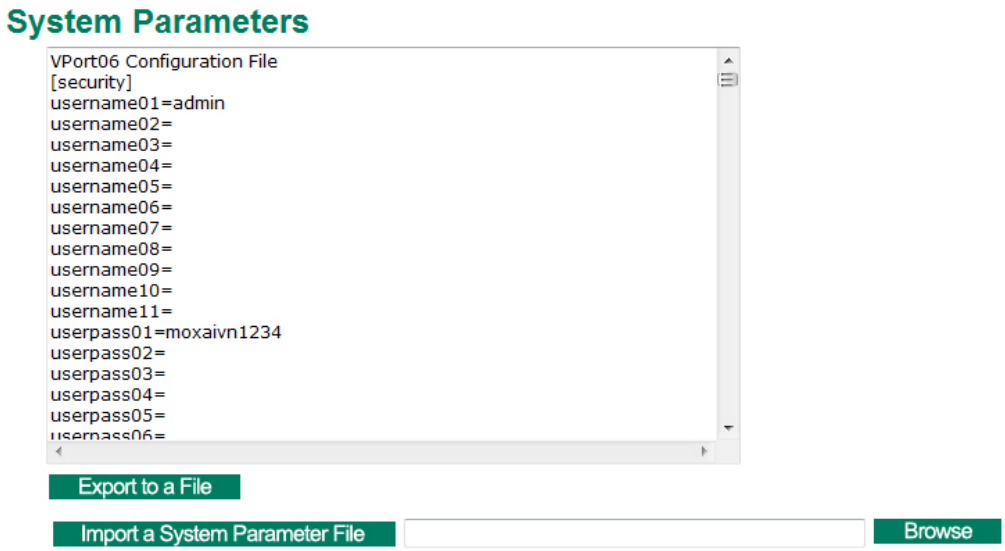
Setting	Description	Default
Send to system log server	Enables sending the system log to the log sever	Disable

Syslog Sever 1	The address of the first system log server	Blank
Port Destination	The port number of the first system log server	514
Syslog Sever 2	The address of the second system log server	Blank
Port Destination	The port number of the second system log server	514

NOTE A maximum of 500 lines is displayed in the log. Earlier log entries are stored in the VPort's database, which the administrator can export at any time.

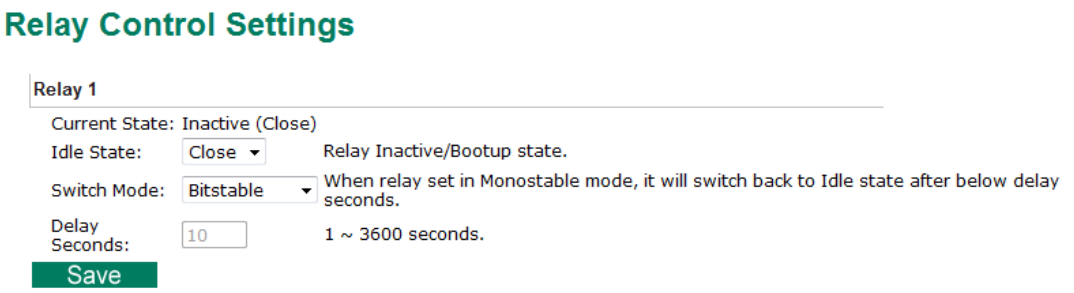
System Parameters

The **System Parameters** page allows you to view all system parameters, which are listed by category. The content is the same as the VPort's sys_config.ini file. Administrators can also save this information in a file (sys_config.ini) by clicking the **Export to a File** button, or import a file by clicking the **Browse** button to search for a sys_config.ini file and then clicking the **Import a System Parameter File** button to update the system configuration quickly.



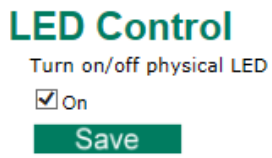
NOTE The system parameter import/export functions allow the administrator to back up and restore system configurations. The Administrator can export this sys_config.ini file (in a special binary format) for backup, and import the sys_config.ini file to restore the system configurations of VPort IP cameras. System configuration changes will take effect after the VPort is rebooted.

Relay Control (not supported by all VPort models)



Setting	Description	Default
Idle State	Set the signal type to inactive	Close
Switch Mode	Bitstable mode: Will remain stable after being activated Monostable mode: The signal state will return to inactive state after waiting for a period of time, which is set in the Delay Seconds option.	Bitstable
Delay Seconds	Under Monostable mode it will switch back to inactive state, and the delay time will be reset.	10

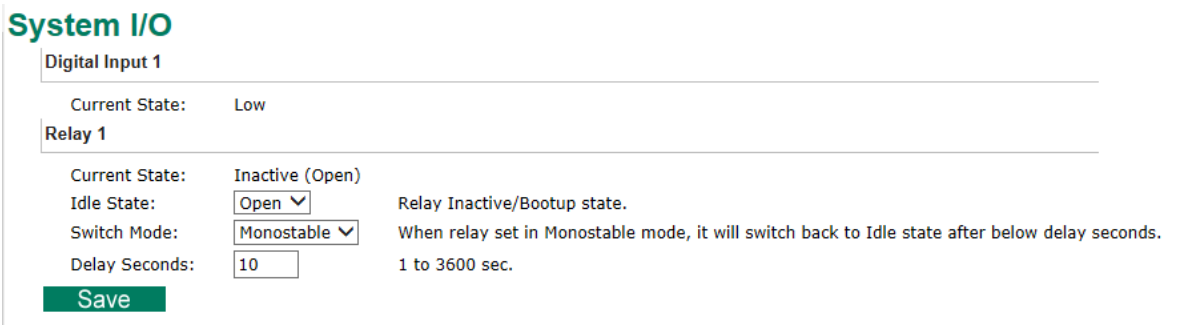
LED Control (not supported by all VPort models)



Setting	Description	Default
Turn on/off physical LED	Turn on or off physical LED	On

System I/O (not supported by all VPort models)

The status of the digital input is shown under Digital Input 1, as shown below.
The status of the relay output is shown under Relay Output 1, as shown below.



Setting	Description	Default
Idle State	Set the signal type to inactive	Close
Switch Mode	Bitstable mode: Will remain stable after being activated Monostable mode: The signal state will return to inactive state after waiting for a preset period of time (Delay Seconds).	Bitstable
Delay Seconds	When in Monostable mode, the signal state will switch back to inactive state after this amount of time has elapsed; the delay time will be reset.	10

Firmware Upgrade

Take the following steps to upgrade the firmware:

Step 1: Press the **Browse** button to select the firmware file.

Step 2: Click on the **Upgrade** button to upload the firmware to the VPort.

Step 3: The system will start the firmware upgrade process.

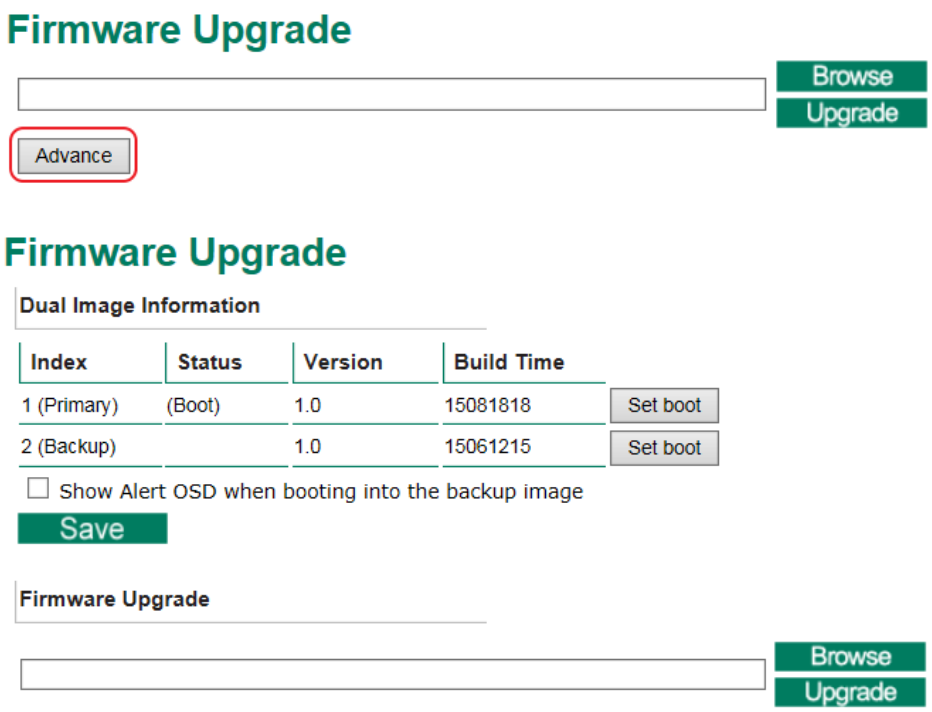
Step 4: Once **Success .....Step 3/3 : System reboot** is displayed, wait 30 seconds for the VPort to reboot.

NOTE For the VPort, the firmware file extension should be .**rom.**

NOTE Upgrading the firmware will not change most of the original settings.

Advance (not supported by all VPort models)

In case the firmware crashes some camera models support dual firmware function for failover.



Step 1: Press the **Advance** button to expand the dual firmware settings.

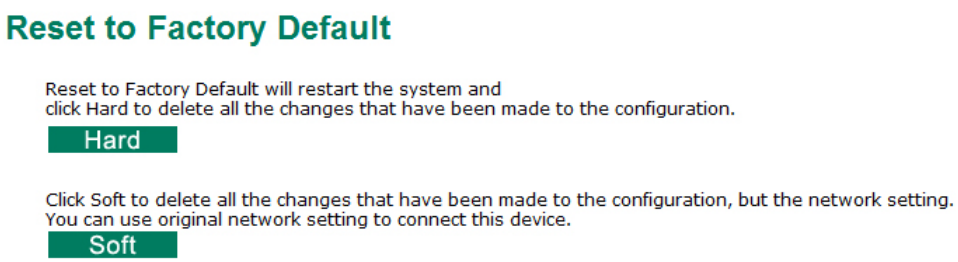
Step 2: Choose the firmware version you would like to use. (The other version will function as the backup firmware and the system will boot up using the backup firmware if the primary one crashes)

Step 3: Click the enabling OSD checkbox when booting into the backup image

Step 4: Save the settings after completing these steps

Reset to Factory Default

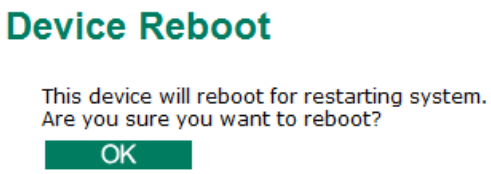
From the "Reset to Factory Default" page, choose **Hard** or **Soft** factory default to reset the VPort to its factory default settings.



NOTE Only some VPorts support the hardware reset button. Refer to your product's QIG for operation instructions.

Reboot

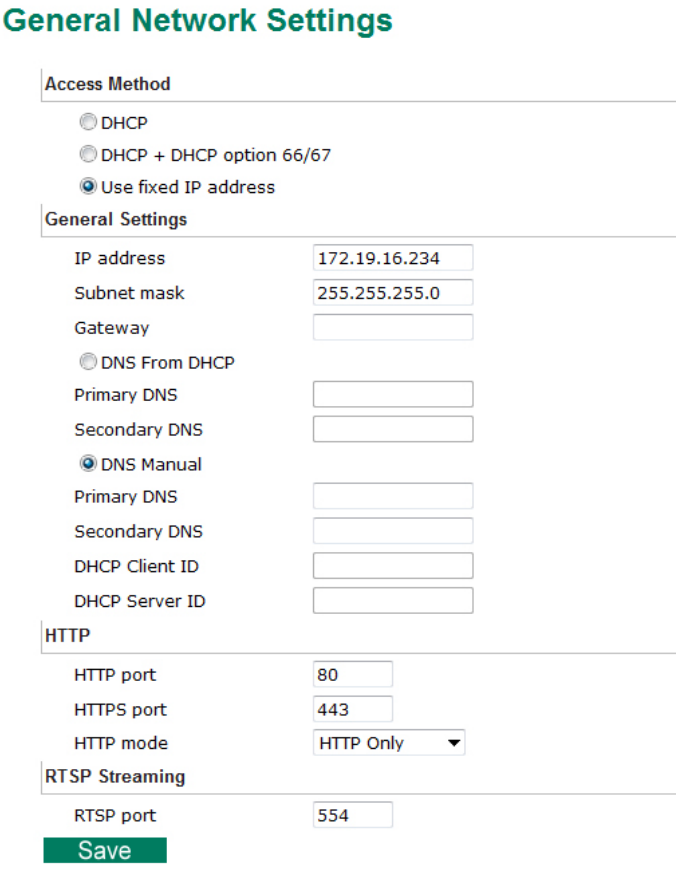
From the "Device Reboot" page, click **OK** (as shown in the following figure) to restart the VPort's system.



Network

General Network Settings

The **General Network Settings** page includes some basic but important network configurations that enable the VPort to be connected to a TCP/IP network.



Access Method

VPort products support the DHCP protocol, which means that the VPort can get its IP address from a DHCP server automatically when it is connected to a TCP/IP network. The Administrator should determine if it is more appropriate to use DHCP, or assign a fixed IP.

Setting	Description	Default
DHCP	Get the IP address automatically from the DHCP server.	DHCP
DHCP + DHCP Option 66/67	Get the IP address automatically from the DHCP server, and download the configurations from the TFTP server with Opt 66/67 mechanism.	
Use fixed IP address	Use the IP address assigned by the administrator.	

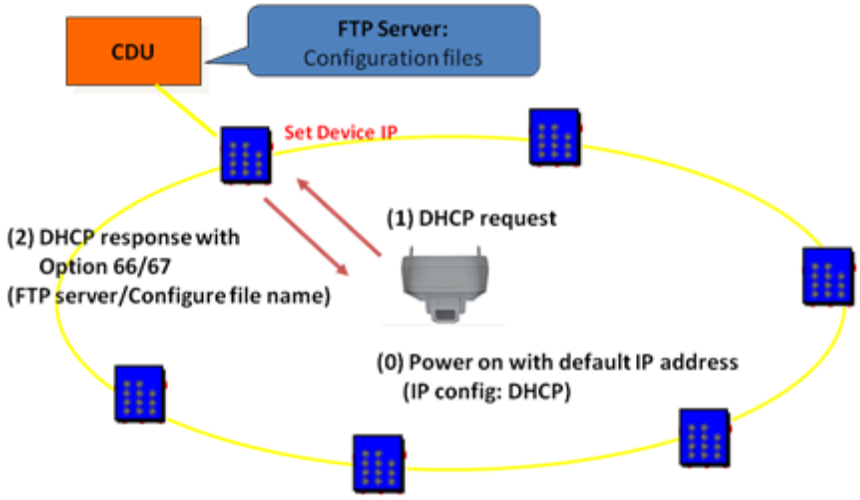
NOTE We strongly recommend that the administrator assign a fixed IP address to the VPort, since all of the functions and applications provided by the VPort are active when the VPort is connected to the network. Use DHCP to determine if the VPort's IP address may change when then network environment changes, or the IP address is occupied by other clients.

DHCP Option 66/67 for auto configuration (not supported by all VPort models)

If you need to install a large number of devices, it can be extremely time consuming to configure each of the many devices one by one. DHCP Opt 66/67 provides a mechanism whereby configurations can be saved on a TFTP server, and then once a new device is installed, the configurations can be downloaded to this new device automatically. Follow the steps below to use the Opt 66/67 auto-configuration function. We use VPort 16-M12 to illustrate.

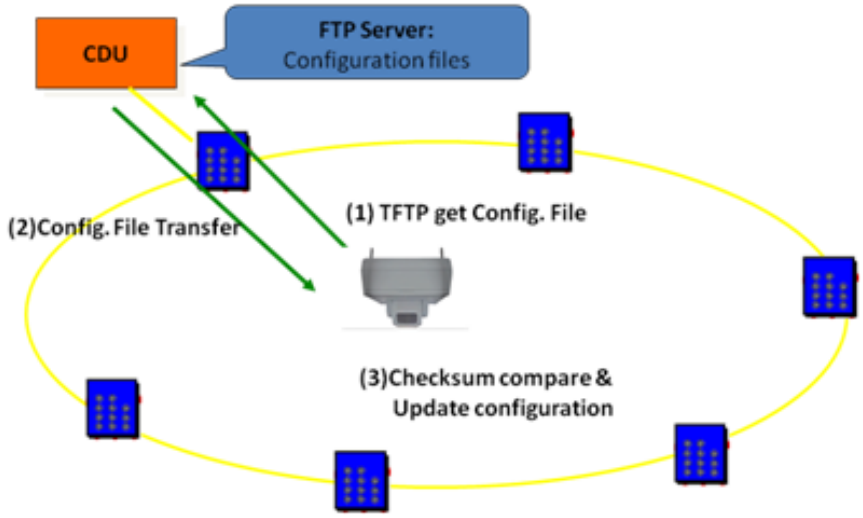
Step 1:

When the VPort camera enables the auto-configuration function, it will ask for an IP address from the DHCP server, and the path of the TFTP server and configuration file.



Step 2:

Once the VPort camera completes the IP settings, it will acquire the configuration file from the TFTP server, and then check if this configuration file is the right one or not.



NOTE For the auto-configuration function to work, the system should

1. Have a DHCP Server that supports DHCP Opt 66/67 in the network switches and routers.
2. Have a TFTP server that supports the TFTP protocol.

