



by **Schneider** Electric

NET5500 Series VIDEO ENCODER Installation/Operation Manual



NET5501
NET5504
NET5508
NET5516

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Overview

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the points where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases shall be placed on the apparatus.
16. **WARNING** : To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
17. Installation should be done only by qualified personnel and conform to all local codes.
18. Unless the unit is specifically marked as a NEMA Type 3, 3R, 3S, 4, 4X, 6, or 6P enclosure, it is designed for indoor use only and it must not be installed where exposed to rain and moisture.
19. Use only installation methods and materials capable of supporting four times the maximum specified load.
20. A readily accessible disconnect device shall be incorporated in the building installation wiring.
21. The socket-outlet shall be installed near the equipment and shall be easily accessible.
22. A CCC approved power cord must be used to power this equipment when used in China.



CAUTION



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.



WARNING : This product is sensitive to Electrostatic Discharge (ESD). To avoid ESD damage to this product, use ESD safe practices during installation. Before touching, adjusting or handling this product, correctly attach an ESD wrist strap to your wrist and appropriately discharge your body and tools. For more information about ESD control and safe handling practices of electronics, please refer to ANSI/ESD S20.20-1999 or contact the Electrostatic Discharge Association (www.esda.org).

Overview

IMPORTANT NOTICES

REGULATORY NOTICES

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RADIO AND TELEVISION INTERFERENCE

This equipment has been tested and found to comply with the limits of a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

CAN ICES-3(A)/NMB-3(A)

LEGAL NOTICE [Audio Notice]

SOME PELCO EQUIPMENT CONTAINS, AND THE SOFTWARE ENABLES, AUDIO/VISUAL AND RECORDING CAPABILITIES, THE IMPROPER USE OF WHICH MAY SUBJECT YOU TO CIVIL AND CRIMINAL PENALTIES. APPLICABLE LAWS REGARDING THE USE OF SUCH CAPABILITIES VARY BETWEEN JURISDICTIONS AND MAY REQUIRE, AMONG OTHER THINGS, EXPRESS WRITTEN CONSENT FROM RECORDED SUBJECTS. YOU ARE SOLELY RESPONSIBLE FOR INSURING STRICT COMPLIANCE WITH SUCH LAWS AND FOR STRICT ADHERENCE TO ANY/ALL RIGHTS OF PRIVACY AND PERSONALTY. USE OF THIS EQUIPMENT AND/OR SOFTWARE FOR ILLEGAL SURVEILLANCE OR MONITORING SHALL BE DEEMED UNAUTHORIZED USE IN VIOLATION OF THE END USER SOFTWARE AGREEMENT AND RESULT IN THE IMMEDIATE TERMINATION OF YOUR LICENSE RIGHTS THEREUNDER.

VIDEO QUALITY CAUTION

FRAME RATE NOTICE REGARDING USER SELECTED OPTIONS

Pelco systems are capable of providing high quality video for both live viewing and playback. However, the systems can be used in lower quality modes, which can degrade picture quality, to allow for a slower rate of data transfer and to reduce the amount of video data stored. The picture quality can be degraded by either lowering the resolution, reducing the picture rate, or both. A picture degraded by having a reduced resolution may result in an image that is less clear or even indiscernible. A picture degraded by reducing the picture rate has fewer frames per second, which can result in images that appear to jump or move more quickly than normal during playback. Lower frame rates may result in a key event not being recorded by the system.

Judgment as to the suitability of the products for users' purposes is solely the users' responsibility. Users shall determine the suitability of the products for their own intended application, picture rate and picture quality. In the event users intend to use the video for evidentiary purposes in a judicial proceeding or otherwise, users should consult with their attorney regarding any particular requirements for such use.

OPEN SOURCE SOFTWARE

This product includes certain open source or other software originated from third parties that is subject to the GNU General Public License (GPL), GNU Library/Lesser General Public License (LGPL) and different and/or additional copyright licenses, disclaimers, and notices.

The exact terms of GPL, LGPL, and some other licenses are provided to you with this product. Please refer to the exact terms of the GPL and LGPL at <http://www.fsf.org> (Free Software Foundation) or <http://www.opensource.org> (Open Source Initiative) regarding your rights under said license. You may obtain a complete corresponding machine-readable copy of the source code of such software under the GPL or LGPL by sending your request to digitalsupport@pelco.com; the subject line should read Source Code Request. You will then receive an email with a link for you to download the source code.

This offer is valid for a period of three (3) years from the date of the distribution of this product by Pelco.

CCC POWER CORD STATEMENT

Models shipped to China do not include power cords.

Note : A CCC approved power cord must be used to power the equipment when used in China.

