

Video Networking Solutions

Product Selection Guides

Industrial Video Networking Solutions 6-2

Video Networking Products

Introduction to Industrial Video Networking Solutions 6-3

VPort 354 Series Full motion, 4-channel MJPEG/MPEG4 industrial video encoders 6-7

VPort 254 Series Rugged 4-channel MJPEG/MPEG4 industrial video encoders 6-10

VPort 351 Series Full motion, 1-channel MJPEG/MPEG4 industrial video encoders . . . 6-13

VPort 3310 Series Rugged 1-channel MPEG4 industrial video servers (encoders) 6-16

VPort 2141 Compact, 4-channel MJPEG video server (encoder) 6-18

VPort 251 Full motion, 1-channel MJPEG/MPEG4 video encoder 6-20

VPort D351 1-channel MJPEG/MPEG4 industrial video decoder 6-22

VPort 25 Series IP66, day-and-night fixed dome outdoor IP camera 6-24

SoftNVR Expandable, 64-channel IP surveillance software 6-27

SoftDVR™ Pro Easy-to-use 16-channel IP surveillance software 6-30

VPort SDK PLUS User-friendly software development kits 6-32

6

Video Networking Solutions



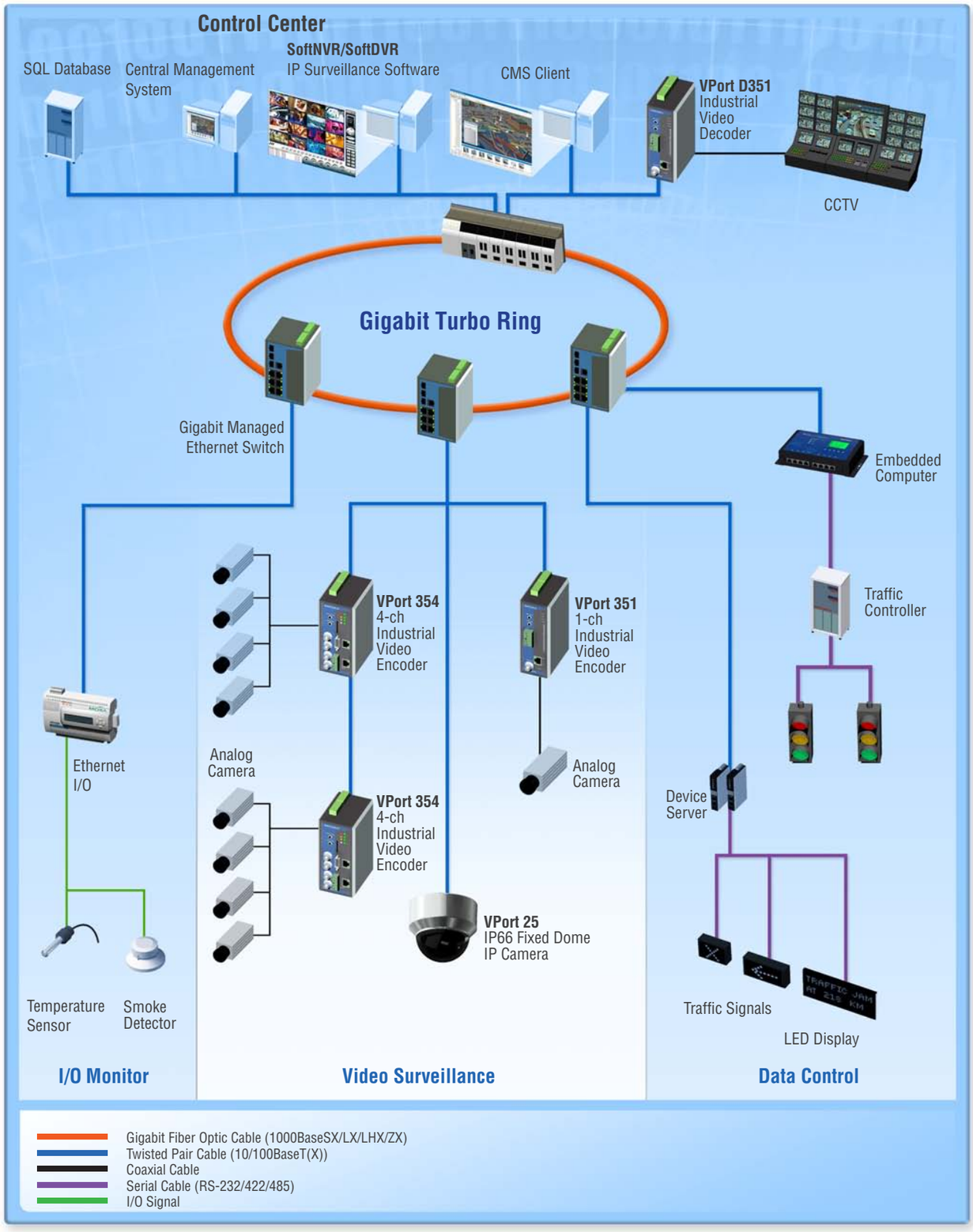
Video Networking Products



	VPort 354	VPort 254	VPort 351	VPort 3310	VPort 2141	VPort 251	VPort D351	VPort 25
Type of Product	Encoder	Encoder	Encoder	Encoder	Encoder	Encoder	Decoder	IP Camera
Form Factor								
Protection Rating	IP30	IP30	IP30	IP30	---	---	IP30	IP66
DIN-Rail Mounting	√	√	√	√	w/ optional Kit	w/ optional Kit	√	---
Panel Mounting	w/ optional Kit	w/ optional Kit	w/ optional Kit	w/ optional Kit	√	√	w/ optional Kit	---