General Settings

Setting	Description	Default
IP address	Variable IP assigned automatically by the DHCP server, or fixed IP assigned by the Administrator.	192.168.127.100
Subnet mask	Variable subnet mask assigned automatically by the DHCP server, or a fixed subnet mask assigned by the Administrator.	255.255.255.0
Gateway	Assigned automatically by the DHCP server, or assigned by the Administrator.	Blank
DNS from DHCP	The DNS server is assigned by DHCP server	Enable
Primary DNS	Enter the IP address of the DNS Server used by your network. After entering the DNS Server's IP address, you can input the VPort's url (e.g., www.VPort.company.com) in your browser's address field, instead of entering the IP address.	Obtained automatically from the DHCP server, or left blank in non-DHCP environments.
Secondary DNS	Enter the IP address of the DNS Server used by your network. The VPort will try to locate the secondary DNS Server if the primary DNS Server fails to connect.	Obtained automatically from the DHCP server, or left blank in non-DHCP environments.
DHCP Client ID (not supported by all VPorts)	Configure the DHCP Client ID if it is required	Blank
DHCP Server ID (not supported by all VPorts)	Configure the DHCP Server ID if it is required	Blank

HTTP

Setting	Description	Default
HTTP Port (80, or 1024 to 65535)	HTTP port enables connecting the VPort to the web.	80
HTTPS port	HTTPS port enables HTTPS encryption	443
HTTP Mode	Configure HTTP mode to HTTP only, or HTTP+HTTPS	HTTP only

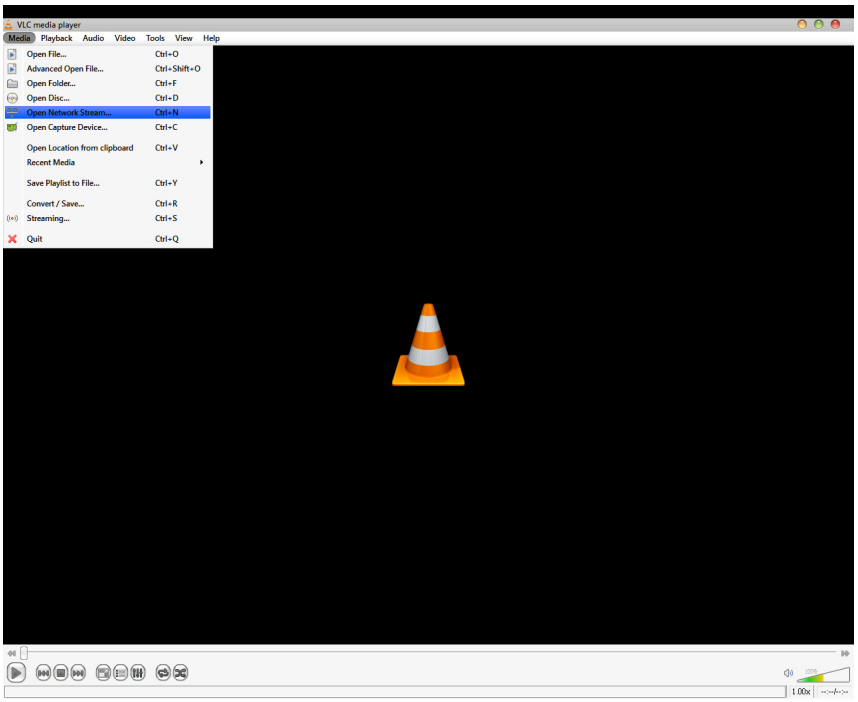
RTSP Streaming

The VPort supports standard RTSP (Real Time Streaming Protocol) streaming, which means that all devices and software that support RTSP can directly acquire and view the video images sent from the VPort without any proprietary codec or SDK installations. This makes network system integration much more convenient. For different connection types, the access name is different. For UDP and TCP streams, the access name is udpStream. For HTTP streams, the access name is moxa-cgi/udpstream_ch<channel number>. For multicast streams, the access name is multicastStream_ch<channel number>. You can access the media through the following URL: rtsp://<IP address>:<RTSP port>/<Access name> for software that supports RTSP.

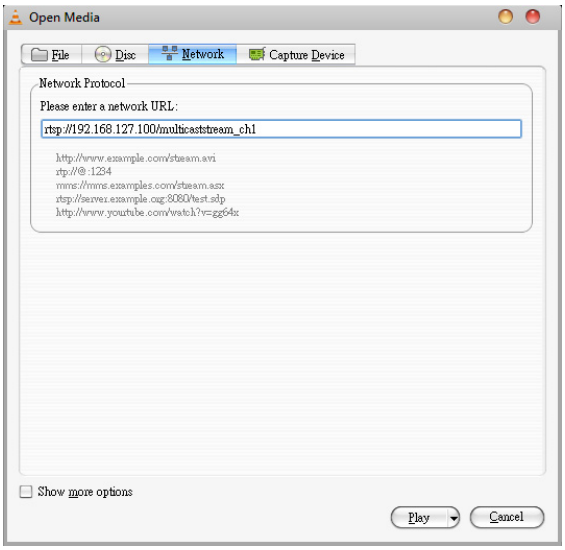
Setting	Description	Default
RTSP Port	An RTSP port is similar to an HTTP port, which can enable the connection of video/audio streams by RTSP.	554

The VLC media player is used here as an example of an RTSP streaming application:

Step 1: Open VLC Player and select **Media - Open network streaming**



Step 2: When the following pop-up window appears, type the URL in the input box. E.g., type
rtsp://<VPort's IP address>[:<RTSP Port]/live?pf=<profile ID>&pt=udp
rtsp://<VPort's IP address>[:<RTSP Port]/live?pf=<profile ID>&pt=multicast
RTSP Port: 554 (the default),
and then click **OK** to connect to the VPort.



Step 3: Wait a few seconds for VLC Player to establish the connection.

NOTE For some older firmware versions (versions before the supported versions listed on page 1-2), use the RTSP stream URLs shown below:

rtsp://<VPort's IP address>[:<RTSP Port]/udpstream_ch1_stream< 1 or 2>
rtsp://<VPort's IP address>[:<RTSP Port]/multicaststream_ch1_stream<1 or 2>
RTSP Port: 554 (the default)

For the new firmware versions (versions after the supported versions listed on page 1-2), both kinds of RTSP URL are valid. There is no need to change the RTSP URL design if your software is using the old RTSP URL.

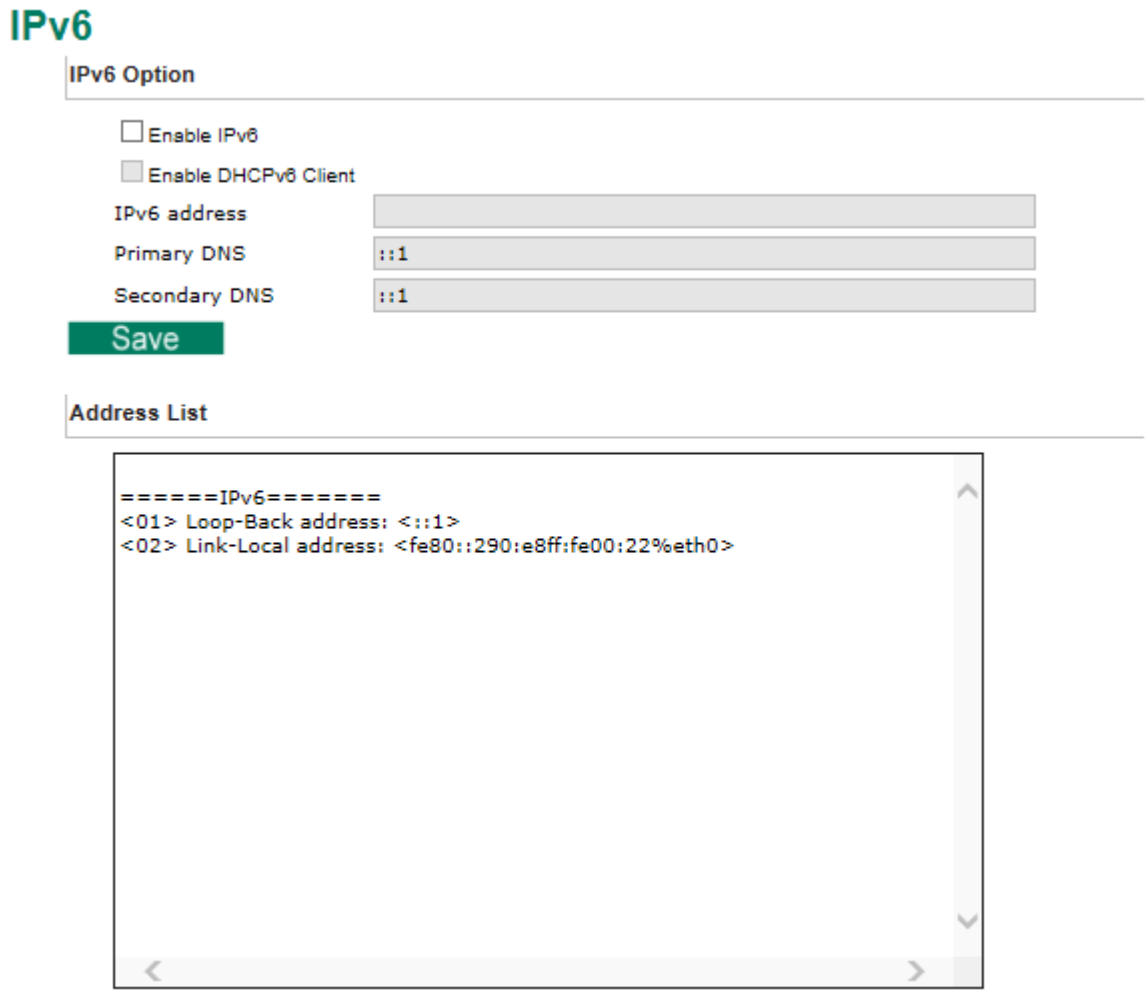
Step 4: After the connection has been established, the VPort camera's video will appear in the VLC Player display window.

NOTE The video performance of the VPort may vary depending on the media players or on network performance. For example, you will notice a greater delay when viewing the VPort's live stream from the VLC player compared to viewing it directly from the VPort's home webpage. Also, additional delays could happen if viewing the VPort's live stream from the VLC player over a router or Internet gateway.

NOTE VPort's RTSP video/audio stream can be identified and viewed by both Apple QuickTime V. 6.5 or above and VLC media player. System integrators can use these two media players to view the video directly without needing to use the VPort's SDK to create customized software.

NOTE When using RTSP, the video stream format should be H.264 or MPEG4. MJPEG does not support RTSP.

IPv6 (not supported by all VPort models)



IPv6 Option

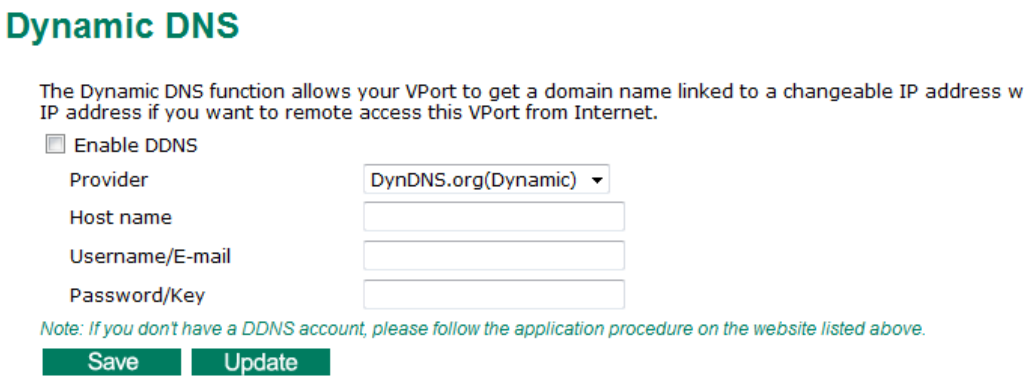
Setting	Description	Default
Enable IPv6	Enable the IPv6 Option	Disable
Enable DHCPv6 Client	Get the IPv6 from the DHCP server	Disable
IPv6 address	Show the IPv6 from the DHCP server	Blank
Primary DNS	Show the DNS IPv6 from the DHCP server	Blank
Secondary DNS	Show the secondary DNS IPv6 from the DHCP server	Blank

Address List

Shows all related IPv6 addresses of the camera in this area.

DDNS

DDNS (Dynamic Domain Name System) is a combination of DHCP, DNS, and client registration. DDNS allows administrators to alias the VPort's dynamic IP address to a static hostname in any of the domains provided by the DDNS service providers listed on the VPort's Network/DDNS configuration page. DDNS makes it easier to access the VPort from various locations on the Internet.



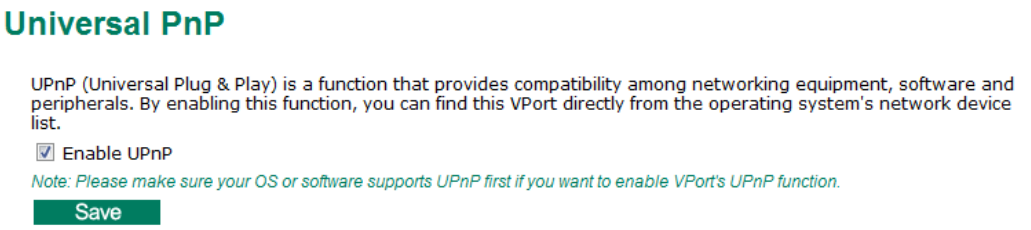
Setting	Description	Default
Enable DDNS	Enable or disable DDNS	Disable
Provider	Select the DDNS service providers, including DynDNS.org (Dynamic), DynDNS.org (Custom), TZO.com, and dhs.org.	None
Host Name	The Host Name you use to link to the VPort.	None
Username/ E-mail	The Username/E-mail and Password/Key are used to enable the service from the DDNS service provider (based on the rules of DDNS websites).	None
Password/ Key		None

NOTE Dynamic DNS is a very useful tool for accessing a VPort over the Internet, especially for xDSL connections with a non-fixed IP address (DHCP). The administrator and users can simplify connecting to a VPort with a non-fixed IP address, by using the unique host name in the URL to establish a connection with the VPort.

NOTE Different DDNS service providers have different application rules. Some applications are free of charge, but most require an application fee.

Universal PnP

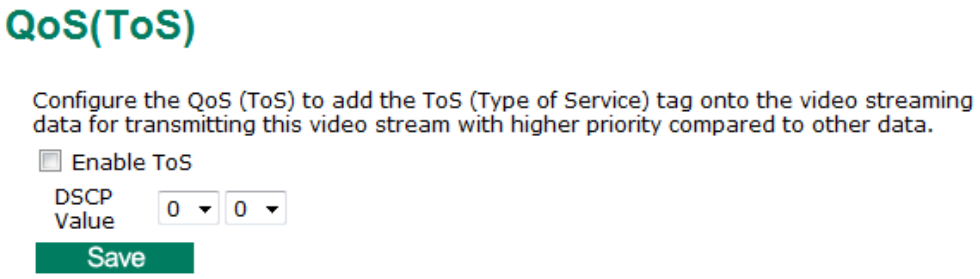
UPnP (Universal Plug & Play) is a networking architecture that provides compatibility among the networking equipment, software, and peripherals of the 400+ vendors that are part of the Universal Plug and Play Forum. This means that they are listed in the network devices table for the operating system (such as Windows XP) supported by this function. Users can link to the VPort directly by clicking on the VPort listed in the network devices table.



Setting	Description	Default
Enable UPnP	Enable or disable the UPnP function.	Enable

QoS

Quality of Service (QoS) provides traffic prioritization capabilities to ensure that important data is delivered consistently and predictably. The VPort can inspect layer 3 ToS (Type of Service) information to provide a consistent classification of the entire network. The VPort's ToS capability improves your industrial network's performance and determinism for mission critical applications.



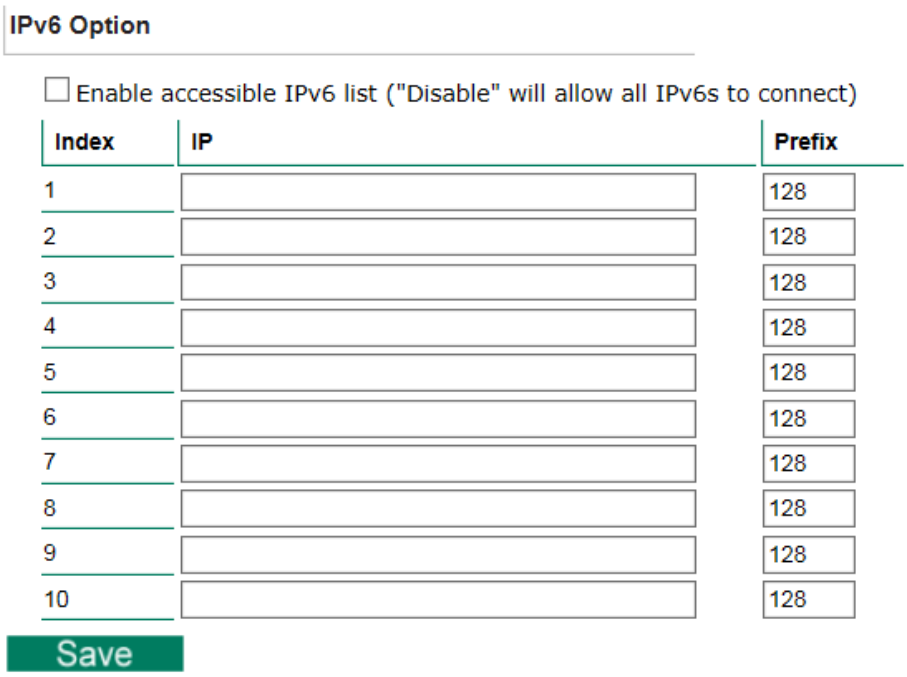
Setting	Description	Factory Default
Enable ToS	Enable ToS to transmit the video stream with the given priority.	Disable
DSCP Value	Configure the mapping table with different ToS values.	0, 0

NOTE To configure the ToS values, map to the network environment settings for QoS priority service.

Accessible IP List

The VPort uses an IP address-based filtering method to control access to the VPort.

(The model supporting IPv6 would have this list)



Accessible IP Settings allow you to add or remove "Legal" remote host IP addresses to prevent unauthorized access. Access to the VPort is controlled by IP address. That is, if a host's IP address is in the accessible IP table, then the host will be allowed access to the VPort. In particular, an **IP** together with a **NetMask** is used to specify a range of IP addresses. Here are some examples:

- Allow only one host with a specific "IP address" to access the VPort. For example,
  IP = 192.168.1.16 NetMask = 255.255.255.255
  will only allow the host with IP = 192.168.1.16 to access the VPort.
- Allow all hosts on a specific subnet to access the VPort. For example:
  IP = 192.168.1.0 NetMask = 255.255.255.0
  will allow all hosts with IP addresses of the form 192.168.1.xxx to access the VPort.
- Allow any host to access the VPort.
  Do not checkmark the "Enable accessible IP list" checkbox.

