Moxa VPort 464 Software User Manual

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www.moxa.com/products

Moxa VPort 464 Software User Manual

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www.moxa.com/support

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

1. Introduction

This software user's manual is designed for the VPort 464 firmware.

Overview

The VPort is supported with ONVIF Profile S specification. 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 video products 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: 23.06

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.

2. Getting Started

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

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

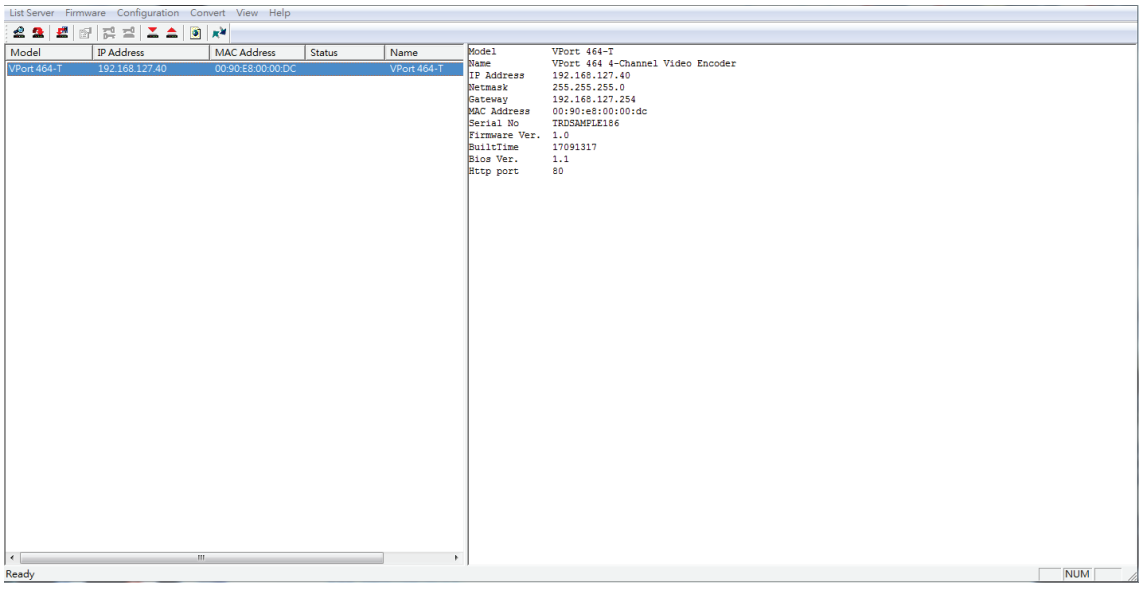
When the VPort is first powered on, the POST (Power On Self Test) will run for about 30 to 40 seconds. The network environment determines how the IP address is assigned.

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

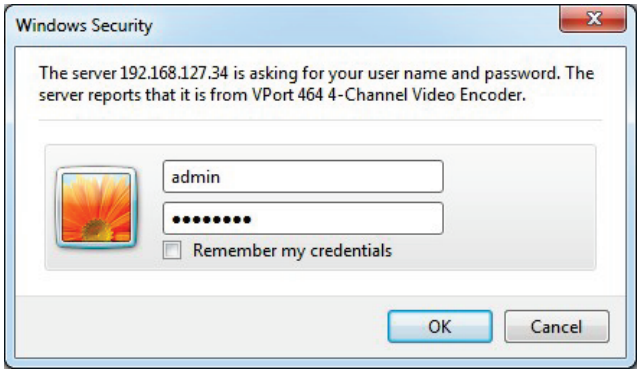
If your VPort is connected to a network that does not have a DHCP server, then you will need to configure the IP address manually. The default IP address of the VPort is 192.168.127.100 and the default subnet mask is 255.255.255.0. Note that you may need to change your computer's IP address and subnet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

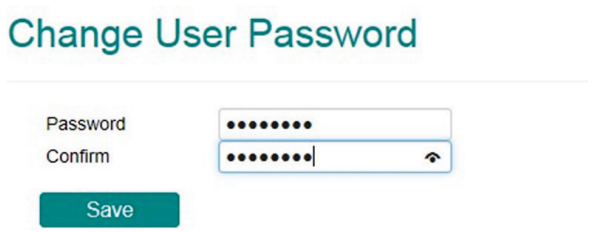
Step 2: Access the VPort's web-based manager

Type the IP address in the web browser's address input box and then press enter. Log in to the VPort 464 and type in the preset password and account to login

- Account: admin
- Password: moxamoxa



After you have logged in please change the default password



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.

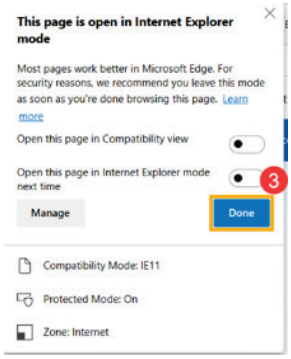
NOTE

For Windows 7 or later operating systems, the ActiveX Control component will be blocked for system security reasons. If this occurs, 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.

NOTE

For Microsoft Edge, please enable the IE mode. Once enabled, reload the VPort's web-based manager in Internet Explorer mode. A notification will appear to confirm the use of IE mode. Close this notification without modifying any setting and make sure the Compatibility Mode is IE11.

For more details, refer to the IE mode instructions on the Microsoft website.



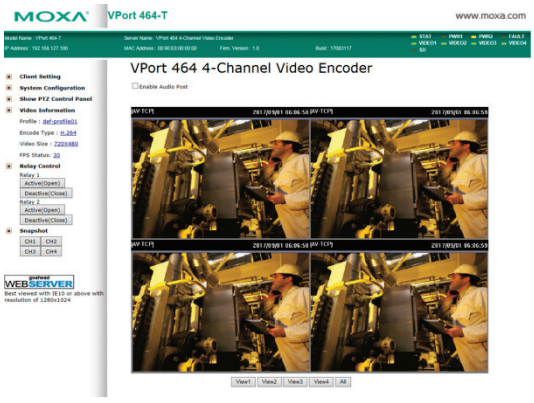
ATTENTION

This equipment is intended to be used in restricted access locations, such as a computer room. Access can only be gained by service personnel or by users who have been instructed how to handle the metal chassis, which can reach very high temperatures. Further, access to the system should be gained by using a key or a secure identity system. Only authorized persons who have been given professional training should be able to access the restricted access location.

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

After installing the ActiveX Control component, the homepage of the VPort 464's web-based manager will appear. Check the following items to make sure the system was installed properly:

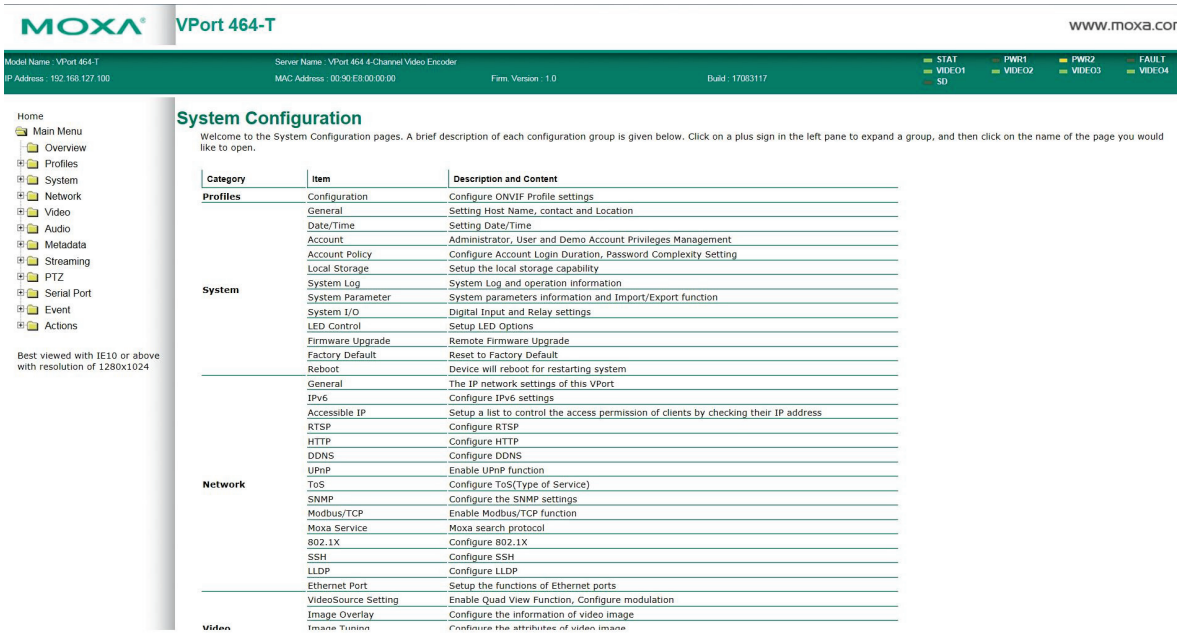
1. Video Images.
2. Audio Sound (make sure your PC's or notebook's sound is turned on).
3. Video Information.



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.

For details of each configuration, check the user's manual of your VPort IP camera which can be downloaded from www.moxa.com.



3. Accessing the VPort's Web-based Manager

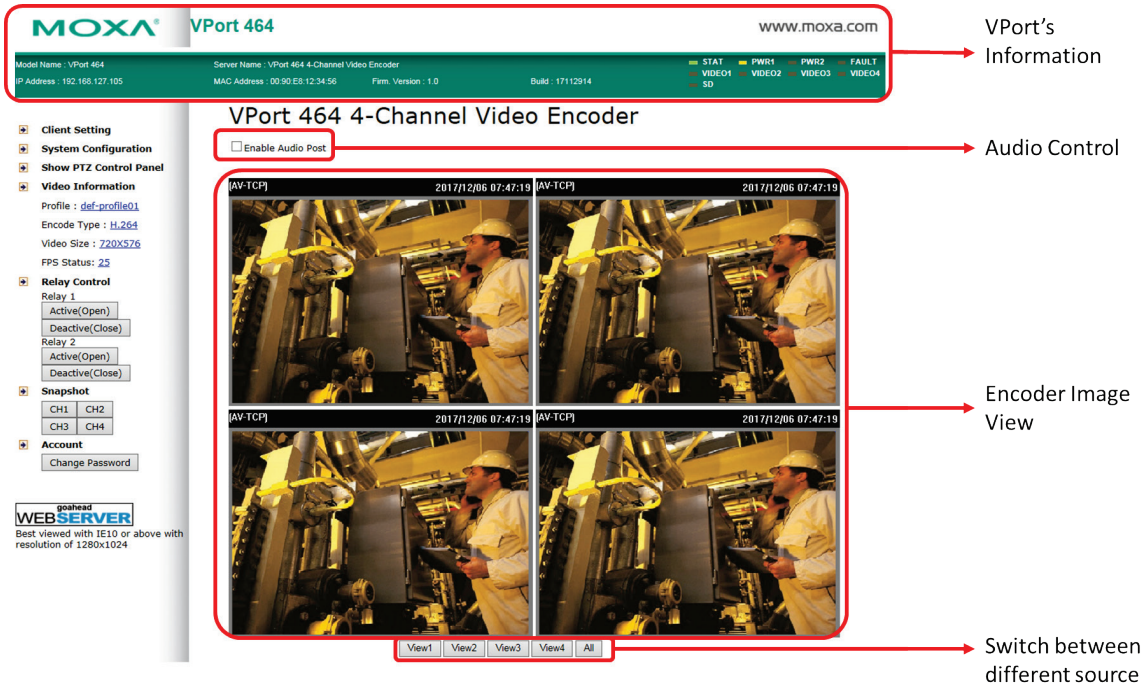
This chapter includes information about how to access the VPort for the first time.

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. Please use the IE mode of the Microsoft Edge web browser for installing the ActiveX control plug-in component.



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).

Server 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.

Client Settings

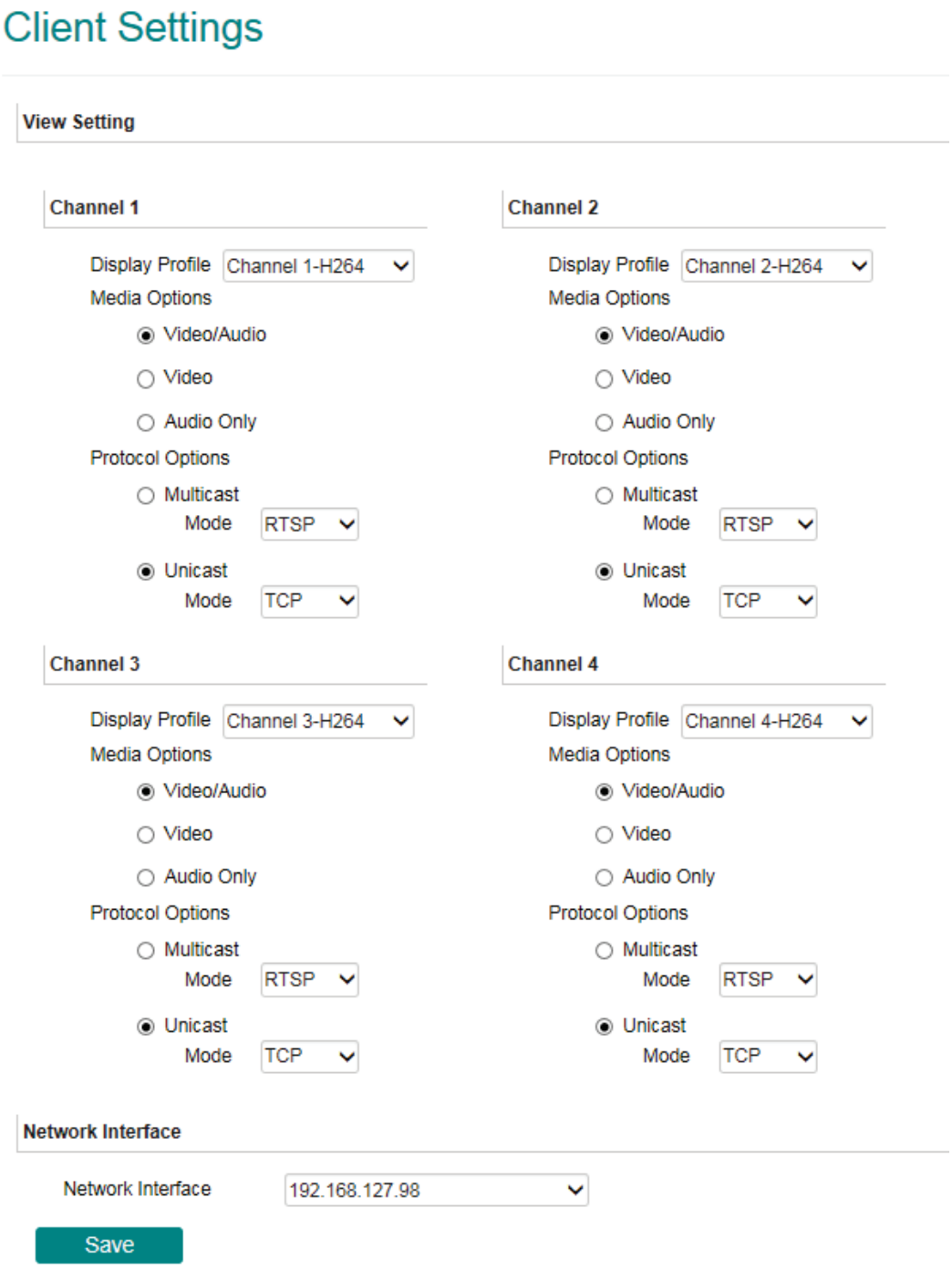
The following functions can be configured in **Client Settings**.

1. **Display profile:** Shows the profile currently being used. There are two profiles; one supports the H.246 codec the other one supports the MJPEC codec. Each profile refers to one independent video stream with a unique codec, resolution, frame rate (FPS), and video quality. For configuring the profile, please go to **System Configuration/profile**.
2. **Media options:** Some VPort models 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 VPort 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**.

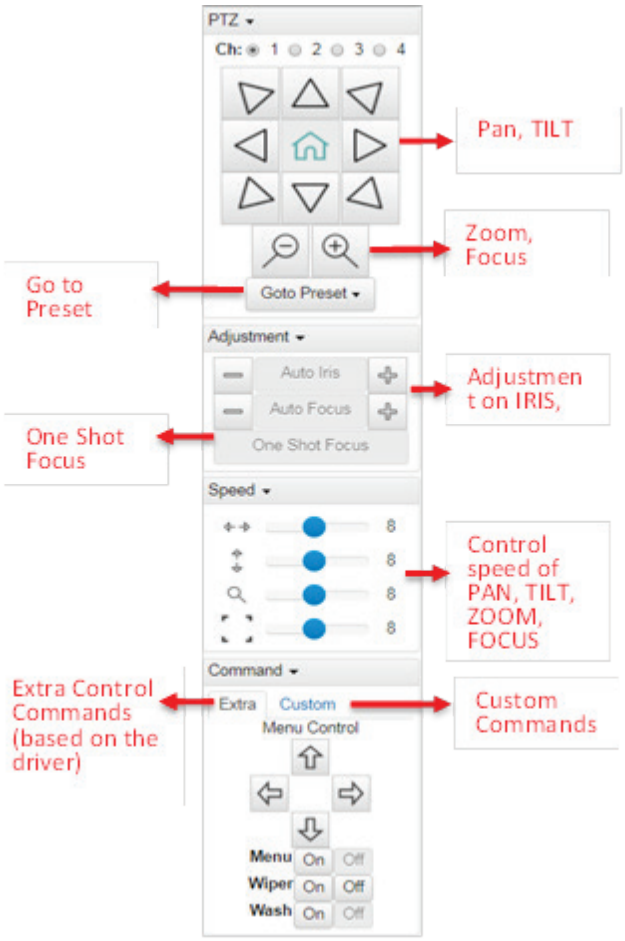


System Configuration

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**.

Show PTZ Control Panel

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

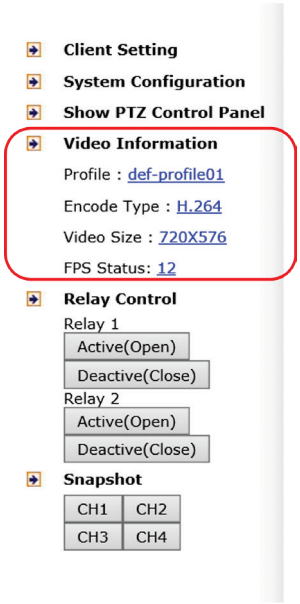


NOTE

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.

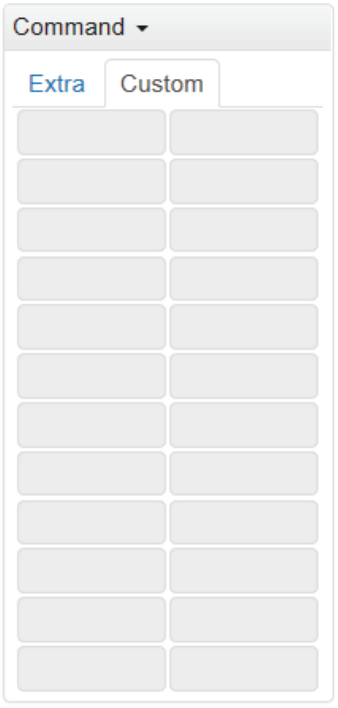
Video Information

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. For multichannel encoders, you can select the target camera image to view the camera's video performance.



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.



Relay Control

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.

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.