Surface/Ceiling Mounting	---	---	---	---	---	---	---	√
Audio/Video Channels								
Video Inputs	4	4	1	1	4	1	0	0
Video Outputs	0	0	1	1	0	0	1	1
Audio Inputs	1	1	1	1	0	1	1	1
Audio Outputs	1	1	1	0	0	1	1	1
Compression Algorithm								
MJPEG	√	√	√	---	√	√	√	√
MPEG4	√	√	√	√	---	√	√	√
Video Performance								
QCIF (NTSC: 176 x 120)	30 FPS (max.)	---	---	30 FPS (max.)	30 FPS (max.)	---	---	---
QVGA (NTSC: 320 x 240)	---	30 FPS (max.)	30 FPS (max.)	---	---	30 FPS (max.)	---	30 FPS (max.)
CIF (NTSC: 352 x 240)	30 FPS (max.)	30 FPS (max.)	30 FPS (max.)	30 FPS (max.)	30 FPS (max.)	30 FPS (max.)	---	30 FPS (max.)
VGA (NTSC: 640 x 480)	---	7 FPS (max.)	30 FPS (max.)	10 FPS (max.)	---	30 FPS (max.)	---	30 FPS (max.)
2CIF (NTSC: 704 x 240)	30 FPS (max.)	---	---	---	---	---	---	---
4CIF (NTSC: 704 x 480)	30 FPS (max.)	7 FPS (max.)	30 FPS (max.)	10 FPS (max.)	30 FPS (max.)	30 FPS (max.)	---	30 FPS (max.)
Full D1 (NTSC: 720 x 480)	---	7 FPS (max.)	30 FPS (max.)	---	---	30 FPS (max.)	---	30 FPS (max.)
QCIF (PAL: 176 x 144)	25 FPS (max.)	---	---	25 FPS (max.)	25 FPS (max.)	---	---	---
QVGA (PAL: 320 x 288)	---	25 FPS (max.)	25 FPS (max.)	---	---	25 FPS (max.)	---	25 FPS (max.)
CIF (PAL: 352 x 288)	25 FPS (max.)	25 FPS (max.)	25 FPS (max.)	25 FPS (max.)	25 FPS (max.)	25 FPS (max.)	---	25 FPS (max.)
VGA (PAL: 640 x 576)	---	7 FPS (max.)	25 FPS (max.)	8 FPS (max.)	---	25 FPS (max.)	---	25 FPS (max.)
2CIF (PAL: 704 x 288)	25 FPS (max.)	---	---	---	---	---	---	---
4CIF (PAL: 704 x 576)	25 FPS (max.)	7 FPS (max.)	25 FPS (max.)	8 FPS (max.)	8 FPS (max.)	25 FPS (max.)	---	25 FPS (max.)