The following table gives additional IP/NetMask configuration examples.

Allowable Hosts	Input Formats
Any host	Disable
192.168.1.120	192.168.1.120/255.255.255.255
192.168.1.1 to 192.168.1.254	192.168.1.0/255.255.255.0
192.168.0.1 to 192.168.255.254	192.168.0.0/255.255.0.0
192.168.1.1 to 192.168.1.126	192.168.1.0/255.255.255.128
192.168.1.129 to 192.168.1.254	192.168.1.128/255.255.255.128

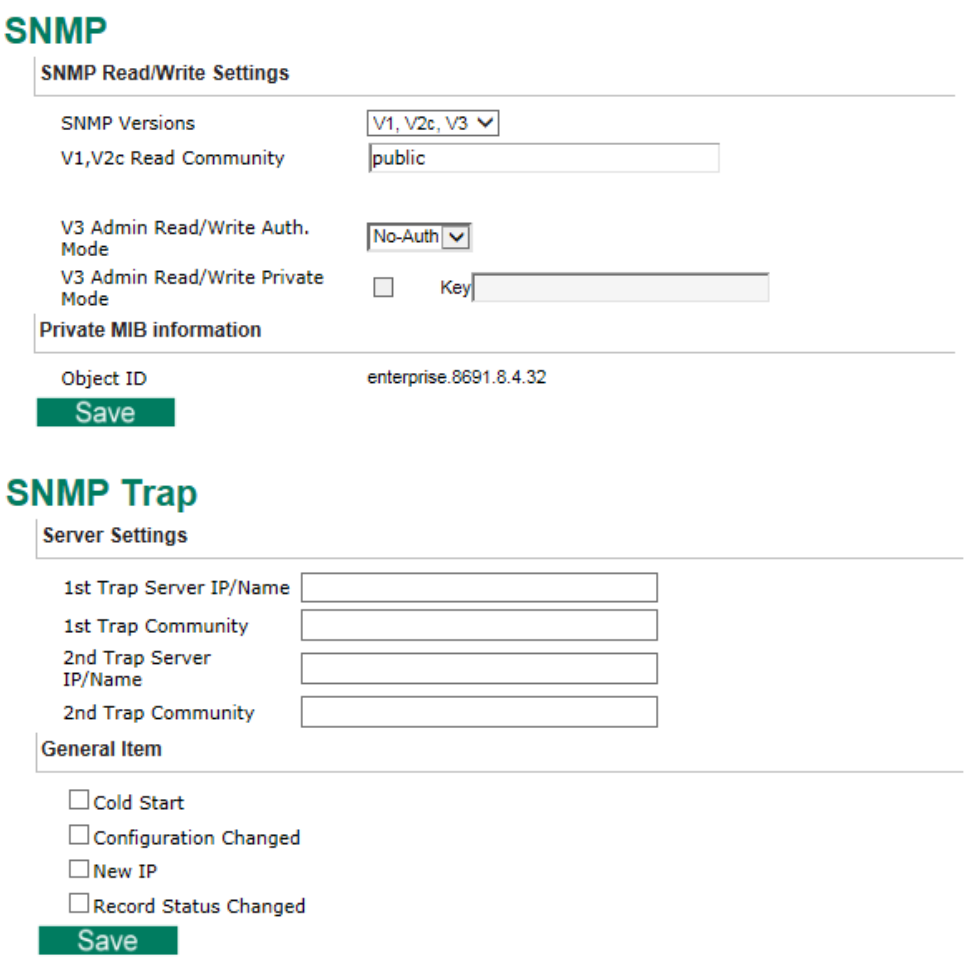
SNMP

The VPort supports three SNMP protocols. The available protocols are SNMP V1, SNMP V2c, and SNMP V3. SNMP V1 and SNMP V2c use a community string match for authentication, which means that SNMP servers access all objects with read-only or read/write permissions using the community string public/private (default value). SNMP V3, which requires you to select an authentication level of MD5 or SHA, is the most secure protocol. You can also enable data encryption to enhance data security. SNMP security modes and security levels supported by the VPort are shown in the following table. Select one of these options to communicate between the SNMP agent and manager.

Protocol Version	Security Mode	Authentication Type	Data Encryption	Method
SNMP V1, V2c	V1, V2c Read Community	Community string	No	Use a community string match for authentication
	V1, V2c Write/Read Community	Community string	No	Use a community string match for authentication
SNMP V3	No-Auth	No	No	Use account with admin or user to access objects
	MD5 or SHA	MD5 or SHA	No	Provides authentication based on HMAC-MD5, or HMAC-SHA algorithms. 8-character passwords are the minimum requirement for authentication.
	MD5 or SHA	MD5 or SHA	Data encryption key	Provides authentication based on HMAC-MD5 or HMAC-SHA algorithms, and data encryption key. 8-character passwords and a data encryption key are the minimum requirements for authentication and encryption.

Configuring SNMP Settings

The following figures indicate which SNMP parameters can be configured. A more detailed explanation of each parameter is given below the figure.



SNMP Read/Write Settings

SNMP Versions

Setting	Description	Default
V1, V2c, V3	Select SNMP protocol versions V1, V2c, V3 to manage the VPort	V1, V2c, V3
V1, V2c	Select SNMP protocol versions V1, V2c to manage the VPort	
V3 only	Select SNMP protocol versions V3 only to manage the VPort	

V1, V2c Read Community

Setting	Description	Default
V1, V2c Read Community	Use a community string match for authentication. This means that the SNMP agent accesses all objects with read-only permissions using the community string public.	public (max. 30 characters)

V1, V2c Read/Write Community

Setting	Description	Default
V1, V2c Read/Write Community	Use a community string match for authentication. This means that the SNMP agent accesses all objects with read-only permissions using the community string public.	public (max. 30 characters)

For SNMP V3, there are two levels of privilege for different accounts to access the VPort. Admin privilege allows access and authorization to read and write MIB files. User privilege only allows reading the MIB file, but does not authorize writing to the file.

Root Auth. Type (for SNMP V1, V2c, V3 and V3 only)

Setting	Description	Default
No-Auth	Use admin account to access objects. No authentication.	No
MD5-Auth	Provide authentication based on the HMAC-MD5 algorithms. 8-character passwords are the minimum requirement for authentication.	No
SHA- Auth	Provide authentication based on the MAC-SHA algorithms. 8-character passwords are the minimum requirement for authentication.	No

Root Data Encryption Key (for SNMP V1, V2c, V3 and V3 only)

Setting	Description	Default
Enable	8-character data encryption key is the minimum requirement for data encryption. Maximum 30-character encryption key.	No
Disable	No data encryption.	No

User Auth. Type (for SNMP V1, V2c, V3 and V3 only)

Setting	Description	Default
No-Auth	Use account of admin or user to access objects. No authentication.	No
MD5-Auth	Provide authentication based on the HMAC-MD5 algorithms. 8-character passwords are the minimum requirement for authentication.	No
SHA- Auth	Provide authentication based on the HMAC-SHA algorithms. 8-character passwords are the minimum requirement for authentication.	No

User Data Encryption Key (for SNMP V1, V2c, V3 and V3 only)

Setting	Description	Default
Enable	8-character data encryption key is the minimum requirement for data encryption. Maximum 30-character encryption key.	No
Disable	No data encryption.	No

Trap Settings

Setting	Description	Default
Trap Server IP/Name	Enter the IP address or name of the Trap Server used by your network.	No
Trap Community	Use a community string match for authentication; Maximum of 30 characters.	No

General item

There are 4 items that can be configured to send the trap by the user: Cold Start, Configuration Changed, New IP, Record Status Changed

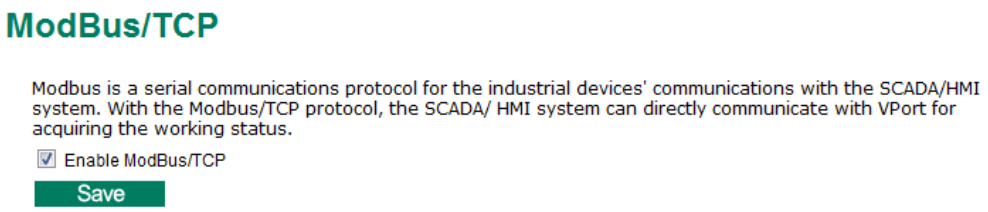
Private MIB information

Different VPorts have different object IDs.

NOTE The MIB file is MOXA-VPORTXX-MIB.mib (or.my). You can find it on the software CD or the download center of the Moxa website.

Modbus/TCP (not supported by all VPort models)

Modbus is a serial communications protocol that is often used to connect a supervisory computer with a remote terminal unit (RTU) in supervisory control and data acquisition (SCADA) systems. To transmit Modbus over a TCP/IP network, a standard Modbus/TCP protocol is provided. With the support of the Modbus/TCP protocol, the SCADA/HMI system can directly communicate with the VPort to acquire its operational status.



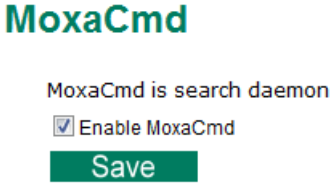
Setting	Description	Factory Default
Enable Modbus/TCP	Enable the Modbus/TCP protocol	Disable

NOTE For the Modbus address table, refer to Modbus_Address_Define.pdf. You can find it on your VPort's software CD or in download center on the Moxa website.

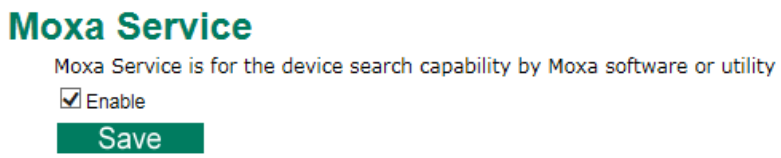
MoxaCmd/Moxa Service (not supported by all VPort models)

MoxaCmd is a Moxa proprietary discovery method. In some cases, users can disable MoxaCmd to prevent the camera from being discovered by Moxa's VPort and EtherDevice Configurator Utility.

VPort 56-2MP



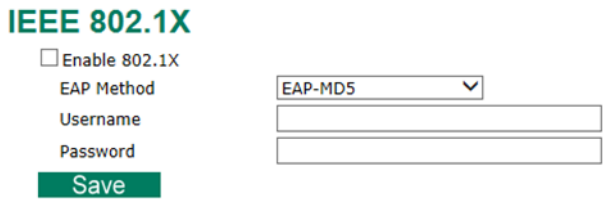
VPort 06-2/P16-2MR/66-2MP/36-2L/06EC-2V



IEEE 802.1x (not supported by all VPort models)

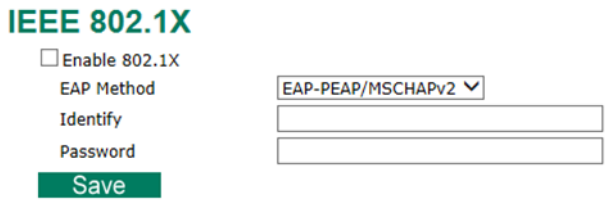
IEEE 802.1X is a network security protocol for authenticating devices that want to connect to a LAN or WLAN. If a network is protected by this authentication, the user will need to enable the protocol from VPort and enter the username and password for the network. There are three methods of 802.1X EAP supported by VPort.

1. MD5



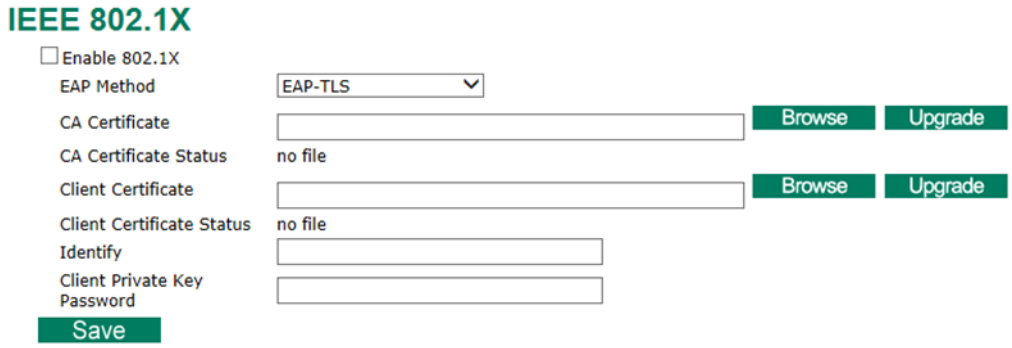
EAP-MD5 provides the lowest level of security. It differs from other EAP methods, as it only provides authentication of the EAP peer to the EAP server but not mutual authentication.

2. PEAP-MSCHAPv2



EAP-PEAP/MSCHAPv2 is a password-based, challenge-response, mutual authentication protocol that uses Message-Digest Algorithm (MD4) and Data Encryption Standard (DES) to encrypt responses. It is used primarily in Microsoft Active Directory environments.

3. TLS



Within 802.1X, the EAP-TLS exchange of messages provides mutual authentication, negotiation of the encryption method, and encrypted key determination between a supplicant and an authentication server. Unlike PEAP-MSCHAPv2 (which requires only server-side certificates), EAP-TLS requires client-side and server-side certificates for mutual authentication.

Every end user and computer, including the authentication server, which participates in EAP-TLS must possess at least two certificates:

- A client certificate signed by the certificate authority (CA)
- A copy of the CA root certificate

Therefore, the CA Certificate and Client Certificate need to be uploaded to VPort with the identify (user name) and password.

SSH (not supported by all VPort models)

Secure Shell (SSH) is a network protocol for securing data communication. Select the checkbox to enable SSH for your VPort.

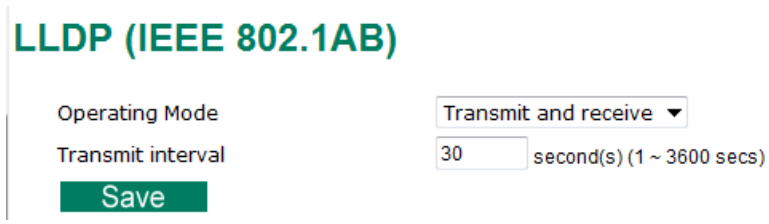
Telnet (not supported by all VPort models)

Use this function to enable/disable the Telnet function.

LLDP (not supported by all VPort models)

LLDP is an OSI Layer 2 protocol defined by IEEE 802.11AB. LLDP standardizes the self-identification advertisement method, and allows each networking device to periodically send its system and configuration information to its neighbors. Because of this, all LLDP devices are kept informed of each other's status and configuration, and with SNMP, this information can be transferred to Moxa's MXview for auto-topology and network visualization.

From the VPort's web interface, you can enable or disable LLDP, and set the LLDP transmit interval. In addition, you can view each VPort's neighbor-list, which is reported by its network neighbors. Most importantly, enabling the LLDP function allows Moxa's MXview to automatically display the network's topology and system setup details for the entire network.



Setting	Description	Default
Operation mode	Choose the LLDP operation mode: Disabled, Transmit only, Receive only, or Transmit and receive.	Transmit and receive
Transmit interval	Sets the transmit interval of LLDP messages, in seconds.	30

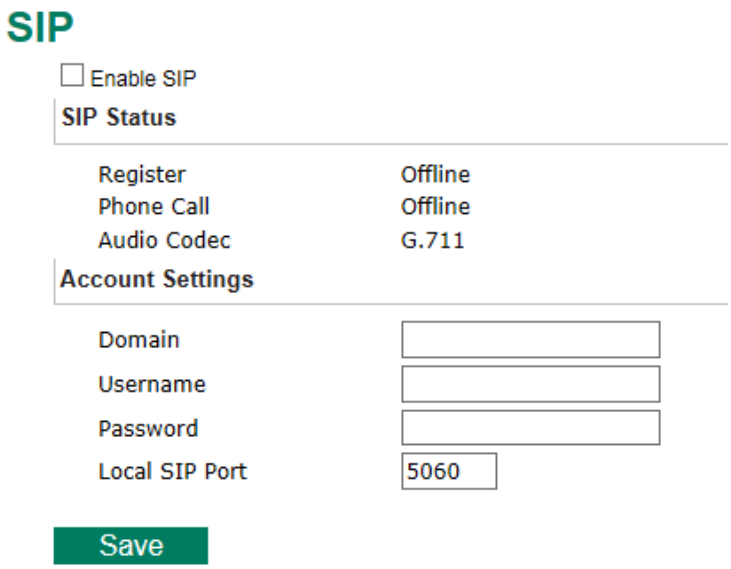
SIP (not supported by all VPort models)

You can enable and connect to the SIP server by following the steps below in order to have audio communication with the server.

Step 1: Set the IP domain and account information.

Step 2: Enable SIP.

Step 3: Save all the settings.



