Moxa VPort 25 Video Encoder

User’s Manual

First Edition, July 2008

MOXA®

Moxa VPort 25 IP Camera User’s Manual

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Technical Support Contact Information

www.moxa.com/support

Moxa Americas:
Toll-free: 1-888-669-2872
Tel: +1-714-528-6777
Fax: +1-714-528-6778

Moxa Europe:
Tel: +49-89-3 70 03 99-0
Fax: +49-89-3 70 03 99-99

Moxa China (Shanghai office):
Toll-free: 800-820-5036
Tel: +86-21-5258-9955
Fax: +86-10-6872-3958

Moxa Asia-Pacific:
Tel: +886-2-8919-1230
Fax: +886-2-8919-1231

Before getting started

Before using your VPort 25, please pay close attention to the following items:

- ❑ After opening the VPort 25 box, compare the contents of the box with the **Package Checklist in Chapter 1**. Notify your sales representative if any of the items is missing or damaged.
- ❑ To prevent damage or problems caused by improper usage, before assembling and operating the device and peripherals, read the **Quick Installation Guide** (the printed handbook included in the package). You may also refer to **Chapter 1**, under **Product Description**, and all of **Chapter 2**, of this manual.
- ❑ If you experience a system error, and the system does not recover easily, refer to the **Troubleshooting** section in **Chapter 7** to learn how to restore factory default settings and reinstall the system.
- ❑ The VPort 25 IP camera has been designed for various environments and can be used to build various applications for general security or demonstration purposes. For standard applications, refer **Chapter 2**, **Getting Started**, and **Chapter 3**, **Accessing VPort 25 IP Camera for the First Time**.

Important Note

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

Table of Contents

1
Introduction

The VPort 25 series of high-performance IP cameras can handle basic video feeds, and support many advanced features for setting up surveillance or web attraction applications. The VPort 25 series is designed for outdoor applications that require a rugged form factor, high video performance, and easy-to-use functions.

The following topics are covered in this chapter:

- ❑ **Overview**
- ❑ **Package Checklist**
- ❑ **Product Features**
- ❑ **Typical Application**
- ❑ **Product Description**

Overview

The VPort 25 is a vandal-proof, IP66-rated, fixed dome IP camera for use in harsh, outdoor environments. With a maximum resolution of 520 TVL and day-and-night CCD camera lens, the VPort 25 is especially well-suited for high performance video surveillance applications. To meet the outdoor environment requirements, the VPort 25 is IP66-rated to protect it against dust and rain. In addition, the vandal-proof form factor prevents damage from unexpected external forces, and the case-open sensor sends an alarm message when the VPort 25's outer case is opened without permission.

IP66-rated form factor design for protection against dust and rain

The IP66-rated form factor design makes the VPort 25 suitable for use in outdoor environments, without the need for additional protective housing. In addition, cable glands are provided free of charge to ensure that attached cables also have IP66-rated protection.

Support for both PoE (Power-over-Ethernet) and direct-wired power inputs

The VPort 25 supports standard 48 VDC power-over-Ethernet (IEEE 802.3af), plus a direct-wired 12/24 VDC or 24 VAC power input. The two types of power input can be used to together to provide power redundancy.

High resolution Day & Night CCD camera lens

The VPort 25 cameras are equipped with a high resolution Day & Night CCD camera lens and Sony Exview or SuperHAD DSP, which can support up to 520 TVL resolution. Both Sony Exview and SuperHAD are high resolution video DSP, but Exview's video quality is better than SuperHAD, especially in low illumination environments.

High Performance MJPEG/MPEG4 compression

Video input can be efficiently compressed into MJPEG/MPEG4 video stream packets without delay. This is all done without sacrificing remote monitoring capability or storage. Five levels of compression quality and five different image resolutions are provided to provide greater versatility.

2-way audio supported for a complete surveillance solution

The VPort 25 supports both audio input and audio output for voice over IP communication between a field site and central site. The 2-way audio function not only saves time, but also saves the cost of needing to add additional communication devices (such as a phone).

RTSP streaming for easy integration

RTSP (Real-time Streaming Protocol) is a client-server multimedia presentation control protocol, which enables the interoperability of video devices and software. Hardware or software that supports RTSP streaming can easily identify and decode the video stream without the hassle of codec installation. For example, users can view video images from the VPort 25 directly with Quick Time and VLC, both of which support RTSP streaming.

Multicast (IGMP) transmission for network efficiency

Transmitting digital video images via an IP network requires a dozen times the bandwidth required for transmitting general data. For this reason, the efficiency of network bandwidth management is one of the most important issues that determines the performance of a video over IP surveillance system. The VPort 25 supports multicast transmission with IGMP protocol, which can reduce the bandwidth requirements when multiple clients access the same video stream, and greatly increases the efficiency of network bandwidth management.

Easy web access using standard browsers

There is no need to install new software to access the video encoder, since the embedded web server allows users to use any popular web browser to access the video encoder from anywhere over the Internet. As long as you are connected to the network, you will be able to view the same images seen by your cameras.

Support for SNMP V1, V2c, and V3 for easy network management

More and more IP devices are networked for use on one TCP/IP network. To make management and maintenance easier, SNMP (Simple Network Management Protocol) can be used to monitor all of these IP devices.

Built-in 3 area-selectable Video Motion Detection (VMD)

External sensors are not required, since the video channel can be configured to detect motion in 3 areas, making it easy to set up a security system in either your office or the field. And the customizable settings allow you to tune the system for both object size and sensitivity, making the video encoder adaptable to different environments.

Weekly schedule for automated surveillance

The user-defined time period will check security settings on a weekly basis, and send notifications or drive external devices, making the VPort 25 suitable for more versatile applications.

Flexible I/O control for external devices

1 opto-isolated sensor inputs and 1 relay outputs are provided to control external devices, giving system integrators the option of turning an analog system into an advanced security system.

A case-open sensor for triggering alarms

The VPort 25 has a built in case-open sensor for sending alarm messages if the upper case is opened without permission. The alarm will be sent to the administrator's email inbox, or trigger the relay output.

Moxa SoftDVR Lite IP Surveillance Software

To extend the video camera's capabilities, Moxa SoftDVR™ Lite IP Surveillance Software, which supports a maximum of 4 cameras in quad, is included free of charge, allowing users to turn their PC into a digital video recorder. Scheduling or one-click recording saves important images on your local hard disk, and the reliable motion detection and instant warning features make you ready for any situation. A quick and easy to use search and playback function lets you easily find the image you're looking for, so that you can inspect the images more carefully, and also save the output to an AVI file.

SDK support for developers

The high-performance video encoder can be integrated into many applications—without busting your budget—and the complete programming interface of Moxa VPort SDK PLUS makes the developer's job easy and straightforward. To ask about SDK requirements, please contact a Moxa sales representative for details and an application form.

Package Checklist

Moxa VPort 25 is shipped with the following items. If any of these items is missing or damaged, please contact your customer service representative for assistance.

Moxa's VPort 25 is shipped with the following items. If any of these items is missing or damaged, please contact your customer service representative for assistance.

- 1 × VPort 25 (includes IP camera module, 9-pin terminal block, and 2-pin terminal block)
- Bolt and wrench accessories package

Security torx screw driver for attaching/detaching the upper case	Safety bolt for connecting the upper case to the bottom case

- Miscellaneous accessories package

IP66 cable glands to ensure IP66 protection when the cables are connected	Silica gel desiccant for absorbing moisture	Hook fasteners for attaching the desiccant inside the dome

- Quick Installation Guide
- Document & Software CD (includes User's Manual, Quick Installation Guide, and VPort Utility)
- Warranty Statement

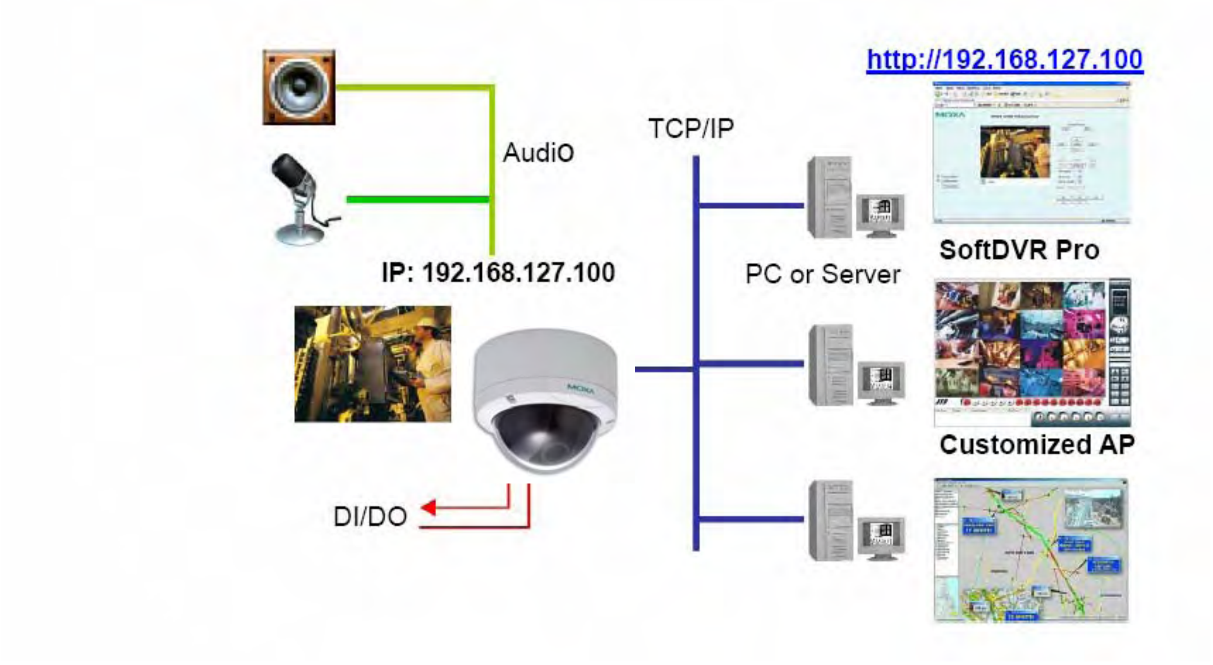
Product Features

- Ethernet-based IP camera in Dome Type
- High-quality Day/ Night Camera with 520 TVL
- Support MPEG4 or MJPEG algorithm
- 1 auto-sensing 10/100 Mbps Ethernet port (Support Auto MDI and MDI-X), RJ45 connector
- Video stream up to 30 frames/sec in Full D1 (720 x 480) resolution
- 2-way Audio supported for video/audio complete surveillance solution
- TCP, UDP and HTTP network transmission mode
- Support RTSP Streaming
- Support IGMP (ver.3) protocols and QoS (ToS) for efficient network transmission
- Support SNMP (V1/V2C/V3) for network system integration and management
- Built-in web server for easy configuration
- Adjustable frame rate and bit rate control
- Built-in Video Motion Detection

- Accessible IP filtering
- 1 DI and 1 Relay output for sensor and alarm
- Video loss and Network broken alarm
- Support SMTP and FTP for alarm message transmission
- Redundant power inputs with 12/24 VDC, 24VAC power input and PoE (802.3af)
- Built-in case-open sensor, which can trigger the relay alarm or send a warning email when the upper case is opened
- Moxa VPort SDK PLUS with CGI Commands and ActiveX Control supports for third-party developers
- DDNS & UPnP Supported
- Free bundled with Moxa SoftDVR Lite V4.x IP Surveillance Software
- IP66 form factor protection
- -40 to 50°C operating temperature
- CE, FCC

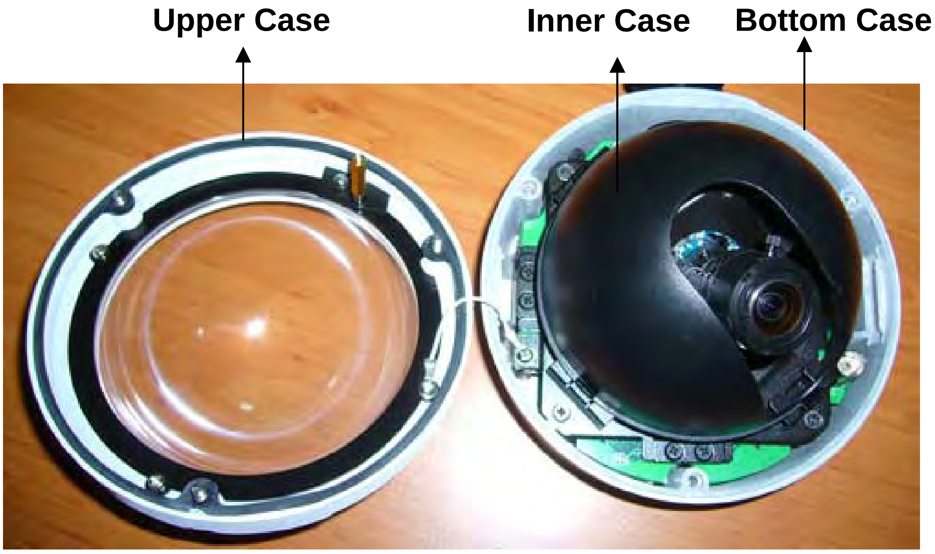
NOTE If you are interested in Moxa's VPORT SDK PLUS, please go to Moxa's website to download the package, or contact a Moxa sales representative for more information about this SDK

Typical Application

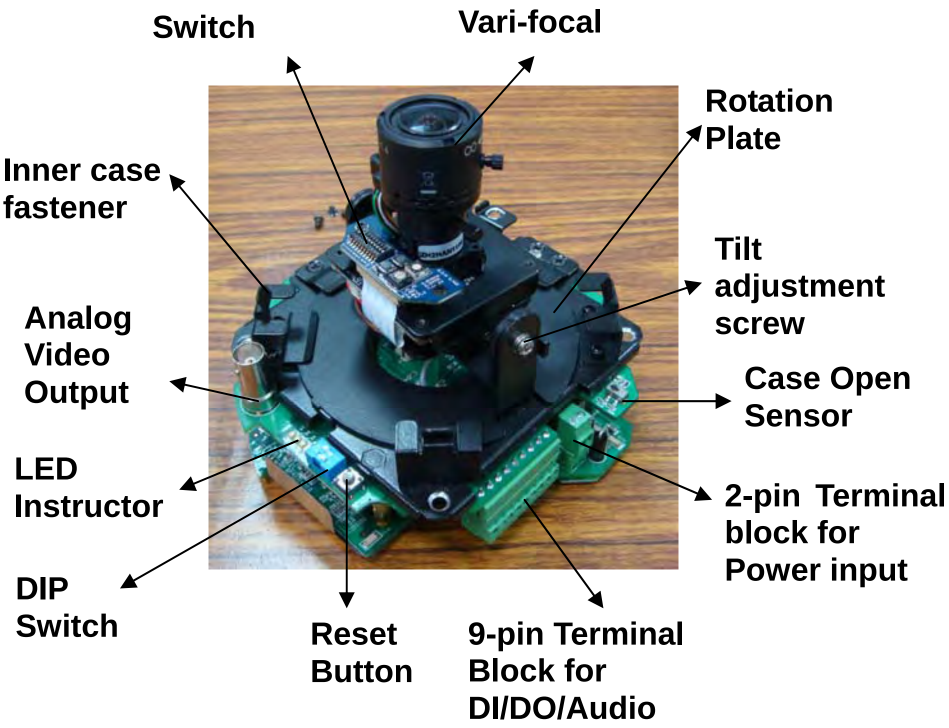


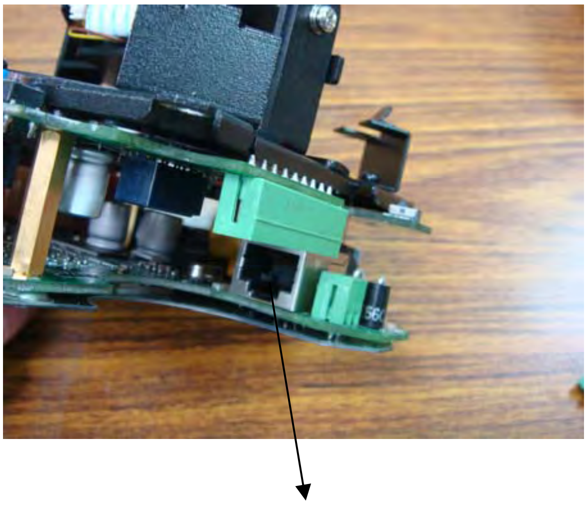
Product Description

Form Factor



IP Camera Module

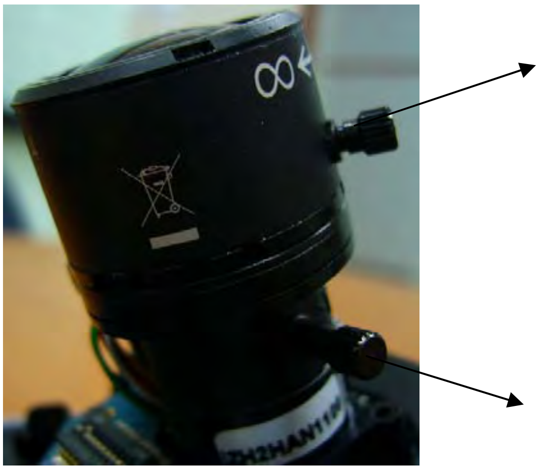




RJ45 Ethernet port

Vari-focal Lens

The VPort 25 series comes with a vari-focal lens for providing high quality video images. Users can adjust the Zoom and Focus manually to get clear images regardless of the site environment.

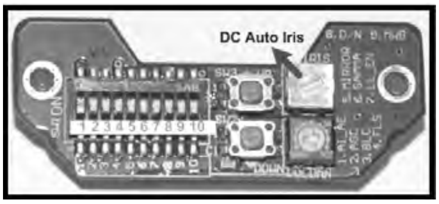


Screw for fixing the Zoom position

Screw for tuning the focus position

Switchboard

Users can enable or disable the functions on the switchboard based on the camera's installation environment to achieve better video quality and performance. All switch definitions and functions given here relate to the 10-pole DIP switches (day/night function model).



DC Auto Iris Switch

The DC Auto Iris Switch is used to adjust the brightness of the camera image. Turn the switch counterclockwise to achieve a brightener video image, and turn it clockwise to make the image less bright. In addition, we suggest adjusting the Auto Iris switch with a 0.4 x 2.0 mm ceramic adjuster.

NOTE: Before adjusting the Iris, make sure the AE (see SW-1 below) is OFF.

Switch	Definition	Remarks
1	AI_AE	Auto Iris, Auto Exposure
2	AGC	Auto Gain Control
3	BLC	Back Light Compensation
4	FLS	Flickerless Mode
5	MIRROR	Mirror Function
6	GAMMA	Gamma Correction
7, 8, 9, 10	Reserved	

SW-1: AI_AE (Auto Iris, Auto Exposure)

In order to create a consistent video output level, in AE mode the camera's exposure and AGC control circuits work together to compensate for the light exposure of the CCD sensor automatically.

ON: AE-Auto Exposure mode

OFF: AI-Auto Iris mode (Default)

NOTE: When AE is switched on, the Iris is fixed.

SW-2: AGC (Auto Gain Control)

AGC improves camera sensitivity and provides a clear image for low illumination conditions.

ON: Activate the AGC mode and Enable the Day/Night Function (Default)

OFF: Disable the AGC mode and the Day/Night Function

NOTE: When Auto Iris is activated, AGC will be disabled.

SW-3: BLC (Back Light Compensation)

The BLC function solves the problem of backlight scene by brightening the foreground object.

ON: Activate the BLC function

OFF: Disable the BLC function (Default)

SW-4: FLS (Flickerless Mode)

When the power supply frequency is different from the camera's, image flicker may occur. Activating Flickerless mode can help remove flicker.

ON: Activate Flickerless mode

OFF: Disable the mode (Default)

NOTE: If Flickerless mode is switched on, the shutter will be fixed (1/100 for NTSC, 1/120 for PAL)

SW-5: MIRROR (Mirror Function)

When the Mirror function is activated, the image will appear as if you are viewing it through a rearview mirror.

ON: Activate the Mirror function

OFF: Disable the function (Default)

SW-6: GAMMA (Gamma Correction)

ON: 1.0

OFF: 0.45 (Default)

Pan Rotation Plate and Tilt Adjustment

Use the Pan Rotation Plate and Tilt Adjustment for panning and tilting the lens angles. To do this, the screws must be loosened in advance. After the lens angles are correct, tighten the screws to fix the angles

Open Case Sensor

The VPort 25 provides an open case sensor alarm for preventing the upper case from being opened without authorization. Users can enable/ disable the alarm with the web-based manager.

2-pin Terminal Blocks for Power Input

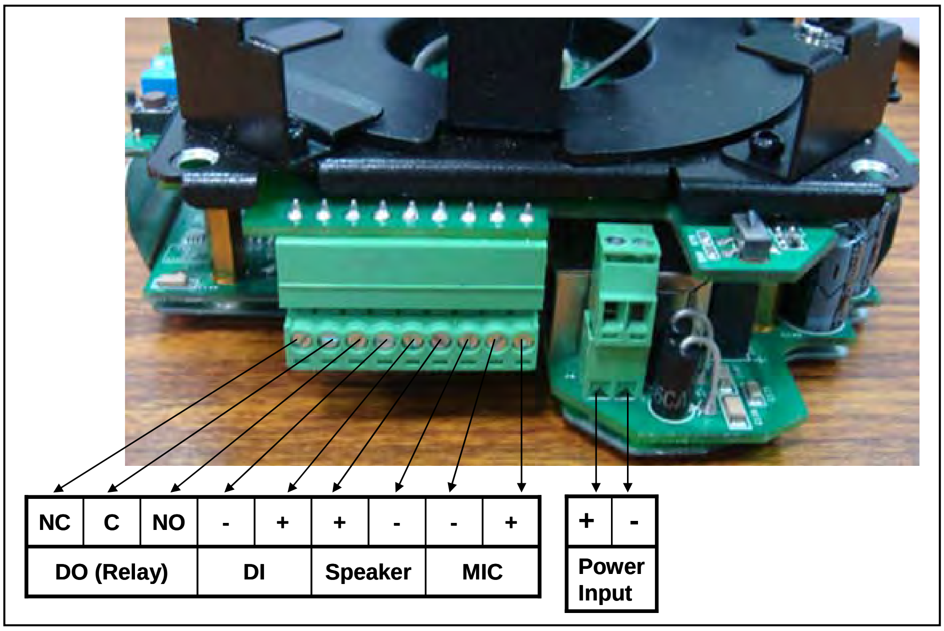
In addition to PoE (power-over-Ethernet), the VPort 25 series also supports 12/24 VDC and 24 VAC power inputs with the 2-pin terminal block connector.

NOTE The specifications of the direct-wire power input are 12-32 VDC for 12/24 VDC power input, or 18-30 VAC for 24 VAC power input.

NOTE The VPort 25 supports standard IEEE 802.3af Power-over-Ethernet (PoE), with input voltage of 48 VDC (ranges from 44 to 48.5 VDC) and maximum input power of 15.4 W.

9-pin Terminal Block Connector for DI, DO, and Audio

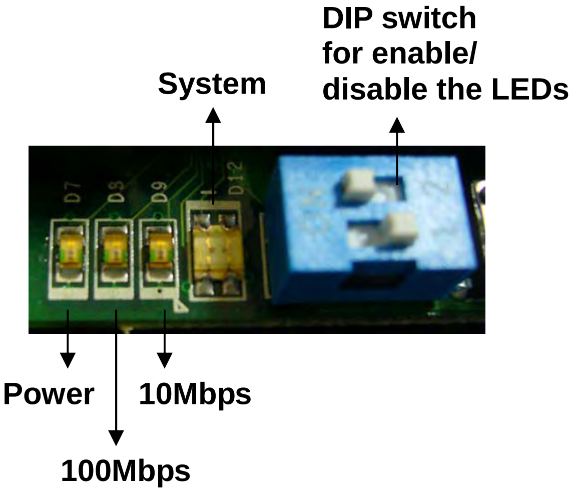
The VPort 25 supports 1 DI (digital input), 1 DO (relay output), 1 audio input (microphone), and 1 audio output (speaker) through the terminal block.



DO (Relay Output)	NO (Normal Open)	Max. 1A, 24 VDC Initial status is Normal Open
	C (Common)	
	NC (Normal Close)	
DI (Digital Input)	+	High: +13V to +30V Low: -30V to +3V
	-	

LED Indicators and DIP Switches

The VPort 25 has 4 LEDs for indicating the power status, 10 Mbps link, 100 Mbps link, and system status. In addition, DIP switches are provided for enabling or disabling the LED light for users who do not want the LED light to be visible at night.