4. System Configuration

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

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, Streaming, PTZ, Event, Action**—are described below:

Category	Item	Description and Contents
Profiles	Configuration	Configure Profile settings
System	General	Set Host Name, Contact, and Location
	Date/Time	Set Date/Time
	Accounts	Administrator, User, and Demo Account Privileges Management
	Account Policy	Configure Account Login Duration, Password Complexity Settings
	Local storage	Setup local 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
	LED Control	Setup LED Options
	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
	MTU Configuration	Configure MTU settings
	IPv6	Configure IPv6 settings
	Accessible IP	Set up a list to control access permission of clients by IP Address
	RTSP	Configure RSTP
	HTTP	Configure HTTP
	UPnP	Enable UPnP function
	ToS	Configure ToS (Type of Service)
	SNMP	Configure SNMP settings
	Modbus/ TCP	Enable Modbus/TCP function
	Moxa service	Moxa search protocol
	802.1X	Configure 802.1X
	SSH	Configure SSH
	LLDP	Configure LLDP
	Ethernet port	Setup the functions of Ethernet ports
Video	Video Source Settings	Enable Quad View Function, Configure modulation
	Image Overlay	Configure the information of video image
	Image tuning	Configure the attributes of video image
	Video Encoder	Set up the Encode Standard (MJPEG or H.264), Size (Resolution), FPS, Quality, and Multicast settings
	Pre Alarm	Setup pre alarm parameters
Audio	Audio Input	Configure Audio Input settings
	Audio Output	Configure Audio Output settings
Metadata	Metadata	Configure metadata setting
Streaming	CBR Pro	Configure CBR Pro Settings
	Streaming Status	Get Stream Connection Status
PTZ	PTZ Config	Configure PTZ settings

Category	Item	Description and Contents
	Preset	Configure Preset settings
Serial Port	Serial Port Config	Configure PTZ/COM Port settings
Category	Item	Description and Contents
Event	Enable Event	Enable/Disable all Event Producer
	Motion Detection	Configure Motion Detection settings
	Camera Tamper	Configure Camera Tamper settings
	Sequential Snapshot	Configure Sequential Snapshot settings, Schedule, and transmit destinations
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.

System Configuration

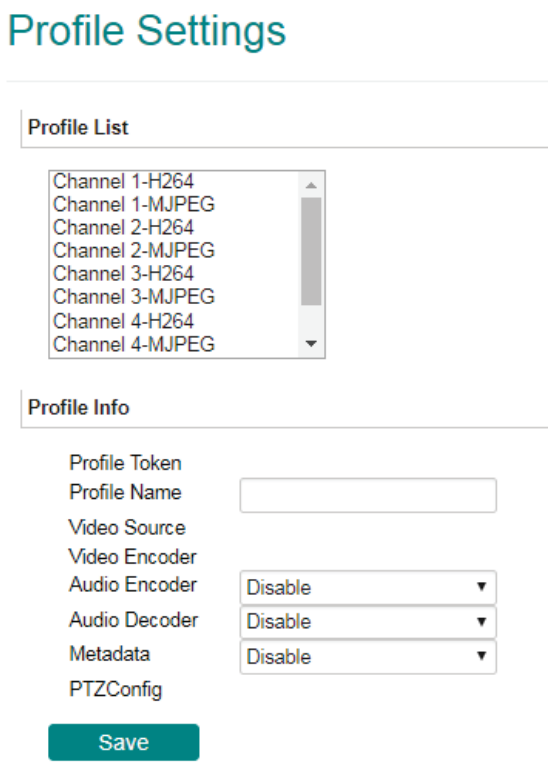
Welcome to the System Configuration pages. A brief description of each configuration group is given below. Click on a plus sign in the left pane to expand a group, and then click on the name of the page you would like to open.

Category	Item	Description and Content
Profiles	Configuration	Configure Profile settings
System	General	Setting Host Name, contact, Location, Message before login and Login fail message
	Date/Time	Setting Date/Time
	Account	Administrator, User and Operator Account Privileges Management
	Account Policy	Configure Account Login Duration, Password Complexity Setting
	Local Storage	Setup the local 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
	LED Control	Setup LED Options
	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
	MTU Configuration	Configure MTU
	IPv6	Configure IPv6 settings
	Accessible IP	Setup a list to control the access permission of clients by checking their IP address
	RTSP	Configure RTSP
	HTTP	Configure HTTP
	UPnP	Enable UPnP function
	ToS	Configure ToS(Type of Service)
	SNMP	Configure the SNMP settings
	Modbus/TCP	Enable Modbus/TCP function
	Moxa Service	Moxa search protocol
	802.1X	Configure 802.1X
	SSH	Configure SSH
	LLDP	Configure LLDP
	Ethernet Port	Setup the functions of Ethernet ports
Video	VideoSource Setting	Enable Quad View Function, Configure modulation
	Image Overlay	Configure the information of video image
	Image Tuning	Configure the attributes of video image
	Video Encoder	Setup the Encode Standard(MJPEG or H.264), Size (Resolution), FPS, Quality and Multicast settings
	PreAlarm	Setup PreAlarm Parameters
Audio	Audio Input	Configure Audio Input settings
	Audio Output	Configure Audio Output settings
Metadata	Metadata	Configure Metadata settings
Streaming	CBRPro	Configure CBRPro settings
	Streaming Status	Get Stream Connection Status
PTZ	PTZ Config	Configure PTZ settings
	Preset	Configure Preset settings
Serial Port	Serial Port Config	Configure PTZ/COM Port settings
Event	Enable Event	Enable/Disable all Event Producer
	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
Channel 1-H264 Channel 1-MJPEG Channel 1-H264 Channel 1-MJPEG Channel 1-H264 Channel 1-MJPEG Channel 1-H264 Channel 1-MJPEG Quad View H264 Quad View MJPEG	Chose the video profile. Profile information shown on this page includes Profile Token, Profile Name, Channel number, Video encoder, Audio Encoder	profile01

Profile Info

Setting	Description	Default
Profile Token*	Reply when queried by another device asks	None
Profile Name	Configure the profile name, max. 40 bytes	profile01
Video Encoder	Select which video encoder this profile will use	None
Audio Encoder	Select which audio encoder this profile will use	Disable
Audio Decoder	Select which audio decoder this profile will use (only available for models with Audio Decoder function)	Disable
Metadata	Enable or disable the metadata being used with the profiles	Disable
PTZ Config	Select which PTZ configuration this profile will use	None

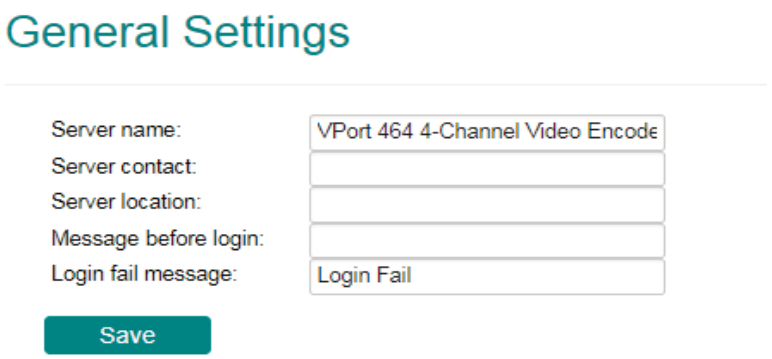
New Profile

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

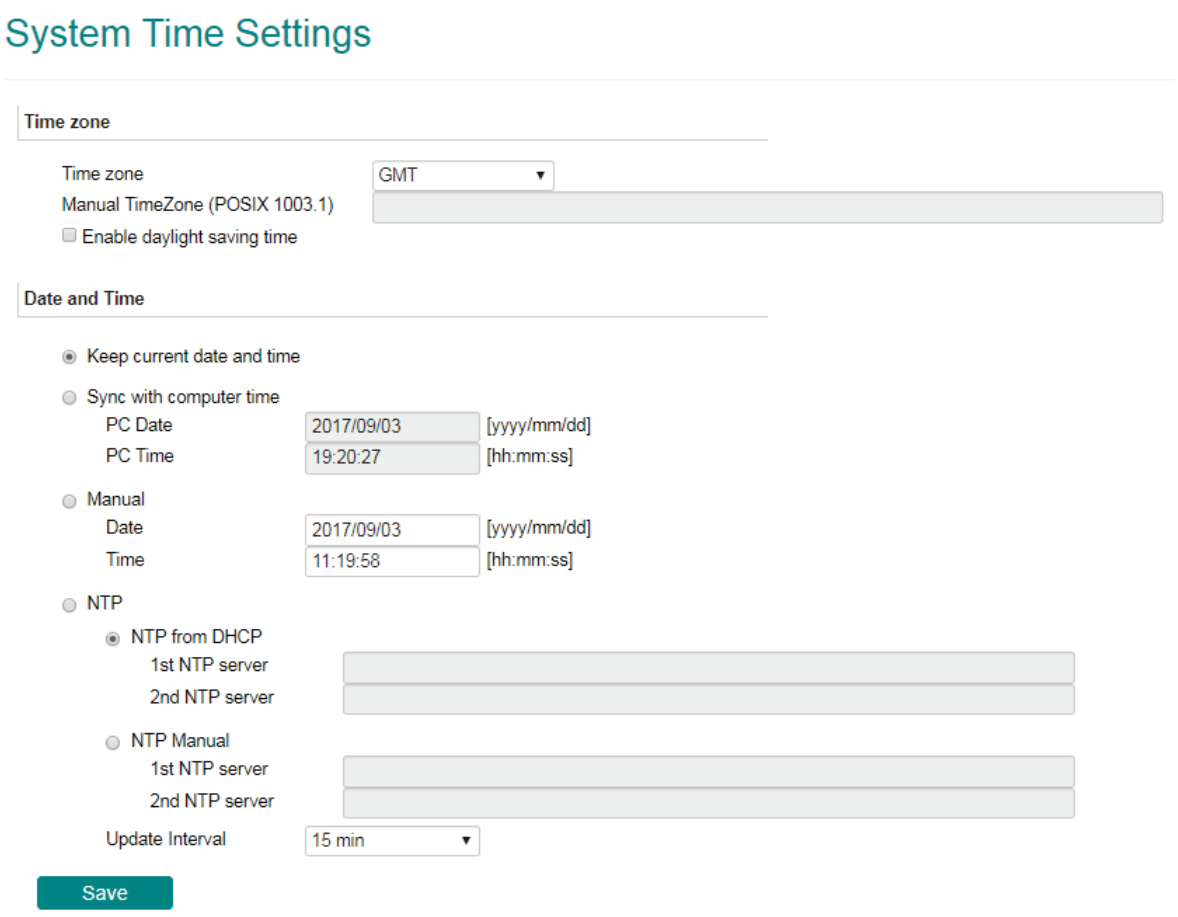
Setting	Description	Default
Max. 40 characters	Input the location of this camera server	Blank

Message before login

Setting	Description	Default
Max. 40 characters	Input the messages that will show when login to the server fails	Login Fail

Login fail message

Setting	Description	Default
Max. 40 characters	Input the message that will show before login to server	Blank



Time zone

Setting	Description	Default
Time Zone	Configure the time zone	GMT
Manual TimeZone (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	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	

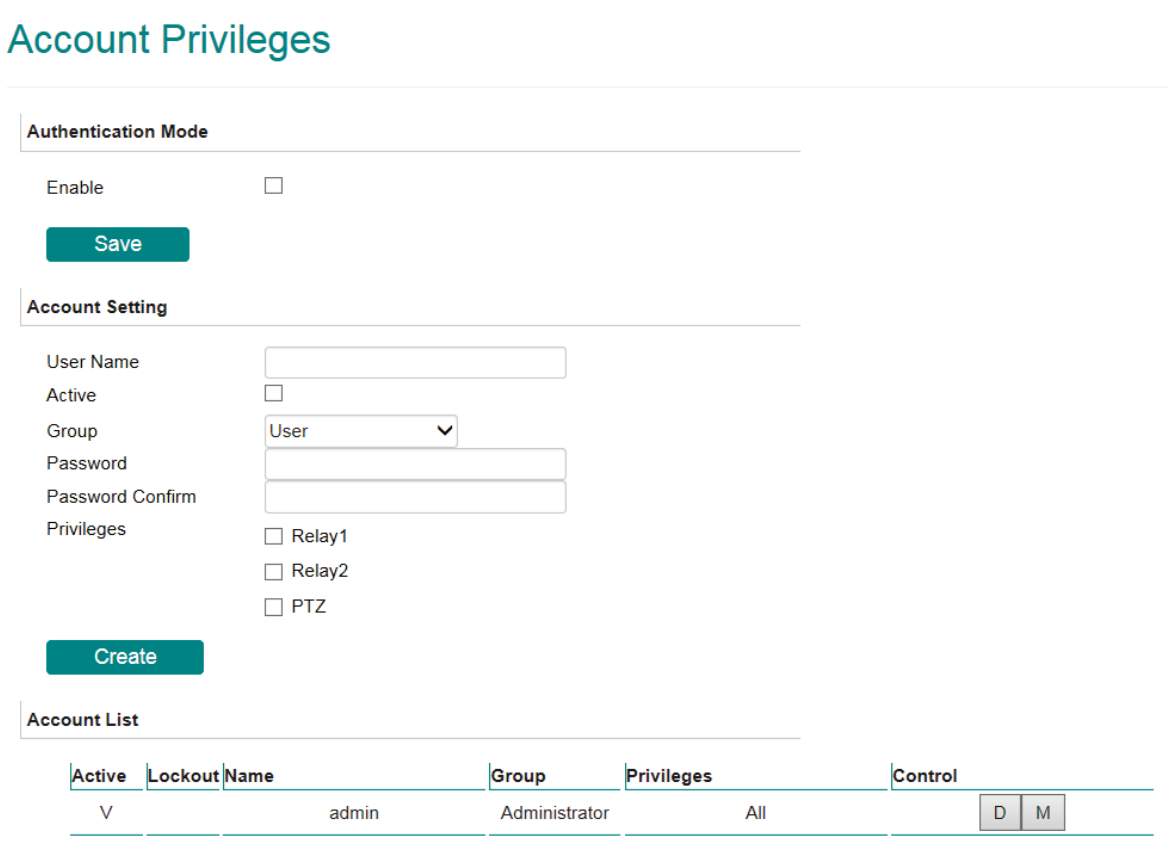
NOTE

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



Authentication Mode

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

Account Setting

Setting	Description	Default
User name	Type a specific user name for user authentication.	None
Active	Active/deactivate the account password protection of web-based manager access	None
Group	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
Password	Type a specific password for user authentication.	None
Confirm Password (max. 15 characters)	If a new password is typed in the **Password** box, you will need to retype the password in the **Confirm Password** box before updating the new password.	None
Privileges	Select the privileges: Control Relay 1, Control Relay 2, PTZ	Blank

NOTE

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

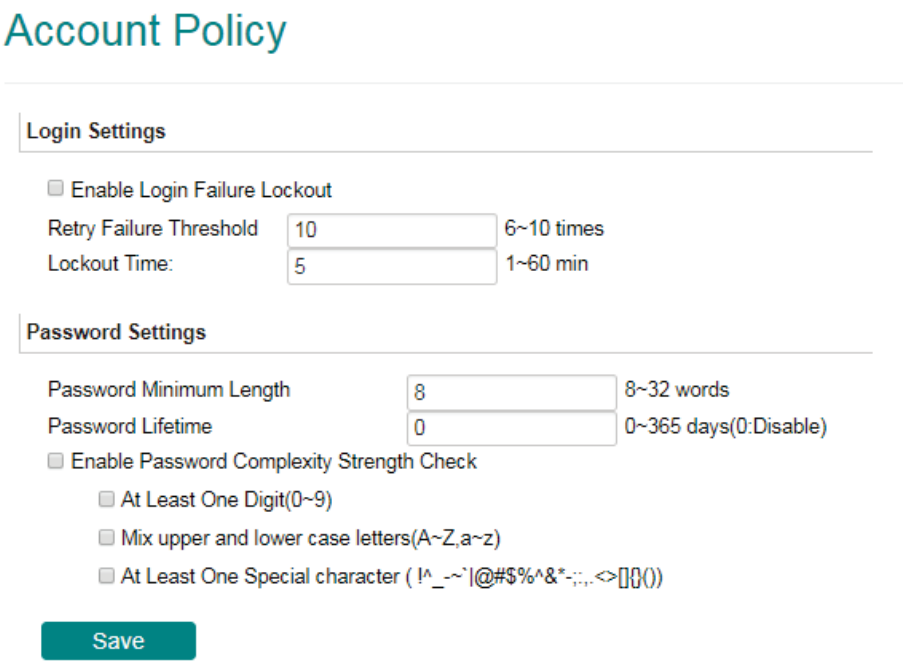
Account List

Setting	Description	Default
D	Delete this account	None
M	Modify this account	None

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.

Account Policy



Account Policy login Settings

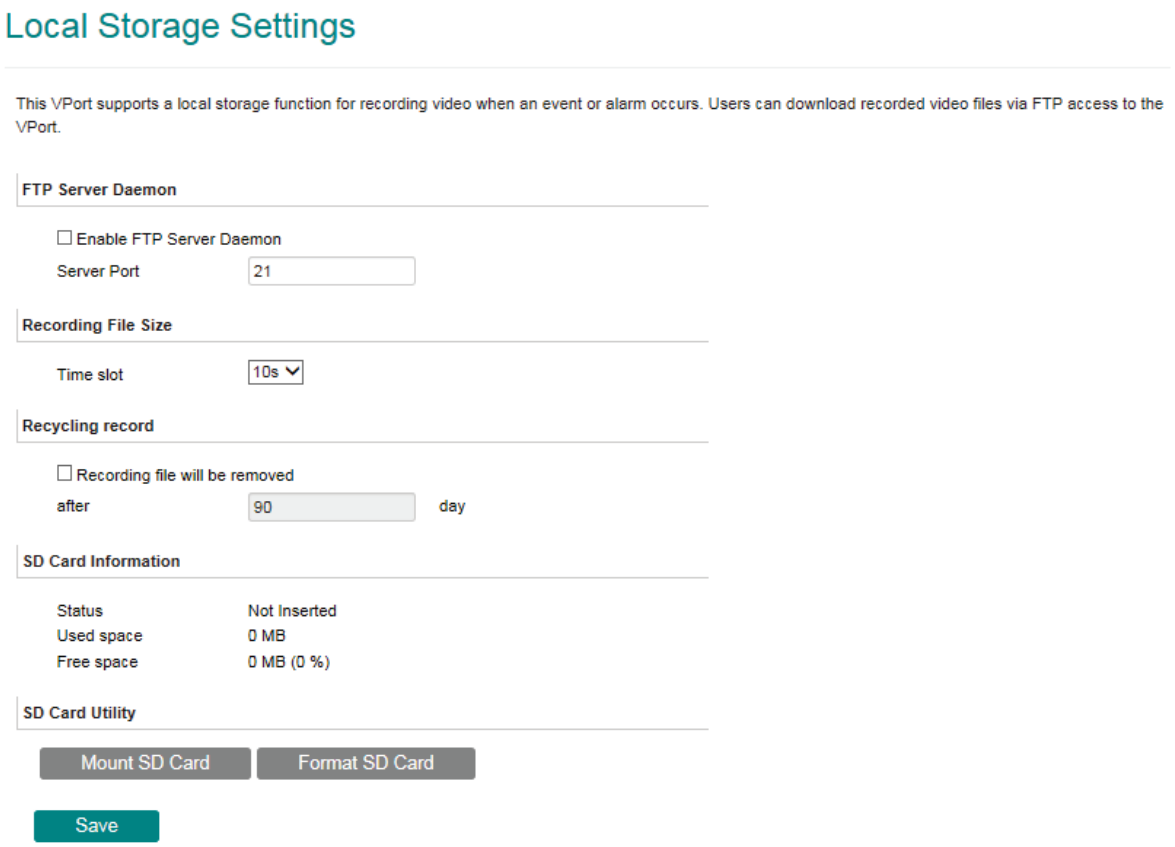
Setting	Description	Default
Enable Login Failure Lockout	User can enable/disable login failure check	Disable
Retry Failure Threshold	Login failure time before it will lock out	10
Lockout Time	When too many login failures occur, the time the user will be locked out for	5

Account policy password Settings

Setting	Description	Default
Password Minimum Length	The minimum length of the password	8
Password Lifetime	User can determine when a password must be changed	0
Enable Password Complexity Strength Check	User can enable/disable the Password Complexity Strength Check, with 3 options	Disable
At least One Digit (0 to 9)	User can enable/disable the password number digit check	Disable
Mix upper and lower case letters (A to Z, a to z)	User can enable/disable the password with a mix of upper and lower letters check	Disable
At Least One Special Character	User can enable/disable Password special character check	Disable

Local Storage

Some VPorts support a MicroSD card slot (SDHC/SDXC 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 MicroSD card using a card reader device.