Setting	Description	Default
Enable SIP	Enable SIP function	Disable

Account Settings

Setting	Description	Default
Domain	Set domain name of SIP client	Blank
Username	Set username of SIP client	Blank
Password	Set password of SIP client	Blank
Local SIP Port	Set SIP port	5060

Video

Image Settings

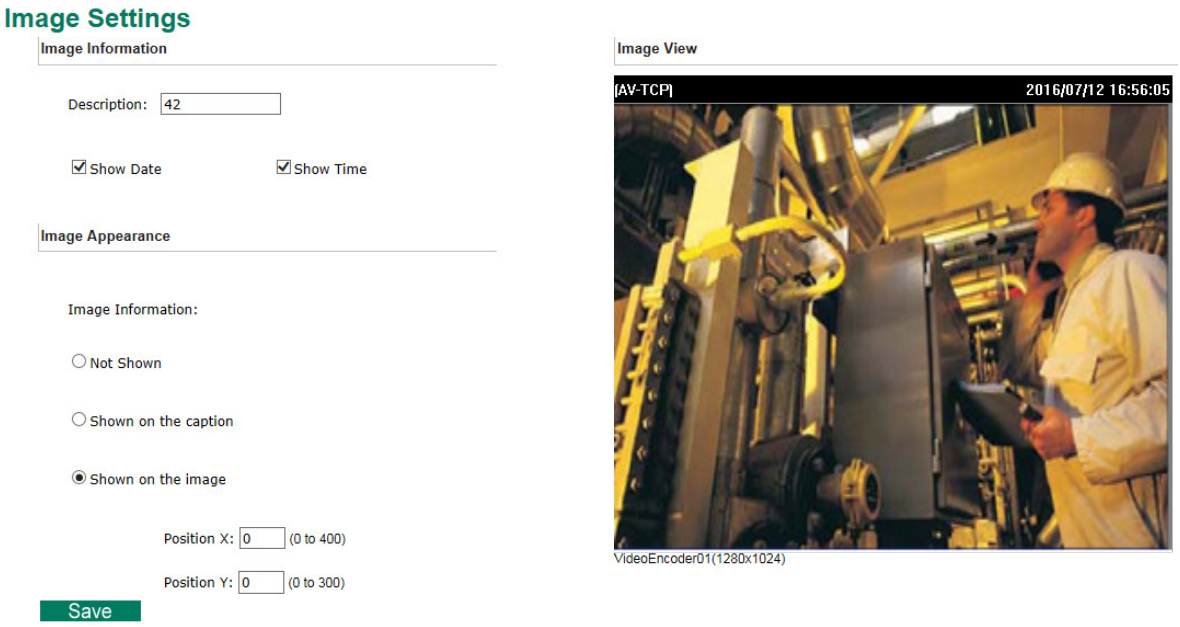


Image Information Setting

Setting	Description	Default
Description (max. of 15 characters)	The customized description shown on the caption to identify this video camera.	None
Show Date	Display date on the screen	Disable
Show Time	Display time on the screen	Disable

Image Appearance Setting

Setting	Description	Default
Image Information	Determines how image information is shown. Options are: Not Shown, Show on the Caption, and Show on image	Not Shown

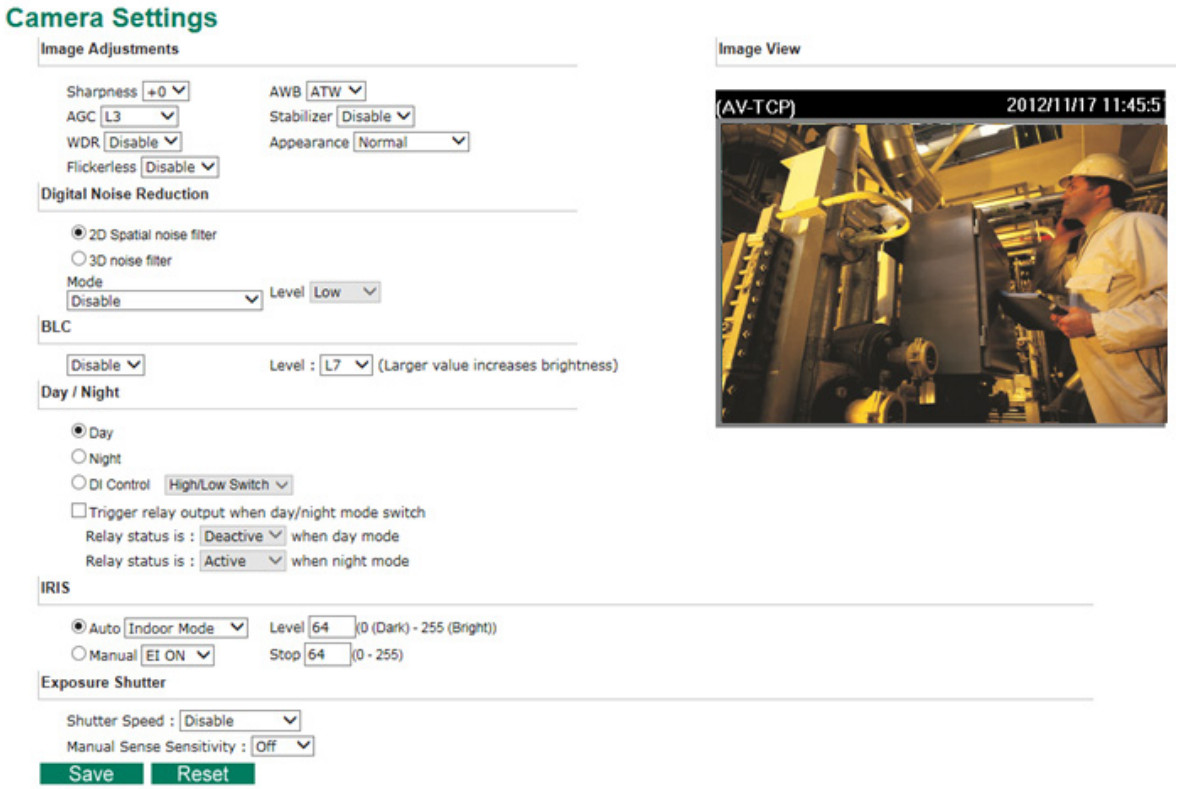
Image Appearance Position

The position of the Image Appearance window can be changed by configuring Position X and Position Y. The arrangement of the position is based on the resolution of each model.

Camera Setting

Different environments require different camera settings to ensure acceptable image quality.

NOTE The functions may differ slightly across VPort models, so some functions described below may not be supported by all VPort models.



Scene Wand (VPort 06-2, P16-2MR series)

Setting	Description	Default
Scene Wand	Select a preset color mode (White Balance will have more options in scene wand mode)	General

Environment (not supported by all VPort models)

Setting	Description	Default
Environment	Choose the kind of environment the VPort camera will be installed in; parameters will be optimized depending on which environment is specified. **Automatic:** This setting is usually for cameras used in an outdoor environment. **50 Hz anti-flicker:** This setting should be enabled when the camera is installed in a 50 Hz power frequency environment. **60 Hz anti-flicker:** This setting should be enabled when the camera is installed in a 60 Hz power frequency environment.	Automatic

Image Adjustments

Setting	Description	Default
Saturation	Select a value from -4 to +4.	0
Contrast & Sharpness	Select a value from -4 to +4	0
Auto Gain Control (AGC)	The AGC function produces clear images in low light conditions. The setting controls an amplifier that is used to boost the video signal when the light dims so to increase the camera's sensitivity. In some bright environments, the amplifier may be overloaded, which may distort the video signal. For the VPort 56-2MP and VPort 66-2MP, the AGC configuration is designed in levels; 7 levels (L1 to L7) can be configured. Level L1 has a lower AGC value, and level L7 has a higher ACG value.	16x VPort 56/66: L3
Back light control (BLC)	This function corrects the exposure of objects that are in front of a bright light source.	Middle
AWB (Auto White Balance)	For most conditions, we suggest using ATW to allow the camera to automatically adjust the white balance. We suggest using AWB when your camera is monitoring a scene in which one color occupies most of the view. If you like to use AWB, follow these steps: Step 1: Move the camera to a white color, real-world environment with normal lighting. Step 2: Select AWB and then click "Save". Step 3: Move the camera back to the location that is to be monitored.	ATW
Appearance	Normal: Normal view Mirror: Image will be displayed as in a mirror Flip: 180 degree rotation followed by mirrored display 180 Rotation: Display image after a 180 degree rotation	Normal
Sense up ***(not supported by all VPort models)***	The Sense up function is used to extend the shutter opening time for low lux environments; it can be adjusted from off (the default) to 64 times. Sense up is only activated when the IRIS and Shutter speed are in Auto, AGC is enabled, and Flickerless is disabled.	Off
Flickerless	Adjust sensor scan frequency to synchronize with environmental lighting frequency.	Disable
Stabilizer ***(not supported by all VPort models)***	This function can help reduce the shock effect.	Disable

Digital Noise Reduction (not supported by all VPort models)

Setting	Description	Default
Enable/Disable	Enable/Disable digital noise reduction function	Disable
2D or 3D	Choose 2D or 3D noise filter	2D
Mode	Choose the scenario for using 2D/3D DNR: Disable, Enable (in night mode, **enable** is selected by default).	Disable
Level	Choose Low, Middle, or High for DNR level. Low results in a lower effect; High results in a higher effect.	Low

BLC (not supported by all VPort models)

Setting	Description	Default
Enable	Enable BLC function	Disable
Level	Select BLC level	L7

Day / Night (not supported by all VPort models)

Setting	Description	Default
Day (Color)	Manually set the camera to day mode (color mode)	Enable
Night (Black and White)	Manually set the camera to night mode (monochrome mode)	Disable
Light Sensor	Allow the camera's light sensor to switch between day and night modes based on the ambient illumination level (L1 to L5; L1: means the day/night switch is in a higher lux value L5: means a lower lux value). Set the duration in seconds to define how long the illumination level should persist before switching between day and night mode.	Disable
Force color at night mode	This function can force the image to be in color when the light sensor is switched to night mode.	Disable
DI Control	Switch day/night by DI • High Low Switch: Camera switches between day and night modes whenever the DI status changes. • Pull High: Camera switches between day and night modes whenever the DI status is high. • Pull Low: Camera switches between day and night modes whenever the DI status is low.	Disable
Trigger relay output when switching between day and night modes	Triggers a relay output when the day/night mode switches; the relay status for day/night mode can be configured separately.	Disable

Auto Exposure Shutter

Setting	Description	Default
Auto Level	Configure the exposure mode from -5 to +5. Higher levels cause a slower shutter speed (hence brighter images); lower levels do the opposite.	0

WDR

Setting	Description	Default
WDR Wide Dynamic Range	Configure the WDR mode from Level 1 to Level 8, or enable/ disable, based on different VPort models. A higher level causes a stronger WDR effect. Choose a higher WDR level when your camera is monitoring a scene with both bright and dark areas.	Level 8, or disable

Auto Iris

Setting	Description	Default
Enable	Enable auto-iris function	Disable

IRIS (VPort 56-2MP, VPort 66-2MP)

Setting	Description	Default
Auto	Auto IRIS supports **Indoor** and **Outdoor** modes for, as well as a Level configuration for configuring the dark (0) to bright (255) setting for controlling the auto IRIS operation.	Indoor Level=64
Manual	Manual IRIS supports **EI (Electronic IRIS) off** and **EI on**; the IRIS level is fixed. For "EI on", the Electronic IRIS is automatic. In addition, a **Stop** setting (0 to 255) is provided to control the manual IRIS status.	EI on Stop=64

Exposure Shutter (VPort 56-2MP, VPort 66-2MP, VPort 36-2L)

Setting	Description	Default
Shutter Speed	A long shutter speed time causes high exposure, and a short shutter speed causes low exposure.	Disable
Manual Sense Sensitivity ***(not supported by all VPort models)***	Configures the "Sense Up" function for extending the exposure shutter time up to a maximum of 128 times.	Off

Exposure Shutter (VPort 06-2, P16-2MR Series)

Setting	Description	Default
Auto Level	Configure the exposure mode from -5 to +5. Higher levels cause a slower shutter speed (hence brighter images); lower levels do the opposite.	0
AE Sensitivity (available only when scene wand has been chosen)	Adjust the shutter sensitivity	Depends on which mode is chosen; e.g., Saloon mode: -1
AE Response Speed (available only when scene wand has been chosen)	Adjust the response speed of shutter	Depends on which mode is chosen; e.g., Saloon mode: -2

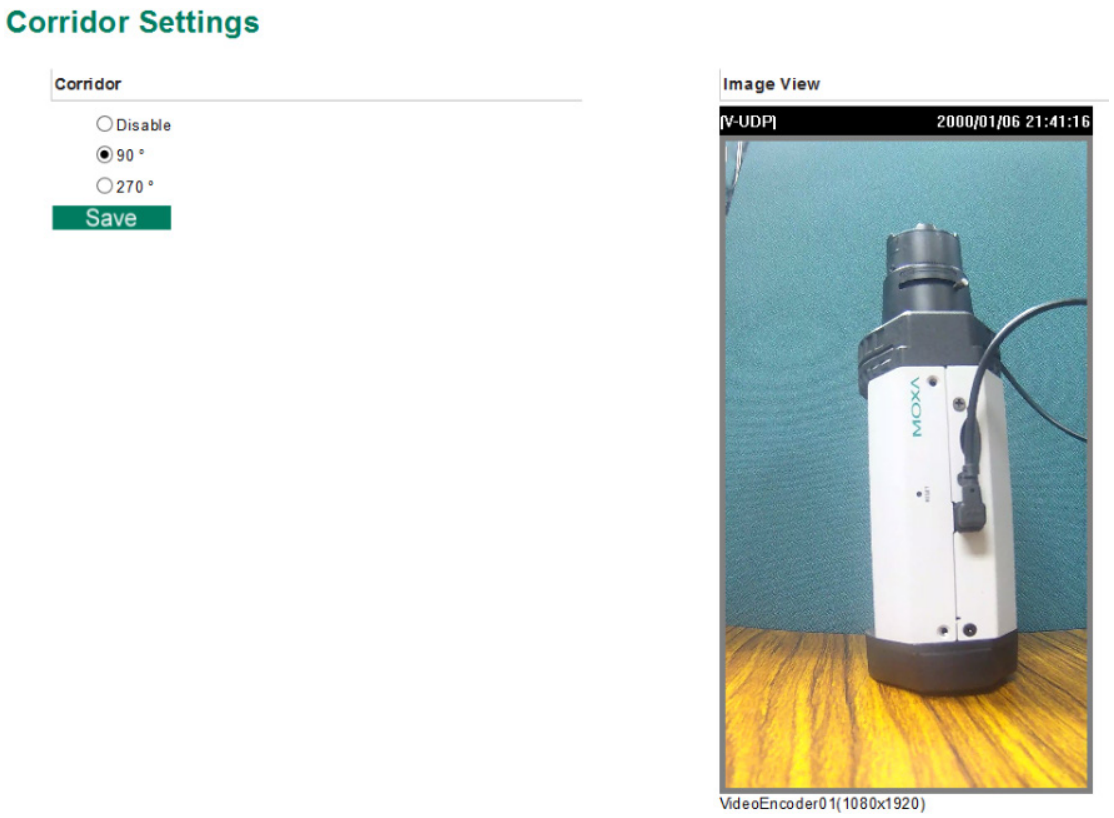
Image Configuration file

To export the image configuration, press **Export to a file** or import a configuration file stored on the computer.

NOTE Since IRIS and Exposure are related to image quality, some functions will be disabled to avoid configuration conflicts; for example, when enabling Manual IRIS, the Flickerless and Shutter Speed settings will be disabled.

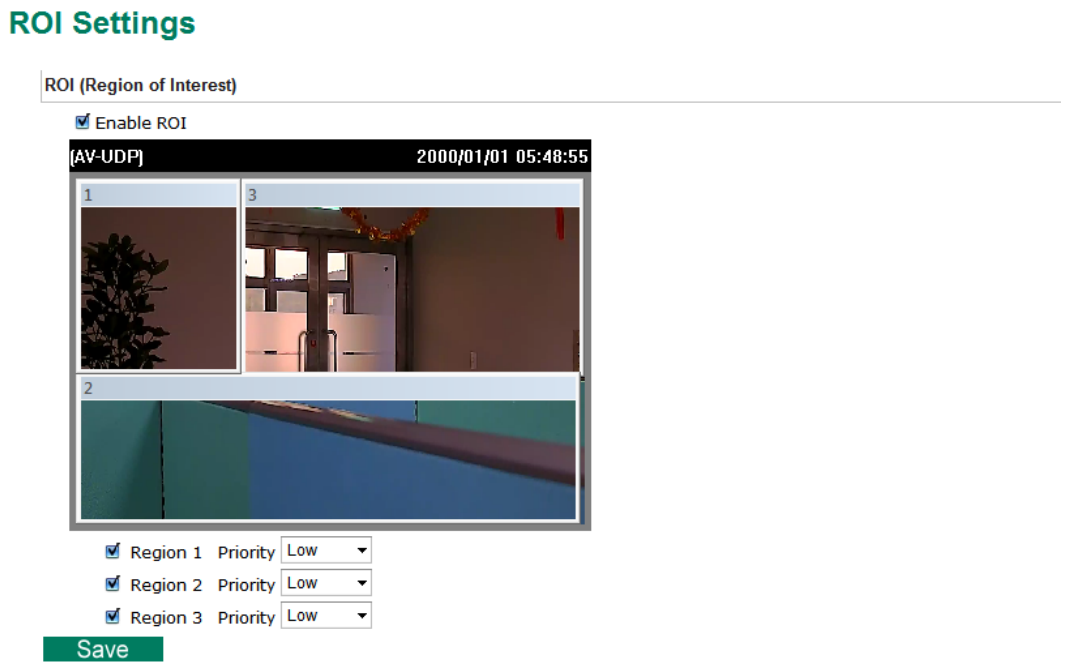
Corridor Setting (not supported by all VPort models)

This function can be activated when the user wishes to record an area such as a corridor or stairwell which is more vertical than horizontal in nature.



ROI (Region of Interest) (not supported by all VPort models)

When network bandwidth is limited, HD video streams may be extremely large, making it difficult to send the video streams over the network in real-time. In these conditions, the VPort camera can automatically allocate available bandwidth to those parts of the video that of most interest. For example, when watching a factory entrance, you can allocate more bandwidth for an entryway, while allocating less bandwidth for the wall.