Korean Class A EMC

이 기기는 업무용 (A급) 전자파 적합기기로서 판매자 또는 사용자는 이 점을 주의하시길 바라며, 가정 외의 지역에서 사용하는 것을 목적으로 합니다.

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

ESD WARNING



WARNING: This product is sensitive to Electrostatic Discharge (ESD). To avoid ESD damage to this product, use ESD safe practices during installation. Before touching, adjusting or handling this product, correctly attach an ESD wrist strap to your wrist and appropriately discharge your body and tools. For more information about ESD control and safe handling practices of electronics, please refer to ANSI/ESD S20.20-1999 or contact the Electrostatic Discharge Association (www.esda.org).

Warranty

For information about Pelco's product warranty and thereto related information, refer to www.pelco.com/warranty.

Overview

NETWORK TOPOLOGY STATEMENT

IMPORTANT NOTE. PLEASE READ. The network implementation is shown as a general representation only and is not intended to show a detailed network topology. Your actual network will differ, requiring changes or perhaps additional network equipment to accommodate the system as illustrated. Please contact your local Pelco representative to discuss your specific requirements.

LEGAL NOTICE (AUDIO NOTICE)

! Improper use of audio/visual recording equipment may subject you to civil and criminal penalties. Applicable laws regarding the use of such capabilities vary between jurisdictions and may require, among other things, express written consent from the recorded subjects. You are solely responsible for insuring strict compliance with such laws and for strict adherence to any/all right of privacy and personality.

INTRODUCTION

The NET5500 Series video encoder is a network-based channel encoder with a built-in, Web-based viewer for live streaming to a standard Web browser (Microsoft® Internet Explorer®, Chrome®, Safari® or Mozilla® Firefox®). The encoder is built upon open standards and is part of an Endura® system for recording, managing, administering, and viewing video streams.

The encoder supports H.264 and MJPEG compression. It can generate two independently configurable H.264 streams, each up to D1 resolution (720 x 480 for NTSC, 720 x 576 for PAL) and 30/25 images per second (ips) in addition to an MJPEG stream for Web viewing.

The NET5500 can be configured for one alarm input for each video channel. When an alarm event is triggered, the unit can send a message to an operator, and trigger a relay.

The unit also supports motion detection for each video channel. You can configure one motion zone, with its own independent sensitivity and threshold settings. When the NET5500 detects activity in any of these areas, it can trigger an alarm event.

The video encoder supports one audio input for each video channel over the network. The system operator (security personnel) can see and hear activity in any target area in which a microphone is present.

The NET5500 supports control of remote peripherals such as pan/tilt/zoom (PTZ) cameras by way of D-Protocol, P-Protocol, and Coaxitron® protocols.

FEATURES

- Open standards-based architecture
- H.264 baseline, main, or high profile compression
- Dual-stream at up to D1, 30/25 images per second (ips) per stream
- Integrated audio, alarm, and relay outputs
- Integrated D-Protocol, P-Protocol, and Coaxitron protocols
- Support for multicast transmissions

Models

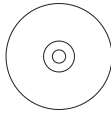
- NET5501 One-channel H.264 rack encoder
- NET5504 Four-channel H.264 rack encoder
- NET5508 Eight-channel H.264 rack encoder
- NET5516 Sixteen-channel H.264 rack encoder

PACKAGE CONTENTS

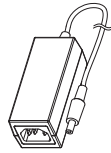
NET5501



Installation Manual, Safety Instruction
(2ea)



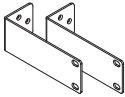
Resource Disc



Adapter



Rubber Feet (4ea)



Rack Mount Ear (2ea)



Cable Clamp (1ea)



Screw (2ea) for Cable Clamp
binding 1 plus 1 spare



Screw (3ea)
for Rack Mount Bracket



Screw (4ea)
for Product Rack binding



5-Pin Terminal Block (2ea)

Overview

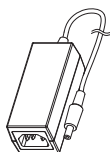
NET5504



Installation Manual, Safety Instruction
(2ea)



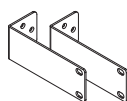
Resource Disc



Adapter



Rubber Feet (4ea)



Rack Mount Ear (2ea)



Cable Clamp (1ea)



Screw (2ea) for Cable Clamp
binding 1 plus 1 spare



Screw (3ea)
for Rack Mount Bracket

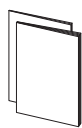


Screw (4ea)
for Product Rack binding

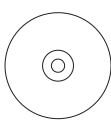


6-Pin Terminal Block (2ea)

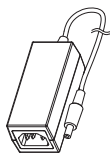
NET5508



Installation Manual, Safety Instruction
(2ea)



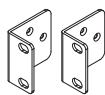
Resource Disc



Adapter



Rubber Feet (4ea)



