

Moxa VPort 364 Industrial Video Encoder User's Manual

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Moxa VPort 364 Industrial Video Encoder User's Manual

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Before Getting Started

Before using your VPort 364, please pay close attention to the following instructions:

- ❑ After opening the VPort 364 box, compare the contents of the box with the **Package Checklist in Chapter 1**. Notify your sales representative if any of the items are missing or damaged.
- ❑ To prevent damage or problems caused by improper use, read the **Quick Installation Guide** (the printed handbook included in the package) before assembling and operating the device and peripherals. 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 cannot be recovered, refer to the **Troubleshooting** section in **Chapter 7** to learn how to restore factory default settings and reinstall the system.
- ❑ The VPort 364 Video encoder 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 the VPort 364 Video Encoder 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 server, verify that the operations of such devices are legal in your locality before installing this unit for surveillance purposes.

Introduction

The VPort 364 is a rugged networking video encoder designed for use in harsh environments. In addition to being able to handle basic video feeds, many advanced features are also included to set up surveillance or web multimedia applications. The VPort 364 is designed to provide stability, robustness, ease-of-use, and flexibility.

The following topics are covered in this chapter:

- ❑ **Overview**
- ❑ **Package Checklist**
- ❑ **Product Features**
- ❑ **Typical Application**
- ❑ **Panel Layout of the VPort 364**
- ❑ **Product Description**

Overview

The VPort 364 is a 4-channel industrial video encoder that supports the H.264 video compression algorithm, which provides the best video quality on the market while requiring less bandwidth compared to other video compression standards. In addition, the VPort 364 provides dual video streams in both H.264 and MJPEG format simultaneously. The two video streams can be independently configured to achieve an ideal video quality and bandwidth optimization, such as different quality settings for viewing, recording, or analyzing video. Rugged and industrial features, such as a -40 to 75°C operating temperature, IP30-rated form factor, and industrial certifications make the VPort 364 perfect for harsh, industrial environments.

High Performance H.264/MJPEG compression

Video input can be efficiently compressed into H.264/MJPEG video stream packets in real time. This is done without sacrificing remote monitoring capability or storage. Five levels of compression quality and four different image resolutions provide greater versatility.

Dual video streams for meeting versatile application requirements

VPort 364 is a powerful video encoder. Aside from the high quality H.264 video compression, it can also generate a maximum of dual video streams: one H.264 and one MJPEG simultaneously, to meet the needs of specific applications. For example, the user can view the h.264 video streams with full D1 resolution at 30FPS and record the MJPEG video streams with CIF resolution at 30FPS.

Moxa DynaStream™ for network efficiency

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

Low video latency: under 200 ms (milliseconds)

For some mission-critical applications, low video latency is one of the key requirements. For example, highway transportation systems monitor very fast moving vehicles; videos displayed at the central traffic control center need to reflect the latest traffic conditions. Therefore, the video latency must be under 200ms.

2-way audio supported for a complete surveillance solution

The VPort 364 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).

Rugged design for industrial environments

The VPort 364 is an industrial video encoder, which means that it is designed for harsh industrial environments. With the 12/24 VDC and 24 VAC redundant power inputs, IP30 protection, and DIN-Rail mounting, the VPort 364 meets the critical requirements of most industrial applications. Most importantly, the VPort 364-T can operate reliably in a -40 to 75°C temperature range. The VPort 364-T is an optimal solution for outdoor and harsh environments.

Modbus/TCP supported for convenient communication with SCADA/HMI

Most automation applications use SCADA/HMI systems to monitor and control field site devices and equipment. Many SCADA/HMI systems now require real-time video for remote monitoring, and for this reason, the VPort 364 supports the Modbus/TCP protocol, which enables direct communication between the VPort and the SCADA/HMI system, allowing administrators to easily determine the status of their VPorts for maintenance purposes.

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 364 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 many times the bandwidth required for transmitting general data. For this reason, the efficiency of network bandwidth management is one of the most important factors that determine the performance of a video over IP surveillance system. The VPort 364 supports multicast transmission with the 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.

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 either in your office or in 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 364 suitable for more versatile applications.

Flexible I/O control for external devices

2 opto-isolated sensor inputs and 2 relay outputs are provided to control external devices, giving system integrators the option of turning an analog system into an advanced security system.

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 the 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

The Moxa VPort 364 is shipped with the following items. If any of these items are missing or damaged, please contact your sales representative for assistance.

- VPort 364
- 2 5-pin terminal block for 2 power inputs and 2 relay outputs
- 8-pin terminal block for 4 digital inputs
- 5-pin terminal block for RS-232/422/485 PTZ control port
- Quick Installation Guide
- Documentation and software CD
- Warranty statement

Note: If any of these items are missing or damaged, please contact your service representative for assistance

Product Features

High Performance Video/Audio Networking Solution

- Works with NTSC/PAL analog video cameras
- Supports H.264/MJPEG video compression technologies

- Dual simultaneous video streams (1 H.264 and 1 MJPEG).
- Lower latency, under 200 ms.
- 4 BNC video inputs
- Single video stream up to 30 frames/sec in Full D1 (720 x 480 resolution in NTSC, and 25 frames/sec in Full D1 (720 x 576) resolution in PAL
- Select from Full D1/ 4CIF/ VGA/ CIF/ QCIF resolutions.
- 1 audio input and 1 audio output for 2-way voice communication
- TCP, UDP, and HTTP network transmission modes
- Supports Modbus/TCP for easy communication with SCADA systems
- Standard RTSP (Real-time streaming protocol) for easy integration
- DynaStream™ for automatic frame rate adjustment
- Supports multicast (IGMP) protocols for efficient network transmission;
- DDNS, UPnP and IP filtering supported
- Supports QoS (TOS) for priority transmission
- Supports SNMP V1/V2c/V3 for network management
- Built-in web server and RS-232 console for remote access and configuration
- One auto-sensing 10/100BaseT(X) or 100BaseFX (SC connector) Ethernet port
- 8 output video streams and 8 client connections.
- 50 multicast clients for receiving multicast video streams
- Multicast push for all the clients
- Supports CBR (constant bit rate) or VBR (variable bit rate) encoding
- Supports 1 RS-232/RS-422/RS-485 5-pin PTZ port for controlling a PTZ (PAN/TILT/ZOOM) motorized camera via a TCP/IP network

Rugged Industrial Design

- Two 12/24 VDC and 24 VAC redundant power inputs with LED indicators
- -40 to 75°C operating temperature for critical industrial environments ("T" models)
- 35 mm DIN-Rail mounting or panel mounting installation (requires optional accessories)
- IP30 protection form factor
- CE, FCC, and UL508 (pending) certification for industrial applications

Intelligent Alarm Trigger

- Supports system alarms, including power failure and network link
- Supports event alarms, including video motion detection (VMD), video loss, digital input, and CGI event
- Equipped with 4 DI's and 2 relays (DO) for external sensors and alarms
- Snapshot images provided for pre, trigger, and post alarm
- Sequential snapshot images supported
- Messages with snapshot images can be sent via FTP or Email
- HTTP Action setting for alarm messages sent by HTTP event server
- Capable of setting an alarm schedule

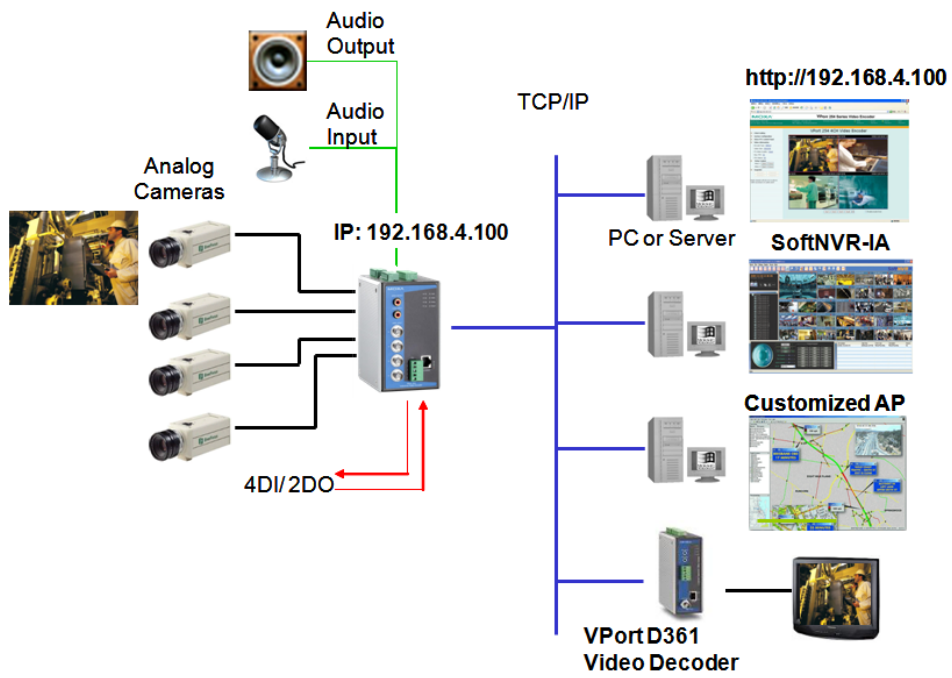
Video Management and Control

- Support for Moxa SoftNVR-IA IP surveillance software, a video recording and management solution
- Free Moxa VPORT SDK PLUS supported with flexible interface and sample code for customized applications or system integration

NOTE If you are interested in SoftNVR-IA IP surveillance software, please go to Moxa's website www.moxa.com to download the trial version

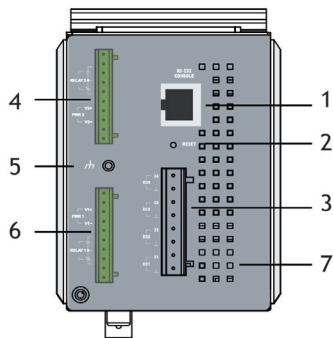
NOTE If you are interested in Moxa's VPortSDK PLUS, please go to Moxa's website www.moxa.com to download the package, or contact a Moxa sales representative for more information about this SDK

Typical Application



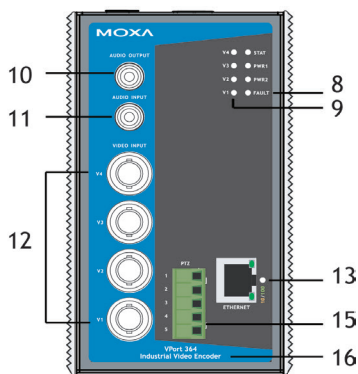
Panel Layout of the VPort 364

Top Panel View

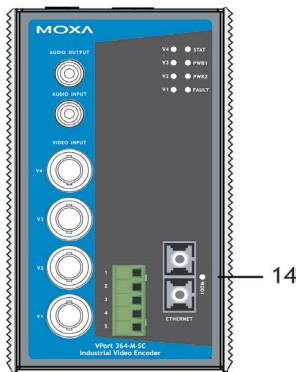


1. RS-232 console port
2. Hardware reset button
3. 8-pin terminal block for DI 1 to DI 4
4. 5-pin terminal block for Relay 2 and power input 2 (PWR2)
5. Grounding screw
6. 5-pin terminal block for Relay 1 and power input 2 (PWR1)
7. Heat dissipation orifices
8. LEDs for STAT, PWR1, PWR2, and FAULT
9. LEDs for V1 to V4
10. AUDIO OUTPUT port for external speakers
11. AUDIO INPUT port for mic-in and line-in connection
12. 4 BNC connector for V1 to V4 video inputs
13. RJ45 10/100BaseTX Ethernet port with 10/100 Mbps LED
14. 100BaseFX fiber optic port with 100 Mbps LED
15. RS-232/422/485 PTZ port with 5-pin terminal block for PTZ camera control
16. Model name
17. Screw hole for wall mounting
18. Screw hole for DIN-Rail mounting

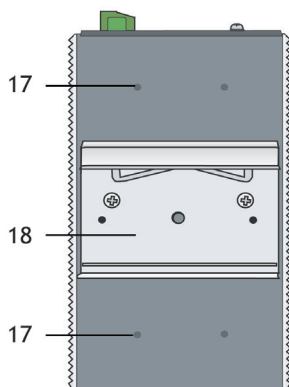
VPort 364
Front Panel View



VPort 364-M-SC
Front Panel View



Rear Panel View



Product Description

BNC video input

The BNC video input is a 1Vpp, 75-ohm video port for connecting an external camera. To ensure that the correct video modulation type is detected, the cameras should be connected and powered on before the VPort is powered on.

NOTE Please use a standard CCTV cable (RG59U or above) to connect the video camera to the VPort's BNC connector.

RCA Connectors for Audio Input/Output

The VPort 364 has 2 RCA phone jacks for audio input and output on the front panel. One jack is for a MIC-in/Line-in audio input connection, which can be directly connected with a microphone or an audio source from an amplifier. The other jack is a Line-out audio output connection, which can be used to connect earphones or an amplifier.

LED indicators

The front panel of the VPort 364 contains several LED indicators. The function of each LED is described in the table below.

| LED | Color | State | Description |
|----------------------|-----------|----------------|---|
| STAT | Green/Red | Steady Red | Hardware initialization stage. |
| | | Flashing Red | Software initialization stage. |
| | | Steady Green | System has booted up and is ready to run. |
| | | Flashing Green | Firmware is being upgraded. |
| PWR1 | AMBER | On | Power is being supplied through power input PWR1. |
| | | Off | Power is not being supplied through power input PWR1. |
| PWR2 | AMBER | On | Power is being supplied through power input PWR2. |
| | | Off | Power is not being supplied through power input PWR2. |
| FAULT | RED | On | One of the following 3 conditions is met: One of the 2 power inputs is disconnected. Video loss. Network disconnected. Users can configure these alarm settings on the system alarm page of system configuration. |
| | | Off | Both power inputs are connected and are working properly, there is no video loss and the network is connected. |
| V1 V2 V3 V4 | GREEN | On | Video signal is detected |
| | | Off | Video signal is not detected |
| 10/100 | AMBER | On | 10 Mbps link is active |
| | | Blinking | Data is being transmitted at 10 Mbps |
| | | Off | 10 Mbps link is inactive |
| | GREEN | On | 100 Mbps link is active |
| | | Blinking | Data is being transmitted at 100 Mbps |
| | | Off | 100 Mbps link is inactive |

10/100 Mbps Ethernet port or 100 Mbps fiber optic Ethernet port

The VPort 364 series of video encoders come in three models: the VPort 364 has 1 RJ45 10/100M Ethernet port (LEDs on the left corners of the port indicate 10M or 100M), the VPort 364-S-SC has a single mode fiber optic Ethernet port, and the VPort 364-M-SC has one multi mode fiber optic Ethernet port. Choose the model that is most appropriate for your own application.

RS-232/RS-422/RS-485 PTZ port

The VPort 364 has 1 PTZ port for PTZ control. This PTZ port is an RS-232/RS-422/485 serial port with a 5 pin terminal block connector. The pin assignments are as follows:

| PIN | RS-422/485 | | RS-232 | |
|-----|------------|------------|--------|--------|
| | | | | |
| 1 | GND | Ground | GND | Ground |
| 2 | R- | Rx- | - | N/A |
| 3 | R+ | Rx+ | RxD | RxD |
| 4 | T-/D- | Tx-/ Data- | --- | N/A |
| 5 | T+/D+ | Tx+/ Data+ | TxD | TxD |

To enable PTZ control, users should configure the PTZ control protocol in the web console.

NOTE The PTZ control protocol is not standardized. To use a particular PTZ control protocol, the video encoder must support the driver for that protocol. Currently, the VPort 364 supports PTZ control protocol drivers for:

1. Pelco D
2. Pelco P
3. Dynacolor DynaDome
4. Cohu

In addition, there is a "Transparent PTZ Control" option in the camera driver list, which is used to transmit the PTZ control signal through the TCP/IP network to the VPort D361 video decoder or PC (additional Real COM driver required), and the PTZ control panel or keyboard can directly control the PTZ camera or device. There is no need for a PTZ camera driver when using this setting.

To use a protocol that is not on the list, you will need to contact the manufacturer of the camera to get the PTZ control commands, and then use the VPort 364's custom camera function to program the PTZ control.

NOTE The VPort 364 comes with a PTZ driver upload function for implementing new PTZ drivers. Please contact a Moxa sales representative if you need assistance from Moxa's R&D department to create a new PTZ driver.



Redundant 12/24 VDC and 24 VAC power inputs

The VPort 364 has two power inputs to provide redundancy. Each power input supports both 12/24 VDC and 24 VAC power for greater versatility.

NOTE The supported power input specifications for the VPort 364 series are 12-32 VDC for a 12/24 VDC power input, or 18-30 VAC for a 24 VAC power input. The maximum power consumption is around 7.5 watts.

General I/O Terminal Blocks

One 8-pin terminal block and two 5-pin terminal block are located on the VPort 364's top panel. The terminal blocks provide 4 digital inputs (DI), 2 relay outputs (Relay), and 2 power inputs. The digital inputs and relay outputs are for linking to peripheral devices, such as sensors and alarms. These I/O connections can be employed when using the VPort 364 to create an intelligent alarm system for system operations (power failure, video loss, disconnected network) or triggered events (VMD).

| | | | |
|---------------|---|--------------|--|
| Relay Output |  | Normal Open | Max. 1A, 24 VDC Initial status is Normal Open |
| | | Common | |
| | | Normal Close | |
| Digital Input |  | DI- | "High": +13V to +30V "Low": -30V to +3V |
| | | I1, I2 | |

NOTE Please refer to the VPort 364's Quick Installation Guide to learn how to wire the digital inputs and relay outputs.

RS-232 Console Port

The VPort 364 has one RS-232 (10-pin RJ45) console port located on the top panel. Use either an RJ45-to-DB9 cable or RJ45-to-DB25 cable to connect the VPort 364's console port to your PC's COM port. You may then use a console terminal program, such as Moxa PComm Terminal Emulator, to access the VPort 364's console configuration utility.

Reset Button

A recessed RESET button is provided for rebooting and restoring the system to the factory default settings. Use a pointed object, such as a straightened paper clip or toothpick, to press the reset button.

Reboot:

To reboot the VPort 364, power it off and then power it back on again, or push the RESET button one time. The STAT LED will light in red as the POST (Power On Self Test) process runs. When the rebooting process is finished, the STAT LED will turn green.

Restore to Factory Settings:

A recessed RESET button is provided for restoring the system to the factory default settings. When the system fails to install properly, or operates abnormally, use the RESET button located on the top panel of the VPort 364 to restore the factory defaults.

To do this, use a pointed object such as a straightened paper clip or toothpick to hold down the reset button, and then release the reset button when the STAT LED stops flashing in red. At this point, the POST process will run, and the VPort will reboot. The STAT LED will turn green when the VPort has finished rebooting.

This chapter includes information about how to install a VPort 364 video encoder.