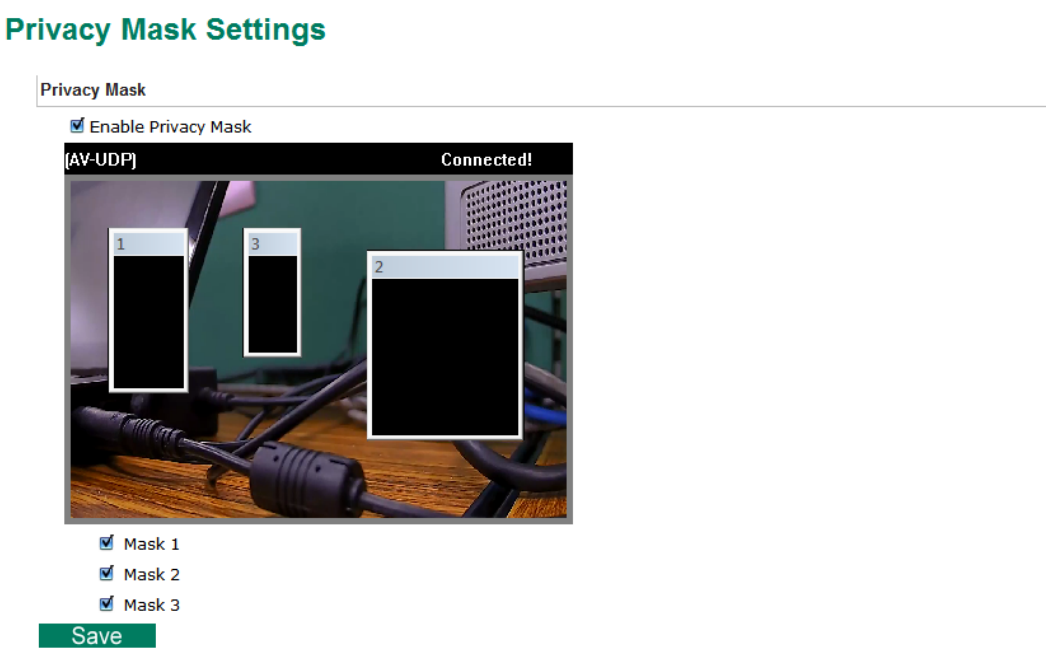


ROI

Setting	Description	Default
Enable	Enable ROI function	Off
Region 1/2/3	Assign priority to up to 3 different regions in the camera view.	Disable
High/Medium/Low	High: The camera will reserve most of the bandwidth for this part of the video. Medium: The camera will reserve a moderate amount of bandwidth for this part of the video. Low: The camera will reserve a minimal amount of bandwidth for this part of video.	Low

Privacy Mask (not supported by all VPort models)

In some conditions, you may want to block part of the view so that your surveillance system won't display private information that would otherwise be visible; the information will be blocked when displaying live video and during video playback.



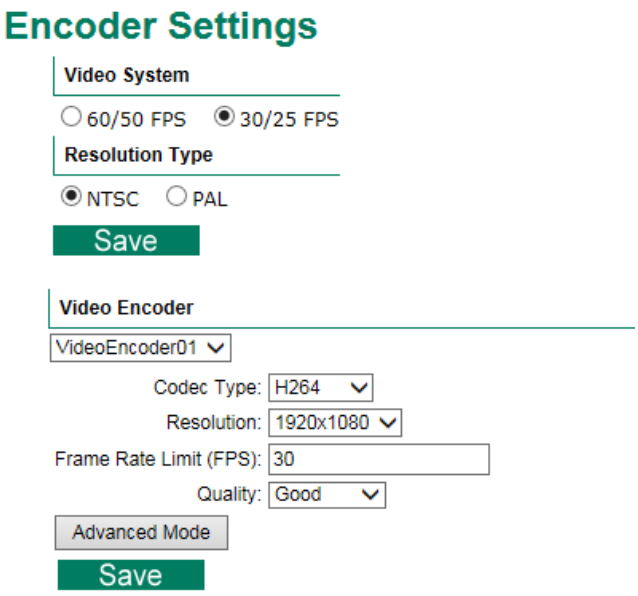
Privacy Mask

Setting	Description	Default
Enable	Enable the privacy mask function	Off
Mask 1/2/3	Enable up to 3 different privacy mask areas. Once enabled, you can drag the masked areas to different parts of the camera scene.	Disable

NOTE There is no way to recover masked video. The masked areas are not displayed when viewing the video live, or during playback, so be sure to use this function carefully.

Video Encoder

The VPort supports up to four video encoders (depending on the VPort model) for generating video stream profiles. The video encoders can each be configured with different codecs (H.264 or MJPEG), resolution, FPS (frame rate), and video quality.



Video System (VPort 66-2MP)

Setting	Description	Default
60/50 FPS or 30/25 FPS	The VPort 66-2MP supports up to 60 frames/second at 1080P resolution, but using such a high video performance setting limits you to 1 video stream. For this reason, a 30/25 FPS setting is provided to allow you to optimize system performance	30/25 FPS

Resolution Type

Setting	Description	Default
NTSC or PAL	Choose NTSC or PAL resolution type for your system	NTSC

Field of view (VPort 06-2, P16-2MR Series)

Setting	Description	Default
Cropping mode or Scaling mode	Choose the cropping or scaling mode when modifying resolution. (Cropping mode will alter viewing angle and scaling mode will alter object ratio)	Cropping mode

Video Encoder

Setting	Description	Default
Videoencoder01 Videoencoder02 Videoencoder03 Videoencoder04	To configure the attributes of the video encoder Videoencoder04 is not supported by all VPort models	Videoencoder01

Codec Type

This codec type shows the codec of each video stream.

Setting	Description	Default
Codec type	Configure the codec type of the video encoder: H.264, MJPEG	H.264

Resolution

Different VPort models support different resolutions. See each model's specifications for details.

Setting	Description	Default
Select the image size	Different image resolutions (size) are provided based on different VPort models. The administrator can choose each option with NTSC or PAL modulation.	Depends on the VPort model

Resolution	NTSC	PAL
QXGA (3MP)	2048 x 1536	2048 x 1536
FHD (2MP)	1920 x 1080	1920 x 1080
WXGA	1280 x 800	1280 x 800
HD 720P	1280 x 720	1280 x 720
SVGA	800 x 600	800x 600
Full D1	720 x 480	720 x 576
4CIF	704 x 480	704 x 576
VGA	640 x 480	640 x 480
CIF	352 x 240	352 x 288
QVGA	320 x 240	320 x 240
QCIF	176 x 112	176 x 144

NOTE Some resolutions may not be supported by some VPort models. Check your VPort's specifications in the product's QIG to see which resolutions are supported by your VPort.

Max. FPS (Frame per second)

Setting	Description	Default
Frame Rate Limit (FPS)	Configure the maximum FPS (frames per second); up to 30	30

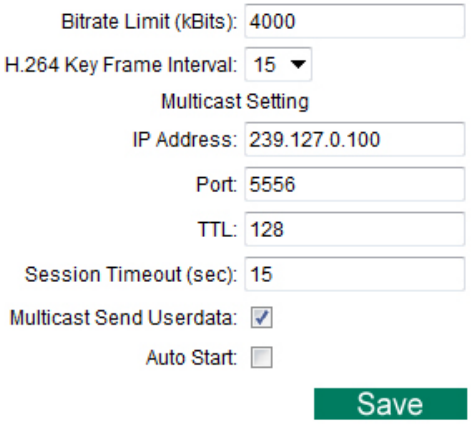
NOTE Frame rate (frames per second) is determined by the resolution, image data size (bit rate), and transmission traffic status. The Administrator and users can check the frame rate status in the FPS Status on the VPort's web homepage.

NOTE Enabling more video streams can lower the frame rate of each video stream.

Quality

Setting	Description	Default
Quality	The administrator can set the image quality to one of 5 standards: **Medium, Standard, Good, Detailed,** or **Excellent**. The VPort will tune the bandwidth and FPS automatically to the optimum combination.	Good

The video encoder setting supports an **Advanced Mode**. Click on the Advance Mode button to view the following configuration options.



Setting	Description	Default
Bitrate Limit (kbps) (only for H.264)	The administrator can fix the bandwidth to tune the video quality and FPS (frames per second) to the optimum combination. Different resolutions have different bandwidth parameters. The VPort will tune the video performance according to the bandwidth. A higher bandwidth means better quality and higher FPS.	4000
H.264 Key Frame Interval	Configure the key frame interval of the H.264 stream. A low number means higher video quality (due to more key frames), but more bandwidth will be consumed. If you have concerns about bandwidth, then select a higher number for *key frame interval*.	15

Multicast Setting

Setting	Description	Default
IP Address	Multicast Group address for sending a video stream.	239.127.0.100
Port	Video port number.	Videoecnoder01: 5556 Videoencoder02: 5558 Videoencoder03: 5560 Videoencoder04: 5562
TTL	Multicast-TTL (Time-to-live) threshold. A certain TTL threshold is defined for each network interface or tunnel. A multicast packet's TTL must be larger than the defined TTL for that packet to be forwarded across that link.	128
Session Timeout (sec)	Timeout between the client and the stream	15 (seconds)
Multicast Send Userdata	Configure the video stream with or without userdata	Enable
Auto Start	Enable/disable the Multicast stream push mode	Disable

NOTE Image quality, FPS, and bandwidth are influenced significantly by network throughput, system network bandwidth management, applications the VPort runs (such as VMD), how complicated the image is, and the performance of your PC or notebook when displaying images. The administrator should take into consideration all of these variables when designing the video over IP system, and when specifying the requirements for the video system.

NOTE Click here to access Moxa's "Bandwidth & Storage Calculator" to estimate the network bandwidth based on different resolutions, FPS values, and video content.

Prealarm (not supported by all VPort models)

The Prealarm settings determine which video encoder will be used for prealarm images.

Setting	Description	Default
Enable Prealarm	Enable of Disable the Prealarm function	Disable
Encoder name	Select which encoder will be used for Prealarm	Videoencoder03
Port	Configure the network port for this prealarm encoder.	1128

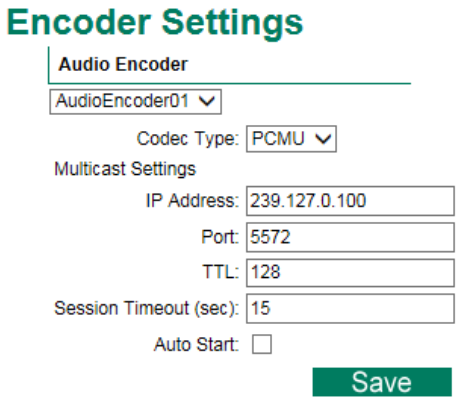
Zoom/Focus Setting (not supported by all VPort models)

Setting	Description	Default
Wide and Tele	To control the zoom manually in wide viewing angle or tele viewing angle	N/A
Near and Far	To focus objects that are near or far away manually	N/A
Reset Zoom/Focus	Reset the zoom and focus back to the default positions	N/A
One-shot focus	When the zoom control is done, click the One-shot focus button to automatically get the optimal focus.	N/A

Audio (not supported by all VPort models)

Some VPort models support an audio input (line-in or microphone in), or audio output (line out). The audio streaming configuration is required for video/audio streams.

Audio Encoder



Setting	Description	Default
AudioEncoder01	Select the audio encoder. Currently, VPorts only support one audio encoder.	Audioencoder01

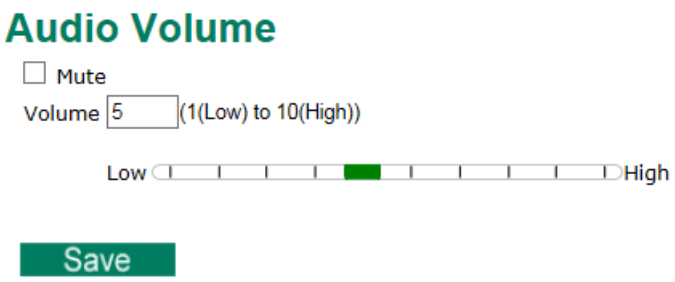
Codec type

Setting	Description	Default
Codec Type	The codec types that are supported depends on the different VPort model: • VPort P06-1MP, P16-1MP, P36-1MP Series: G.711 • VPort 56-2MP, 66-2MP: PCMU • VPort 06-2, P16-2MR Series: G.711 • VPort 36-2L series: PCMU, AAC	Depends on the VPort model

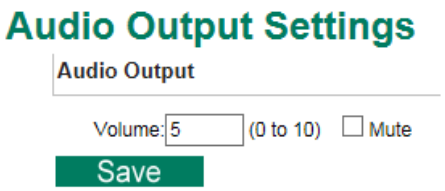
Multicast Setting

Setting	Description	Default
IP Address	Multicast Group address for sending an audio stream.	239.127.0.100
Port	Audio port number.	Audioecnoder01: 5572
TTL	Multicast-TTL (Time-to-live) threshold. A certain TTL threshold is defined for each network interface or tunnel. A multicast packet's TTL must be larger than the defined TTL for that packet to be forwarded across that link.	128
Session Timeout (sec)	Timeout between the client and the stream	15 (seconds)
Auto Start	Enable/disable the Multicast stream push mode	Disable

Audio Volume (VPort 06-2, P16-2MR Series)



Audio Output



Setting	Description	Default
Volume	Configure the audio, volume or press Mute	Volume=5

NOTE Currently, VPorts only support PCM (G.711) mono audio. After firmware V1.1 is released, the AAC will also be supported.

Metadata (not supported by all VPort models)

The metadata includes date, time, event, alarm, etc., and even some private information. The metadata can be sent with the video stream to provide the information to the system. If the video stream is in unicast mode, the metadata will be sent with the video stream. If the video stream is in multicast mode, then the following multicast settings are required.

Multicast setting

Setting	Description	Default
IP Address	Multicast Group address for sending the metadata.	239.127.0.100
Port	Metadata port number.	5588
TTL	Multicast-TTL (Time-to-live) threshold. A certain TTL threshold is defined for each network interface or tunnel. A multicast packet's TTL must be larger than the defined TTL for that packet to be forwarded across that link.	128
Session Timeout (sec)	Timeout between the client and the stream	15 (seconds)
Auto Start	Enable/disable the Multicast stream push mode	Disable

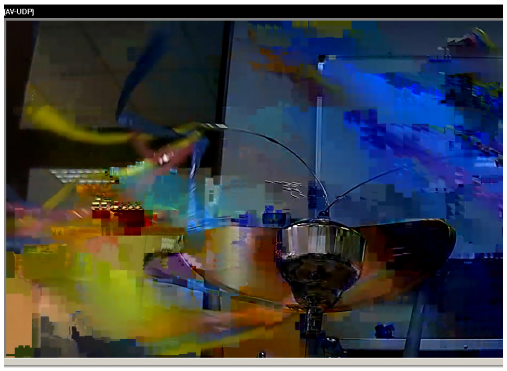
Streaming

CBR Pro

General CBR (constant bit rate) configuration limits throughput to 1 second, but since video streaming is designed to transmit immediately to shorten latency, network throughput may experience a burst in action during short time periods, in which case packet loss will occur if the network bandwidth buffer is not large enough. When packet loss occurs, images will show a mosaic effect. For this reason, the VPort supports an advanced CBR Pro™ function, which can enable the flow control of image packets to ensure no packet loss for limited bandwidth transmissions, such as on xDSL or wireless networks.

Image without packet loss

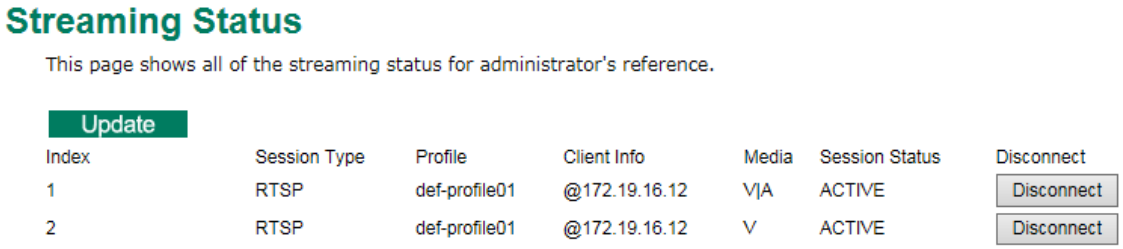
Image with packet loss



Setting	Description	Default
Limit the maximum throughput of each connection to ☐ kbits within ☐ milliseconds	Configure how much throughput is allowed on the network within the given number of milliseconds. For example, if the configuration is 20 kbits within 5 milliseconds, the video packet throughput will be limited to 20 kbits within 5 milliseconds.	20 kbits within 5 milliseconds

Streaming Status (not supported by all VPort models)

The "Streaming Status" page displays the status of connected video streams.

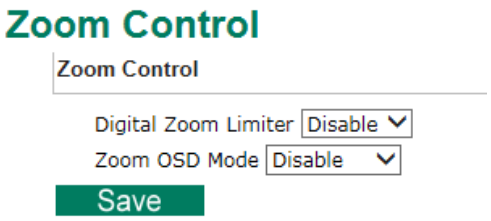


Item	Description
Index	The index of connected streams
Session Type	Stream transmission method
Profile	The profile being used
Media	"V" means video, "A" means audio
Session status	Whether or not the transmission is currently active or inactive
Disconnect	Disconnect the stream manually.

PTZ (not supported by all VPort models)

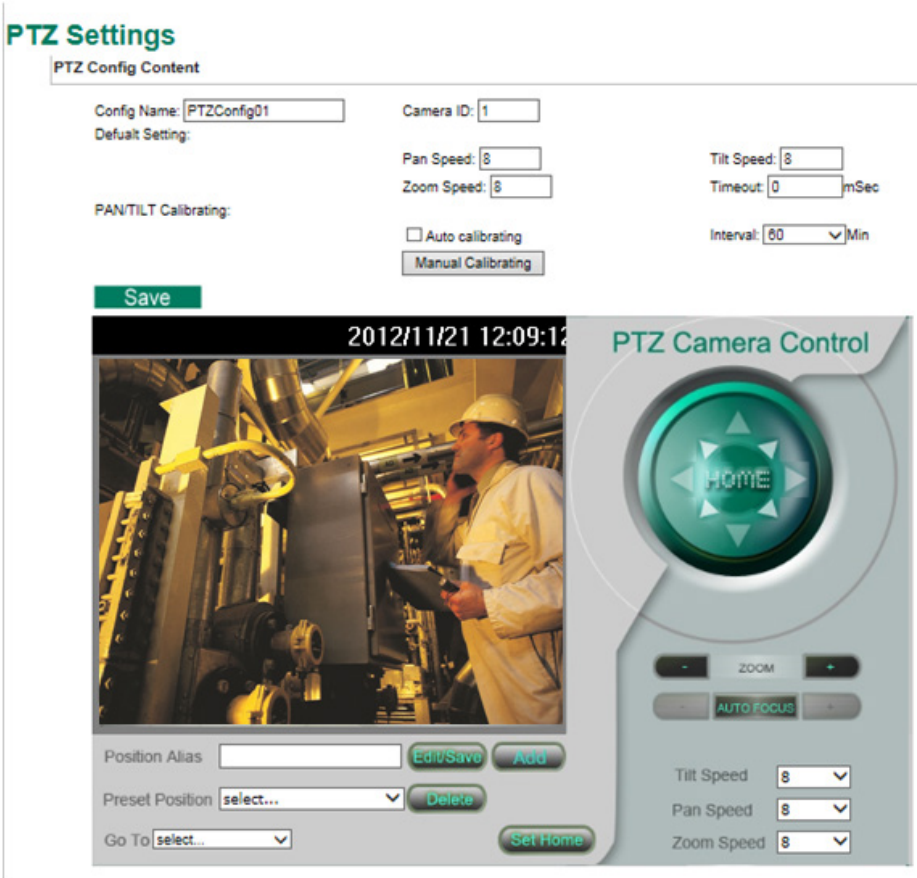
Some VPorts support PTZ (PAN, TILT, ZOON) control, with either a built-in PTZ mechanism, a digital Zoom function, or external PT scanner.