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

Recording File Size

Setting	Description	Default
Time slot	This function allows customer to choose how long each recoding is	10s

Recycling record

Setting	Description	Default
Time slot	This function allows customers to choose how long it will be before each recorded file is removed	90 days

SD card setting

Setting	Description	Default
Status	Show MicroSD Card status	None
Used space	Show used space of MicroSD Card	
Free space	Show remaining space of MicroSD Card	

SD Card Utility

Setting	Description	Default
Mount SD card	Force mount/ unmount the SD card	None

NOTE

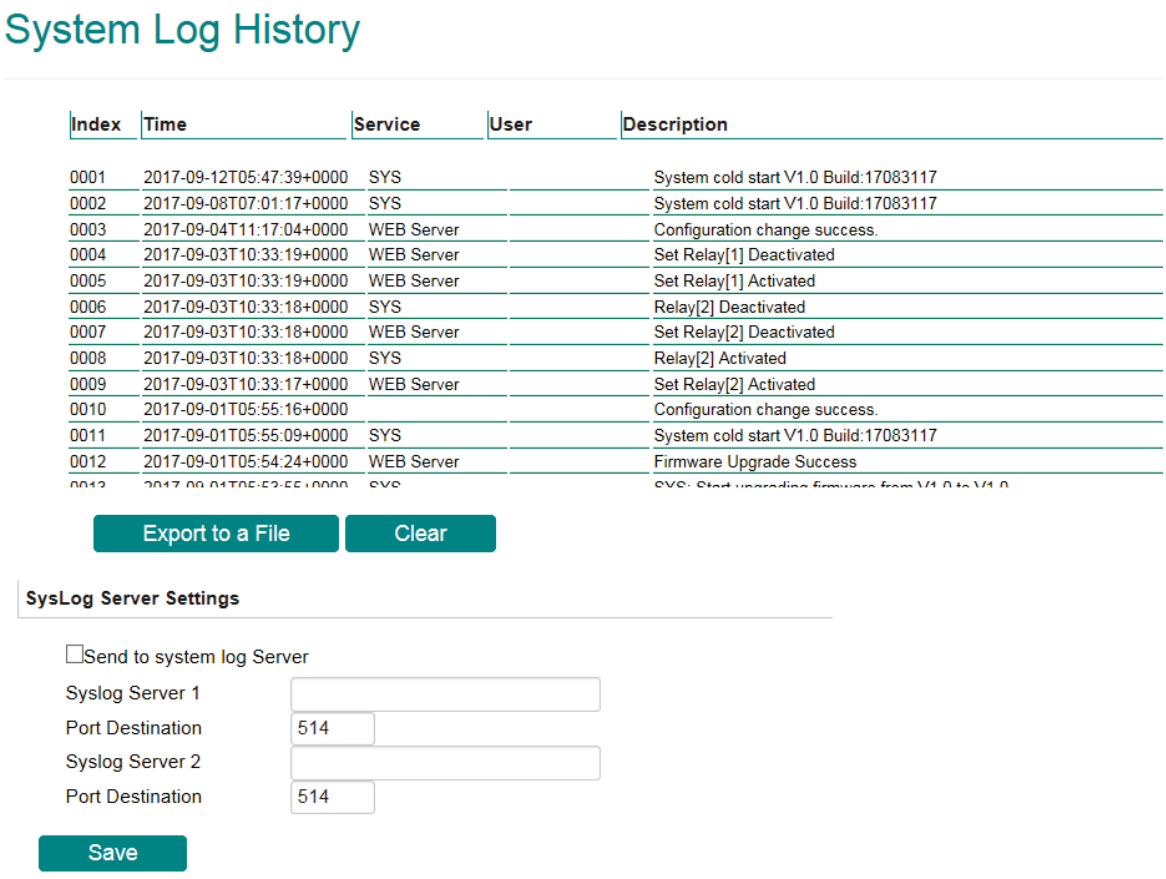
The recorded videos are stored in the "/VPortfolder" folder. Ten seconds of video is recorded on each file. The videos are stored as AVI files, which can be played back using any popular media player.

NOTE

Due to file system limitations, the maximum number of files that can be stored is 16584. When the number of files in the SD card reaches 16584, or the free space is less than 100 MB, the system will start deleting the oldest files.

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

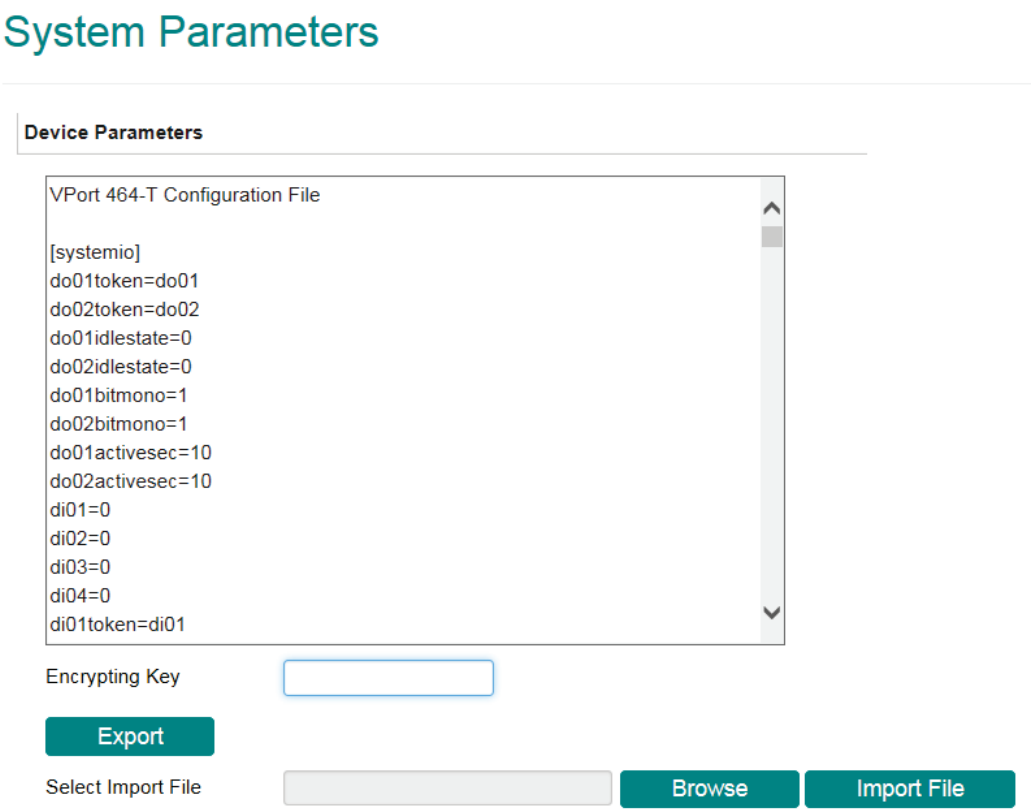
Setting	Description	Default
Send to system log server	Enables sending the system log to the log sever	Disable
Syslog Sever 1	The address of the first system log server	Blank
Port Destination	The port number of the first system log server	514
Syslog Sever 2	The address of the second system log server	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 save this information in a file (sys_config.ini) by clicking the **Export to a File** button, if this config file needs to be encrypted users can add encrypt key. To 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.

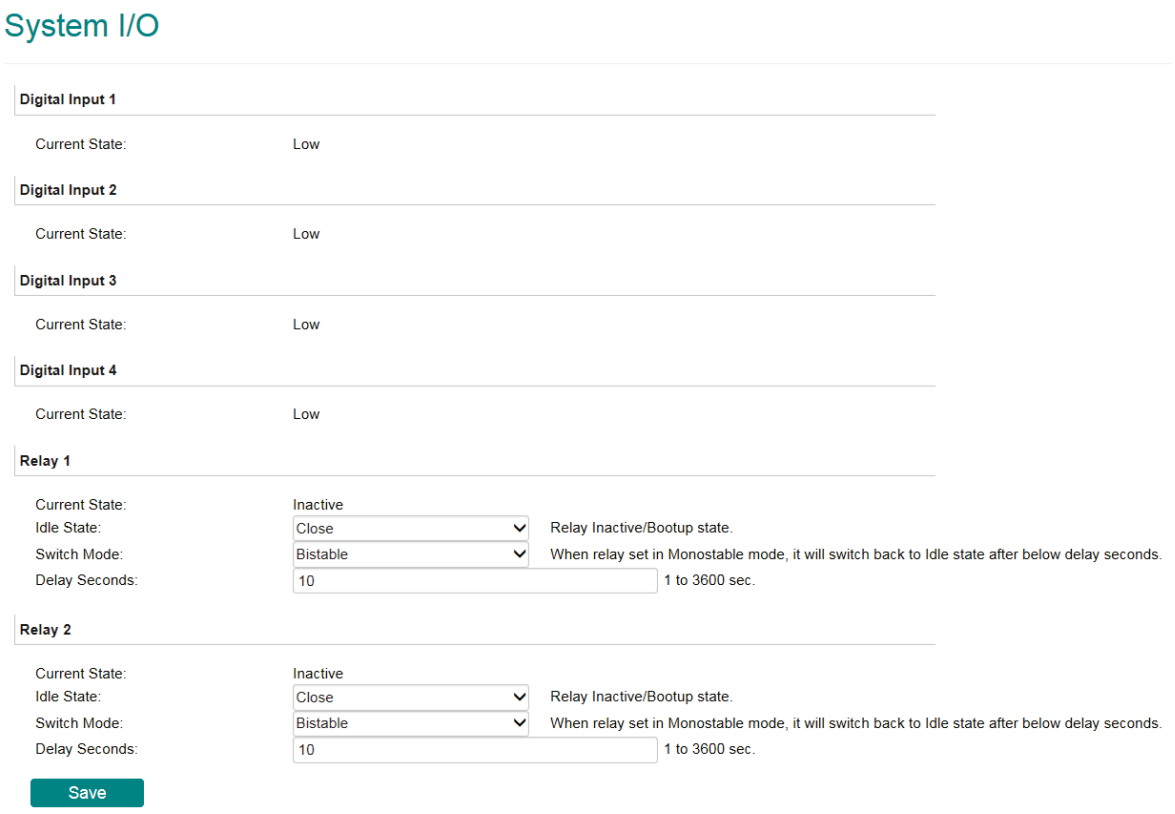


NOTE

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.

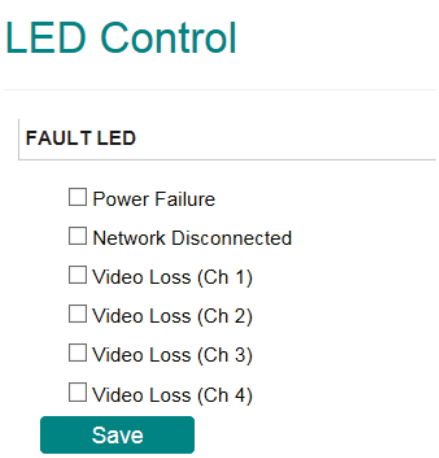
System I/O

The status of digital input is shown on the Digital Input 1 to Digital Input 4 below. Displayed beneath that is the configuration of Relay output 1 and Relay output 2.



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

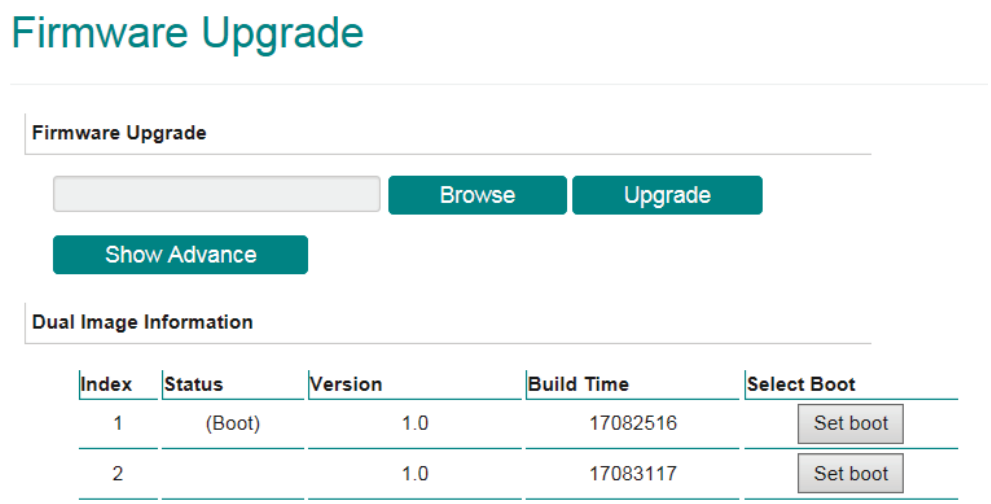
LED Control



The Fault LED in the VPort 464 can be configured to show below status:

Status	Description
Power Failure	Once one of the 2 power inputs is lost, the Fault LED will turn on
Network Disconnected	Once one of the 2 Ethernet ports is disconnected, the Fault LED will turn on
Video Loss 1 to 4	Once the analog video signals is lost, the Fault LED will turn on

Firmware Upgrade



Take the following steps to upgrade the firmware:

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

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

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

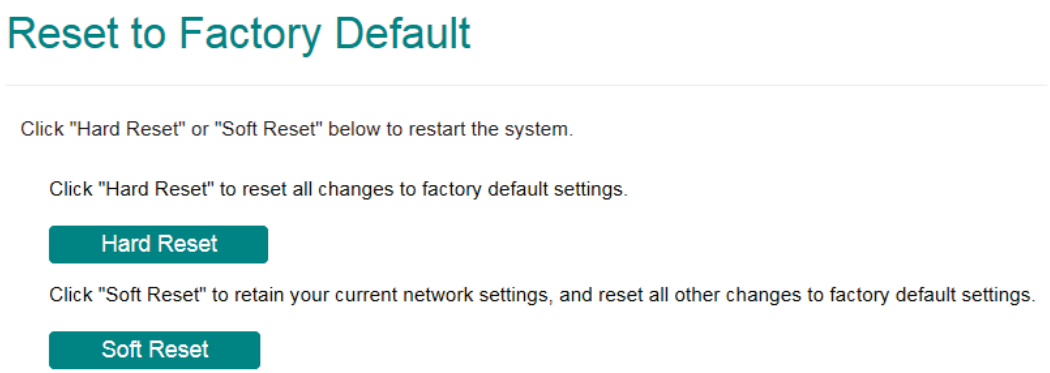
Upgrading the firmware will not change most of the original settings.

NOTE

The VPort 464 Series supports dual firmware images to prevent the device from being unable to boot up after a failed firmware upgrade. To run the device using the same firmware version prior to a failed upgrade, you will need to upgrade both firmware images to the same version.

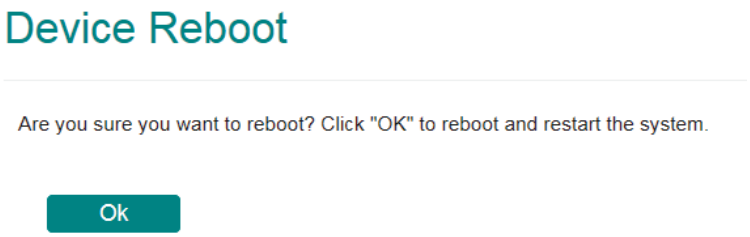
Reset to Factory Default

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



Reboot

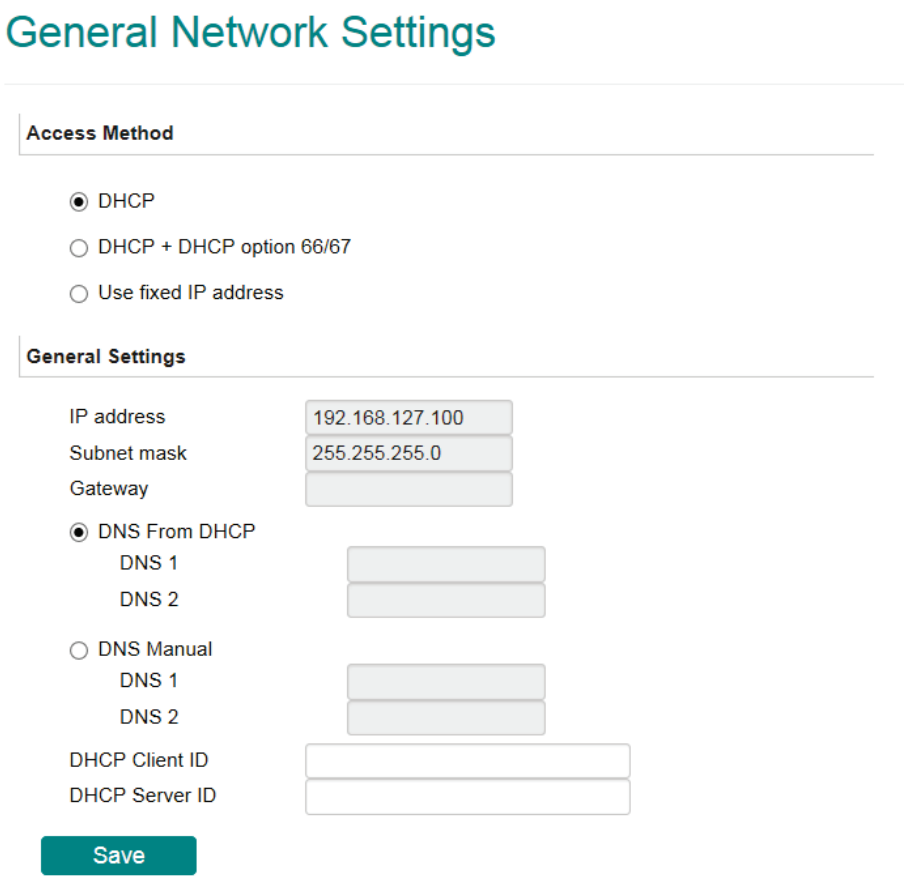
From the "Device Reboot" page, click **OK** (as shown in the following figure) to restart the VPort's system.



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.	

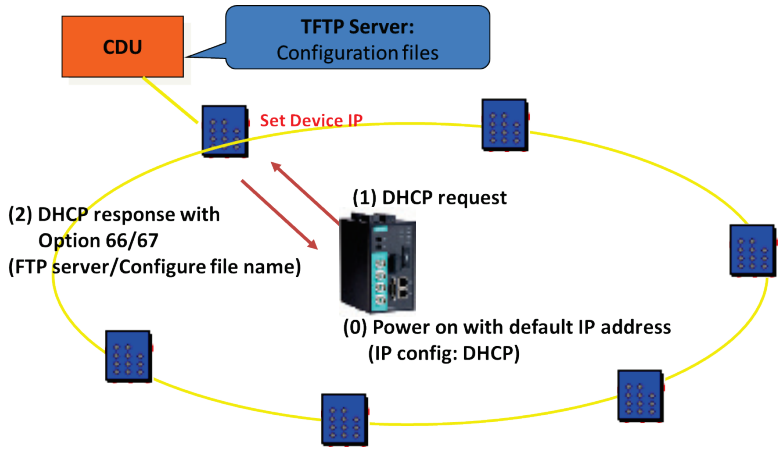
NOTE

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.