The following topics are covered in this chapter:

□ **Before Getting Started**

□ **First-Time Installation and Configuration**

- RS-232 Console Configuration (115200, None, 8, 1, VT1 00)

□ **Mounting the VPort 364 Dimension**

- DIN-Rail Mounting
- Wall Mounting

□ **Wiring Requirements**

- Grounding the VPort 364
- Wiring the Redundant Power Inputs
- Wiring the Relay Output
- Wiring the Digital Inputs
- RS-232 Connection
- 10/100BaseT(X) Ethernet Port Connection
- 100BaseFX Ethernet Port Connection
- PTZ Port

Before Getting Started

In what follows, “user” refers to those who can access the video encoder, and “administrator” refers to the person who knows the root password that allows changes to the Video Encoder’s configuration, in addition to providing general access. Administrators should read this part of the manual carefully, especially during installation.

First-Time Installation and Configuration

Before installing the VPort 364, check to make sure that all the items on the package checklist are in the box. In addition, you will need access to a notebook computer or PC equipped with an Ethernet port.

Step 1: Select the power source

The VPort 364 can be powered by a 12 to 32 VDC DC power input, or a 18 to 30 VAC AC power input. Two power inputs are provided for redundancy. Users can check the LED status located in the front panel to see if the power inputs are connected appropriately. If one of the power inputs fails, the FAULT LED will light up in red if the power failure alarm is enabled.

NOTE The VPort 364 series support power input specifications of 12-32 VDC for 12/24 VDC power input, or 18-30 VAC for 24 VAC power input (note that this is different from Moxa EDS switch’s 12-45 VDC power input). The maximum power consumption is around 7.5 watts.

Step 2: Connect the VPort 364 to a Network

The VPort 364 has one auto-sensing 10/100 Mbps RJ45 Ethernet port, or one 100 Mbps fiber optic ports (multi mode or single mode) for network connectivity. Both the RJ45 and fiber optic ports have separate LEDs for 10 Mbps and 100 Mbps connections.

Step 3: Connect the VPort 364 to a camera and an audio source

The VPort 364 has 4 VIDEO INPUT ports. Use the BNC connector (1.0 Vpp, 75Ω) and coaxial cable to connect video cameras to the VPort to input analog video signals.

The VPort 364 has 1 audio input and 1 audio output. A microphone or an amplifier can be plugged directly into the AUDIO INPUT port, and a speaker can be plugged into the AUDIO OUTPUT port.

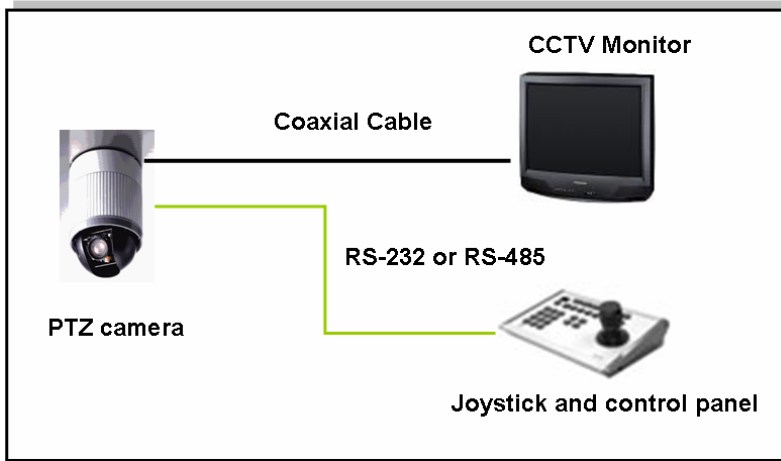
NOTE Four VIDEO LEDs (V1, V2, V3, V4) are located on the VPort 364’s front panel to indicate the video signal transmission status for video inputs. Check the LED status to see if the video is working properly.

Step 4: Connecting motorized PTZ cameras

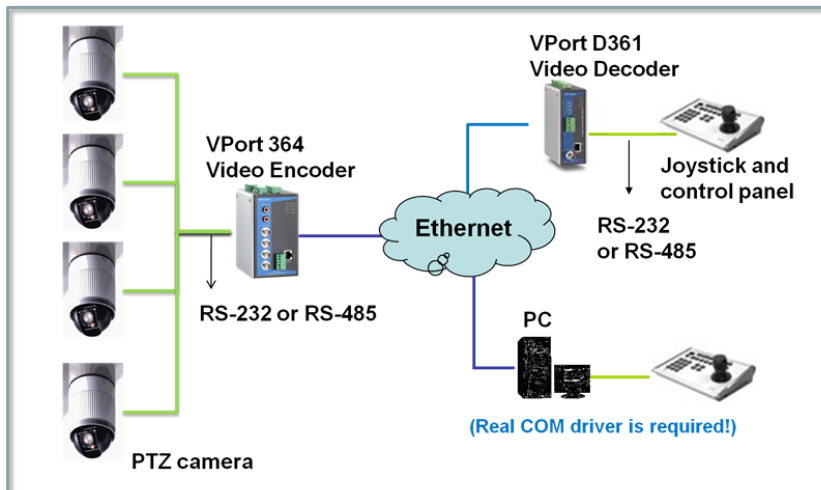
The VPort 364 has one RS-232/422/485 PTZ port with a 5-pin terminal block connector for connecting PTZ control cables to control PTZ cameras over a TCP/IP network.

To enable PTZ control, users should configure the PTZ control protocol in the web-based manager.

Legacy PTZ Camera Control



Transparent PTZ Control



NOTE The PTZ control protocol is not standardized. To use a particular PTZ control protocol, the video server must support the driver for that protocol. Currently, the VPort 364 supports PTZ control protocol drivers for:

1. Pelco D
2. Pelco P
3. DynaColor DynaDome
4. Cohu

If you need to use a protocol that is not on the list, contact the manufacturer of the camera to get the PTZ control commands, and then program its PTZ control using the VPort 364's Custom Camera function.

NOTE The VPort 364 comes with a PTZ driver upload function for implementing new PTZ drivers. Please contact a Moxa sales representative if you need assistance from Moxa's R&D department to create a new PTZ driver.

NOTE The "Transparent PTZ Control" function in the camera driver list is used to transmit the PTZ control signal over a TCP/IP network to the VPort D361 video decoder or PC (additional driver required). The PTZ control panel or keyboard can directly control the PTZ camera or device, eliminating the need for a PTZ camera driver and allowing the use of PTZ cameras with the VPort encoder.

Step 5: Configure the VPort 364's IP address

After powering on the VPort 364, wait a few seconds for the POST (Power On Self Test) to run. The STAT LED turns green to indicate that the POST process has completed. The IP address will be assigned when the 10 or


100 Mbps NETWORK LED blinks. The IP address assigned after the POST is completed depends on the network environment.

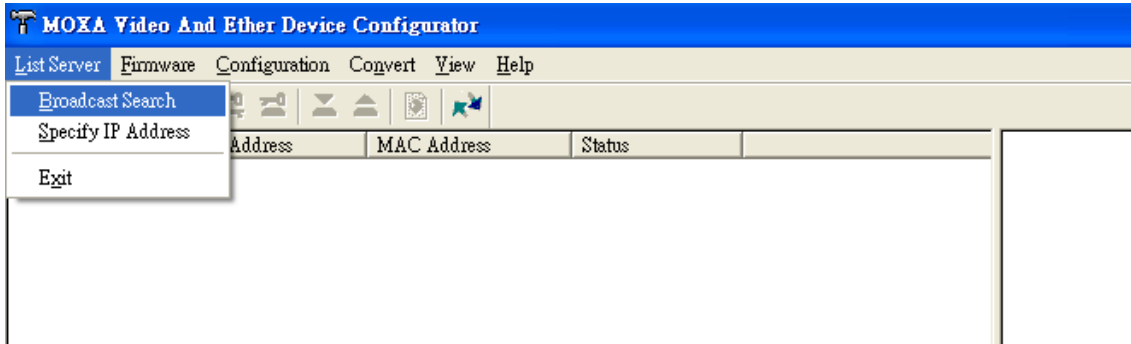
Network Environment with a DHCP Server

In this case, the IP address of the VPort 364 is assigned by a DHCP Server. Use the DHCP Server’s IP address table, or use the Moxa VPort utility to determine the IP address that was assigned by the DHCP Server.

NOTE After powering on the VPort 364, wait a few seconds for the POST (Power On Self Test) to run. The IP address will be assigned when the 10 or 100 Mbps NETWORK LED blinks.

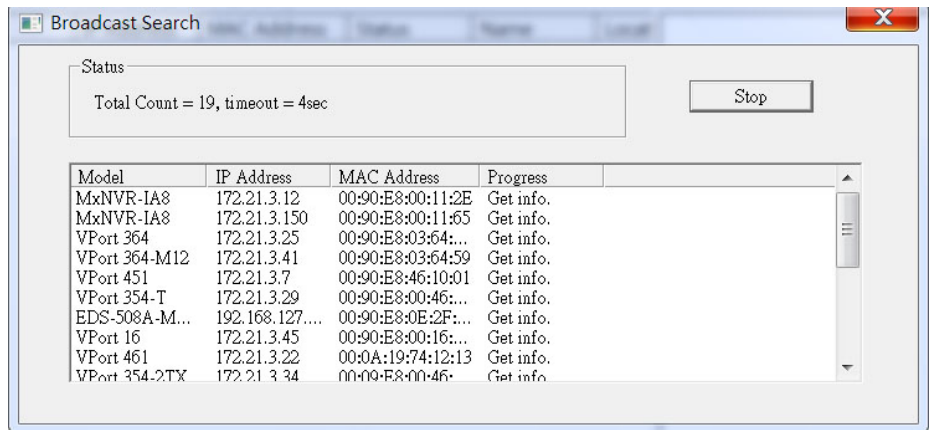
Using the **Moxa Ethernet Switch And Video Server Configuration Utility (edscfgui.exe)**, as described below:

1. Run the **edscfgui.exe** program to search for the VPort and EDS switches. After the Utility window opens, you may also select or click on Broadcast Search, which is located under the List Server menu, to initiate a search (note that you can also click on the Broadcast Search icon  to initiate a search.



NOTE You may download the Moxa Ethernet Switch And Video Server Configuration Utility (edscfgui.exe) software from Moxa’s website at www.moxa.com.

2. The **Broadcast Search** window will show a list of all switches and VPort located on the network. The progress of the search will also be displayed.

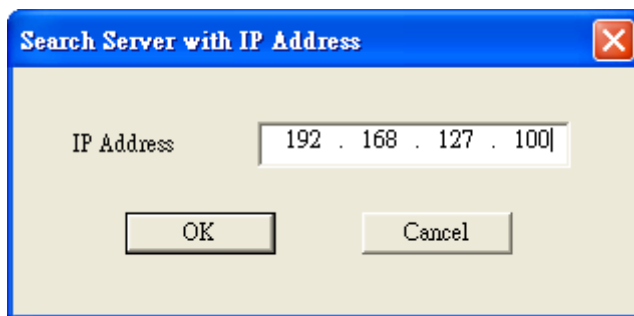


3. When the search has ended, the Model Name, MAC address, and IP address of the EDS Switch and the VPort will be listed in the Utility window.

| Model | IP Address | MAC Address | Status | Name |
|-------------------|---------------|-------------------|--------|------|
| MxNVR-IA8 | 172.21.3.12 | 00:90:E8:00:1... | | |
| MxNVR-IA8 | 172.21.3.1... | 00:90:E8:00:1... | | |
| VPort 364 | 172.21.3.25 | 00:90:E8:03:6... | | |
| VPort 364-M12 | 172.21.3.41 | 00:90:E8:03:6... | | |
| VPort 451 | 172.21.3.7 | 00:90:E8:46:1... | | |
| VPort 354-T | 172.21.3.29 | 00:90:E8:00:4... | | |
| EDS-508A-MM-SC | 192.168.12... | 00:90:E8:0E:2F... | | |
| VPort 16 | 172.21.3.45 | 00:90:E8:00:1... | | |
| VPort 461 | 172.21.3.22 | 00:0A:19:74:1... | | |
| VPort 354-2TX | 172.21.3.34 | 00:09:E8:00:4... | | |
| EDS-408A-MM-SC | 172.21.3.47 | 00:90:E8:0D:6... | | |
| PT-7828 | 192.168.12... | 00:90:E8:21:A... | | |
| VPort 354 | 172.21.3.33 | 00:90:E8:20:0... | | |
| VPort 461 | 172.21.3.21 | 00:90:E8:21:2... | | |
| EDS-508 | 192.168.12... | 00:90:E8:77:0... | | |
| VPort 15-M12-NTSC | 172.21.3.31 | 00:01:01:05:0... | | |
| VPort 461 | 172.21.3.28 | 00:0A:19:74:1... | | |
| VPort 15-M12-NTSC | 172.21.3.32 | 00:13:E2:01:6... | | |
| VPort 15-M12-NTSC | 172.21.3.30 | 00:D0:89:03:3... | | |

| | |
|---------------|-----------------------------|
| Model | VPort 364 |
| Name | VPort 364 4CH Video Encoder |
| IP Address | 172.21.3.25 |
| Netmask | 255.255.255.0 |
| Gateway | 172.21.3.254 |
| MAC Address | 00:90:e8:03:64:1d |
| Serial No | 00000 |
| Firmware Ver. | 1.0 |
| Bios Ver. | 1.0.0 |
| Http port | 80 |

NOTE Broadcast Search can only be used to search for devices on the same LAN domain. If your devices are located on a different LAN domain, use Specify IP Address to search for the device by inputting the IP address.



4. Double-click the selected VPort, or use Internet Explorer to access the VPort's web-based manager (web console).

Network Environment without a DHCP Server:

If your VPort 364 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 364 is **192.168.127.100** and the default subnet mask is 255.255.255.0. Note that you may need to change your computer's IP address and subnet mask so that the computer is on the same subnet as the VPort.

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

Step 6: Log into the ActiveX Control Plug-in

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

Step 7: Install the ActiveX Control plug-in

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



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

Step 8: Accessing the homepage of the VPort 364's web-based manager.

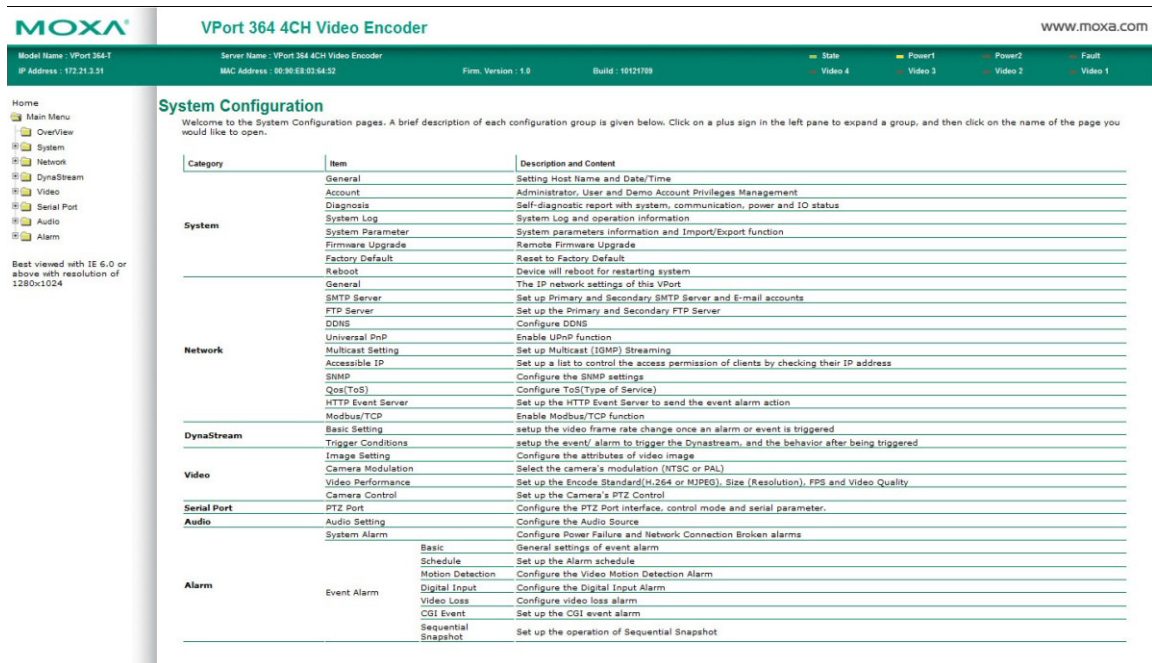
After installing the ActiveX Control component, the homepage of the VPort 364's web-based manager will appear. Check the following items to make sure the system was installed properly:

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



Step 9: Accessing the VPort's System Configuration

Click on System Configuration to access the overview of the system or to change the settings. 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.

NOTE After accessing the VPort 364’s web-based manager, administrators should access **System Configuration** → **System** → **Account** to set up the administrator’s password and enable the authentication function. The administrator account name is **admin**.

An authentication window will pop up requesting the account name and password each time the VPort 364 is accessed.



RS-232 Console Configuration (115200, None, 8, 1, VT1 00)

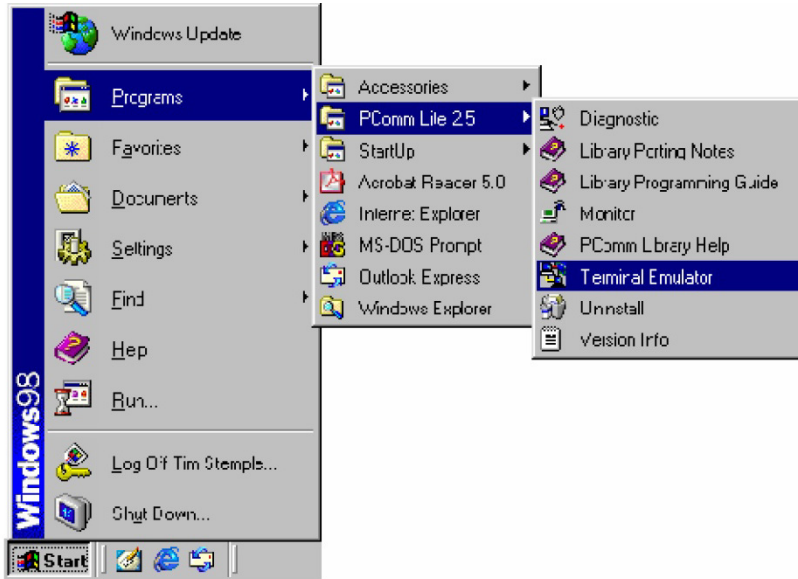
NOTE

1. You **cannot** connect to the VPort 364 simultaneously by serial console and Telnet.
2. You **may** connect to the VPort 364 simultaneously by web browser and serial console, or by web browser and Telnet. However, we strongly recommend that you use only one connection method at a time. This allows you to maintain better control over your VPort 364’s configuration.