Zoom control (not supported by all VPort models)



Setting	Description	Default
Digital Zoom limiter	Configure the maximum digital zoom level when controlling the PTZ panel's Zoom function.	Disable
Zoom OSD Mode	Allow the current zoom level to be shown in the middle of image.	Disable

PTZ Configuration



PTZ config content

Setting	Description	Default
Config Name	Configure the name of these PTZ settings	PTZConfig01
Camera ID	ID of the PTZ camera.	1
Pan Speed	Speed of the PAN motion	Depends on VPort model
Tilt Speed	Speed of the TILT motion	Depends on VPort model
Zoom Speed	Speed of the Zoom motion	Depends on VPort model
Timeout	Configure the timeout period when there is no response after a command is sent	Depends on VPort model

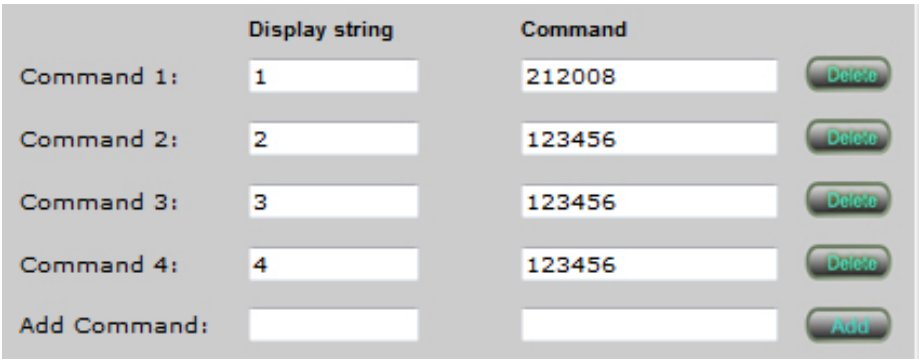
PAN/TILT calibrating (only supported by VPort PTZ cameras)

The PAN/TILT position may shift due to mechanical reasons after the camera has been in operation for a long time, especially in high vibration environments. For this reason, the PAN/TILT setting must be precisely calibrated. The VPort can be configured to use automatic PAN/TILT calibration that operates on a preset schedule, or the VPort can be calibrated manually.

Setting	Description	Default
Auto calibrating	Enable PAN/TILT calibrating based on the configured interval.	Disable
Manual Calibrating	PAN/TILT calibrated manually	

Set Up Custom Commands (not supported by all VPort models)

VPort products provide 24 custom commands, in addition to the general pan, tilt, zoom, and preset functions, which are also shown on the PTZ Control Panel. Administrators can click on Setup Custom Commands to configure the commands, and refer to the manual enclosed with the attached PTZ camera to set up frequently-used functions. Commands should be entered in ASCII format. The VPort will translate the commands into binary code and then send the data out through the serial port. For instance, the text string 8101ABCDEF will be translated into five bytes of hexadecimal: 81, 01, AB, CD, and EF. The maximum length of a command string is 60, which is equivalent to 30 hexadecimal bytes. The Display string is for the text on the command buttons and should be fewer than 8 characters. If Custom Camera is selected, more PTZF commands will be available.



Setting Up a Preset Position

Administrators can use the Preset Position function to set up the behavior of the PTZ camera in advance, and then users with camera control privilege can move the camera's lens to a preset position without the need to control the pan, tilt, and zoom buttons on the PTZ control panel.

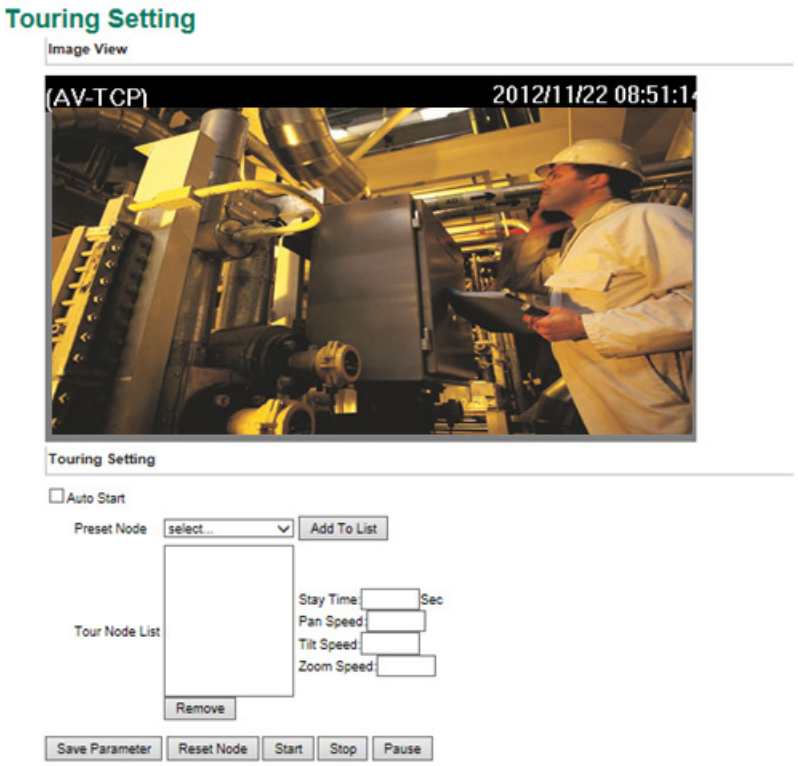
Setting	Description	Default
Position Alias	Customized name of the preset position	blank
Preset Position	VPorts support a preset position for quick PTZ operation, although different VPorts support different maximum preset positions (for example, the VPort 66-2MP supports up to 128 preset positions).	01
Go to	The administrator can use "Go to" to select or test the preset position before the save.	Select
Set Home	This button can decide the Home position of PTZ control	
ZOOM Auto Focus Auto IRIS	These buttons are to fine tune the PTZ camera's lens positions.	
TILT SPEED PAN SPEED ZOOM SPEED	These items are used to change the speed of TILT, PAN and ZOOM.	1

NOTE When the VPort is used with a PT scanner, the digital Pan/Tilt function will be disabled automatically to allow the PT scanner to perform Pan/Tilt functions without interference from the digital Pan/Tilt function.

NOTE The direction button on the wheel will not be displayed until a digital zoom is performed. When the camera image is zoomed out to its original size, the direction button will again disappear.

NOTE For those VPorts that support digital zoom, press the "+" button to zoom in on the image.

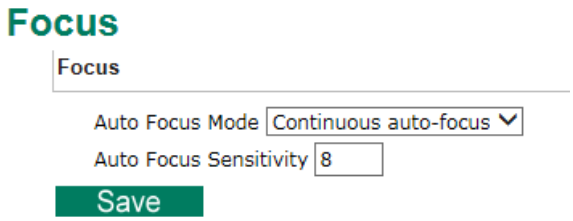
Touring (only supported by VPort PTZ cameras)



NOTE Preset positions must be configured before configuring the tour function.

Setting	Description	Default
Auto Start	The tour will start automatically when the PTZ camera is powered on.	Disable
Preset node	Select the preset position needs to be added in the tour.	Blank
Tour Node list	The selected preset positions are listed	blank
Stay time	The stay time period can be configured for each preset position	10 seconds
PAN/TILT/ZOOM speed	The speed of PAN/TILT/ZOOM of each preset position can be configured.	8
Remove	Each preset position in the tour can be removed by clicking the **Remove** button	
Save Parameter	The configurations of each preset position can be saved by clicking the **Save Parameter** button	
Reset Nodes	All preset positions in the tours can be removed by clicking the **Reset Nodes** button	
Start/ Stop/ Pause	The tour can be started, stopped, or paused by clicking the **Start, Stop**, or **Pause** buttons.	

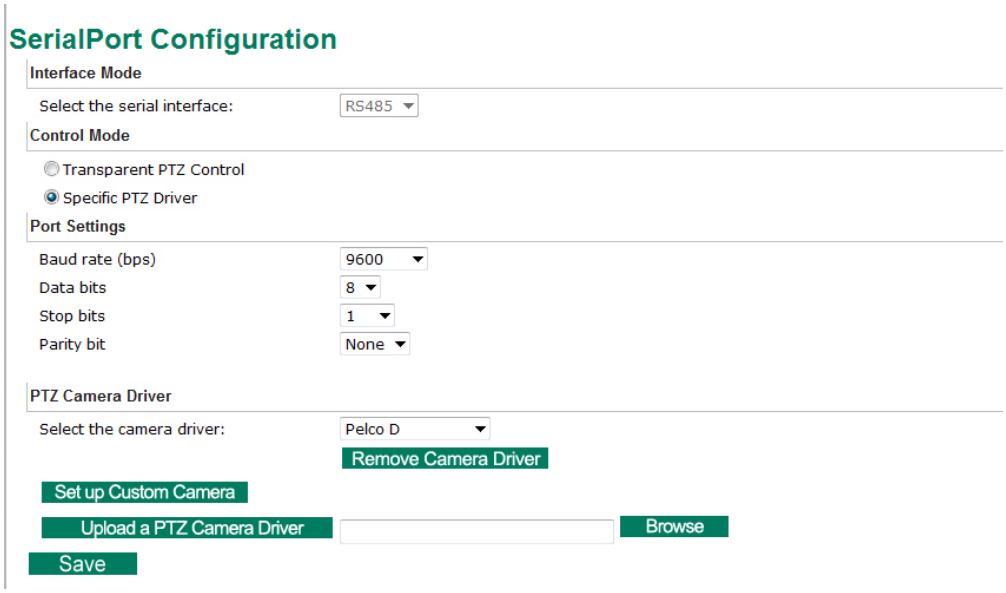
Focus (not supported by all VPort models)



Setting	Description	Default
Auto Focus Mode	Options include **Disable**, **Continuous auto-focus**, and **One shot auto-focus**	Depends on the VPort model
Auto Focus Sensitivity	Configures the sensitivity for triggering the auto-focus; from 0 (minimum) to 15 (maximum).	8

Serial Port (not supported by all VPort models)

Some VPort models have RS-485 serial ports for connecting to an external PT scanner. Check your product's quick installation guide for information on how to wire the connection between the VPort and the PT scanner.



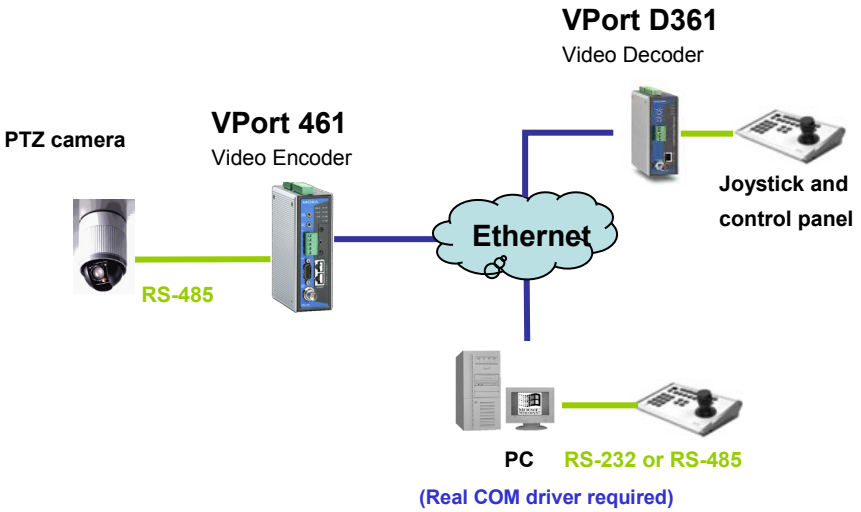
Interface mode

Setting	Description	Default
Select the serial interface	The serial port interface: RS232, RS422, RS485	RS485

Control mode

The VPort supports 2 PTZ control modes: "Transparent PTZ" control and "PTZ driver."

- **Transparent PTZ Control (only for VPort encoders):**
  Select Transparent PTZ Control to control the PTZ camera with a legacy PTZ control panel or joystick connected to the CCTV system. The application is illustrated in the following figures.



In Transparent PTZ Control mode, the serial data from the legacy PTZ control panel or joystick will be transformed into IP packets for transmission over a TCP/IP network, and once the VPort video encoder receives these IP packets, the PTZ control commands will be transformed back to serial data format for controlling the PTZ camera's action. You do not need to install a PTZ driver to control the PTZ camera's action, which means that a large variety of different PTZ cameras can be used with the VPort video encoders and their supported PTZ control panel or joystick.

NOTE The legacy PTZ control panel or joystick should be connected to the VPort's PTZ port or the COM port of a PC. But, when it is connected to a PC's COM port, you will need to install a real COM driver on the PC and map the COM ports. For detailed information, refer to the VPort SDK PLUS-ActiveX Control SDK for the Real COM driver and COM port mapping function sample codes. You can download this SDK from Moxa's website (www.moxa.com).

Specific PTZ Driver:

A PTZ driver is usually required to control a PTZ camera over a TCP/IP network. This is because each PTZ camera supplier has their own proprietary PTZ control protocol. VPort video encoders support all popular PTZ drivers for controlling PTZ cameras.

Setting	Description	Default
Control Mode	Select the PTZ control mode in **Transparent PTZ Control** or **PTZ Driver**	PTZ driver

The configurations described below are only available in PTZ Driver mode.

Port Settings

Setting	Description	Default
Baud rate (bps)	The baud rate specified by the PTZ camera's serial communication specs.	2400
Data bits	The parameters used to define the serial communication.	8
Stop bits		1
Parity bits		None

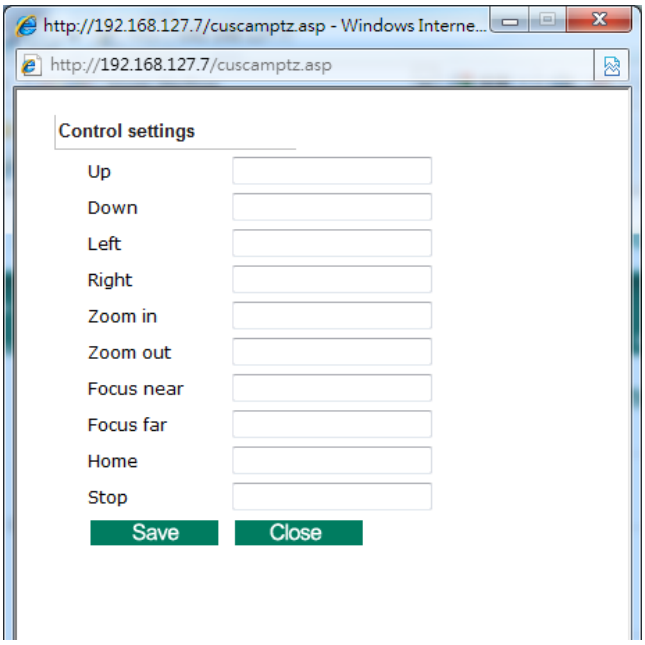
PTZ Camera Drivers

VPort products come with PTZ camera drivers for some of the popular PTZ cameras. Administrators can select the correct PTZ driver in the "Select the Camera Driver" menu. If the attached PTZ camera is not supported by the VPort, administrators can use the Custom Camera function to enter the proprietary commands for pan, tilt, zoom, and focus control.

Setting	Description	Default
Select the camera driver	Use the built-in PTZ drivers, including: 1. Custom Camera 2. Pelco D 3. Pelco P	Pelco D

Setting Up a Custom Camera

If the PTZ camera's driver is not in the list, the administrator can select the custom camera from the **Select Camera driver** menu to program the PTZ camera with ASCII code. A custom camera window will pop up when the **Setup Custom Camera** button is clicked. Input the ASCII code into this window. **Port Settings (Data bits, Stop bits, and Parity bits)** are for the serial communication parameters and **Control Settings** are for programming the **TILT (Move Up, Move Down), PAN (Move Left, Move right), HOME, ZOOM (Zoom in, Zoom out),** and **FOCUS (Focus near, Focus Far)** actions.



NOTE The control protocols are available from the PTZ camera's supplier. You will need to get the protocols from the supplier before programming the PTZ camera.

Uploading a PTZ Camera Driver

In addition to the PTZ camera drivers and custom camera functions supported by the VPort, an alternative user-friendly **Upload a PTZ Camera Driver** function is available for implementing the PTZ camera control. Moxa will release new PTZ camera drivers to Moxa's website as they become available. Administrators can click on **Browse** to upload the new PTZ camera drivers to the VPort. In addition, the administrator can also remove the PTZ driver by selecting the PTZ driver and clicking the **Remove Camera Driver** button.

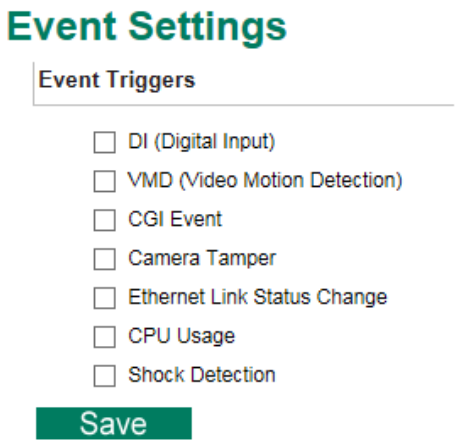
Event

You can set up all of the events that you want to be detected by the camera; in fact, you may set an action once an event occurs.

Enable Event

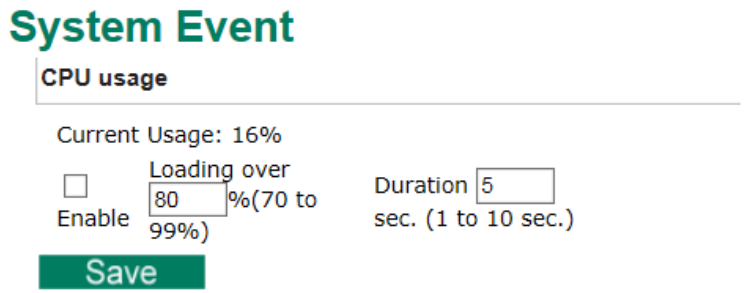
Checkmark those events you would like to enable. Events without a checkmark are disabled.

