Your Industrial Ethernet Solutions for Control and Automation

MTL Instruments

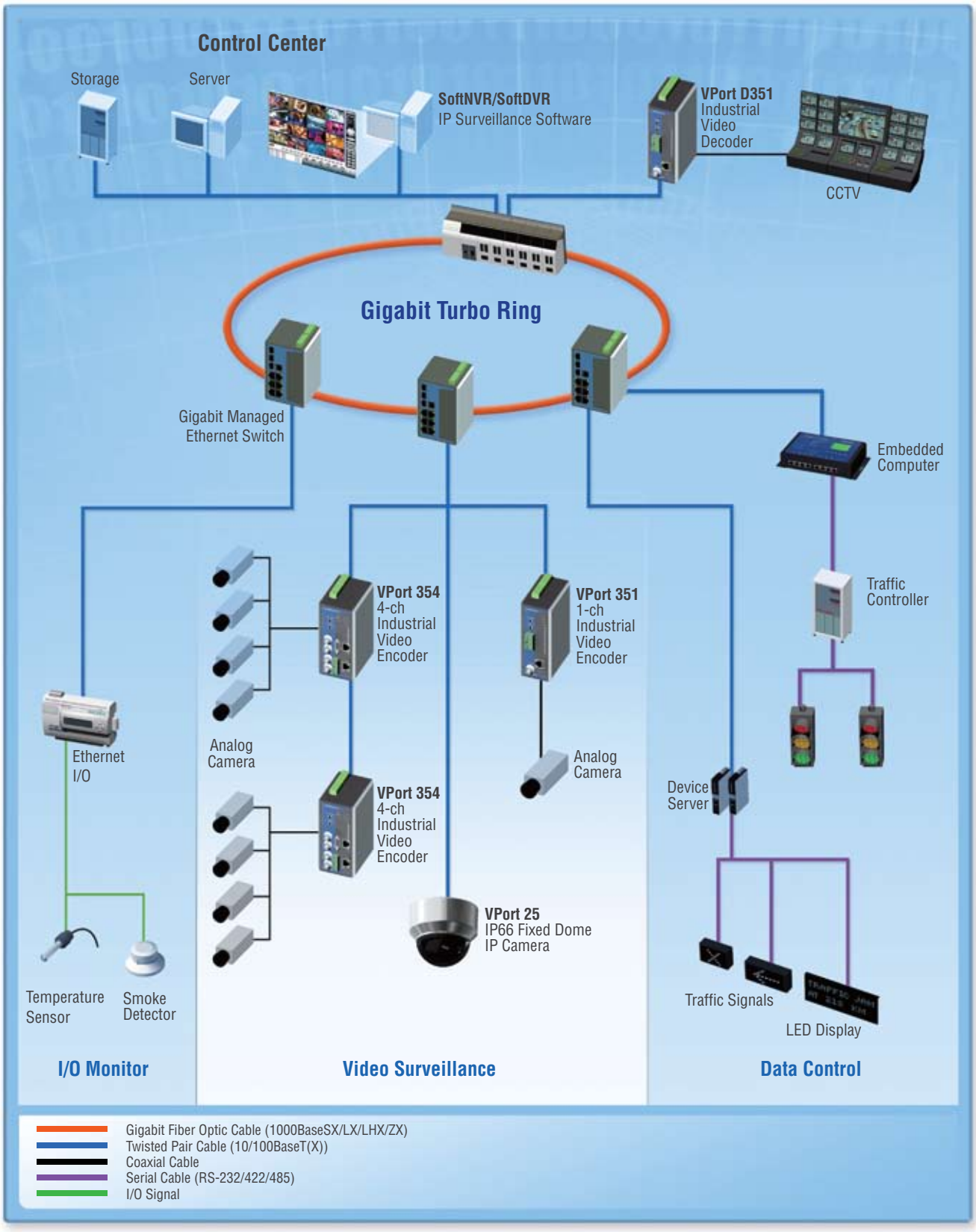
MOXA®

Video Networking Series

Video Networking Products

Industrial Video Networking Solutions

Empower Your Video Network System with Industrial-grade Reliability



Leading the Industrial Video-over-IP Evolution

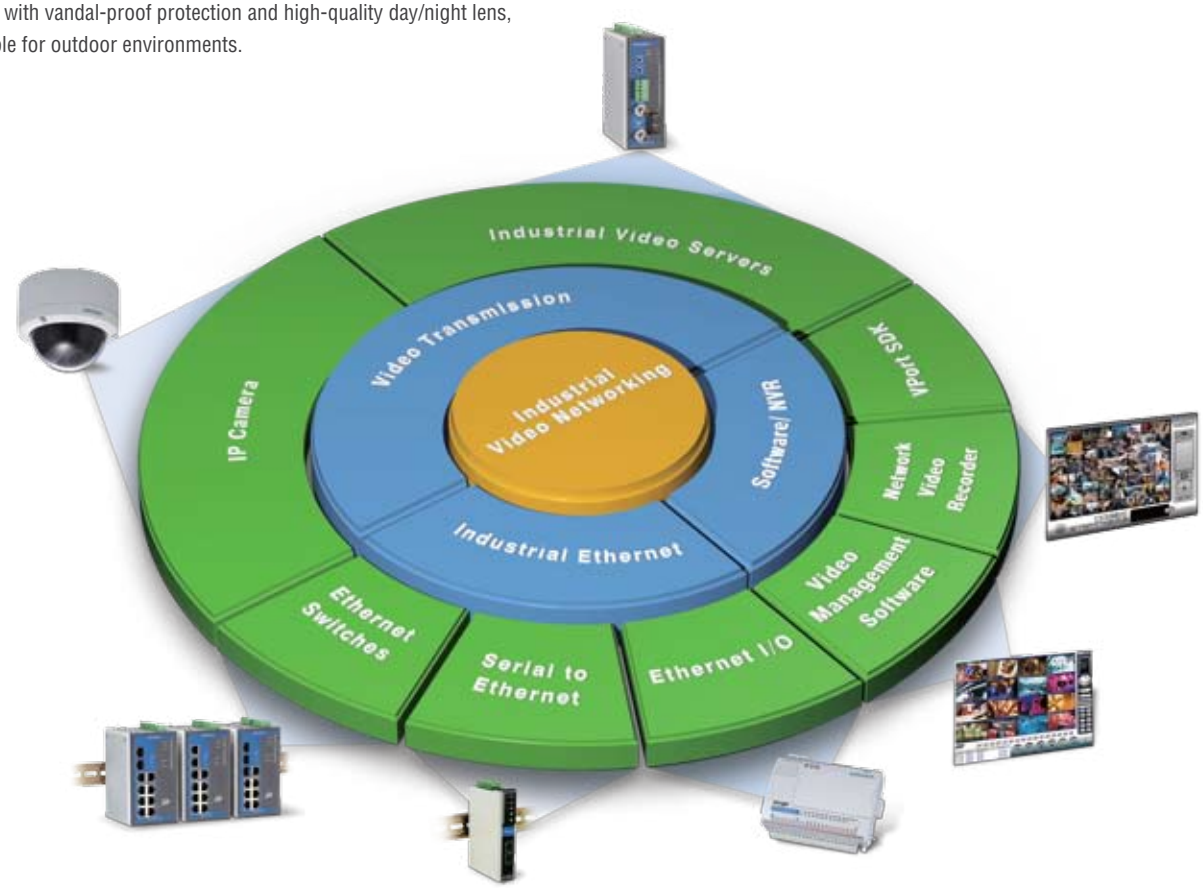
Thanks to the ever-increasing popularity of IP networks, transmitting video, voice, and data simultaneously over Ethernet/Internet is becoming a standard feature at locations the world over. Because of this, CCTV surveillance systems are also becoming more commonplace. Versatile and advanced video digitizing and compression technologies, such as MJPEG and MPEGx, make it possible to migrate CCTV surveillance systems to IP-based platforms. This means that video-over-IP solutions, which include IP cameras, video servers, and NVRs (Network Video Recorders), are used by some of the hottest products in the CCTV surveillance market. However, most video-over-IP solutions on the market today are designed for general purpose applications, which means they are not suitable for unpredictable industrial environments. In fact, some seemingly commonplace applications, such as road traffic control and monitoring, oil and gas refineries and pipelines, mining pits, etc., should be classified as industrial-grade, and as such require using rugged, well-designed video-over-IP solutions to ensure that the video surveillance system works properly.

To meet these stringent requirements, Moxa's new line of VPort industrial video-over-IP solutions feature an industrial-grade rugged design and extra-high reliability.

Integrated and Applicable Video Networking Solutions

Moxa's industrial video networking solutions include video servers and IP cameras to meet the requirements of a variety of application environments, such as transportation, utilities, factory monitoring, and automatic control systems. The video servers, which include video encoders and video decoders, are designed for rugged hardware protection for use in demanding industrial environments. The IP camera, with vandal-proof protection and high-quality day/night lens, is suitable for outdoor environments.

In addition to video networking products, Moxa is also an one source provider of industrial Ethernet switches, serial-to-Ethernet device servers, I/O servers, and embedded computing solutions for industrial automation applications. This means that you can use Moxa's products to build a highly reliable industrial automation network.



Industrial-grade Rugged Design and Reliability

Products used in industrial environments must have a rugged design to provide better protection against adverse conditions. In general, ruggedized products should have the following characteristics:

1. Power Redundancy

A backup power supply is required since power lines used in harsh industrial environments have a greater chance of failing. This means that industrial products should have at least 2 power inputs to provide sufficient redundancy.

2. Enclosure Protection

A rugged mechanism design means having good physical protection against unexpected damage from external factors. The Ingress Protection (IP) rating index (EN60529) is an international classification system that rates the effectiveness of sealing for enclosures of electrical equipment against the intrusion of foreign objects (e.g., tools, dust, fingers) and moisture. The IP rating system can be used to provide a better protection of the effectiveness of an enclosure.

3. EMI and Surge Protection

Compared to commercial-type environments, industrial environments are more likely to be subjected to severe electrical and magnetic influences. In order to protect electronic devices, higher EMI and surge protection are essentials for industrial applications. And for some industrial applications, safety approvals and demanding certifications, such as UL508 and ATEX (ATmosphere EXplosible), are also required.

4. High MTBF (Mean Time Between Failures)

The MTBF value is the "average" time between failures for a device. A higher MTBF value indicates that a device is more reliable.