Text	LED	Description	
D7	Power	On: power on Off: power off	
D8	100 Mbps	On: Ethernet link is 100 Mbps	
D9	10 Mbps	On: Ethernet link is 10 Mbps	
D12	System	Red On	Hardware initialization
		Red blinking	Software initialization
		Green On	System boot-up
		Green blinking	Firmware upgrade proceeding
DIP Switch 1		Reserved	
DIP Switch 2	Enable/ Disable LED light	On: LED light is on Off: LED light is off	

Reset Button

This reset button can activate the hardware reset process.

1. Reboot:

To reboot the VPort 25, power it off and then power it back on again, or push the RESET button one time. The System LED will light in red as the POST (Power on Self Test) process runs. When the rebooting process is finished, the System LED will change to a green color.

2. Restore to Factory Settings:

To restore the VPort 25 to the factory default settings, press the reset button continuously until the System LED blinks in red. After the system LED stops blinking, release the reset button. The POST process will run, and the VPort will reboot. The System LED will light in green when the VPort has finished rebooting.

Analog Video Output

The analog video output with standard BNC connector (1 Vpp, 75ohm) is for users who want to check if the camera lens is tuned properly, or if the analog video signal is normal when there is a problem with the IP video stream.

RJ45 Ethernet Port

The RJ45 Ethernet port is for network transmission. In addition, the VPort 25 camera supports PoE (Power over Ethernet). What this means is that if you connect the VPort 25’s RJ45 port to a PSE (Power Source Equipment) device, the VPort 25 can get all of its power through its Ethernet port.

Inner Case Fastener

There are 4 fasteners located next to the Pan Rotation Plate for fixing the inner case.

2
First Time Installation and Configuration

This chapter includes information about how to install a VPort 25 IP camera.

The following topics are covered:

- ❑ **Before Getting Started**
  - ➢ Hardware Installation
  - ➢ Software Installation
- ❑ **Mounting Dimensions (unit=mm)**
- ❑ **Wiring Requirements**

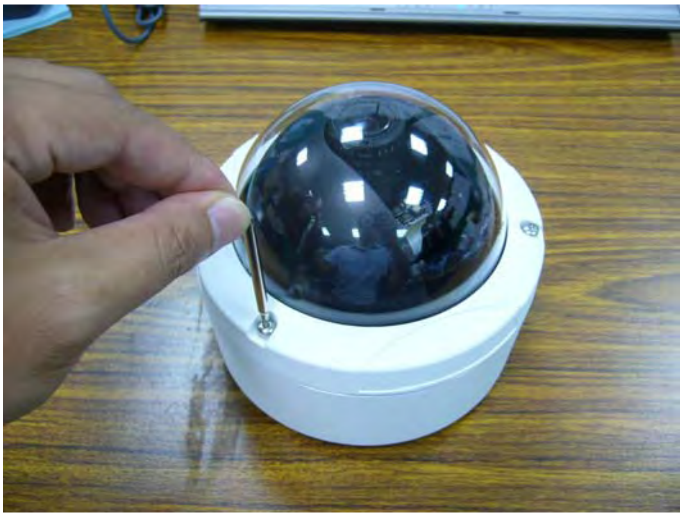
Before Getting Started

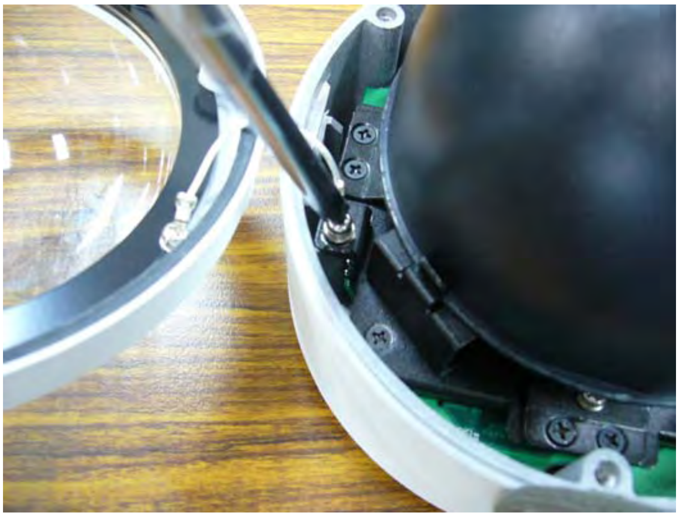
Before installing the VPort 25, check to make sure that all items in the Package Checklist are in the box. In addition, you will need access to a notebook computer or PC equipped with an Ethernet port.

Hardware Installation

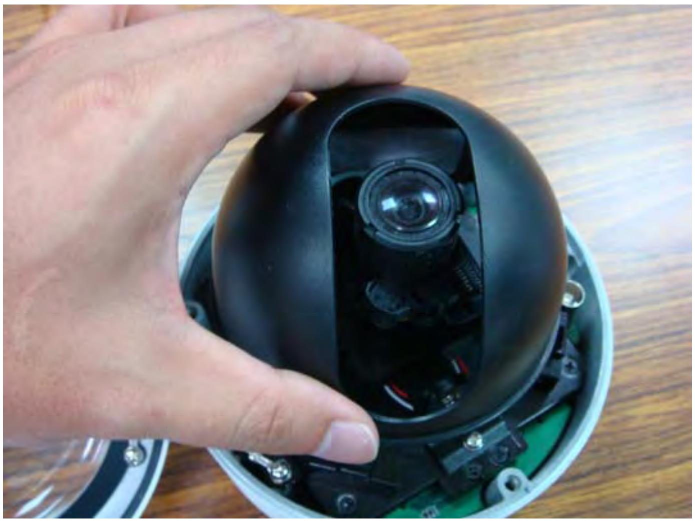
Step 1: Open and remove the upper case.

Use the Security Torx to loosen the upper case screws.

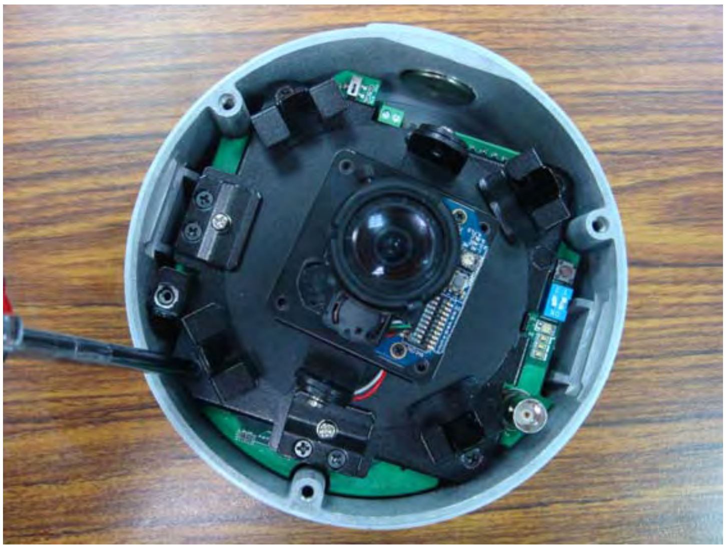




Step 2: Remove the inner case.

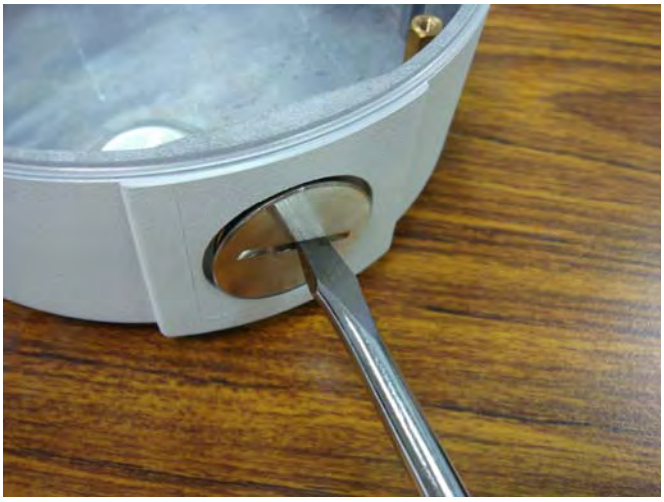


Step 3: Remove the IP camera module.

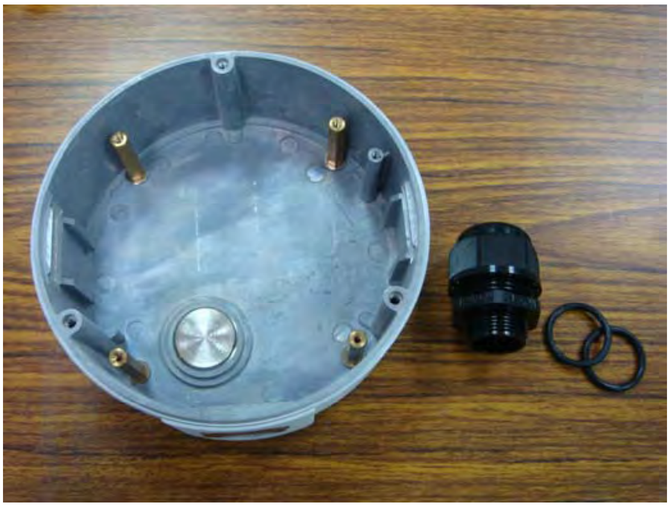


Step 4: Connect the cables.

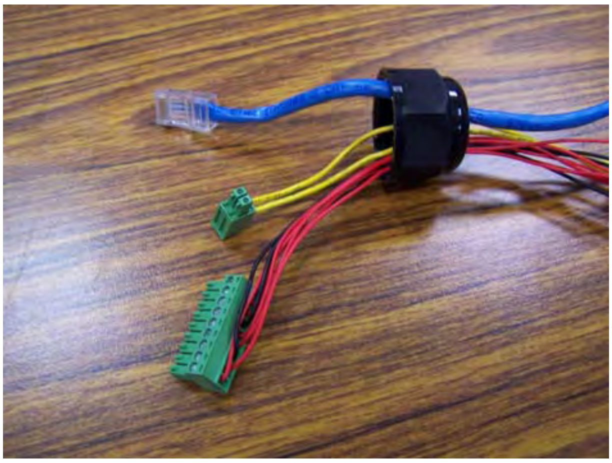
a) Open the conduit hole.

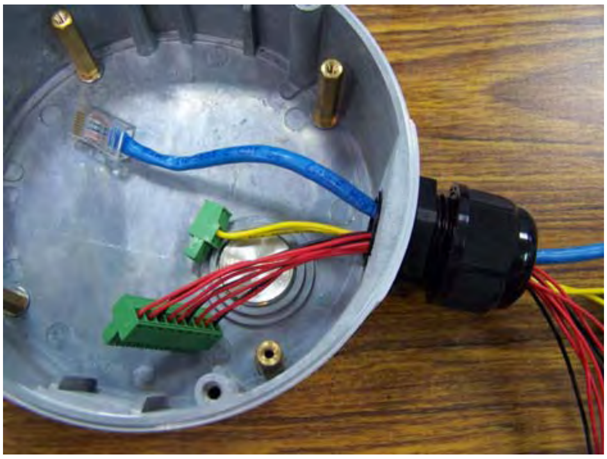


b) Prepare the cable gland (if required).

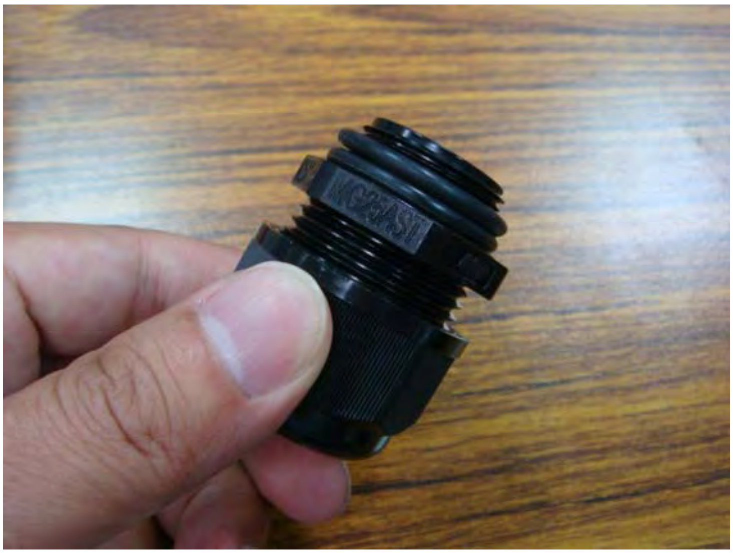


c) Use the cable gland to assemble the cables.

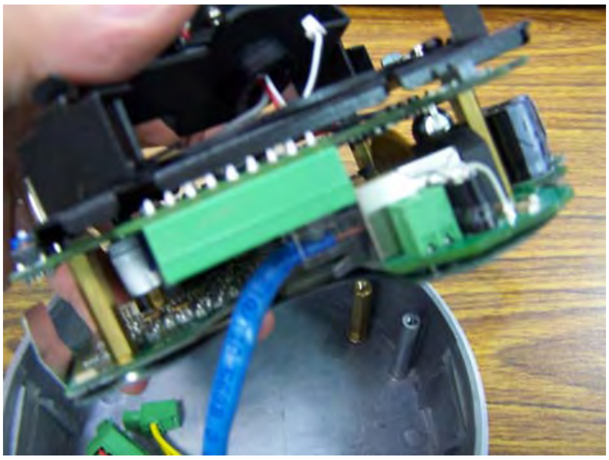


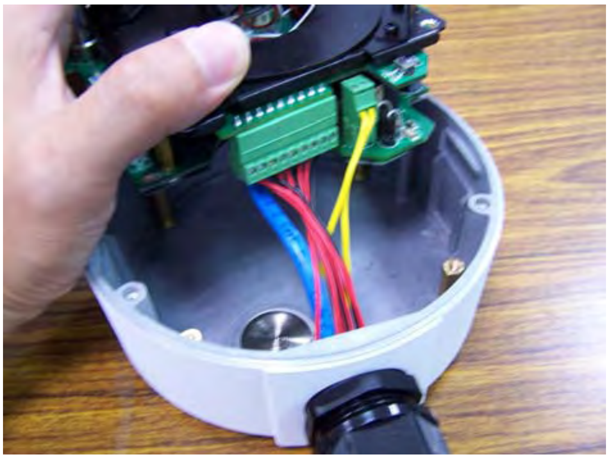


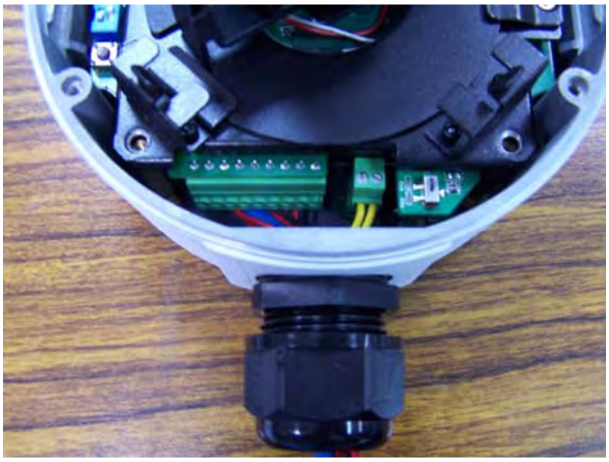
NOTE When installing the cable gland, make sure the 2 rubber rings are assembled properly for IP66 protection. If necessary, use silicon sealant.



d) Connect the cables to the IP camera module's connectors.







NOTE Be sure to arrange the cables carefully to make sure that all cables are connected properly. We recommend connecting the Ethernet cable first, and then the 9-pin terminal block. Connect the 2-pin terminal block last.

NOTE The conduit hole must face downward to provide the VPort 25 with IP66 protection against rain when installed in an outdoor environment.

Step 5: Mount the bottom case on the ceiling or accessory's mounting kit (VP-MK)

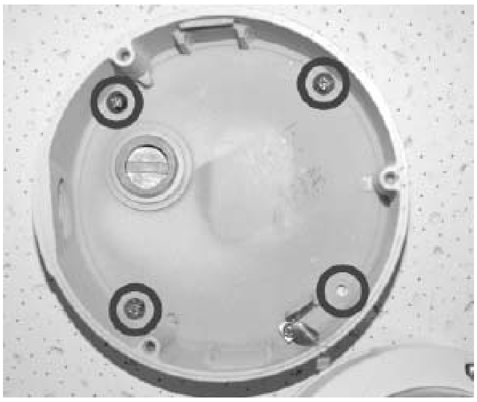
a) Mounting on the ceiling

Step 1: Attach the bottom case to the appropriate mounting location on the wall, and mark the positions of the four screw holes with a pen or a pencil.

Step 2: In the marked locations, drill a hole slightly smaller than the supplied screw anchors.

Step 3: Put anchors into these drilled holes.

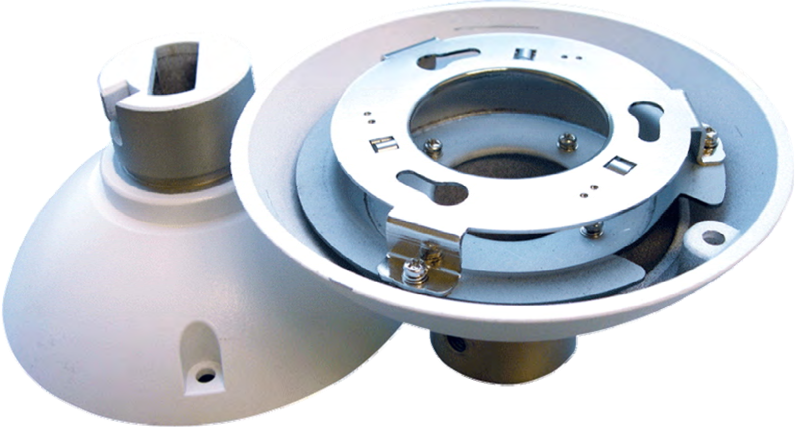
Step 6: Fasten the bottom case with the four copper pillar screws.



b) Mounting on the accessory's mounting kit (VP-MK)

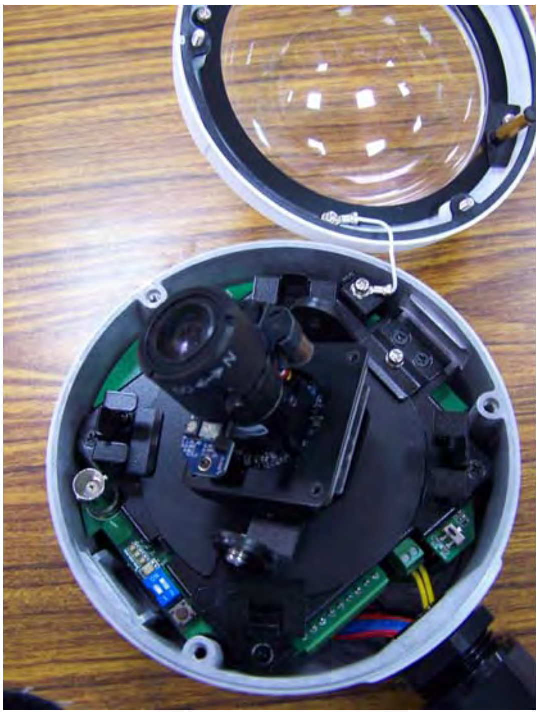
Step 1: Fasten the bottom case on the plate with the four copper pillar screws.

Step 2: Assemble the mounting kit with the selected accessory.



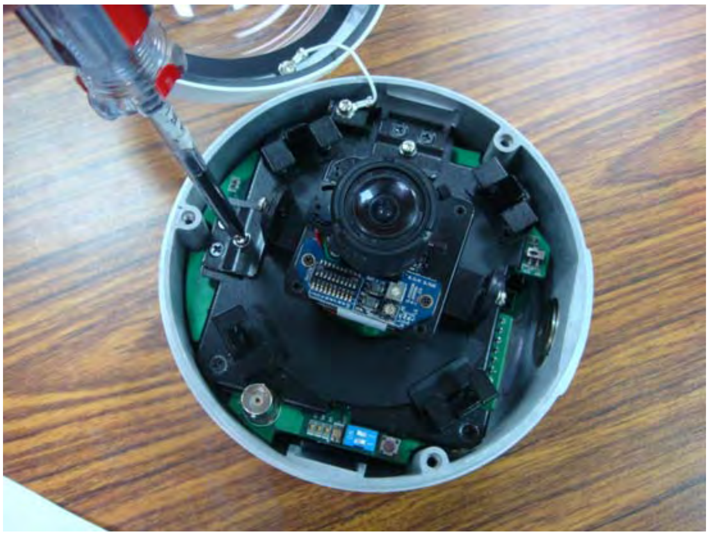
NOTE	Choose the appropriate mounting accessories based on the installation requirements. Mounting accessories are described in the spec sheet available on the Document and Software CD.

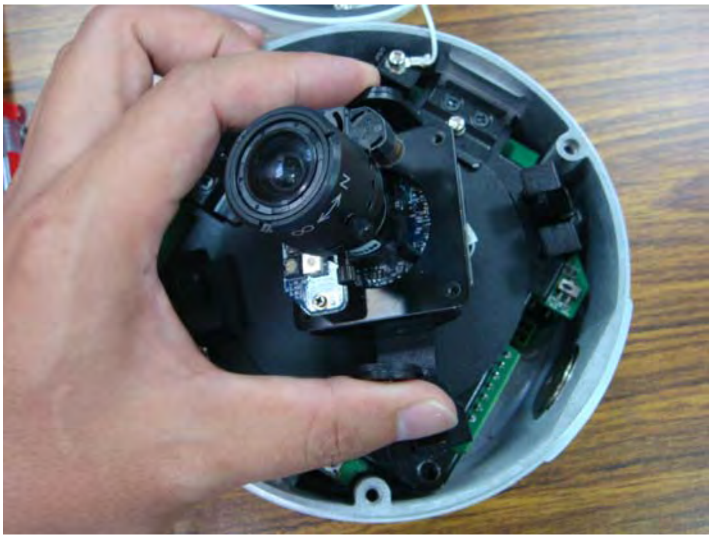
Step 7: Assemble the IP Camera Module and upper case with the bottom case.



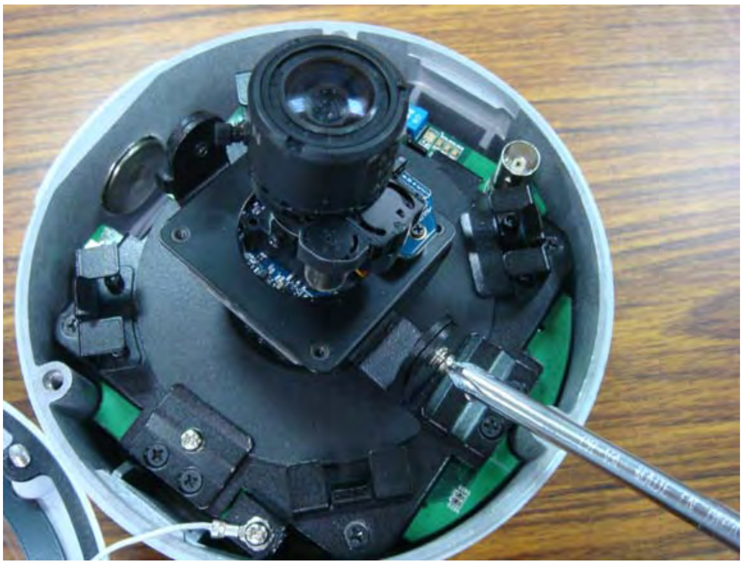
Step 8: To get the desired video image, adjust the angles and zoom strength.