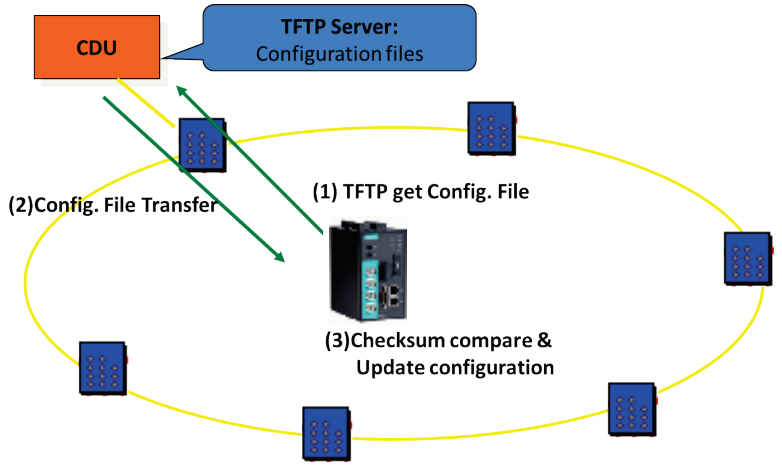
DHCP Option 66/67 for auto configuration (not supported by all VPorts)

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

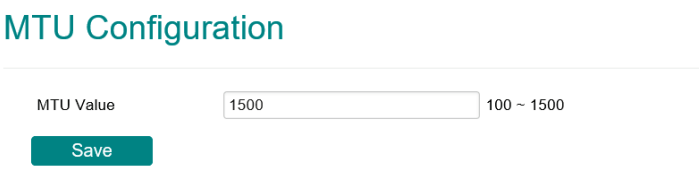
For the auto-configuration function to work, the system should

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

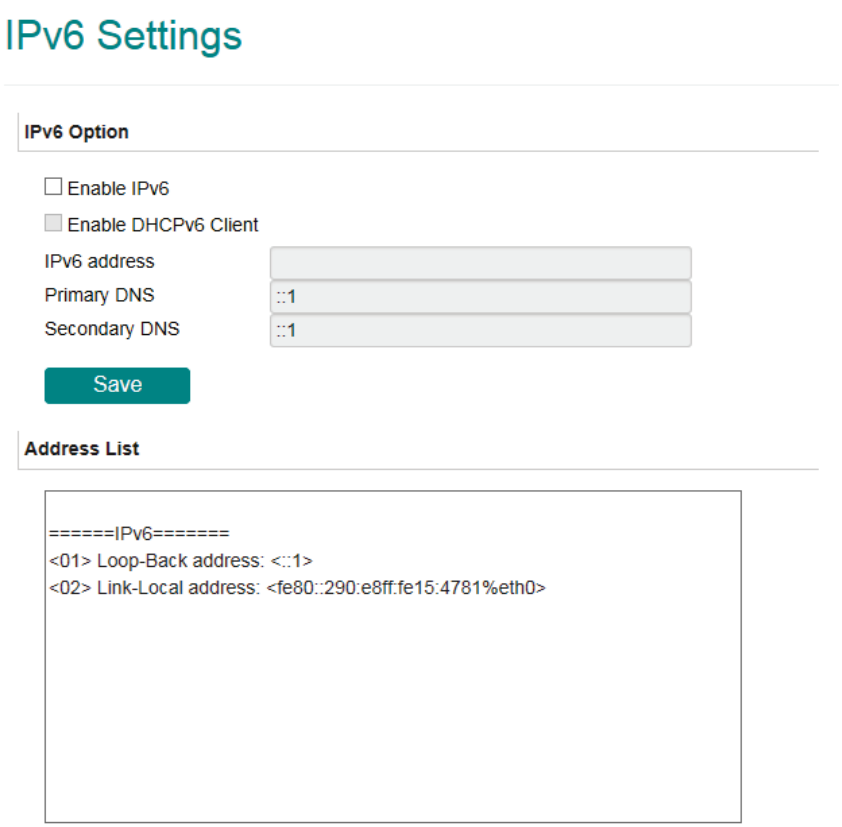
Setting	Description	Default
IP address	Variable IP assigned automatically by the DHCP server, or fixed IP assigned by the Administrator.	192.168.127.100
Subnet mask	Variable subnet mask assigned automatically by the DHCP server, or a fixed subnet mask assigned by the Administrator.	255.255.255.0
Gateway	Assigned automatically by the DHCP server, or assigned by the Administrator.	Blank
DNS from DHCP	The DNS server is assigned by DHCP server	Disable
DNS1	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.
DNS2	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	Configure the DHCP Client ID if it is required.	Blank
DHCP Server ID	Configure the DHCP Server ID if it is required	Blank

MTU Configuration



Setting	Description	Default
MTU Value	Configure the MTU (maximum transmission unit) value. The valid range is between 100 to 1500.	1500

IPv6



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.

Accessible IP List

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

Accessible IP List

IPv4 Setting

☑ Enable accessible IP list ("Disable" will allow all IPs to connect)

Index	IP	NetMask
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

IPv6 Setting

☑ Enable accessible IPv6 list ("Disable" will allow all IPv6s to connect)

Index	IP	Prefix
1		128
2		128
3		128
4		128
5		128
6		128
7		128
8		128
9		128
10		128

Response

☑ Response to Ping Request

Save

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:

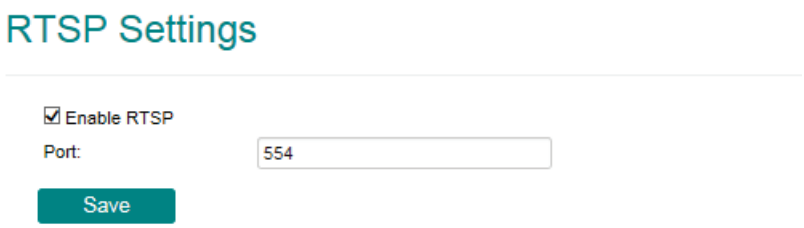
- Allow only one host with a specific "IP address" to access the VPort. For example:
  IP = 192.168.1.16 NetMask = 255.255.255.255
- Allow all hosts on a specific subnet to access the VPort. For example:
  will only allow the host with IP = 192.168.1.16 to access the VPort.
- IP = 192.168.1.0 NetMask = 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

RTSP

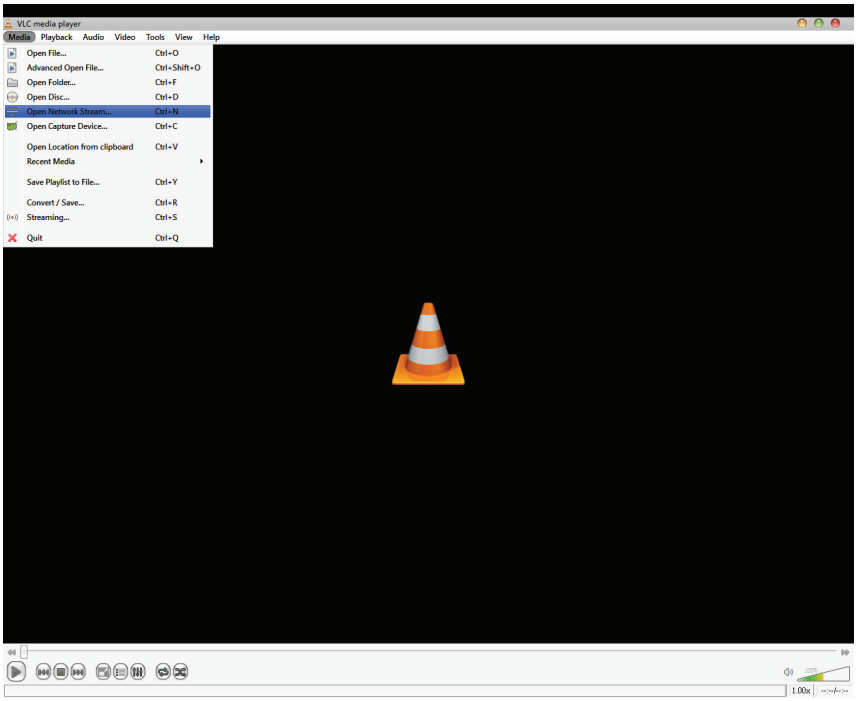
The VPort supports standard RTSP (Real Time Streaming Protocol), which means that all devices and software that support RTSP can directly acquire and view the video images sent from the VPort without any proprietary codec or SDK installations. This makes network system integration much more convenient. 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.



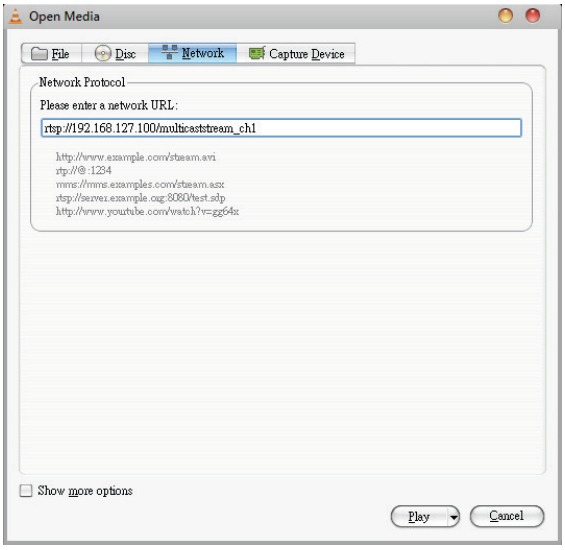
Setting	Description	Default
RTSP Port	An RTSP port is similar to an HTTP port, which can enable the connection of video/audio streams by RTSP.	554

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 when using other media players. For example, you will notice a greater delay when viewing the VPort's video from the VLC player compared to viewing it directly from the VPort 's built-in web server. In addition, viewing the VPort's video from the VLC player through a router or Internet gateway could result in a broken connection.

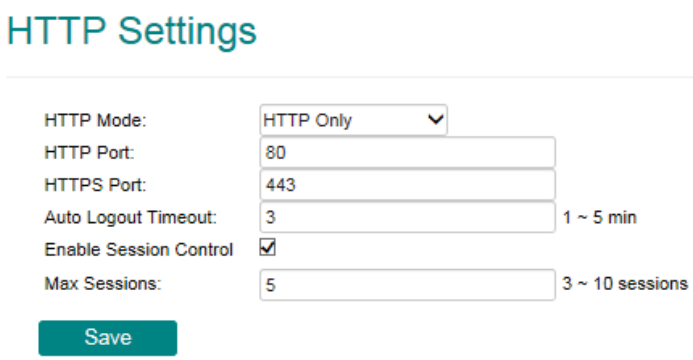
NOTE

For the time being, the VPort's RTSP video/audio stream can be identified and viewed by Apple QuickTime Ver. 6.5 and above, and the VLC media player. System integrators can use these 2 media players to view the VPort camera's 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.

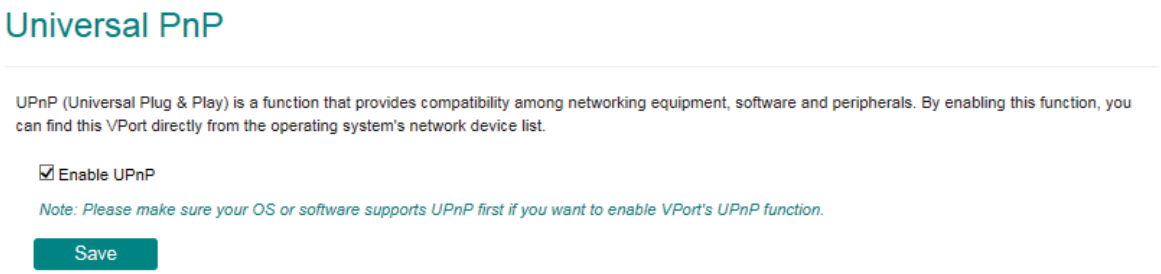
HTTP



Setting	Description	Default
HTTP Mode	Configure HTTP mode to HTTP only, or HTTP+HTTPS	HTTP only
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
Auto Logout Timeout	Set the time that will auto logout this account	3
Enable Session Control	Customer can choose to enable/disable the Session control function	Enable
Max Session	Customer can choose the maximum number of sessions	5

UPnP

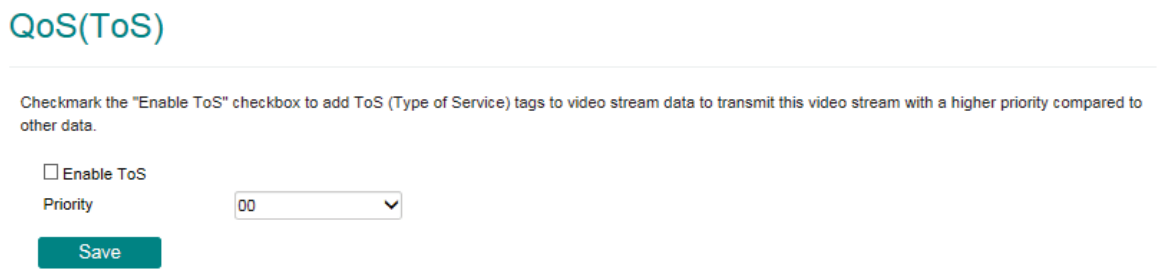
UPnP (Universal Plug & Play) is a networking architecture that provides compatibility among the networking equipment, software, and peripherals of the 400+ vendors that are part of the Universal Plug and Play Forum. This means that they are listed in the network devices table for the operating system (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

ToS

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.

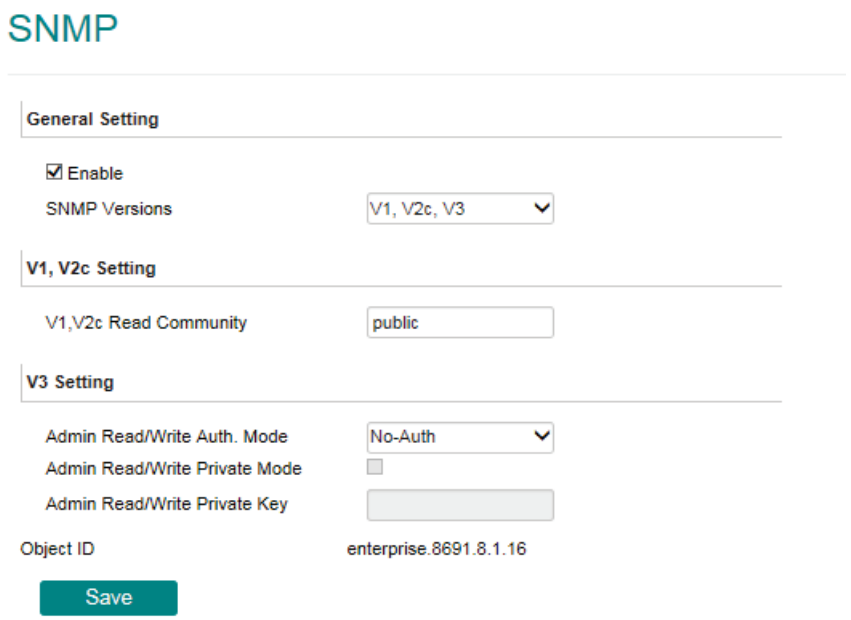
SNMP

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

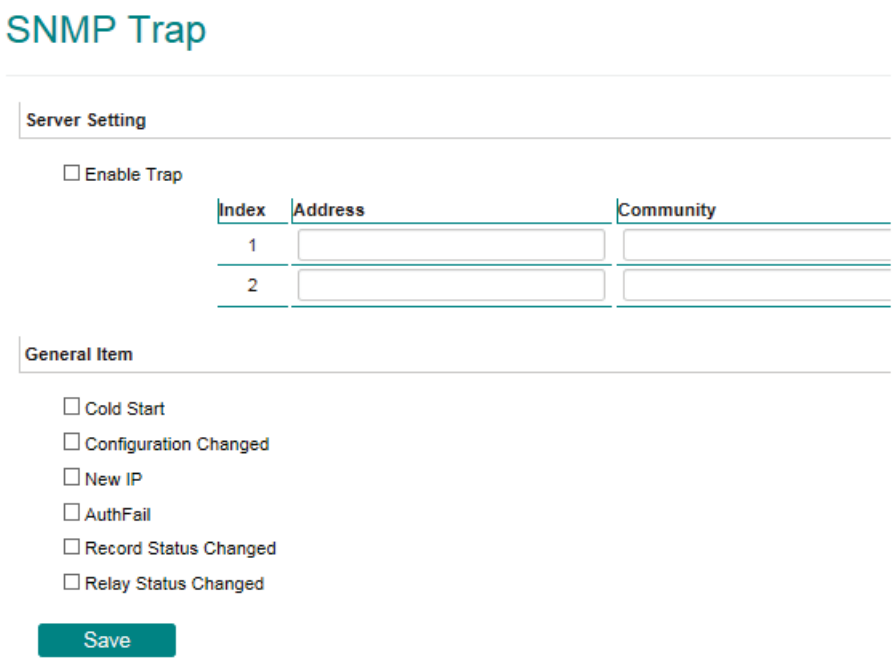
User Auth. Type (for SNMP V1, V2c, V3 and V3 only)

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

Private MIB information

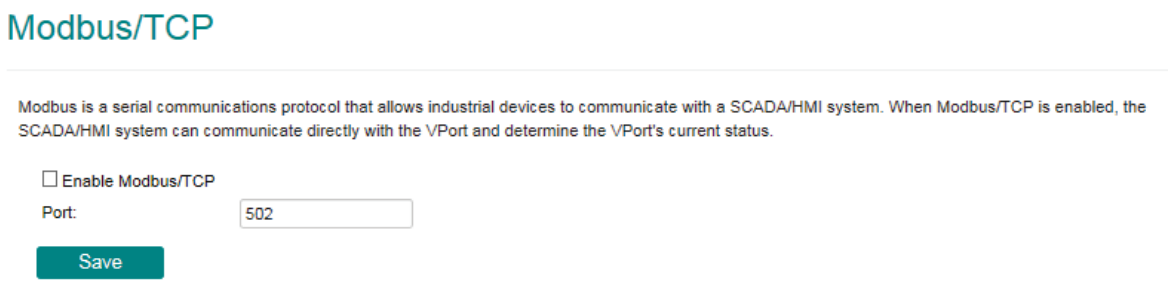
Different VPorts have different object IDs.

NOTE

The MIB file is MOXA-VPORTXX-MIB.mib (or.my). You can visit the download center on the Moxa website.

Modbus/TCP

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.



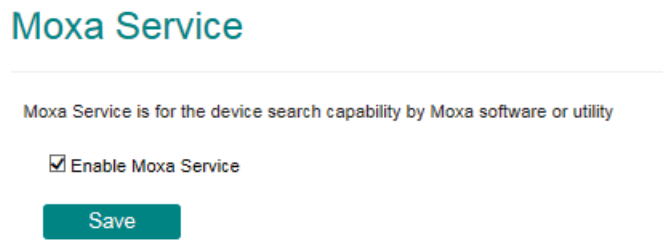
Setting	Description	Factory Default
Enable Modbus/TCP	Enable the Modbus/TCP protocol	Disable

NOTE

For the Modbus address table, please refer to the appendix Modbus Address table.

Moxa Service

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



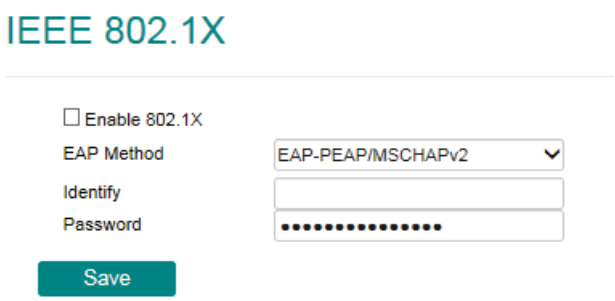
IEEE 802.1x

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

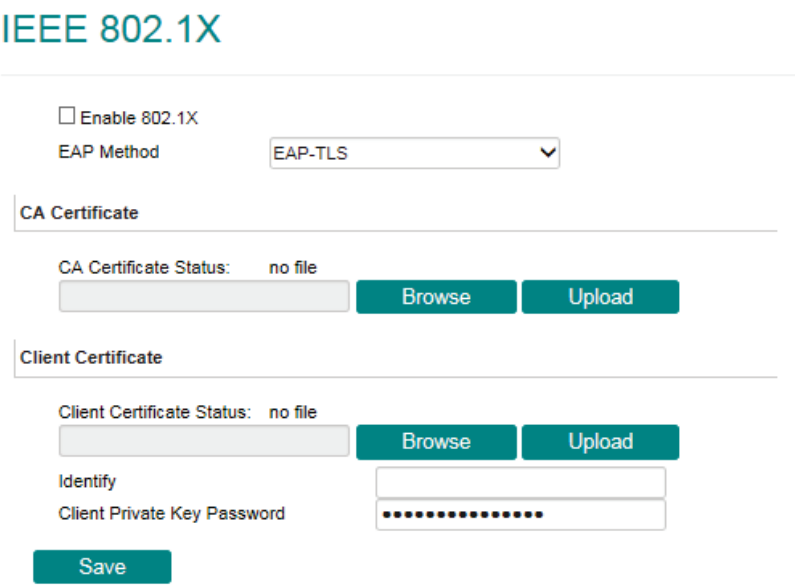
EAP-MD5 provides the minimal security. Differs from other EAP methods, it only provides authentication of the EAP peer to the EAP server but not mutual authentication.