5. Wide Operating Temperature Range

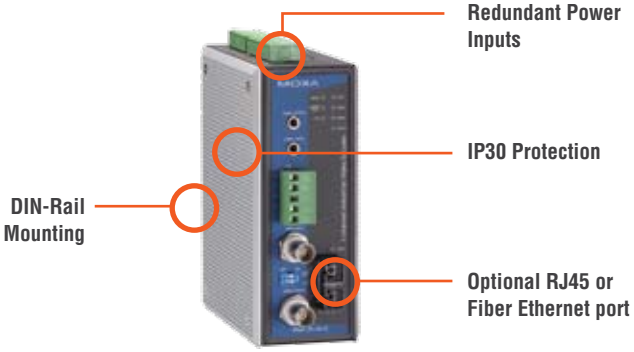
The operating temperature range is also a key issue for industrial products. In fact, some industrial applications require products that are guaranteed to operate in temperatures ranging from as low as -40°C to as high as 75°C. For these types of applications, it is important to look for products that do not use a built-in fan, since products with fans tend to have a lower MTBF.

6. DIN-Rail Mounting and Panel Mounting

A 35 mm DIN-Rail is used for many industrial applications to provide a convenient means of mounting all of the devices used for the application. For this reason, it is essential that industrial products support both DIN-Rail mounting and panel mounting.

VPort Industrial Video Servers

- 12/24 VDC or 24 VAC redundant power inputs
- DIN-Rail mounting and panel mounting accessories available
- IP30 protection enclosure
- -40 to 75°C operating temperature range for T models
- Choose either RJ45 or fiber optic Ethernet ports
- Industrial EMI/ESD protection and UL508, ATEX Class 1, Div. 2 (Pending) certifications



VPort Series IP Cameras

- PoE (Power-over-Ethernet) and direct-wired power supply for power redundancy
- -40 to 50°C operating temperature without heater or fan
- IP66-rated for protection from rain and dust
- Vandal-proof form factor for preventing damage from unexpected external forces
- Versatile installation options for outdoor environments

User-friendly Video-over-IP Surveillance Software for Application Versatility

Finding user-friendly video-over-IP software is important, since users can get right to work with little training. Moxa provides user-friendly IP surveillance software and a free SDK (software development kit) for application versatility.

SoftNVR IP Surveillance Software

Moxa SoftNVR IP surveillance software can manage up to 64 channels in one system. This powerful video management software is designed for medium and large video networking surveillance systems. Features include advanced viewing, recording, and analyzing functions, and in addition to a user-friendly GUI, SoftNVR gives users a complete video management software solution for greater versatility.

- Multi-screen viewing format (max. 64 channels)
- Dual monitor capability
- Video analytics and instant response
- Video quality enhancement tools
- Intelligent search to make locating recorded video files easy

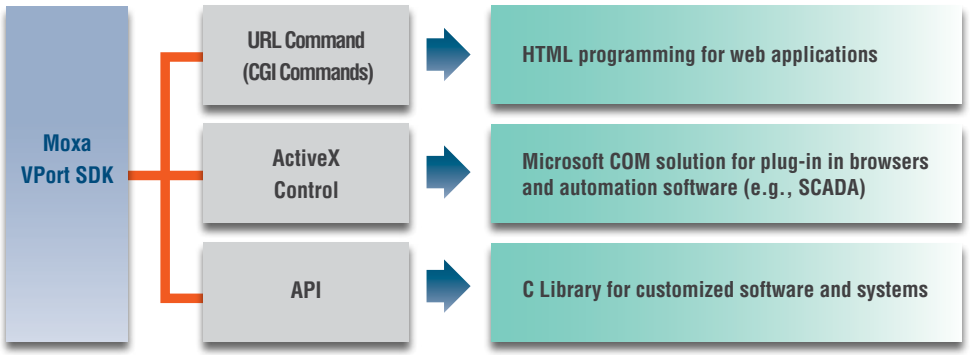
SoftDVR IP Surveillance Software

Moxa SoftDVR™ IP surveillance software, which includes SoftDVR Lite (4 channels) and SoftDVR Pro (16 channels), is designed for small IP-based video surveillance systems. The client/sever-based network infrastructure makes it easy to build a user-friendly video surveillance system.

- Multi-screen viewing format (max. 16 channels)
- Event-driven recording
- Search and playback are easy to use
- Store data to network hard disk
- Set schedule for recording and activating alarms
- Remote access by web browser

Free Software Development Kit for Third-party Software Developers and System Integrators

Most video surveillance systems require customized video management functions, or must be integrated with other applications (e.g., SCADA, access control systems, fire alarm systems). For this reason, a user-friendly SDK (software development kit) is a good tool to have available for building customized video management systems. Moxa's VPort SDK, which includes CGI Commands, ActiveX, and a C library, is available free of charge to system integrators and third-party software developers. Learning to use the Moxa VPort SDK is easy, and detailed documentation and sample code is provided for quick reference. For detailed information about the SDK, please refer to the "SDK" introduction in this catalog.



VPort 25 Series

Preliminary

IP66, day-and-night vandal-proof fixed dome IP camera for outdoors

- -40 to 50°C operating temperature; heater or fan not required
- IP66-rated for protection from rain and dust
- Direct-wired power input and PoE for power redundancy
- Up to 30 frames/sec at 720 x 480 resolution
- One camera lens for both day and night use

Introduction

The VPort 25 is a vandal-proof, IP66-rated, fixed dome IP camera for use in harsh, outdoor environments. With maximum resolution of 520 TVL and day-and-night CCD camera lens, the VPort 25 is especially well-suited for high performance video surveillance applications. To meet the outdoor environment requirements, the VPort 25 is IP66-rated to protect it against dust and rain. In addition, the vandal-proof form factor design prevents damage from unexpected external forces, and the case-open sensor sends an alarm message when the VPort 25's outer case is opened.

Heater and fan not required, supports direct-wired power input and PoE for power redundancy

The VPort 25's no-heater/fan-less embedded system provides greater reliability for outdoor use. In addition, the camera comes with redundant power inputs: (1) direct power connection (12/24 VDC and 24 VAC) and (2) PoE (IEEE 802.3af) power input.

High performance video, with full motion MJPEG/MPEG4 video stream

The VPort 25 uses the ASIC compression chip, which provides video performance up to full D1 (720 x 480) @ 30 FPS. To meet a wider range of customer requirements, the VPort 25 supports dual-codecs, including the MJPEG and MPEG4 algorithms.

Specifications

Camera

Sensor: 1/3" Sony Super HAD or 1/3" Sony ExView
Lens: Wide-end: F1.4, diagonal 115.4°, horizontal 90.3°
Tele-end: F2.4, diagonal 39.8°, horizontal 31.9°
Focal length: F= 3-9 mm
Modulation: NTSC or PAL
Camera Angle: Pan: ±180°; tilt: ±85°, rotation: ±170° (manual control)
Illumination: Color: 0.2 Lux at F1.2
Black and white: 0.03 Lux at F1.2
Synchronization: Internal
Gamma Correction: 0.45
White Balance: Auto tracking white balance
Electronic Shutter Speed: Auto: 1/60 (50) second to 1/100,000 second
S/N Ratio: More than 50 dB (AGC off)
AGC Control: On/Off
Flickerless Control: On/Off
Backlight Compensation: On/Off
Mirror: On/Off
Auto Exposure, Auto Iris: On: Auto exposure
Off: Auto iris

Video

Video Compression: MJPEG or MPEG4 (ISO/IEC 14496-2)
Video Resolution:

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

Video Viewing:
- Adjustable image size and quality
- Timestamp and text overlay

Video Output: Via Ethernet port or BNC connector (1.0 Vpp, 75 ohms)

Audio

Audio Input: 1 Line-in or MIC-in with 2-pin terminal block connector
Audio Output: 1 Line-out with 2-pin terminal block connector

Network

Protocols: TCP, UDP, HTTP, SMTP, FTP, Telnet, NTP, DNS, DHCP, UPnP, RTP, RTSP, ICMP, IGMPv3, SNMPv1/v2c/v3, DDNS
Ethernet: 1 10/100BaseT(X) auto negotiating RJ45 port

GPIO

Digital Input: 1, max. 8 mA
"High": +13 to +30V
"Low": -30 to +3V
Relay Output: 1, max. 24 VDC @ 1A

LED Indicators

Network: 1 LED for 10 Mbps, 1 LED for 100 Mbps
Power: Power On/Off
STAT: Indicates if the system booted properly
DIP Switch: To turn the LED light On/Off

Power Requirements

Input Voltage: Redundant power inputs

- 12/24 VDC or 24 VAC with 2-pin terminal block connector
- Power-over-Ethernet (IEEE 802.3af)

Physical Characteristics

Casing: IP66-rated for rain and dust protection, vandal-proof supports
Dimensions (ø x H): 142 x 118.9 mm (5.60 x 4.68 in.)
Weight: 1100 g
Installation: Surface mounting, wall mounting

Environmental Limits

Operating Temperature: -40 to 50°C (-40 to 122°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Regulatory Approvals

Safety: UL508 (Pending)
EMI: FCC Part 15, CISPR (EN55022) class A
EMS: EN61000-4-2 (ESD), level 2
EN61000-4-3 (RS), level 3
EN61000-4-4 (EFT), level 3
EN61000-4-5 (Surge), level 3
EN61000-4-6 (CS), level 3
EN61000-4-12 (Oscillatory wave immunity), level 3
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6

Warranty

1 year (see www.moxa.com/warranty for details)

Alarm Features

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

Security

- User level password protection
- IP address filtering

System Requirements

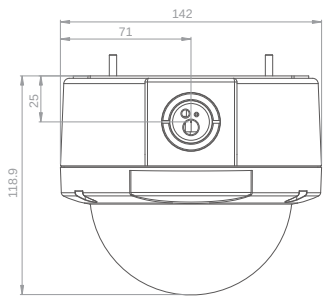
- Pentium 4, 2.4 GHz or above
- 512 MB memory or above
- Windows XP/2000 with SP2 or above
- Internet Explorer 6.x or above
- DirectX 9.0c or above

Software Bundled Free

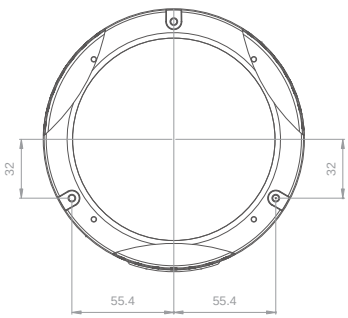
SoftDVR™ Lite: 1- to 4-ch IP surveillance software for viewing and recording

VPort SDK PLUS: Includes CGI commands and ActiveX Control for customized application or system integration for third-party developer (Please go to Moxa's website to download the latest SDK version.)