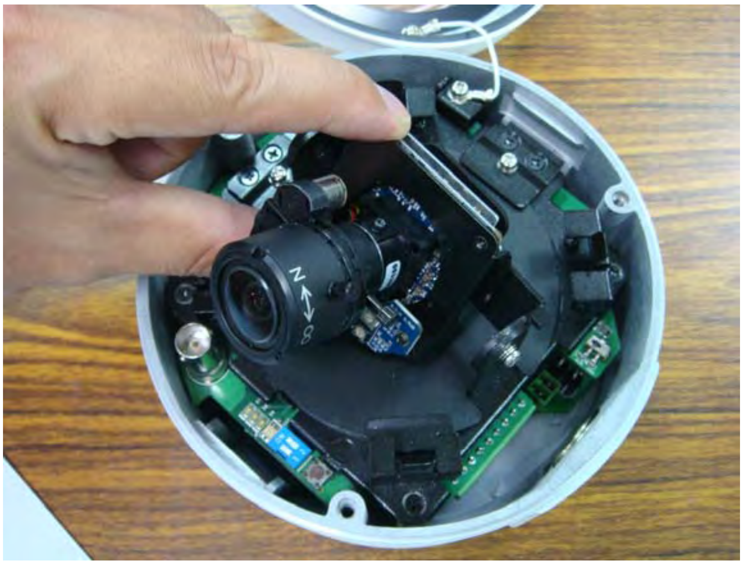
a) Pan rotation



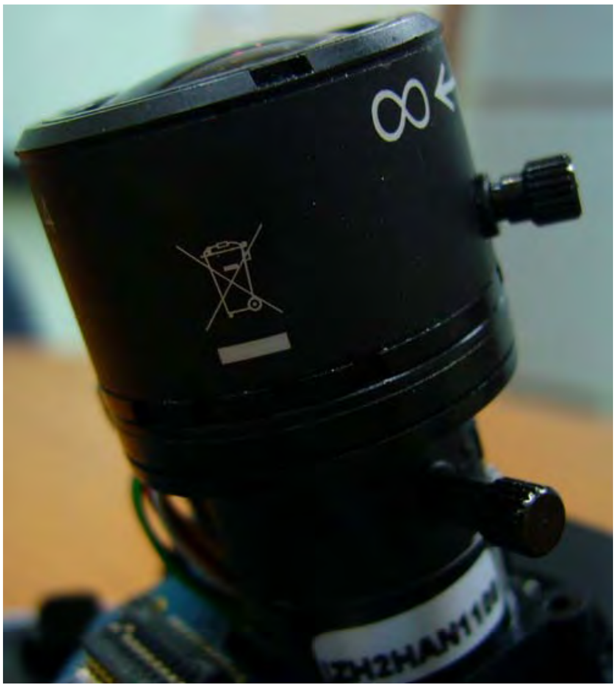


b) Tilt adjustment

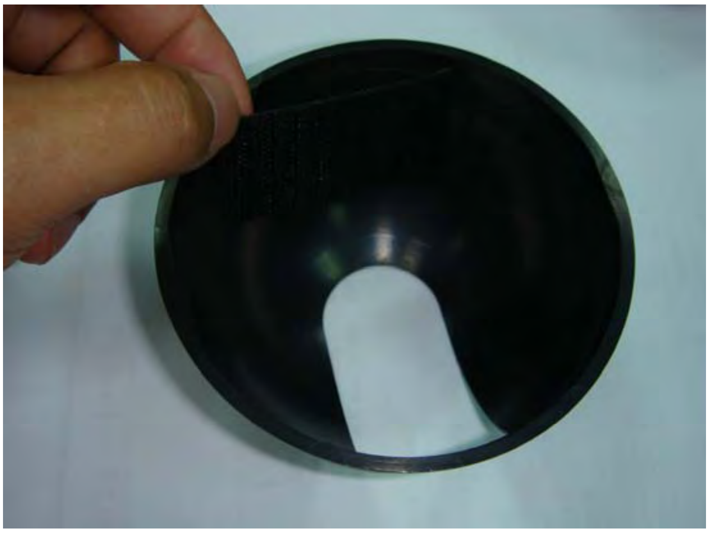


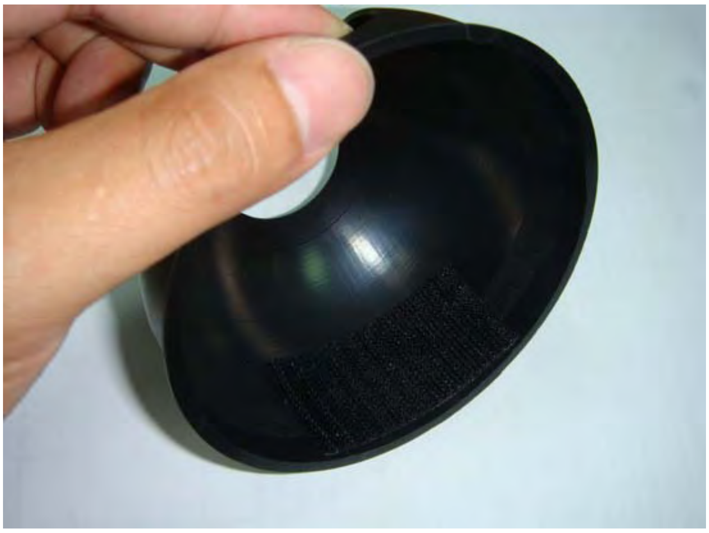


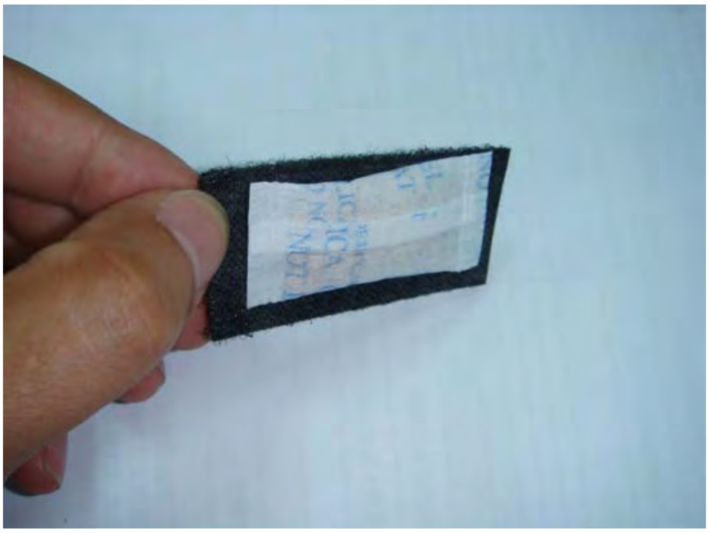
c) Zoom adjustment

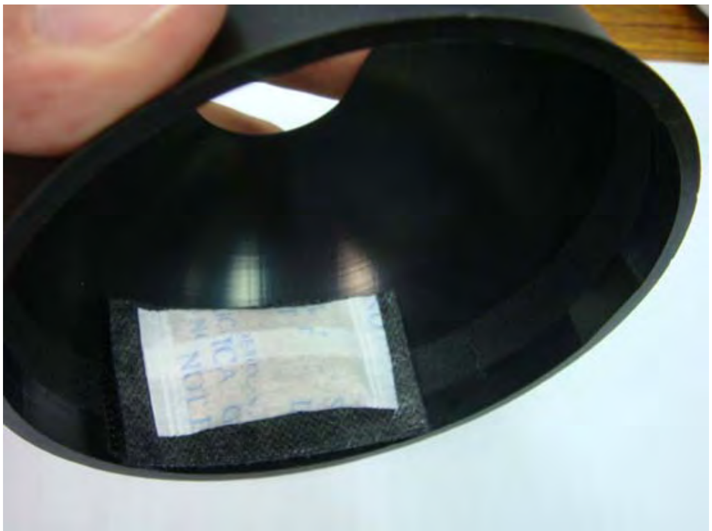


Step 9: Fasten the silica gel desiccant in the inner case.









NOTE The effect of the silica gel desiccant will decrease after being used for particular time period. Silica gel desiccants are commonly available, and can be replaced with the hook fastener.

Step 10: Complete the hardware installation.

Software Installation

Step 1: Configure the VPort 25's IP address

When the VPort 25 is first powered on, the POST (Power On Self Test) will run for a few moments. The System LED will turn green when the POST is complete. The 10 Mbps or 100 Mbps LED will then flash as the IP address is assigned. The network environment determines how the IP address is assigned.

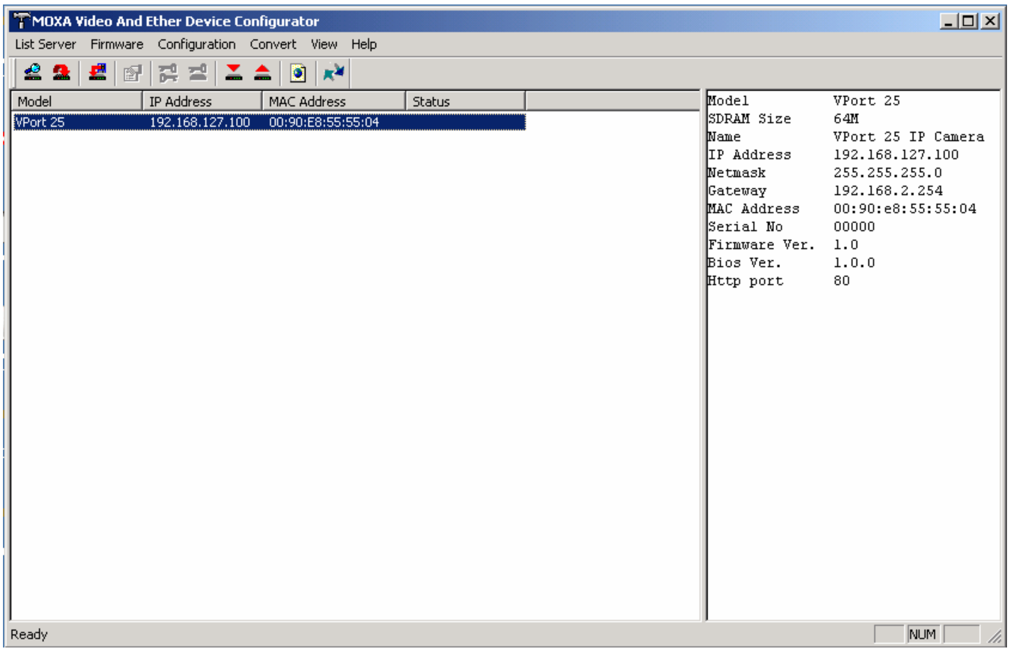
Network Environment with DHCP Server

For this network environment, 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 Ether Device 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.



Model	IP Address	MAC Address	Status
VPort 25	192.168.127.100	00:90:E8:55:55:04	

```
Model          VPort 25
SDRAM Size     64M
Name           VPort 25 IP Camera
IP Address     192.168.127.100
Netmask        255.255.255.0
Gateway        192.168.2.254
MAC Address    00:90:e8:55:55:04
Serial No      00000
Firmware Ver.  1.0
Bios Ver.      1.0.0
Http port      80
```

NOTE The **Serial number** is the production serial number of this VPort, and the **HTTP Port** number is the http port used by this VPort.

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

<u>Non DHCP Server Network Environment</u>

If your VPort 25 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 25 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.

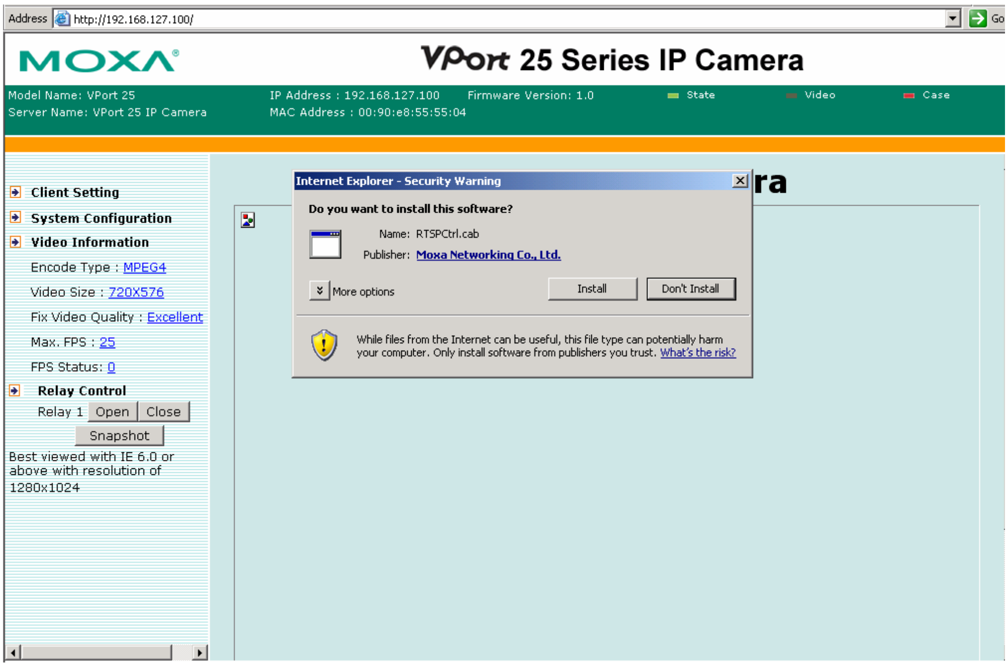
To change the IP address of the VPort manually, access the VPor's web server, and then navigate to the **System Configuration** → **Network** → **General page** to configure the IP address and other network settings. Check the Use fixed IP address to ensure that the IP address you assign is not deleted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

Step 2: Accessing the VPort 25's web-based manager

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

Step 3: Install the ActiveX Control Plug-in

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



Address http://192.168.127.100/

Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Encode Type : MPEG4
Video Size : 720X576
Fix Video Quality : Excellent
Max. FPS : 25
FPS Status: 0
Relay 1

Best viewed with IE 6.0 or above with resolution of 1280x1024

Internet Explorer - Security Warning

Do you want to install this software?

Name: RTSPCtrl.cab
Publisher: Moxa Networking Co., Ltd.

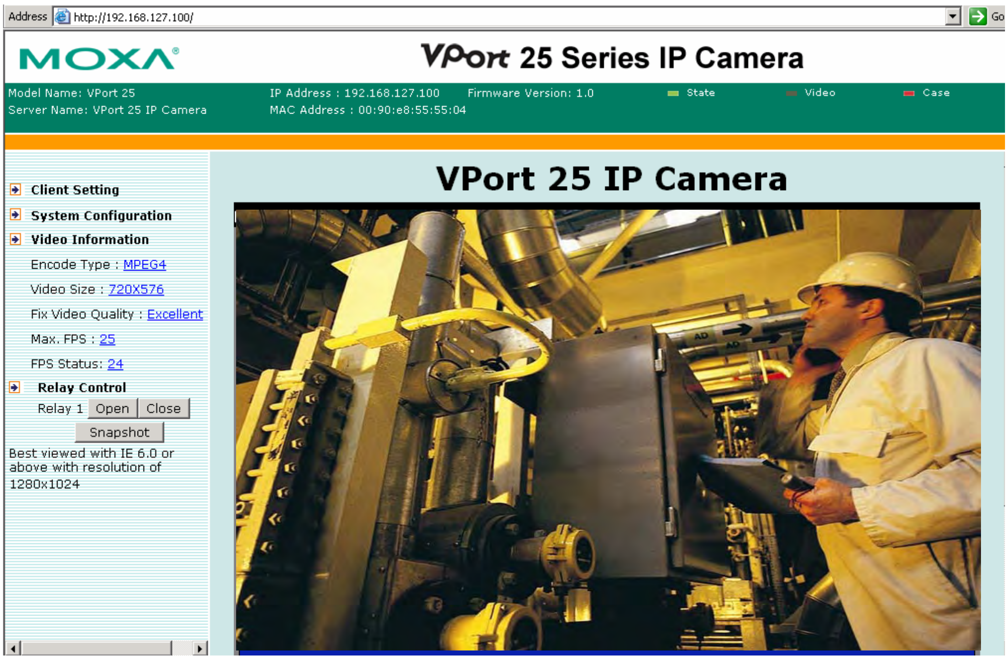
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

NOTE For Windows XP SP2 or above operating systems, the ActiveX Control component will be blocked for system security reasons. In this case, the VPort's security warning message window may not appear. Users should unlock the ActiveX control blocked function or disable the security configuration to enable the installation of the VPort's ActiveX Control component.

Step 4: Access the homepage of VPort 25's web-based manager.

After installing the ActiveX Control component, the homepage of the VPort 25'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



http://192.168.127.100/

Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

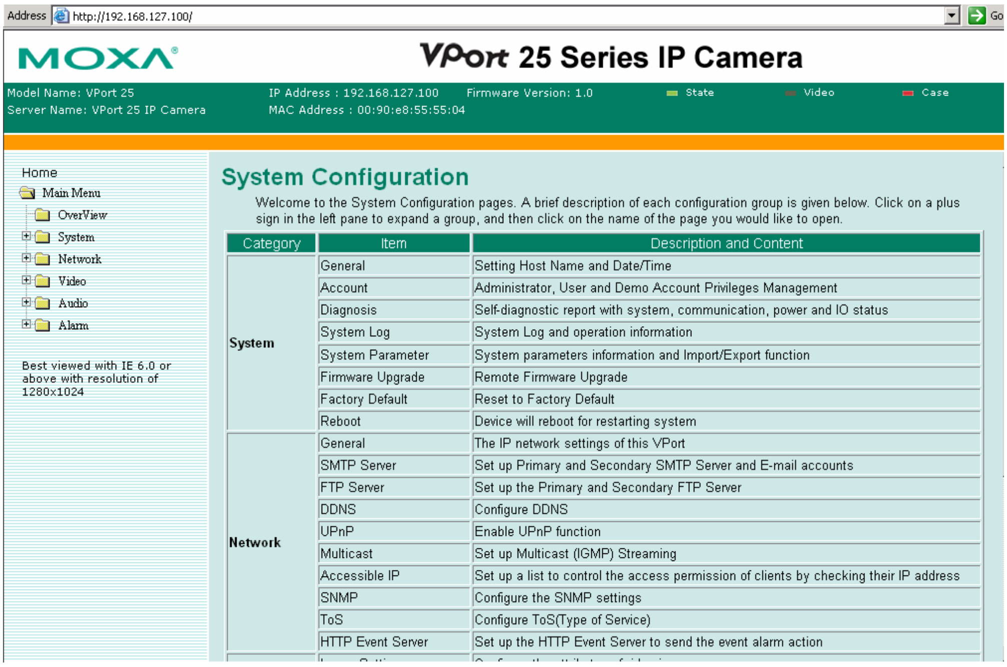
Encode Type : MPEG4
Video Size : 720X576
Fix Video Quality : Excellent
Max. FPS : 25
FPS Status: 24
Relay 1

Best viewed with IE 6.0 or above with resolution of 1280x1024

Step 5: Access VPort's system configuration.

Click on **System Configuration** to access the overview of the system configuration to change the configuration. **Model Name, Server Name, IP Address, MAC Address, Firmware Version**, and **LED Status** 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 on the software CD.



http://192.168.127.100/

Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

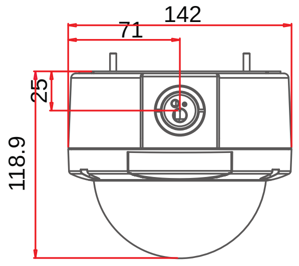
Best viewed with IE 6.0 or above with resolution of 1280x1024

System Configuration

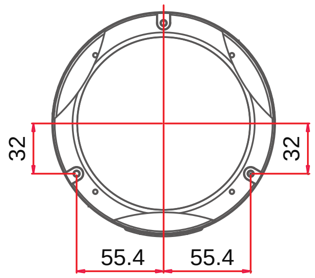
Welcome to the System Configuration pages. A brief description of each configuration group is given below. Click on a plus sign in the left pane to expand a group, and then click on the name of the page you would like to open.

Category	Item	Description and Content
System	General	Setting Host Name and Date/Time
	Account	Administrator, User and Demo Account Privileges Management
	Diagnosis	Self-diagnostic report with system, communication, power and IO status
	System Log	System Log and operation information
	System Parameter	System parameters information and Import/Export function
	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
	SMTP Server	Set up Primary and Secondary SMTP Server and E-mail accounts
	FTP Server	Set up the Primary and Secondary FTP Server
	DDNS	Configure DDNS
	UPnP	Enable UPnP function
	Multicast	Set up Multicast (IGMP) Streaming
	Accessible IP	Set up a list to control the access permission of clients by checking their IP address
	SNMP	Configure the SNMP settings
	ToS	Configure ToS(Type of Service)
	HTTP Event Server	Set up the HTTP Event Server to send the event alarm action

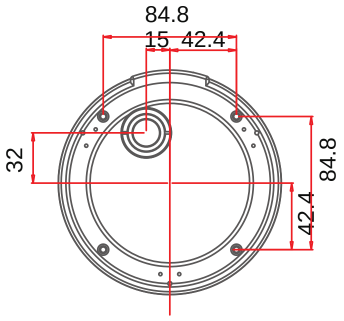
Mounting Dimensions (unit=mm)



Side View



Front View



Rear View

Wiring Requirements

ATTENTION

Be sure to disconnect the power cord before installing and/or wiring your Moxa VPort 25.

Calculate the maximum possible current in each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size.

If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.

You should also pay attention to the following:

- Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross, make sure the wires are perpendicular at the intersection point. You can use the type of signal transmitted through a wire to determine which wires should be kept separate. The rule of thumb is that wiring that shares similar electrical characteristics can be bundled together.
- Keep input wiring and output wiring separated.
- It is strongly advised that you label wiring to all devices in the system when necessary.

3

Accessing VPort 25's Web-based Manager

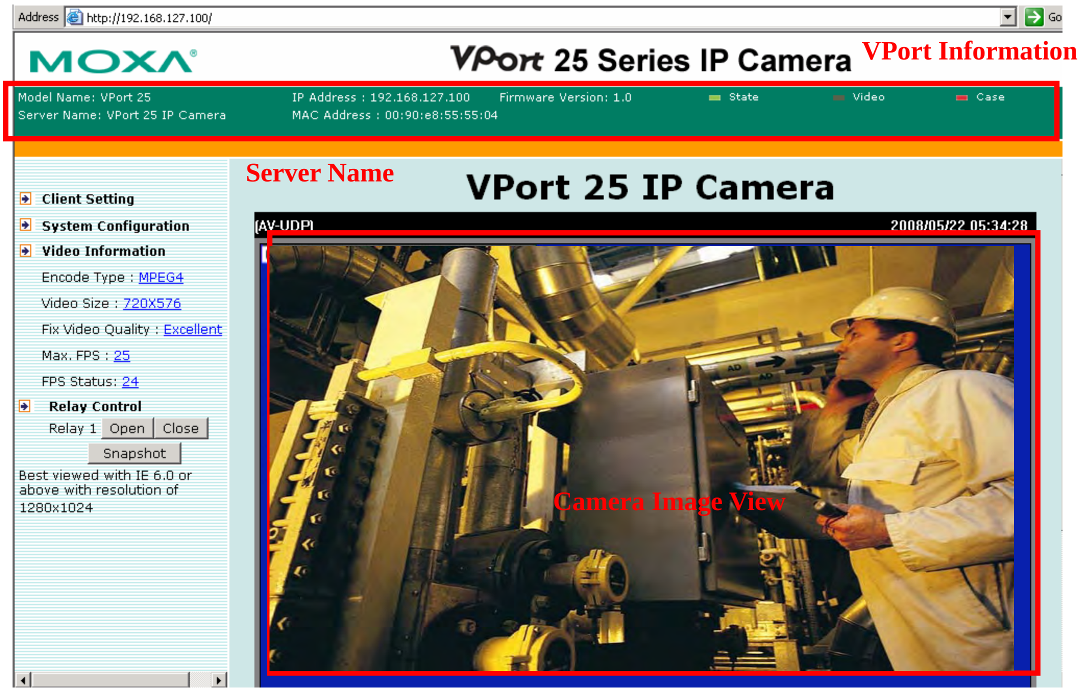
This chapter includes information about how to access VPort 25 IP camera for the first time. The following topics are covered:

- ❑ **Functions Featured on the VPort's Web Homepage**
  - ➢ VPort's Information
  - ➢ Server Name
  - ➢ Camera Image View
  - ➢ Audio Control
  - ➢ Client Setting
  - ➢ System Configuration
  - ➢ Video Information
  - ➢ Video Image Snapshots
  - ➢ Relay Control

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 client and server.

NOTE The VPort's web homepage is best viewed using a 1280 x 1024 screen size. This is because the camera image can be viewed at a resolution up to Full D1 (NTSC: 720 x 480; PAL: 720 x 576). We strongly recommend using IE 6.0 (Microsoft Internet Explorer) or above to avoid incompatibility with the ActiveX Plug-in.



Address http://192.168.127.100/

Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0
State Video Case

VPort 25 IP Camera

Encode Type : MPEG4
Video Size : 720X576
Fix Video Quality : Excellent
Max. FPS : 25
FPS Status: 24
Relay 1

Best viewed with IE 6.0 or above with resolution of 1280x1024

VPort Information

Server Name

Camera Image View

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 System (State), and Video and Case open sensor (Case).

NOTE The VPort LEDs shown on the VPort's web homepage are updated every 2~3 seconds.

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 from the **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.

Audio Control

The VPort 25 provides both audio input and audio output for voice over IP communication. Client users can directly enable and disable the audio input (a microphone, for example) by clicking the microphone button, and audio output (a speaker, for example) by clicking the speaker button from the VPort's web homepage. You may also use the **Client Setting** to disable the audio transmission.