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.

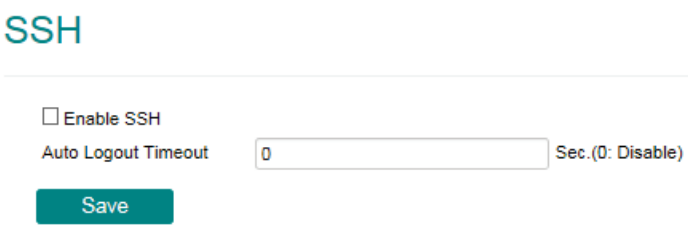
Every end user and computer, including the authentication server, which participates in EAP-TLS must possess at least two certificates:

- 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

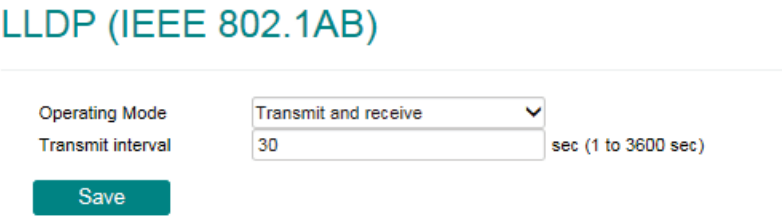
Secure Shell (SSH) is a network protocol for securing data communication. Select the checkbox to enable SSH for your VPort.



LLDP

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.

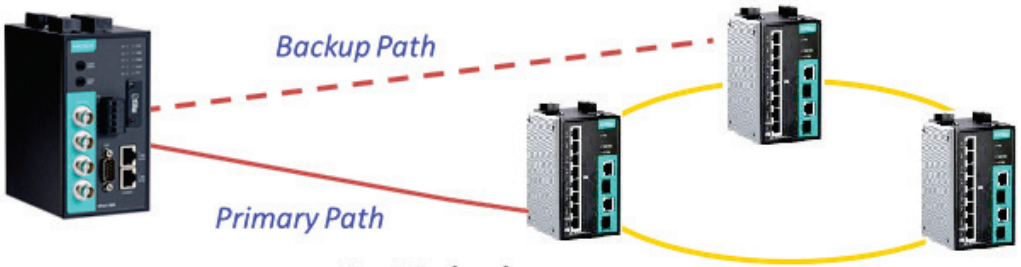


Setting	Description	Default
Operation mode	Choose the LLDP operation mode: Disabled, Transmit only, Receive only, or Transmit and receive.	Transmit and receive
Transmit interval	Sets the transmit interval of LLDP messages, in seconds.	30

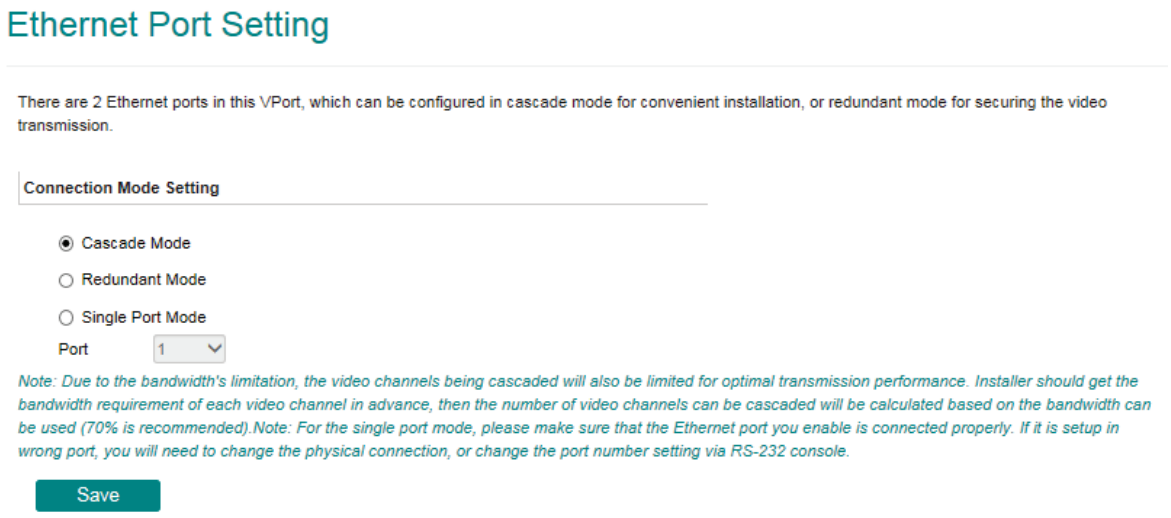
Ethernet Port

VPort 464 supports 2 Ethernet ports for cascade link and port redundancy. The default setting is in redundant mode, user can select which mode should be used, or just choose the single port being used. For cascade and redundant mode, users do not need to configure the priority of both ports.

Cascade (daisy) link



Port Redundancy



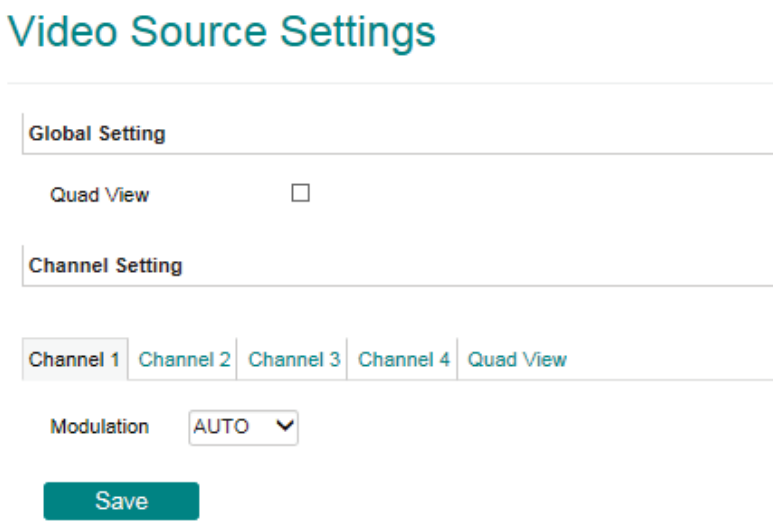
NOTE

The 2 Ethernet ports on the VPort 464's front panel can be used as cascade links or to provide port redundancy. When used as cascade links, you will need to calculate the number of video streams in order to optimize the transmission bandwidth. Calculating the number of video streams is simple using the following formula:

Number of video streams that can be transmitted in cascade link = 100 × 0.8 (20% for the buffer) ÷ bit rate of one video streams Therefore, if the number of video streams that can be transmitted in the cascade link is 16, a total of 16 units are allowed to be cascaded.

Video

Video Source Settings



Global Setting

Setting	Description	Default
Quad View	Customer can enable/disable quad view	Disable

Channel Setting

Setting	Description	Default
Modulation	Customer can choose modulation between Auto/NTSC/Pal	Auto

Image Overlay

Moxa's VPort 464 supports 4 OSD (On Screen Display) for each channel. The user can select between text and images to show on captions or images.

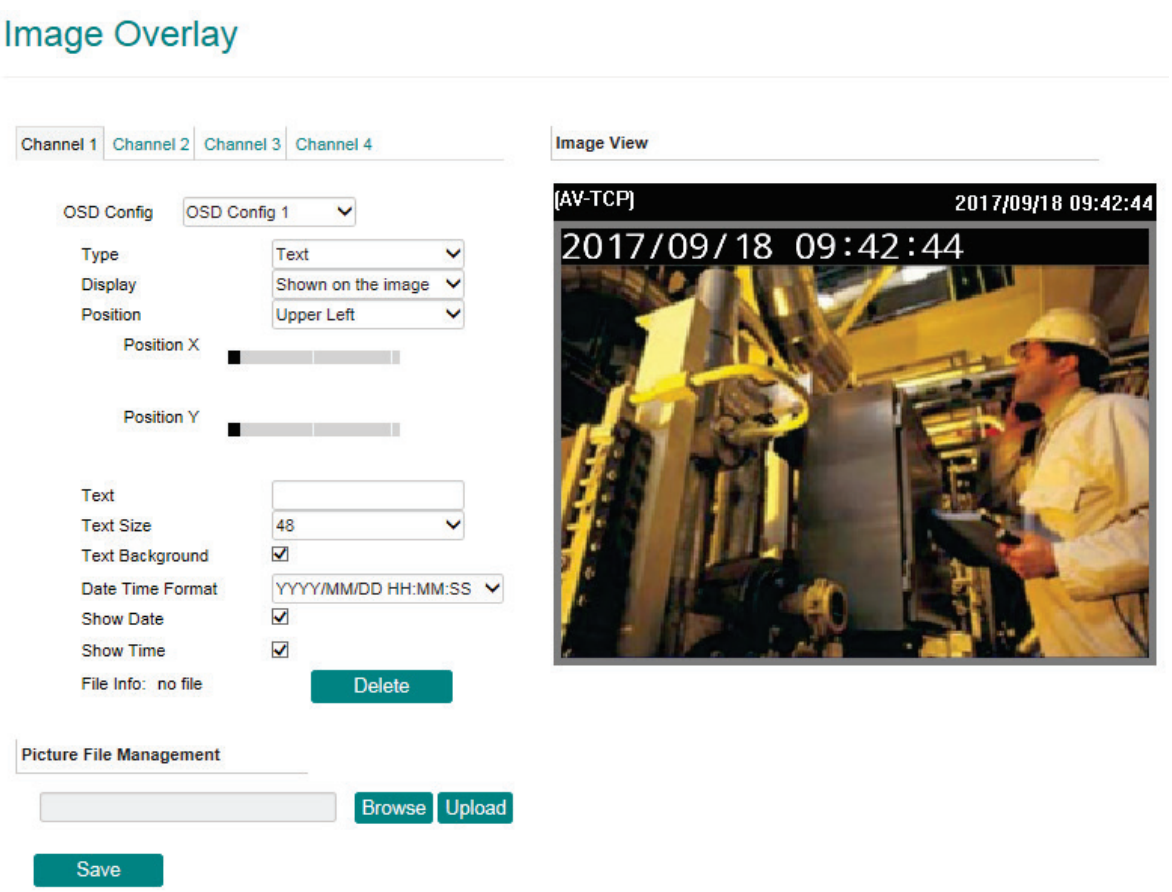


Image Overlay

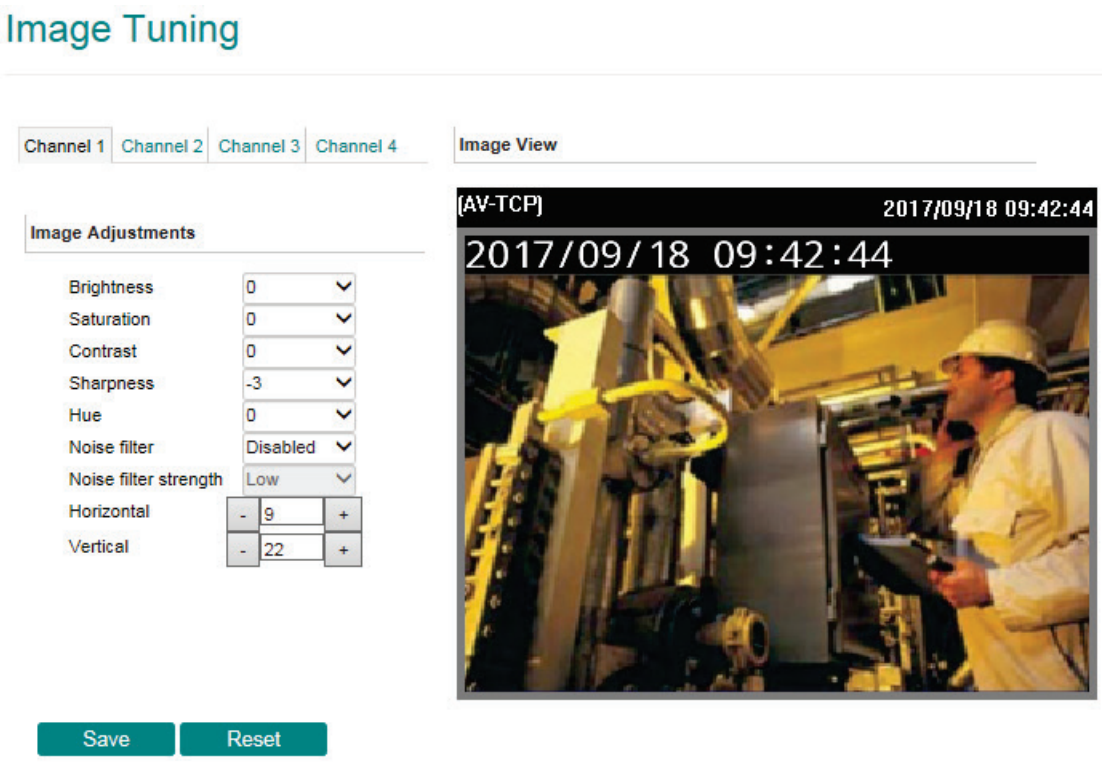
Setting	Description	Default
OSD Config 1 to 4	Each channel provides 4 customized descriptions or images that can be shown on the caption to identify video camera.	None
Type	User can choose to show Text or Image.	Text
Position	Users can choose the preset position, or they can customize it by selecting "custom" to change the position of x and y.	Upper Left
Text	Input the text that you want to display	None
Text size	Text size	18
Text Background	Transparent on the background	Disable
Data Time Format	Customer can choose different time formats	YYYY/MMM/DD HH:MM:SS
Show Date	Customer can choose to enable/disable date	Disable
Show Time	Customer can choose to enable/disable time	Disable
File Info	It shows upload picture format and size.	None

Picture File Management

Setting	Description	Default
Picture File Management	To upload the image file	None

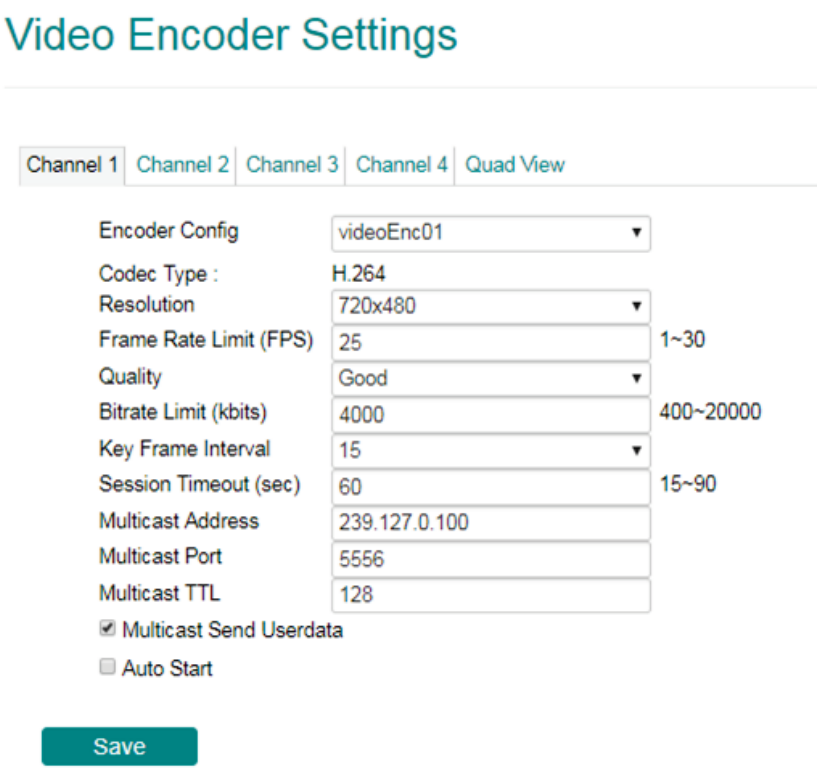
Image Tuning

The administrator can fine tune each channel's attributes in **Brightness, Contrast, Saturation, and Hue**. Also, the image position on the display can be fine-tuned in **Horizontal** and **Vertical** if it is required.



Video Encoder

The VPort supports two video encoders for each channel or quad view mode for generating video stream profiles. Two video encoder's codecs are set to be H.264 and MJPEG, and can be configured with different resolutions, FPS (frame rate), video quality, etc.



Video Encoder

Setting	Description	Default
Channel 1	To configure the attributes of the video encoder	Videoencoder01 Videoencoder02
Channel 2	To configure the attributes of the video encoder	Videoencoder03 Videoencoder04
Channel 3	To configure the attributes of the video encoder	Videoencoder05 Videoencoder06
Channel 4	To configure the attributes of the video encoder	Videoencoder07 Videoencoder08
Quad View	To configure the attributes of the video encoder	Videoencoder09 Videoencoder10

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 mode supports different resolutions. See each mode specifications for details.

Setting	Description	Default
Select the image size	6 image resolutions (size) are provided. The administrator can choose each option with NTSC or PAL modulation.	720 x 576

Resolution	NTSC	PAL
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

Quad View

Resolution	NTSC	PAL
4 x Full D1	1440 x 960	1440 x 1152
4 x 4CIF	1408 x 960	1408 x 1152
4 x VGA	1280 x 960	1280 x 960
4 x CIF	704 x 480	704 x 576
4 x QVGA	640 x 480	640 x 480
4 x QCIF	352 x 240	352 x 288

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.

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
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
Session Timeout (sec)	Timeout between the client and the stream	60
Multicast Address	Multicast Group address for sending a video stream.	239.127.0.100
Port	Video port number.	Videoecnoder01: 5556 Videoencoder02: 5558 Videoencoder03: 5560
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

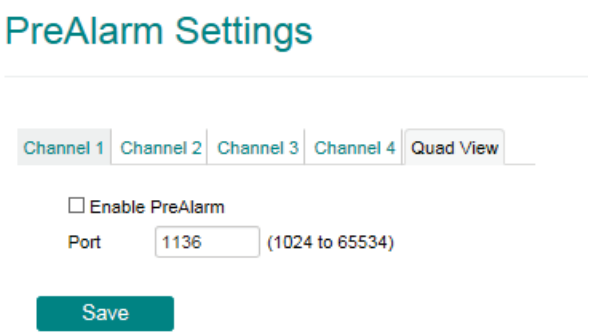
Setting	Description	Default
Multicast Send Userdata	Configure the video stream with or without user data	Enable
Auto Start	Enable/disable the Multicast stream push mode	Disable

NOTE

Image quality, FPS, and bandwidth are influenced significantly by network throughput, system network bandwidth management, applications the VPort runs (such as VMD), how detailed 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.

