

# NET5500 Series Video Encoders

## H.264 BASED NETWORK VIDEO ENCODERS

### Product Features

- Open Standards-Based Architecture
- MJPEG and H.264 Baseline, Main, or High Profile Compression
- Dual-Stream at up to D1; 30/25 Images per Second (ips) per Stream
- Integrated Coaxitron®, Panasonic Proteus, and Pelco D and Pelco P PTZ Protocols
- Support for Power over Ethernet (PoE) in the In-Line Model
- 1-, 4-, 8-, and 16-Channel Models (Rack Mount Chassis)
- 1-Channel In-Line or Extended Temperature Models
- ONVIF Profile-S Conformant



**NET5501-XT, NET5501-I (TOP)**  
**NET5501/NET5504 (MIDDLE)**  
**NET5508/NET5516 (BOTTOM)**

The **NET5500 Series** is a high performance, single-channel to multi-channel video encoder that integrates analog cameras and positioning systems into an IP video surveillance system. The **NET5500 Series** encoders deliver crystal clear images while drastically reducing the network bandwidth and storage requirements for IP video surveillance applications.

### Uncompromised Performance and Image Quality

The **NET5500 Series** encoders are capable of compressing a single video input into two streams, each up to D1 (720 x 480 for NTSC and 720 x 576 for PAL) and 30/25 ips. With individually configurable streams, each channel of the **NET5500 Series** encoder can be configured to meet differing bandwidth, resolution, and frame rate requirements.

The High profile H.264 compression option delivers outstanding picture quality at a drastically lower bandwidth. While H.264 compression provides significant bit rate savings over JPEG compression schemes, High profile H.264 enables sophisticated tools that further reduce bit rate while also improving picture quality under certain scene conditions. The **NET5500 Series** encoders provide Baseline, Main, and High profile H.264 compression to optimize the cost of deploying IP video surveillance while improving image quality.

### Powerful Intelligence at the Edge

The **NET5500 Series** encoders are enabled for video intelligence at the edge. The analytics capabilities included with these encoders are Motion and Sabotage detection.

### Integration for Installation Flexibility

The **NET5500 Series** is available in a choice of 1-, 4-, 8-, or 16-channel form factors. The 1-channel in-line and 1-channel extended temperature versions are also available. The 1-channel in-line model supports PoE, minimizing the amount of wiring needed. The 1-, 4-, and 8-channel rack models, as well as the 1-channel extended temperature model, also support looping video output to allow simple connections to other analog components at the edge. The 1-channel extended temperature version allows an expanded range from -20° to 74°C (-4° to 165°F), providing optimal protection in unique applications.

Integrated audio inputs for each video input can capture audio from various sources and associate it with the video. One alarm for each video input and one relay output for the encoder (1-channel extended temperature and 1-channel rack models) allows for I/O communication with external components. The 16-channel encoder has four relays, one for every four video ports, and the 8-channel encoder has two relays.