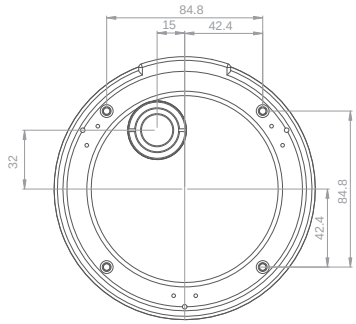
Dimensions (unit = mm)



Side View



Front View



Rear View

Ordering Information

Product Model	Camera Sensor		Modulation	
	SuperHAD	Exview	NTSC	PAL
VPort 25-CAM3S52N	√		√	
VPort 25-CAM3S52P	√			√
VPort 25-CAM3E52N		√	√	
VPort 25-CAM3E52P		√		√

IP Camera Mounting Accessories

Mounting Kit

For mounting dome camera onto gooseneck/ straight tube

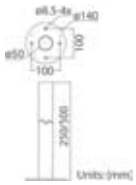
VP-MK

Height: 74 mm (2.91 in.)
Diameter: 140 mm (5.51 in.)
Weight: 500 g (1.1 lbs)

Straight Tube

VP-ST1/VP-ST2

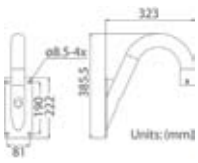
Height: 500 mm (19.69 in.)/250 mm (9.84 in.)
Diameter: 50 mm (1.97 in.)
Weight: 1000 g (2.2 lbs)/1800 g (4 lbs)



Gooseneck Tube

VP-GT

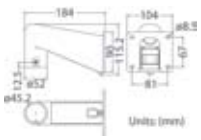
Dimensions: 323 x 385 mm (11.73 x 15.16 in.)
Diameter: 92 x 42 mm (3.62 x 1.65 in.)
Weight: 2100 g (4.6 lbs)



Mini Pendant

VP-MP

Dimensions: 184 x 104 x 115.2 mm
(7.24 x 4.09 x 4.54 in.)
Diameter: 44.5 mm (1.75 in.)
Weight: 600 g (1.3 lbs)

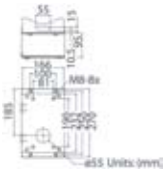


Wall Box Mounting

For mounting gooseneck/mini pendants on the wall

VP-WBM

Dimensions: 270 x 166 x 95 mm
(10.63 x 6.54 x 3.74 in.)
Weight: 2200 g (4.8 lbs)

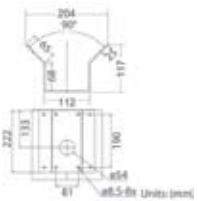


Standard Corner Mounting Plate

For mounting gooseneck/mini pendants in the corner

VP-CST

Dimensions: 222 x 204 x 117 mm
(8.74 x 8.03 x 4.61 in.)
Weight: 2000 g (4.4 lbs)



Mini Corner Plate

For mounting gooseneck/mini pendants in the corner

VP-CSTM

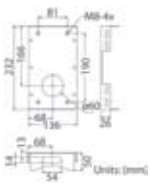
Dimensions: 270 x 166 x 95 mm
(10.63 x 6.54 x 3.74 in.)
Weight: 800 g (1.8 lbs)

Outdoor Thin Pole Direct Mounting

For mounting gooseneck/mini pendants on a pole

VP-PTD

Dimensions: 232 x 136 x 50 mm
(9.13 x 5.35 x 1.97 in.)
Recommend Pole Diameter: 112~140 mm
(4.4~5.5 in.)
Weight: 700 g (1.6 lbs)

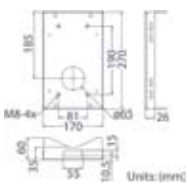


Outdoor Wide Pole Direct Mounting

For mounting gooseneck/mini pendants on a pole

VP-PWD

Dimensions: 270 x 170 x 60 mm
(10.63 x 6.69 x 2.36 in.)
Recommend Pole Diameter: 112~130 mm
(4.4~5 in.)
Weight: 1000 g (2.2 lbs)



Stainless Steel Straps

For direct pole mounting or pole box on a pole

VP-SS1

Length: 700 mm (27.56 in.)
Width: 16 mm (0.63 in.)
Weight: 20 g (0.04 lbs)

VPort 354 Series

Preliminary

Full motion, 4-channel MJPEG/MPEG4 industrial video encoder

- Industrial design with -40 to 75°C operating temperature and fiber optic Ethernet port
- 2 Ethernet ports for cascade and port redundancy
- SD card slot for local storage capability
- Modbus/TCP supported for easy communication with SCADA software
- Video stream up to 30 frames/sec at 4CIF (704 x 480) resolution for each channel

CE FC

Introduction

The VPort 354 is a high performance, 4-channel industrial video encoder that provides up to 4CIF full frame rate performance (NTSC: 704 x 480 @ 30 FPS; PAL: 704 x 576 @ 25 FPS) for each channel, and supports a dual MJPEG/MPEG4 algorithm, making it especially well-suited for use with distributed surveillance systems in critical industrial applications. In addition, a continuous pre/post event trigger video record function can help system administrators determine why an alarm was triggered. The 2-way audio is provided for the convenience of real-time communication between system administrators located at the central site, and engineers in the field.

Rugged design for mission-critical industrial environments

- -40 to 75°C wide operating temperature
- Built-in single mode or multi mode fiber optic Ethernet port, no media converter required
- 2 Ethernet ports are provided for cascade and port redundancy, and to free up switch ports
- 1 RS-232/422/485 COM port for controlling external serial device via Ethernet
- More reliable with redundant 12/24 VDC and 24 VAC power inputs
- Metal form factor with IP30 protection against dust
- DIN-Rail mounting installation for industrial environments
- UL508 (Pending) and Class 1, Div. 2 (Pending) certified for hazardous locations

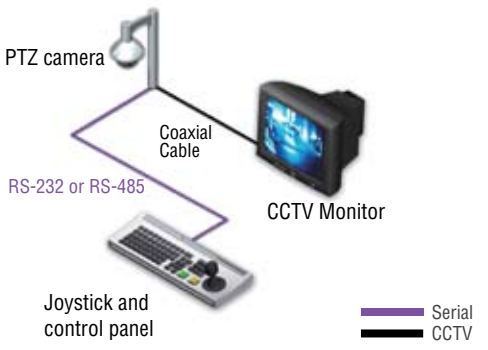
Advanced network protocols support efficient network transmission and integration

- Modbus/TCP for easy communication with SCADA software
- Standard RTSP (real-time streaming protocol) video streaming for easy integration
- Multicast (IGMP) protocols for efficient network transmission
- SNMPv1/v2c/v3 MIB-II for easy network management
- QoS (ToS) for configuring the transmission priority of video streams
- UPnP, DDNS, and IP filtering supported

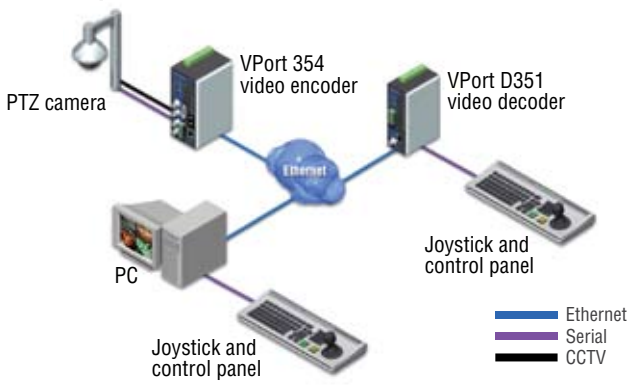
Transparent PTZ control for easy control of PTZ cameras

The VPort 354 uses Moxa's Real COM technology to implement transparent communication for RS-232/422/485 PTZ control. The benefit of this Transparent PTZ Control function is that there is no need to build the PTZ control driver into the VPort product. Users can use a legacy PTZ control panel or keyboard to control a PTZ camera directly.

Legacy PTZ camera control



Transparent PTZ camera control via Ethernet



SD card for storing video locally when the network is down

The VPort 354 is equipped with an SD card socket (V2.0) for local storage purposes. Enable local storage when the network is down and the video stream cannot be transmitted to record events that occur during the down-time.

Specifications

Video

Video Compression: MJPEG, MPEG4 (ISO/IEC 14496-2)
Video Inputs: 4, BNC connector (1.0 Vpp, 75 ohms)
NTSC/PAL: Auto-sensing or manual
Video Resolution and FPS (frames per second):

	NTSC		PAL	
	Size	Max. FPS	Size	Max. FPS
QCIF	176 x 120	30	176 x 144	25
CIF	352 x 240	30	352 x 288	25
2CIF	704 x 240	30	704 x 288	25
VGA	640 x 480	30	640 x 576	25
4CIF	704 x 480	30	704 x 576	25

Video Viewing:

- Adjustable image size and quality
- Timestamp and text overlay

Audio

Audio Input: 1 Line-in or MIC-in, RCA connector
Audio Output: 1 Line-out, RCA connector

Network

Protocols: TCP, UDP, HTTP, SMTP, FTP, Telnet, NTP, DNS, DHCP, UPnP, RTP, RTSP, ICMP, IGMPv3, QoS, SNMPv1/v2c/v3, DDNS
Ethernet: 2 10/100BaseT(X) auto negotiating RJ45 port, or 2 100BaseFX fiber port (Single/multi mode, SC connector)
Optical Fiber:

	100BaseFX	
	Multi Mode	Single Mode
Wavelength	1300 nm	1310 nm
Max. TX	-10 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm
Link Budget	12 dB	29 dB
Typical Distance	5 km [a] 4 km [b]	40 km [c]
Saturation	-6 dBm	-3 dBm

a. 50/125 µm, 800 MHz*km fiber optic cable
b. 62.5/125 µm, 500 MHz*km fiber optic cable
c. 9/125 µm, 3.5 PS/(nm*km) fiber optic cable

Serial Port

PTZ Port: 1 RS-232/422/485 terminal block connector, max. speed of 921.6 Kbps, with 15 KV ESD protection
COM Port: 1 RS-232/422/485, DB9 female connector, max. speed of 921.6 Kbps, with 15 KV ESD protection
Console Port: 1 RS-232 RJ45 port

GPIO

Digital Inputs: 4, max. 8 mA
"High": +13V to +30V
"Low": -30V to +3V
Relay Outputs: 2, max. 24 VDC @ 1A

LED Indicators

STAT: Indicates if the system booted properly or not
PWR1: Power 1
PWR2: Power 2
FAULT: Can be configured to correspond to system alarm, power failure, video loss, or disconnected network
V1: Video 1 input signal active
V2: Video 2 input signal active
V3: Video 3 input signal active
V4: Video 4 input signal active

Local Storage

SD Socket: Standard SD socket V2.0 with SD LED indicator

Power Requirements

Input Voltage: 2 12/24 VDC or 24 VAC inputs for redundancy
Power Consumption: Approx. 12W

Physical Characteristics

Casing: IP30 protection, metal case
Dimensions (W x H x D): 80.2 x 135 x 105 mm (3.16 x 5.31 x 4.13 in.)
Installation: DIN-Rail mounting, wall mounting (optional kit)

Environmental Limits

Operating Temperature: 0 to 60°C (32 to 140°F)
-40 to 75°C (-40 to 167°F) for T models
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Regulatory Approvals

Safety: UL508 (Pending)
Hazardous Location: UL/cUL Class I, Division 2, Groups A, B, C and D (Pending); ATEX Class I, Zone 2, Ex nC IIC (Pending)
EMI: FCC Part 15, CISPR (EN55022) class A
EMS: EN61000-4-2 (ESD), level 2
EN61000-4-3 (RS), level 3
EN61000-4-4 (EFT), level 3
EN61000-4-5 (Surge), level 3
EN61000-4-6 (CS), level 3
EN61000-4-12 (Oscillatory wave immunity), level 3
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6
MTBF: 160,000 hrs
Database: MIL-HDBK-217F, GB 25°C
*Please check Moxa's website for the most up-to-date certification status.