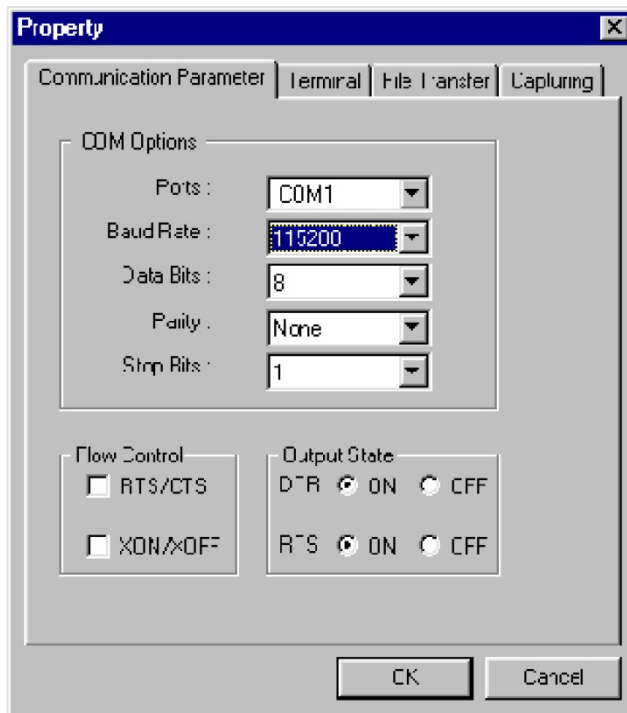
You can access the RS-232 console by using a terminal emulator on your PC. We recommend that you use the PComm Terminal Emulator, which is free and can be downloaded from Moxa’s website. The following instructions explain how to use PComm to access the RS-232 console.

1. Use an RJ45 to DB9-F (or RJ45 to DB25-F) cable to connect the VPort 364’s RS-232 console port to a COM port on your PC.

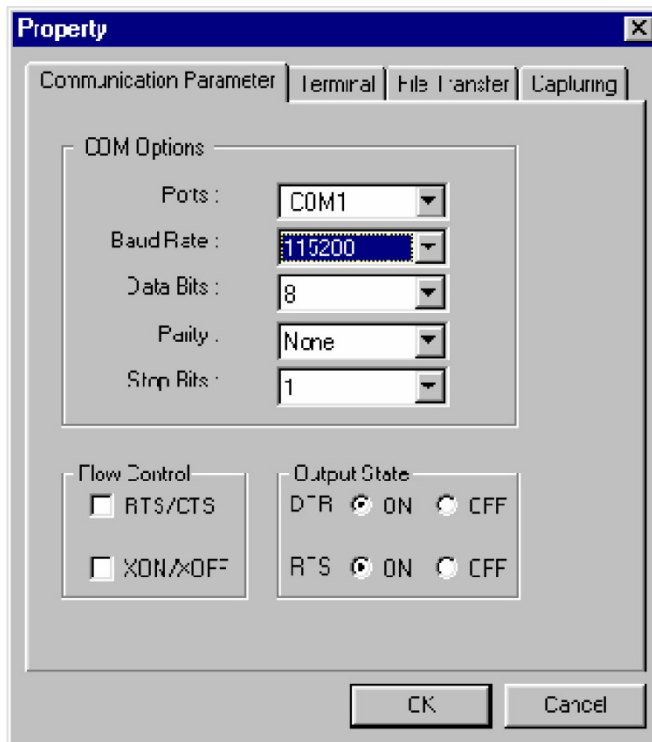
2. From the Windows desktop, click **Start → Programs → PCommLite2.5 → Terminal Emulator**.



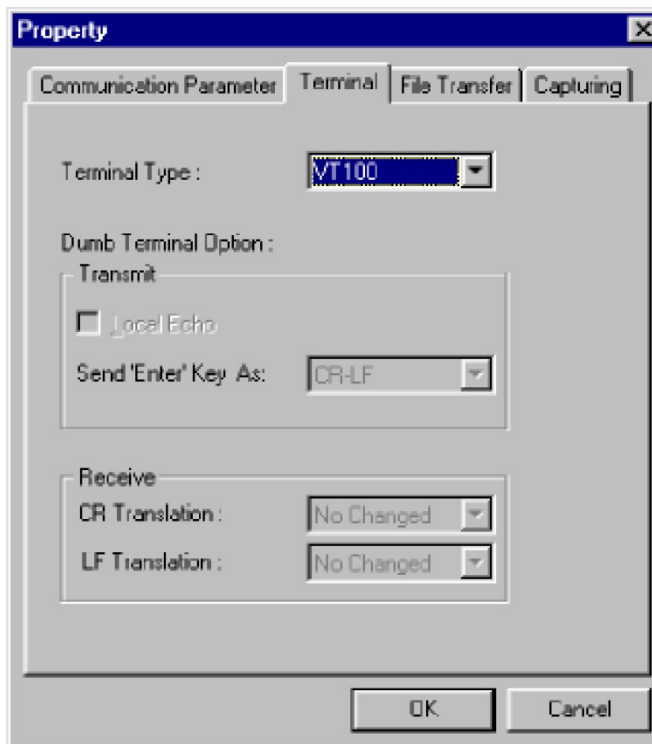
3. Select **Open** under **Port Manager** to open a new connection.



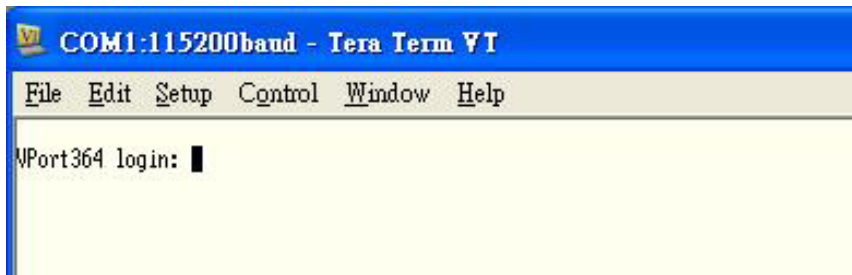
4. The **Communication Parameter** page of the **Property** window opens. Select the appropriate COM port for **Console Connection**, **115200** for **Baud Rate**, **8** for **Data Bits**, **None** for **Parity**, and **1** for **Stop Bits**.



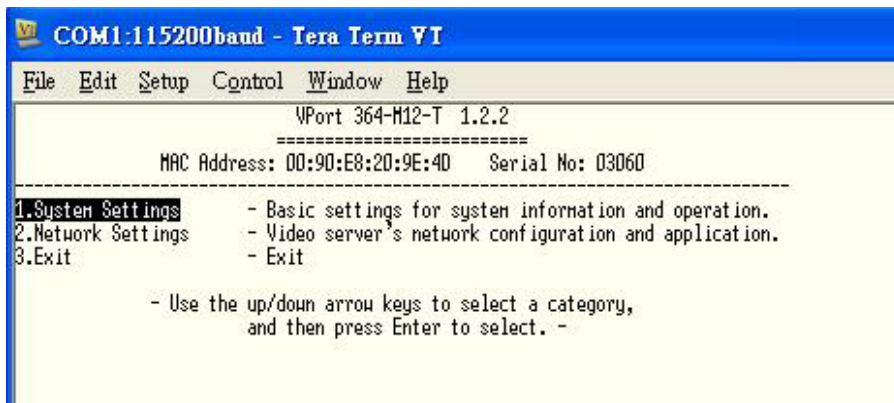
5. Click the **Terminal** tab, and select **VT100** for **Terminal Type**. Click **OK** to continue.



A blank screen will appear. Press Enter, after which a login message will appear. Only the administrator is allowed to use this console configuration. Use admin as the username and the associated admin password as the password. Press Enter to continue.



- The RS-232 console's **Main Menu** will be displayed.
 (NOTE: To modify the appearance of the PComm Terminal Emulator window, select **Font...** under the **Edit** menu, and then choose the desired formatting options.)

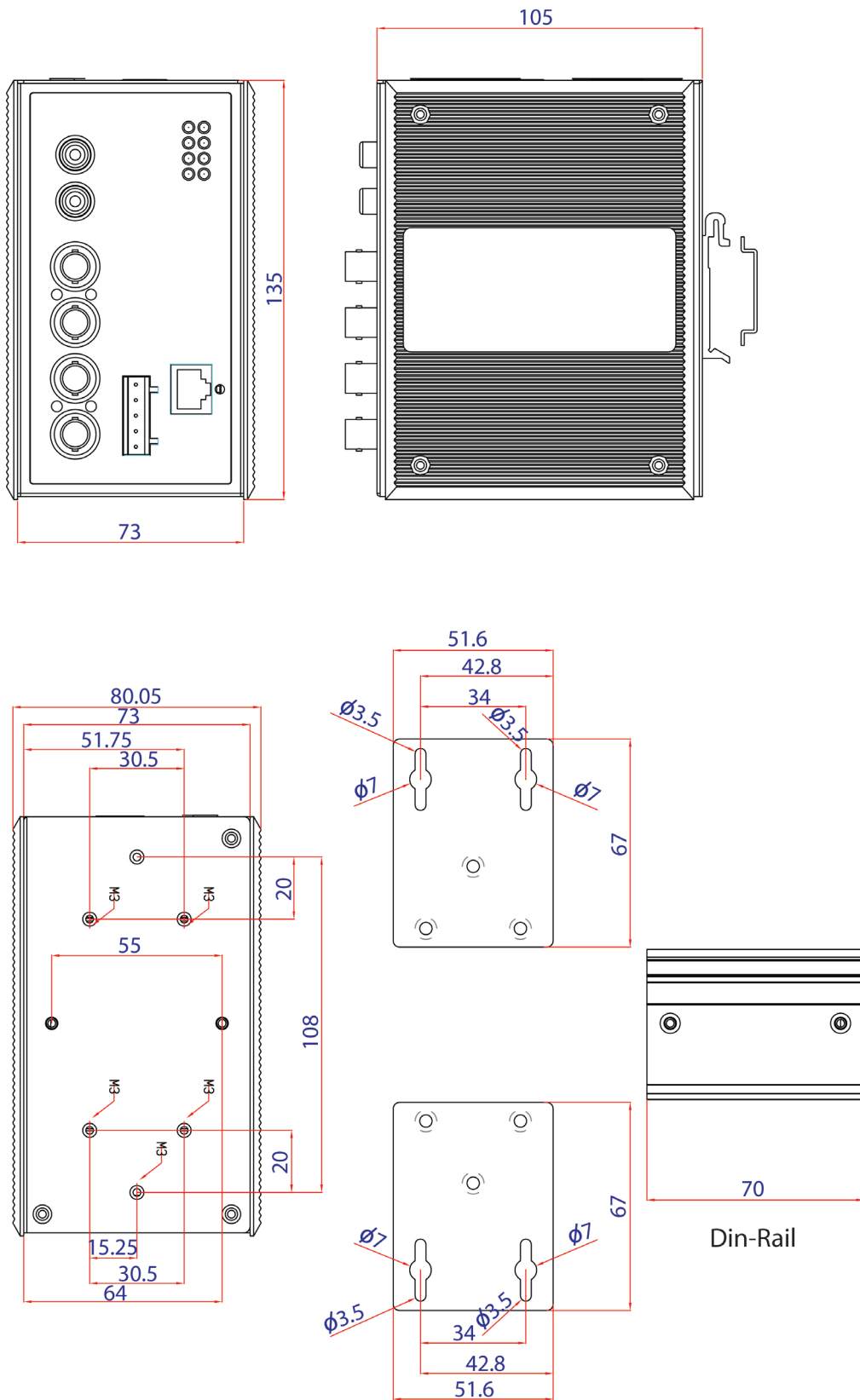


- After entering the **Main Menu**, use the following keys to move the cursor, and to select options.

| Key | Function |
|-----------------------------------|--------------------------|
| Up/Down/Left/Right arrows, or Tab | Move the onscreen cursor |
| Enter | Display & select options |
| Space | Toggle options |
| Esc | Previous Menu |

NOTE Many settings are related to video images, which cannot be shown on the RS-232 console. The VPort 364's RS-232 console only accesses the Basic System Settings and Network Settings. For more advanced configuration, please use the web console.

Mounting the VPort 364 Dimension



Panel Mount Kit

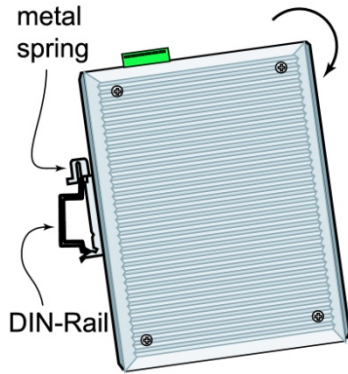
(Unit=mm)

DIN-Rail Mounting

The DIN-Rail attachment plate should already be attached to the back panel of the VPort 364 when you take it out of the box. If you need to reattach the plate, make sure the metal spring is situated towards the top, as shown in the figures below.

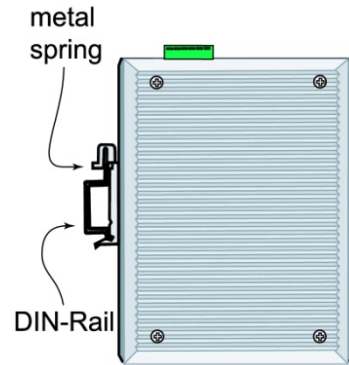
STEP 1:

Insert the top of the DIN-Rail into the slot just below the metal spring.



STEP 2:

The unit will snap into place as shown below.



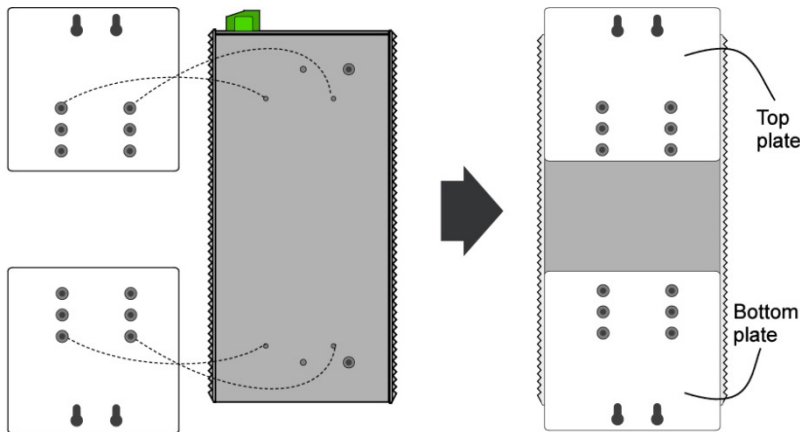
Reverse Steps 1 and 2 above to remove the VPort 364 from the DIN-Rail.

Wall Mounting

Follow the steps below to mount the VPort 364 on a wall or panel.

STEP 1:

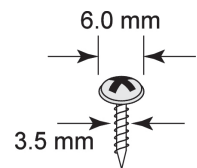
Remove the DIN-Rail attachment plate from the VPort 364. Attach the two wall-mount plates as shown in the diagrams below.



STEP 2:

4 screws are required. Use the VPort 364, with wall mount plates attached, as a guide to mark the correct locations of the 4 screws. The heads of the screws should be less than 6.0 mm in diameter, and the shafts should be less than 3.5 mm in diameter, as shown in the figure at the right.

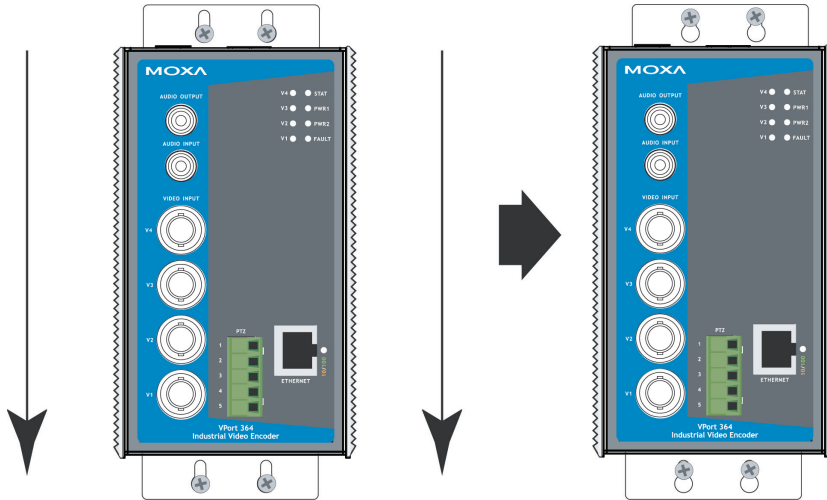
Do not screw the screws in all the way—leave a space of about 2 mm to allow room for sliding the wall mount panel between the wall and the screws.



NOTE Before you mount the unit on the wall, make sure that the screws are the right size by testing them with the apertures on the mounting plates.

STEP 3:

Once the screws are fixed in the wall, insert the four screw heads through the large parts of the keyhole-shaped apertures, and then slide the VPort 364 downwards, as indicated in the figure. Tighten the four screws for added stability.



Wiring Requirements



ATTENTION

Be sure to disconnect the power cord before installing and/or wiring your Moxa VPort 364. 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.
NOTE: Do not run signal or communications wiring and power wiring in the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.
- 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.

Grounding the VPort 364

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting devices.

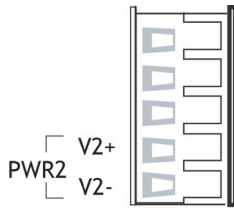


ATTENTION

This product is intended to be mounted to a well-grounded mounting surface such as a metal panel.

Wiring the Redundant Power Inputs

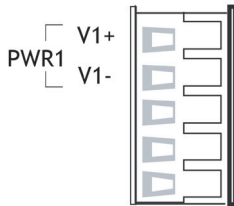
The VPort 364 has two sets of power inputs, power input 1 and power input 2, which are located on the two 5-pin terminal block connectors. Top and front views of the terminal block connectors are shown here.



STEP 1: Insert the negative/positive DC or AC wires into the V-/V+ terminals.

STEP 2: To keep the DC or AC wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

STEP 3: Insert the plastic terminal block connector prongs into the terminal block receptor, which is located on the VPort 364's top panel.



ATTENTION

The power for this product is intended to be supplied by a Listed Power Unit, with output marked LPS, and rated to deliver 12 to 32 VDC at a maximum of 510 mA, or 18 to 30 VAC at a maximum of 512 mA. The maximum power consumption is around 7.5 watts.



ATTENTION

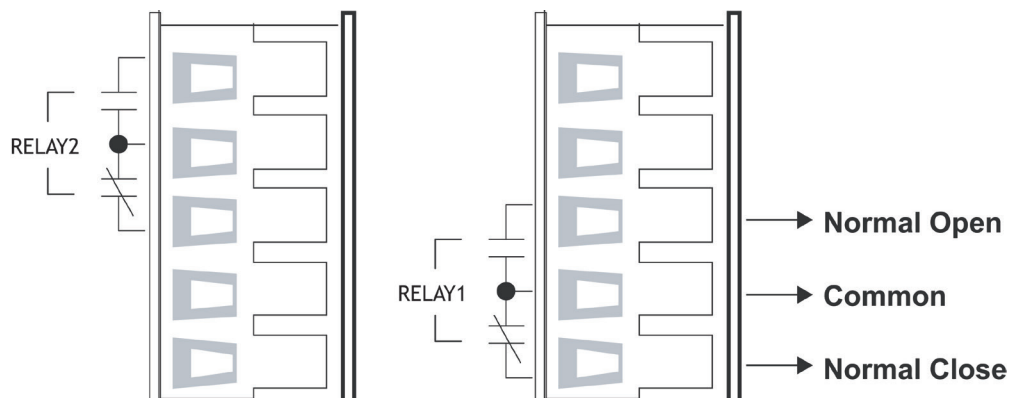
Before connecting the VPort to the AC/DC power inputs, make sure the DC power source voltage is stable.