# TECHNICAL SPECIFICATIONS

## NET5500 SERIES

	<b>1-Channel In-Line Encoder NET5501-I</b>	<b>1-Channel Extended Temperature Encoder NET5501-XT</b>	<b>1-Channel Rack Encoder NET5501</b>
Operating System	Linux®	Linux	Linux
Media Player*	Pelco Media Player 1.9.5.1 or later, or QuickTime®	Pelco Media Player 1.9.5.1 or later, or QuickTime	Pelco Media Player 1.9.5.1 or later, or QuickTime
Video Standards	NTSC/PAL	NTSC/PAL	NTSC/PAL
Video Encoding	MJPEG and H.264 Baseline, Main, and High profiles	MJPEG and H.264 Baseline, Main, and High profiles	MJPEG and H.264 Baseline, Main, and High profiles
Interoperability Standard	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S
Video Streams	Three interdependent configurable video streams per video channel; up to 2 unicast streams, unlimited multicast streams	Three interdependent configurable video streams per video channel; up to 2 unicast streams, unlimited multicast streams	Three interdependent configurable video streams per video channel; up to 2 unicast streams, unlimited multicast streams
Supported Resolutions	D1 4CIF 2CIF CIF	720 x 480 NTSC; 720 x 576 PAL 704 x 480 NTSC; 704 x 576 PAL 704 x 240 NTSC; 704 x 288 PAL 352 x 240 NTSC; 352 x 288 PAL	720 x 480 NTSC; 720 x 576 PAL 704 x 480 NTSC; 704 x 576 PAL 704 x 240 NTSC; 704 x 288 PAL 352 x 240 NTSC; 352 x 288 PAL
Frame Rates	Up to 30 frames per second	Up to 30 frames per second	Up to 30 frames per second
Video Input	BNC, 1Vp-p ±10%; Hi-Z / 75 ohms	BNC, 1Vp-p ±10%; Hi-Z / 75 ohms	BNC, 1Vp-p ±10%; Hi-Z / 75 ohms
Video Looping	No	Yes	Yes
Audio Inputs	—	1	1
Audio Encoding	—	G.711	G.711
Audio Bit-Rate	—	64 kbps	64 kbps
Audio Input Connector	—	Line-in 3.5 mm connector	Line-in 3.5 mm connector
Alarm Inputs	—	1	1
Relay Outputs	—	1	1
Analytics	Motion and Sabotage	Motion and Sabotage	Motion and Sabotage
PTZ Interface	Coaxitron, RS-422, RS-485, Proteus	Coaxitron, RS-422, RS-485, Proteus	Coaxitron, RS-422, RS-485, Proteus
PTZ Protocols	Pelco D, Pelco P, Coaxitron, Extended Coaxitron, Panasonic Proteus	Pelco D, Pelco P, Coaxitron, Extended Coaxitron, Panasonic Proteus	Pelco D, Pelco P, Coaxitron, Extended Coaxitron, Panasonic Proteus
Power Indicator	Green when powered on	Green when powered on	Green when powered on
Status Indicator	Green, amber, red (based on diagnostics)	Green, amber, red (based on diagnostics)	Green, amber, red (based on diagnostics)
Ethernet Indicator	Green, amber, red	Green, amber, red	Green, amber, red
Video Indicator	Green, red, off	Green, red, off	Green, red, off
Network Interface	RJ-45 100 Mbps	RJ-45 100 Mbps	RJ-45 100 Mbps
Network Protocols	TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, LDAP, DNS, DHCP, RTP, RTSP, NTP, IPv4, SNMP v2c/v3, QoS, HTTP, HTTPS, SSH, SSL, SMTP, and 802.1x (EAP)	TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, LDAP, DNS, DHCP, RTP, RTSP, NTP, IPv4, SNMP v2c/v3, QoS, HTTP, HTTPS, SSH, SSL, SMTP, and 802.1x (EAP)	TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, LDAP, DNS, DHCP, RTP, RTSP, NTP, IPv4, SNMP v2c/v3, QoS, HTTP, HTTPS, SSH, SSL, SMTP, and 802.1x (EAP)
Input Power	PoE 802.3af, Class 0	12 VDC, 2.08 A adapter	12 VDC, 1.25 A adapter
Operating Temperature	0° to 45°C (32° to 113°F)	-20° to 74°C (-4° to 165°F)	0° to 50°C (32° to 122°F)
Operating Humidity	0 to 80%, noncondensing	0 to 80%, noncondensing	0 to 80%, noncondensing
Storage Temperature	-50° to 85°C (-58° to 185°F)	-50° to 85°C (-58° to 185°F)	-50° to 85°C (-58° to 185°F)
Construction	Plastic	Aluminum, plastic	Metal, plastic
Finish	Gray polyester powder coat	Gray polyester powder coat	Gray polyester powder coat
Dimensions	10.4 x 5.6 x 3.2 cm (4.10" D x 2.20" W x 1.26" H)	13.9 x 12.2 x 4.4 cm (5.47" D x 4.80" W x 1.73" H)	16 x 24 x 4.4 cm (6.30" D x 9.45" W x 1.73" H)
Weight	0.13 kg (0.29 lb)	0.67 kg (1.48 lb)	1.02 kg (2.25 lb)
Unit Shipping	0.39 kg (0.86 lb)	1.19 kg (2.62 lb)	1.92 kg (4.23 lb)