Prealarm

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

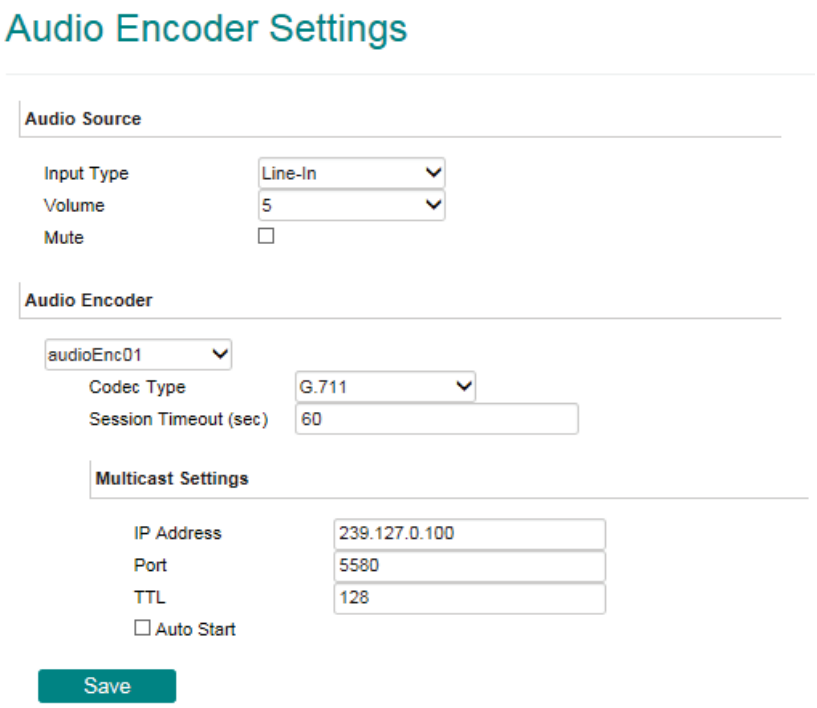


Setting	Description	Default
Enable Prealarm	Enable of Disable the Prealarm function	disable
Encoder name	Select which encoder will be used for Prealarm	Videoencoder03
Port	Configure the network port for this prealarm encoder.	1128

Audio

VPort 464 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 Input



Audio Source

Setting	Description	Default
Line in or microphone	Choose the audio source in line or microphone	Line in
Volume	Configure the audio volume, or Mute	Volume=2

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	Some VPorts support G.711 audio codecs. The user can configure the codec type here.	G.711

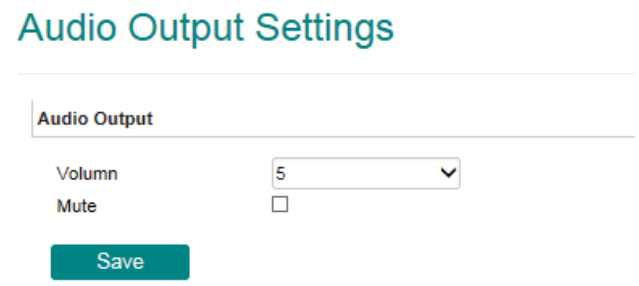
Session Timeout

Setting	Description	Default
Session Timeout (sec)	Timeout between the client and the stream	60 (seconds)

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
Auto Start	Enable/disable the Multicast stream push mode	Disable

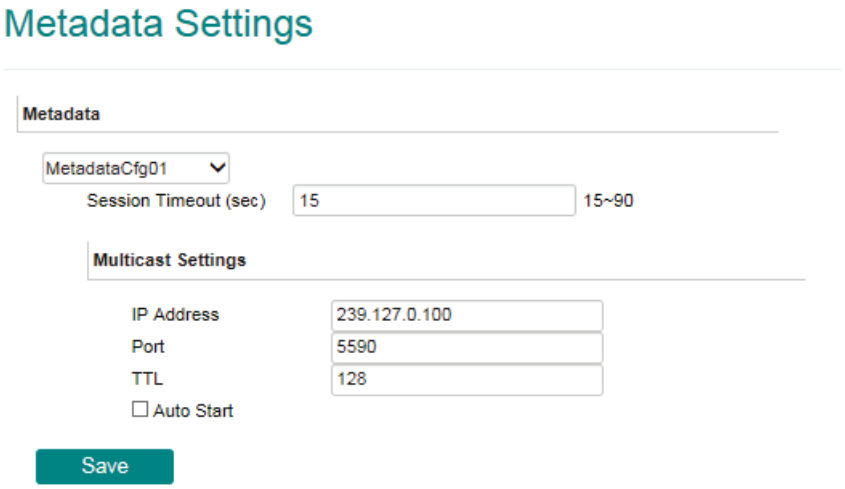
Audio Output



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

Metadata

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.



Session Timeout

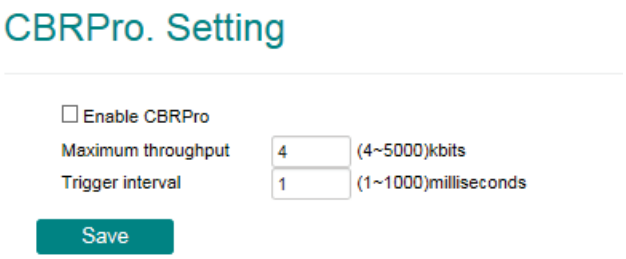
Setting	Description	Default
Session Timeout (sec)	Timeout between the client and the stream	15 (seconds)

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
Auto Start	Enable/disable the Multicast stream push mode	Disable

Streaming

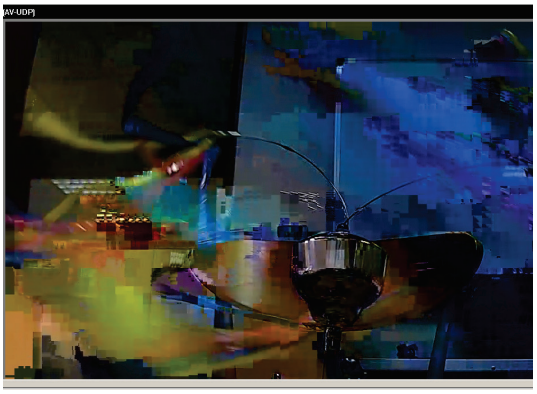
CBR Pro



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

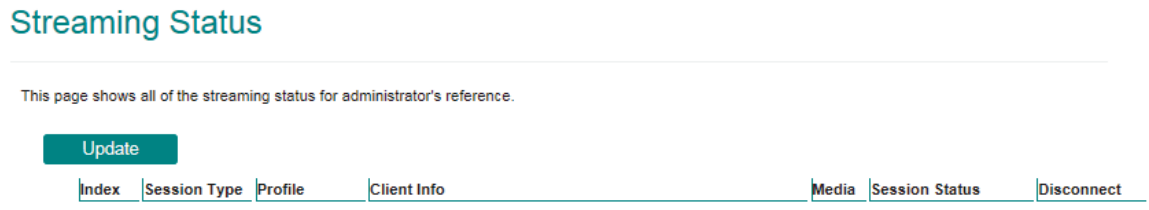
Image with packet loss



Setting	Description	Default
Enable CBRPro, Maximum throughput, Trigger interval	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

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

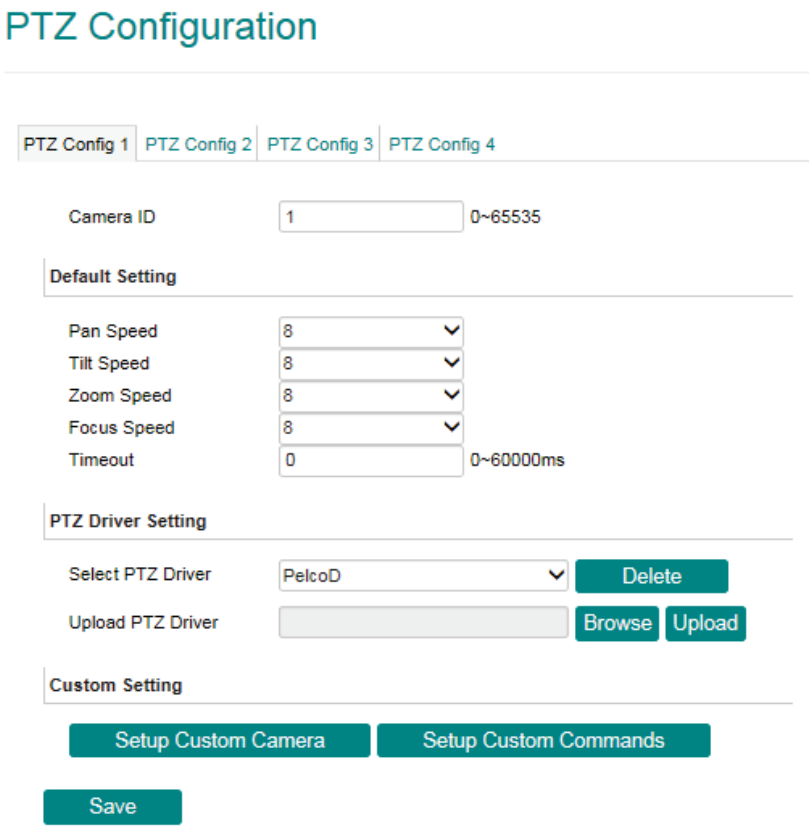


Item	Description
Index	The index of connected streams
Session Type	Stream transmission method
Profile	The profile being used
Media	"V" means video, "A" means audio
Session status	Whether or not the transmission is currently active or inactive
Disconnect	Disconnect the stream manually.

PTZ

The VPort supports PTZ (PAN/TILT/ZOOM) motorized camera control via an RS-232, RS-422, or RS-485 PTZ/ COM port. Before setting up camera control, the administrator should first connect the PTZ camera to the VPort's PTZ port or COM port.

PTZ Configuration



Setting	Description	Default
Camera ID	Moxa's VPort 464 only provides a single PTZ port. To control multiple PTZ cameras users have to set c different IDs	1

PTZ config content

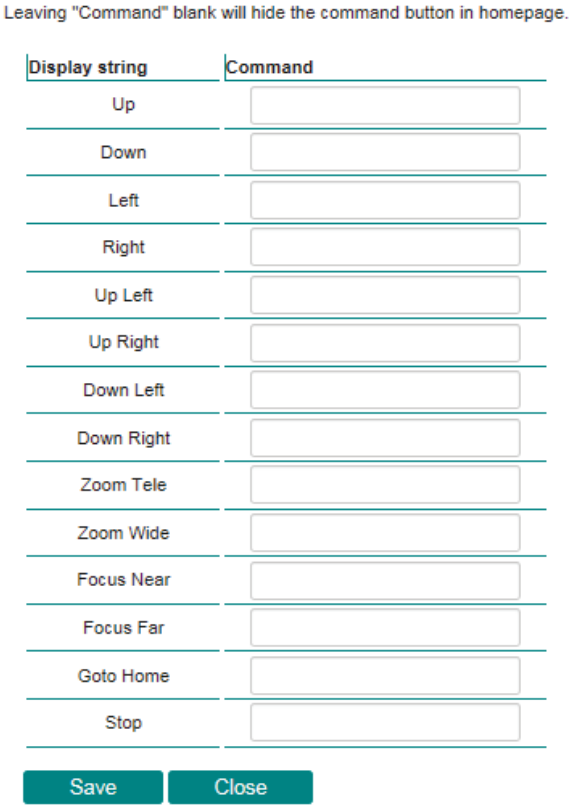
Setting	Description	Default
Pan Speed	Speed of the PAN motion	8
Tilt Speed	Speed of the TILT motion	8
Zoom Speed	Speed of the Zoom motion	8
Focus Speed	Speed of the Focus motion	8
Timeout	Configure the timeout period when there is no response after a command is sent	0

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.

Setting Up a Custom Camera

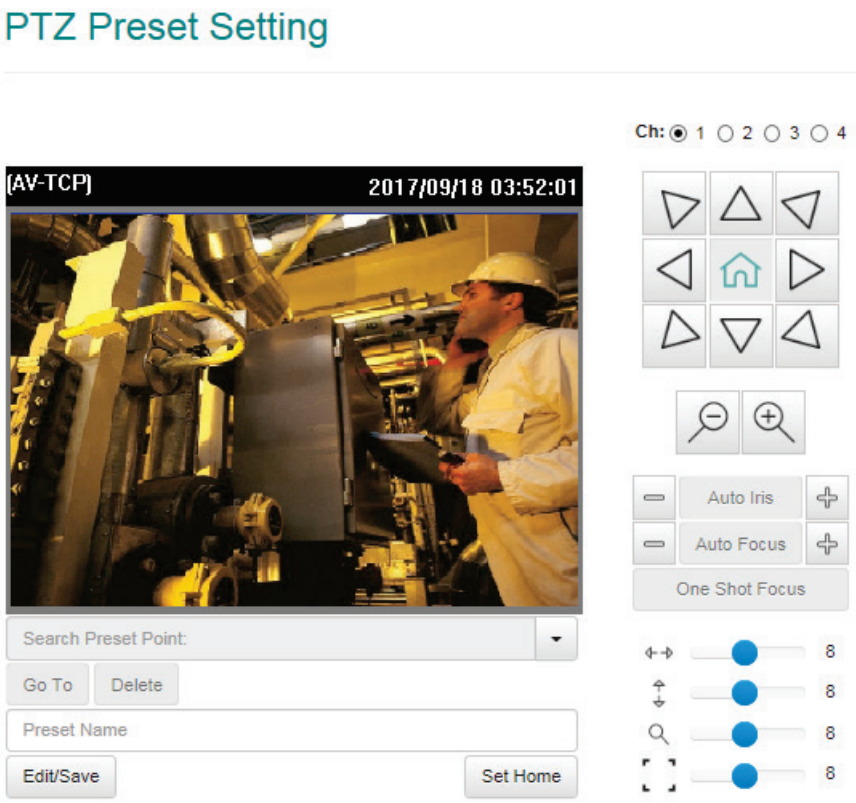
If the PTZ camera's driver is not in the list, the administrator can select the custom camera from the Select Camera driver menu to program the PTZ camera with ASCII code. A custom camera window will pop up when the **Setup Custom Camera** button is clicked. Input the ASCII code into this window. **Control 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.

Preset



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	8
Tilt Speed	Speed of the TILT motion	8
Zoom Speed	Speed of the Zoom motion	8
Timeout	Configure the timeout period when there is no response after a command is sent	0

Setting Up a Preset Position

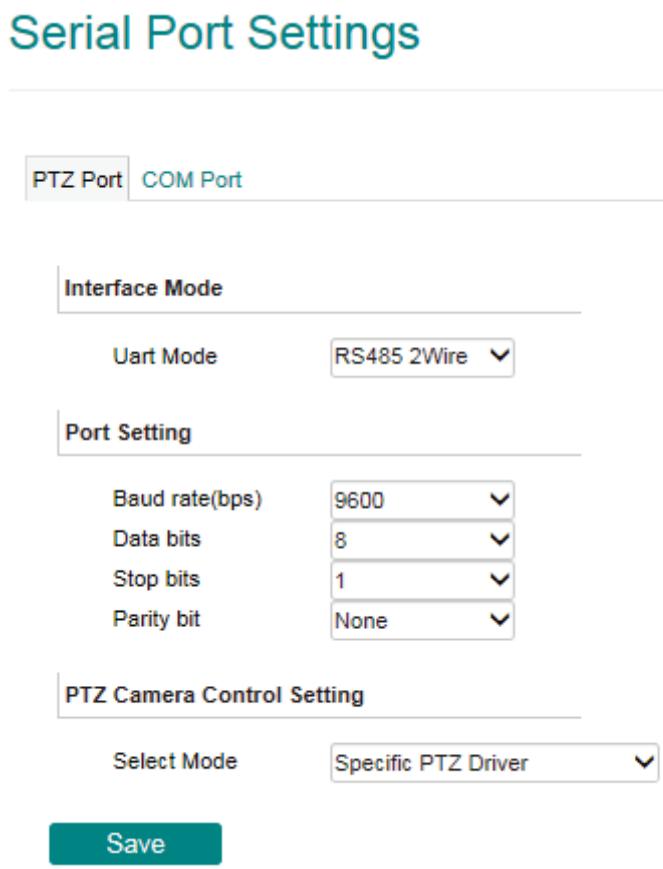
Administrators can use the Preset Position function to set up the behavior of the PTZ camera in advance, and then users with camera control privilege can move the camera's lens to a preset position without the need to control the pan, tilt, and zoom buttons on the PTZ control panel.

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).	blank
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.	8

Serial Port

The VPort 464 has 1 serial port. One is the PTZ port and the other is the COM port. Both ports can be set for RS-232, RS-422, or RS-485. Refer to the Quick Installation Guide or Chapter 2 for the connector type and pin assignment.

PTZ port



Interface mode

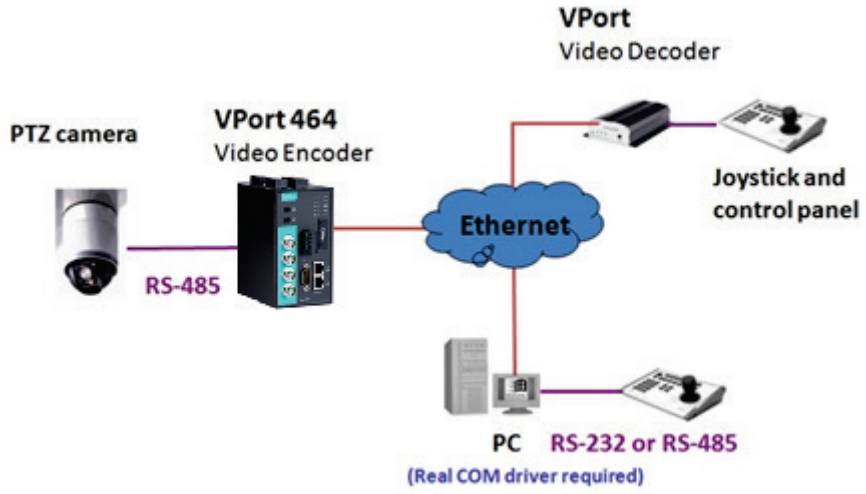
Setting	Description	Default
Select the serial interface	The PTZ port supports 3 serial interfaces, although only one interface can be used at a time. Depending on the interface used by the attached device, administrators must set the Interface to either RS-232, RS-422, or RS485.	RS485

Control mode

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

Transparent PTZ Control

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

Usually, a PTZ driver is 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.

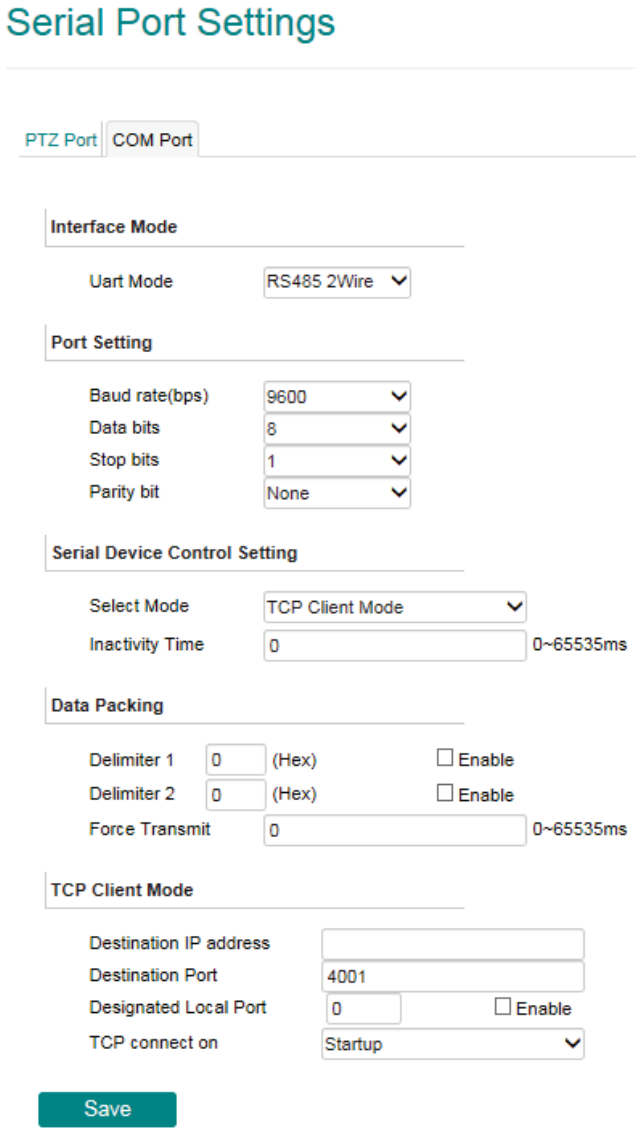
Setting	Description	Default
Control Mode	Select the PTZ control mode in Transparent PTZ Control or Specific PTZ Driver	Specific PTZ Driver

COM port

The COM port has 2 uses: PTZ control and serial device control.

NOTE

The serial device control will be available after V1.1 firmware version.



Interface mode

Setting	Description	Default
Select the serial interface	The COM port supports 3 serial interfaces, although only one interface can be used at a time. Depending on the interface used by the attached device, administrators must set the Interface mode to either RS-232, RS-422, or RS485.	RS485

Port Setting

Setting	Description	Default
Baud rate (bps)	The baud rate specified by the PTZ camera's serial communication specs	9600
Data bits	The parameters used to define the serial communication	8
Stop bits	The parameters used to define the serial communication	1
Parity bits	The parameters used to define the serial communication	None

NOTE

These VPort COM port operation modes only support one connection at the same time.

NOTE

For more information on serial-to-Ethernet communications, refer to Moxa's NPort Device Server products.