Full D1 (PAL: 720 x 576)	---	7 FPS (max.)	25 FPS (max.)	---	---	25 FPS (max.)	---	25 FPS (max.)
Quad View	---	---	---	---	15 FPS (max.)	---	---	---
Network Connections								
10/100BaseT(X) Ports	2	1	1	1	1	1	1	1
100BaseFX Ports	2	1	1	---	---	---	---	---
Number of COM Ports								
PTZ Ports	1	1	1	1	2	1	1	---
RS-232 Console Ports	1	1	1	---	---	1	1	---
Network Management and Control								
Web Browser	√	√	√	√	√	√	√	√
SNMP Protocols	v1/v2c/v3	v1/v2c/v3	v1/v2c/v3	v1/v2c/v3	---	v1/v2c/v3	v1/v2c/v3	v1/v2c/v3
RTSP (Real Time Streaming Protocol)	√	√	√	√	---	√	---	√
Multicast (IGMP)	v3	v3	v3	v3	---	v3	---	v3
QoS	√	√	√	---	---	√	---	√
UPnP	√	√	√	√	√	√	√	√
DDNS	√	√	√	√	√	√	√	√
PPPoE	---	---	---	√	√	---	---	---
IP Filtering	√	√	√	√	√	√	√	√
Power Requirements								
Power Redundancy	√	√	√	√	---	---	√	√
Power Inputs	2	2	2	2	1	1	2	1
Power Outputs	0	0	0	0	1	1	0	0
Power-over-Ethernet (PoE)	---	---	---	---	---	---	---	√
Alarms								
VMD (Video Motion Detection)	√	√	√	√	√	√	---	√
Digital Inputs	4	4	2	2	4	1	2	1
Relay (Digital) Outputs	2	2	2	2	4	1	2	1
Alarm Video Recording	√	---	√	---	---	---	---	---
Alarm Snapshot Image	√	√	√	√	√	√	---	√
Supported Operating Temperature Ranges								
0 to 60°C	√	√	√	√	√	√	√	---
-40 to 50°C	---	---	---	---	---	---	---	√
-40 to 75°C	√	√	√	√	---	---	---	---
Regulatory Approvals								
CE/FCC	√	√	√	√	√	√	√	√
UL508	Pending	√	√	---	---	---	√	Pending
Class 1, Div 2; ATEX Class 1, Zone 2	Pending	Pending	√	---	---	---	---	---