Warranty

5 years (see www.moxa.com/warranty for details)

Alarm Features

- Pre/post alarm video recording (9 MB memory)
- Video motion detection with sensitivity tuning
- Video loss alarm
- Daily repeat timing schedule
- JPEG snapshots for pre/trigger/post alarm images
- Automatic transfer of stored images via email or FTP with event-triggered actions
- HTTP Event Servers for setting customized alarm actions

PAN/TILT/ZOOM

- PTZ camera control through RS-232/422/485 port
- PTZ control functions: PAN, TILT, ZOOM, FOCUS, moving speed, preset position (max. 25 positions)
- 10 custom commands for customized PTZ control
- Supported devices and protocols: Pelco D, Pelco P, Dynacolor DynaDome, Custom Camera
- PTZ driver upload

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

Security

- User level password protection
- IP address filtering

System Requirements

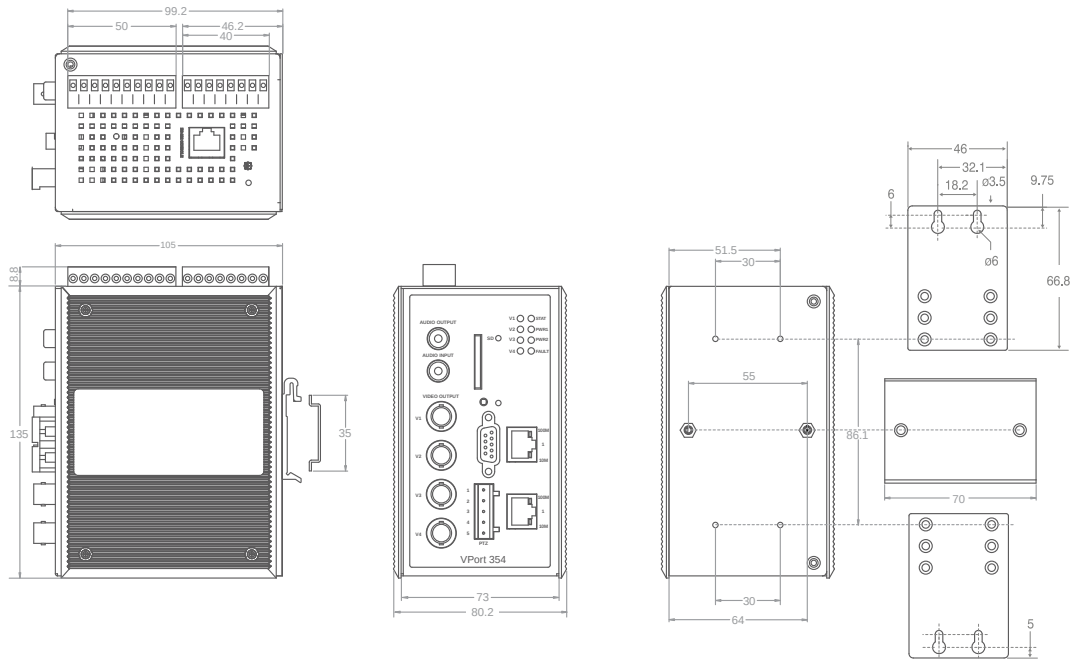
- Pentium 4, 2.4 GHz or above
- 512 MB memory or above
- Windows XP/2000 with SP2 or above
- Internet Explorer 6.x or above
- DirectX 9.0c or above

Software Bundled Free

SoftDVR™ Lite: 1- to 4-ch IP surveillance software for viewing & recording

VPort SDK PLUS: Includes CGI commands and ActiveX control for customized applications or system integration for third-party developers (Please visit Moxa's website to download the latest SDK version.)

Dimensions (unit = mm)



Side View DIN-Rail Kit Front View Rear View Mounting Kit

Ordering Information

Product Model		Port Interface		
Standard Temperature (0 to 60°C)	Extended Temperature (-40 to 75°C)	10/100BaseT(X)	Multi Mode, SC Connector	Single Mode, SC Connector
VPort 354	VPort 354-T	2		
VPort 354-MM-SC	VPort 354-MM-SC-T		2	
VPort 354-SS-SC	VPort 354-SS-SC-T			2

Optional Accessories

- **SoftDVR™ Pro:** 16-channel IP surveillance software for viewing and recording
- **DR-4524:** 45W/2A DIN-Rail 24 VDC power supply, 85 to 264 VAC input
- **DR-75-24:** 75W/3.2A DIN-Rail 24 VDC power supply, 85 to 264 VAC input
- **DR-120-24:** 120W/5A DIN-Rail 24 VDC power supply, 88 to 132 VAC/176 to 264 VAC input by switch
- **WK-46:** Wall mounting kit
- **RK-4U:** 4U-high 19" rack mounting kit

VPort 351 Series

Full motion, 1-channel MJPEG/MPEG4 industrial video encoder

- Industrial design with -40 to 75°C operating temperature and fiber optic Ethernet port
- Video stream up to 30 frames/sec at full D1 (720 x 480) resolution
- Pre/post-alarm video recording function for advanced surveillance
- 2-way (1 in/1 out) audio supported
- Free VPort SDK PLUS and 4-channel video surveillance software

Introduction

The VPort 351 is a high performance, 1-channel industrial video encoder that provides up to full D1, full frame rate performance (NTSC: 720 x 480 @ 30 FPS; PAL: 720 x 576 @ 25 FPS) and supports a dual MJPEG/MPEG4 algorithm, making it especially well-suited for use with distributed surveillance systems in critical industrial applications. In addition, a continuous pre/post event trigger video record function can help system administrators determine why an alarm was triggered. The 2-way audio is provided for the convenience of real-time communication between system administrators located at the central site, and engineers in the field.

Rugged design for mission-critical industrial environments

- -40 to 75°C wide operating temperature
- Built-in single mode or multi mode optical fiber Ethernet port; no media converter required
- UL508 and Class 1, Div. 2 (Pending) certified for hazardous locations
- Redundant 12/24 VDC and 24 VAC power inputs ensure greater reliability
- Metal form factor with IP30 protection against dust
- DIN-Rail mounting installation for industrial environments

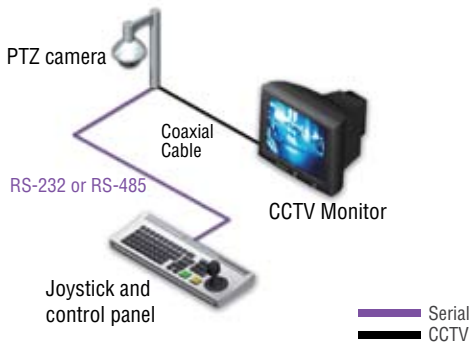
Advanced network protocols support efficient network transmission and integration

- Standard RTSP (real-time streaming protocol) video streaming for easy integration
- Multicast (IGMP) protocols for efficient network transmission
- SNMPv1/v2c/v3 MIB-II for easy network management
- QoS (ToS) for configuring the transmission priority of video streams
- UPnP, DDNS, and IP filtering supported

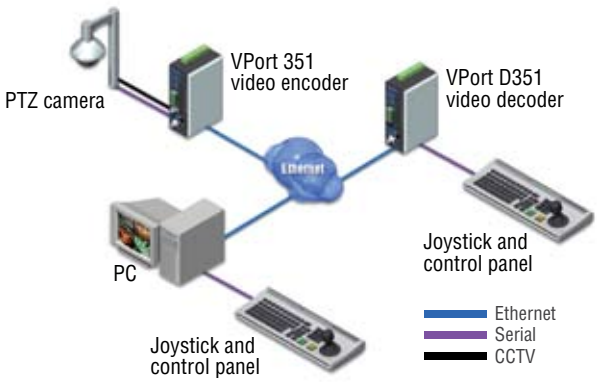
Transparent PTZ control for easy control of PTZ cameras

The VPort 351 adopts Moxa's Real COM technology to implement transparent communication for RS-232/422/485 PTZ control. The benefit of this transparent PTZ control function is that it eliminates the need to build a PTZ control driver into the VPort product, since legacy PTZ control panels or keyboards can be used to control the PTZ camera directly.

Legacy PTZ camera control



Transparent PTZ camera control via Ethernet



Specifications

Video

Video Compression: MJPEG, MPEG4 (ISO/IEC 14496-2)

Video Input: 1, BNC connector (1.0 Vpp, 75 ohms)

Video Output: 1, loop-through BNC connector

NTSC/PAL: Auto-sensing or manual

Video Resolution and FPS (frames per second):

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

Video Viewing:

- Adjustable image size and quality
- Timestamp and text overlay

Audio

Audio Input: 1 Line-in or MIC-in, 3.5 mm phone jack

Audio Output: 1 Line-out, 3.5 mm phone jack

Network

Protocols: TCP, UDP, HTTP, SMTP, FTP, Telnet, NTP, DNS, DHCP, UPnP, RTP, RTSP, ICMP, IGMPv3, QoS, SNMPv1/v2c/v3, DDNS

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

Optical Fiber:

	100BaseFX	
	Multi Mode	Single Mode
Wavelength	1300 nm	1310 nm
Max. TX	-10 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm
Link Budget	12 dB	29 dB
Typical Distance	5 km [a] 4 km [b]	40 km [c]
Saturation	-6 dBm	-3 dBm

a. 50/125 µm, 800 MHz*km fiber optic cable
b. 62.5/125 µm, 500 MHz*km fiber optic cable
c. 9/125 µm, 3.5 PS/(nm*km) fiber optic cable

Serial Port

PTZ Port: 1, RS-232/422/485 terminal block connector, max. 115.2 Kbps

Console Port: 1 RS-232 RJ45 port

GPIO

Digital Inputs: 2, max. 8 mA
"High": +13V to +30V
"Low": -30V to +3V

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

LED Indicators

STAT: Indicates if the system boots properly or not

PWR1: Power 1

PWR2: Power 2

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

VIDEO: Video input signal active

AUDIO TEST: Audio input signal in test mode

PTZ: PTZ control signal active

Physical Characteristics

Casing: IP30 protection, metal case

Dimensions (W x H x D): 52.98 x 135 x 105 mm (2.09 x 5.31 x 4.13 in.)