Client Setting

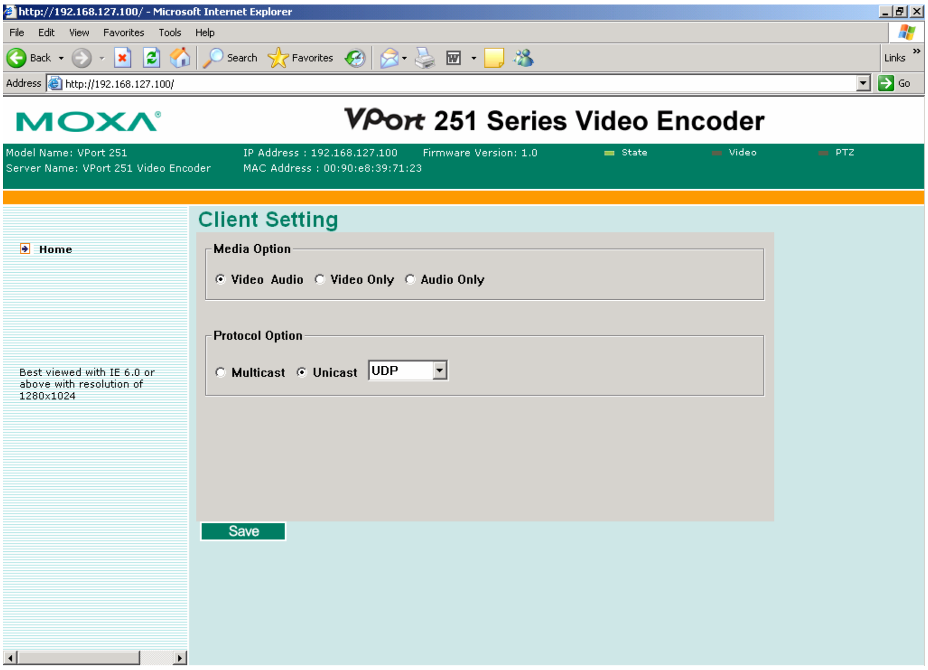
Users can configure the following functions in **Client Settings**.

1. **Media Options:** Enable or disable the video or audio transmission.
2. **Protocol Options:** Choose one of four protocols to optimize your usage—UDP, TCP, HTTP, or Multicast.

- **UDP** protocol 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** protocol 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 effect is worse than with UDP protocol.
- **HTTP** protocol can be used to prevent being blocked by a router's firewall. The downside of using HTTP is that the real-time effect is worse than with UDP protocol.
- **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 multicast protocol (e.g., IGMP snooping). Otherwise, the multicast video transmission will not be successful.

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

NOTE Protocol options are only available on the MPEG4 video compression. The MJPEG video compression is only support the HTTP transmission.


http://192.168.127.100/ - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Links
Address http://192.168.127.100/
Go
MOXA
VPort 251 Series Video Encoder
State
Video
PTZ
Home
Save

Model Name: VPort 251
Server Name: VPort 251 Video Encoder
IP Address : 192.168.127.100
MAC Address : 00:90:e8:39:71:23
Firmware Version: 1.0

Best viewed with IE 6.0 or above with resolution of 1280x1024

Client Setting

Media Option

● Video Audio ○ Video Only ○ Audio Only

Protocol Option

○ Multicast ● Unicast UDP

System Configuration

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

Video Information

Users can easily monitor the current video performance by looking at the **Video Information** shown on the left side of the homepage. The following properties are shown: Video Size, Video Quality (Fixed bit rate or Fixed video quality), Max. FPS (frames per second), and (current) FPS Status.

Video Image Snapshots

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

NOTE: The administrator must enable the snapshot function. To do this, use the management utility to go to **System Configuration → Alarm → Event Alarm → Basic**, and then check the Enable snapshot images checkbox.

Relay Control

The VPort 25 has 1 relay outputs for external devices, such as alarms. Administrators and permitted users can click on **Open** to short the **Common** and **Normal Open** digital output pins, or click on **Close** to short the **Common** and **Normal Close** digital output pins.

4
System Configuration

After installing the hardware, the next step is to configure the VPort 25’s settings. Users can configure by web console.

This chapter includes the following sections:

- **System Configuration by Web Console**
  - System
  - Network
  - Video
  - Audio
  - Alarm

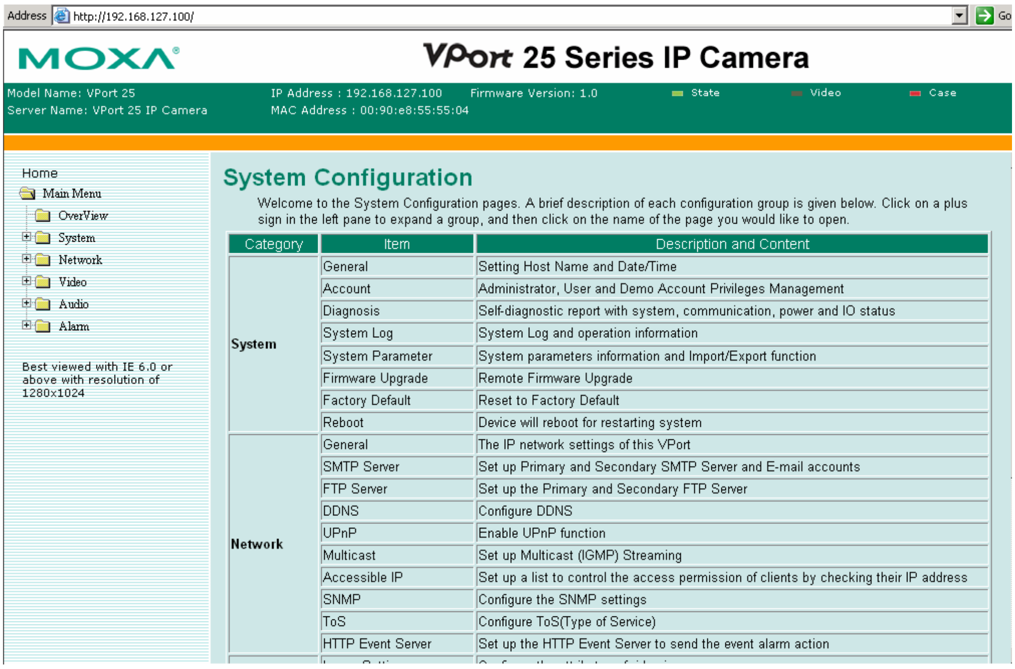
System Configuration by Web Console

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

There are five configuration categories: **System, Network, Video, Audio**, and **Alarm**. A description of each configuration item is shown in the table below:

Category	Item		Description and Contents
System	General		Set Host Name and Date/Time
	Accounts		Administrator, User, and Demo Account Privileges Management
	Diagnosis		Self-diagnostic report with system, communication, power, and LED status
	System Log		System Log and operation information
	System Parameter		System parameter information and Import/Export functions
	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
	SMTP Server		Set up Primary and Secondary SMTP Server and e-mail accounts
	FTP Server		Set up the Primary and Secondary FTP Server
	DDNS		Configure Dynamic DNS service
	Universal PnP		Enable UPnP function
	Multicast Setting		Set up Multicast (IGMP) Streaming
	Accessible IP		Set up a list to control the access permission of clients by checking their IP address
	SNMP		Configure the SNMP settings
	ToS		Configure ToS (Type of Service)
	HTTP Event Server		Set up the HTTP Event Server to send the event alarm action
Video	Image Setting		Configure the attributes of the video image
	Video Performance		Set up the Size (Resolution), FPS, and Video Quality
Audio	Quality		Set up the audio source
Alarm	System Alarm		Configure the open case sensor and network broken alarm
	Event Alarm	Basic	General settings of event alarm
		Schedule	Set up the Alarm schedule
		Video Motion Detection	Configure the Video Motion Detection Alarm
		Digital Input	Configure the Digital Input Alarm
		Video Loss	Configure the Video Loss Alarm
		Sequential Snapshot	Set up the Sequential Snapshot operation

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



VPort 25 Series IP Camera

Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Best viewed with IE 6.0 or above with resolution of 1280x1024

System Configuration

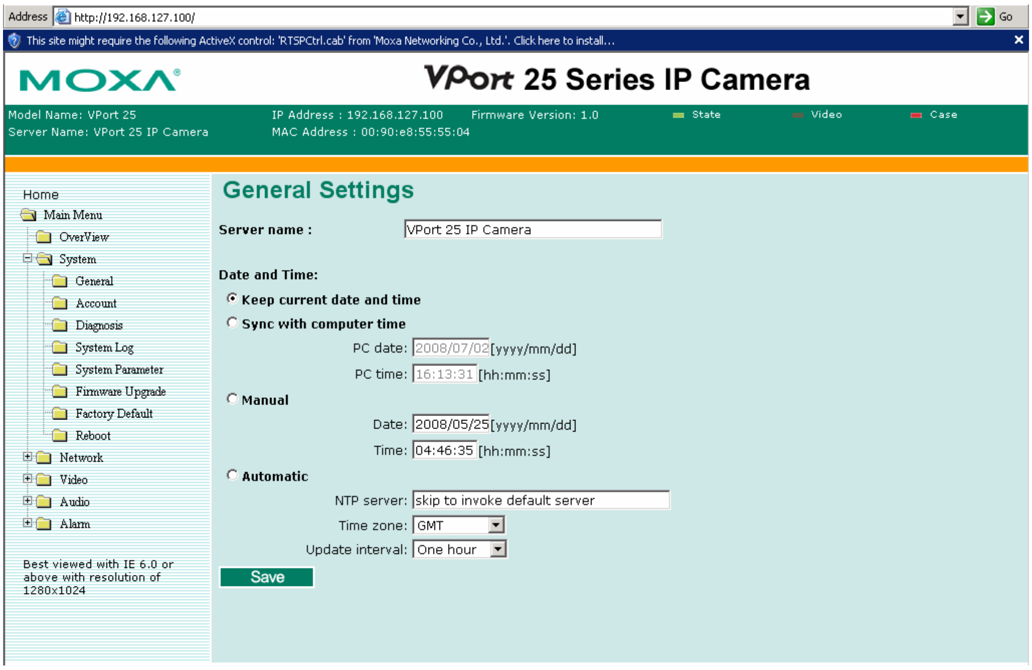
Welcome to the System Configuration pages. A brief description of each configuration group is given below. Click on a plus sign in the left pane to expand a group, and then click on the name of the page you would like to open.

Category	Item	Description and Content
System	General	Setting Host Name and Date/Time
	Account	Administrator, User and Demo Account Privileges Management
	Diagnosis	Self-diagnostic report with system, communication, power and IO status
	System Log	System Log and operation information
	System Parameter	System parameters information and Import/Export function
	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
	SMTP Server	Set up Primary and Secondary SMTP Server and E-mail accounts
	FTP Server	Set up the Primary and Secondary FTP Server
	DDNS	Configure DDNS
	UPnP	Enable UPnP function
	Multicast	Set up Multicast (IGMP) Streaming
	Accessible IP	Set up a list to control the access permission of clients by checking their IP address
	SNMP	Configure the SNMP settings
	ToS	Configure ToS(Type of Service)
	HTTP Event Server	Set up the HTTP Event Server to send the event alarm action

System

General Settings

On the **General Settings** page, administrators can set up the video **Server name** and the **Date and Time**, which appear in the image's caption.



This site might require the following ActiveX control: 'RTSPCtrl.cab' from 'Moxa Networking Co., Ltd.'. Click here to install...

VPort 25 Series IP Camera

Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Best viewed with IE 6.0 or above with resolution of 1280x1024

General Settings

Server name : VPort 25 IP Camera

Date and Time:

● Keep current date and time

○ Sync with computer time

PC date: 2008/07/02[yyyy/mm/dd]

PC time: 16:13:31 [hh:mm:ss]

○ Manual

Date: 2008/05/25[yyyy/mm/dd]

Time: 04:46:35 [hh:mm:ss]

○ Automatic

NTP server: skip to invoke default server

Time zone: GMT

Update interval: One hour

Server name

Setting	Description	Default
Server Name (max. 40 characters)	Use a different server name for each IP camera to help identify the different servers. The name appears on the web homepage.	VPort 25 IP Camera

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 VPort's data and time setting with the local computer time.	
Manual	Manually change VPort's date and time setting.	
Automatic	Use the NTP server for changing VPort's date and time setting in a given period.	

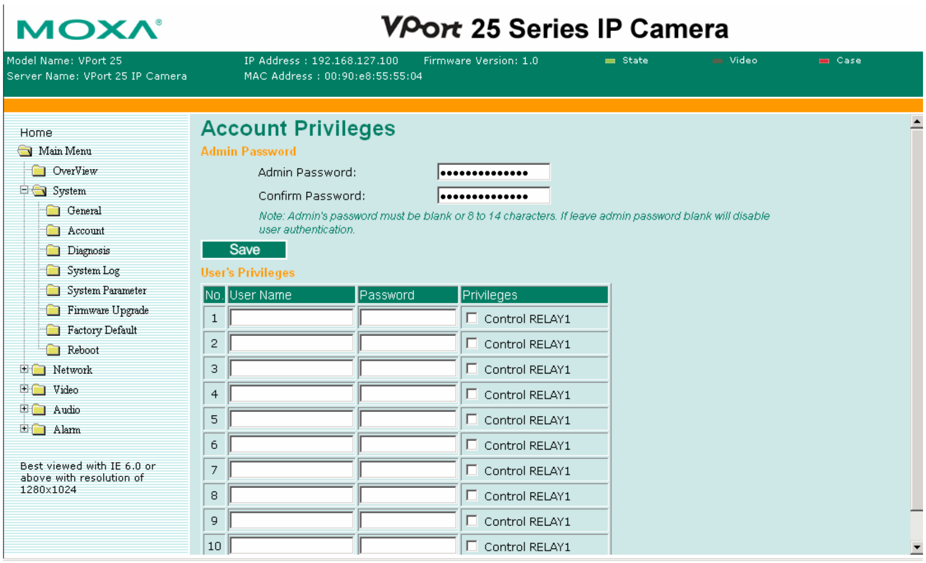
NOTE

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.

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

Account Privileges

Different account privileges are available for different purposes.



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Best viewed with IE 6.0 or above with resolution of 1280x1024

Account Privileges

Admin Password

Admin Password: ••••••••••••••

Confirm Password: ••••••••••••••

Note: Admin's password must be blank or 8 to 14 characters. If leave admin password blank will disable user authentication.

User's Privileges

No.	User Name	Password	Privileges
1			□ Control RELAY1
2			□ Control RELAY1
3			□ Control RELAY1
4			□ Control RELAY1
5			□ Control RELAY1
6			□ Control RELAY1
7			□ Control RELAY1
8			□ Control RELAY1
9			□ Control RELAY1
10			□ Control RELAY1

Admin password

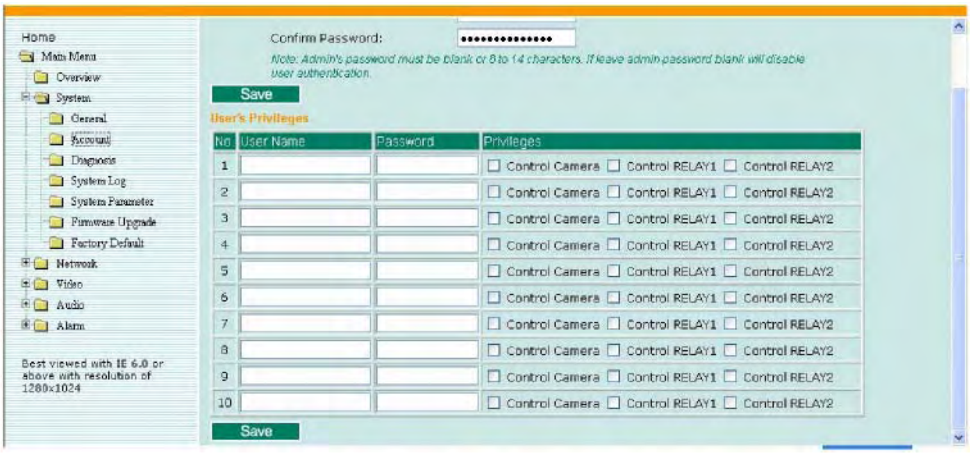
Setting	Description	Default
Admin Password (max. 14 characters)	Administrator can type the new password in this box.	Default admin password is blank.
Confirm Password (max. 14 characters)	If a new password is typed in the **Admin Password** box, you will need to retype the password in the **Confirm Password** box before updating the new password.	

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

User's Privileges

VPort products provide 10 user accounts for accessing VPort. Administrators can set up user's privileges in this section. Each user can be given independent access right to the external I/O and camera control.

Setting	Description	Default
User Name	Type a specific user name for user authentication.	None
Password	Type a specific password for user authentication.	
Privilege	Check the function boxes to assign privileges for users in **Control Camera, Control Relay1,** and **Control Relay2.**	



Confirm Password: ••••••••••••••

Note: Admin's password must be blank or 8 to 14 characters. If leave admin password blank will disable user authentication.

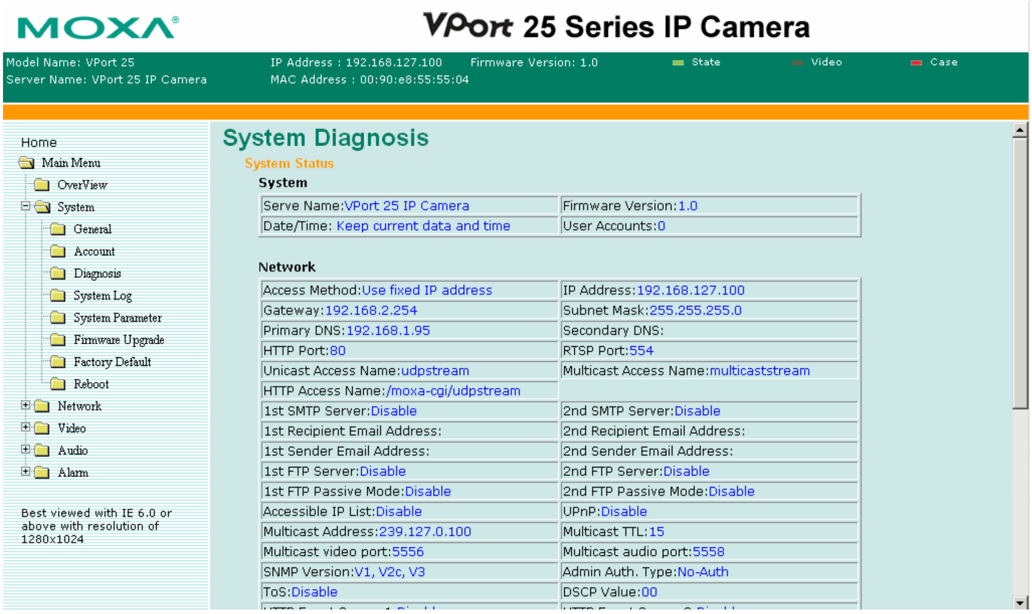
User's Privileges

No	User Name	Password	Privileges
1			□ Control Camera □ Control RELAY1 □ Control RELAY2
2			□ Control Camera □ Control RELAY1 □ Control RELAY2
3			□ Control Camera □ Control RELAY1 □ Control RELAY2
4			□ Control Camera □ Control RELAY1 □ Control RELAY2
5			□ Control Camera □ Control RELAY1 □ Control RELAY2
6			□ Control Camera □ Control RELAY1 □ Control RELAY2
7			□ Control Camera □ Control RELAY1 □ Control RELAY2
8			□ Control Camera □ Control RELAY1 □ Control RELAY2
9			□ Control Camera □ Control RELAY1 □ Control RELAY2
10			□ Control Camera □ Control RELAY1 □ Control RELAY2

NOTE The FPS of the video stream will be reduced as more and more users access the same VPort. For this reason, only 10 users can access the VPort 25 at the same time. Enforcing this kind of restriction helps guarantee the performance of the video stream.

System Diagnosis

VPort products have a self-diagnosis function to let the administrator get a quick view of the system and connection status. Administrators can save this diagnosis information in a file (diagnosis.log) by clicking the **Export to a File** button, or send the file via email by clicking the **Send a Report via Email** button.



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

System Diagnosis

System Status

System

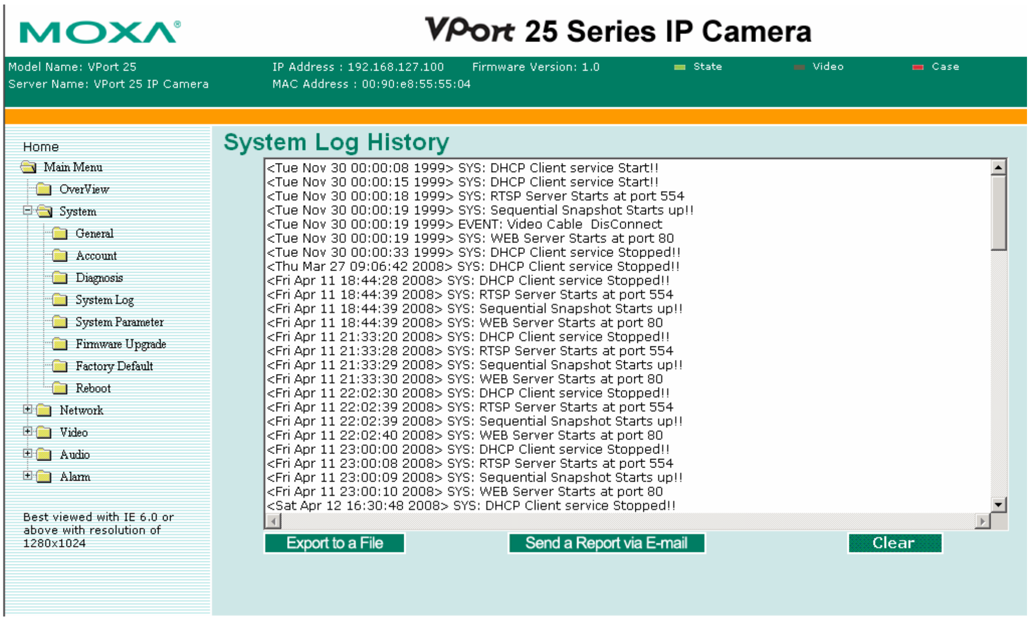
Serve Name:VPort 25 IP Camera	Firmware Version:1.0
Date/Time: Keep current data and time	User Accounts:0

Network

Access Method:Use fixed IP address	IP Address:192.168.127.100
Gateway:192.168.2.254	Subnet Mask:255.255.255.0
Primary DNS:192.168.1.95	Secondary DNS:
HTTP Port:80	RTSP Port:554
Unicast Access Name:udpstream	Multicast Access Name:multicaststream
HTTP Access Name:/moxa-cgi/udpstream	
1st SMTP Server:Disable	2nd SMTP Server:Disable
1st Recipient Email Address:	2nd Recipient Email Address:
1st Sender Email Address:	2nd Sender Email Address:
1st FTP Server:Disable	2nd FTP Server:Disable
1st FTP Passive Mode:Disable	2nd FTP Passive Mode:Disable
Accessible IP List:Disable	UPnP:Disable
Multicast Address:239.127.0.100	Multicast TTL:15
Multicast video port:5556	Multicast audio port:5558
SNMP Version:V1, V2c, V3	Admin Auth. Type:No-Auth
ToS:Disable	DSCP Value:00

System Log History

The system log contains useful information, including current system configuration and activity history with timestamp for tracking. Administrators can save this information in a file (system.log) by clicking the **Export to a File** button, or send the file by email by clicking the **Send a Report via Email** button.