NOTE Some cameras do not support all events.



System Event

Set up the system event to inform the user when the system condition occurs.



CPU usage

Setting	Description	Default
Enable	Enable the system event	Disable
Loading over	Set the threshold of CPU usage event (70 to 99%)	80
Duration	Set the duration of the CPU usage which would trigger the event	5

Relative Humidity (not supported by all VPort models)

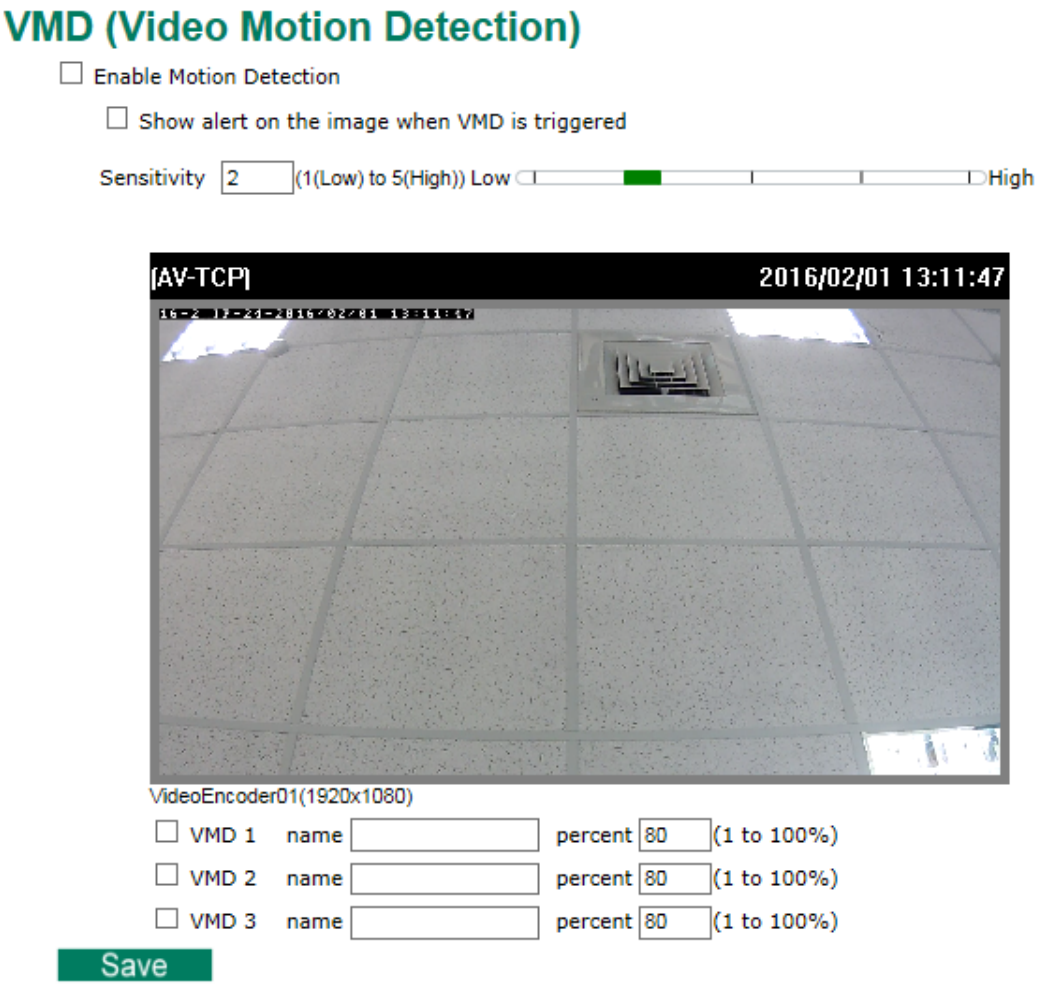
Setting	Description	Default
Enable humidity detection	Enable humidity detection	Disable
Humidity over	Set the threshold of	65
Duration (sec.)	Set the duration of the humidity that will trigger the event	50

Shock Detection (not supported by all VPort models)

Setting	Description	Default
Enable Shock Detection	Enable Shock Detection	Disable
Sensitivity	Adjust the sensitivity of the G sensor (From 1 to 10. 10 is the most sensitive.)	3

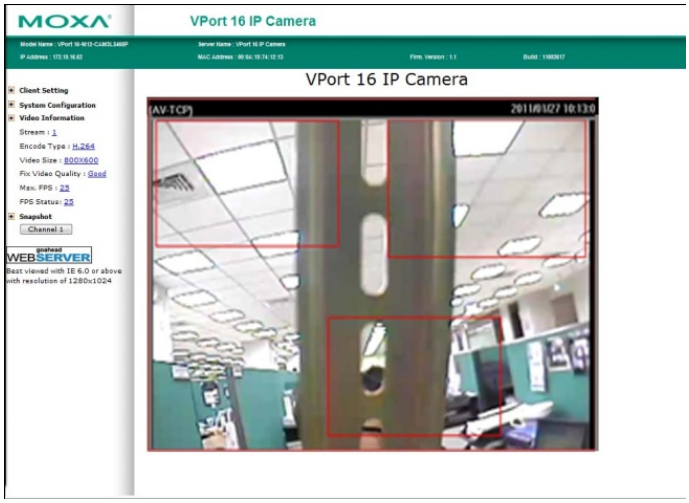
Video Motion Detection

Video Motion Detection (VMD) is an intelligent event alarm for video surveillance network systems. With three area-selectable VMDs and sensitivity/percentage tuning, administrators can easily set up the VMD alarm to be active 24 hours a day, 7 days a week.



Setting	Description	Default
Enable VMD alarm	Enable or disable the Video Motion Detection alarm	Disable
Show alert on the image when VMD is triggered	Enable or disable "show alert on the image…" When enabled, when a VMD alarm notification is received, a red square frame will be displayed on the video image.	Disable
Sensitivity	Adjust the sensitivity level of the VMD function from 1 to 5 (1 is the lowest, and 5 is the most sensitive)	2

NOTE Once "Show alert on the image when VMD is triggered" is enabled, the red frames that appear on the homepage image indicate the size of the VMD window set up by the administrator.



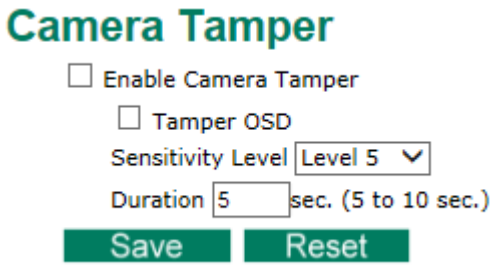
Setup a VMD Alarm

Setting	Description	Default
Enable	Enable or disable the VMD1, VMD2, or VMD3	Disable
Window	The name of each VMD window	Blank
Percent	The minimum percentage of change to an image that will trigger VMD. Decrease the percentage to make it easier to trigger VMD.	80
Sensitivity	The measurable difference between two sequential images for triggering VMD. Increase the sensitivity to make it easier for VMD to be triggered.	1

NOTE After setting the VMD Alarm, click the Save button to save the changes.

Camera Tamper (not supported by all VPort models)

Use the VPort's camera tamper function to detect malicious behavior done to the camera, such as spray painting, view blocking, angle adjustment, etc. This page allows you to configure the parameters and alarm condition/action of the camera tamper alarm.



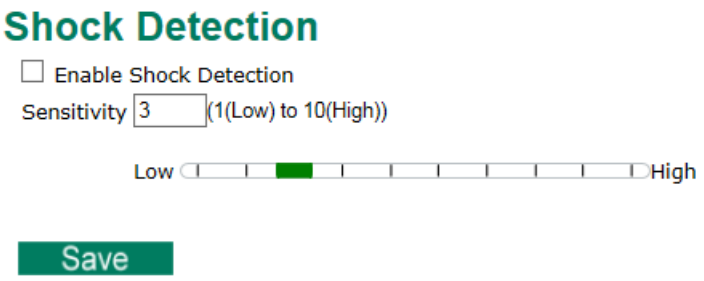
Setting	Description	Default
Enable camera tamper event	Enable or disable the digital input alarm	Disable
Tamper OSD	Determines whether or not the camera will display an onscreen warning square when the camera tamper alarm is triggered	Not Display

Trigger Conditions

Setting	Description	Default
Cover Area	What percentage of the camera view should be affected before the camera tamper alarm is triggered.	30%
Sensitivity Level (VPort 06-2, P16-2MR Series)	Adjust the sensitivity level of tamper detection (level 10 is the most sensitive level)	Level 5
Duration	How long should the camera tamper behavior persist before the alarm is triggered.	5 sec

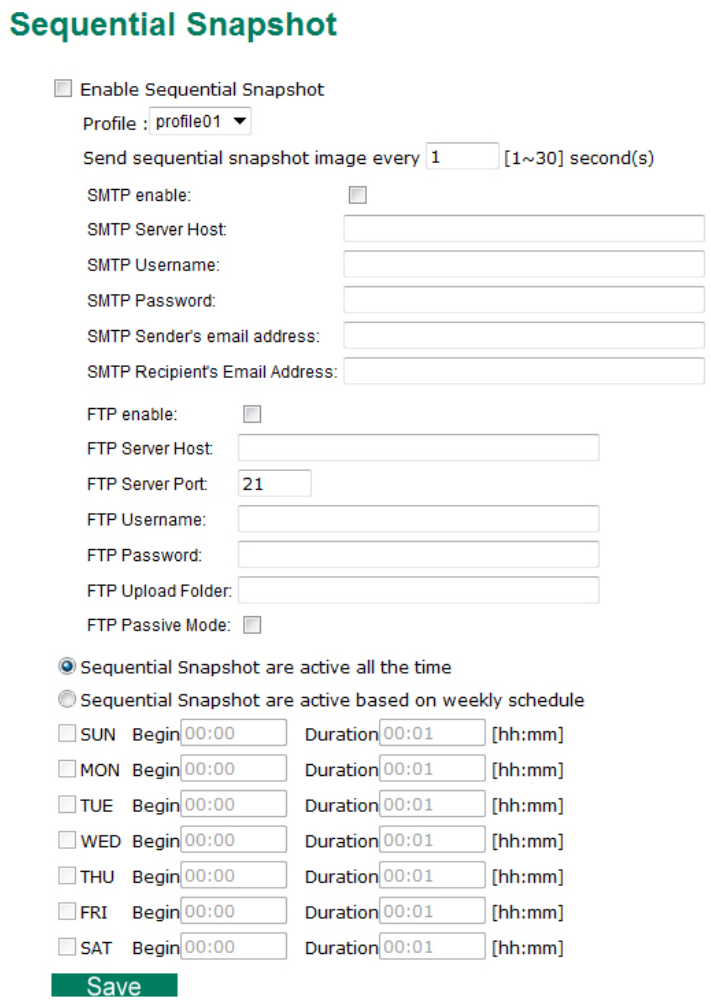
Shock Detection (VPort 06-2, P16-2 Series)

Some cameras include a G sensor to detect abnormal shocks, and then inform the user.



Setting	Description	Default
Enable Shock Detection	Enable Shock Detection	Disable
Sensitivity	Adjust the sensitivity of G sensor (From 1 to 10 and 10 is the most sensitivity level)	3

Sequential Snapshot



With this feature, the VPort can upload snapshots periodically to an external E-mail or FTP server as a live video source.

Setting	Description	Default
Enable Sequential Snapshots	Enable or disable Sequential Snapshot.	Disable
Profile	Select which video profile will take snapshot images.	Profile01
Send sequential snapshot image every seconds	The time interval between successive snapshot images.	1 second (from 1 second to 30 seconds)

SMTP

Setting	Description	Default
SMTP enable	Enable the SMTP system for emailing the snapshot images	Disable
SMTP server host	SMTP Server's IP address or URL address.	None
SMTP username	For security reasons, most SMTP servers require the account name and password to be authenticated.	None
SMTP password		None
SMTP Sender's email address	For security reasons, SMTP servers must see the exact sender email address.	None
SMTP Recipient's email address	For security reasons, SMTP servers must see the exact recipient's email address.	None

NOTE Note that if the **Sender's email address** is not set, a warning message will pop up and the e-mail system will not be allowed to operate.

FTP

Setting	Description	Default
FTP enable	Enable the FTP system to save snapshot images remotely.	Disable
FTP server host	FTP server's IP address or URL address.	None
FTP server port	FTP server's authentication.	21
FTP user name		None
FTP password		None
FTP upload folder	FTP file storage folder on the remote FTP server.	None
FTP passive mode	Passive transfer solution for FTP transmission through a firewall.	Disable

Weekly Schedule

Setting	Description	Default
Sequential Snapshot are active all the time	The Sequential Snapshot function is always active.	Sequential Snapshot are active all the time
Sequential Snapshot are active based on weekly schedule	The Sequential Snapshot is activated based on the configured weekly schedule.	
☐ Sun ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat	Select which days of the week to schedule event alarms.	None
Begin 00:00	Set the start time of the event alarm.	00:00
Duration 00:00	Set how long the event alarm will be active.	00:01

Actions

Action Config

To set up an event alarm, the corresponding action needs to be configured first.

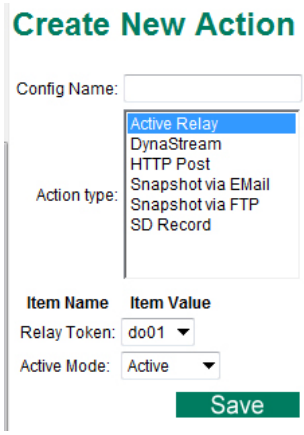
Step 1: Click the "Create New Config" button.

Step 2: Create the new action.

Setting	Description	Default
Config Name	Configure the name of the new action	None
Action Type	Select the Action Type: Active Relay, Dynastream, HTTP Post, Snapshot via Email, Snapshot via FTP, SD record, SNMP Trap (not supported by all models)	Active Relay

Different actions have different configuration items.

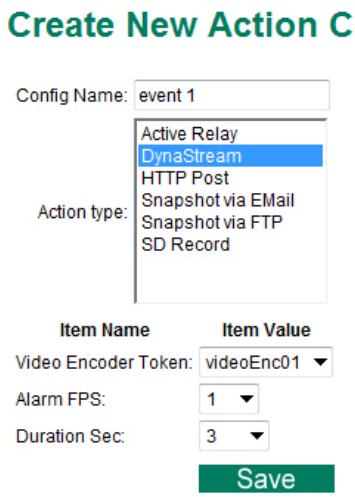
Active Relay (not supported by all VPort models)



Settings	Description	Default
Relay token	Select the relay output	Do01
Active mode	Select Active or Deactive for the relay behavior	Active

DynaStream

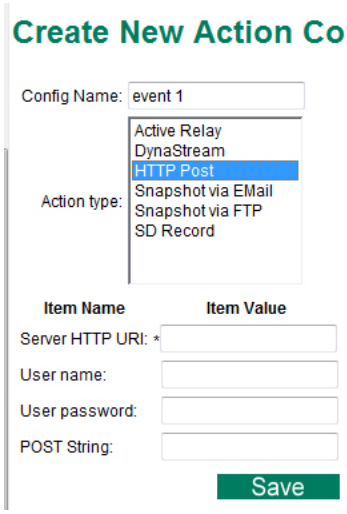
DynaSteam™ is a unique and innovative function that allows for adaptive frame rates in response to events on the network, such as event triggers and system commands. When network traffic becomes congested, DynaStream™ allows VPort products to respond to CGI, SNMP, and Modbus commands from SCADA systems (as well as the MxNVR-MO4's VMD, DI, CGI events, and video loss triggers), and automatically decrease the frame rates to reduce bandwidth consumption. This reserves bandwidth for the SCADA system to maintain Quality of Service (QoS) and guarantees that the SCADA performance will not be impacted by video traffic. For example, the frame rate can be set to low during regular streaming to reduce bandwidth usage and automatically switch to a high frame rate during triggered events to ensure quick transmission of critical video data or video streams, or to provide detailed visual images for problem analysis.



Settings	Description	Default
Video Encoder	Select the video encoder.	Videoencoder01
Alarm FPS	Configure what the frame rate will be set to when the event is triggered.	1
Duration	Configure how long Dynastream will be active.	3 seconds

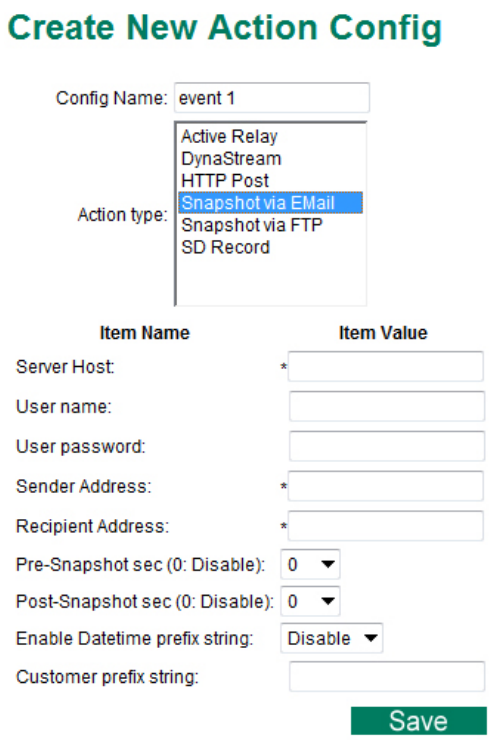
NOTE To enable the DynaStream function from CGI commands and Modbus TCP, refer to the CGI Commands User's Manual for VPort SDK PLUS.