Wiring the Relay Output

The VPort 364 has two sets of relay output, relay 1 and relay 2, which are located on the two 5-pin terminal block connectors. Each relay output consists of the 3 contacts of the terminal block on the VPort 364's top panel.

The relay output can be set up for:

1. System alarm: Power failure and Network disconnection.
2. Event alarm: VMD (Video Motion Detection), Video loss, Digital Inputs, and CGI Events.

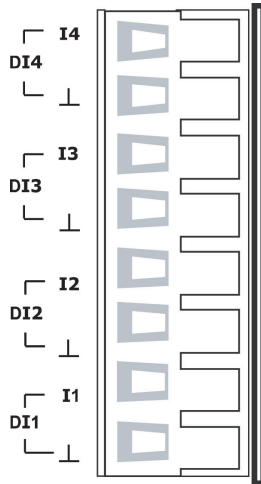




ATTENTION

The current and power capacity of the relay output is a maximum of 24 VDC @ 1A. You should be careful not to exceed this power specification.

Wiring the Digital Inputs



The VPort 364 has four sets of digital inputs, DI1, DI2, DI3 and DI4. Each DI consists of two contacts of the 8-pin terminal block connector on the VPort’s top panel. Top and front views of one of the terminal block connectors are shown here.

STEP 1: Insert the negative (ground)/positive DI wires into the ⊥/I1 terminals.

STEP 2: To keep the DI wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

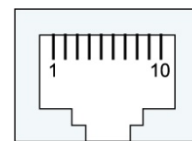
STEP 3: Insert the plastic terminal block connector prongs into the terminal block receptor, which is located on the VPort 364’s top panel.

RS-232 Connection

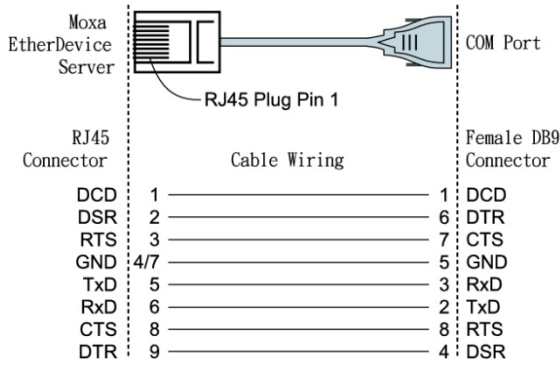
The VPort 364 has one RS-232 (10-pin RJ45) console port, located on the top panel. Use either an RJ45-to-DB9 or RJ45-to-DB25 cable (see the cable following wiring diagrams) to connect the VPort 364’s console port to your PC’s COM port. You may then use a console terminal program, such as the Moxa PComm Terminal Emulator, to access the VPort 364’s console configuration utility.

RJ45 (10-pin) Console Port Pinouts

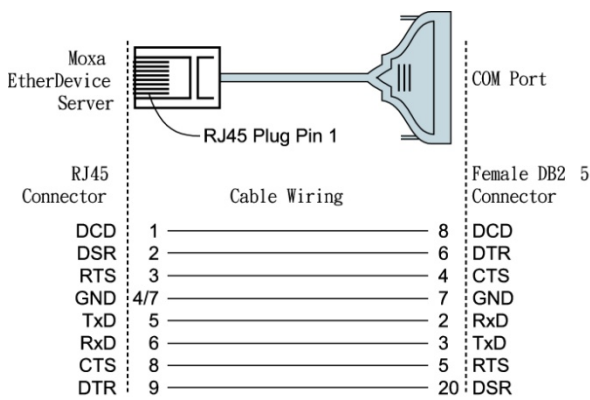
| Pin | Description |
|-----|-------------|
| 1 | --- |
| 2 | DSR |
| 3 | --- |
| 4 | GND |
| 5 | TxD |
| 6 | RxD |
| 7 | GND |
| 8 | --- |
| 9 | DTR |
| 10 | --- |



RJ45 (10-pin) to DB9 (F) Cable Wiring



RJ45 (10-pin) to DB25 (F) Cable Wiring



10/100BaseT(X) Ethernet Port Connection

The 10/100BaseT(X) port located on the VPort 364’s front panel is used to connect to Ethernet-enabled devices.

The following table shows pinouts for both MDI (NIC-type) ports and MDI-X (HUB/Switch-type) ports. We also show cable wiring diagrams for straight-through and cross-over Ethernet cables.

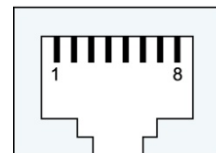
(MDI) Port Pinouts

| Pin | Signal |
|-----|--------|
| 1 | Tx+ |
| 2 | Tx- |
| 3 | Rx+ |
| 6 | Rx- |

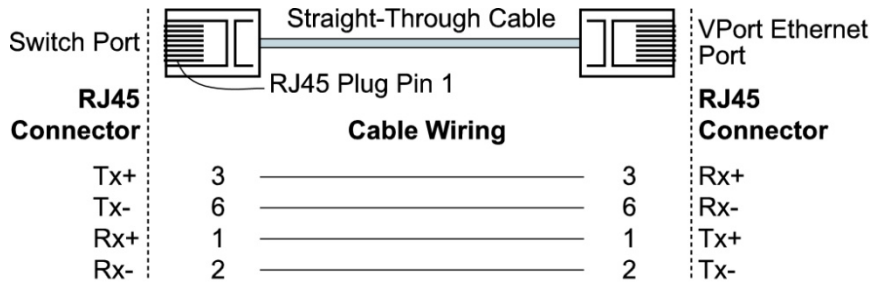
(MDI-X) Port Pinouts

| Pin | Signal |
|-----|--------|
| 1 | Rx+ |
| 2 | Rx- |
| 3 | Tx+ |
| 6 | Tx- |

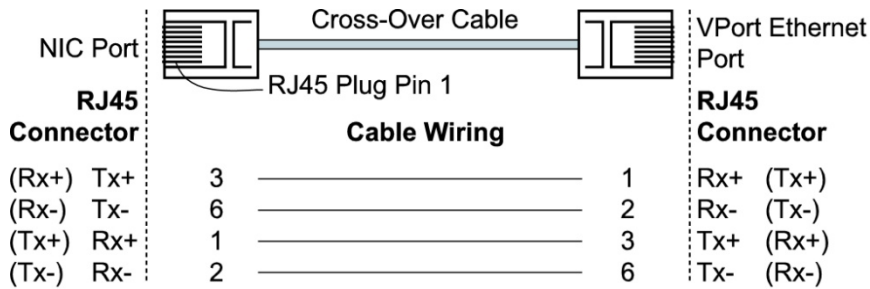
8-pin RJ45



RJ45 (8-pin) to RJ45 (8-pin) Straight-Through Cable Wiring



RJ45 (8-pin) to RJ45 (8-pin) Cross-Over Cable Wiring

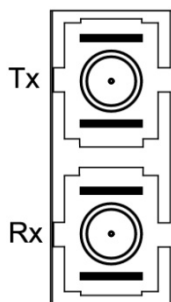


100BaseFX Ethernet Port Connection

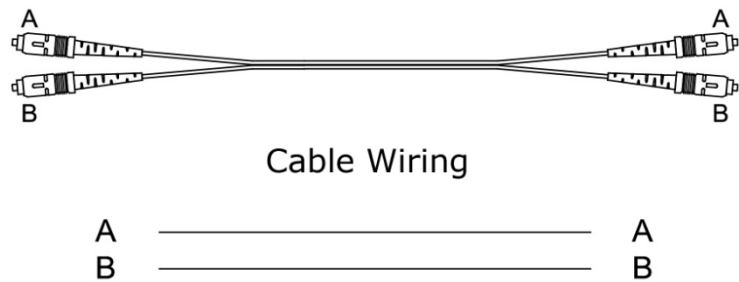
The concept behind the SC port and cable is easy to understand. Since optical signals do not require a circuit to transmit data, one cable is used to transmit data and one cable is used to receive data, providing full-duplex transmission.

Remember to connect the Tx (transmit) port of device I to the Rx (receive) port of device II, and the Rx (receive) port of device I to the Tx (transmit) port of device II. If you make your own cable, we suggest labeling the two sides of the same line with the same letter (A-to-A and B-to-B, as shown below, or A1-to-A2 and B1-to-B2).

SC-Port Pinouts

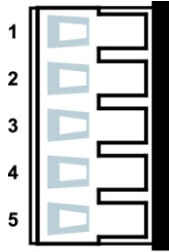


SC-Port to SC-Port Cable Wiring



PTZ Port

A PTZ port is located on the VPort 364's front panel. The port is used to connect to a PTZ motorized camera or device, so that the camera or device can be controlled from the VPort over the IP network. The PTZ port supports RS-232 or RS-422/485 signals through the terminal block. The PTZ port pin assignments are shown in the following table.



Pin Assignment

| PIN | RS-422/485 | RS-232 |
|-----|------------|--------|
| 1 | GND | GND |
| 2 | R- | --- |
| 3 | R+ | RxD |
| 4 | T-\D- | --- |
| 5 | T+\D+ | TxD |

Accessing the VPort 364's Web-based Manager

This chapter includes information about how to access the VPort 364 Video Encoder for the first time.

The following topics are covered in this chapter:

▣ **Functions Featured on the VPort's Web Homepage**

- VPort's Information
- Server Name
- Camera Image View
- Audio Control
- Client Settings
- System Configuration
- Video Information
- Show PTZ Control Panel
- PTZ Camera Control
- Custom Commands
- Snapshot
- 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 the client and server.

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

VPort's Information

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

NOTE The VPort LEDs shown on the VPort's web homepage are updated every 10 seconds.

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 server name is 40 bytes.

Camera Image View

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

Audio Control

The VPort 364 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

the 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 Settings

Users can configure the following functions in Client Settings.

1. **Encoder standard:** Shows the encoding algorithm currently being used. VPort 364 features built-in 2 encode engines to generate dual simultaneous video streams. Each client can select the H.264 video streams from Stream 1, or the MJPEG video stream from Stream 2. To configure these video streams, please go to System Configuration → Video → Video Performance.
2. **Media Options:** Enable or disable the video or audio transmission.
3. **Protocol Options:** Choose one of four protocols to optimize your usage—Multicast (RTSP or Push) or Unicast (UDP, TCP, HTTP).
 - **Multicast** protocol can be used to send a single video stream to multiple clients. In this case, a lot of bandwidth can be saved since only one video stream is transmitted over the network. However, the network gateway (e.g., a switch) must support the multicast protocol (e.g., IGMP snooping). Otherwise, the multicast video transmission will not be successful.
 - **RTSP:** Enable the multicast video stream to be sent in RTSP control, which means the multicast video stream will be sent only it receives the client's request.
 - **Push:** Enable the multicast video stream to be sent in Push control, which means that after this setting is selected the multicast video stream will be sent continuously even without any client request.
 - **Unicast** protocol is used to send a single video stream to one client.
 - **UDP** can be used to produce audio and video streams that are more real-time. However, some packets may be lost due to network burst traffic, and images may become blurred
 - **TCP** can be used to prevent packet loss, which results in a more accurate video display. The downside of using TCP is that the real-time delay is worse than with UDP protocol.
 - **HTTP** can be used to prevent being blocked by a router's firewall. The downside of using HTTP is that the real-time delay is worse than with UDP protocol.

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

NOTE For multicast video stream settings, please refer to **System Configuration → Network → Multicast**.

Client Setting

| Channel 1 | Channel 2 |
|---|---|
| Encode Standard <input checked="" type="radio"/> H.264 <input type="radio"/> Motion JPEG | Encode Standard <input checked="" type="radio"/> H.264 <input type="radio"/> Motion JPEG |
| Media Option <input checked="" type="radio"/> Video/Audio <input type="radio"/> Video Only <input type="radio"/> Audio Only | Media Option <input checked="" type="radio"/> Video/Audio <input type="radio"/> Video Only <input type="radio"/> Audio Only |
| Protocol Option <input type="radio"/> Multicast <input checked="" type="radio"/> RTSP <input type="radio"/> Unicast <input type="radio"/> TCP | Protocol Option <input type="radio"/> Multicast <input checked="" type="radio"/> RTSP <input type="radio"/> Unicast <input type="radio"/> TCP |
| Channel 3 | Channel 4 |
| Encode Standard <input checked="" type="radio"/> H.264 <input type="radio"/> Motion JPEG | Encode Standard <input checked="" type="radio"/> H.264 <input type="radio"/> Motion JPEG |
| Media Option <input checked="" type="radio"/> Video/Audio <input type="radio"/> Video Only <input type="radio"/> Audio Only | Media Option <input checked="" type="radio"/> Video/Audio <input type="radio"/> Video Only <input type="radio"/> Audio Only |
| Protocol Option <input type="radio"/> Multicast <input checked="" type="radio"/> RTSP <input type="radio"/> Unicast <input type="radio"/> TCP | Protocol Option <input type="radio"/> Multicast <input checked="" type="radio"/> RTSP <input type="radio"/> Unicast <input type="radio"/> TCP |
| Network Interface: 192.168.127.7 | |
| <input type="button" value="Save"/> | |

System Configuration

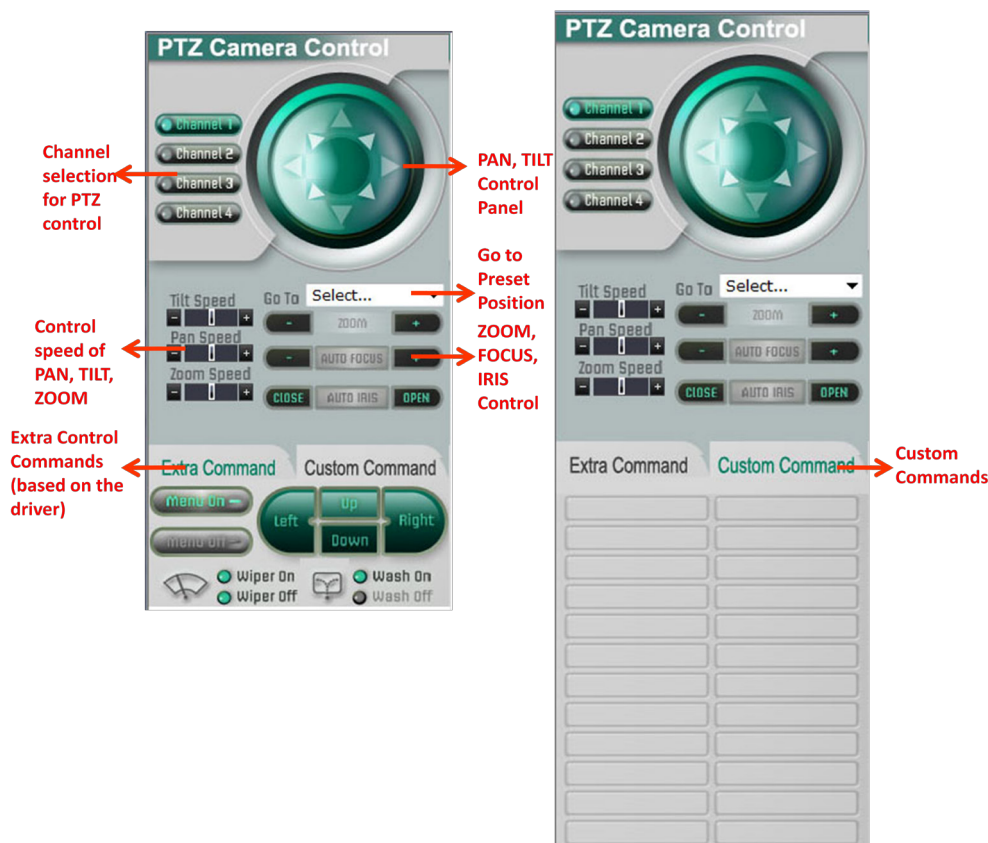
A button or text link on the left side of the system configuration window only appears on the administrator's main page. For detailed system configuration instructions, refer to Chapter 4, **System Configuration**.

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. Users can select the target camera image to view each camera's video performance.

Show PTZ Control Panel

Users can click this link to pop up a new window for PTZ Control. To select a camera, click the target camera's image view.



PTZ Camera Control

If a serial device, such as a motorized camera, is attached to the COM/PTZ port, the control panel will appear on the main page for users who have permission to operate the camera. Buttons that are active will change color when the cursor is passed over the button. Users can control the pan, tilt, zoom, and focus functions of motorized cameras. The home button is used to return the camera to the center position if the camera supports this command. In addition to near and far controls for focus settings, an auto focus mode is provided. To move the motorized camera more precisely, the speed control for pan and tilt allows users to fine tune the camera movement. Users can also click directly on any point in the image to force the motorized camera to focus on that point, or select a preset location from the drop-down menu. Administrators are able to add or modify the list of preset locations. Details are described in the relevant section in Chapter 4, **System Configuration**.

NOTE For some PTZ cameras, users can click on any position in the image to point the camera to that position. We currently support this functionality for Pelco-D, Pelco P and Dynacolor DynaDome PTZ drivers.

Custom Commands

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



Snapshot

Users can take snapshot images for storing, printing, or editing by clicking the **Channel 1, 2, 3, and 4** buttons. To save the image, right-click and select the **Save** option.

Relay Control

The VPort 364 has 2 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.

System Configuration

After installing the hardware, the next step is to configure the VPort 364's settings. Users can configure by web console.