Introduction to Industrial Video Networking

Empower Your Video Network System with Industrial-grade Reliability



Leading the Industrial Video-over-IP Revolution

Thanks to the ever-increasing popularity of IP networks, transmitting video, voice, and data simultaneously over Ethernet networks, and even over the Internet, is now standard at locations around the world. 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.

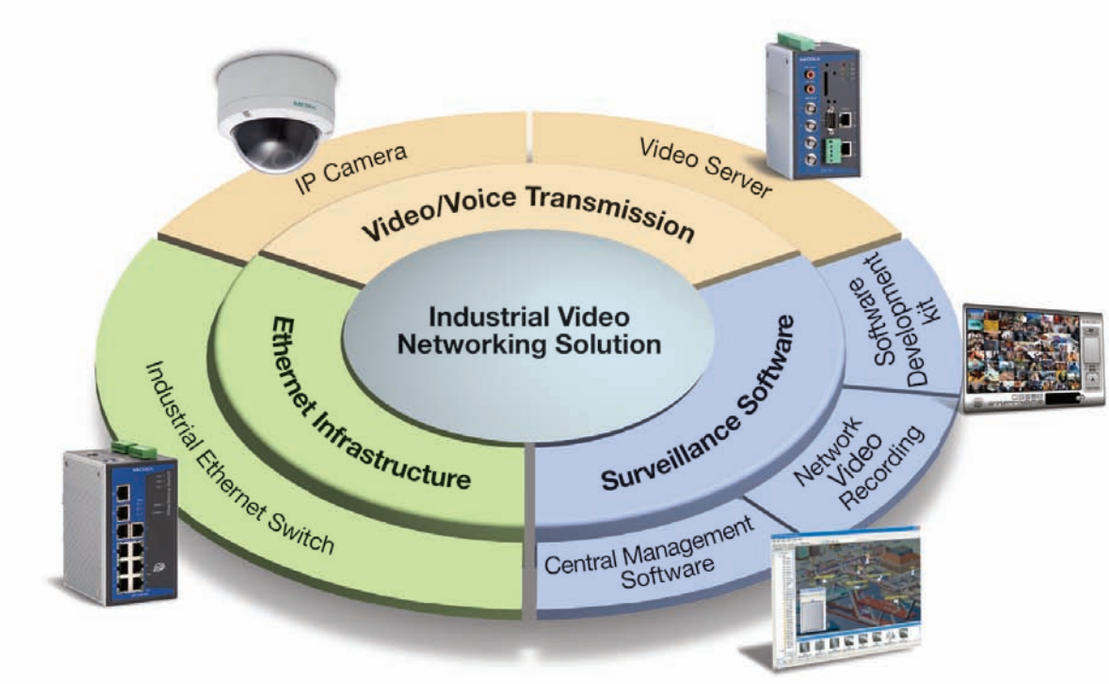
To meet these stringent requirements, Moxa's new line of VPort industrial video-over-IP solutions feature an industrial-grade rugged design and extra-high reliability.



Integrated and Applicable Video Networking Solutions

Moxa's industrial video networking solutions include video servers and IP cameras that 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 rugged to protect the hardware when it's used in demanding industrial environments. The IP camera, with vandal-proof protection and a high-quality day/night lens, is suitable for outdoor environments.

As a one-source provider, Moxa also provides a wide range of industrial Ethernet switches with redundant capability and high-performance Gigabit bandwidth for video networking infrastructures. This means that you can use Moxa's products to build a highly reliable video surveillance network for industrial automation applications.



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 determine what kind of encloser, if any, is required for the product.

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 essential 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 "mean 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.

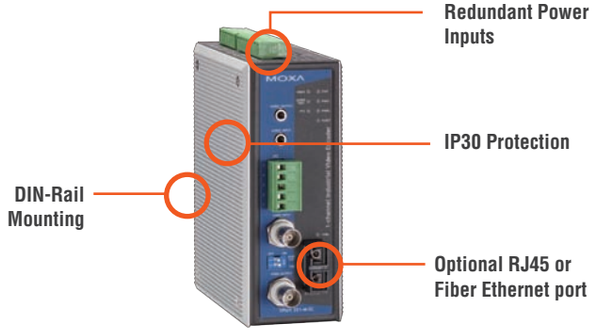
6. DIN-Rail Mounting and Panel Mounting

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

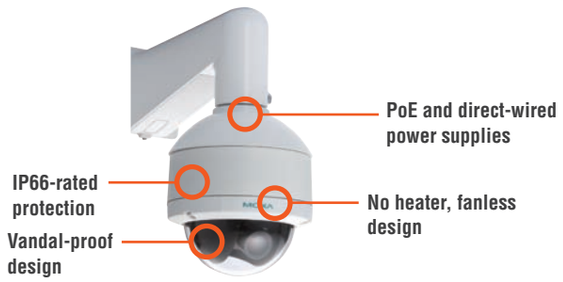
- 12/24 VDC or 24 VAC redundant power inputs
- DIN-Rail mounting and panel mounting accessories available
- IP30 protection enclosure
- -40 to 75°C operating temperature range for T models
- Choose either RJ45 or fiber optic Ethernet ports
- Industrial EMI/ESD protection and UL508, ATEX Class 1 Div.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





VPort Series IP Cameras

- -40 to 50°C operating temperature, heater or fan NOT required
- IP66-rated for protection from rain and dust
- PoE (Power-over-Ethernet) and direct-wired power supply for power redundancy
- Vandal-proof form factor for preventing damage from unexpected external forces
- Versatile installation options for outdoor environments