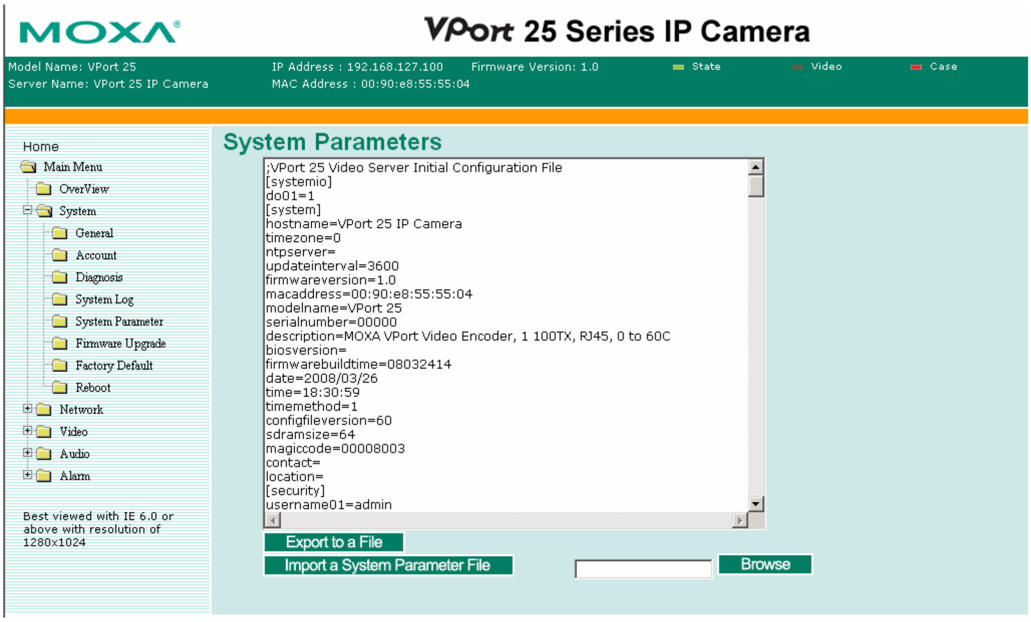
Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

System Log History

```
<Tue Nov 30 00:00:08 1999> SYS: DHCP Client service Start!!
<Tue Nov 30 00:00:15 1999> SYS: DHCP Client service Start!!
<Tue Nov 30 00:00:18 1999> SYS: RTSP Server Starts at port 554
<Tue Nov 30 00:00:19 1999> SYS: Sequential Snapshot Starts up!!
<Tue Nov 30 00:00:19 1999> EVENT: Video Cable  DisConnect
<Tue Nov 30 00:00:19 1999> SYS: WEB Server Starts at port 80
<Tue Nov 30 00:00:33 1999> SYS: DHCP Client service Stopped!!
<Thu Mar 27 09:06:42 2008> SYS: DHCP Client service Stopped!!
<Fri Apr 11 18:44:28 2008> SYS: DHCP Client service Stopped!!
<Fri Apr 11 18:44:39 2008> SYS: RTSP Server Starts at port 554
<Fri Apr 11 18:44:39 2008> SYS: Sequential Snapshot Starts up!!
<Fri Apr 11 18:44:39 2008> SYS: WEB Server Starts at port 80
<Fri Apr 11 21:33:20 2008> SYS: DHCP Client service Stopped!!
<Fri Apr 11 21:33:28 2008> SYS: RTSP Server Starts at port 554
<Fri Apr 11 21:33:29 2008> SYS: Sequential Snapshot Starts up!!
<Fri Apr 11 21:33:30 2008> SYS: WEB Server Starts at port 80
<Fri Apr 11 22:02:30 2008> SYS: DHCP Client service Stopped!!
<Fri Apr 11 22:02:39 2008> SYS: RTSP Server Starts at port 554
<Fri Apr 11 22:02:39 2008> SYS: Sequential Snapshot Starts up!!
<Fri Apr 11 22:02:40 2008> SYS: WEB Server Starts at port 80
<Fri Apr 11 23:00:00 2008> SYS: DHCP Client service Stopped!!
<Fri Apr 11 23:00:08 2008> SYS: RTSP Server Starts at port 554
<Fri Apr 11 23:00:09 2008> SYS: Sequential Snapshot Starts up!!
<Fri Apr 11 23:00:10 2008> SYS: WEB Server Starts at port 80
<Sat Apr 12 16:30:48 2008> SYS: DHCP Client service Stopped!!
```

System Parameters

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

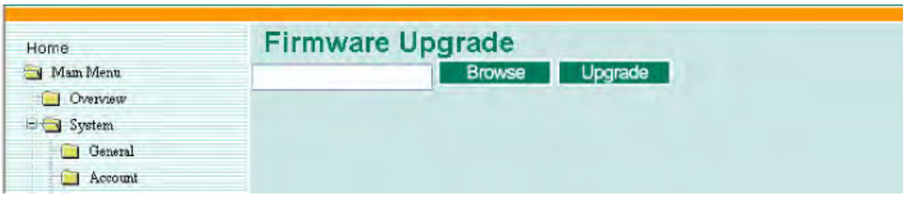


Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

```
;VPort 25 Video Server Initial Configuration File
[systemio]
do01=1
[system]
hostname=VPort 25 IP Camera
timezone=0
ntpserver=
updateinterval=3600
firmwareversion=1.0
macaddress=00:90:e8:55:55:04
modelname=VPort 25
serialnumber=00000
description=MOXA VPort Video Encoder, 1 100TX, RJ45, 0 to 60C
biosversion=
firmwarebuildtime=08032414
date=2008/03/26
time=18:30:59
timemethod=1
configfileversion=60
sdramsize=64
magiccode=00008003
contact=
location=
[security]
username01=admin
```

NOTE The system parameter import/export functions allow the administrator to backup 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 video encoders. System configurations will be changed immediately after the VPort is rebooted.

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 25, the firmware file extension should be **.rom**.

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

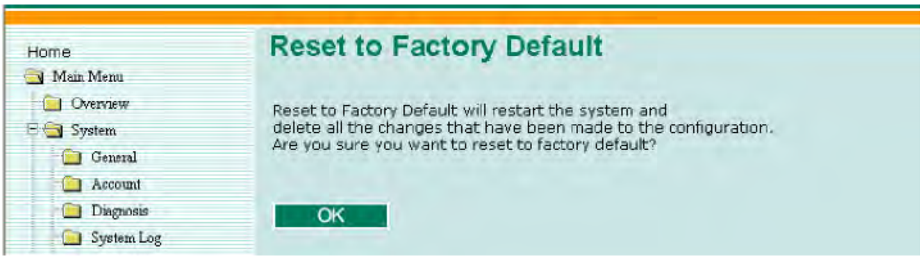
Step 3: The system will start to run the firmware upgrade process.

Step 4: Once **Firmware Update Success…..Reboot....** is shown, please wait for few seconds for the VPort to reboot. The reboot process is finished once the **STAT** LED is lit continuously in green.

NOTE Upgrading the firmware upgrade will not change the original settings.

Reset to Factory Default

From the "Reset to Factory Default" page, click on **OK** (as shown in the following figure) to reset the VPort to its factory default settings.

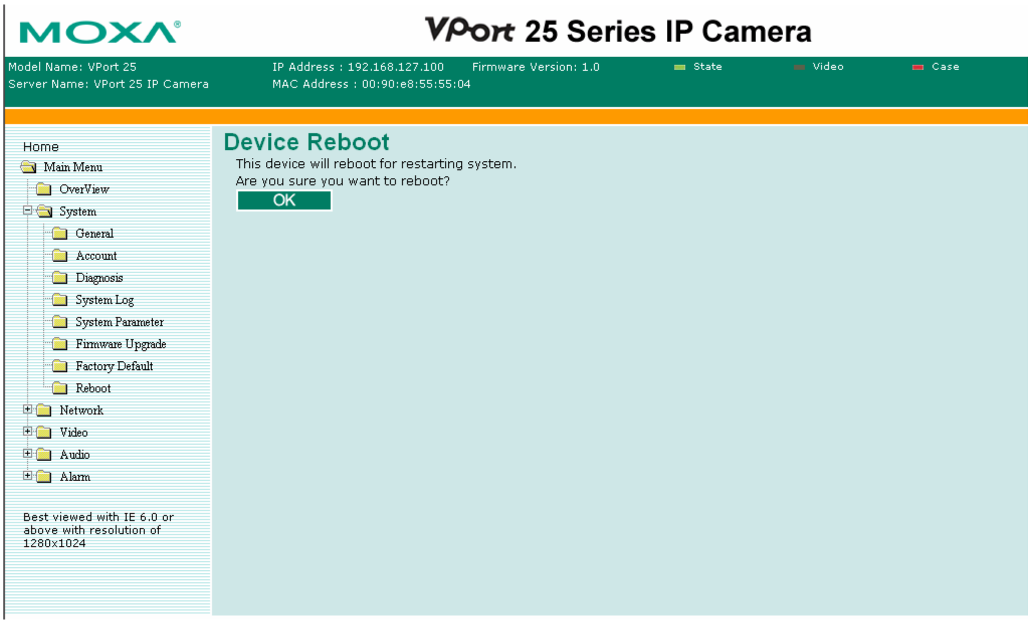


Reset to Factory Default will restart the system and delete all the changes that have been made to the configuration. Are you sure you want to reset to factory default?

NOTE All parameters will be reset to factory defaults when you use the **Factory Default** function. For this reason, if you want to keep a digital copy of the current configuration, remember to export the sys_config.ini file before using the Factory Default function.

Reboot

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



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Best viewed with IE 6.0 or above with resolution of 1280x1024

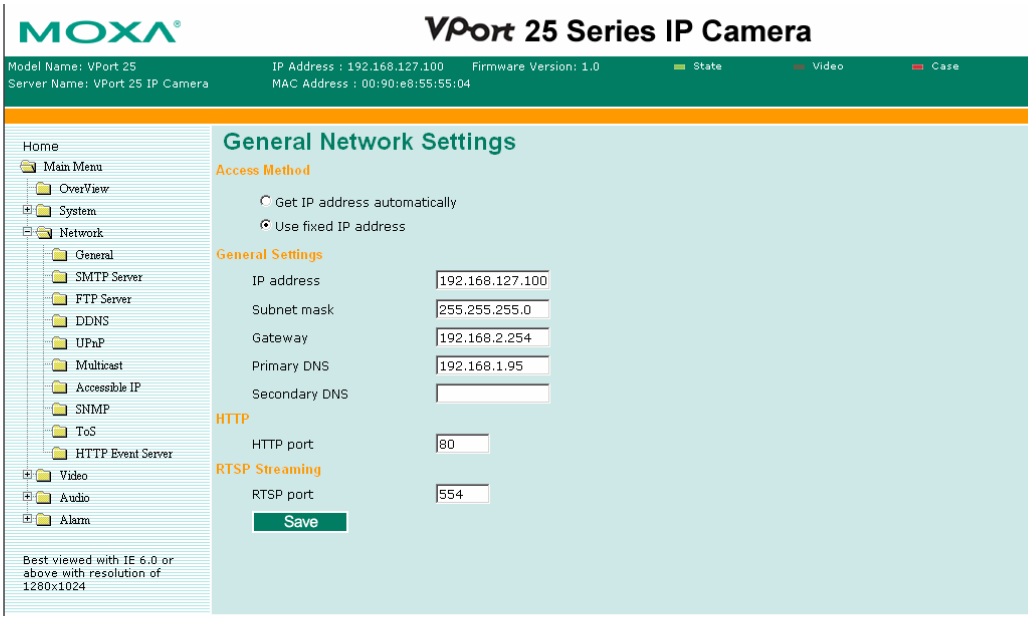
Device Reboot

This device will reboot for restarting system.
Are you sure you want to reboot?

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.



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Best viewed with IE 6.0 or above with resolution of 1280x1024

General Network Settings

Access Method

○ Get IP address automatically
● Use fixed IP address

General Settings

IP address	192.168.127.100
Subnet mask	255.255.255.0
Gateway	192.168.2.254
Primary DNS	192.168.1.95
Secondary DNS	

HTTP

HTTP port	80

RTSP Streaming

RTSP port	554

Access Method

VPort products support the DHCP protocol, which means that 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
Get IP address automatically	VPort gets the IP address automatically from the DHCP server.	Get IP address automatically
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.

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
Primary DNS	Enter the IP address of the DNS Server used by your network. After entering the DNS Server's IP address, you can input the VPort's url (e.g., www.VPort. company.com) in your browser's address field, instead of entering the IP address.	Obtained automatically from the DHCP server, or left blank in non-DHCP environments.
Secondary DNS	Enter the IP address of the DNS Server used by your network. The VPort will try to locate the secondary DNS Server if the primary DNS Server fails to connect.	Obtained automatically from the DHCP server, or left blank in non-DHCP environments.

HTTP

Setting	Description	Default
HTTP Port (80, or 1024 to 65535)	HTTP port enables connecting the VPort to the web.	80

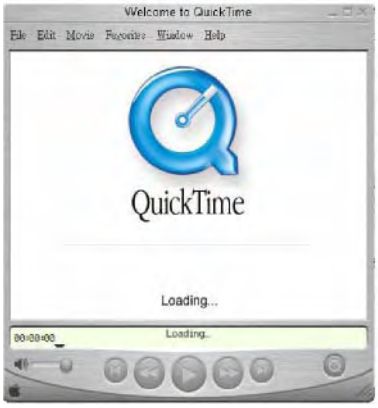
RTSP Streaming

The VPort 25 supports standard RTSP (Real Time Streaming Protocol) streaming, which means that all devices and software that support RTSP can directly acquire and view the video images sent from VPort 25 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**. For multicast streams, the access name is **multicastStream**. You can access the media through the following URL: **rtsp://<IP address>:<RTSP port>/<Access name> for software that supports RTSP**.

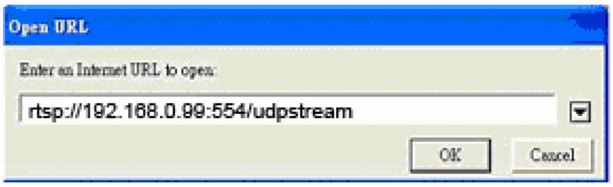
Setting	Description	Default
RTSP Port	An RTSP port is similar to an HTTP port, which can enable the connection of video/audio streams by RTSP.	554

We use Apple QuickTime media player to illustrate RTSP streaming applications:

Step 1: Open Apple QuickTime Player and select **File - Open URL in New Player**.



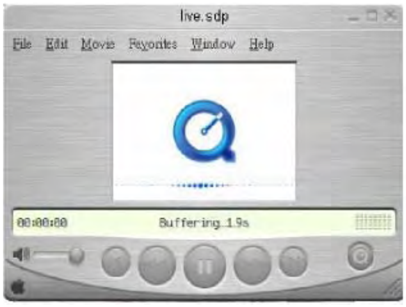
Step 2: When the following pop-up window appears, type the URL in the input box. E.g., type **rtsp://<VPort 25's IP address>:<RTSP Port>/udpstream** **rtsp://<VPort 25's IP address>:<RTSP Port>/multicaststream**, **RTSP Port: 554 Is default** and then click on **OK** to connect to the VPort 25.


Open URL

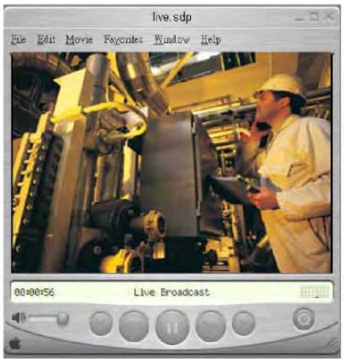
Enter an Internet URL to open:

rtsp://192.168.0.99:554/udpstream

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



Step 4: After the connection has been established, the VPort 25's video will appear in the QuickTime Player display window.

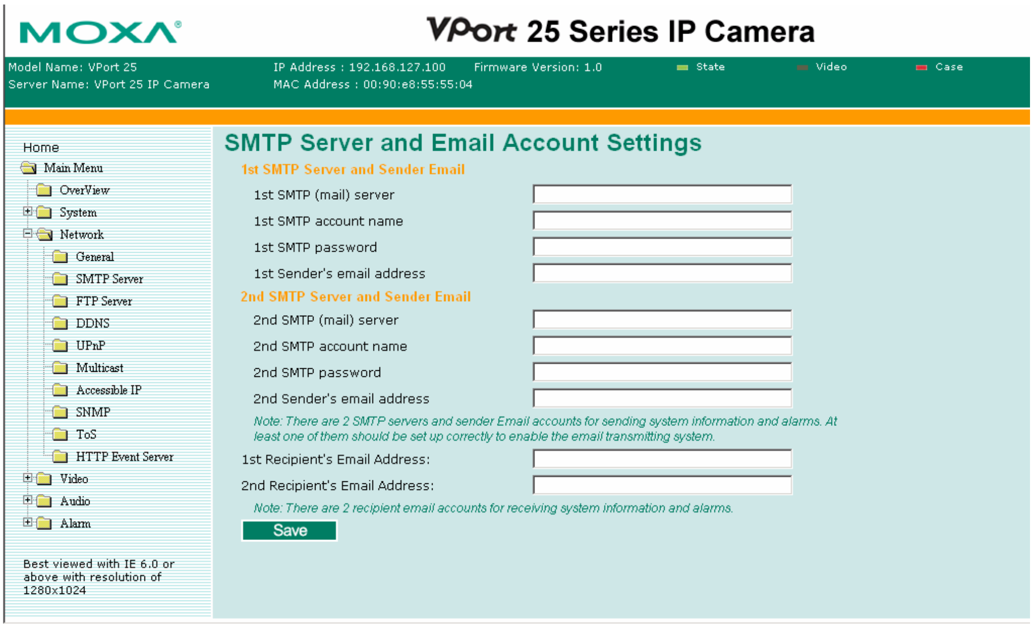


NOTE The video performance of the VPort 25 in other media players may not always be the same. For example, you will notice a greater delay when viewing the VPort 25's video from QuickTime player compared to viewing it directly from the VPort 25's built-in web server. In addition, viewing the VPort 25's video from Quicktime player through a router or Internet gateway could result in a broken connection.

NOTE For the time being, the VPort 25's RTSP video/audio stream can be identified and viewed by Apple QuickTime Ver. 6.5 and above, and VLC media player. System integrators can use these 2 media players to view the VPort 25's video directly, without needing to use the VPort's SDK to create customized software.

SMTP Server and Email Account Settings

The VPort not only plays the role of server, but can also connect to outside servers to send alarm messages and snapshots. If the administrator has set up some applications in either system information or alarm, the VPort will send out messages or snapshots once these conditions occur.



SMTP Server and Email Account Settings

1st SMTP Server and Sender Email

1st SMTP (mail) server

1st SMTP account name

1st SMTP password

1st Sender's email address

2nd SMTP Server and Sender Email

2nd SMTP (mail) server

2nd SMTP account name

2nd SMTP password

2nd Sender's email address

Note: There are 2 SMTP servers and sender Email accounts for sending system information and alarms. At least one of them should be set up correctly to enable the email transmitting system.

1st Recipient's Email Address:

2nd Recipient's Email Address:

Note: There are 2 recipient email accounts for receiving system information and alarms.

1st SMTP Server and Sender Email

Setting	Description	Default
1st/2nd SMTP (mail) server	SMTP Server's IP address or URL address.	None
1st/2nd SMTP account name	For security reasons, most SMTP servers require the account name and password to be authenticated.	None
1st/2nd SMTP		None
1st/2nd Sender's email address	For security reasons, SMTP servers must see the exact sender 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.

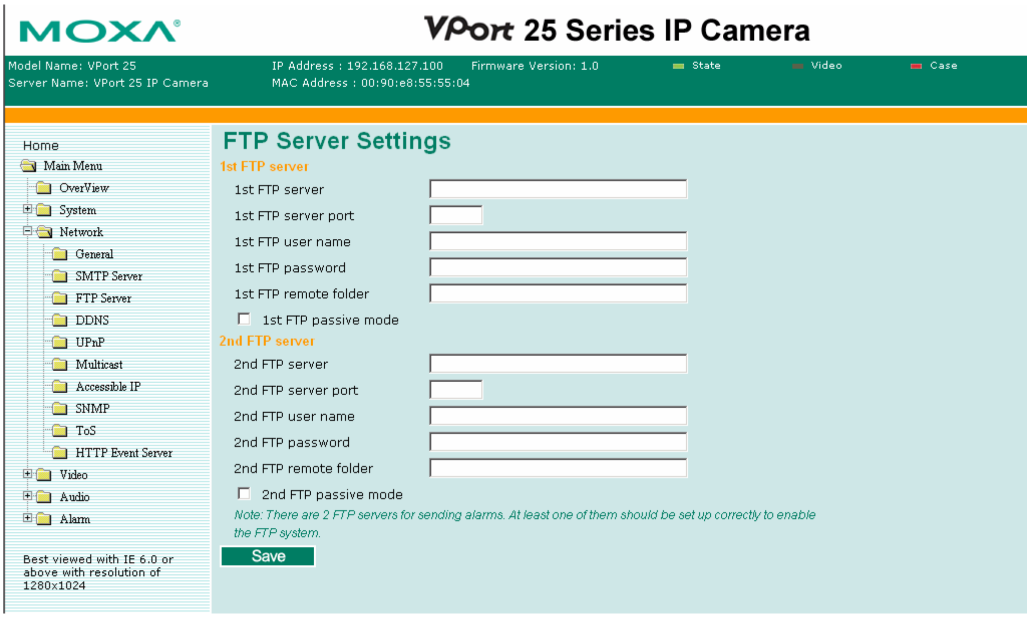
NOTE The **2nd SMTP Server** and Sender Email are backups that are used if the 1st SMTP Server and Sender Email fail when connecting or sending email.

Two recipient email accounts are available for receiving emails sent by the VPort. For redundancy, both addresses receive the sent messages and alarm snapshots simultaneously.

Setting	Description	Default
1st Recipient's Email Address	Email address of the 1st recipient.	None
2nd Recipient's Email Address	Email address of the 2nd recipient.	None

FTP Server Settings

FTP is the other method available for the VPort to send alarm messages and snapshots.



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Best viewed with IE 6.0 or above with resolution of 1280x1024

FTP Server Settings

1st FTP server

1st FTP server
1st FTP server port
1st FTP user name
1st FTP password
1st FTP remote folder
□ 1st FTP passive mode

2nd FTP server

2nd FTP server
2nd FTP server port
2nd FTP user name
2nd FTP password
2nd FTP remote folder
□ 2nd FTP passive mode

Note: There are 2 FTP servers for sending alarms. At least one of them should be set up correctly to enable the FTP system.

1st FTP Server

Setting	Description	Default
1st/2nd FTP server	FTP server's IP address or URL address.	None
1st/2nd FTP server port	FTP server's authentication.	None
1st/2nd FTP user name		None
1st/2nd FTP remote folder	FTP file storage folder on the remote FTP server.	None
1st/2nd FTP passive mode	Passive transfer solution for FTP transmission through a firewall.	Disabled

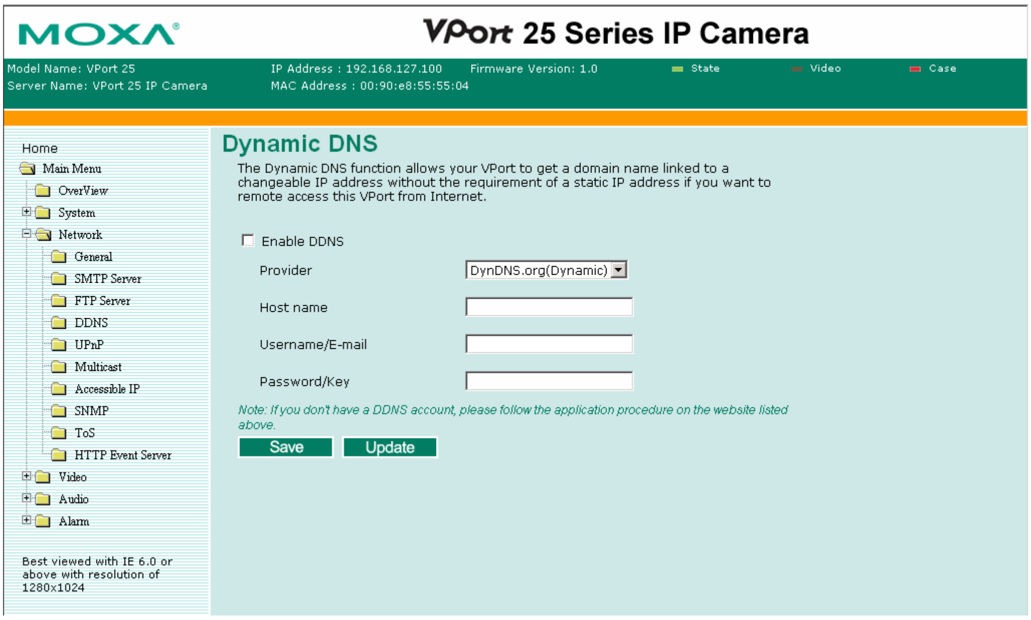
NOTE The **2nd FTP Server** is a backup in case the 1st FTP Server fails to connect or has trouble sending files.

NOTE Whenever the system reboots, a system log will be sent by email or FTP to show the login status of the VPort. The system log will be sent to the Sender email address if the SMTP server settings are correct. To send the system log via FTP, the SMTP server should be erased since the E-mail system is used by default to transmit the system log.

NOTE For either e-mail or FTP, the information of the 1st server should be entered first. If the 1st server is not set, the related FTP or email will be cancelled. Note that it may take time to connect to the 2nd server after the first server fails, and it may affect some applications when adverse conditions occur too often.

Dynamic DNS

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



Dynamic DNS

The Dynamic DNS function allows your VPort to get a domain name linked to a changeable IP address without the requirement of a static IP address if you want to remote access this VPort from Internet.