Serial Device Control Setting

Setting	Description	Default
Operation Mode	Select the serial device control operation modes via the TCP/IP network: TCP Server Mode, TCP Client Mode	TCP Server mode
Inactivity time	The VPort automatically closes the TCP connection if there is no serial data activity for the specified time (0 to 65535 milliseconds). Set the time interval to 0 to disable this feature. After the connection is closed, the VPort starts listening for another host's TCP connection.	0

The VPort supports 2 operation modes when using serial device control mode over a TCP/IP network: TCP Server Mode and TCP Client Mode.

TCP Server Mode

In TCP Server mode, the VPort provides a unique IP: Port address on a TCP/IP network. The VPort waits passively to be contacted by the host computer, allowing the host computer to establish a connection with and get data from the serial device.

TCP Client Mode

In TCP Client mode, the VPort actively establishes a TCP connection to a pre-defined host computer when serial data arrives. After the data has been transferred, the VPort can automatically disconnect from the host computer by using the TCP alive check time or Inactivity timeout settings.

Data Packing

Setting	Description	Default
Delimiter 1 Delimiter 2	Once the VPort receives both delimiters through its serial port, it immediately packs all data currently in its buffer and sends it to the VPort's Ethernet port. The value of the delimiter can be set from 00 to FF. In addition, both delimiters can be enabled or disabled.	Disable
Force Transmit	This parameter defines the time interval during which the VPort fetches the serial data from its internal buffer. If data is incoming through the serial port, the VPort stores the data in the internal buffer. The VPort transmits data stored in the buffer via TCP/IP, but only if the internal buffer is full or if the force transmit time interval reaches the time specified under Force Transmit timeout. The time interval can be set between0 and 65535 milliseconds. Set the time interval to 0 to disable force transmit timeout.	0

NOTE

Delimiter 2 is optional. If left blank, then Delimiter 1 alone trips clearing of the buffer. If the size of the serial data received is greater than 1 KB, the VPort will automatically pack the data and send it to the Ethernet. However, to use the delimiter function, you must at least enable Delimiter 1. If Delimiter 1 is left blank and Delimiter 2 is enabled, the delimiter function will not work properly.

TCP Server Mode

Setting	Description	Default
Local TCP port	The TCP port that the VPort uses to listen to connections, and that other devices must use to contact the VPort. The setting value should be between 1 and 65535.	4001

TCP Client Mode

Setting	Description	Default
Destination IP address	Allows the VPort to connect actively to the remote host whose address is set by this parameter.	Blank
Designated Local port	TCP port number for the connection. It can also be enabled or disabled.	Disable
TCP Connect On	**Startup:** A TCP connection will be established on startup, and will remain active indefinitely. **Any Character:** A TCP connection will be established when any character is received from the serial interface, and will remain active indefinitely.	Startup

NOTE

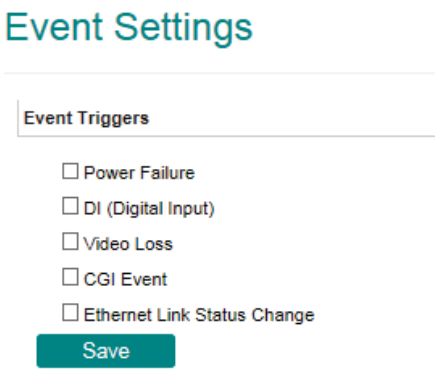
To avoid influencing the video performance, it is strongly recommended that the VPort's COM port should be used for simple serial control and data transmission, such as a card reader.

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.



Event	Description
Power Failure	VPort 464 supports 2 redundant power inputs. Once one of them is failed, an event alarm can be triggered.
DI (Digital input)	The DI (digital input) can be connected with external device to trigger event actions.
Video Loss	VPort video encoders can detect the analog video signal. Once the video signal is lost, the event actions can be triggered.
CGI Event	The VPort supports the CGI event, which is triggered in CGI commands.
Ethernet Link Status Change	VPort 464 supports 2 Ethernet ports. Once one of them is disconnected, an event alarm can be triggered.

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	Disabled
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.	Disabled

Setup a VMD Alarm

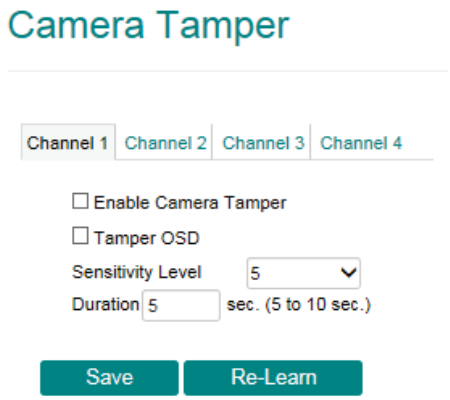
Setting	Description	Default
Enable	Enable or disable the VMD1, VMD2, or VMD3	Disabled
Name	The name of each VMD Name	Blank
Percent	The minimum percentage of change to an image that will trigger VMD. Decrease the percentage to make it easier to trigger VMD.	80
Sensitivity	The measurable difference between 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

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.

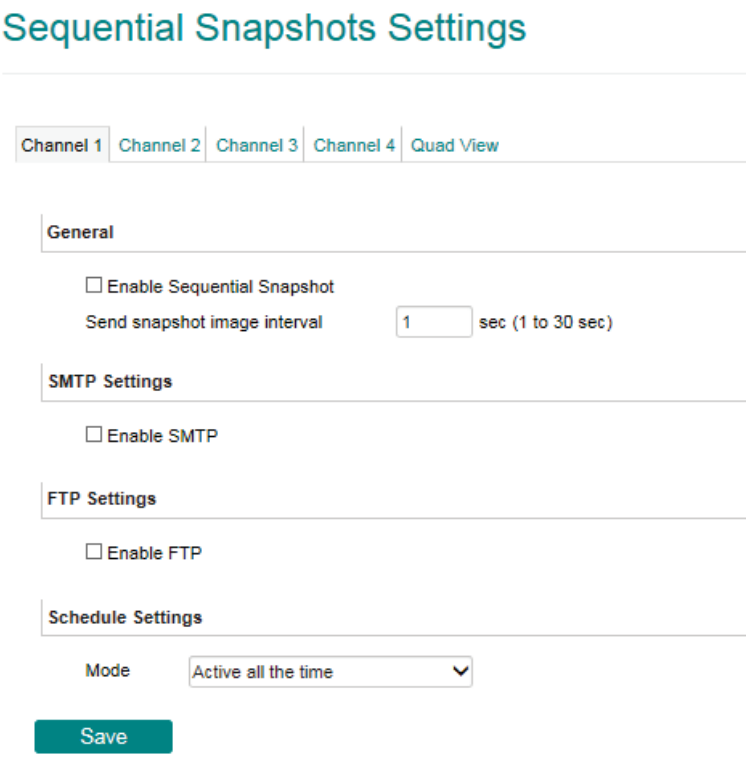


Setting	Description	Default
Enable camera tamper event	Enable or disable the digital input alarm	Disabled
Tamper osd	Determines whether or not the camera will display an onscreen warning square when the camera tamper alarm is triggered	Not Display

Trigger Conditions

Setting	Description	Default
Sensitivity Level	Configure the sensitivity level for triggering the tampering alarm	Level 5
Duration	How long should the camera tamper behavior persist before the alarm is triggered.	5 sec

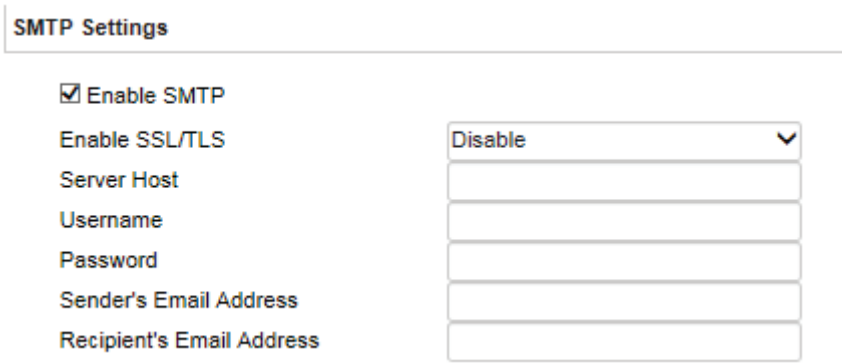
Sequential Snapshot



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
Send sequential snapshot image every seconds	The time interval between successive snapshot images.	1 second (from 1 second to 30 seconds)

SMTP Settings



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

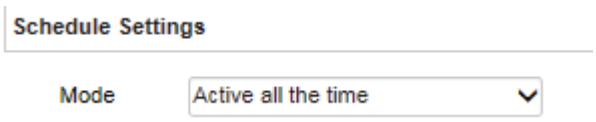
NOTE

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.

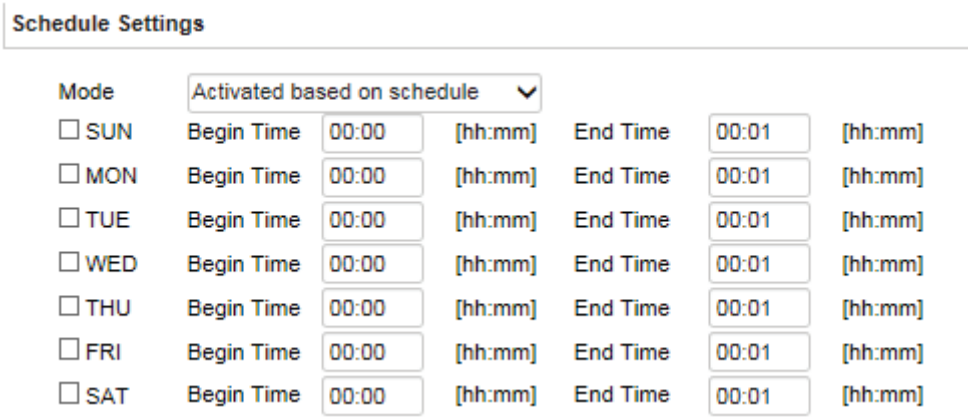
FTP Settings

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.	Disabled

Schedule Settings



Setting	Description	Default
Active all the time	The Sequential Snapshot function is always active.	Sequential Snapshot are active all the time
Active based on weekly schedule	The Sequential Snapshot is activated based on the configured weekly schedule.	

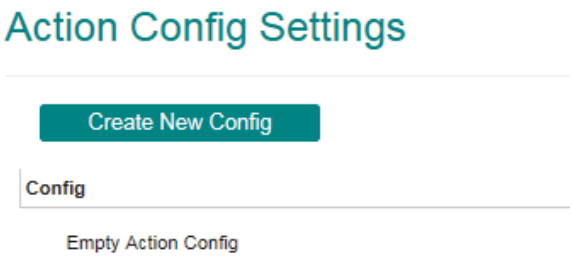


Setting	Description	Default
☐ Sun ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat	Select which days of the week to schedule event alarms.	None
Begin 00:00	Set the start time of the event alarm.	00:00
Duration 00:00	Set how long the event alarm will be active.	00:01

Actions

Action Config

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



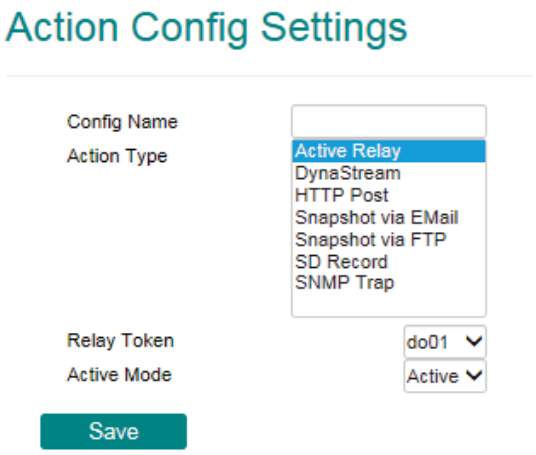
Step 1: Click the "Create New Config" button.

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	Active Relay

Different actions have different configuration items.

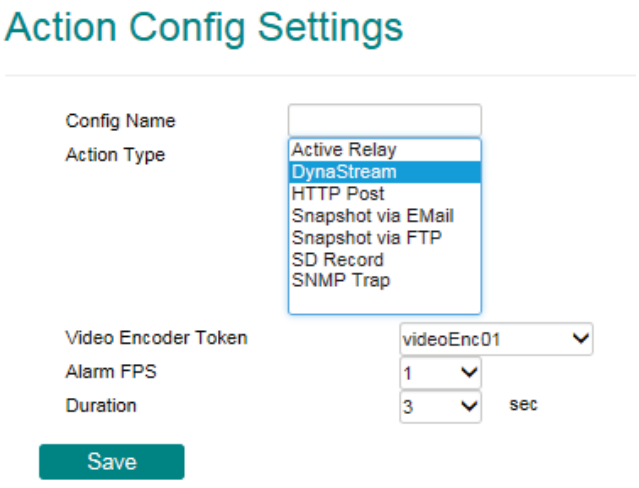
Active Relay



Settings	Description	Default
Relay token	Select the relay output	Do01
Active mode	Select Acitve 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, 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.

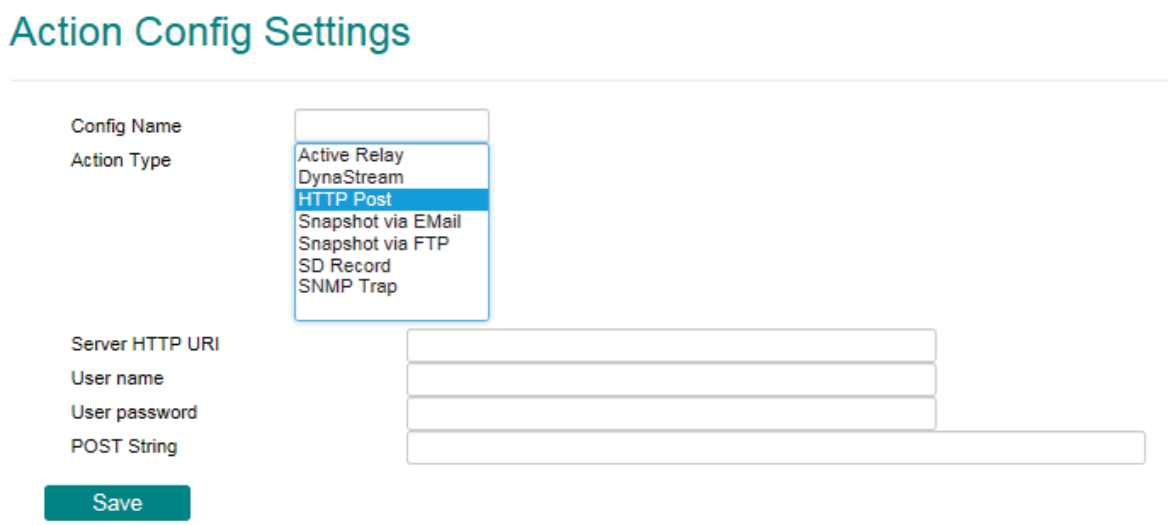


Settings	Description	Default
Video Encoder	Select the video encoder.	Videoencoder01
Alarm FPS	Configure what the frame rate will be set to when the event is triggered.	1
Duration	Configure how long Dynastream will be active.	3 seconds

NOTE

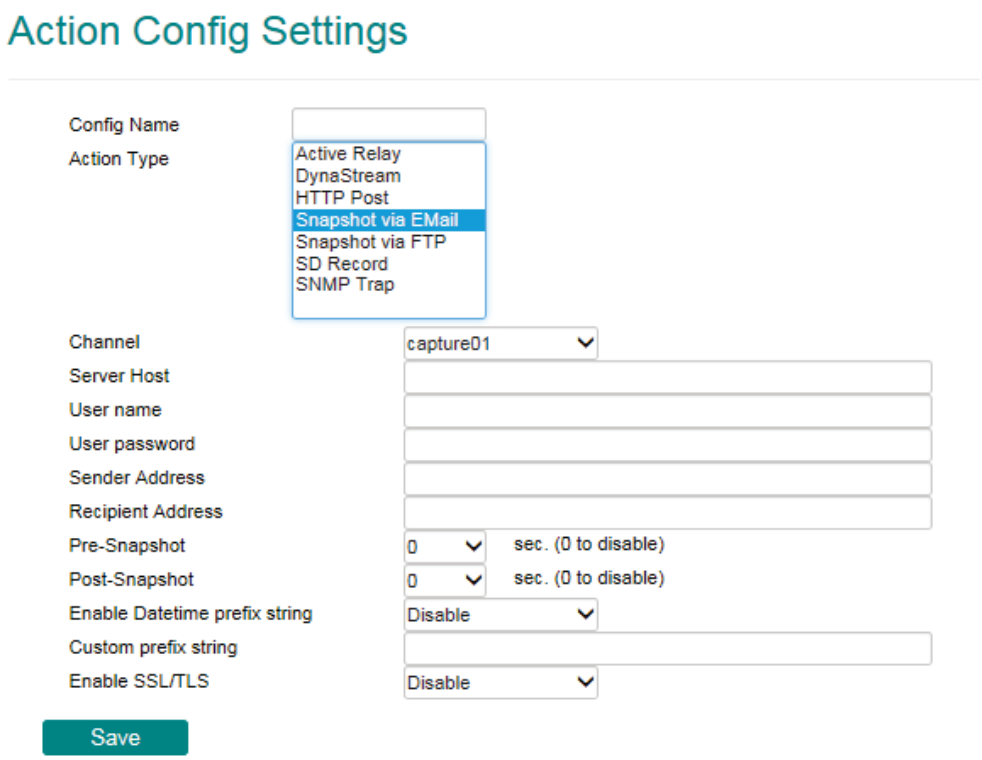
To enable the DynaStream function from CGI commands and Modbus TCP, refer to the CGI Commands User's Manual for VPort SDK PLUS.