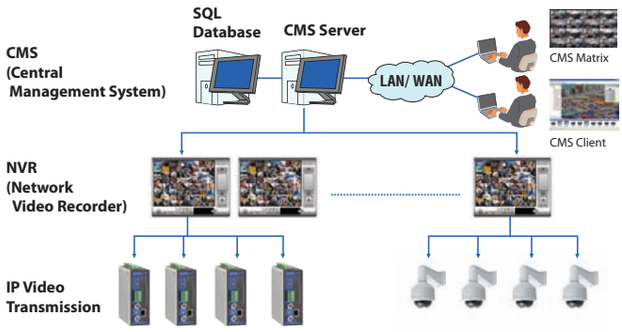


Advanced Network Capability for Efficient Video Transmissions

Moxa's VPort series industrial video encoders allow customers to deploy video surveillance network systems with better network management parameters for high-performance video transmissions. By supporting the Modus/TCP protocol, users can seamlessly integrate Moxa's video solutions with SCADA/HMI systems. Several advanced network functions include RSTP video streaming for easy integration, IGMP protocols for efficient network transmission, QoS to increase the determinism of the video stream, and SNMP for easy network management.

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

In addition to video transmission and Ethernet infrastructure products, Moxa also provides video surveillance software solutions for building an IP video surveillance system. These software solutions contain NVR (network video recording) software that supports from 4 to 64 channels, plus CMS (central management system) software for managing multiple NVR systems, making it possible to manage much larger systems made up of an unlimited number of cameras.



SoftNVR

Expandable network video recording software for managing up to 64 channels of video cameras.



- Multi-screen viewing format
- Dual monitor capability
- Video analytics and instant response
- Video quality enhancement tools
- Intelligent and convenient video search

SoftDVR

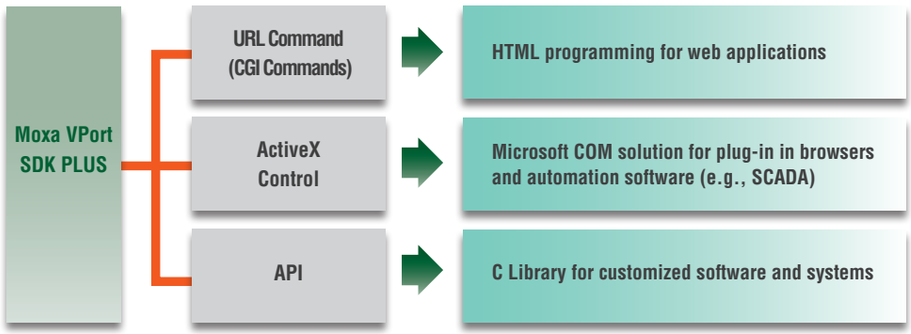
Standalone network video recording software for managing up to 16 channels of video cameras.



- Multi-screen viewing format
- 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, such as SCADA systems, access control systems, or 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 PLUS, 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 VPort SDK PLUS is easy, and detailed documentation and sample code is provided for quick reference. For detailed information about SDK PLUS, please refer to the "SDK" introduction in this catalog.



Coming Soon

VPort 354 Series

Preliminary

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



- 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 120 frames/sec at 4CIF (704 x 480) resolution

The certification logos shown here apply to some or all of the products in this section. For details, see "Regulatory Approvals" under "Specifications" below.

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, and 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—media converter not required
- 2 Ethernet ports for cascade and port redundancy
- 1 RS-232/422/485 COM port for controlling external serial devices over Ethernet
- Redundant 12/24 VDC and 24 VAC power inputs for greater reliability
- Metal housing with IP30 protection against dust
- DIN-Rail mounting installation for industrial environments
- UL508 (Pending) and Class I, Div. 2 (Pending) certified for hazardous locations
- Meets NEMA TS2, Section 2 requirements

Advanced Network Protocols Support Efficient Network Transmission and Integration

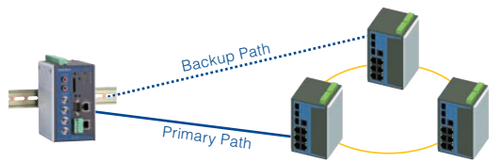
- Modbus/TCP for easy communication with SCADA software
- Standard RTSP (real-time streaming protocol) video streaming for easy integration
- Multicast (IGMP) protocols for efficient network transmission
- SNMPv1/v2c/v3 MIB-II for easy network management
- QoS (ToS) for configuring the transmission priority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

Two Ethernet Ports for Cascading and Port Redundancy

The VPort 354 has two built-in 10/100 Mbps Ethernet ports for cascading multiple VPort 354 units. With the cascade feature, you'll need fewer switch ports, and also reduce your cable layout effort. An Ethernet by-pass function is also supported so that the cascade link will keep working if one of the VPort 354 units in the cascade chain goes offline. Port redundancy can be used to build a backup path for video transmission in case the primary path is broken.