Rack Mount Ear (2ea)



Cable Clamp (1ea)



Screw (2ea) for Cable Clamp
binding 1 plus 1 spare



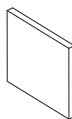
Screw (3ea)
for Rack Mount Bracket



Screw (4ea)
for Product Rack binding



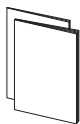
10-Pin Terminal Block (2ea)



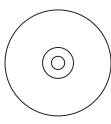
Dust Filter (1ea)

Overview

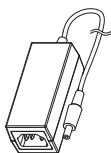
NET5516



Installation Manual, Safety Instruction
(2ea)



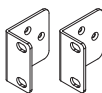
Resource Disc



Adapter



Rubber Feet (4ea)



Rack Mount Ear (2ea)



Cable Clamp (1ea)



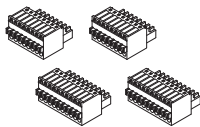
Screw (2ea) for Cable Clamp
binding 1 plus 1 spare



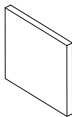
Screw (3ea)
for Rack Mount Bracket



Screw (4ea)
for Product Rack binding



8-Pin Terminal Block (2ea)
10-Pin Terminal Block (2ea)



Dust Filter (1ea)





FRONT PANEL DESCRIPTION

NET5501/NET5504



NET5508/NET5516

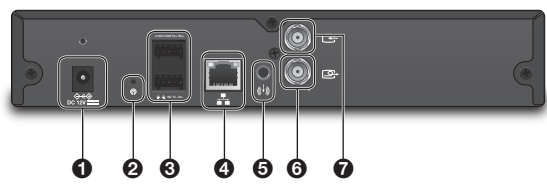


No.	Name	Description
1	Front Panel Indicators	 <p>Displays power On/Off status. It glows blue when the unit has power.</p>
		 <p>Displays network status (connection and speed).</p> <p>Off : The unit is not connected to the network. Solid amber : The unit is connected to the network using the 100 Mbps standard. Solid red : The unit is connected to the network using the 10 Mbps standard. Solid green : The unit is connected to the network using the 1 Gbps standard.</p>
		<p>✓ A blinking light indicates network activity corresponding to the speed based on the color.</p>
		 <p>Displays camera connection status.</p> <p>Not Lit : A camera has not been connected yet. Green : Camera video is present at the video in connector. Red : Video is no longer present, the camera is not functioning properly.</p>
		 <p>Displays unit status.</p> <p>Green : The unit is functioning normally. Red : The unit is in an error condition.</p>