Weight: 960 g

Installation: DIN-Rail mounting, wall mounting (optional kit)

Power Requirements

Input Voltage: 2 12/24 VDC or 24 VAC inputs for redundancy

Power Consumption: Max. 8W

Environmental Limits

Operating Temperature: 0 to 60°C (32 to 140°F)
-40 to 75°C (-40 to 167°F) for T models

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

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

Regulatory Approvals

Safety: UL508

Hazardous Location:
UL/cUL Class I, Division 2, Groups A, B, C, and D (Pending);
ATEX Class I, Zone 2, Ex nC IIC (Pending)

EMI: FCC Part 15, CISPR (EN55022) class A

EMS: EN61000-4-2 (ESD), level 2
EN61000-4-3 (RS), level 3
EN61000-4-4 (EFT), level 3
EN61000-4-5 (Surge), level 3
EN61000-4-6 (CS), level 3
EN61000-4-12 (Oscillatory wave immunity), level 3

Shock: IEC 60068-2-27

Freefall: IEC 60068-2-32

Vibration: IEC 60068-2-6

MTBF: 272,000 hrs
Database: MIL-HDBK-217F, GB 25°C

*Please check Moxa's website for the most up-to-date certification status.

Warranty

5 years (see www.moxa.com/warranty for details)

Alarm Features

- Pre/post alarm video recording (9 MB memory)
- Video motion detection with sensitivity tuning
- Video loss alarm
- Daily repeat timing schedule
- JPEG snapshots for pre/trigger/post alarm images
- Automatic transfer of stored images via email or FTP with event-triggered actions
- HTTP Event Servers for setting customized alarm actions

PAN/TILT/ZOOM

- PTZ camera control through RS-232/422/485 port
- PTZ control functions: PAN, TILT, ZOOM, FOCUS, moving speed, preset position (max. 25 positions)
- 10 custom commands for customized PTZ control
- Supported devices and protocols: Pelco D, Pelco P, Dynacolor DynaDome, Custom Camera
- PTZ driver upload
- Transparent PTZ control for controlling the PTZ camera with legacy PTZ control panel or keyboard connected to a PC or VPort decoder

Security

- User level password protection
- IP address filtering

System Requirements

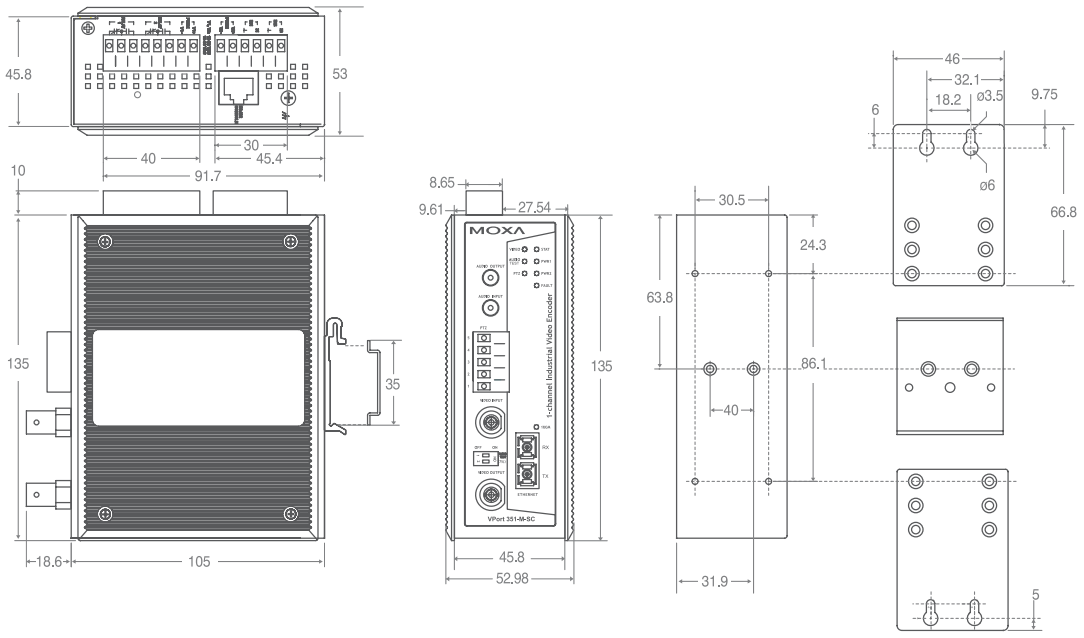
- Pentium 4, 2.4 GHz or above
- 512 MB memory or above
- Windows XP/2000 with SP2 or above
- Internet Explorer 6.x or above
- DirectX 9.0c or above

Software Bundled Free

SoftDVR™ Lite: 1- to 4-channel IP surveillance software for viewing and recording

VPort SDK PLUS: Includes CGI commands and ActiveX Control for customized application or system integration for third-party developer (Please go to Moxa's website to download the latest SDK version.)

Dimensions (unit = mm)



Side View DIN-Rail Kit Front View Rear View Mounting Kit

Ordering Information

Product Model		Port Interface		
Standard Temperature (0 to 60°C)	Extended Temperature (-40 to 75°C)	10/100BaseT(X)	Multi Mode, SC Connector	Single Mode, SC Connector
VPort 351	VPort 351-T	1		
VPort 351-M-SC	VPort 351-M-SC-T		1	
VPort 351-S-SC	VPort 351-S-SC-T			1

Optional Accessories

- **SoftDVR™ Pro:** 16-channel IP surveillance software for viewing and recording
- **DR-4524:** 45W/2A DIN-Rail 24 VDC power supply, 85 to 264 VAC input
- **DR-75-24:** 75W/3.2A DIN-Rail 24 VDC power supply, 85 to 264 VAC input
- **DR-120-24:** 120W/5A DIN-Rail 24 VDC power supply, 88 to 132 VAC/176 to 264 VAC input by switch
- **WK-46:** Wall mounting kit
- **RK-4U:** 4U-high 19" rack mounting kit

VPort 3310 Series

Rugged design, 1-channel MPEG4 industrial video server (encoder)

- Industrial design with -40 to 75°C operating temperature
- Compress analog video/audio signals in MPEG4 video stream
- Multicast (IGMP) for transmission efficiency
- Video stream up to 30 frames/sec at CIF (352 x 240) resolution
- Free VPort SDK and 4-channel video surveillance software

Introduction

The VPort 3310 is a 1-channel industrial video server (encoder) that uses the standard MPEG4 algorithm, and features DIN-Rail mounting capability, 24 VDC redundant power inputs, and IP30 protection to meet the requirements of industrial environments. The cutting edge MPEG4 algorithm gives VPort 3310 an FPS of up to 30 in CIF resolution (352 x 240), with maximum bandwidth of 1.6 Mbps, to provide high video performance and more efficient network transmission. In addition, VPort 3310 also supports audio communication for a voice-over-IP solution, making the control of your video surveillance system more real-time.

Specifications

Video

Video Compression: MPEG4 (ISO/IEC 14496-2)
Video Input: 1, BNC connector (1.0 Vpp, 75 ohms)
Video Output: 1, loop-through BNC connector
NTSC/PAL: Auto-sensing or manual
Video Resolution and FPS (frame per second):

	NTSC		PAL	
	Size	Max. FPS	Size	Max. FPS
QCIF	176 x 120	30	176 x 144	25
CIF	352 x 240	30	352 x 288	25
VGA	640 x 480	10	640 x 576	8
4CIF	704 x 480	10	704 x 576	8

Video Viewing:

- Adjustable image size and quality
- B/W or Color control
- Timestamp and text overlay

Audio

Audio Input: 1 Line-in or Mic-in port, 3.5 mm phone jack

Network

Protocols: TCP, UDP, HTTP, SMTP, FTP, RTSP, RTP, RTCP, NTP, DNS, DDNS, IGMPv3, SNMPv1/v2c/v3, DHCP, UPnP, PPPoE
Ethernet: 1 RJ45 port, 10/100BaseT(X) auto negotiation

Serial Port

COM Port: 1, RS-232 in DB9 Male or RS-485 in terminal block, max. 115.2 Kbps

GPIO

Digital Inputs: 2, max. 8 mA
"High": +13V to +30V
"Low": -30V to +3V
Relay Outputs: 2, max. 24 VDC @ 1A

LED Indicators

PWR1: Power 1
PWR2: Power 2
FAULT: Power failure
VIDEO: Video input
AUDIO: Audio input
SERIAL: COM port status

Physical Characteristics

Casing: IP30 protection, metal case
Dimension (W x H x D): 52.98 x 135 x 105 mm (2.09 x 5.31 x 4.13 in.)
Weight: 790 g
Installation: DIN-Rail mounting, wall mounting (optional kit)

Power Requirements

Input Voltage: 2 24 VDC power inputs for redundancy

Environmental Limits

Operating Temperature: 0 to 60°C (32 to 140°F)
-40 to 75°C (-40 to 167°F) for T model
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Regulatory Approvals

EMI: FCC Part 15, CISPR (EN55022) class B
EMS: EN61000-4-2 (ESD), level 3
EN61000-4-3 (RS), level 3
EN61000-4-4 (EFT), level 4
EN61000-4-5 (Surge), level 3
EN61000-4-6 (CS), level 3
EN61000-4-8
EN61000-4-11
EN61000-4-12
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6
MTBF: 152,000 hrs

Warranty

5 years (see www.moxa.com/warranty for details)

Alarm Features

- Video motion detection with sensitivity tuning
- Daily repeat timing schedule
- JPEG snapshots for pre/trigger/post alarm images
- Automatic transfer of stored images via email or FTP with event-triggered actions

PAN/TILT/ZOOM

- PTZ camera control through RS-232/485 port
- Automatic PTZ camera model detection
- Supported devices protocol: Sony VISCA, Cannon VC-C1/VC-C3/VC-C4, Samsung SmartDOME, Dynacolor DynaDOME, Pelco D protocol, Liling PIH-7x00, Ernitec, Custom Camera