Cascade Chain



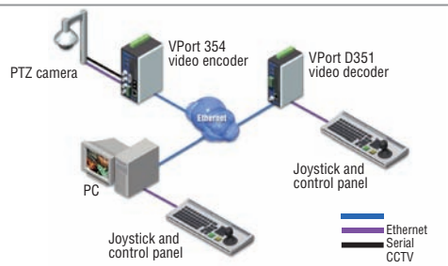
Port Redundancy

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 to record events that occur when the network is down and the video stream cannot be transmitted.

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 the Transparent PTZ Control function is that it eliminates the need to build the PTZ control driver into the VPort product, allowing the use of a legacy PTZ control panel or keyboard to control a PTZ camera directly.



Specifications

Video

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

Video Stream: Dual streams (one for MJPEG, the other for MPEG4) at the same video resolution (note that MJPEG only has one quality setting)

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
4CIF	704 x 480	30	704 x 576	25

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

Video Output: Via Ethernet port

Audio

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

Audio Outputs: 1 Line-out with 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 ports, or 2 100BaseFX fiber ports (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 single-mode fiber optic cable

Serial Port

PTZ Ports: 1, RS-232/422/485 port (terminal block connector), max. speed of 115.2 Kbps, with 15 KV ESD protection

COM Ports: 1, RS-232/422/485 (DB9 female connector), max. speed of 115.2 Kbps, with 15 KV ESD protection

Console Port: 1 RS-232 RJ45 port

GPIO

Digital Inputs: 4, max. 8 mA
- High: +13 to +30V
- Low: -30 to +3V

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

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, V2, V3, V4: Video input signal activity

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. 12 W

Physical Characteristics

Housing: Metal, IP30 protection

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

Weight: 1200 g

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

Alarms

Pre/Post Alarm: 9 MB memory for video recordings

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 for setting customized alarm actions

PAN/TILT/ZOOM

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

PTZ Control Functions: PAN, TILT, ZOOM, FOCUS, moving speed, preset position (max. 25 positions), and 10 custom commands

PTZ Function Updates: Driver upload supported

Supported Devices and Protocols: Pelco D, Pelco P, Dynacolor DynaDome, 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

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)

Regulatory Approvals

Safety: UL508 (Pending)