HTTP Post



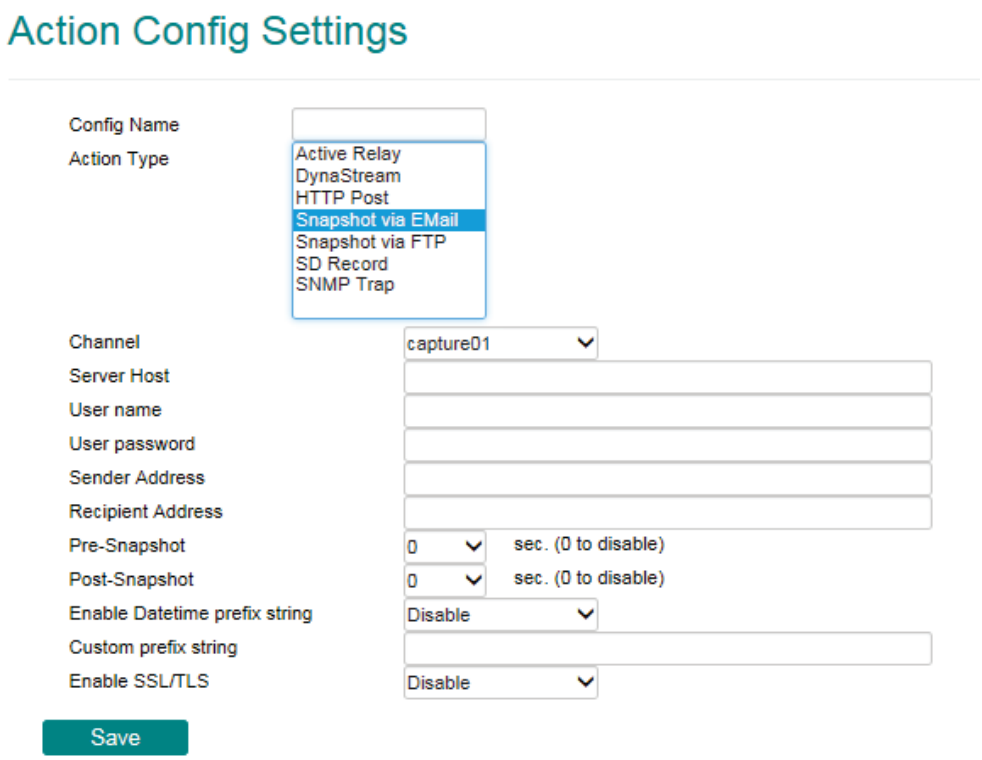
Settings	Description	Default
Server HTTP URL	URL of the HTTP server.	None
User name	Authentication information for the HTTP server.	None
User Password		
POST String	Configure the string that will be posted.	None

Snapshot via Email



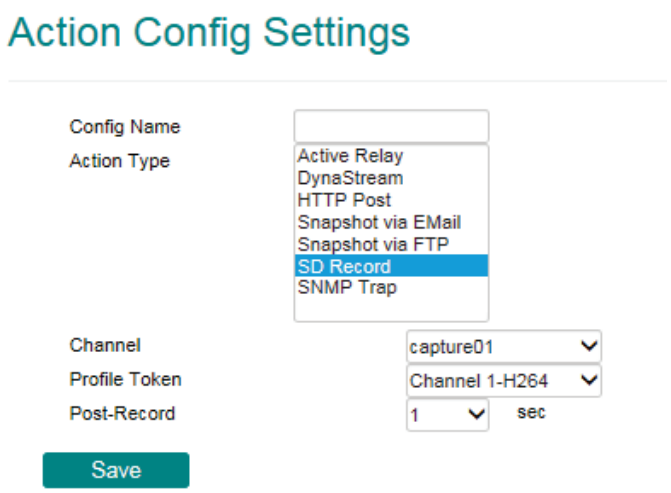
Settings	Description	Default
Server host	SMTP server's IP address or URL address.	None
User name	For security reasons, most SMTP servers require the account name and password to be authenticated.	None
User password		None
Sender's address	For security reasons, SMTP servers must see the exact sender email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



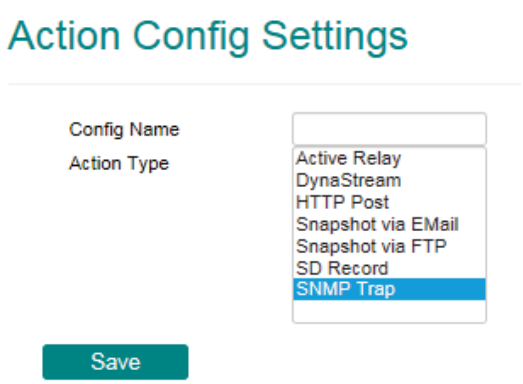
Setting	Description	Default
Server Host	FTP server's IP address or URL address.	None
Server Port	FTP server's authentication information.	None
User name		None
User password		None
Upload path	FTP file storage folder on the remote FTP server.	None
Passive Mode	Passive transfer solution for FTP transmission through a firewall.	Disabled
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 Datetime 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 VPorts)



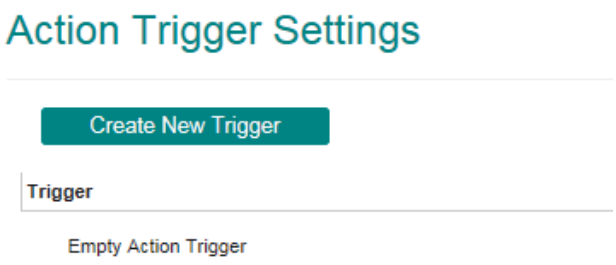
Settings	Description	Default
Profile Token	Select the profile being recorded on the SD card.	Profile01
POST-record sec	Configure the time (1 to 60 seconds) for recording the video on the SD card after the event.	1

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.



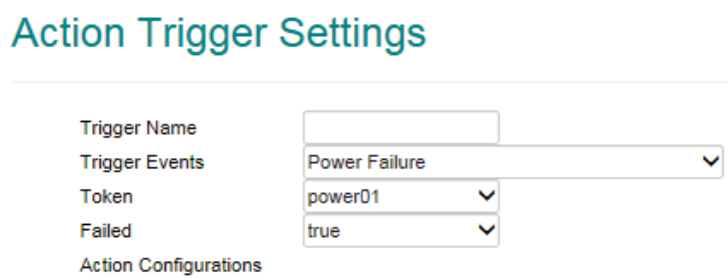
Step 1: Click the "Create New Trigger" button.

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: Power Fail, Digital input, VMD, Video Loss, Tamper, CGI trigger, Ethernet Link status	Active Relay

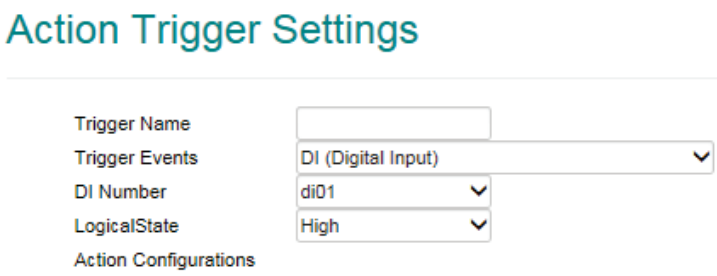
Different triggers have different configuration items.

Power fail



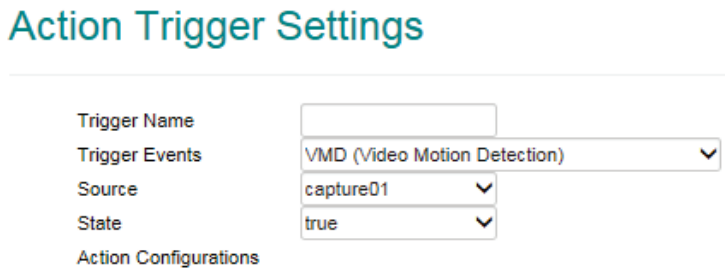
Setting	Description	Default
Token	Choose the Power 1 (power01) or Power 2 (power02) for trigger the action	Power01
Failed	Configure the power fail in true or false	true

Digital input



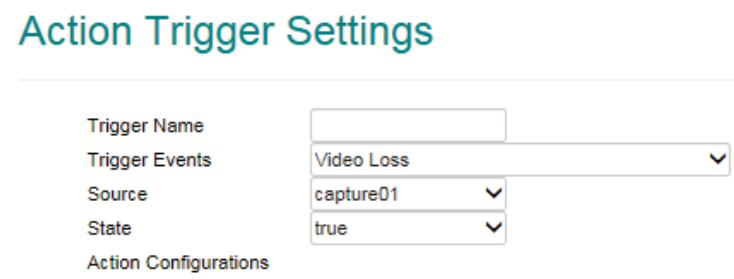
Settings	Description	Default
DI number	Select digital input	DI01
Logical State	Configure the DI status to High or Low	High

VMD



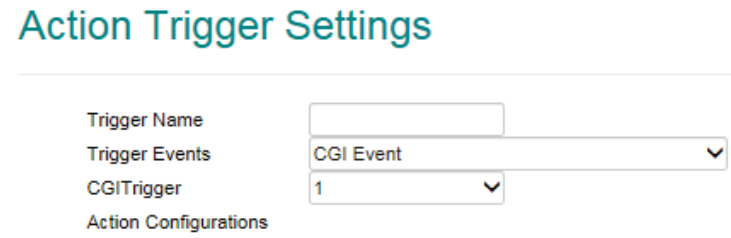
Settings	Description	Default
Channel Number	Select the video source. Currently, VPort only have one video source.	videoSrccfg01
VMD	Select the VMD 1 or 2 or 3 for triggering the action	1
State	Enable (true) or disable (false) the VMD trigger	true

Video Loss



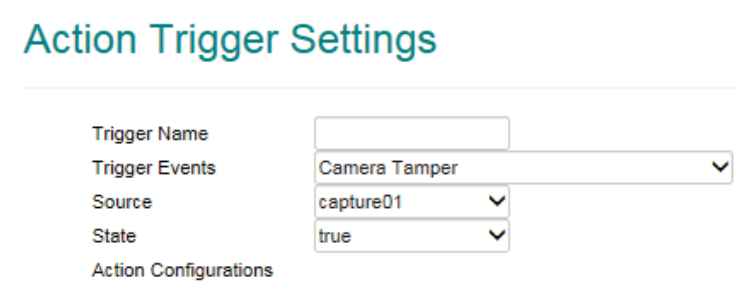
Setting	Description	Default
Source	Choose the video source for detecting the video loss event	Capture 1
State	Configure the video loss in true or false	true

CGI trigger



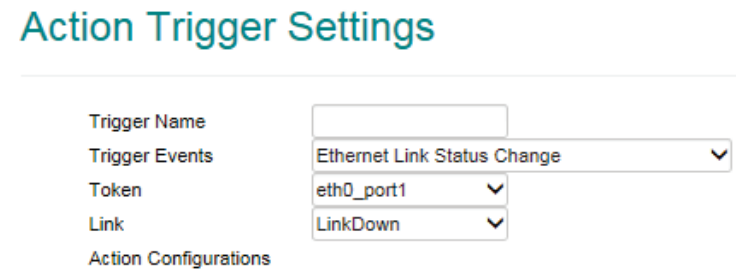
Settings	Description	Default
CGItrigger	Select from 5 CGI triggers.	1

Tamper



Settings	Description	Default
Channel Number	Select the video source. Currently, VPort IP cameras only have one video source.	videoSrccfg01

Ethernet Link Status

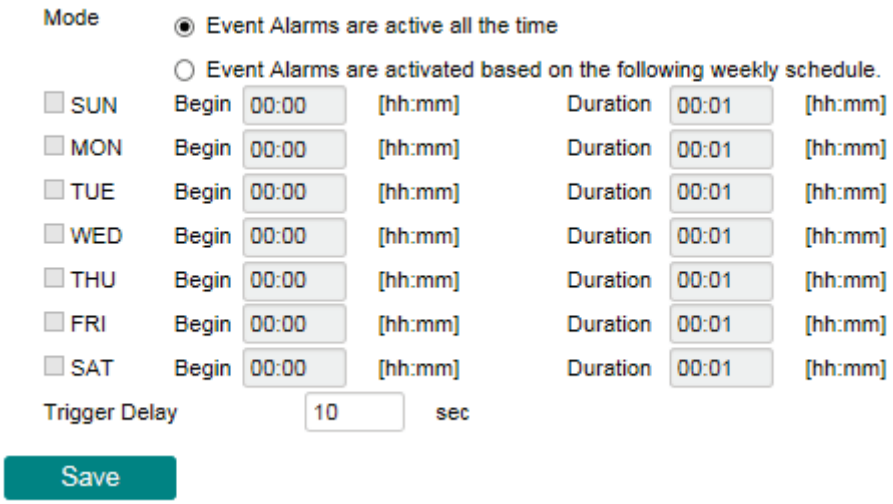


Settings	Description	Default
Token	Select the Ethernet port number. Some VPorts have 2 Ethernet ports.	Eth0_port1
Link	Configure the trigger to Linkdown or Linkup	Linkdown

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: 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.	00:01
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 V erde 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, Hongkong, 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

C. VPort 464 Modbus Address Table

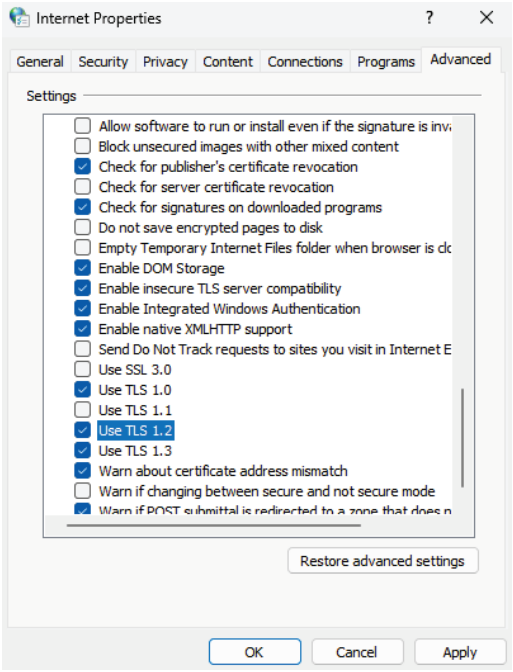
Endian: Big-Endian.

Support	Address	Word (2 Bytes)	Item name	R/W	Value
	ModBus Information				
●	0x0000	0x01	Vender ID	R	0x1393
●	0x0001	0x01	Unit ID	R	0x01
●	0x0002	0x02	Product Code	R	Magic Code
	0x0004 : 0x000F	0x0C	Reserve		
	Device Information				
●	0x0010 : 0x002F	0x20	Vender Name	R	Moxa Technologies Co., Ltd.
●	0x0030 : 0x004F	0x20	Product Name	R	Base on Uboot Env
●	0x0050	0x06	Serial Number	R	Word0~Word5 Total 12Byte
●	0x0056	0x02	Firmware Version	R	Word 0 MSB Major Word 0 LSB Minor Word 1 CV Code
●	0x0058	0x02	Release Date	R	2012/05/09/21 Word0 :0x0C05 Word1: 0x0915
●	0x005A	0x03	MAC Address	R	AA:BB:CC:DD:EE:FF Word 0: 0xAABB Word 1: 0xCCDD Word 2: 0xEEFF
	0x005D : 0x00FF	0xA3	Reserve		
	Interface Information				
●	0x0100	0x01	Video Input Count	R	
●	0x0101	0x01	DI Count	R	
●	0x0102	0x01	DO Count	R	
●	0x0103	0x01	Power Count	R	
●	0x0104	0x01	Audio In Count	R	
●	0x0105	0x01	Audio Out Count	R	
●	0x0106	0x01	UART Count	R	
●	0x0107	0x01	Lan Port Count	R	
●	0x0108	0x01	State LED Count	R	
●	0x0109	0x01	Fault LED Count	R	
	0x0108 : 0x011F	0x18	Reserve		
Support	Address	Word (2 Bytes)	Item name	R/W	Value

Support	Address	Word (2 Bytes)	Item name	R/W	Value
	Interface Status (Start Addr. 0x0200)				
●	0x200 : 0x23F	Video In Count	Video Input Status	R	0: Video Loss 1: NTSC 2: PAL 3: Progress Input
●	0x240 : 0x27F	DI Count	DI Status	R	0x0000: Low 0x0001: High
●	0x280 : 0x2BF	DO Count	DO Status	R/W	0x0000: Deactive 0x0001: Active
●	0x2C0 : 0x2FF	Power Count	Power Status	R	0:OFF 1:ON
	0x300 : 0x33F	Audio In Count	Audio In Status	R	0x0000: Unplug 0x0001: Plug
	0x340 : 0x37F	UART Count	Uart Status	R	0x0000: No 0x0001: Transmitting
●	0x380 : 0x3BF	Lan Port Count	Lan Port Status	R	0x0000: Link Down 0x0001: Link Up 0x0002: Disable
●	0x3C0 : 0x3FF	State LED Count	State LED Status	R	0x0000: OFF 0x0001: Solid Red 0x0002: Flashing(Red) 0x0003: Solid Green 0x0004: Flashing(Green) 0x0005: Bi-Color
●	0x400 : 0x43F	Fault LED Count	Fault LED Status	R	0x0000: OFF 0x0001: Solid Red 0x0002: Flashing(Red)
●	0x440 : 0x47F	SD LED Count	SD LED Status	R	0x0000: No SD 0x0001: SD Inserted
	Function Status				
●	0x1000	0x40	Tamper Status	R	0x0000:OFF 0x0001:ON
●	0x1040	0x40	Learning Status	R	0x0000: No learning 0x0001: Learning

HTTPS and SSL Certificates

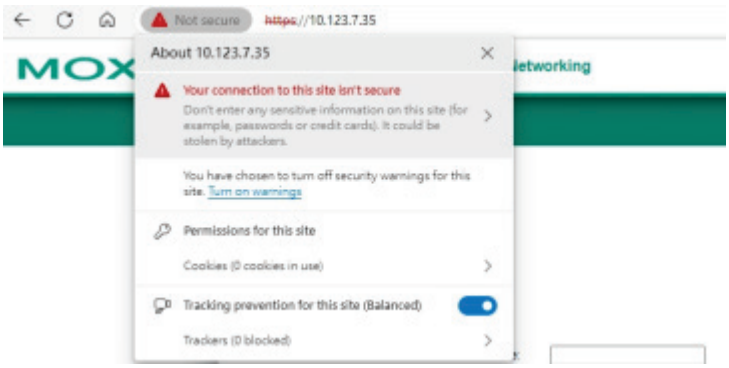
HTTPS is an encrypted communication channel. As TLS v1.1 and earlier versions have severe vulnerabilities that can be easily compromised, the VPort Series uses TLS v1.2 for HTTPS connections to ensure data transmissions are secured, as long as TLS v1.2 is enabled for your browser.



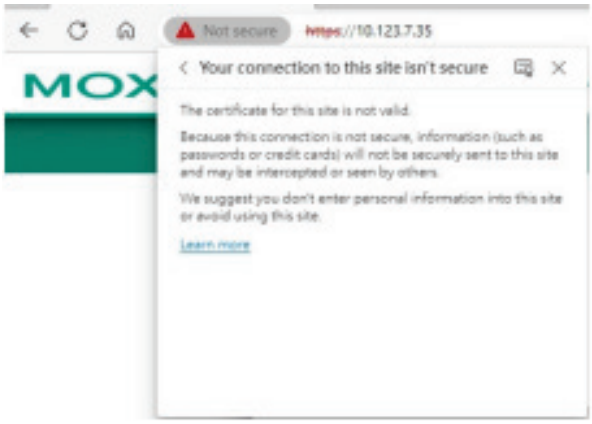
Using HTTPS without the proper certificates will prompt a security warning. To prevent these warnings, you will need to import the self-signed certificate from the VPort IP camera Series. Follow the steps below to export the VPort's certificate and import it to the host's web browser:

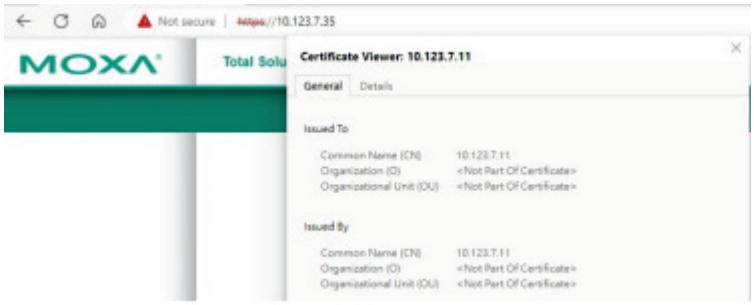
Step 1: Open a supported browser and enter *https://[VPort's IP address]* in the address field to access the web console of the VPort IP camera.

Step 2: You may notice a **Not secure** icon in front of the IP address. Click this icon to open a prompt with several options. Click the **Your connection to this site isn't secure** option.

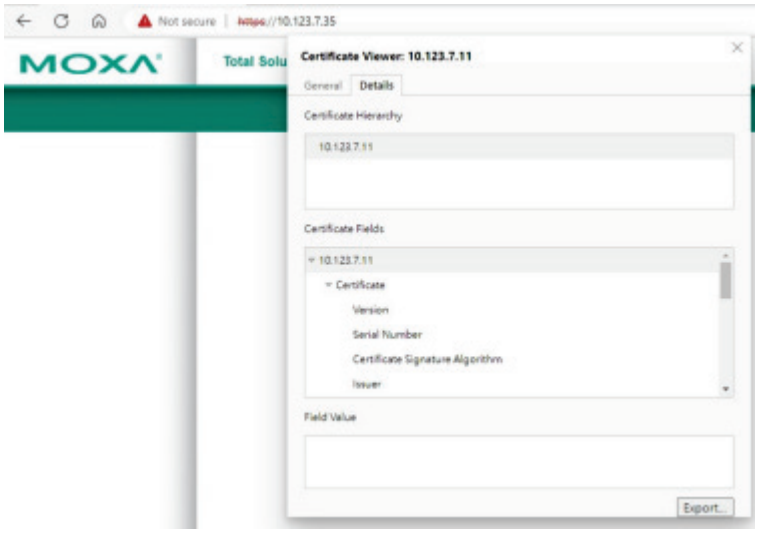


Step 3: Click **Learn more** to show more information about the self-signed certificate of the VPort IP camera.





Step 4: In this window, go to the **Details** tab and click **Export** to export the VPort's self-signed certificate.



Step 4: Import the VPort's self-signed certificate into your browser. Next time you access the VPort's web interface, the security warning will no longer appear.