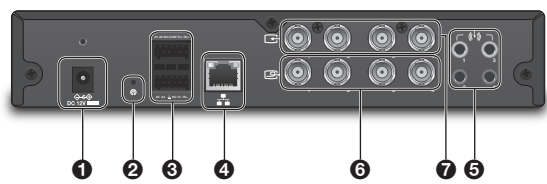
Overview

REAR PANEL DESCRIPTION

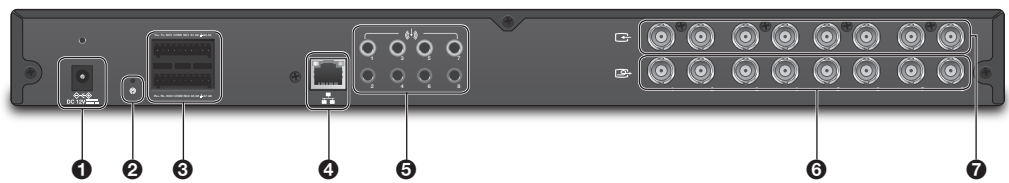
NET5501



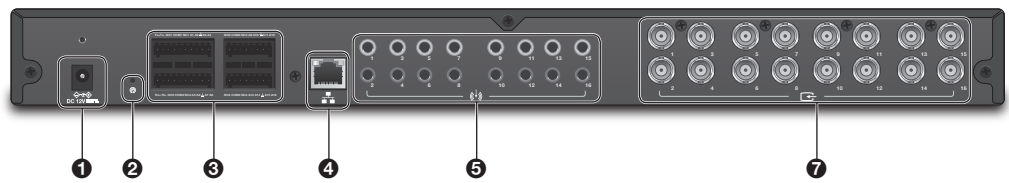
NET5504











NET5508




NET5516



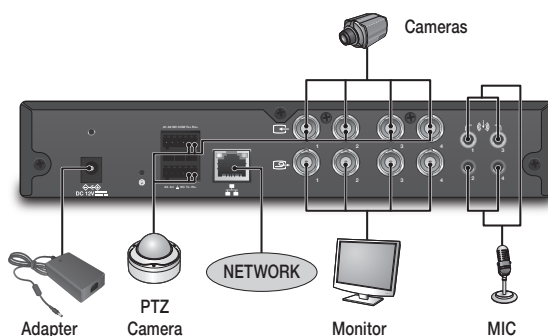
No.	Name	Description
❶	 DC 12V	Power input socket. For connection of 12V adapter.
❷		Press this switch to reset device to the factory default. If you perform the factory reset, all your settings to device will be lost. For more information, please see Factory Default (Page 18).
❸	A	Alarm input sensor terminal
	NO/NC	Relay control
	COM	Relay common
	TX+/TX-	RS-422/RS-485 Data line
	RX+/RX-	RS-422 RX Data line  Disabled in RS-485 mode.
		Ground terminal.
❹		LAN connection to a router or internal network.
❺		Video Encoder. Audio input terminal for sound input. A microphone or other source of sound may be connected to this.
❻		Video output BNC terminal.
❼		Video input BNC terminal.

PTZ, Relay and Alarm Pin Assignments

Label	Lead	Label	Lead
A1	Alarm 1	A3	Alarm 3
A2	Alarm 2	A4	Alarm 4
NO	Relay Normally Open		Ground
COM	Relay Common	NC	Relay Normally Closed
TX+	RS-422 Data TX+	TX-	RS-422 Data TX-
RX+	RS-422 Data RX+	RX-	RS-422 Data RX-

Installation

SYSTEM ORGANIZATION



MOUNTING IN A RACK

The NET5500 Series encoder mounts into an industry-standard 48 cm (19-inch) equipment rack. The NET5500 Series encoder occupies 1 RU (4.45 cm or 1.75 inches) of vertical rack space. The hardware necessary to mount the NET5500 Series rack encoder into a rack is supplied with the unit.

The rack must meet the following requirements

Rack standard : 48 cm (19 inches), EIA-310-D compliant (rear column required)

Rack column depth : 50.8 to 76.2 cm (20 to 30 inches)

Column mounting hole provisions : 10-32 UNF-2B threaded holes or square window holes on front and rear columns.

Door systems (optional) : Front doors must have at least 5.1 cm (2 inches) between the NET5500 Series encoder front bezel and the inside of the door.

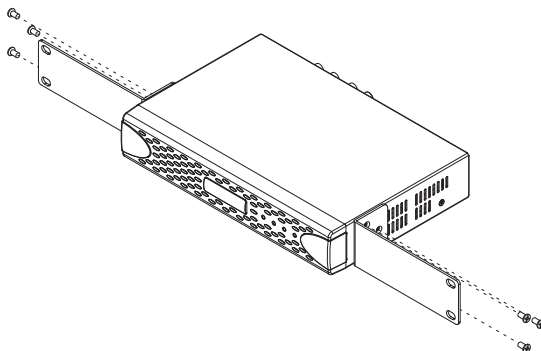
Rear doors may be used only on rack columns that more than 66 cm (26 inches) deep.

! Make sure the NET5500 Series encoder is level.

! Slots and openings in the cabinet provide ventilation to prevent the unit from overheating. Do not block these openings.

To install the NET5500 Series encoder in a rack

1. Remove the three Phillips flat head screws from each side of the unit. Set the screws aside.
2. Align the three screw holes in the mounting brackets with the threaded holes on the left and the right sides of the chassis.

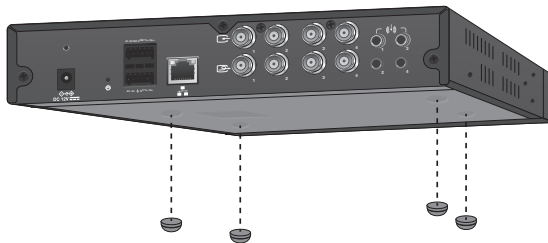


3. Using the six Phillips flat head screws, attach the mounting brackets to each side of the chassis.
4. Insert and tighten the Phillips flat head screws you removed earlier.
5. Align the two mounting bracket holes on each side with the screw holes on the rack.
6. Insert and tighten the Phillips flat head screws (not supplied) to secure the unit in the rack.

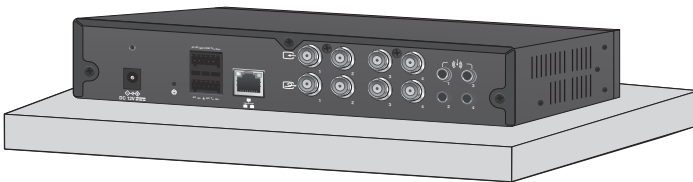
Installation

DESKTOP INSTALLATION

When installing the device on a horizontal surface such as a desktop, proceed as follows.