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

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

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

Traffic Control: NEMA TS2

Shock: IEC 60068-2-27

Freefall: IEC 60068-2-32

Vibration: IEC 60068-2-6

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

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

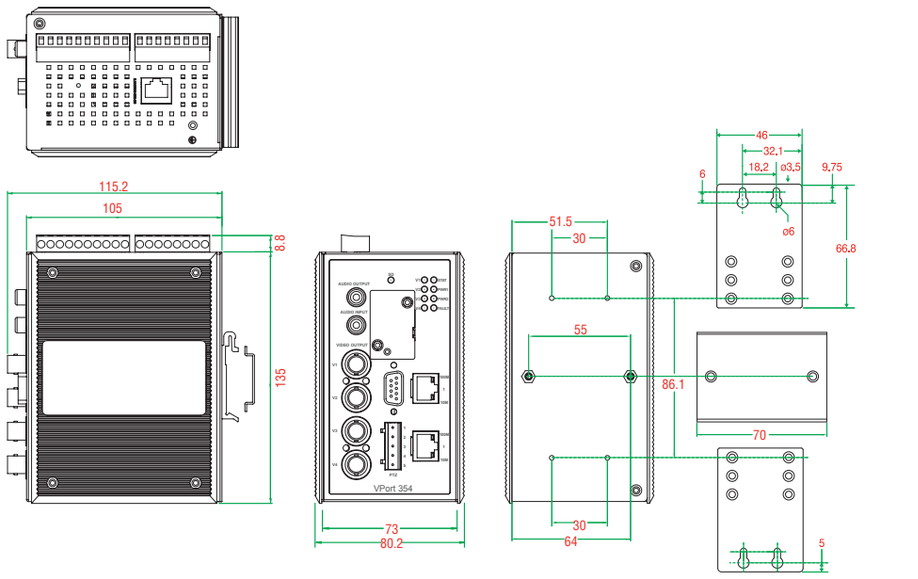
Multimedia: DirectX 9.0c or above

Software Bundled Free

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

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 vailable for download from Moxa's website).

Dimensions (unit = mm)



Side View | Front View | Rear View | DIN-Rail/Panel Mounting Kit

Ordering Information

Available Models		Port Interface		
Standard Temperature (0 to 60°C)	Wide 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 (can be purchased separately)

SoftNVR: Expandable IP surveillance software for managing up to 64 video channels

SoftDVR™ Pro: 16-channel IP surveillance software for viewing and recording

DR-4524/75-24/120-24: 45/75/120 W DIN-Rail 24 VDC power supplies

MDR-40-24/60-24: 40/60 W DIN-Rail 24 VDC power supplies, -20 to 70°C operating temperature

WK-46: Wall mounting kit

RK-4U: 4U-high 19" rack mounting kit

VPort 254 Series

Rugged 4-channel MJPEG/MPEG4 industrial video encoders



- Industrial design with -40 to 75°C operating temperature and fiber optic Ethernet port
- Video stream up to 120 frames/sec at CIF (352 x 240) resolution
- Modbus/TCP supported for easy communication with SCADA software
- One RS-232/422/485 COM port for controlling external serial devices over Ethernet
- Free VPort SDK PLUS and 4-channel video surveillance software

The certification logos shown here apply to some or all of the products in this section. For details, see "Regulatory Approvals" under "Specifications" below.

Introduction

The rugged VPort 254 is a 4-channel industrial video encoder that provides up to 120 FPS at CIF resolution (NTSC: 352 x 240; PAL: 352 x 288), and supports an optional MJPEG/MPEG4 algorithm, making it especially well suited for use with distributed surveillance systems in critical industrial applications. In addition, the VPort 254 supports serial-to-Ethernet and Modbus/TCP communications for integrating automation systems, and 2-way audio is provided to allow real-time communication between system administrators located at a central site and engineers in the field.

Rugged Design for Mission-critical Industrial Environments

- Operates reliably in -40 to 75°C environments
- Built-in single-mode or multi-mode fiber optic Ethernet port (media converter not required)
- More reliable with redundant 12/24 VDC and 24 VAC power inputs
- Metal form factor with IP30 protection against dust
- DIN-Rail mounting installation suitable for industrial environments
- UL508 certified for industrial environments

Advanced Network Protocols for 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

Specifications

Video

Video Compression: MJPEG or 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
QVGA	320 x 240	30	320 x 288	25
CIF	352 x 240	30	352 x 288	25
VGA	640 x 480	7	640 x 576	7
4CIF	704 x 480	7	704 x 576	7
Full D1	720 x 480	7	720 x 576	7

Video Viewing: Adjustable image size and quality

Audio

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

Audio Outputs: 1 Line-out with RCA connector

Network

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

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 single-mode fiber optic cable

Serial Port

PTZ Ports: 1, RS-232/422/485 port (terminal block connector), max. speed of 115.2 Kbps, with 15 KV ESD protection

COM Ports: 1 RS-232/422/485 port (DB9 female connector), max. speed of 115.2 Kbps, with 15 KV ESD protection

Console Port: 1 RS-232 RJ45 port

GPIO

Digital Inputs: 4, max. 8 mA
- High: +13 to +30V
- Low: -30 to +3V

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

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, V2, V3, V4: Video input signal activity

Power Requirements

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

Power Consumption: Approx. 12 W

Physical Characteristics

Housing: Metal, IP30 protection

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

Weight: 1100 g

Installation: DIN-Rail mounting, wall mounting (with optional 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 for setting customized alarm actions