The following topics are covered in this chapter:

□ **System Configuration by Web Console**

- System
- Network
- DynaStream™
- Video
- Serial Port
- 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 six configuration categories: **System, Network, Video, Serial Port, 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 IP address | |
| | SNMP | Configure the SNMP settings | |
| | QoS (ToS) | Configure ToS(Type of Service) | |
| | HTTP Event Server | Set up the HTTP Event Server to send the event alarm action | |
| | Modbus/ TCP | Enable Modbus/TCP function | |
| DynaStream™ | Basic Setting | Setup the video frame rates for alarm or event triggers | |
| | Trigger Condition | Setup the event or alarm conditions that trigger Dynastream™ as well as the desired actions that follow. | |
| Video | Image Settings | Configure the attributes of the video image | |
| | Camera Modulation | Select the camera's modulation (NTSC, PAL or AUTO) | |
| | Video Performance | Configure the Size (Resolution), FPS, and Video Quality | |
| | Camera Control | Set up the Camera's PTZ Control | |
| Serial port | PTZ port | Configure the PTZ Port interface, control mode, and serial parameters. | |
| Audio | Audio Settings | Set up the audio source | |
| Alarm | System Alarm | Configure Power Failure and Network Connection Broken alarms | |
| | Event Alarm | Basic | General event alarm settings |
| | | Schedule | Set up the Alarm schedule |
| | | Digital Input | Configure the Digital Input Alarm |
| | | Video Loss | Configure the video loss alarm |
| | | CGI Event | Set up the CGI event alarm |
| | | Sequential Snapshot | Set up the Sequential Snapshot operation |

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

MOXA VPort 364 4CH Video Encoder www.moxa.com

Model Name : VPort 364-1 Server Name : VPort 364 4CH Video Encoder State Power1 Power2 Fault
 IP Address : 172.21.3.51 MAC Address : 00:90:83:03:54:52 Firm. Version : 1.0 Build : 19121709 Video 4 Video 3 Video 2 Video 1

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 | |
| | General | The IP network settings of this VPort | |
| | SMTP Server | Set up Primary and Secondary SMTP Server and E-mail accounts | |
| Network | FTP Server | Set up the Primary and Secondary FTP Server | |
| | DDNS | Configure DDNS | |
| | 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 | |
| | QoS(ToS) | Configure ToS(Type of Service) | |
| DynaStream | HTTP Event Server | Set up the HTTP Event Server to send the event alarm action | |
| | Modbus/TCP | Enable Modbus/TCP function | |
| | Basic Setting | setup the video frame rate change once an alarm or event is triggered | |
| Video | Trigger Conditions | setup the event/ alarm to trigger the Dynastream, and the behavior after being triggered | |
| | Image Setting | Configure the attributes of video image | |
| | Camera Modulation | Select the camera's modulation (NTSC or PAL) | |
| | Video Performance | Set up the Encode Standard(H.264 or MJPEG), Size (Resolution), FPS and Video Quality | |
| Serial Port | Camera Control | Set up the Camera's PTZ Control | |
| | PTZ Port | Configure the PTZ Port interface, control mode and serial parameter. | |
| Audio | Audio Setting | Configure the Audio Source | |
| | System Alarm | Configure Power Failure and Network Connection Broken alarms | |
| Alarm | Basic | General settings of event alarm | |
| | | Schedule | Set up the Alarm schedule |
| | Motion Detection | Configure the Video Motion Detection Alarm | |
| | | Digital Input | Configure the Digital Input Alarm |
| | Event Alarm | Video Loss | Configure video loss alarm |
| | | CGI Event | Set up the CGI event alarm |
| Sequential Snapshot | Set up the operation of Sequential Snapshot | | |

System

General Settings

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

General Settings

Server name :

Date and Time:

Keep current date and time

Sync with computer time

PC date: [yyyy/mm/dd]

PC time: [hh:mm:ss]

Manual

Date: [yyyy/mm/dd]

Time: [hh:mm:ss]

Automatic

1st NTP server:

2nd NTP server:

Time zone:

Update interval:

Server name

| Setting | Description | Default |
|--------------------|---|-----------------------------|
| Max. 40 characters | Use a different server name for each server to help identify the different servers. The name appears on the web homepage. | VPort 364 4CH Video Encoder |

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 G for your region's time zone.

Account Privileges

Different account privileges are available for different purposes.

Account Privileges

Admin Password

Admin Password:

Confirm Password:

Note: Admin's password must be blank or 8 to 15 characters. If leave admin password blank will disable user authentication.

Save

User's Privileges

| No. | User Name | Password | Privileges |
|-----|----------------------|--------------------------|---|
| 1 | <input type="text"/> | <input type="password"/> | <input type="checkbox"/> Control Camera <input type="checkbox"/> Control RELAY1 <input type="checkbox"/> Control RELAY2 |
| 2 | <input type="text"/> | <input type="password"/> | <input type="checkbox"/> Control Camera <input type="checkbox"/> Control RELAY1 <input type="checkbox"/> Control RELAY2 |
| 3 | <input type="text"/> | <input type="password"/> | <input type="checkbox"/> Control Camera <input type="checkbox"/> Control RELAY1 <input type="checkbox"/> Control RELAY2 |
| 4 | <input type="text"/> | <input type="password"/> | <input type="checkbox"/> Control Camera <input type="checkbox"/> Control RELAY1 <input type="checkbox"/> Control RELAY2 |
| 5 | <input type="text"/> | <input type="password"/> | <input type="checkbox"/> Control Camera <input type="checkbox"/> Control RELAY1 <input type="checkbox"/> Control RELAY2 |
| 6 | <input type="text"/> | <input type="password"/> | <input type="checkbox"/> Control Camera <input type="checkbox"/> Control RELAY1 <input type="checkbox"/> Control RELAY2 |
| 7 | <input type="text"/> | <input type="password"/> | <input type="checkbox"/> Control Camera <input type="checkbox"/> Control RELAY1 <input type="checkbox"/> Control RELAY2 |
| 8 | <input type="text"/> | <input type="password"/> | <input type="checkbox"/> Control Camera <input type="checkbox"/> Control RELAY1 <input type="checkbox"/> Control RELAY2 |
| 9 | <input type="text"/> | <input type="password"/> | <input type="checkbox"/> Control Camera <input type="checkbox"/> Control RELAY1 <input type="checkbox"/> Control RELAY2 |
| 10 | <input type="text"/> | <input type="password"/> | <input type="checkbox"/> Control Camera <input type="checkbox"/> Control RELAY1 <input type="checkbox"/> Control RELAY2 |

Save

Admin password

| Setting | Description | Default |
|---------------------------------------|--|-----------------------------------|
| Admin Password (max. 14 characters) | The administrator can type the new password in this box. | Default admin password is "admin" |
| 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

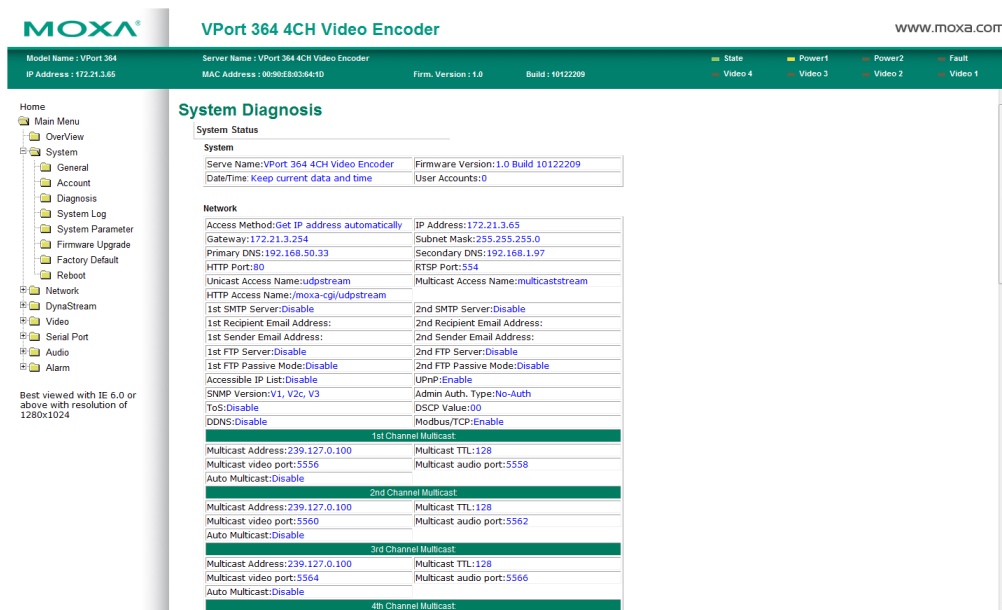
VPort products provide 10 user accounts for accessing the VPort. Administrators can set up user's privileges in this section. Each user can be given independent access rights to the external I/O and camera control.

| 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. | |

NOTE The FPS of the video stream will be reduced as more and more users access the same VPort. Currently, the VPort 364 is only allowed to send 8 unicast video streams at the same time. Therefore, limit the number of users simultaneously accessing a VPort 364 to prevent performance problems.

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.



System Log History

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

System Log History

| Index | Time | Type | Description |
|-------|--------------------------|------|---|
| 0001 | Wed Nov 11 10:35:56 2009 | FTP | Connect to Server 192.168.127.9:21 Failed |
| 0002 | Wed Nov 11 10:35:57 2009 | FTP | Connect to Server 192.168.127.9:21 Failed |
| 0003 | Wed Nov 11 10:35:58 2009 | FTP | Connect to Server 192.168.127.9:21 Failed |
| 0004 | Wed Nov 11 10:35:59 2009 | FTP | Connect to Server 192.168.127.9:21 Failed |
| 0005 | Wed Nov 11 10:36:00 2009 | FTP | Connect to Server 192.168.127.9:21 Failed |
| 0006 | Wed Nov 11 10:36:01 2009 | FTP | Connect to Server 192.168.127.9:21 Failed |
| 0007 | Wed Nov 11 10:36:02 2009 | FTP | Connect to Server 192.168.127.9:21 Failed |
| 0008 | Wed Nov 11 10:36:03 2009 | FTP | Connect to Server 192.168.127.9:21 Failed |
| 0009 | Wed Nov 11 10:36:04 2009 | FTP | Connect to Server 192.168.127.9:21 Failed |
| 0010 | Wed Nov 11 10:36:05 2009 | FTP | Connect to Server 192.168.127.9:21 Failed |
| 0011 | Wed Nov 11 10:36:06 2009 | FTP | Connect to Server 192.168.127.9:21 Failed |
| 0012 | Wed Nov 11 10:36:07 2009 | FTP | Connect to Server 192.168.127.9:21 Failed |

Send to system log Server

Syslog Server 1

Port Destination

Syslog Server 2

Port Destination

Send to system log server

| Setting | Description | Default |
|---------------------------|--|---------|
| Send to system log server | Enables sending the system log to the log sever. | Disable |
| Syslog Sever 1 | The address of the first system log server. | Blank |
| Port Destination | The port number of first system log server. | 514 |
| Syslog Sever 2 | The address of the second system log server. | Blank |
| Port Destination | The port number of second system log server. | 514 |

NOTE A maximum of 500 lines is displayed in the log. Earlier data beyond the first 500 entries are still in the VPort’s database; the administrator can export them at any time.

System Parameters

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

System Parameters

```
VPort 364 Video Server Initial Configuration File
[videolossch]
all=0
sunenable=0
monenable=0
tueenable=0
wenenable=0
thuenable=0
frienable=0
satenable=0
sunbegin=00:00
sunend=00:01
monbegin=00:00
monend=00:01
tuebegin=00:00
tueend=00:01
wenbegin=00:00
wenend=00:01
thubegin=00:00
thuend=00:01
fribegin=00:00
friend=00:01
```

Export to a File

Import a System Parameter File Browse

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 configuration changes will take effect after the VPort is rebooted.

Firmware Upgrade

Firmware Upgrade

Browse Upgrade

Take the following steps to upgrade the firmware:

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

NOTE For the VPort 364, 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 displayed, 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 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

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?

OK

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 **OK** (as shown in the following figure) to restart the VPort's system.

Device Reboot

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

OK

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.

General Network Settings

Access Method

Get IP address automatically
 Use fixed IP address

General Settings

| | |
|---------------|--|
| IP address | <input type="text" value="192.168.127.7"/> |
| Subnet mask | <input type="text" value="255.255.255.0"/> |
| Gateway | <input type="text" value="192.168.127.1"/> |
| Primary DNS | <input type="text" value="192.168.127.1"/> |
| Secondary DNS | <input type="text"/> |

HTTP

| | |
|-----------|---------------------------------|
| HTTP port | <input type="text" value="80"/> |
|-----------|---------------------------------|

RTSP Streaming

| | |
|-----------|----------------------------------|
| RTSP port | <input type="text" value="554"/> |
|-----------|----------------------------------|

Save

Access Method

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

| Setting | Description | Default |
|------------------------------|--|------------------------------|
| Get IP address automatically | Get 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 the 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 364 supports standard RTSP (Real Time Streaming Protocol) streaming, which means that all devices and software that support RTSP can directly acquire and view the video images sent from the VPort 364 without any proprietary codec or SDK installations. This makes network system integration much more convenient. For different connection types, the **access name** is different. For UDP and TCP streams, the access name is **udpStream**. For HTTP streams, the access name is **moxa-cgi/udpstream_ch<channel number>**. For multicast streams, the access name is **multicastStream_ch<channel number>**. You can access the media through the following URL: **rtsp://<IP address>:<RTSP port>/<Access name> for software that supports RTSP.**

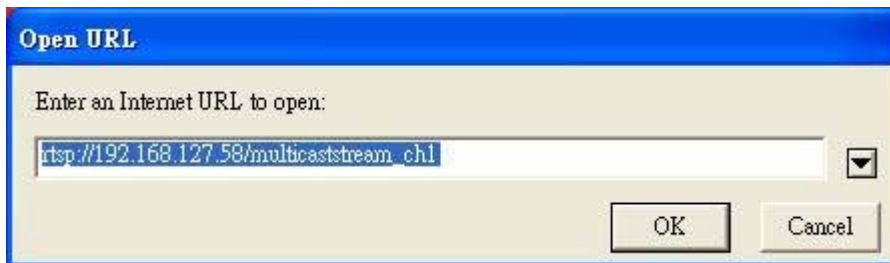
| Setting | Description | Default |
|-----------|--|---------|
| RTSP Port | An RTSP port is similar to an HTTP port, which can enable the connection of video/audio streams by RTSP. | 554 |

The Apple QuickTime media player is used here as an example of a RTSP streaming application:

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 364's IP address>[:<RTSP Port>]/udpstream_ch1_stream< 1 or 2>
rtsp://<VPort 364's IP address>[:<RTSP Port>]/multicaststream_ch1_stream<1 or 2>
RTSP Port: 554 is the default. Click **OK** to connect to the VPort 364.



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



Step 4: After the connection has been established, the VPort 364's video will appear in the QuickTime Player display window.



NOTE The video performance of the VPort 364 may vary when using other media players. For example, you will notice a greater delay when viewing the VPort 364's video from the QuickTime player compared to viewing it directly from the VPort 364's built-in web server. In addition, viewing the VPort 364's video from the QuickTime player through a router or Internet gateway could result in a broken connection.

NOTE For the time being, the VPort 364's RTSP video/audio stream can be identified and viewed by Apple QuickTime Ver. 6.5 and above, and the VLC media player. System integrators can use these 2 media players to view the VPort 364's video directly, without needing to use the VPort's SDK to create customized software.

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

SMTP Server and Email Account Settings

The VPort not only plays the role of a 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. enable the email transmitting system.

Recipient's Email

1st Recipient's Email Address:

2nd Recipient's Email Address:

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

Save

1st SMTP Server and Sender Email

| Setting | Description | Default |
|----------------------------|--|---------|
| 1st SMTP (mail) server | SMTP Server's IP address or URL address. | None |
| 1st SMTP account name | For security reasons, most SMTP servers require the account name and password to be authenticated. | None |
| 1st SMTP password | | None |
| 1st 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.

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 s

Save

1st FTP Server

| Setting | Description | Default |
|-----------------------|--|----------|
| 1st FTP server | FTP server's IP address or URL address. | None |
| 1st FTP server port | FTP server's authentication. | None |
| 1st FTP user name | | None |
| 1st FTP remote folder | FTP file storage folder on the remote FTP server. | None |
| 1st 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 this 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 the VPort's dynamic IP address to a static hostname in any of the domains provided by the DDNS service providers listed on the VPort's Network/DDNS configuration page. DDNS makes it easier to access the VPort from various locations on the Internet.

| Setting | Description | Default |
|------------------|---|---------|
| Enable DDNS | Enable or disable DDNS 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 the VPort. | None |
| Username/ E-mail | The Username/E-mail and Password/Key are used to enable the service from the DDNS service provider (based on the rules of DDNS websites). | None |
| Password/ Key | | None |

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

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

Universal PnP

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

Universal PnP

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.

Save

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

Multicast

The VPort 364 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 belongs 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.

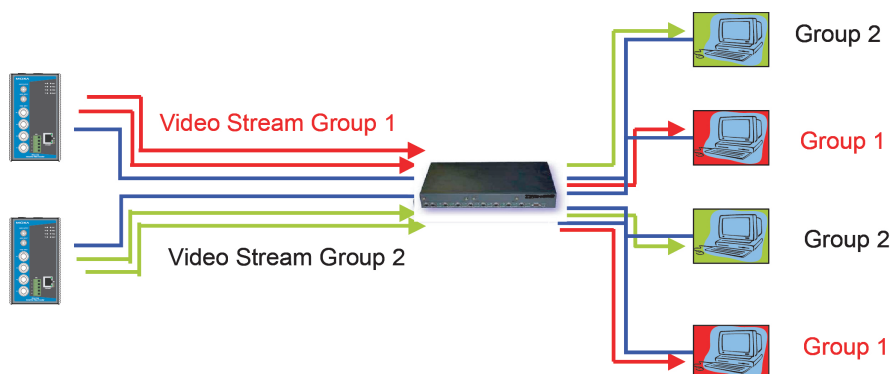
Benefits of Multicast

The benefits of using IP multicast are that it:

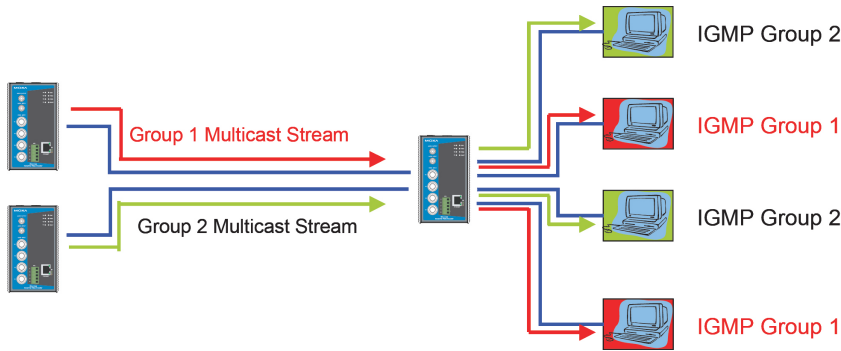
- Enables the simultaneous delivery of information to many receivers in the most efficient, logical way.
- Reduces the load on the source (for example, a server) because it does not need to produce multiple copies of the same data.
- Makes efficient use of network bandwidth and scales well as the number 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. 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 364 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 EtherDevice™ series Industrial Ethernet Switch user’s manual.