☐ Enable DDNS

Provider: DynDNS.org(Dynamic)

Host name:

Username/E-mail:

Password/Key:

Note: If you don't have a DDNS account, please follow the application procedure on the website listed above.

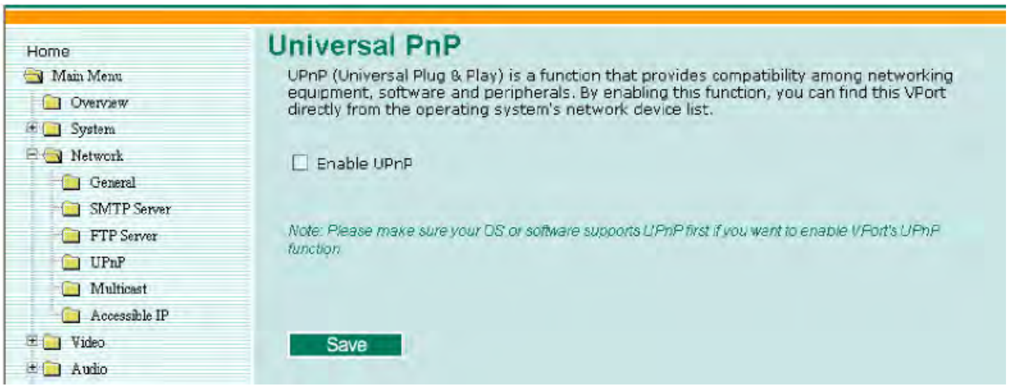
Setting	Description	Default
Enable DDNS	Enable or disable DDNS function	Disable
Provider	Select the DDNS service providers, including DynDNS.org (Dynamic), DynDNS.org (Custom), TZO.com, and dhs.org.	None
Host Name	The Host Name you use to link to VPort.	None
Username/ E-mail	The Username/E-mail and Password/Key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

NOTE Dynamic DNS is a very useful tool for accessing VPort via the Internet, especially for xDSL connections with a non-fixed IP address (DHCP). Administrator and users can avoid the trouble of connecting with VPort when the IP address of VPort is not fixed by using the unique host name in the URL to establish a connection with VPort.

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

Universal PnP

UPnP (Universal Plug & Play) is a networking architecture that provides compatibility among 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 VPort directly by clicking on the VPort listed in the network devices table.



UPnP (Universal Plug & Play) is a function that provides compatibility among networking equipment, software and peripherals. By enabling this function, you can find this VPort directly from the operating system's network device list.

☐ Enable UPnP

Note: Please make sure your OS or software supports UPnP first if you want to enable VPort's UPnP function.

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

Multicast

The VPort 25 supports the advanced Multicast network protocol IGMP, which can greatly improve the efficiency of network traffic. In this section, we explain multicasts, multicast filtering, and how multicast can be implemented on your VPort.

What is Multicast?

A multicast is a packet that is intended for "one-to-many" and "many-to-many" communication. Users explicitly request to participate in the communication by joining an end-station to a specific multicast group. If the network is set up correctly, a multicast can only be sent to an end-station or a subset of end-stations on a LAN or VLAN that belong to the relevant multicast group. Multicast group members can be distributed across multiple subnetworks. Therefore, multicast transmissions can occur within a campus LAN or over a WAN. In addition, networks that support IP multicast send only one copy of the desired information across the network. The packets are only replicated if they reach a network node that links to two or more members of the multicast network. Transmitting packets in this way makes more efficient use of network bandwidth. A multicast packet is identified by the presence of a multicast group address in the destination address field of the packet's IP header.

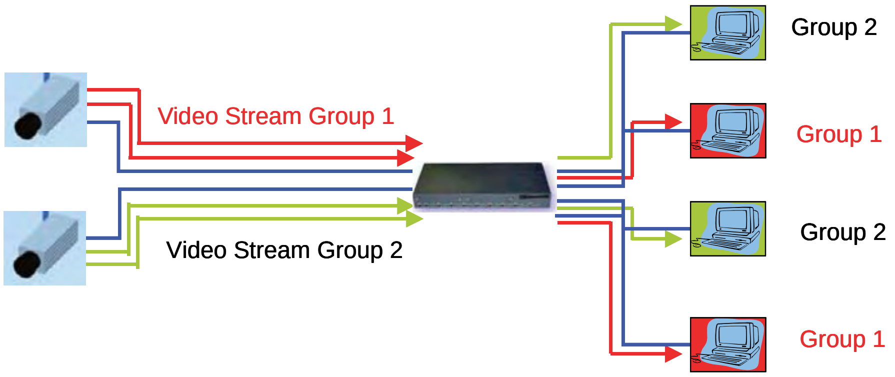
Benefits of Multicast

The benefits of using IP multicast are that it:

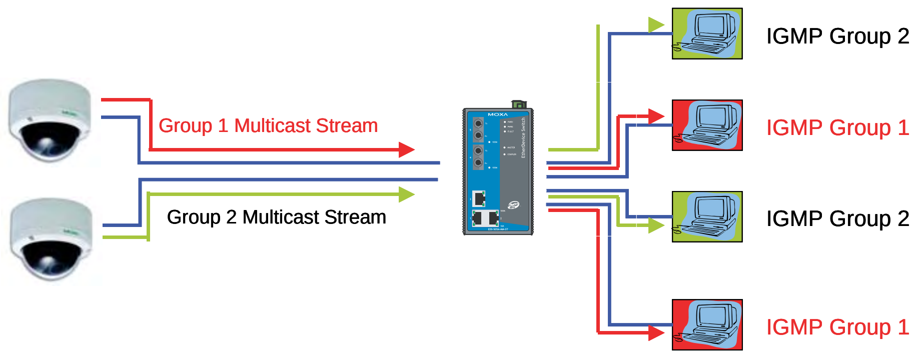
- Enables the simultaneous delivery of information to many receivers in the most efficient, logical way.

- Reduces the load on the source (for example, a server) because it does not need to produce multiple copies of the same data.
- Makes efficient use of network bandwidth and scales well as the number of participants or collaborators expands.
- Works with other IP protocols and services, such as Quality of Service (QoS).
- There are situations where a multicast approach is more logical and efficient than a unicast approach. A typical use of multicasts is in video-conferencing, in which high volumes of traffic need to be sent to several end-stations simultaneously, but for which broadcasting that traffic to all end-stations would seriously reduce network performance. Besides, several industrial automation protocols, such as Allen-Bradley, EtherNet/IP, Siemens Profibus, and Foundation Fieldbus HSE (High Speed Ethernet), use the multicast approach. These industrial Ethernet protocols use publisher/subscriber communications models by multicasting packets that could flood a network with heavy traffic. IGMP provides the ability to prune multicast traffic so that it travels only to those end destinations that require the traffic, thus reducing the amount of traffic on the Ethernet LAN.

The network WITHOUT Multicast

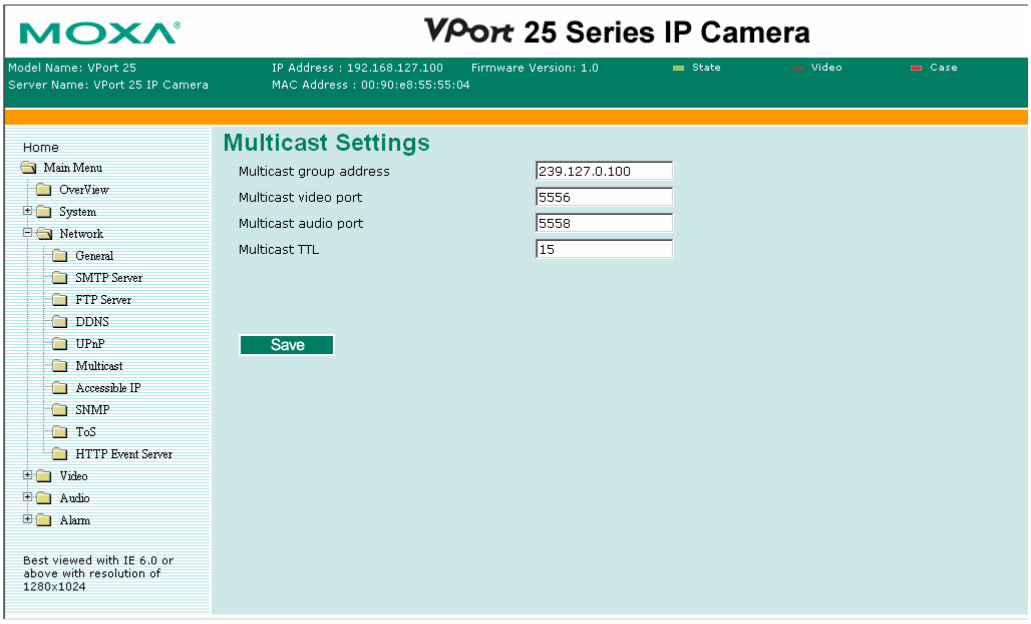


The network WITH Multicast



NOTE The VPort 25 is the source that delivers the multicast video stream. To benefit from the Multicast protocol, the gateway or network switch should support the multicast filtering function (such as IGMP Snooping) so that the multicast stream is delivered correctly and precisely. To learn more about IGMP Snooping, refer to the Moxa EtherDeviceTM series Industrial Ethernet Switch user's manual.

Configuring Multicast Settings



VPort 25 Series IP Camera

Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Multicast Settings

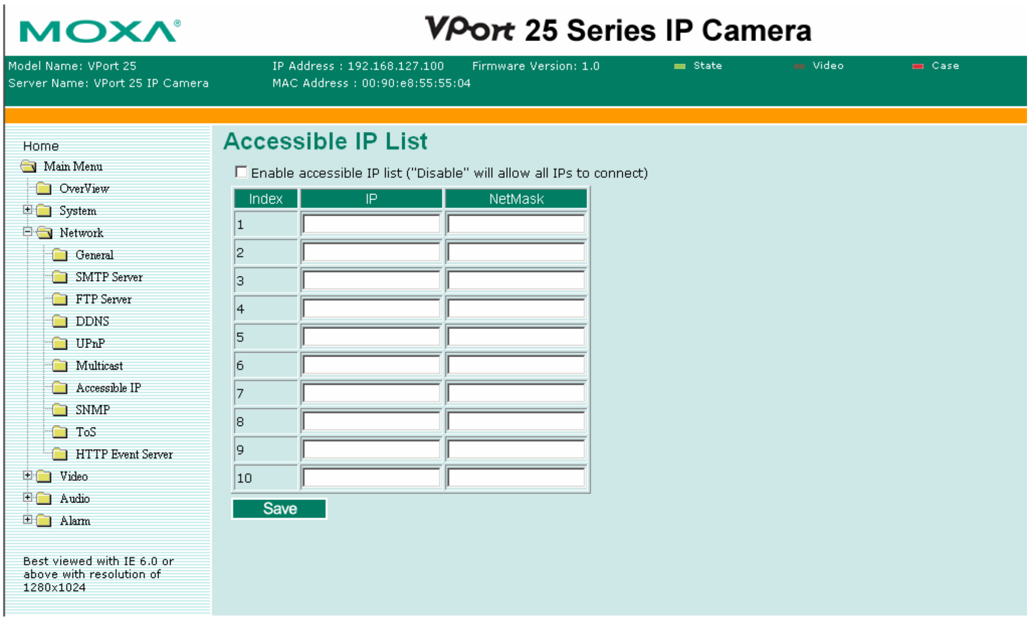
Multicast group address	239.127.0.100
Multicast video port	5556
Multicast audio port	5558
Multicast TTL	15

Setting	Description	Default
Multicast group address	Multicast Group address for sending video stream.	239.127.0.100
Multicast video port	Video port number.	5556
Multicast audio port	Audio port number.	5558
Multicast TTL	Multicast-TTL (Time-to-live) threshold. There is a certain TTL threshold 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.	15

NOTE Whenever you enable the VPort's IGMP Multicast stream, note the video/audio port number.

Accessible IP List

The VPort 25 uses an IP address-based filtering method to control access to the VPort.



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Best viewed with IE 6.0 or above with resolution of 1280x1024

Accessible IP List

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

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

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. Administrators can allow one of the following cases by setting this parameter:

- Only one host with a specific IP address can access the VPort. Enter "IP address/255.255.255.255" (e.g., 192.168.1.1/255.255.255.255)
- Hosts on a specific subnet can access the VPort.
- Enter "IP address/255.255.255.0" (e.g., "192.168.1.0/255.255.255.0")
- Any host can access the VPort. Disable this function.

Refer to the following table for more configuration examples.

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

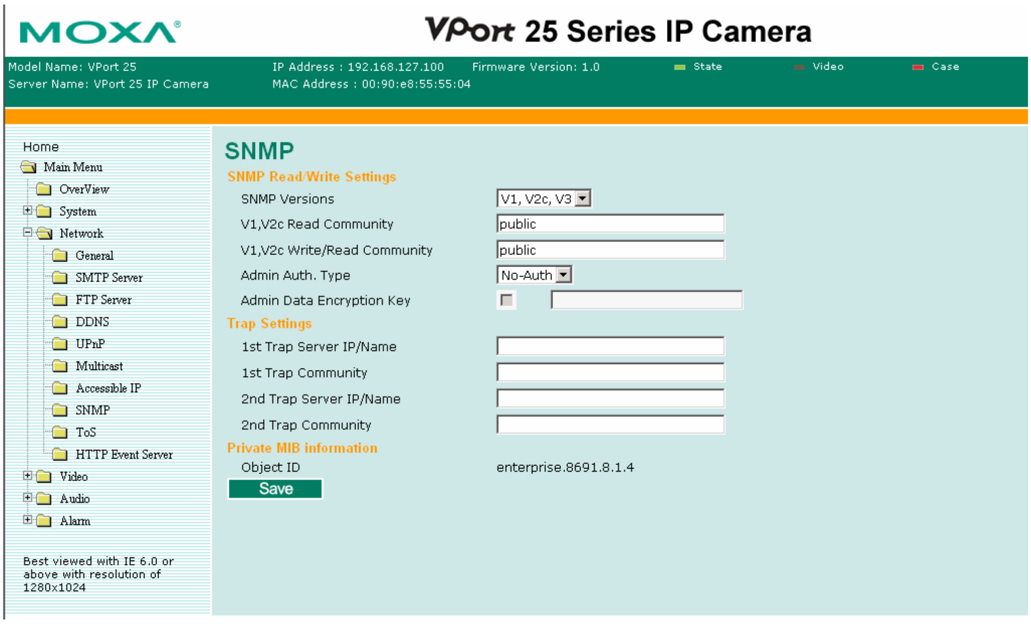
SNMP

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 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

SNMP Read/Write Settings

SNMP Versions: V1, V2c, V3

V1,V2c Read Community: public

V1,V2c Write/Read Community: public

Admin Auth. Type: No-Auth

Admin Data Encryption Key: □

Trap Settings

1st Trap Server IP/Name:

1st Trap Community:

2nd Trap Server IP/Name:

2nd Trap Community:

Private MIB information

Object ID: enterprise.8691.8.1.4

SNMP Read/ Wirte Settings

SNMP Versions

Setting	Description	Default
V1, V2c, V3	Select SNMP Versions V1, V2c, V3 protocol to manage the switch	V1, V2c
V1, V2c	Select SNMP Versions V1, V2c protocol to manage the switch	
V3 only	Select SNMP Versions V3 protocol only to manage the switch	

V1, V2c Read Community

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

V1, V2c Read/Wirte Community

Setting	Description	Default
V1, V2c Read/Write Community	Use a community string match for authentication, which 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 authorized to read and write MIB file. User privilege only allows reading MIB file, but not authorized to write.

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 asswords 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

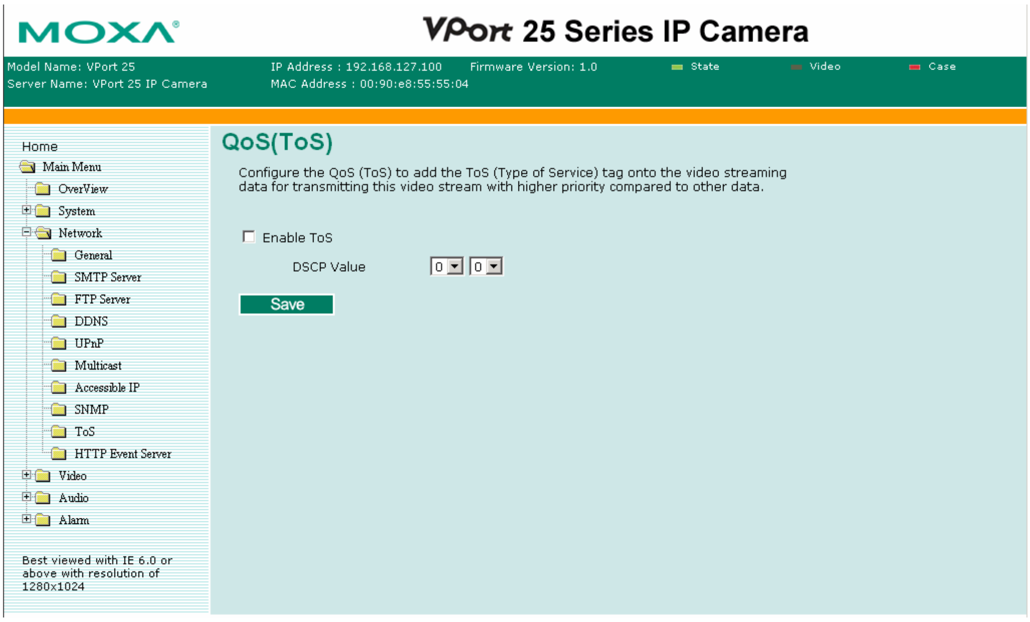
Setting	Description	Default
Trap Server IP/Name	Enter the IP address or name of the Trap Server used by your network.	No
Trap Community	Use a community string match for authentication; Maximum of 30 characters.	No

Private MIB information

The private SNMP Object ID of theVPort is the enterprise value: 8691.8.1.4. This number is cannot be changed.

QoS (ToS)

Quality of Service (QoS) provides a traffic prioritization capability to ensure that important data is delivered consistently and predictably. VPort 25 Series can inspect layer 3 ToS (Type of Service) information, to provide a consistent classification of the entire network. VPort 25 Series' ToS capability improves your industrial network's performance and determinism for mission critical applications.



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

QoS(ToS)

Configure the QoS (ToS) to add the ToS (Type of Service) tag onto the video streaming data for transmitting this video stream with higher priority compared to other data.

□ Enable ToS

DSCP Value 0 0

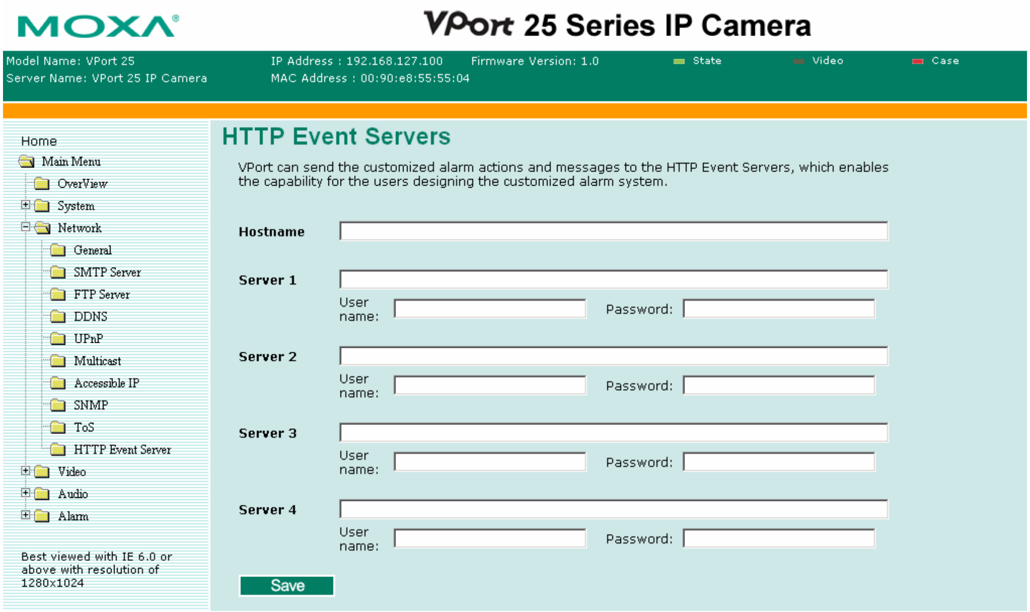
Best viewed with IE 6.0 or above with resolution of 1280x1024

Setting	Description	Factory Default
Enable ToS	Enable the ToS for transmitting the video stream with the given priority	Disable
DSCP Value	Set the mapping table of different ToS values	0, 0

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

HTTP Event Servers

VPort 25 series can send the customized alarm actions and messages to the HTTP Event Servers, which enables the capability for the users designing the customized alarm system.



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

HTTP Event Servers

VPort can send the customized alarm actions and messages to the HTTP Event Servers, which enables the capability for the users designing the customized alarm system.

Hostname

Server 1
User name: Password:

Server 2
User name: Password:

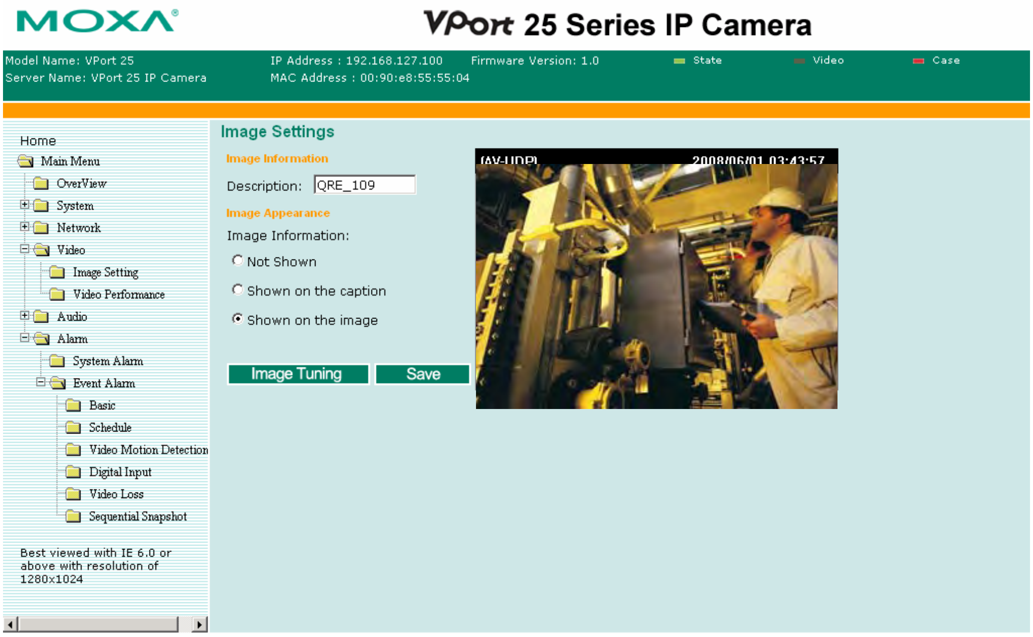
Server 3
User name: Password:

Server 4
User name: Password:

Best viewed with IE 6.0 or above with resolution of 1280x1024

Video

Image Settings



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Image Settings

Image Information

Description: QRE_109

Image Appearance

Image Information:

○ Not Shown

○ Shown on the caption

● Shown on the image

Image Information Setting

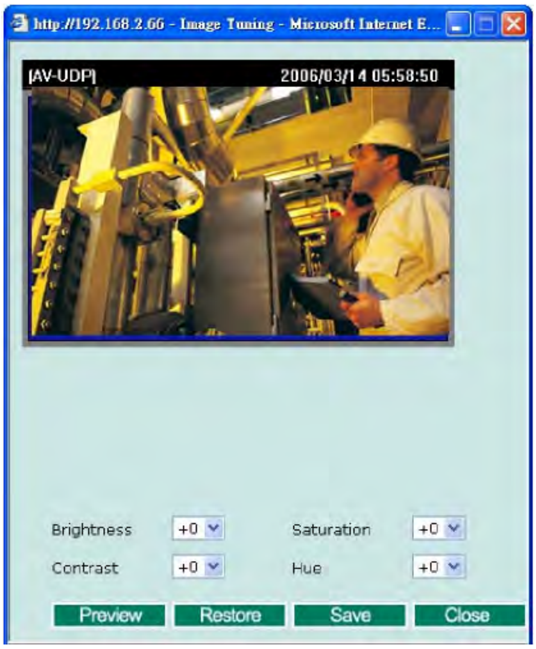
	Description	Default
Description (max. of 14 characters)	The customized description shown on the caption or image to identify this video camera.	None

Image Appearance Setting

	Description	Default
Image Information	To determine what style of image information is being shown. Includes **Not Shown, Shown on the Caption,** and **Shown on the Image.**	Not Shown

Image Tuning

An Image Tuning button is available for the administrator to fine tune image attributes. After clicking this button, a configuration window will pop up. You may configure **Brightness, Contrast, Saturation**, and **Hue**.



http://192.168.2.66 - Image Tuning - Microsoft Internet E...