1. Attach the rubber feet to the bottom of the unit to prevent surface damage.



2. Place the device in a location that provides adequate space for wiring and cords at the front and back of the panel.

! Do not place the device upright since that can lead to its falling over and becoming damaged. Placing the device upright will also block the flow of air, which may cause it to overheat.


FACTORY DEFAULT



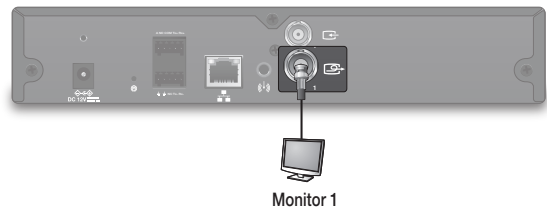
1. Use a sharp-edged object (e.g. paper clip) to press and hold the Reset switch.
2. Press and hold the switch for 10 seconds. Then, release it.
3. When the encoder reset is completed, the system will restart by the factory default.

CONNECTING TO AN EXTERNAL DEVICE

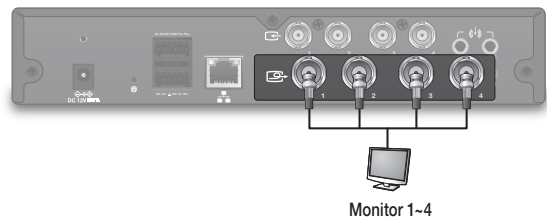
Connecting the Monitor

Connect the [] port of the encoder to the output port of the monitor. You can watch the video from the camera on the monitor.

NET5501



NET5504



NET5508



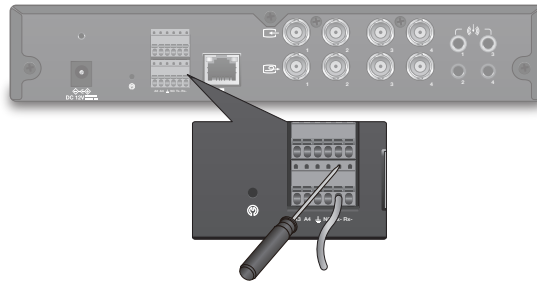
Supply LOOP Out Channel for Each Model

	NET5501	NET5504	NET5508	NET5516
Channel	1	4	8	None

Installation

Connecting the terminal block

The terminal block has tension clamps instead of screw terminals. Use a small screwdriver to open the clamp for a particular lead.



Power Supply

Connect the DC 12V power adapter to the encoder's power input terminal.

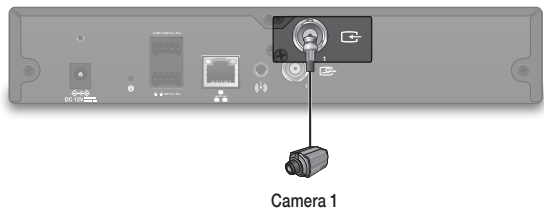


- ❗ For safety reasons, make the connection when the power is not applied yet.
- ❗ Arrange the cables and be careful not to peel off the cable coating.
- ❗ Do not put the power cable under a carpet or rug. The power cord is usually grounded. However, even if it's not grounded, never modify it on your own for grounding.
- ❗ Do not insert multiple devices in a single power socket. This may cause a power overload.

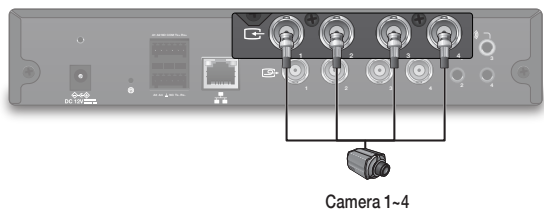
Connecting the Video

Connect the [] port of the encoder to the video output port of the camera.