HTTP Post



Settings	Description	Default
Server HTTP URL	URL of the HTTP server.	None
User name	Authentication information for the HTTP server.	None
User Password		
POST String	Configure the string that will be posted.	None

Snapshot via Email



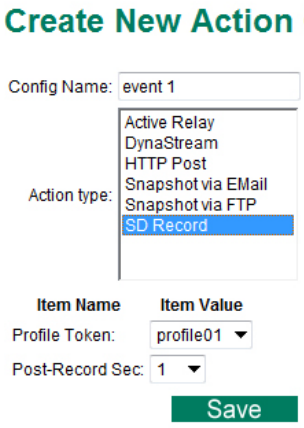
Settings	Description	Default
Server host	SMTP server's IP address or URL address.	None
User name	For security reasons, most SMTP servers require the account name and password to be authenticated.	None
User password		
Sender's address	For security reasons, SMTP servers must see the exact sender email address.	None
Recipient's address	For security reasons, SMTP servers must see the exact recipient's email address.	None

Settings	Description	Default
Pre-Snapshot sec (0: disabled)	= 0: A pre-snapshot image will not be generated. > 0: The image this many seconds before the event will be used as the pre-snapshot image.	0
Post-Snapshot sec (0: disabled)	= 0: A post-snapshot image will not be generated. > 0: The image this many seconds after the event will be used as the post-snapshot image.	0
Enable Date and time prefix string	Add the date & time to the file name of snapshot images	Disable
Customer prefix string	The file names of snapshot images will be prefixed with this string.	None

Snapshot via FTP

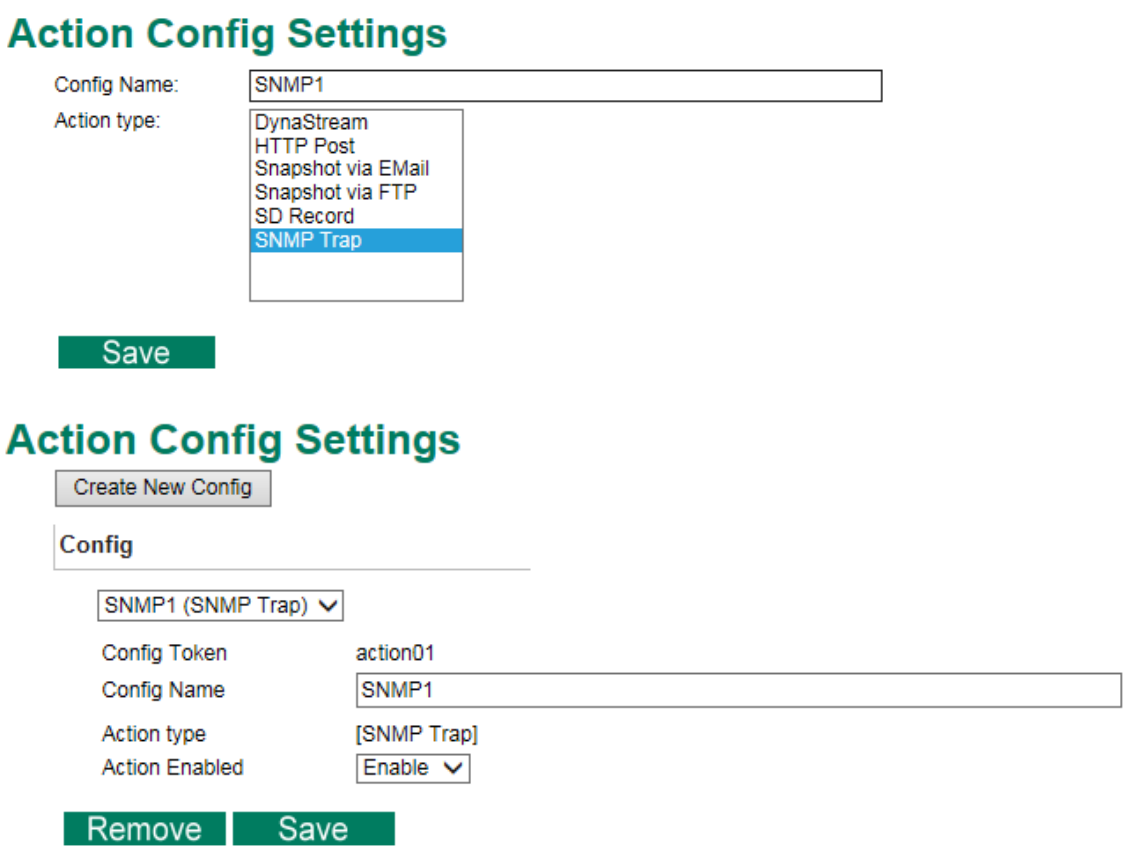
Setting	Description	Default
Server Host	FTP server's IP address or URL address.	None
Server Port	FTP server's authentication information.	21
User name		None
User password		None
Upload path	FTP file storage folder on the remote FTP server.	None
Passive Mode	Passive transfer solution for FTP transmission through a firewall.	Disable
Pre-Snapshot sec (0: Disable)	= 0: A pre-snapshot image will not be generated. > 0: The image this many seconds before the event will be used as the pre-snapshot image.	0
Post-Snapshot sec (0: Disable)	= 0: A post-snapshot image will not be generated. > 0: The image this many seconds after the event will be used as the post-snapshot image.	0
Enable Date time prefix string	Add the date & time to the file name of snapshot image	Disable
Customer prefix string	The file names of snapshot images will be prefixed with this string.	None

SD Record (not supported by all VPort models)



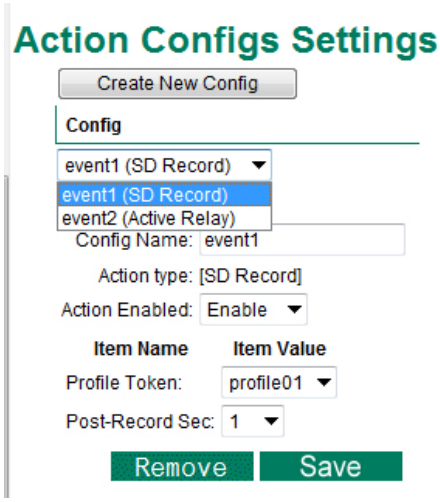
Settings	Description	Default
Profile Token	Select the profile being recorded on the SD card.	Profile01
POST-record sec	Configure the time (1 to 60 seconds) for recording the video on the SD card after the event.	1

SNMP Trap (not supported by all VPort models)



Settings	Description	Default
Config Name	Set a name for this trap action	
Action Enabled	Select the trap that is enabled or be disabled by this action	Enable

Step 3: An action list will be displayed on the webpage.



Action Trigger

After the action type is configured, users can configure how to trigger the action.

Step 1: Click the "Create New Trigger" button.

Step 2: Create the new trigger.

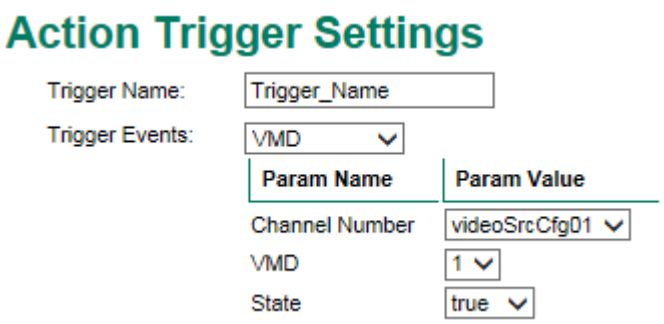
Setting	Description	Default
Trigger Name	Configure the name of the new trigger	None
Trigger event	Select the event Type: Digital input, VMD, Tamper, CGI trigger, Link status	Active Relay

Different triggers have different configuration items.

Digital input (not supported by all VPort models)

Settings	Description	Default
DI number	Select digital input	DI01
Logical State	Configure the DI status to High or Low	High

VMD

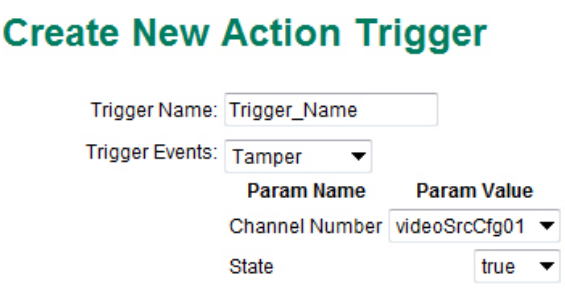


Settings	Description	Default
Channel Number	Select the video source. Currently, VPort IP cameras only have one video source.	videoSrccfg01
State	Enable (true) or disable (false) the VMD trigger	true
VMD (not supported by all VPort models)	Choose which VMD window should be used	1

CGI trigger

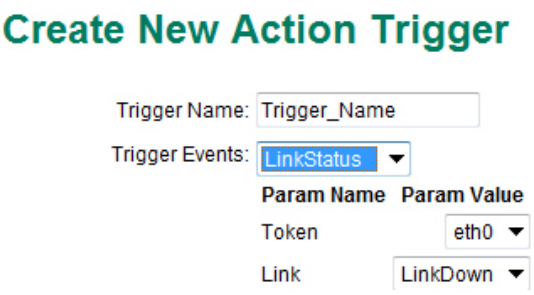
Settings	Description	Default
CGI trigger	Select from 5 CGI triggers.	1

Tamper (not supported by all VPort models)



Settings	Description	Default
Channel Number	Select the video source. Currently, VPort IP cameras only have one video source.	videoSrccfg01
State (not supported by all VPorts)	Enable (true) or disable (false) the Tamper trigger	true

Link Status

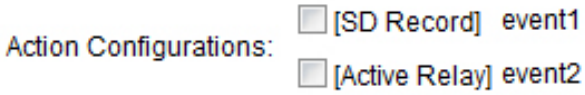


Settings	Description	Default
Token	Select the Ethernet port number. Some VPort models have 2 Ethernet ports.	eth0
Link	Configure the trigger to Linkdown or Linkup	Linkdown

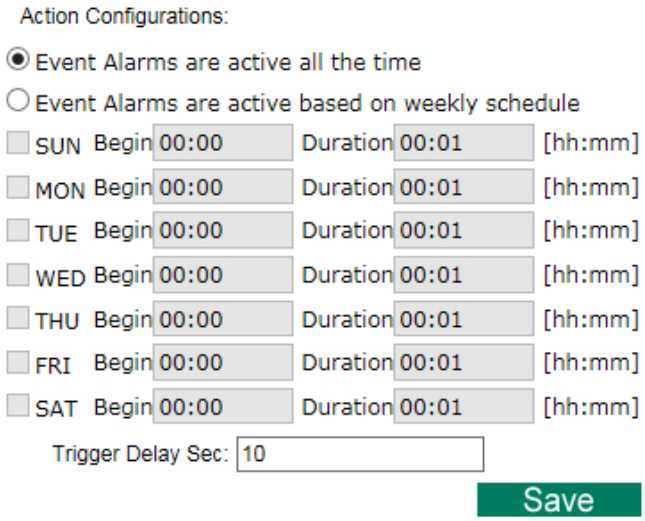
NOTE When the Ethernet link is down, you will not be able to access the VPort via the IP network. In this case, the local relay output will be active, and video can be recorded on the VPort's SD card.

Step 3: Select the corresponding actions.

After the triggers are configured, you need to select corresponding trigger actions. In the example shown below, there are 2 actions: event 1 and event 2. For each trigger, either one or both of the actions can be selected as the corresponding trigger action.



Step 4: Configure the schedule of the trigger actions.



Setting	Description	Default
Event Alarms are active all the time	The trigger action configurations are always active.	Event Alarms are active all the time
Event Alarms are active based on weekly schedule	The trigger action configurations are activated based on the configured weekly schedule	
☐ Sun ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat	Select which days of the week to schedule event alarms.	None
Begin 00:00	Set the start time of the event alarm.	00:00
Duration 00:00	Set how long the event alarm will be active.	00:00
Trigger Delay Sec	The amount of time the system will wait before acting on the next trigger.	10 seconds

A

Frequently Asked Questions

Q: What if I forget my password?

A: Unless the authentication is disabled, you will need to log in every time you access the VPort IP camera. If you are *not* the administrator, you will need to ask the administrator to create a new account for you. If you *are* the administrator, there is no way to recover the admin password. The only way to regain access to the IP camera is to use the **RESET** button to restore the camera to its factory default settings.

Q: Why can't I see video from the IP camera after logging in?

A: There are several possible reasons:
(a) If the IP camera is installed correctly and you are accessing the IP camera for the first time using Internet Explorer, adjust the security level of Internet Explorer to allow installation of plug-ins.
(b) If the problem still exists, the number of users accessing the IP camera at the same time may exceed the maximum that the system allows.
(c) If the video is still not displayed, try resetting the camera to its factory default settings to see if that solves the problem.

Q: What is the plug-in for?

A: The plug-in provided by the IP camera is used to display videos. The plug-in is needed because Internet Explorer does not support streaming technology. If your system does not allow installation of plug-in software, the security level of the web browser may need to be lowered. We recommend consulting the network supervisor in your office before adjusting the security level of your browser.

Q: Why is the timestamp different from the system time of my PC or notebook?

A: The timestamp is based on the system time of the IP camera. It is maintained by an internal real-time clock, and automatically synchronizes with the time server if the VPort is connected to the Internet and the function is enabled. If the time zone is changed, subsequent timestamps could be several hours earlier or later than timestamps that were already generated.

Q: How many users are allowed to access the IP camera at the same time?

A: Basically, there is no limitation. However the video quality also depends on the network. To achieve the best effect, the VPort IP camera will allow 5 video streams for udp/tcp/http connections. We recommend using an additional web server that retrieves images from the IP camera periodically if you need to host a large number of users.

Q: What is the IP camera's video rate?

A: The codec can process 30 frames per second internally. However, the actual performance is affected by many factors, as listed below:

1. Network throughput
2. Bandwidth share
3. Number of users
4. More complicated objects result in larger image files
5. The speed of the PC or notebook that is responsible for displaying images

Q: How can I keep the IP camera as private as possible?

A: The IP camera is designed for surveillance purposes and has many flexible interfaces. Enabling user authentication during installation can prevent the VPort from being accessed by people without authorization. You may also change the HTTP port to a non-public number. Check the system log to analyze any abnormal activities and trace the origin of the activity.

Q: Why can't I access the IP camera after activating certain configuration options?

A: When the IP camera is triggered by events, video and snapshots will take more time to write to memory. If the events occur too often, the system will always be busy storing video and images. We recommend using sequential mode or an external recorder program to record video if the event you're monitoring occurs frequently. If you prefer to retrieve images by FTP, the time could be smaller since an FTP server responds more quickly than a web server. When the system is "too busy to configure" (i.e., it hangs), use the restore factory default and reset button to restart the system.

B

Time Zone Table

The hour offsets for different time zones are shown below. You will need this information when setting the time zone in automatic date/time synchronization. GMT stands for Greenwich Mean Time, which is the global time that all time zones are measured from.

(GMT-12:00)	International Date Line West
(GMT-11:00)	Midway Island, Samoa
(GMT-10:00)	Hawaii
(GMT-09:00)	Alaska
(GMT-08:00)	Pacific Time (US & Canada), Tijuana
(GMT-07:00)	Arizona
(GMT-07:00)	Chihuahua, La Paz, Mazatlan
(GMT-07:00)	Mountain Time (US & Canada)
(GMT-06:00)	Central America
(GMT-06:00)	Central Time (US & Canada)
(GMT-06:00)	Guadalajara, Mexico City, Monterrey
(GMT-06:00)	Saskatchewan
(GMT-05:00)	Bogota, Lima, Quito
(GMT-05:00)	Eastern Time (US & Canada)
(GMT-05:00)	Indiana (East)
(GMT-04:00)	Atlantic Time (Canada)
(GMT-04:00)	Caracas, La Paz
(GMT-04:00)	Santiago
(GMT-03:30)	Newfoundland
(GMT-03:00)	Brasilia
(GMT-03:00)	Buenos Aires, Georgetown
(GMT-03:00)	Greenland
(GMT-02:00)	Mid-Atlantic
(GMT-01:00)	Azores
(GMT-01:00)	Cape Verde Is.
(GMT)	Casablanca, Monrovia
(GMT)	Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London
(GMT+01:00)	Amsterdam, Berlin, Bern, Stockholm, Vienna
(GMT+01:00)	Belgrade, Bratislava, Budapest, Ljubljana, Prague (GMT+01 :00) Brussels, Copenhagen, Madrid, Paris
(GMT+01:00)	Sarajevo, Skopje, Warsaw, Zagreb
(GMT+01:00)	West Central Africa
(GMT+02:00)	Athens, Istanbul, Minsk
(GMT+02:00)	Bucharest
(GMT+02:00)	Cairo
(GMT+02:00)	Harare, Pretoria
(GMT+02:00)	Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius
(GMT+02:00)	Jerusalem
(GMT+03:00)	Baghdad

(GMT+03:00)	Kuwait, Riyadh
(GMT+03:00)	Moscow, St. Petersburg, Volgograd
(GMT+03:00)	Nairobi
(GMT+03:30)	Tehran
(GMT+04:00)	Abu Dhabi, Muscat (GMT+04:00) Baku, Tbilisi, Yerevan (GMT+04:30) Kabul
(GMT+05:00)	Ekaterinburg
(GMT+05:00)	Islamabad, Karachi, Tashkent (GMT+05:30) Chennai, Kolkata, Mumbai, New Delhi
(GMT+05:45)	Kathmandu
(GMT+06:00)	Almaty, Novosibirsk (GMT+06:00) Astana, Dhaka
(GMT+06:00)	Sri Jayawardenepura (GMT+06:30) Rangoon
(GMT+07:00)	Bangkok, Hanoi, Jakarta (GMT+07:00) Krasnoyarsk
(GMT+08:00)	Beijing, Chongqing, Hong Kong, Urumqi
(GMT+08:00)	Taipei
(GMT+08:00)	Irkutsk, Ulaan Bataar (GMT+08:00) Kuala Lumpur, Singapore (GMT+08:00) Perth
(GMT+09:00)	Osaka, Sapporo, Tokyo (GMT+09:00) Seoul
(GMT+09:00)	Yakutsk
(GMT+09:30)	Adelaide
(GMT+09:30)	Darwin
(GMT+10:00)	Brisbane
(GMT+10:00)	Canberra, Melbourne, Sydney
(GMT+10:00)	Guam, Port Moresby (GMT+10:00) Hobart
(GMT+10:00)	Vladivostok
(GMT+11:00)	Magadan, Solomon Is., New Caledonia
(GMT+12:00)	Auckland, Wellington (GMT+ 12:00) Fiji, Kamchatka, Marshall Is.
(GMT+13:00)	Nuku'alofa