[AV-UDP] 2006/03/14 05:58:50

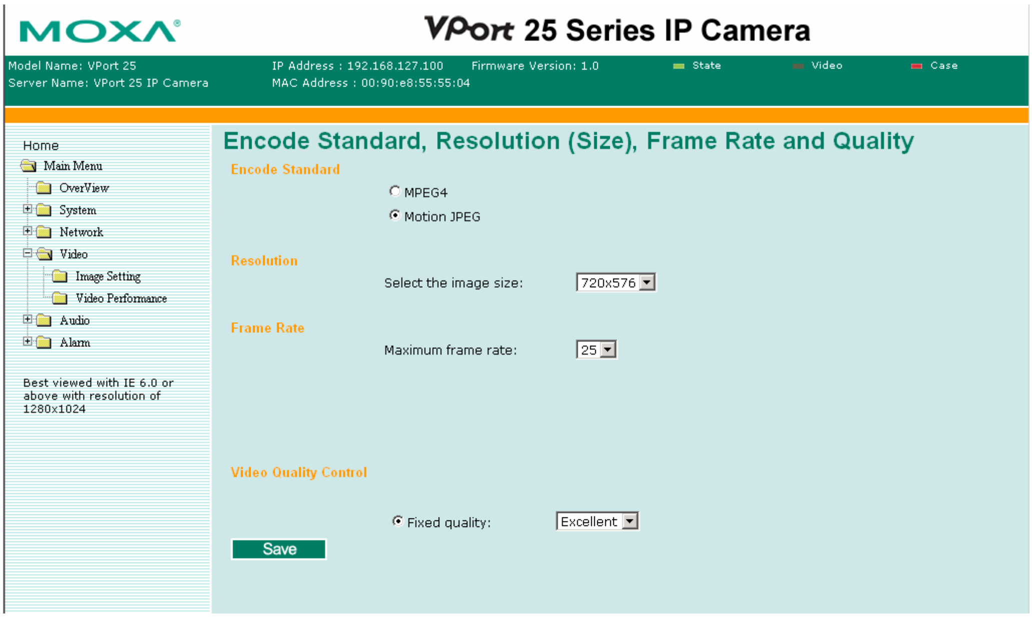
Brightness +0 Saturation +0

Contrast +0 Hue +0

Video Performance

VPort 25 support MPEG4 or MJEPG compression standard. Users should select the video compression in first to identify the video stream format.

For **MJPEG**, users can setup the **Resolution, Frame Rate** and Video Quality in **Fixed Quality**.



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Best viewed with IE 6.0 or above with resolution of 1280x1024

Encode Standard, Resolution (Size), Frame Rate and Quality

Encode Standard

○ MPEG4
● Motion JPEG

Resolution

Select the image size: 720x576

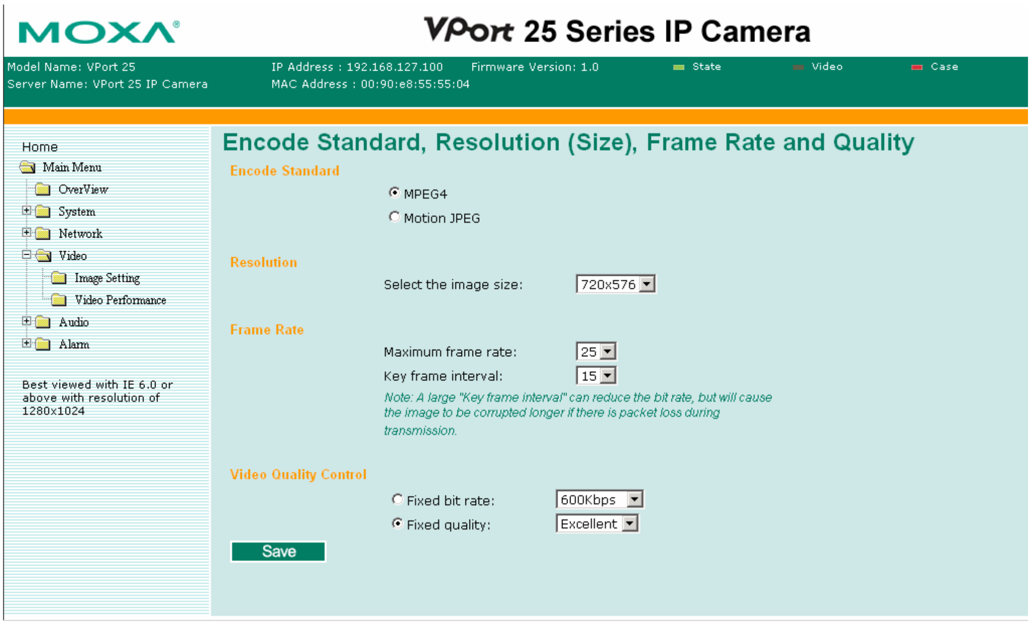
Frame Rate

Maximum frame rate: 25

Video Quality Control

● Fixed quality: Excellent

For **MPEG4**, users can setup **Resolution, Frame Rate** and Video Quality in **Fixed Bit Rate** or **Fixed Quality**.



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Best viewed with IE 6.0 or above with resolution of 1280x1024

Encode Standard, Resolution (Size), Frame Rate and Quality

Encode Standard

● MPEG4
○ Motion JPEG

Resolution

Select the image size: 720x576

Frame Rate

Maximum frame rate: 25
Key frame interval: 15

Note: A large "Key frame interval" can reduce the bit rate, but will cause the image to be corrupted longer if there is packet loss during transmission.

Video Quality Control

○ Fixed bit rate: 600Kbps
● Fixed quality: Excellent

Resolution

The VPort 25 supports 5 different resolutions: Full D1, 4CIF, VGA, CIF, and QVGA.

Setting	Description	Default
Select the image size	5 image resolutions (size) are provided. The administrator can choose each option with NTSC or PAL modulation.	720 x 480 in NTSC or 720 x 576 in PAL

Resolution	NTSC	PAL
Full D1	720 x 480	720 x 576
4CIF	704 x 480	704 x 576
VGA	640 x 480	640 x 576
CIF	352 x 240	352 x 288
QVGA	320 x 240	320 x 288

Frame Rate (Frame per second)

Setting	Description	Default
Maximum frame rate	The maximum frame rate is different to accommodate different modulations of video input. Administrators can also set up the maximum frame rate to optimize the bandwidth's occupation.	30 for NTSC 25 for PAL
Key frame interval (Only for MPEG4)	Administrators can set up the key frame interval to determine the video quality.	15

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 VPort's web homepage.

NOTE A large "Key frame interval" can reduce the bit rate, but will cause the image to be corrupted longer if there is packet loss during transmission.

Video Quality Control

Video Quality Control is used to optimize the bandwidth of the video stream. There are 2 modes for video quality control.

Setting	Description	Default
Fixed bit rate (Only for MPEG4)	The administrator can fix the bandwidth to tune the video quality and FPS (frames per second) to the optimum combination. You may choose from the following bandwidths: **600 Kbps, 1200 Kbps, 1800 Kbps, 2400 Kbps, 3000 Kbps, 3600 Kbps, 4200 Kbps, 4800 Kbps,** and **5400 Kbps** to let the VPort determine the quality and frame rate by itself. The combination of image quality and FPS is determined by the bandwidth.	Fixed bit rate of 600 Kbps
Fixed 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

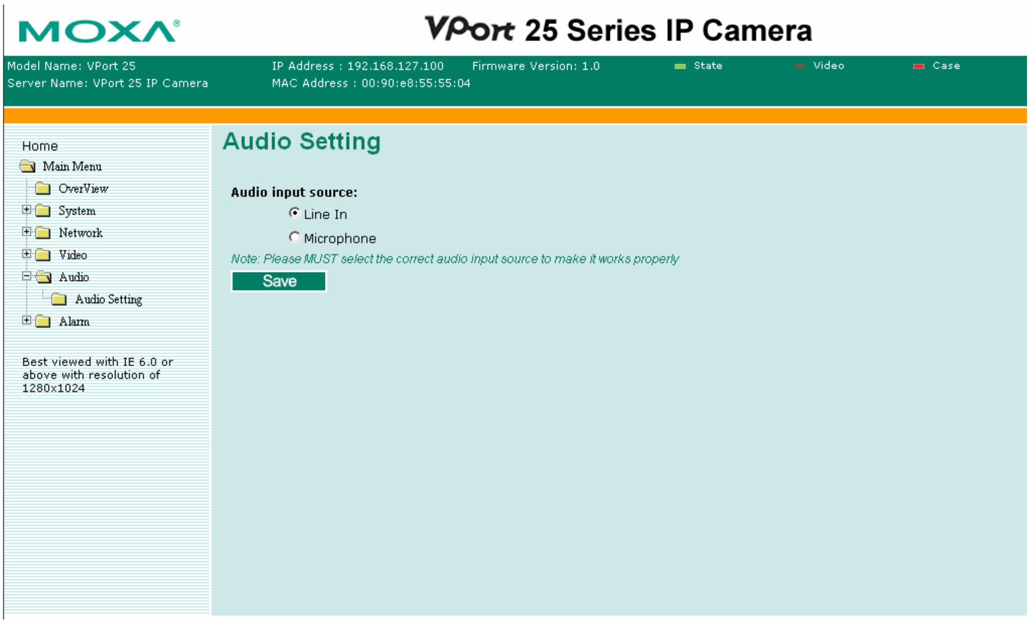
NOTE The image quality, FPS, and bandwidth are influenced significantly by network throughput, system network bandwidth management, applications the VPort runs (such as VMD), how complicated the image is, and the performance of your PC or notebook when displaying images. The administrator should take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

Audio

Audio Source

The VPort 25 supports real-time and synchronous video/audio transmission. Administrators need to select the correct input type of audio source to avoid audio input distortion.

Setting	Description	Default
Audio Source	For the audio connection, MIC-in (microphone) and Line-in (voice amplifier) are included for convenience.	Line in


MOXA
VPort 25 Series IP Camera
Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0
State
Video
Case
Home
Main Menu
OverView
System
Network
Video
Audio
Audio Setting
Alarm
Best viewed with IE 6.0 or above with resolution of 1280x1024

Audio Setting

Audio input source:

● Line In

○ Microphone

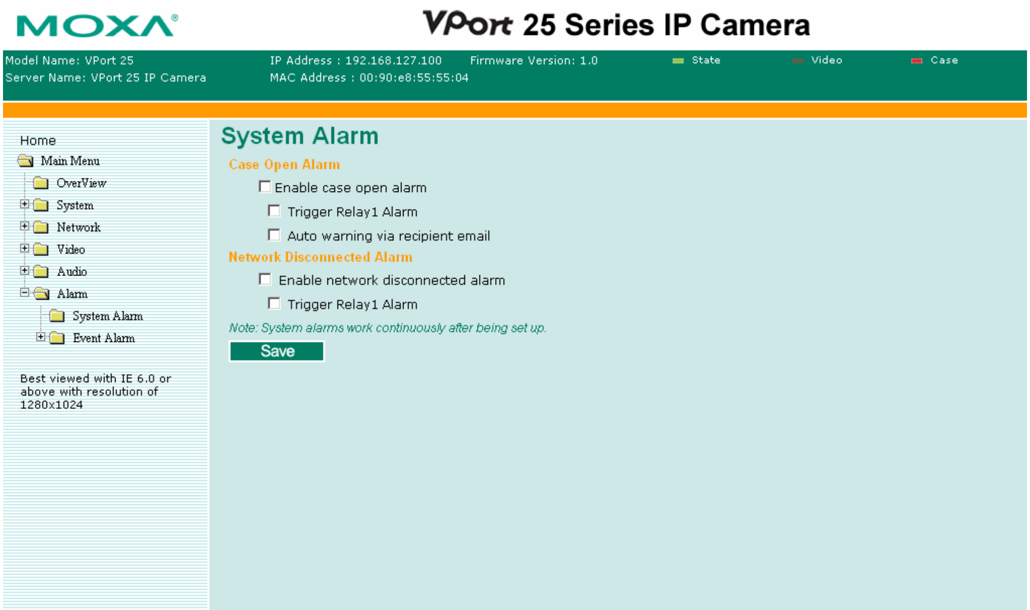
Note: Please MUST select the correct audio input source to make it works properly

Save

Alarm

System Alarm

In addition to the LED indicators, two kinds of system alarm are provided by the VPort 25 for notifying the system operation administrator.



VPort 25 Series IP Camera

Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Best viewed with IE 6.0 or above with resolution of 1280x1024

System Alarm

Case Open Alarm

□ Enable case open alarm

□ Trigger Relay1 Alarm

□ Auto warning via recipient email

Network Disconnected Alarm

□ Enable network disconnected alarm

□ Trigger Relay1 Alarm

Note: System alarms work continuously after being set up.

Alarm Type	Triggered Condition	Triggered Action
Case Open Alarm	The upper case is opened	Email and Relay Output
Network Disconnected	Network disconnected	Relay Output (DO)

Case Open Alarm

Setting	Description	Default
Enable Case Open Alarm	Enable/ Disable the alarm of open case sensor	Disable
Trigger Relay 1 Alarm	Enable or disable the action of triggering Relay Output (DO) alarms.	Disable
Auto warning via recipient email	Send a warning Email to the recipient email address being setup in SMTP server	Disable

Network Disconnected Alarm

Setting	Description	Default
Enable network disconnected alarm	Enable or disable network disconnected alarm.	Disable
Trigger Relay alarm	Enable or disable the action of triggering **Relay Output (DO)** alarms.	Disable

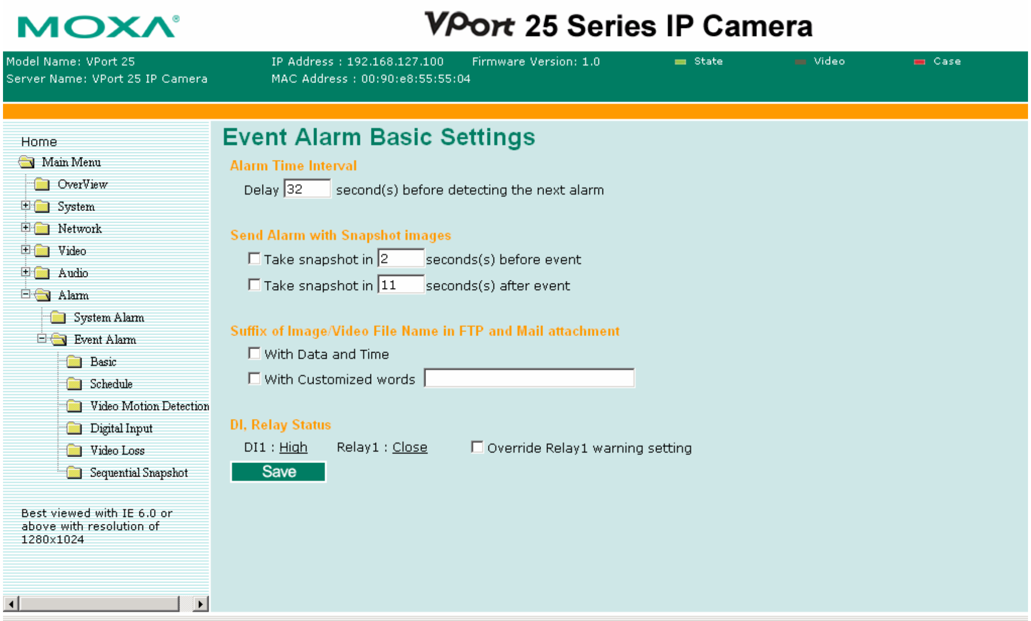
NOTE Since several alarms can be set up to trigger the VPort’s relays, the administrator should configure these alarms carefully in case a relay message is read incorrectly.

Event Alarm

Four kinds of event alarm are provided by the VPort 25 for building an intelligent video surveillance system.

Alarm Type	Triggered Condition	Triggered Action
Video Motion Detection (VMD)	1.VMD 1 2.VMD 2 3. VMD 3	1.Relay 2.Email 3.FTP 4.HTTP Event Server
Digital Inputs	DI	1.Relay 2.Email 3.FTP 4.HTTP Event Server
Video Loss	Video signal is lost	1.Relay 2.Email 3.HTTP Event Server
Sequential Snapshot	Enable sequential snapshot	1.Email 2.FTP

Basic



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Event Alarm Basic Settings

Alarm Time Interval

Delay 32 second(s) before detecting the next alarm

Send Alarm with Snapshot images

□ Take snapshot in 2 seconds(s) before event

□ Take snapshot in 11 seconds(s) after event

Suffix of Image/Video File Name in FTP and Mail attachment

□ With Data and Time

□ With Customized words

DI, Relay Status

DI1 : High Relay1 : Close □ Override Relay1 warning setting

Best viewed with IE 6.0 or above with resolution of 1280x1024

Alarm Time Interval

Setting	Description	Default
Delay second(s) before detecting the next alarm	Set up the time interval for each event alarm triggered.	32 seconds (10 to 999 seconds)

NOTE The delay before detecting the next alarm cannot be less than the time needed to take a snapshot after an event (post-event image).

Send alarm with snapshot image

Setting	Description	Default
Take snapshot seconds(s) before the event	A snapshot image is taken this number of seconds before the event alarm is triggered.	2 seconds (from 1 to 6 seconds)
Take snapshot seconds(s) after the event	A snapshot image is taken this number of seconds after the event alarm is triggered.	11 seconds (from 1 to 999 seconds)

NOTE VPort products will take 3 JPEG snapshot images: VPRE.JPG (pre-event), VTRG.JPG (the moment of event) and VPOS.JPG (post-event) for the video channel when the trigger condition is met. The three snapshots can also be downloaded by Email and FTP.

Suffix of Snapshot Image File Name in FTP

The snapshot images can be sent either by email or FTP. Administrators can add a suffix to the filename of each JPEG snapshot image to make it easier to identify the files when using FTP to download the snapshots.

Setting	Description	Default
With Date and Time	Enable or disable the function of adding the date and time to the filename.	disable
With Customized words	Enable or disable the function of adding some additional text to the filename to identify the snapshot image.	disable

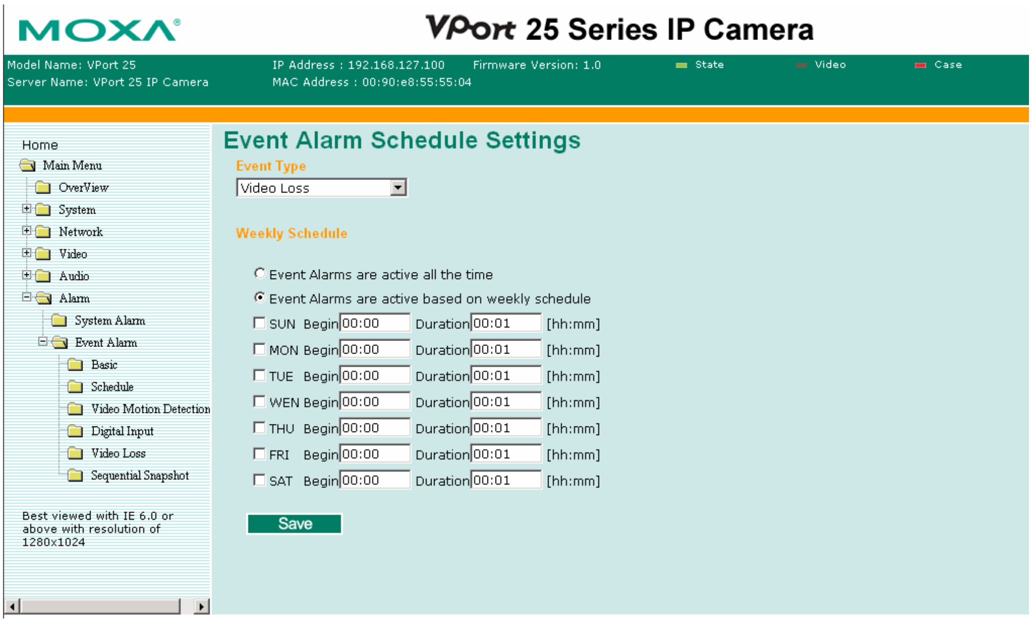
DI, Relay Status

Administrators can check the current DI and Relay status of this VPort in the "DI, Relay Status" section on the "Event Alarm Basic Settings" page. It is available to return the relay's status back to the system defaults. To make the function work, check the **Override Relay warning setting** box, and then click on **Save**.

NOTE The relays will not be triggered when the **Override Relay warning setting** box is checked. Un-check this box to ensure that the relays will trigger.

Schedule

A schedule is provided to set event alarms for daily security applications.



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Best viewed with IE 6.0 or above with resolution of 1280x1024

Event Alarm Schedule Settings

Event Type
Video Loss

Weekly Schedule

○ Event Alarms are active all the time
● Event Alarms are active based on weekly schedule

□ SUN	Begin 00:00	Duration 00:01	[hh:mm]
□ MON	Begin 00:00	Duration 00:01	[hh:mm]
□ TUE	Begin 00:00	Duration 00:01	[hh:mm]
□ WEN	Begin 00:00	Duration 00:01	[hh:mm]
□ THU	Begin 00:00	Duration 00:01	[hh:mm]
□ FRI	Begin 00:00	Duration 00:01	[hh:mm]
□ SAT	Begin 00:00	Duration 00:01	[hh:mm]

Event Type

Setting	Description	Default
Video Loss, Digital Input, Video Motion Detection, Network Failure, and Sequential Snapshot	Set up the schedule of each kind of event type.	Video Loss

Weekly Schedule

Setting	Description	Default
Event Alarms are active all the time	Select the option "Event Alarms are active all the time"	Event Alarms are active based on a weekly schedule
Event alarms are active based on a weekly schedule	Select to operate event alarms on a weekly schedule.	

NOTE The applications described in the following sections will only work properly if either **Event Alarms are active all the time** or **Event Alarms are active based on weekly schedule** is selected.

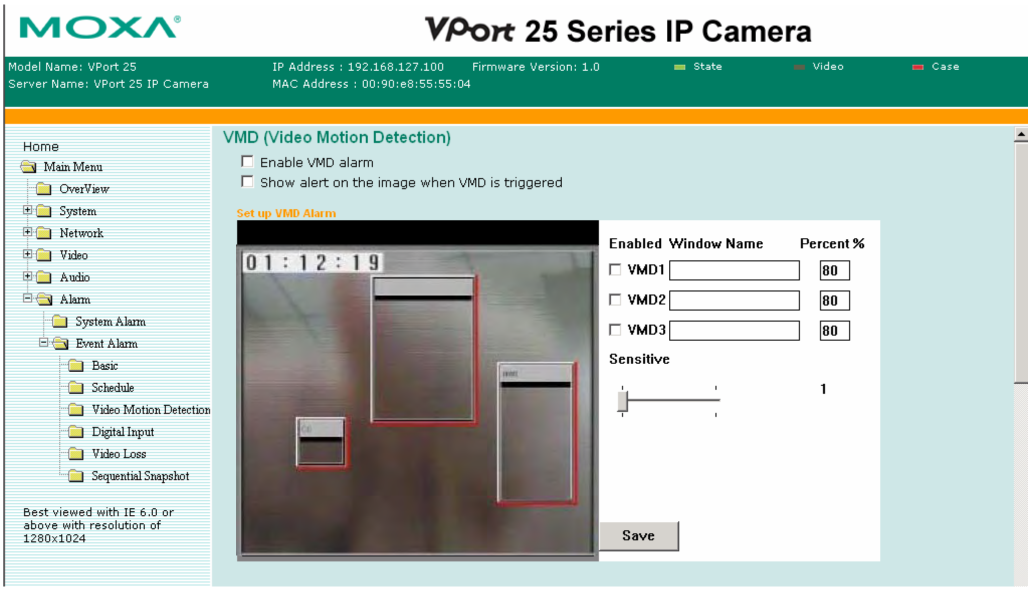
Setting	Description	Default
□Sun □Mon □Tue □Wed □Thu □Fri □Sat	Select the weekday for scheduling event alarms.	None
Begin 00:00	Set the beginning time of the event	00:00
Duration 00:00	Set the time period of the event alarm to be activated.	00:00

NOTE Administrators can use the following few steps to set up an event schedule:

1. Select Event Type
2. Enable Event Alarms are active based on weekly schedule
3. Select the weekday
4. Set up the begin time
5. Set up the duration this event will be active.
6. Save

Video Motion Detection

Video Motion Detection (VMD) is an intelligent event alarm for video surveillance network systems. With the 3 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.