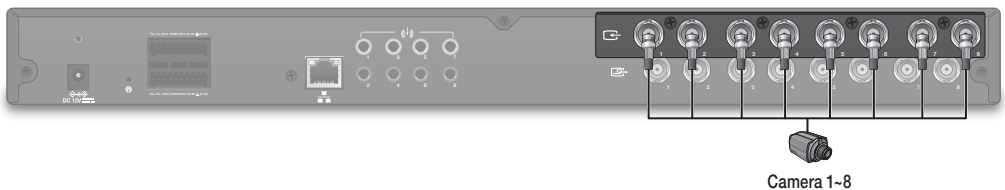
NET5501



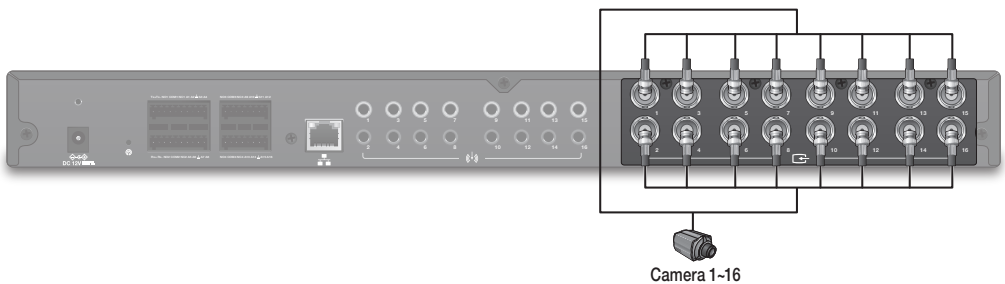
NET5504



NET5508



NET5516



Supply Video Input Channel for Each Mode

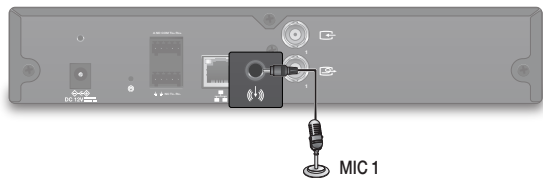
	NET5501	NET5504	NET5508	NET5516
Channel	1	4	8	16

Installation

Connecting the Audio

Connect the audio input device such as microphone to the [] port.

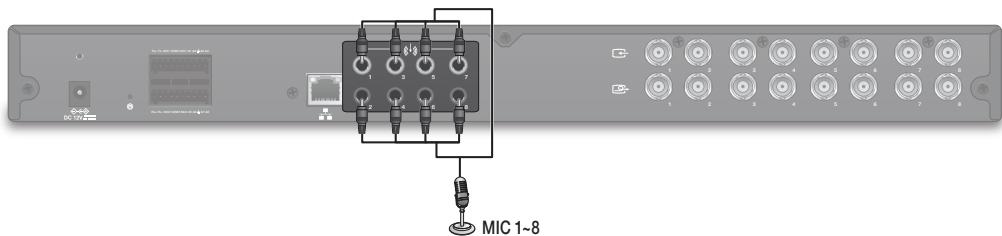
NET5501



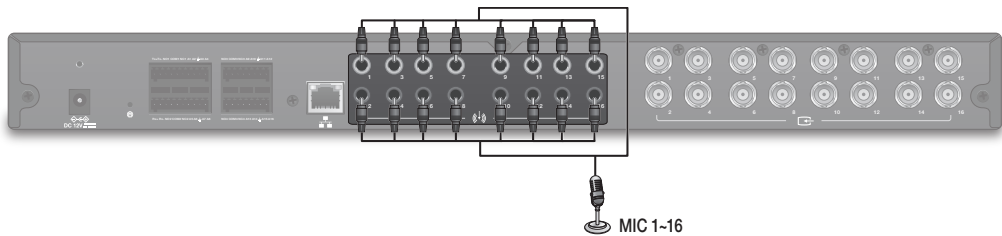
NET5504



NET5508



NET5516

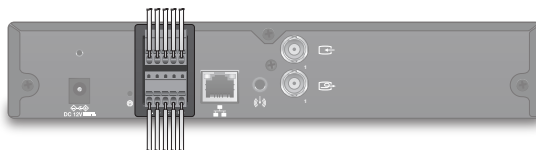


Supply Audio Input Channel for Each Mode

	NET5501	NET5504	NET5508	NET5516
Channel	1	4	8	16

Connecting the Relay Input/Output

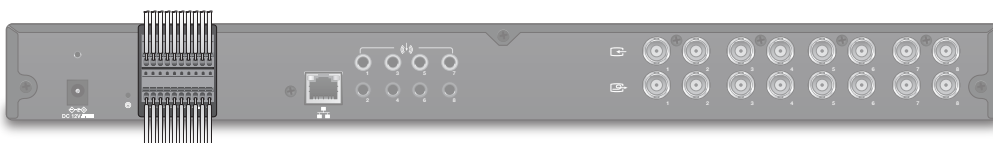
NET5501



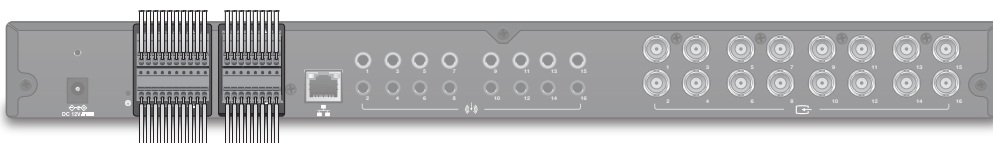
NET5504



NET5508



NET5516



Supply Relay Input/Output Channel for Each Mode

	NET5501	NET5504	NET5508	NET5516
Relay Input	1	4	8	16
Relay Output	1	1	2	4
RS-422/RS-485	1	1	1	1

Installation

Connecting the Relay Input

Connect the signal line of an relay input device such as sensor to the rear **[A]** port.