Security

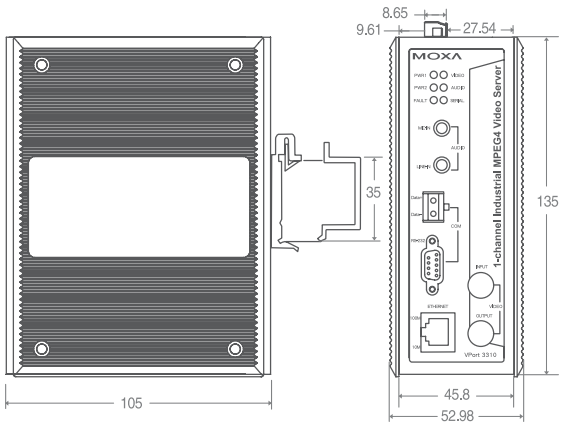
- User level password protection
- IP address filtering

Software Bundled Free

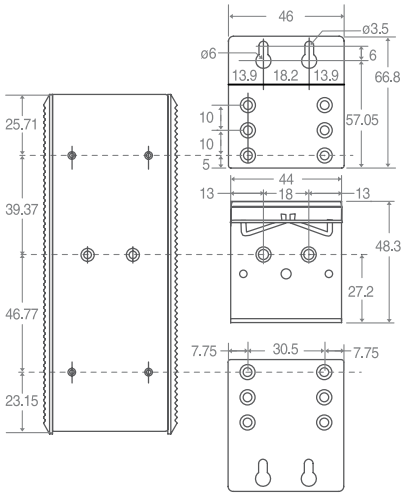
SoftDVR™ Lite: 1- to 4-channel IP surveillance software for viewing and recording

VPort SDK: Includes CGI commands and ActiveX Control and API for customized application or system integration for third-party developer (Please contact with Moxa's sales representative if you require VPort SDK.)

Dimensions (unit = mm)



Side View DIN-Rail Kit Front View



Rear View Mounting Kit

Ordering Information

- **VPort 3310:** 1-channel MPEG4 industrial video server with 24 VDC redundant power inputs, 0 to 60°C
- **VPort 3310-T:** 1-channel MPEG4 industrial video server with 24 VDC redundant power inputs, -40 to 75°C

Optional Accessories

- **SoftDVR™ Pro:** 16-channel IP surveillance software for viewing and recording
- **DR-4524:** 45W/2A DIN-Rail 24 VDC power supply, 85 to 264 VAC input
- **DR-75-24:** 75W/3.2A DIN-Rail 24 VDC power supply, 85 to 264 VAC input
- **DR-120-24:** 120W/5A DIN-Rail 24 VDC power supply, 88 to 132 VAC/176 to 264 VAC input by switch
- **WK-46:** Wall mounting kit
- **RK-4U:** 4U-high 19" rack mounting kit

VPort 251

Full motion, 1-channel MJPEG/MPEG4 video encoder

- Compress analog video/audio signals into MJPEG/MPEG4 video stream
- Video stream up to 30 frames/sec at full D1 (720 x 480) resolution
- 2-way (1 in, 1 out) audio supported
- Transparent PTZ control for using legacy PTZ control panel or keyboard
- Loop-through power output for powering an analog camera
- Free VPort SDK PLUS and 4-channel video surveillance software

Introduction

The VPort 251 is a high performance, 1-channel video encoder with compact form factor that is suitable for installation in a variety of locations, including outdoor camera cabinets. To make installation easier, the VPort 251 supports both panel mounting and DIN-Rail mounting (with DK-35A accessory), and 1 loop-through power output for powering an analog camera. In addition, the VPort 251 provides up to full D1, full frame rate video performance (NTSC: 720 x 480 up to 30 FPS; PAL: 720 x 576 up to 25 FPS) and supports both MJPEG or MPEG4, making it especially well-suited for use with distributed video surveillance systems. A 2-way audio function is also provided for the convenience of real-time communication between system administrators located at the central site, and engineers in the field.

Specifications

Video

Video Compression: MJPEG, MPEG4 (ISO/IEC 14496-2)

Video Inputs: 1, BNC connector (1.0 Vpp, 75 ohms)

NTSC/PAL: Auto-sensing or manual

Video Resolution and FPS (frame per second):

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

Video Viewing:

- Adjustable image size and quality
- Timestamp and text overlay

Audio

Audio Input: 1 Line-in or Mic-in, 3.5 mm phone jack

Audio Output: 1 Line-out, 3.5 mm phone jack

Network

Protocols: TCP, UDP, HTTP, SMTP, FTP, Telnet, NTP, DNS, DHCP, UPnP, RTP, RTSP, ICMP, IGMPv3, QoS, DDNS, SNMPv1/v2c/v3

Ethernet: 1 RJ45 port, 10/100BaseT(X) auto negotiation

Serial Port

PTZ Port: 1, RS-232/422/485 terminal block connector, max. 115.2 Kbps

Console Port: 1 RS-232 RJ45 port

GPIO

Digital Input: 1, max. 8 mA
"High": +13V to +30V
"Low": -30V to +3V

Relay Output: 1, max. 24 VDC @ 1A

LED Indicators

STAT: Indicates if the system boots properly or not

VIDEO: Video input signal active

PTZ: PTZ control signal active

Physical Characteristics

Dimensions (W x H x D): 88.2 x 106 x 50 mm (3.47 x 4.17 x 1.97 in.)

Weight: 850 g

Installation: Wall (Panel) mounting, DIN-Rail mounting (optional kit)

Power Requirements

Input: 12/24 VDC or 24 VAC power input

Output: 2-pin terminal block connector for loop-through from power input

Power Consumption: Approx. 7.5W

Environmental Limits

Operating Temperature: 0 to 60°C (32 to 140°F)

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

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

Regulatory Approvals

EMI: FCC Part 15, CISPR (EN55022) class A

EMS: EN61000-4-2 (ESD), level 2
EN61000-4-3 (RS), level 3
EN61000-4-4 (EFT), level 3
EN61000-4-5 (Surge), level 3
EN61000-4-6 (CS), level 3
EN61000-4-12 (Oscillatory wave immunity), level 3

Shock: IEC 60068-2-27

Freefall: IEC 60068-2-32

Vibration: IEC 60068-2-6

Warranty

5 years (see www.moxa.com/warranty for details)

Alarm Features

- Video motion detection with sensitivity tuning
- Video loss alarm
- Daily repeat timing schedule
- JPEG snapshots for pre/trigger/post alarm images
- Automatic transfer of stored images via email or FTP with event-triggered actions
- HTTP Event Servers for setting customized alarm actions

PAN/TILT/ZOOM

- PTZ camera control through RS-232/422/485 port
- PTZ control functions: PAN, TILT, ZOOM, FOCUS, moving speed, preset position (max. 25 positions)
- 10 custom commands for customized PTZ control
- Supported devices and protocols:
  Pelco D, Pelco P, Dynacolor DynaDOME, Custom Camera
- PTZ driver upload
- Transparent PTZ control for controlling the PTZ camera with legacy PTZ control panel or keyboard connected to a PC or VPort decoder

Security

- User level password protection
- IP address filtering

System Requirements

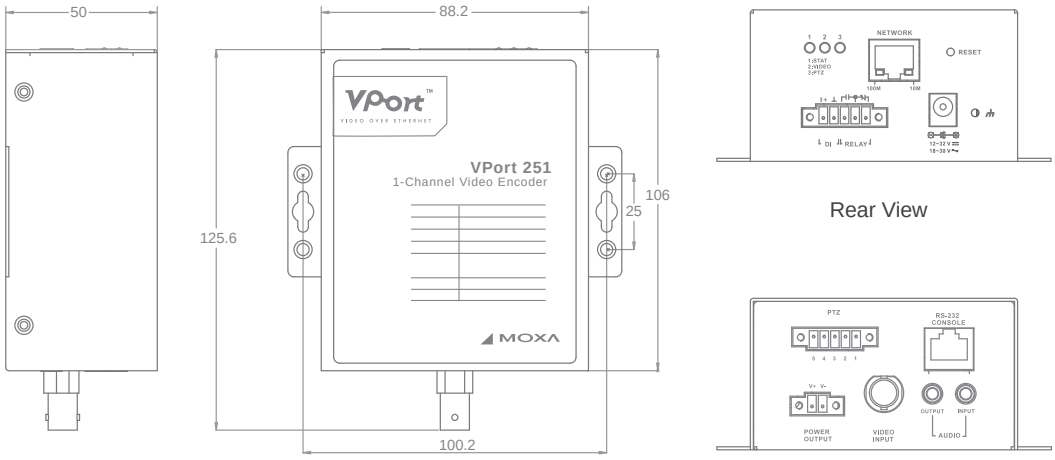
- Pentium 4, 2.4 GHz or above
- 512 MB memory or above
- Windows XP/2000 with SP2 or above
- Internet Explorer 6.x or above
- DirectX 9.0c or above

Software Bundled Free

SoftDVR™ Lite: 1- to 4-ch IP surveillance software for viewing and recording

VPort SDK PLUS: Includes CGI commands and ActiveX Control for customized application or system integration for third-party developer (Please go to Moxa's website to download the latest SDK version.)

Dimensions (unit = mm)



Side View | Top View | Rear View | Front View

Ordering Information

VPort 251: 1-channel MJPEG/MPEG4 video encoder, 0 to 60°C

Optional Accessories

- **SoftDVR™ Pro:** 16-channel IP surveillance software for viewing and recording
- **Power Adaptor**
  - US Plug: 120 VAC, 60Hz, P/N: 1117000025100
  - GER Plug: 230 VAC, 50Hz, P/N: 1117000025200
  - UK Plug: 230 VAC, 50Hz, P/N: 1117000025400
  - JP Plug: 100 to 240 VAC, 50Hz/60Hz, P/N: 1117000022700
- **DK-35A:** DIN-Rail mounting kit (35 mm)

VPort 2141

Compact, 4-channel MJPEG video server (encoder)

- Compress analog video signals in MJPEG video stream
- Video stream up to 30 frames/sec at CIF (352 x 240) resolution, and 15 frames/sec at Quad view
- PPPoE, DDNS, UPnP, and IP filtering supported
- Free VPort SDK and 4-channel video surveillance software

Introduction

Moxa VPort 2141 video server, equipped with 4-channel video inputs image digitizer, image compressor with MJPEG compression, and web server with 10/100 Mbps Ethernet, can digitize analog video sources and distribute digital images over IP network, turning your CCTV system into a "Video-over-IP" network system.