Configuring Multicast Settings

Multicast Settings

| | |
|---|---|
| <p>Channel 1</p> <p>Multicast group address: 239.127.0.100</p> <p>Multicast video port: 5556</p> <p>Multicast audio port: 5558</p> <p>Multicast TTL: 128</p> <p>Continuous Multicast Push: <input type="checkbox"/> Enable</p> | <p>Channel 2</p> <p>Multicast group address: 239.127.0.100</p> <p>Multicast video port: 5560</p> <p>Multicast audio port: 5562</p> <p>Multicast TTL: 128</p> <p>Continuous Multicast Push: <input type="checkbox"/> Enable</p> |
| <p>Channel 3</p> <p>Multicast group address: 239.127.0.100</p> <p>Multicast video port: 5564</p> <p>Multicast audio port: 5566</p> <p>Multicast TTL: 128</p> <p>Continuous Multicast Push: <input type="checkbox"/> Enable</p> | <p>Channel 4</p> <p>Multicast group address: 239.127.0.100</p> <p>Multicast video port: 5568</p> <p>Multicast audio port: 5570</p> <p>Multicast TTL: 128</p> <p>Continuous Multicast Push: <input type="checkbox"/> Enable</p> |

| Setting | Description | Default |
|---------------------------|---|--|
| Multicast group address | Multicast Group address for sending video stream. | 239.127.0.100 |
| Multicast video port | Video port number. | Channel 1:5556 Channel 2:5560 Channel 3:5564 Channel 4:5568 |
| Multicast audio port | Audio port number. | Channel 1:5558 Channel 2:5562 Channel 3:5566 Channel 4:5570 |
| 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. | 128 |
| Continuous Multicast Push | Enable PUSH control of the multicast video stream | Disable |

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

Accessible IP List

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

Accessible IP List

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

| Index | IP | NetMask |
|-------|----------------------|----------------------|
| 1 | <input type="text"/> | <input type="text"/> |
| 2 | <input type="text"/> | <input type="text"/> |
| 3 | <input type="text"/> | <input type="text"/> |
| 4 | <input type="text"/> | <input type="text"/> |
| 5 | <input type="text"/> | <input type="text"/> |
| 6 | <input type="text"/> | <input type="text"/> |
| 7 | <input type="text"/> | <input type="text"/> |
| 8 | <input type="text"/> | <input type="text"/> |
| 9 | <input type="text"/> | <input type="text"/> |
| 10 | <input type="text"/> | <input type="text"/> |

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

The VPort 364 supports three SNMP protocols. The available protocols are SNMP V1, SNMP V2c, and SNMP V3. SNMP V1 and SNMP V2c use a community string match for authentication, which means that SNMP servers access all objects with read-only or read/write permissions using the community string public/private (default value). SNMP V3, which requires you to select an authentication level of MD5 or SHA, is the most secure protocol. You can also enable data encryption to enhance data security. SNMP security modes and security levels supported by the VPort are shown in the following table. Select one of these options to communicate between the SNMP agent and manager.

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

Configuring SNMP Settings

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

SNMP

SNMP Read/Write Settings

SNMP Versions: V1, V2c, V3

V1, V2c Read Community: public

V1, V2c Write/Read Community: public

V3 Admin Read/Write Auth. Mode: No-Auth

V3 Admin Read/Write Private Mode: 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.8691.8.1.11

Save

SNMP Read/ Write Settings

SNMP Versions

| Setting | Description | Default |
|-------------|--|---------|
| V1, V2c, V3 | Select SNMP protocol versions V1, V2c, V3 to manage the switch | V1, V2c |
| V1, V2c | Select SNMP protocol versions V1, V2c to manage the switch | |
| V3 only | Select SNMP protocol versions V3 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/Write 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 authorization to read and write MIB files. User privilege only allows reading the MIB file, but does not authorize writing to the file.

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

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

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

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

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

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

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

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

Trap Settings

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

Private MIB information

The private SNMP Object ID of the VPort is the enterprise value: 8691.8.1.11. This number cannot be changed.

NOTE The MIB file is MOXA-VPORT364-MIB.mib (or.my). You can find it on the software CD or the download center of the Moxa website.

QoS (ToS)

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

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

| 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 with different ToS values | 0, 0 |

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

HTTP Event Server

The VPort can send the customized alarm actions and messages to the HTTP Event Servers, which allows users to design a customized alarm system.

HTTP Event Servers

VPort can send the customized alarm actions and messages to the HTTP Event Ser 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:

| Setting | Description | Factory Default |
|-------------------|--|-----------------|
| Host Name | User-defined name for identification | Blank |
| Server 1, 2, 3, 4 | The server's URL address with complete CGI commands Ex. http:// http event server:Port/CGI_Name | Blank |
| User name | The account name for accessing the HTTP server | Blank |
| Password | The password for accessing the HTTP server | Blank |

Once the Http Alarm is triggered, the VPort will send the following HTTP commands to the HTTP event servers.

```
GET CGI_Name?address=<Hostname or IP Address>&[Custom CGI] HTTP/1.0\r\n
User-Agent: VPort Encoder V1.1\r\n
[Authorization: Basic <Buse64(username:password)>\r\n]
Host: <HTTP Server IP Address>\r\n
Connection: Keep-Alive\r\n
\r\n
```

Modbus/TCP

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

ModBus/TCP

Modbus is a serial communications protocol for the industrial devices' communications with the SCADA/HMI system. With the Modbus/TCP protocol, the SCADA/ HMI system can directly communicate with VPort for acquiring the working status.

Enable ModBus/TCP

Save

| Setting | Description | Factory Default |
|-------------------|--------------------------------|-----------------|
| Enable Modbus/TCP | Enable the Modbus/TCP protocol | Enable |

NOTE For the Modbus address table, please refer to the appendix: Modbus Address Table

DynaStream™

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

NOTE For enabling the DynaStream function from CGI commands and Modbus TCP, please refer to the CGI Commands User's Manual of VPort SDK PLUS and Modbus Address Table

Basic

The administrator can adjust the number of frames per second for each channel. There are two types of frame rate status: Live and Alarm. Live status refers to the normal frames rates for live video displays. Alarm status refers to what the frame rate will be adjusted to when the DynaStream function is activated.

Currently, the video stream for DynaStream is only set up for H.264 video streams, and the resolution and quality are the same as for the settings in the Video Performance configuration.

DynaStream Basic Setting

This innovative Dynastream function is to change the video streams' frame rate automatically once an event/ alarm is happened (VPort's alarms or external events). This change can be from low to high frame rate to increase the smooth of the video streams, or from high to low frame rate to lower down the bandwidth consumption. The Live is to setup the current frame rate, and the Alarm is to setup the frame rate after being changed by an alarm/ event.

| Channel | Stream | Status | Max FPS | Resolution | Quality | Preview |
|-----------|--------|--------|---------|------------|----------------|---------|
| Channel 1 | H.264 | Live | 30 ▼ | 720x480 | Fixed quality: | Test |
| | | Alarm | 30 ▼ | | | |
| Channel 2 | H.264 | Live | 30 ▼ | 720x480 | Fixed quality: | Test |
| | | Alarm | 30 ▼ | | | |
| Channel 3 | H.264 | Live | 30 ▼ | 720x480 | Fixed quality: | Test |
| | | Alarm | 30 ▼ | | | |
| Channel 4 | H.264 | Live | 30 ▼ | 720x480 | Fixed quality: | Test |
| | | Alarm | 30 ▼ | | | |



Save

| Setting | Description | Factory Default |
|----------|--|-----------------|
| Max. FPS | For setting the maximum frame rate per second. | 30 FPS |

After setting the Alarm frame rate, you may preview the video performance by clicking the Test button to ensure it meets your requirements

Conditions

The administrator can set up DynaStream's trigger conditions for facilitating automatic frame rate adjustment, e.g., from Live to Alarm status.

Currently, there are four types of trigger conditions: Digital Input, CGI Event, Motion Detection, and Video Loss.

DynaStream Trigger Conditions

The Dynastream can be triggered by the alarms VPort has, including Digital Input, CGI Event, Video Motion Detection and Video Loss. This page can setup the trigger conditions and the duration this Dynastream works.

Digital Input

| Input No. | Enable | Duration | Trigger Channel |
|-----------|--------------------------|----------|---|
| DI1 | <input type="checkbox"/> | 5 sec(s) | <input type="checkbox"/> CH1 <input type="checkbox"/> CH2 <input type="checkbox"/> CH3 <input type="checkbox"/> CH4 |
| DI2 | <input type="checkbox"/> | 5 sec(s) | <input type="checkbox"/> CH1 <input type="checkbox"/> CH2 <input type="checkbox"/> CH3 <input type="checkbox"/> CH4 |
| DI3 | <input type="checkbox"/> | 5 sec(s) | <input type="checkbox"/> CH1 <input type="checkbox"/> CH2 <input type="checkbox"/> CH3 <input type="checkbox"/> CH4 |
| DI4 | <input type="checkbox"/> | 5 sec(s) | <input type="checkbox"/> CH1 <input type="checkbox"/> CH2 <input type="checkbox"/> CH3 <input type="checkbox"/> CH4 |

CGI Event

| Event No. | Enable | Duration | Trigger Channel |
|-----------|--------------------------|----------|---|
| Event 1 | <input type="checkbox"/> | 5 sec(s) | <input type="checkbox"/> CH1 <input type="checkbox"/> CH2 <input type="checkbox"/> CH3 <input type="checkbox"/> CH4 |
| Event 2 | <input type="checkbox"/> | 5 sec(s) | <input type="checkbox"/> CH1 <input type="checkbox"/> CH2 <input type="checkbox"/> CH3 <input type="checkbox"/> CH4 |
| Event 3 | <input type="checkbox"/> | 5 sec(s) | <input type="checkbox"/> CH1 <input type="checkbox"/> CH2 <input type="checkbox"/> CH3 <input type="checkbox"/> CH4 |
| Event 4 | <input type="checkbox"/> | 5 sec(s) | <input type="checkbox"/> CH1 <input type="checkbox"/> CH2 <input type="checkbox"/> CH3 <input type="checkbox"/> CH4 |
| Event 5 | <input type="checkbox"/> | 5 sec(s) | <input type="checkbox"/> CH1 <input type="checkbox"/> CH2 <input type="checkbox"/> CH3 <input type="checkbox"/> CH4 |

Motion Detection

| Channel 1 | | | Channel 2 | | | Channel 3 | | | Channel 4 | | |
|-----------|--------------------------|----------|-----------|--------------------------|----------|-----------|--------------------------|----------|-----------|--------------------------|----------|
| VMD | Enable | Duration | VMD | Enable | Duration | VMD | Enable | Duration | VMD | Enable | Duration |
| 1 | <input type="checkbox"/> | 5 sec(s) | 1 | <input type="checkbox"/> | 5 sec(s) | 1 | <input type="checkbox"/> | 5 sec(s) | 1 | <input type="checkbox"/> | 5 sec(s) |
| 2 | <input type="checkbox"/> | 5 sec(s) | 2 | <input type="checkbox"/> | 5 sec(s) | 2 | <input type="checkbox"/> | 5 sec(s) | 2 | <input type="checkbox"/> | 5 sec(s) |
| 3 | <input type="checkbox"/> | 5 sec(s) | 3 | <input type="checkbox"/> | 5 sec(s) | 3 | <input type="checkbox"/> | 5 sec(s) | 3 | <input type="checkbox"/> | 5 sec(s) |

Video Loss

| Channel | Enable | Duration |
|---------|--------------------------|----------|
| CH 1 | <input type="checkbox"/> | 5 sec(s) |
| CH 2 | <input type="checkbox"/> | 5 sec(s) |
| CH 3 | <input type="checkbox"/> | 5 sec(s) |
| CH 4 | <input type="checkbox"/> | 5 sec(s) |

| Setting | Description | Factory Default |
|-----------------|--|-----------------|
| Enable | To enable or disable the DynaStream function. | Disabled |
| Duration | This refers to the time period that DynaStream is in operation. For example, if the duration is set to 5 seconds, then the frame rate will change from the Live to the Alarm status for the duration of 5 seconds. After 5 seconds, the frame rate will return to the Live status setting. | 5 seconds |
| Trigger Channel | To enable or disable the video channels. | Disabled |

Video

Image Settings

Image Settings

Channel Selection

Channel 1 Channel 2 Channel 3 Channel 4

Image Information

Description:

Image Appearance

Image Information:

- Not Shown
- Shown on the caption
- Shown on the video



Image Tuning

Save

Channel Selection

| | Description | Default |
|-----------------------|---|-----------|
| Channel 1, 2, 3, or 4 | For configuring the channels' image settings. | Channel 1 |

Image Information Setting

| | Description | Default |
|-------------------------------------|--|---------|
| Description (max. of 14 characters) | The customized description shown on the caption 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 and Show on the Caption | 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**. The **Vertical** and **Horizontal** configurations are for adjusting image positions. Administrators can click **Preview** to determine if the tuning adjustments meet their requirements. Click **Restore** to change back to the original tuning configurations.



Brightness Saturation
 Contrast Hue
 Image Adjust
 Vertical Horizontal

Camera Modulation

The VPort supports both NTSC and PAL camera modulations. The Administrator can use automatic sensing by selecting **NTSC** or **PAL**.

Camera Modulation

- NTSC
- PAL

Note: If you change the modulation, the server will restart and you will need to reconnect to the server by reloading the web page.

NOTE Changing the modulation requires resetting the server to detect the camera. Please ensure that your configurations are saved before resetting the server.

Video Performance

The VPort 364 can send dual video streams simultaneously: one H.264 and one MJPEG. Each video stream can be used for a different specific application.

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

| Channel | Stream Select | Resolution | Max FPS | Quality | Enable Snapshot |
|-----------|---|------------|---------|--------------------|-------------------------------------|
| Channel 1 | <input checked="" type="checkbox"/> H.264 | 720x480 | 30 | Fixed quality Good | <input checked="" type="checkbox"/> |
| | <input checked="" type="checkbox"/> MJPEG | 720x480 | 1 | Fixed quality Good | <input checked="" type="checkbox"/> |
| Channel 2 | <input checked="" type="checkbox"/> H.264 | 720x480 | 30 | Fixed quality Good | <input checked="" type="checkbox"/> |
| | <input checked="" type="checkbox"/> MJPEG | 720x480 | 1 | Fixed quality Good | <input checked="" type="checkbox"/> |
| Channel 3 | <input checked="" type="checkbox"/> H.264 | 720x480 | 30 | Fixed quality Good | <input checked="" type="checkbox"/> |
| | <input checked="" type="checkbox"/> MJPEG | 720x480 | 1 | Fixed quality Good | <input checked="" type="checkbox"/> |
| Channel 4 | <input checked="" type="checkbox"/> H.264 | 720x480 | 30 | Fixed quality Good | <input checked="" type="checkbox"/> |
| | <input checked="" type="checkbox"/> MJPEG | 720x480 | 1 | Fixed quality Good | <input checked="" type="checkbox"/> |

Note: The quality setting of Fixed Bit Rate is only for H.264 video streams.

Save

Stream Select

| Setting | Description | Default |
|----------------|---|---------|
| H.264 or MJPEG | Select either the H.264 format, MJPEG format, or both.. | Enabled |

Resolution

The VPort 364 supports 5 different resolutions: Full D1, 4CIF, VGA, CIF, and QCIF.

| 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 480 |
| CIF | 352 x 240 | 352 x 288 |
| QCIF | 176 x 112 | 176 x 144 |

Max. FPS (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 bandwidth use. NTSC: 1, 3, 5, 10, 15, 20, 25, 30 PAL: 1, 3, 5, 8, 12, 16, 20, 25 | H.264: 30 for NTSC and 25 for PAL MJPEG: 1 for both NTSC and PAL |

NOTE The total frame rate of each channel is 30 in NTSC, and 25 in PAL, which means if the H.264 video stream is set for 20 frames/second in NTSC, then the maximum frame rate of the MJPEG video stream is 10 frames/second in NTSC.

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

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 H.264) | The administrator can fix the bandwidth to tune the video quality and FPS (frames per second) to the optimum combination. Different resolutions have different bandwidth parameters. The VPort will tune the video performance according to the bandwidth. A higher bandwidth means better quality. | 600Kbps in Full D1 resolution |
| 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 |

| | 720X480(N) 720X576(P) | 704X480(N) 704X576(P) | 640X480(N) 640X480(P) | 352X240(N) 352X288(P) | 176X112(N) 176X144(P) |
|----|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| B1 | 600 Kbps | 570 Kbps | 534 Kbps | 144 Kbps | 36 Kbps |
| B2 | 1200 Kbps | 1140 Kbps | 1068 Kbps | 288 Kbps | 72 Kbps |
| B3 | 1800 Kbps | 1710 Kbps | 1602 Kbps | 432 Kbps | 108 Kbps |
| B4 | 2400 Kbps | 2280 Kbps | 2136 Kbps | 576 Kbps | 144 Kbps |
| B5 | 3000 Kbps | 2850 Kbps | 2670 Kbps | 720 Kbps | 180 Kbps |
| B6 | 3600 Kbps | 3420 Kbps | 3204 Kbps | 864 Kbps | 216 Kbps |
| B7 | 4200 Kbps | 3990 Kbps | 3738 Kbps | 1008 Kbps | 252 Kbps |

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 variables when designing the video over IP system, and when specifying the requirements for the video system.

Camera Control

Four cameras can be connected to the VPort 364. To setup the PTZ control, administrators need to configure the parameters of each video channel.



The VPort supports PTZ (PAN/TILT/ZOOM) motorized camera control via an RS-232, RS-422, or RS-485 PTZ/COM port. Before setting up camera control, the administrator should first connect the PTZ camera to the VPort. (Please refer to Chapter 2 for the PTZ port's wiring specifications.)

PTZ (Motorized) Camera Control



Camera ID

| Setting | Description | Default |
|-----------|---|---------|
| Camera ID | Each PTZ camera has an ID to identify which PTZ camera is in the multi-drop connection. To connect to the PTZ camera, the VPort should first identify its ID. | 1 |

Setting Up a Preset Position

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

| Setting | Description | Default |
|---------------------------------------|--|---------|
| Position Alias | Customized name of the preset position | blank |
| Preset Position | 25 preset positions are available for the VPort. | 01 |
| Go to | The administrator can use "Go to" to select or test the preset position before the save. | Select |
| Last Position | This column shows the current preset position of this PTZ camera. | blank |
| Set Home | This button can decide the Home position of PTZ control | |
| ZOOM Auto Focus Auto IRIS | These buttons are to fine tune the PTZ camera's lens positions. | |
| TILT SPEED PAN SPEED ZOOM SPEED | These items are used to change the speed of TILT, PAN and ZOOM. | 1 |

Serial Port

The VPort 364 has a PTZ port that can be set for RS-232, RS-422, or RS-485 serial interface. Refer to the Quick Installation Guide or Chapter 2 for the connector type and pin assignment.

PTZ port

This PTZ port is used to control a PTZ camera.

PTZ (Motorized) Camera Control

Interface Mode

Select the serial interface:

Control Mode

Transparent PTZ Control

Specific PTZ Driver

Port Settings

Baud rate (bps)

Data bits

Stop bits

Parity bit

PTZ Camera Driver

Select the camera driver:

Note: There are 24 custom commands for users to define PTZ camera actions (except for PAN, TILT, ZOOM, FOCUS and preset positions). To do this, users need to refer to the control protocols provided by the supplier of PTZ camera.