Connecting the Relay Output

Connect the signal line of an relay output device to the rear **[NO/NC/COM]** port.

Connecting the RS-422/RS-485 Device

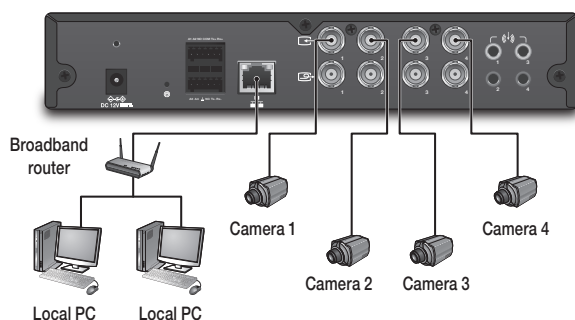
Connect the external device to the **[RS-422/RS-485 Data line]** ports.

You can connect and control PTZ camera that supports RS-422/RS-485 communication.

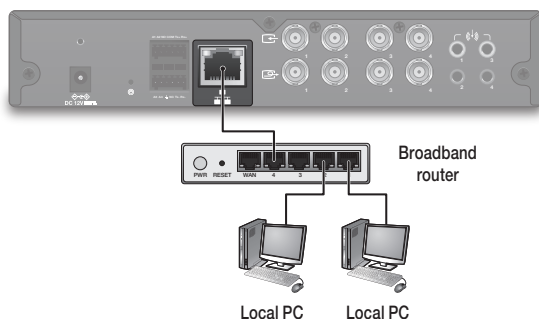
Network Connection

PC Connection in the Local Network

You can connect the encoder to a PC in the same network and control or manipulate it on the PC monitor.



1. Connect the network port in the rear panel to the router or hub.

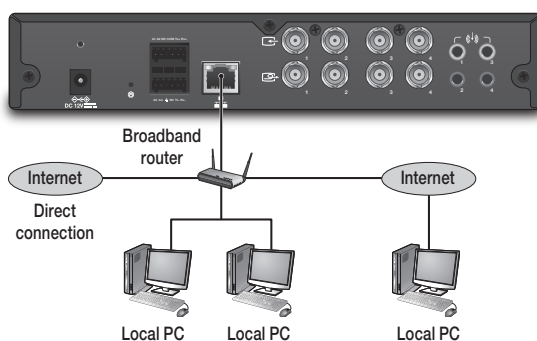


2. Connect the local PC to the router or hub.
3. Enter the address in the address bar (web browser) of the local PC or of the dedicated software program in the format of "**http://IP address:web service port**".
(Ex : http://192.168.0.23:80) From the Network Setup screen, you can change the port number.
 - ✓ If you do not know the camera's IP address, you can locate it using the Pelco Device Utility Software.
4. Provide the ID and password before logging in. Then, you can view the monitoring screen.
Access ID (factory default) : admin, P/W : admin.
 - ❗ For security purposes, change the password right after you purchase the product.

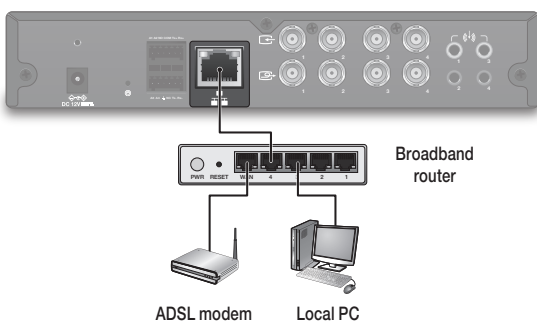
Installation

PC Connection From a Remote Network

You can connect the encoder to a PC or mobile device in the same remote network and control or manipulate it on the monitor of the PC or mobile device



1. Connect the network port in the rear panel to the router.



2. Connect the [NETWORK] port of the router directly to the fixed IP LAN cable, or connect it to the ADSL modem.

Web Viewer

WHAT IS THE WEB VIEWER?

Minimum PC Requirement

CPU	P4 3.0 or Higher
RAM	512MB or Higher
VGA	GeForce MS 400, Radeon 7500 or higher GeForce 8 series or higher
VGA MEMORY	64MB
MONITOR	1280 X 1024
BROWSER	Internet Explorer, Firefox, Chrome, Safari
IE VERSION	IE8.0 or higher
NETWORK	NET5501/NET5504 : 10/100 Bps, NET5508/NET5516 : 10/100/1000 Bps

Accessing the Encoder and Attached Cameras

The first time you access the camera, the live video page appears. By default, you are viewing the video as a public user and only have access to the single stream live view.