Specifications

Video

Video Compression: MJPEG
Video Input: 4, BNC connector (1.0 Vpp, 75 ohms)
NTSC/PAL: Auto-sensing or manual
Video Resolution and FPS (frame per second):

	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
4CIF	704 x 480	10	704 x 576	8
Quad		10		8

Video Viewing:

- Adjustable image size and quality
- B/W or Color control
- Timestamp and text overlay
- 5 privacy mask for each camera

Network

Protocols: TCP, HTTP, SMTP, FTP, NTP, DNS, DHCP, PPPoE, DDNS, UPnP
Ethernet: 1 RJ45 port, 10/100BaseT(X) auto negotiation

Serial Port

COM1 Port: RS-232 in DB9 male, max. 115.2 Kbps
COM2 Port: RS-485 in terminal block, max. 115.2 Kbps

GPIO

Digital Inputs: 4, max. 12 VDC @ 50 mA
Relay Outputs: 4, max. 24 VDC @ 1A, 125 VAC @ 0.5A

LED Indicators

Network: ACTIVE, LINK, FDX (full duplex)
System: POWER, CONNECT, SERIAL

Physical Characteristics

Dimension (W x H x D): 146.2 x 163.2 x 40 mm (5.76 x 6.43 x 1.57 in.)
Weight: 820 g
Installation: Wall mounting, DIN-Rail mounting (with optional kit)

Power Requirements

Input Voltage: 12 VDC, 1.5A
Consumption: Approx. 8W
Alternative Power Input: Terminal block for 12~15 VDC/VAC, min. 1.5A
Power Output: Terminal block for 12 VDC, max. 500 mA

Environmental Limits

Operating Temperature: 0 to 60°C (32 to 140°F)
Storage Temperature: -40 to 70°C (-40 to 158°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Regulatory Approvals

CE, FCC

Warranty

5 years (see www.moxa.com/warranty for details)

Alarm Features

- Video motion detection with percentage and sensitivity tuning
- Daily repeat timing schedule
- JPEG snapshots for pre/trigger/post alarm images
- Automatic transfer of stored images via email or FTP with event-triggered actions

PAN/TILT/ZOOM

- PTZ camera control through RS-232/485 port
- Automatic PTZ camera model detection
- Supported devices and protocol: Sony VISCA, Cannon VC-C1/ VC-C3/VC-C4, Dynacolor SmartDOME, Pelco D-protocol, Liling PIH-7x00, Ernitec, Custom Camera

Security

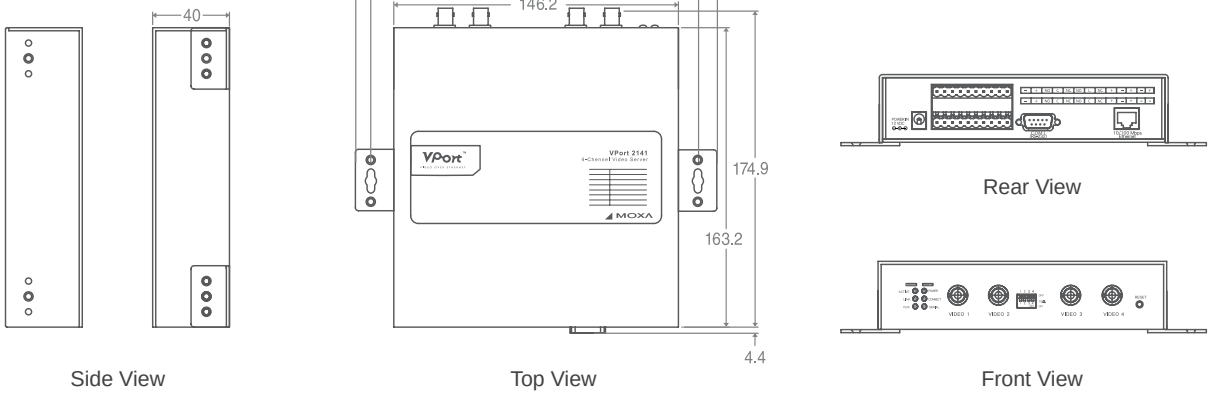
- User level password protection
- IP address filtering

Software Bundled Free

SoftDVR™ Lite: 1- to 4-channel IP surveillance software for viewing and recording

VPort SDK: Includes CGI commands and ActiveX Control and API for customized application or system integration for third-party developer (Please contact with Moxa's sales representative if you require VPort SDK.)

Dimensions (unit = mm)



Ordering Information

VPort 2141: 4-channel MJPEG video server with 100-240V power adaptor (12 VDC, 1.5A, or 12 VDC, 1.25A for UK plug)

Optional Accessories

- **SoftDVR™ Pro:** 16-channel IP surveillance software for viewing and recording
- **DK-35A:** DIN-Rail mounting kit (35 mm)

VPort D351

1-channel MJPEG/MPEG4 industrial video decoder

- Decode MJPEG and MPEG4 video streams to analog video signal automatically
- Manual selection or automatic scan with maximum of 64 video sources
- 2-way (1 in/1 out) audio supported
- Transparent PTZ control with legacy PTZ controller
- SNMP for network management

Introduction

The VPort D351 is a 1-channel video decoder for decoding MPEG4/MJPEG video streams from VPort series video encoders (not include VPort 2110, VPort 2140, VPort 2310, VPort 2141, and VPort 3310) and VPort IP Cameras back to analog video signals. The analog video signal can be sent to legacy CCTV devices, such as monitors, multiplexers, and matrix switches, which can be used as originally intended as part of CCTV systems. In addition, bi-directional audio enables ready-to-use voice-over-IP communication between the video encoder and decoder. Monitoring cameras that are part of large CCTV systems is easy with the VPort D351, which can be set up to switch between different video sources either manually or automatically within a given time interval. Up to 64 video sources can be included in the list. In addition, the 2 DIs located on the top panel of the VPort D351 can be used to create 2 control buttons for up and down video source selection.

Specifications

Video

Video Decoding: MPEG4, MJPEG (Auto detecting)

Video Input: Video streams from VPort series video encoders and VPort series IP cameras over TCP/IP networks (not include VPort 2110, VPort 2140, VPort 2310, VPort 2141, and VPort 3310)

Video Output: 1, BNC connector, NTSC or PAL

Resolution: Max. 540 TVL line

Video Source: Up to 64, selected manually by web server or digital inputs, or selected automatically by scanning within a set time interval

Video Viewing:

- Max. 30/25 FPS (NTSC/PAL) can be decoded
- OSD (on-screen display) with video source, video source IP, date/time, and customized information

Audio

Audio Input: 1 Line-in or Mic-in

Audio Output: 1 Line-out

Audio Encoding: PCM, Mono

Audio Decoding: PCM, Mono

Network

Protocols: TCP, UDP, HTTP, SMTP, Telnet, NTP, DNS, DHCP, UPnP, RTP, RTSP, SNMPv1/v2c/v3

Ethernet: 1 RJ45 port, 10/100BaseT(X) auto negotiation

Serial Port

PTZ Port: 1, RS-232/422/485 terminal block connector, max. 115.2 Kbps baudrate

Console Port: 1, RS-232 RJ45 port

GPIO

Digital Inputs: 2, max. 8 mA
"High": +13V to +30V
"Low": -30V to +3V

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

LED Indicators

STAT: Indicates if system booted up properly or not

PWR1: Power 1

PWR2: Power 2

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

Physical Characteristics

Dimensions (W x H x D): 52.98 x 135 x 105 mm (2.09 x 5.31 x 4.13 in.)

Weight: 910 g

Installation: DIN-Rail mounting, wall mounting (optional kit)

Power Requirements

Input Voltage: 2 12/24 VDC and 24 VAC power inputs for redundancy

Environmental Limits

Operating Temperature: 0 to 60°C (32 to 140°F)

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

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

Regulatory Approvals

Safety: UL508
EMI: FCC Part 15, CISPR (EN55022) class A
EMS: EN61000-4-2 (ESD), level 2
EN61000-4-3 (RS), level 3
EN61000-4-4 (EFT), level 3
EN61000-4-5 (Surge), level 3
EN61000-4-6 (CS), level 2
EN61000-4-12 (Oscillatory wave immunity), level 3
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6

Warranty

5 years (see www.moxa.com/warranty for details)

Alarm Features

Automatically switch to the video source once an event is triggered

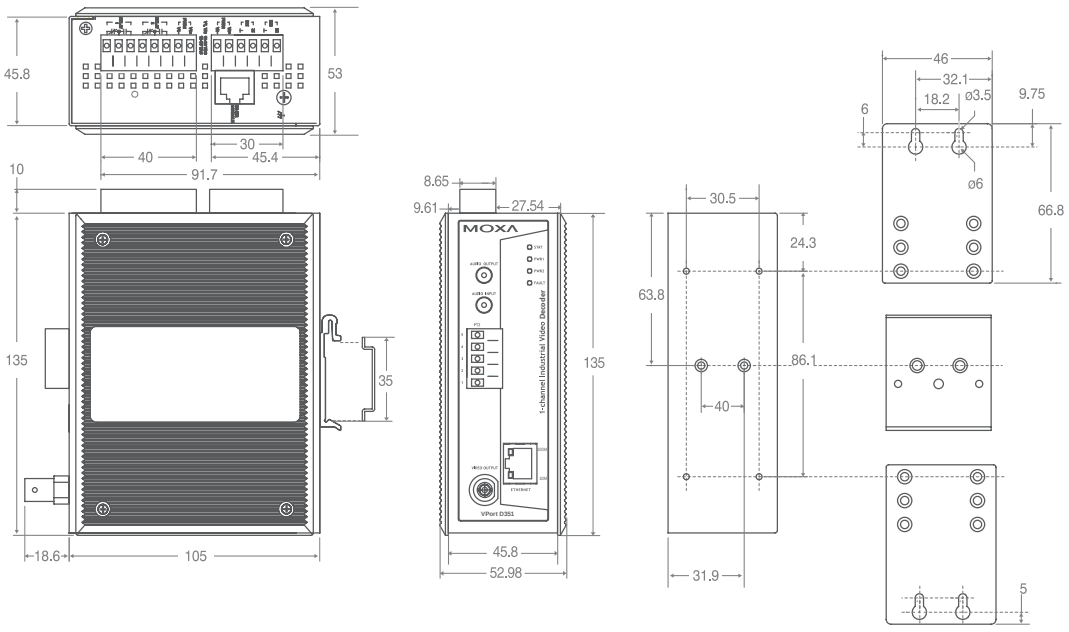
PAN/TILT/ZOOM

Transparent PTZ camera control with legacy PTZ controller through the RS-232/422/485 port

Security

- User level password protection
- IP address filtering

Dimensions (unit = mm)



Side View DIN-Rail Kit Front View Rear View Mounting Kit

Ordering Information

VPort D351: 1-channel MJPEG/MPEG4 industrial video decoder, 12/24 VDC and 24 VAC redundant power input, 0 to 60°C

Optional Accessories

- **DR-4524:** 45W/2A DIN-Rail 24 VDC power supply, 85 to 264 VAC input
- **DR-75-24:** 75W/3.2A DIN-Rail 24 VDC power supply, 85 to 264 VAC input
- **DR-120-24:** 120W/5A DIN-Rail 24 VDC power supply, 88 to 132 VAC/176 to 264 VAC input by switch
- **WK-46:** Wall mounting kit
- **RK-4U:** 4U-high 19" rack mounting kit

SoftNVR

Preliminary

Advanced IP surveillance software for managing up to 64 video channels

Moxa SoftNVR IP surveillance software can manage up to 64 video stream channels generated by VPort series products (not including VPort 2000 series and VPort 3310) simultaneously. Features include dual monitor display, video analysis, instant alarm, event recording, and video enhancement tools. SoftNVR gives users an advanced video management tool for medium to large video surveillance networking systems.