Interface mode

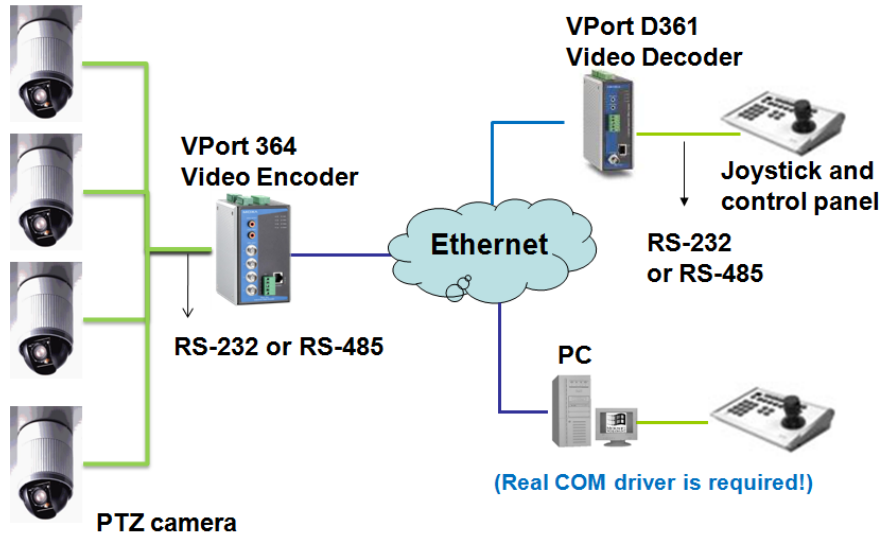
| Setting | Description | Default |
|-----------------------------|--|---------|
| Select the serial interface | The PTZ port supports 3 serial interfaces, although only one interface can be used at a time. Depending on the interface used by the attached device, administrators must set the Interface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

Control mode

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

- Transparent PTZ Control:**

Select Transparent PTZ Control to control the PTZ camera with a legacy PTZ control panel or joystick connected to the CCTV system. The application is illustrated in the following figures.



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

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

• **Specific PTZ Driver:**

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

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

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

Port Settings

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

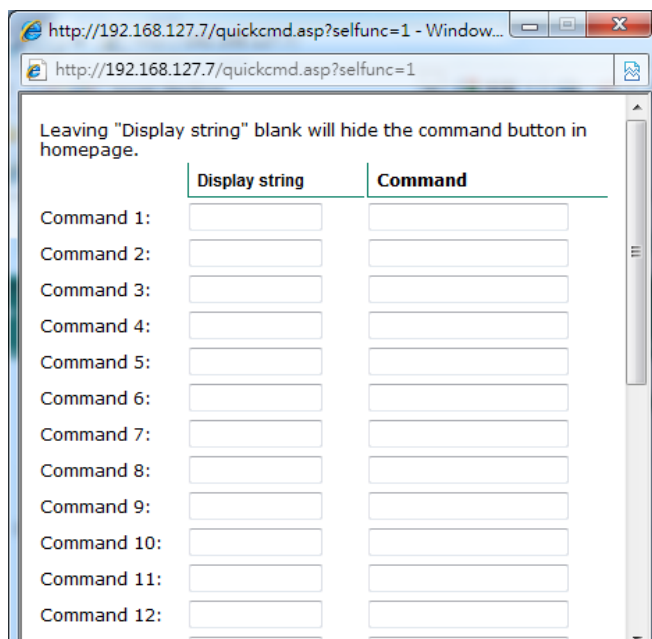
PTZ Camera Drivers

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

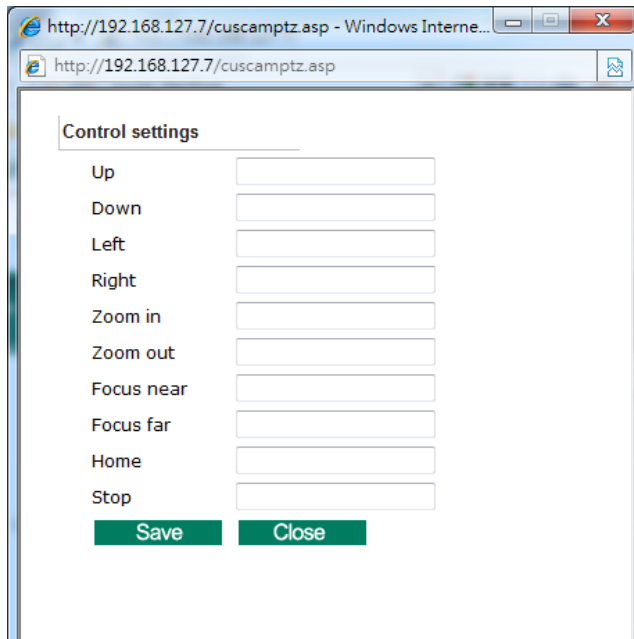
| Setting | Description | Default |
|--------------------------|---|---------|
| Select the camera driver | Use the built-in PTZ drivers, including: Custom Camera Pelco D Pelco P DynaColor DynaDome Cohu | Pelco D |

Set Up Custom Commands

VPort products provide 10 custom commands in addition to the general pan, tilt, zoom, and preset functions, which are also shown on the PTZ Control Panel. Administrators can click on **Setup Custom Commands** to configure the commands, and refer to the manual enclosed with the attached PTZ camera to set up frequently-used functions. The **Command** should be entered in ASCII format. The VPort will translate the commands into binary code and then send the data out through the serial port. For instance, the text string 81 01ABCDEF will be translated into five bytes of hexadecimal: 81, 01, AB, CD, and EF. The maximum length of a command string is 60, which is equivalent to 30 hexadecimal bytes. The **Display string** is for the text on the command buttons and should be less than 8 characters. If **Custom Camera** is selected, there will be more commands for PTZF that relate to custom camera.

**Setting Up a Custom Camera**

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



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

Uploading a PTZ Camera Driver

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

Audio

Audio Source

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

| Setting | Description | Default |
|--------------|--|---------|
| Audio Source | MIC-in (microphone) and Line-in (voice amplifier) options are available. | Line in |

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, three kinds of system alarms are provided by the VPort 364 for notifying the system operations administrator.

System Alarm

Power Failure Alarm

Enable power failure alarm

Power1 failure

Trigger Relay1 Alarm

Auto warning via recipient email

Power2 failure

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.

Save

| Alarm Type | Triggered Condition | Triggered Action |
|----------------------|------------------------------------|------------------|
| Power Failure | Power 1 failure Power 2 failure | Relay Email |
| Network Disconnected | Network disconnected | Relay |

Power Failure Alarm

| Setting | Description | Default |
|----------------------------|--|---------|
| Enable power failure alarm | Enable or disable power failure alarm. | Disable |

Power 1 Failure/Power 2 Failure

| Setting | Description | Default |
|----------------------------------|--|---------|
| Trigger Relay alarm | Enable or disable the triggering of Relay 1 or Relay 2 alarms. | Disable |
| Auto warning via recipient email | Enable or disable the action to send a warning message by recipient's email, which is set up on the Network/ SMTP Server configuration page. | 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 triggering of Relay 1 or Relay 2 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 for building an intelligent video surveillance system.

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

Basic

Event Alarm Basic Settings

Alarm Time Interval

Delay second(s) before detecting the next alarm

Send Alarm with Snapshot images

- Take snapshot in seconds(s) before event
 Take snapshot in seconds(s) after event

Suffix of Image File Name in FTP and Mail attachment

- With Data and Time
 With Customized words

DI, Relay Status

DI 1 : Low DI 2 : Low DI 3 : Low DI 4 : Low
 Relay 1 : Close Relay 2 : Close

Override Relay warning setting

- Override Relay 1 warning setting
 Override Relay 2 warning setting

Save

Alarm Time Interval

| Setting | Description | Default |
|---|--|-----------------------------------|
| Delay second(s) before detecting the next alarm | Set the minimum time interval before another event alarm is triggered. | 32 seconds (10 to 999 seconds) |

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

Send Alarm with Snapshot images

| 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 Image File Name in FTP and Mail attachment

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 adding the date and time to the filename. | Disable |
| With Customized words | Enable or disable adding some additional custom text to the filename to identify the snapshot image. | Disable |

DI, Relay Status

Administrators can check the current DI and Relay status of the VPort in the "DI, Relay Status" section on the "Event Alarm Basic Settings" page. Two options are available to return the relay's status back to the system defaults. To enable the function, check the **Override Relay 1 warning** setting and **Override Relay 2 warning** setting boxes, and then click on **Save**.

NOTE The relays will not be triggered when the Override Relay 1 warning setting and Override Relay 2 warning setting boxes are checked. Un-check these 2 boxes to ensure that the relays will trigger.

Schedule

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

Event Type

| Setting | Description | Default |
|---|---|------------|
| Video Loss, Digital Input, CGI Event, 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. | |

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 |
|---|--|---------|
| <input type="checkbox"/> Sun <input type="checkbox"/> Mon <input type="checkbox"/> Tue <input type="checkbox"/> Wed <input type="checkbox"/> Thu <input type="checkbox"/> Fri <input type="checkbox"/> Sat | Select the weekday for scheduling event alarms. | None |
| Begin 00:00 | Set the start time of the event alarm. | 00:00 |
| Duration 00:00 | Set the duration for the event alarm to be active. | 00:00 |

NOTE Administrators can use the following 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 the start time
5. Set the duration this event will be active.
6. Save

Video Motion Detection

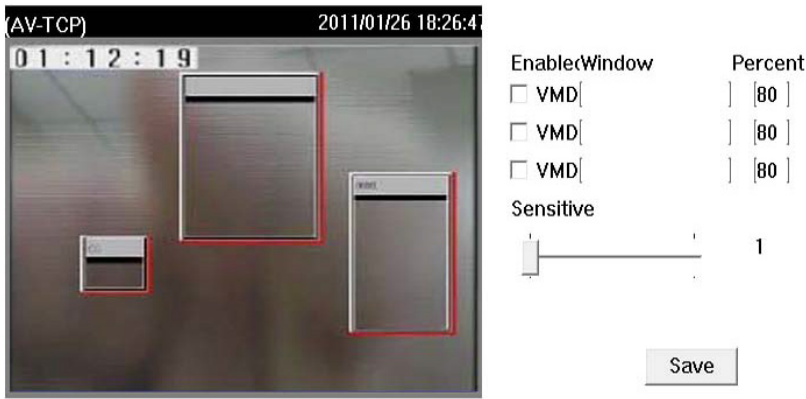
Video Motion Detection (VMD) is an intelligent event alarm for video surveillance network systems. With the 3 area-selectable VMDs and sensitivity/percentage tuning, administrators can easily set up the VMD alarm to be active 24 hours a day, 7 days a week.

VMD (Video Motion Detection)

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

Channel Selection
 Channel 1 Channel 2 Channel 3 Channel 4

Set up VMD Alarm



Trigger Conditions and Actions

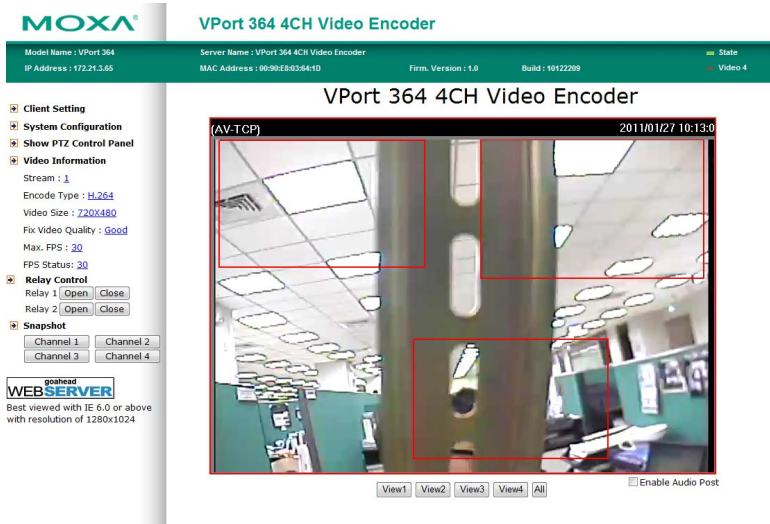
| Trigger Condition | Trigger Action | HTTP Action Setting |
|-------------------|---|---|
| VMD1 | <input type="checkbox"/> Trigger Relay1 alarm <input type="checkbox"/> Trigger Relay2 alarm <input type="checkbox"/> Send snapshot image via E-mail <input type="checkbox"/> Send snapshot image via FTP <input type="checkbox"/> Send message via HTTP Event Servers | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 <div style="border: 1px solid gray; height: 40px; width: 100%;"></div> |
| VMD2 | <input type="checkbox"/> Trigger Relay1 alarm <input type="checkbox"/> Trigger Relay2 alarm <input type="checkbox"/> Send snapshot image via E-mail <input type="checkbox"/> Send snapshot image via FTP <input type="checkbox"/> Send message via HTTP Event Servers | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 <div style="border: 1px solid gray; height: 40px; width: 100%;"></div> |
| VMD3 | <input type="checkbox"/> Trigger Relay1 alarm <input type="checkbox"/> Trigger Relay2 alarm <input type="checkbox"/> Send snapshot image via E-mail <input type="checkbox"/> Send snapshot image via FTP <input type="checkbox"/> Send message via HTTP Event Servers | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 <div style="border: 1px solid gray; height: 40px; width: 100%;"></div> |

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

Save

| Setting | Description | Default |
|---|---|-----------|
| Enable VMD alarm | Enable or disable the Video Motion Detection alarm | Disabled |
| Show alert on the image when VMD is triggered | Enable or disable the "show the alert," which when enabled displays a red square frame on the video image of the VMD alarm notification | Disabled |
| Channel Selection | Select Channel 1, 2, 3, or 4 to setup the VMD alarm | Channel 1 |

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.



Set up VMD Alarm



Setup a VMD Alarm

| Setting | Description | Default |
|-----------|---|----------|
| Enable | Enable or disable the VMD1, 2, and 3 | Disabled |
| Window | The name of each VMD window | Blank |
| Percent | The minimum percentage of an image change for triggering VMD. Decrease the percentage to make it easier to trigger VMD. | 80 |
| Sensitive | The measurable difference between two sequential images for triggering VMD. Increase the sensitivity to make it easier for VMD to be triggered. | 1 |

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

Trigger Conditions and Actions

Administrators can set triggers, such as Trigger Relay1 alarm, Trigger Relay2 alarm, Send snapshot image via E-mail, Send snapshot image via FTP, and Send Message via HTTP Event servers for each VMD.

| Setting | Description | Default |
|-------------------------------------|--|----------|
| Trigger Relay1 alarm | Once this DI is triggered, the Relay1 alarm will be activated | Disabled |
| Trigger Relay2 alarm | Once this DI is triggered, the Relay2 alarm will be activated | Disabled |
| Send snapshot image via E-mail | Once this VMD is triggered, the VPort will send the snapshot images set in the Event Alarm/Basic page to the E-mail addresses, which are set in the Network/ SMTP Server page. | Disabled |
| Send snapshot image via FTP | Once this VMD is triggered, the VPort will send the snapshot images set in the Event Alarm/Basic page to the FTP server, which are set in the Network/ FTP Server page. | Disabled |
| Send message via HTTP Event Servers | Once this VMD is triggered, the VPort will send the message set in HTTP Action Setting to the HTTP event servers, which are set in the Network/ HTTP Event Server page. | Disabled |

HTTP Action Setting

| Setting | Description | Default |
|----------------------|--|----------|
| Server 1, 2, 3, or 4 | Select the HTTP event server for sending the HTTP action | Disabled |
| Blank text box | For customizing the message to the HTTP event server. | Blank |

Digital Input

Four digital inputs are provided by the VPort for linking with alarm detection devices, such as sensors.

Digital Inputs

Enable digital input alarm

Trigger Conditions and Actions

| Trigger Condition | Trigger Action | HTTP Action Setting | Snapshot Image |
|-------------------|--------------------------------------|--|---|
| DI1 | <input type="radio"/> High | <input type="checkbox"/> Trigger Relay1 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input checked="" type="radio"/> Low | <input type="checkbox"/> Trigger Relay2 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input type="radio"/> Rising | <input type="checkbox"/> Send snapshot image via E-mail | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input type="radio"/> Falling | <input type="checkbox"/> Send snapshot image via FTP | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | | <input type="checkbox"/> Send message via HTTP Event Servers | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| DI2 | <input type="radio"/> High | <input type="checkbox"/> Trigger Relay1 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input checked="" type="radio"/> Low | <input type="checkbox"/> Trigger Relay2 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input type="radio"/> Rising | <input type="checkbox"/> Send snapshot image via E-mail | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input type="radio"/> Falling | <input type="checkbox"/> Send snapshot image via FTP | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | | <input type="checkbox"/> Send message via HTTP Event Servers | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| DI3 | <input type="radio"/> High | <input type="checkbox"/> Trigger Relay1 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input checked="" type="radio"/> Low | <input type="checkbox"/> Trigger Relay2 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input type="radio"/> Rising | <input type="checkbox"/> Send snapshot image via E-mail | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input type="radio"/> Falling | <input type="checkbox"/> Send snapshot image via FTP | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | | <input type="checkbox"/> Send message via HTTP Event Servers | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| DI4 | <input type="radio"/> High | <input type="checkbox"/> Trigger Relay1 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input checked="" type="radio"/> Low | <input type="checkbox"/> Trigger Relay2 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input type="radio"/> Rising | <input type="checkbox"/> Send snapshot image via E-mail | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input type="radio"/> Falling | <input type="checkbox"/> Send snapshot image via FTP | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | | <input type="checkbox"/> Send message via HTTP Event Servers | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> 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 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

| Setting | Description | Default |
|--------------------------------|---|---------|
| Trigger Relay1 alarm | Once this DI is triggered, the Relay1 alarm will be activated | Disable |
| Trigger Relay2 alarm | Once this DI is triggered, the Relay2 alarm will be activated | Disable |
| Send snapshot image via E-mail | Once this DI is triggered, the VPort will send the snapshot images set in the Event Alarm/Basic page to the E-mail addresses, which are set in the Network/ SMTP Server page. | Disable |

| | | |
|-------------------------------------|--|---------|
| Send snapshot image via FTP | Once this DI is triggered, the VPort will send the snapshot images set in the Event Alarm/Basic page to the FTP server, which are set in the Network/ FTP Server page. | Disable |
| Send message via HTTP Event Servers | Once this DI is triggered, the VPort will send the message set in HTTP Action Setting to the HTTP event servers, which are set in the Network/ HTTP Event Server page. | Disable |

HTTP Action Setting

| Setting | Description | Default |
|-------------------|--|---------|
| Server 1, 2, 3, 4 | Select the HTTP event server for sending the HTTP action | Disable |
| Blank column | Administrators can customize the message sent to the HTTP event sever in this column | Blank |

Video Loss

The Video Loss event means that the VPort cannot detect the analog video signal.