VPort 25 Series IP Camera

Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

VMD (Video Motion Detection)

□ Enable VMD alarm
□ Show alert on the image when VMD is triggered

Set up VMD Alarm

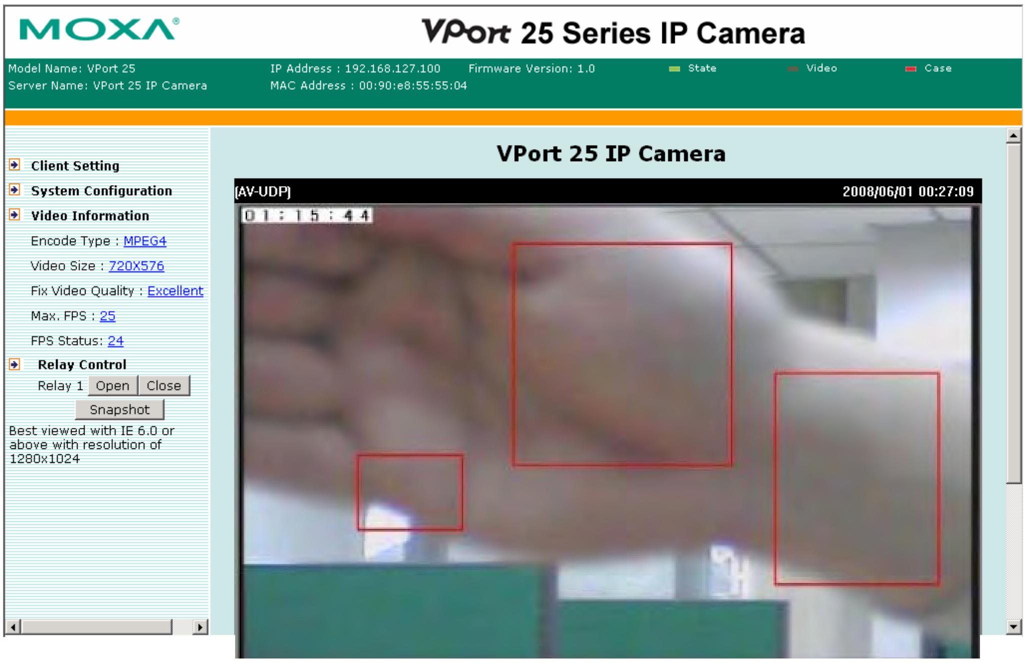
Enabled	Window Name	Percent %
□	VMD1	80
□	VMD2	80
□	VMD3	80

Sensitive 1

Best viewed with IE 6.0 or above with resolution of 1280x1024

Setting	Description	Default
Enable VMD alarm	Enable or disable the VMD alarm.	Disable
Show alert on the image when VMD is triggered	Enable or disable alert for sections of the homepage image on the homepage.	Disable

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



VPort 25 Series IP Camera

Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

VPort 25 IP Camera

Encode Type : MPEG4
Video Size : 720X576
Fix Video Quality : Excellent
Max. FPS : 25
FPS Status: 24

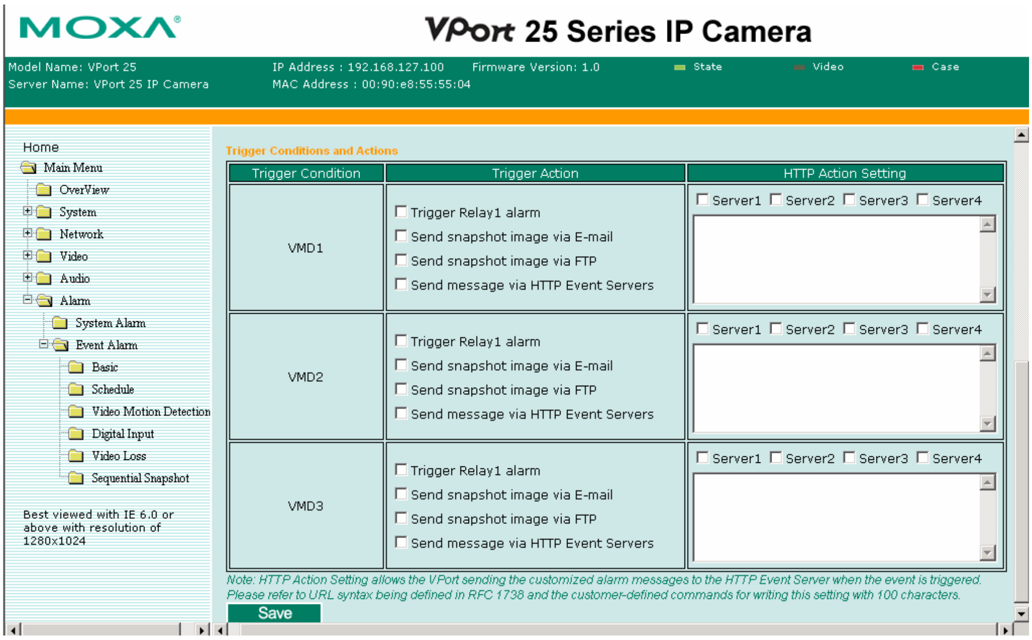
Best viewed with IE 6.0 or above with resolution of 1280x1024

Set up a VMD alarm

Setting	Description	Default
Window Name	The name of each VMD window.	None
Sensitivity	The measurable difference between two sequential images to trigger VMD. Set a larger sensitivity to make it easier for the VMD to be triggered.	1
Percentage	The minimum size of the image change to trigger the VMD. Set a smaller percentage to make it easier to trigger the VMD.	80%

Trigger Conditions and Actions

Administrators can set up triggers for each VMD, including **Trigger Relay alarm**, **Send snapshot image via E-mail, Send snapshot image via FTP**, and **HTTP Action Settings**.



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Best viewed with IE 6.0 or above with resolution of 1280x1024

Trigger Conditions and Actions

Trigger Condition	Trigger Action	HTTP Action Setting
VMD1	□ Trigger Relay1 alarm □ Send snapshot image via E-mail □ Send snapshot image via FTP □ Send message via HTTP Event Servers	□ Server1 □ Server2 □ Server3 □ Server4
VMD2	□ Trigger Relay1 alarm □ Send snapshot image via E-mail □ Send snapshot image via FTP □ Send message via HTTP Event Servers	□ Server1 □ Server2 □ Server3 □ Server4
VMD3	□ Trigger Relay1 alarm □ Send snapshot image via E-mail □ Send snapshot image via FTP □ Send message via HTTP Event Servers	□ Server1 □ Server2 □ Server3 □ Server4

Note: HTTP Action Setting allows the VPort sending the customized alarm messages to the HTTP Event Server when the event is triggered. Please refer to URL syntax being defined in RFC 1738 and the customer-defined commands for writing this setting with 100 characters.

How to Set up a VMD alarm

Step 1: Check the **Enable VMD alarm** box. If the Administrator wants to show the red frame alert on the image on the VPort 25's web homepage, check the **Show alert on the image when VMD is triggered** box. Click on the **Save** button to save these 2 configurations.

Step 2: Check on VMD1~3 to enable the VMD window. Left click the title bar of this window to move the location of the VMD window, or drag the border to change the window size so that it fits the desired VMD area.

Step 3: Assign a name to the VMD window in the **Window Name** column.

Step 4: Set up the **Percentage** parameters for individual VMD windows and the **Sensitivity** for all VMD windows.

Step 5: Click on the **Save** button to save the settings.

Step 6: Set up the Trigger Conditions and Actions of each VMD, and then click on the **Save** button to save these configurations.

NOTE Video Motion detection is provided as a reference because it is environment-dependent. When the settings are configured to be very sensitive to motion, some triggered events might actually be false alarms, since in fact there is only a tiny difference between sequential images. False alarms can be triggered by the flashing of florescent lights, shifting of shadows, etc.

Digital Input

One digital input is provided by the VPort 25 for linking with alarm detection devices, such as sensor.

Setting	Description	Default
Enable digital input alarm	Enable or disable the digital input alarm.	Disable

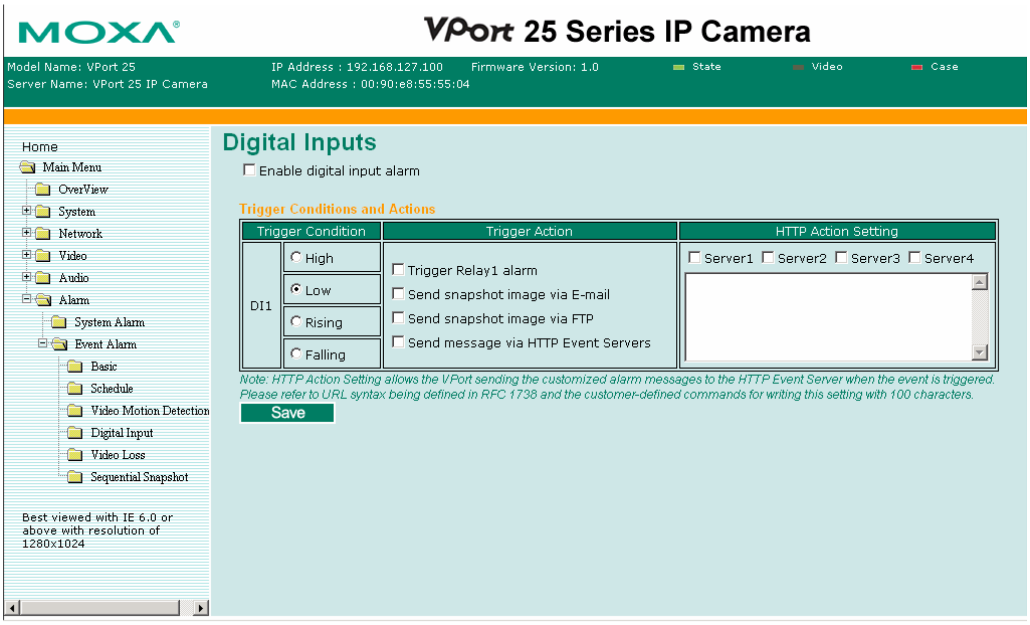
Trigger Conditions

Setting	Description	Default
High	The DI is always in the "High" state after an alarm is detected.	Disable
Low	The DI is always in the "Low" state after an alarm is detected.	Enable
Rising	The DI works from state "Low" to state "High" and then back to state "Low" when an alarm is detected.	Disable
Falling	The DI works from state "High" to state "Low" and then back to state "High" when an alarm is detected.	Disable

NOTE Please refer to Chapter 1 to see the DI specifications.

Trigger Actions

Administrators can set up trigger actions for each DI, including Trigger Relay alarm, Send snapshot image via E-mail, Send snapshot image via FTP, and HTTP Action Settings.



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Digital Inputs

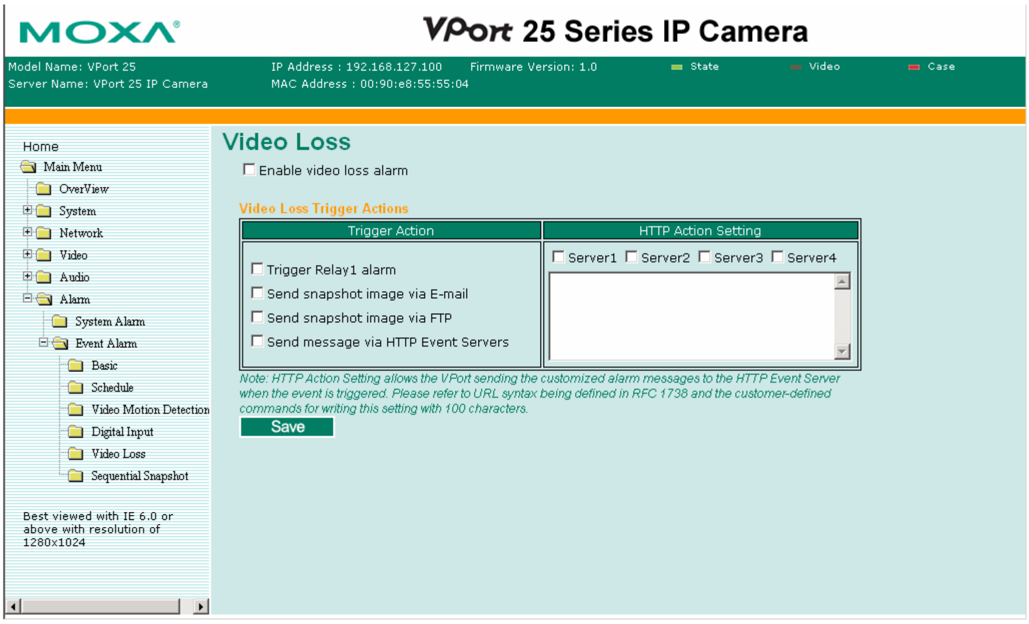
□ Enable digital input alarm

Trigger Conditions and Actions

Trigger Condition		Trigger Action	HTTP Action Setting
DI1	○ High ● Low ○ Rising ○ Falling	□ Trigger Relay1 alarm □ Send snapshot image via E-mail □ Send snapshot image via FTP □ Send message via HTTP Event Servers	□ Server1 □ Server2 □ Server3 □ Server4

Note: HTTP Action Setting allows the VPort sending the customized alarm messages to the HTTP Event Server when the event is triggered. Please refer to URL syntax being defined in RFC 1738 and the customer-defined commands for writing this setting with 100 characters.

Video Loss



Model Name: VPort 25
Server Name: VPort 25 IP Camera
IP Address : 192.168.127.100
MAC Address : 00:90:e8:55:55:04
Firmware Version: 1.0

Video Loss

□ Enable video loss alarm

Video Loss Trigger Actions

Trigger Action	HTTP Action Setting
□ Trigger Relay1 alarm □ Send snapshot image via E-mail □ Send snapshot image via FTP □ Send message via HTTP Event Servers	□ Server1 □ Server2 □ Server3 □ Server4

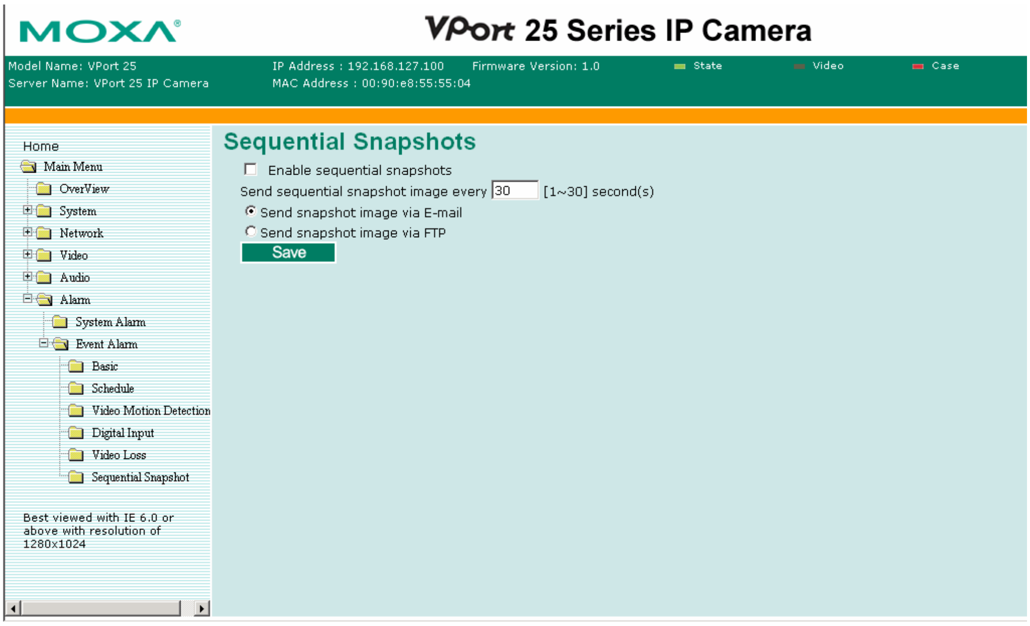
Note: HTTP Action Setting allows the VPort sending the customized alarm messages to the HTTP Event Server when the event is triggered. Please refer to URL syntax being defined in RFC 1738 and the customer-defined commands for writing this setting with 100 characters.

Setting	Description	Default
Enable video loss alarm	Enable or disable video loss alarm.	Disable
Trigger Relay alarm	Enable the trigger action in triggering **Relay** alarms.	Disable
Send Snapshot Image	Enable the trigger action to send a warning message via email and FTP	Disable

Sequential Snapshot

With this feature, the VPort can upload snapshots periodically to an external E-mail or FTP server as a live video source. Use the **Send sequential snapshot image every seconds** option to set the time interval. The interval can be set to any number from 1 second to 9999 seconds.

Setting	Description	Default
Enable Sequential Snapshots	Enable or disable the Sequential Snapshots.	Disable
Send sequential snapshot image every seconds	Set the time interval of each snapshot image.	30 seconds (from 1 second to 30 seconds)
Send Snapshot image via E-mail	Choose how to send the snapshot images.	Send Snapshot image via Email
Send Snapshot image via FTP		



Sequential Snapshots

□ Enable sequential snapshots

Send sequential snapshot image every 30 [1~30] second(s)

● Send snapshot image via E-mail

○ Send snapshot image via FTP

A

Frequently Asked Questions

Q: What if I forget my password?

A: Every access to the IP camera needs authentication, unless the admin password is set up as blank. If you are one of the managed users, you will need to ask the administrator for the password. If you are the administrator, there is no way to recover the admin password. The only way to regain access to video encoder is to utilize the **RESET** button on the top panel to restore the factory settings (see Chapter 1 for details).

Q: Why can’t I see video from the IP camera after it has been authenticated?

A: There are many possible scenarios:

1. If you have installed the IP camera correctly and the LEDs appear normal, check to see if the camera module (lens and CCD module) is tuned properly.
2. 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.
3. 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.

Q: What is the plug-in for?

A: The plug-in provided by IP camera is used to display motion pictures. 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. It is recommended that you consult the network supervisor in your office before adjusting the security level.

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 video encoder is connected to the Internet and the function is enabled. Differences of several hours may result from the time zone setting.

Q: Why doesn’t the image refresh regularly?

A: This may be due to the time it takes to store recorded video and snapshots into memory, or the time it takes to send the images to the SMTP and FTP server when events occur.

Q: How many users are allowed to access the video encoder at the same time?

A: Basically, there is no limitation. However the video quality also depends on the network bandwidth. To achieve the best effect, the video encoder will allow 10 users for udp/tcp/http connections and 10 users for multicast to be connected. We recommend using an additional web server that retrieves images from the video encoder periodically if you need to host a large number of users.

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

A: The codecs can process 30 frames per second internally. However the total performance is subject to many coefficients, as listed below:

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

In general, the transfer rate for a general local network environment can achieve over 800 kilobytes per second and approximately 10 to 20 pictures of a normal environment per second.

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. The user authentication and special confirmation when installing can keep the IP camera from unauthorized access. You may also change the HTTP port to a non-public number. Check the system log to examine any abnormal activities and trace the origins.

Q: How fast will the IP camera check the status of digital inputs?

A: The IP camera will check the input status in less than half a second.

Q: Why can't I access the IP camera when I set up some options in the application?

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 motion pictures if the event is frequent. If you prefer to retrieve images by FTP, the value could be smaller since an FTP server responds more quickly than a web server. Once the system is too busy to configure, use the restore factory default and reset button to save the system.

Q: The image is not clear enough. Is anything broken?

A: The lens can be focused by rotating the outer ring. Rotate it clockwise or counter-clockwise to focus near or far.

B

Time Zone Table

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

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

(GMT+02:00)	Harare, Pretoria
(GMT+02:00)	Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius
(GMT+02:00)	Jerusalem
(GMT+03:00)	Baghdad
(GMT+03:00)	Kuwait, Riyadh
(GMT+03:00)	Moscow, St. Petersburg, Volgograd
(GMT+03:00)	Nairobi
(GMT+03:30)	Tehran
(GMT+04:00)	Abu Dhabi, Muscat (GMT+04:00) Baku, Tbilisi, Yerevan (GMT+04:30) Kabul
(GMT+05:00)	Ekaterinburg
(GMT+05:00)	Islamabad, Karachi, Tashkent (GMT+05:30) Chennai, Kolkata, Mumbai, New Delhi
(GMT+05:45)	Kathmandu
(GMT+06:00)	Almaty, Novosibirsk (GMT+06:00) Astana, Dhaka
(GMT+06:00)	Sri Jayawardenepura (GMT+06:30) Rangoon
(GMT+07:00)	Bangkok, Hanoi, Jakarta (GMT+07:00) Krasnoyarsk
(GMT+08:00)	Beijing, Chongqing, 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

Technical Specifications

Camera

Sensor	1/3” Sony Super HAD or 1/3” Sony ExView
Lens	Wide end: F1.4, Diagonal 97.61° / Horizontal 76.92° Tele End: F2.4, Diagonal 28.37° / Horizontal 22.73° Focal length: F= 3.7~12 mm
Modulation	NTSC or PAL
Camera Angle	pan ±180°, tilt ±85°, rotation ±170°
Illumination (Low light sensitvity)	Color: 0.2 Lux at F1.2 Black/ White: 0.03 Lux at F1.2
Synchronization	Internal
Gamma Correction	0.45
White Balance	Auto Tracking White Balance
Electronic Shutter	Auto: 1/60 (50) second to 1/100,000 second
S/N Ratio	More than 50 dB (AGC off)
AGC Control	On/ Off
Flickerless Control	On/ Off
Backlight Compensation	On/ Off
Mirror	On/ Off
Auto Exposure/ Auto Iris	On: Auto Exposure Off: Auto Iris

Video

Video Compression	MJPEG or MPEG4 (ISO/IEC 14496-2)
Video Output	Via Ethernet port or BNC connector (1.0 Vpp, 75Ω)

Video Resolution and FPS (Frame per second):

	NTSC		PAL	
	Size	Max. FPS	Size	Max. FPS
QVGA	320 x 240	30	320 x 288	25
CIF	352 x 240	30	352 x 288	25
VGA	640 x 480	30	640 x 480	25
4CIF*	704 x 480	30	704 x 576	25
Full D1	720 x 480	30	720 x 576	25

Video Viewing	Adjustable image size and quality Timestamp and text overlay

Audio

Audio Input	1 Line-in or MIC-in with 2-pin terminal block connector
Audio Output	1 Line out with 2-pin terminal block connector
Network	
Protocols	TCP, UDP, HTTP, SMTP, FTP, Telnet, NTP, DNS, DHCP, UPnP, RTP, RTSP, ICMP, IGMPv3, SNMPv3, DDNS
Ethernet	1 10/100BaseT(X) auto negotiation RJ45 port
GPIO	
Digital Input	1, max. 8 mA “High”: +13V to +30V “Low”: -30V to +3V
Relay Output	1 (max. 24 VDC @ 1A)
LED Indicators	
Network	1 LED for 10 Mbps, 1 LED for 100 Mbps
Power	Power On/ Off
System	Indicates if the system booted properly or not
DIP Switch	For turning the LED light ON or Off
Power	
Input	Redundant power inputs 1 12/ 24 VDC or 24 VAC with 2-pin terminal block connector 1 Power-over-Ethernet (IEEE802.3af)
Consumption	Max. 9.5W
Physical Properties	
Housing	IP66 rated for rain and dust protection Vandal-proof supports
Dimensions	Diameter: 142 mm (5.6 in) Height: 119 mm (4.7 in)
Weight	2 kg
Installation	Surface/ Wall Mounting
Environmental Limits	
Operating Temperature	-40 to 50°C (-40 to 122°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Regulatory Approvals	
EMI	FCC Part 15, CISPR (EN55022) class A
EMS	EN61000-4-2 (ESD), Level 2 EN61000-4-3 (RS), Level 3 EN61000-4-4 (EFT), Level 3 EN61000-4-5 (Surge), Level 3 EN61000-4-6 (CS), Level 2 EN61000-4-12 (Oscillatory wave immunity), Level 3
Shock	IEC60068-2-27
Freefall	IEC60068-2-32
Vibration	IEC60068-2-6
Warranty	1 year
Alarm Features	

- Video motion detection with sensitivity tuning
- Video loss alarm
- Built-in open-case sensor alarm
- Daily repeat timing schedule
- JPEG snapshots for pre/trigger/post alarm images
- HTTP Event Servers for setting customized alarm actions

Security

User level password protection
IP address filtering

Minimum Viewing System Requirements

Pentium 4, 2.4 GHz
512 MB of memory
Windows XP/2000 with SP4 or above
Internet Explorer 6.x or above
DirectX 9.0c or above

Software Bundled Free

Moxa SoftDVR Lite	1- to 4-ch IP Surveillance Software for viewing & recording