# TECHNICAL SPECIFICATIONS

## NET5500 SERIES

	<b>4-Channel Rack Encoder NET5504</b>	<b>8-Channel Rack Encoder NET5508</b>	<b>16-Channel Rack Encoder NET5516</b>
Operating System	Linux	Linux	Linux
Media Player	Pelco Media Player 1.9.5.1 or QuickTime	Pelco Media Player 1.9.5.1 or QuickTime	Pelco Media Player 1.9.5.1 or QuickTime
Video Standards	NTSC/PAL	NTSC/PAL	NTSC/PAL
Video Encoding	MJPEG and H.264 Baseline, Main, and High profiles	MJPEG and H.264 Baseline, Main, and High profiles	MJPEG and H.264 Baseline, Main, and High profiles
Interoperability Standard	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S
Video Streams	Three interdependent configurable video streams per video channel; up to 2 unicast streams; unlimited multicast streams	Three interdependent configurable video streams per video channel; up to 2 unicast streams; unlimited multicast streams	Three interdependent configurable video streams per video channel; up to 2 unicast streams; unlimited multicast streams
Supported Resolutions	D1 720 x 480 NTSC; 720 x 576 PAL 4CIF 704 x 480 NTSC; 704 x 576 PAL 2CIF 704 x 240 NTSC; 704 x 288 PAL CIF 352 x 240 NTSC; 352 x 288 PAL	720 x 480 NTSC; 720 x 576 PAL 704 x 480 NTSC; 704 x 576 PAL 704 x 240 NTSC; 704 x 288 PAL 352 x 240 NTSC; 352 x 288 PAL	720 x 480 NTSC; 720 x 576 PAL 704 x 480 NTSC; 704 x 576 PAL 704 x 240 NTSC; 704 x 288 PAL 352 x 240 NTSC; 352 x 288 PAL
Frame Rates	Up to 30 frames per second	Up to 30 frames per second	Up to 30 frames per second
Video Input	BNC, 1Vp-p ±10%; Hi-Z / 75 ohms	BNC, 1Vp-p ±10%; Hi-Z / 75 ohms	BNC, 1Vp-p ±10%; Hi-Z / 75 ohms
Video Looping	Yes	Yes	No
Audio Inputs	4	8	16
Audio Encoding	G.711	G.711	G.711
Audio Bit-Rate	64 kbps	64 kbps	64 kbps
Audio Input Connector	Line-in 3.5 mm connector	Line-in 3.5 mm connector	Line-in 3.5 mm connector
Alarm Inputs	4	8	16
Relay Outputs	1	2	4
Analytics	Motion and Sabotage	Motion and Sabotage	Motion and Sabotage
PTZ Interface	Coaxitron, Proteus, RS-422, and RS-485 Coaxitron and Proteus: support for one PTZ driver in each group of 4 channels.	Coaxitron, Proteus, RS422, and RS-485 Coaxitron and Proteus: support for one PTZ driver in each group of 4 channels.	Coaxitron and Proteus: support for one PTZ driver in each group of 4 channels; RS-422, RS-485: support for 2 PTZ drivers in each group of 4 channels.
PTZ Protocols	Pelco D and Pelco P, Coaxitron, Extended Coaxitron, Panasonic Proteus	Pelco D and Pelco P, Coaxitron, Extended Coaxitron, Panasonic Proteus	Pelco D and Pelco P, Coaxitron, Extended Coaxitron, Panasonic Proteus
Power Indicator	Green when powered on	Green when powered on	Green when powered on
Status Indicator	Green, amber, red (based on diagnostics)	Green, amber, red (based on diagnostics)	Green, amber, red (based on diagnostics)
Ethernet Indicator	Green, amber, red	Green, amber, red	Green, amber, red
Video Indicator	Green, red, off	Green, red, off	Green, red, off
Network Interface	RJ-45 100 Mbps	RJ-45 1000 Mbps	RJ-45 1000 Mbps
Network Protocols	TCP/IP, UDP/IP (Unicast, Multicast, IGMP), UPnP, LDAP, DNS, DHCP, RTP, RTSP, NTP, IPv4, SNMP v2c/v3, QoS, HTTP, HTTPS, SSH, SSL, SMTP, and 802.1x (EAP)	TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, LDAP, DNS, DHCP, RTP, RTSP, NTP, IPv4, SNMP v2c/v3, QoS, HTTP, HTTPS, SSH, SSL, SMTP, and 802.1x (EAP)	TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, LDAP, DNS, DHCP, RTP, RTSP, NTP, IPv4, SNMP v2c/v3, QoS, HTTP, HTTPS, SSH, SSL, SMTP, and 802.1x (EAP)
Input Power	12 VDC, 1.25 A adapter	12 VDC, 2.08 A adapter	12 VDC, 2.08 A adapter
Operating Temperature	0° to 50°C (32° to 122°F)	0° to 50°C (32° to 122°F)	0° to 50°C (32° to 122°F)
Operating Humidity	0 to 80%, noncondensing	0 to 80%, noncondensing	0 to 80%, noncondensing
Storage Temperature	-50° to 85°C (-58° to 185°F)	-50° to 85°C (-58° to 185°F)	-50° to 85°C (-58° to 185°F)
Construction	Metal, plastic	Metal, plastic	Metal, plastic
Finish	Gray polyester powder coat	Gray polyester powder coat	Gray polyester powder coat
Dimensions	16 x 24 x 4.4 cm (6.30" D x 9.45" W x 1.73" H)	23.6 x 43 x 4.4 cm (9.29" D x 16.93" W x 1.73" H)	23.6 x 43 x 4.4 cm (9.29" D x 16.93" W x 1.73" H)
Weight	Unit 1.07 kg (2.36 lb) Shipping 1.97 kg (4.34 lb)	Unit 2.35 kg (5.18 lb) Shipping 3.58 kg (7.89 lb)	Unit 2.40 kg (5.29 lb) Shipping 3.64 kg (8.02 lb)