PAN/TILT/ZOOM

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

PTZ Control Functions: PAN, TILT, ZOOM, FOCUS, moving speed, preset position (max. 25 positions), and 10 custom commands

PTZ Function Updates: Driver upload supported

Supported Devices and Protocols: Pelco D, Pelco P, Dynacolor DynaDome, 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

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)

Regulatory Approvals

Safety: UL508

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

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

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

Shock: IEC 60068-2-27

Freefall: IEC 60068-2-32

Vibration: IEC 60068-2-6

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

MTBF (meantime between failures)

Time: 200,000 hrs

Database: MIL-HDBK-217F, 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

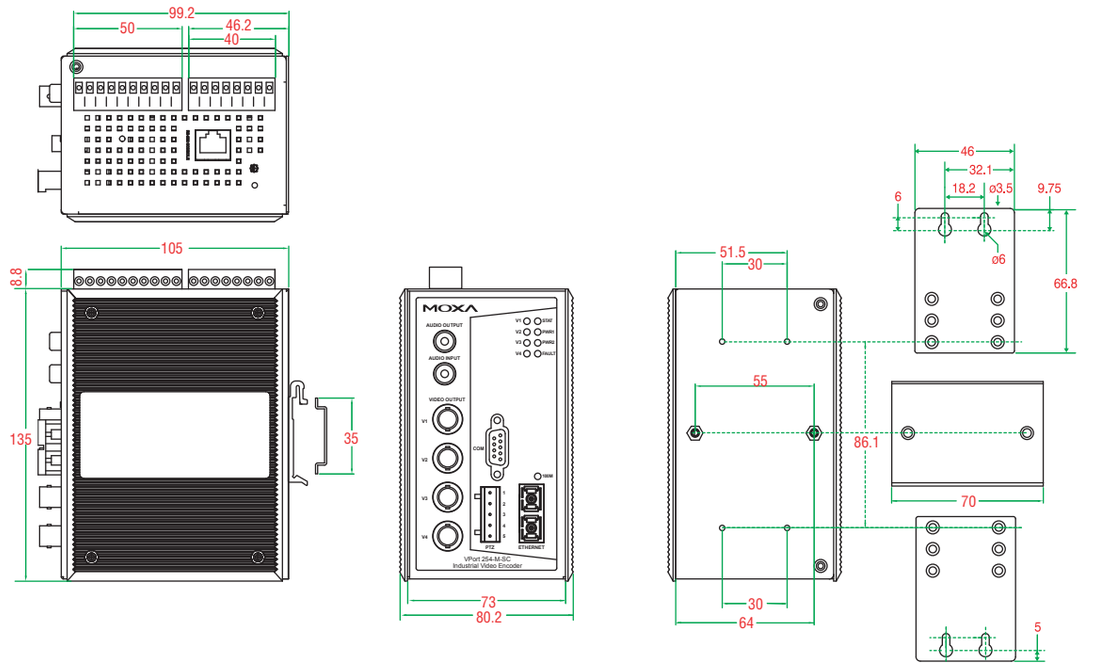
Multimedia: DirectX 9.0c or above

Software Bundled Free

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

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 vailable for download from Moxa's website).

Dimensions (unit = mm)



Side View | Front View | Rear View | DIN-Rail/Panel Mounting Kit

Ordering Information

Available Models		Port Interface		
Standard Temperature (0 to 60°C)	Wide Temperature (-40 to 75°C)	10/100BaseT(X)	Multi-mode, SC Connector	Single-mode, SC Connector
VPort 254	VPort 254-T	1	---	---
VPort 254-M-SC	VPort 254-M-SC-T	---	1	---
VPort 254-S-SC	VPort 254-S-SC-T	---	---	1

Optional Accessories (can be purchased separately)

SoftNVR: Expandable IP surveillance software for managing up to 64 video channels
SoftDVR™ Pro: 16-channel IP surveillance software for viewing and recording
DR-4524/75-24/120-24: 45/75/120 W DIN-Rail 24 VDC power supplies
MDR-40-24/60-24: 40/60 W DIN-Rail 24 VDC power supplies, -20 to 70°C operating temperature
WK-46: Wall mounting kit
RK-4U: 4U-high 19" rack mounting kit