Features

- Up to 64 channels in one system

- Dual monitor display capability for convenient viewing

- Video analysis with motion object, and video loss detection

- Instant response for alarm notification

- Simple and user-friendly setup for recording schedule

- Multifunction playback system with intelligent search

- Video enhancement tools for image quality tuning

- I/O device integration

- Live viewing from popular web browsers

System Requirements

Total FPS at CIF	600 or more	480 to 600	240 to 600	120 to 240	less than 120
CPU	Intel Core 2 Duo QX6700	Intel Core 2 Duo E6400	Intel Pentium D 930	Intel P4 2.8 GHz	Intel P4 2.4 GHz
RAM	2 GB	1 GB	1 GB	512 MB	512 MB
Motherboard	Intel 945 or 965 chip, Intel chipset recommended				
Display	ATI Radeon 9200, nVIDIA GeForce FX-5200, Intel 945 / 965, or above (ATI recommended)				
Ethernet	100BaseT or above, Gigabit LAN recommended				
Hard Disk	80 GB or above				
OS	MS Windows 2000/XP Pro SP2/2003				

SoftDVR™ Pro

Expandable and easy-to-use video-over-IP surveillance software

Moxa SoftDVR™ Pro IP surveillance software is designed for video-over-IP surveillance systems that use Moxa VPort series video servers as the distributed video networking solution. With the help of Moxa SoftDVR™, system integrators can seamlessly integrate other applications, such as I/O sensors and alarms, with CCTV systems over an IP-based network.

Introduction

Viewing & playback, anywhere & anytime

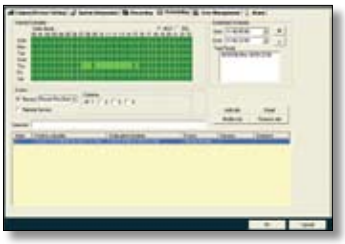
- Remote access from popular web browsers
- Supports 1, 4, 6, 8, 9, 10, 13, 16 camera viewing formats
- Maximum of 16 cameras in a system
- Synchronized video/audio viewing and recording (for VPort MPEG4 video servers)
- Historical playback by time and event
- Zoom-in/Zoom-out function for individual cameras when playing back images
- Take snapshots in playback mode to get JPEG images for printing or to save as evidence
- Can adjust the contrast, brightness, sharpness, blur, and grayscale of the snapshot image

Recording & storing over the Ethernet/Internet

- Recording action can be triggered in round-the-clock mode or event mode of VMD (Video Motion Detection) and DI
- Record video in AVI format—compatible with popular media players
- Dynamically adjust recording frame rate over the LAN/Internet to match the real frame transmit speed, to keep the video synchronized with the actual time
- Recorded video format can be selected as adjustable FPS MJPEG, or MPEG4 standard, for VPort MJPEG video servers
- Recyclable override of hard disk space in FIFO (First-In-First-Out) sequence
- Recorded video files can be stored on a local PC or Windows-based networked storage server

Schedule jobs for recording and remote service

- Administrators can set up the time schedule of remote service and the recording action for each camera

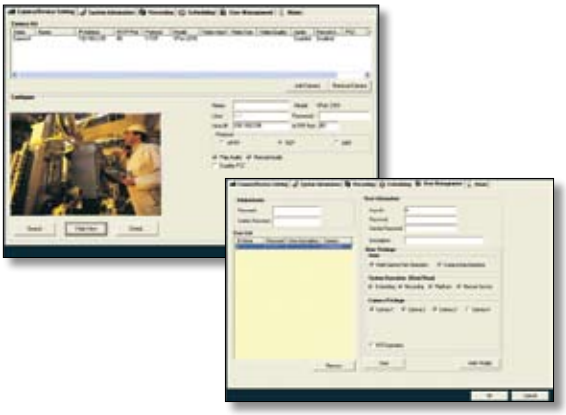


Alarm message triggered and sent

- Area-selectable Video Motion Detection (VMD) function for each camera
- Sensitivity tuning for the VMD
- Alarm can be triggered by VMD, video lost, communication failure, storage failure, storage full, DIs, and then sent by email, or trigger relays (DOs), sound, or a PTZ camera to a preset position

Video server configuration & system management

- Can configure each camera's name, video quality, and video resolution separately
- Supports PTZ camera controls (same as VPort series video servers' support list)
- Supports Moxa VPort series video servers
- Up to 32 users can be added to one system
- Supports remote VPort's firmware upgrade
- Can set up the camera view and system operation for each user
- Automatically resume viewing and recording after system reboot
- Cameras can be managed easily with your own e-map



Ordering Information

- **SoftDVR™ Pro:** CD with SoftDVR™ Pro software, SQL database software, and user's manual

Items included:

- Key Pro (plug in USB port)
- Moxa SoftDVR™ Pro Quick Installation Guide

System Requirements

- MS Windows XP
- 1 GB SDRAM or above
- DirectX 9.0C or above
- Intel Dual Core, 2.0GHz or above
- Nvidia GeForce or ATI TNT2 graphic card with 64 MB display memory or above

SoftDVR™ Lite bundled free with VPort series video servers

- 1- to 4-ch (Quad) viewing format; max. 4 cameras
- Supports viewing and recording on local PCs
- Full image VMD with sensitivity tuning
- Schedule jobs for recording
- System requirements:
  - MS Windows XP
  - 512 MB SDRAM or above
  - Nvidia GeForce or ATI TNT2 graphics card with 32 MB display memory or above
  - Intel Pentium 4 , 2.4 GHz HT (Hyper-Threading) or above
  - DirectX 9.0C or above

VPort SDK

User-friendly software development kits for third-party developers to customize their video-over-IP management system

Introduction

Moxa IVN (Industrial Video Networking) solutions, which include VPort series video servers and SoftDVR™ IP surveillance software, are future-proof, ready-to-use video-over-IP solutions for video surveillance applications. With the growing popularity of IP networks, more and more users need to integrate their video management system with other monitoring and control systems (e.g., SCADA or HMI) to get the benefits of centralization and inter-operation. To assist third-party developers with this intergration, we are providing Moxa VPort SDK PLUS and VPort SDK to build customized video management systems, or to integrate VPort series products into comprehensive monitoring and control systems.

- VPort SDK PLUS: Supports VPort 25/354/351/251 and future products
- VPort SDK: Supports VPort 2000 series and VPort 3310

URL Commands

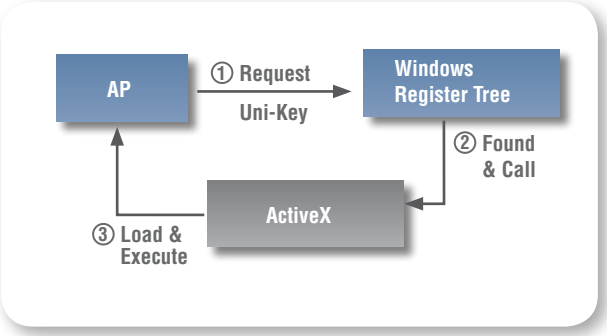
These are easy-to-use CGI commands used with HTML programming for web systems. Users can acquire video images and control VPort series products from their own customized web pages by embedding these CGI commands into the HTML source code. All of the URL commands are listed in VPort's user's manual, or a CGI command manual.

ActiveX Control SDK

Sample codes available

ActiveX Control is an OCX component, which uses Microsoft COM (Component Object Model) technology to enable software components to communicate. ActiveX Control is used widely with platforms that support WIN32, IE Plug-in, and Visual Basic, and is also popular in automation system software, such as SCADA. Moxa ActiveX Control SDK is a user-friendly, customized tool for programmers that supports versatile parameters for customized viewing, recording, PTZ camera control, event triggering, and recorded video playback. Moxa ActiveX Control SDK is provided free of charge, and supports VB, VC, and C# developing environments, as well as plug-ins for web applications and automation tools (e.g., SCADA software). Third-party developers who want to use ActiveX SDK can contact a Moxa sales representatives to apply for a free copy.

ActiveX Work Process

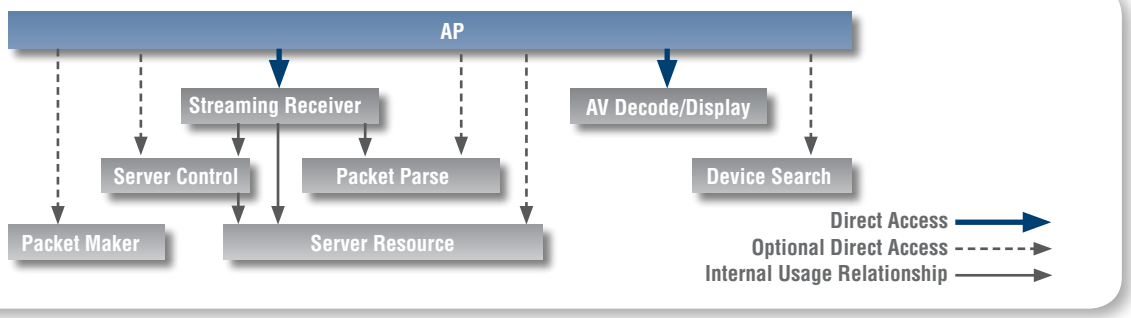


API SDK

Sample codes available

For some video management applications, the ActiveX control SDK may not provide users with enough functionality. In this case, users can use the API SDK, which includes a detailed C library, to program their own customized solutions in a Visual C++ or C# environment. The API SDK includes a total of 9 DLL modules. For the time being, the API SDK supports the WIN32, Linux, and WIN CE pocket 2003 platforms. API SDK is also provided free of charge. However, since the API SDK uses proprietary technology and the programmer must be an experienced, professional C programmer, we are not releasing the API SDK publicly. Third-party developers who would like to use API SDK should contact a Moxa sales representative to apply for a free copy. Some verification is required.

API Module Structure



* The API of VPort SDK PLUS is not available now, and will be released soon!