# TECHNICAL SPECIFICATIONS

## MODELS

Model	Description	Power Cord Option
NET5501-I	1-channel, in-line H.264 encoder	—
NET5501-XT	1-channel, extended temperature H.264 encoder	AR = Argentina AU = Australia CN = China
NET5501	1-channel, rack H.264 encoder	EU = European Union
NET5504	4-channel, rack H.264 encoder	UK = United Kingdom
NET5508	8-channel, rack H.264 encoder	US = United States
NET5516	16-channel, rack H.264 encoder	

## INTEGRATION

Web Browser	Microsoft® Internet Explorer® 8 or later, Firefox®, Chrome™, Safari™
Video Management	Digital Sentry 7.3 (or later); Endura 2.0 (or later); Third-party VMS through Pelco API and ONVIF Profile S

## OPTIONAL ACCESSORIES

POE1AT Single-Port PoE Midspan (for NET5501-I)

## CERTIFICATIONS\*

- CE, Class A
- FCC, Class A
- UL/cUL Listed
- C-Tick
- CCC
- KC
- ONVIF Profile S Conformant

\*At the time of this printing, all certifications are pending. Please consult the factory, our Web site ([www.pelco.com](http://www.pelco.com)), or the most recent B.O.S.S.® update for the current status of certifications.

## STANDARDS/ORGANIZATIONS

- Pelco is a member of the MPEG-4 Industry Forum.
- Pelco is a member of the Universal Plug and Play (UPnP) Forum.
- Pelco is a member of the Universal Serial Bus (USB) Implementers Forum.
- Pelco is a contributor to the International Standards for Organization/Electrotechnical Commission (ISO/IEC) Joint Technical Committee 1 (JTC1), "Information Technology," Subcommittee 29, Working Group 11.
- Compliant with ISO/IEC 14496 standard (also known as MPEG-4).
- Compliant with International Telecommunication Union (ITU) Recommendation G.711, "Pulse Code Modulations (PCM) of Voice Frequencies."

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