Video Loss

Enable video loss alarm

Video Loss Trigger Actions

| Channel | Trigger Action | HTTP Action Setting |
|-----------|--|---|
| Channel 1 | <input type="checkbox"/> Trigger Relay1 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input type="checkbox"/> Trigger Relay2 alarm | |
| | <input type="checkbox"/> Send snapshot image via E-mail | |
| | <input type="checkbox"/> Send snapshot image via FTP | |
| | <input type="checkbox"/> Send message via HTTP Event Servers | |
| Channel 2 | <input type="checkbox"/> Trigger Relay1 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input type="checkbox"/> Trigger Relay2 alarm | |
| | <input type="checkbox"/> Send snapshot image via E-mail | |
| | <input type="checkbox"/> Send snapshot image via FTP | |
| | <input type="checkbox"/> Send message via HTTP Event Servers | |
| Channel 3 | <input type="checkbox"/> Trigger Relay1 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input type="checkbox"/> Trigger Relay2 alarm | |
| | <input type="checkbox"/> Send snapshot image via E-mail | |
| | <input type="checkbox"/> Send snapshot image via FTP | |
| | <input type="checkbox"/> Send message via HTTP Event Servers | |
| Channel 4 | <input type="checkbox"/> Trigger Relay1 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 |
| | <input type="checkbox"/> Trigger Relay2 alarm | |
| | <input type="checkbox"/> Send snapshot image via E-mail | |
| | <input type="checkbox"/> Send snapshot image via FTP | |
| | <input type="checkbox"/> Send message via HTTP Event Servers | |

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 UDP syntax being defined in RFC 4728 and the customer defined commands for writing this setting with 100 characters.

Video Loss Trigger Actions

| Setting | Description | Default |
|-------------------------------------|---|---------|
| Enable video loss alarm | Enable or disable video loss alarm. | Disable |
| Trigger Relay1 alarm | Once the Video Loss alarm is triggered, the Relay1 alarm will be activated. | Disable |
| Trigger Relay2 alarm | Once the Video Loss alarm is triggered, the Relay2 alarm will be activated. | Disable |
| Send snapshot image via FTP | Once the Video Loss alarm is triggered, the VPort will send the snapshot images set in the Event Alarm/Basic page to the FTP server, which are set in the Network/ FTP Server page. | Disable |
| Send message via HTTP Event Servers | Once the Video Loss alarm is triggered, the VPort will send the message set in the HTTP Action Setting to the HTTP event servers, which are set in the Network/ HTTP Event Server page. | Disable |

HTTP Action Setting

| Setting | Description | Default |
|-------------------|---|---------|
| Server 1, 2, 3, 4 | Select the HTTP event server for sending the HTTP action. | Disable |
| Blank column | Administrators can customize the message sent to the HTTP event sever in this column. | Blank |

CGI Event

The VPort can accept 5 CGI commands, which are sent from external devices, such as ioLogik series Ethernet I/O, to be the event alarms.

NOTE The VPort only can accept the CGI commands that follow the VPort’s CGI commands format.

CGI Event

Enable CGI Event alarm

CGI Event Trigger Actions

| Event Index | Trigger Action | HTTP Action Setting | Snapshot Image |
|-------------|--|---|--|
| Event 1 | <input type="checkbox"/> Trigger Relay1 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 | <input type="checkbox"/> Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/> Channel 3 <input type="checkbox"/> Channel 4 |
| | <input type="checkbox"/> Trigger Relay2 alarm | | |
| | <input type="checkbox"/> Send snapshot image via E-mail | | |
| | <input type="checkbox"/> Send snapshot image via FTP | | |
| | <input type="checkbox"/> Send message via HTTP Event Servers | | |
| Event 2 | <input type="checkbox"/> Trigger Relay1 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 | <input type="checkbox"/> Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/> Channel 3 <input type="checkbox"/> Channel 4 |
| | <input type="checkbox"/> Trigger Relay2 alarm | | |
| | <input type="checkbox"/> Send snapshot image via E-mail | | |
| | <input type="checkbox"/> Send snapshot image via FTP | | |
| | <input type="checkbox"/> Send message via HTTP Event Servers | | |
| Event 3 | <input type="checkbox"/> Trigger Relay1 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 | <input type="checkbox"/> Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/> Channel 3 <input type="checkbox"/> Channel 4 |
| | <input type="checkbox"/> Trigger Relay2 alarm | | |
| | <input type="checkbox"/> Send snapshot image via E-mail | | |
| | <input type="checkbox"/> Send snapshot image via FTP | | |
| | <input type="checkbox"/> Send message via HTTP Event Servers | | |
| Event 4 | <input type="checkbox"/> Trigger Relay1 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 | <input type="checkbox"/> Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/> Channel 3 <input type="checkbox"/> Channel 4 |
| | <input type="checkbox"/> Trigger Relay2 alarm | | |
| | <input type="checkbox"/> Send snapshot image via E-mail | | |
| | <input type="checkbox"/> Send snapshot image via FTP | | |
| | <input type="checkbox"/> Send message via HTTP Event Servers | | |
| Event 5 | <input type="checkbox"/> Trigger Relay1 alarm | <input type="checkbox"/> Server1 <input type="checkbox"/> Server2 <input type="checkbox"/> Server3 <input type="checkbox"/> Server4 | <input type="checkbox"/> Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/> Channel 3 <input type="checkbox"/> Channel 4 |
| | <input type="checkbox"/> Trigger Relay2 alarm | | |
| | <input type="checkbox"/> Send snapshot image via E-mail | | |
| | <input type="checkbox"/> Send snapshot image via FTP | | |
| | <input type="checkbox"/> Send message via HTTP Event Servers | | |

CGI Event Trigger Actions

| Setting | Description | Default |
|-------------------------------------|---|---------|
| Enable CGI Event alarm | Enable or disable CGI Event alarm. | Disable |
| Event | Select the Event 1, 2, 3, 4, 5 | Disable |
| Trigger Relay1 alarm | Once this CGI Event is triggered, the Relay1 alarm will be activated | Disable |
| Trigger Relay2 alarm | Once this CGI Event is triggered, the Relay2 alarm will be activated | Disable |
| Send snapshot image via FTP | Once this CGI Event is triggered, the VPort will send the snapshot images set in the Event Alarm/Basic page to the FTP server, which are set in the Network/ FTP Server page. | Disable |
| Send message via HTTP Event Servers | Once this CGI Event is triggered, the VPort will send the message set in the HTTP Action Setting to the HTTP event servers, which are set in the Network/ HTTP Event Server page. | Disable |

HTTP Action Setting

| Setting | Description | Default |
|-------------------|--|---------|
| Server 1, 2, 3, 4 | Select the HTTP event server for sending the HTTP action | Disable |
| Blank column | Administrators can customize the message sent to the HTTP event sever in this column | Blank |

Snapshot image

| Setting | Description | Default |
|----------------------|--|----------|
| Channel 1, 2, 3 or 4 | Select the video channel for sending the snapshot image once a CGI event is triggered. | Disabled |

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 between 1 and 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

| Channel Select | Send Interval(Sec.) | Send Method |
|------------------------------------|---|--|
| <input type="checkbox"/> Channel 1 | Send sequential snapshot image every <input type="text" value="30"/> [1~30] second(s) | <input checked="" type="radio"/> Send snapshot image via E-mail <input type="radio"/> Send snapshot image via FTP |
| <input type="checkbox"/> Channel 2 | Send sequential snapshot image every <input type="text" value="30"/> [1~30] second(s) | <input checked="" type="radio"/> Send snapshot image via E-mail <input type="radio"/> Send snapshot image via FTP |
| <input type="checkbox"/> Channel 3 | Send sequential snapshot image every <input type="text" value="30"/> [1~30] second(s) | <input checked="" type="radio"/> Send snapshot image via E-mail <input type="radio"/> Send snapshot image via FTP |
| <input type="checkbox"/> Channel 4 | Send sequential snapshot image every <input type="text" value="30"/> [1~30] second(s) | <input checked="" type="radio"/> Send snapshot image via E-mail <input type="radio"/> Send snapshot image via FTP |

Frequently Asked Questions

FAQ 1: What if I forget my password?

Every access to the video encoder 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).

FAQ 2: Why can't I see video from the video encoder after it has been authenticated?

There are many possible scenarios:

If you have just installed the video encoder and are unable to see the video, check the video modulation on the **System Configuration\Video\Camera Modulation** page.

If the video encoder is installed correctly and you are accessing the video encoder for the first time using Internet Explorer, adjust the security level of Internet Explorer to allow installation of plug-ins.

If the problem still exists, the number of users accessing the video encoder at the same time may exceed the maximum that the system allows.

FAQ 3: What is the plug-in for?

The plug-in provided by video encoder 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.

FAQ 4: Why is the timestamp different from the system time of my PC or notebook?

The timestamp is based on the system time of the video encoder. 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.

FAQ 5: Why doesn't the image refresh regularly?

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.

FAQ 6: How many users are allowed to access the video encoder at the same time?

Basically, there is no limitation. However the video quality also depends on the network. To achieve the best effect, the VPort 364 video encoder will allow 8 video streams for udp/tcp/http connections, and 4 multicast video streams. 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.

FAQ 7: What is the video encoder's video rate?

Each H.264 and MJPEG channel can process 30 frames per second. If dual streaming, using both H.264 and MJPEG format, is enabled, then the total FPS is 30. Note that video performance may be affected by a variety of variables, such as:

1. Network throughput.
2. Bandwidth share.

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

FAQ 7: How can I keep the video encoder as private as possible?

The video encoder is designed for surveillance purposes and has many flexible interfaces. The user authentication and special confirmation when installing can keep the video encoder 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.

FAQ 8: I have a PTZ camera that is not on the supported list. How can I control it?

The video encoder provides a custom camera command interface to control cameras that are not supported. The details are described in this manual. Be sure that the PTZ port settings are applied to the camera specifications. The general PTZ command is composed of one start command and one stop command. When editing both commands in the edit box of the configuration page, use comma(s) to separate commands. Each comma represents 200 milliseconds. In addition, the VPort has a PTZ driver upload function. Users can also seek help from Moxa to create a new PTZ driver.

FAQ 9: How fast will the video encoder check the status of digital inputs?

The video encoder will check the input status in less than half a second.

FAQ 10: Why can't I access the video encoder when I set up some options in the application?

When the video encoder 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.

FAQ 11: The image is not clear enough. Is anything broken?

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

B

ModBus Address Table

Read Only Registers (Support Function Code 4, 3)

| Address | Access | Data Type | Description |
|---------------------------|--------|-----------|---|
| System Information | | | |
| 0x0000 | R | 1 word | Vendor ID = 0x1393 |
| 0x0001 | R | 1 word | Unit ID (Ethernet = 1) |
| 0x0002 | R | 1 word | Product Code = Magic Code(2 byte) |
| 0x0010 | R | 20 word | Vendor Name = "Moxa" Word 0 Hi byte = 'M' Word 0 Lo byte = 'o' Word 1 Hi byte = 'x' Word 1 Lo byte = 'a' Word 2 Hi byte = '\0' Word 2 Lo byte = '\0' |
| 0x0030 | R | 20 word | Product Name = "VPort 364" Word 0 Hi byte = 'V' Word 0 Lo byte = 'P' Word 1 Hi byte = '0' Word 1 Lo byte = 'r' Word 2 Hi byte = 't' Word 2 Lo byte = ' ' Word 3 Hi byte = '3' Word 3 Lo byte = '5' Word 4 Hi byte = '4' Word 4 Lo byte = '\0' |
| 0x0050 | R | 1 word | Product Serial Number |
| 0x0051 | R | 2 word | Firmware Version Word 0 Hi byte = major (A) Word 0 Lo byte = minor (B) Word 1 Hi byte = release (C) Word 1 Lo byte = build (D) |
| 0x0053 | R | 2 word | Firmware Release Date Firmware was released on 2007-05-06 at 09 o'clock Word 0 = 0x0609 Word 1 = 0x0705 |
| 0x0055 | R | 3 word | Ethernet MAC Address Ex: MAC = 00-01-02-03-04-05 Word 0 Hi byte = 0x00 Word 0 Lo byte = 0x01 Word 1 Hi byte = 0x02 Word 1 Lo byte = 0x03 Word 2 Hi byte = 0x04 Word 2 Lo byte = 0x05 |

| | | | |
|-------------------|-----|--------|--|
| 0x0058 88 | R | 1 word | Power 1 0x0000:Off 0x0001:On |
| 0x0059 | R | 1 word | Power 2 0x0000:Off 0x0001:On |
| 0x005A | R | 1 word | Fault LED Status 0x0000:No 0x0001:Yes |
| 0x005B | R | 1 word | Channel 1 Video Signal 0x0000:Off 0x0001:On |
| 0x005C | R | 1 word | Channel 2 Video Signal 0x0000:Off 0x0001:On |
| 0x005D | R | 1 word | Channel 3 Video Signal 0x0000:Off 0x0001:On |
| 0x005E | R | 1 word | Channel 4 Video Signal 0x0000:Off 0x0001:On |
| 0x0080 | R | 1 word | DI1 0x0000:Off 0x0001:On |
| 0x0081 | R | 1 word | DI2 0x0000:Off 0x0001:On |
| 0x0082 | R | 1 word | DI3 0x0000:Off 0x0001:On |
| 0x0083 | R | 1 word | DI4 0x0000:Off 0x0001:On |
| 0x0088 | R/W | 1 word | DO1 0x0000:Open 0x0001:Close |
| 0x0089 | R/W | 1 word | DO2 0x0000:Open 0x0001:Close |
| DynaStream | | | |
| 0x800 | R/W | 1 word | CH1 DynaStream Duration 1~999 |
| 0x801 | R/W | 1 word | CH1 DynaStream alwaysrun/forcestop 1: Always Run 0: Force Stop |
| 0x802 | R/W | 1 word | CH2 DynaStream Duration 1~999 |
| 0x803 | R/W | 1 word | CH2 DynaStream alwaysrun/forcestop 1: Always Run 0: Force Stop |
| 0x804 | R/W | 1 word | CH3 DynaStream Duration 1~999 |

| | | | |
|-------------------------|-----|--------|---|
| 0x805 | R/W | 1 word | CH3 DynaStream alwaysrun/forcestop 1: Always Run 0: Force Stop |
| 0x806 | R/W | 1 word | CH4 DynaStream Duration 1~999 |
| 0x807 | R/W | 1 word | CH4 DynaStream alwaysrun/forcestop 1: Always Run 0: Force Stop |
| Port Information | | | |
| 0x1000 | | 1 word | Port 1 Status 0x0000:Link down 0x0001:Link up 0x0002:Disable 0xFFFF:No port |
| 0x1001 | | 1 word | Port 2 Status 0x0000:Link down 0x0001:Link up 0x0002:Disable 0xFFFF:No port |

Settings of Supported PTZ Cameras

Since the COM port settings can be adjusted to other than the default settings, check the correct default settings for the attached camera.

| Camera model | Baud rate | Data bits | Stop bit | Parity bit |
|---------------------|-----------|-----------|----------|------------|
| Pelco P, D protocol | 2400 | 8 | 1 | None |
| DynaDome/DynaDome | 9600 | 8 | 1 | None |

D

Time Zone Table

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

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

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

Technical Specifications

Video

Video Compression: H.264 (MPEG4 part 10, AVC) or MJPEG

Video Inputs: 4, BNC connector (1.0 Vpp, 75 ohm)

Video Streams: Dual streams (one for H.264, the other for MJPEG)

NTSC/PAL: Manual

Video Resolution and FPS (frames per second) in single video stream:

| | NTSC | | PAL | |
|---------|-----------|----------|-----------|----------|
| | Size | Max. FPS | Size | Max. FPS |
| QCIF | 176 x 112 | 30 | 176 x 144 | 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:

- DynaStream supported for changing the video frame rate automatically
- Adjustable image size and quality
- Timestamp and text overlay

Audio

Audio Inputs: 1, Line-in or MIC-in with RCA connector

Audio Outputs: 1, Line-out with RCA connector

Audio Format: Mono, PCM

Network

Protocols: TCP, UDP, HTTP, SMTP, FTP, NTP, DNS, DHCP, UPnP, RTP, RTSP, ICMP, IGMPv3, QoS, SNMPv1/v2c/v3, DDNS, Modbus/TCP, 802.1X (Pending), SSL/SSH (Pending)

Ethernet: 1 10/100Base(X) auto negotiating RJ45 port, or 1 100BaseFX fiber port (single/multi-mode, SC connector)

Serial Port

PTZ Ports: 1, RS-232/422/485 port (5-pin terminal block connector), max. speed of 115.2 Kbps

Console Port: 1 RS-232 RJ45 port

GPIO

Digital Inputs: 4, max. 8 mA

Low: +13 to +30 V; High: -30 to +3 V

Relay Outputs: 2, max. 24 VDC @ 1 A

LED Indicators

STAT: System status

PWR1: Power 1

PWR2: Power 2

FAULT: Can be configured to correspond to system alarm, power failure, or disconnected network

V1, V2, V3, V4: Video input signal activity for channels 1 to 4

Power Requirements

Input Voltage: 2 12 VDC or 24 VDC/VAC inputs for redundancy, terminal block connector

Power Consumption: Max. 7.5 watts

Physical Characteristics

Housing: Metal, IP30 protection

Dimensions: 80.2 x 135 x 105 mm (3.16 x 5.31 x 4.13 in)

Weight: 1110 g

Installation: DIN-Rail mounting or panel mounting (with optional mounting kit)

Alarms

Video Motion Detection: Includes sensitivity tuning

Video Loss: Video loss alarm

Scheduling: Daily repeat timing schedule

Imaging: JPEG snapshots for pre/trigger/post alarm images

Email/FTP Messaging: Automatic transfer of stored images via email or FTP with event-triggered actions

Custom Alarms: HTTP event servers and CGI events for setting customized alarm actions

Pre-alarm Buffer: 24 MB per channel for JPEG snapshot images

PAN/TILT/ZOOM

PTZ Camera Control: Via RS-232/422/485 PTZ port

PTZ Control Functions: PAN, TILT, ZOOM, FOCUS, moving speed, preset position (max. 25 positions), and 24 custom commands

PTZ Function Updates: Driver upload supported

Supported Device Protocols: Pelco D, Pelco P, Dynacolor DynaDome, Cohu, Custom Camera

Transparent PTZ Control: Control PTZ cameras with legacy PTZ control panel or keyboard connected to a PC or VPort decoder

Security

Password: User level password protection

Filtering: By IP address

Authentication: 802.1X (Pending)

Encryption: SSL/SSH (Pending)

Environmental Limits

Operating Temperature:

Standard Models: 0 to 60°C (32 to 140°F)

Wide Temp. Models: -40 to 75°C (-40 to 167°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Standards and Certifications

EMI: FCC Part 15 Subpart B Class A, EN 55022 Class A

EMS:

EN 61000-4-2 (ESD) Level 2,

EN 61000-4-3 (RS) Level 3,

EN 61000-4-4 (EFT) Level 3,

EN 61000-4-5 (Surge) Level 3,

EN 61000-4-6 (CS) Level 3,

EN 61000-4-8,

EN 61000-4-11

MTBF (mean time between failures)

Time: 465,000 hrs

Database: Telcordia (Bellcore), GB 25°C

Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

System Requirements

CPU: Pentium 4, 2.4 GHz or above

Memory: 512 MB memory or above

OS: Windows XP/2000 with SP2 or above

Browser: Internet Explorer 6.x or above

Multimedia: DirectX 9.0c or above

Software Development Kit

VPort SDK PLUS: Includes CGI commands, ActiveX Control, and API library for customized applications or system integration for third-party developers (the latest version of SDK is available for download from Moxa's website).

Standard: OnVIF (Pending)