If, for security purposes, users should not be allowed to view video without first logging on to the camera, change the permissions for public users.

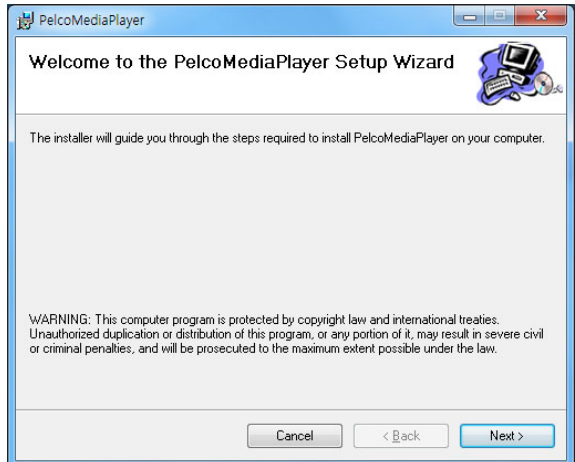
Web Viewer

Pelco Media Player Installation

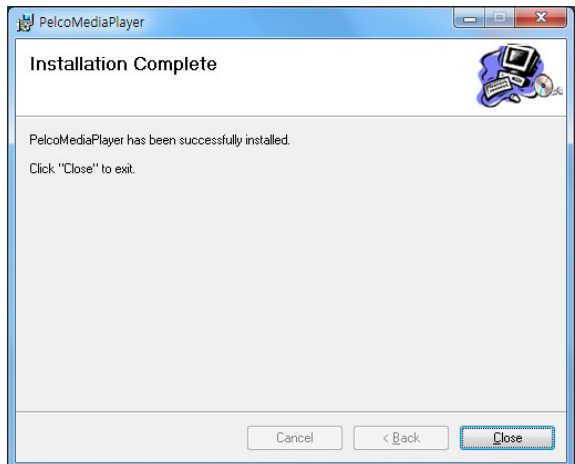
To view videos after accessing the Web viewer, the Pelco Media Player plug-in must be installed. Install Pelco Media Player from the CD included with the player.

- ✓ The Pelco Media Player 1.9.5 or higher is required for multiple channels.

1. Run InstallPelcoMediaPlayer.msi.
2. Click the **[Next>]** button to start installation.



3. Click the **[Close]** button.
Pelco Media Player Installation is complete.

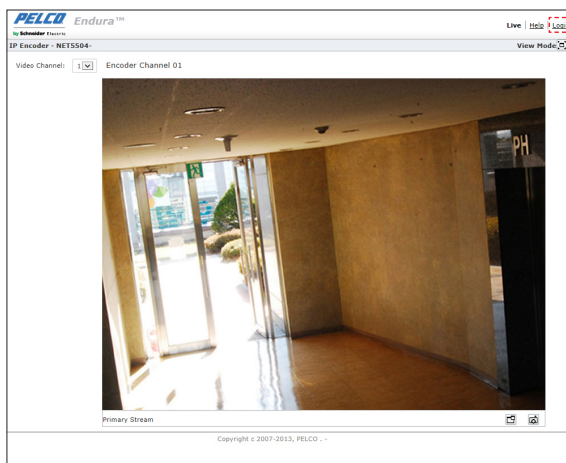


Logging In

Entering the IP address of the camera as a URL into the web browser will immediately bring up the Live Mode screen if the encoder is not setup to require authentication (Open Authentication option).

If the camera is setup to require authentication, then the user will be prompted for a Username and Password before being able to see the live video feed.

- Click <Login> on the live screen.



- Enter your <Username> and <Password>.

✓ Default username : admin, Password : admin

- Click the <Login> button.

✓ The Open Authentication option is configured on the Settings > Users > General Settings screen.

Change Your Password

Please change the password for your security.

- Click <admin> from the live screen.

- Enter your new password.

- Click the <Save> button.

Web Viewer

LIVE

Live Screen Overview


Live Mode Screen Components



No.	Name	Description
1	Channel Name	Displays the name assigned to the channel selected.
2	Video Channel	Choose number 1 to the number of channels on the encoder.
3	Multi-Function Image Button	▲ Tilt Up
		▼ Tilt Down
		► Pan Right
		◄ Pan Left
		Home Preset
4	Control the Zoom	Activates Zoom in (-) / Zoom out (+) features.
5	Control the Focus	Activates Near (-) / Far (+) features.
6	Control the Iris	Adjusts the camera brightness.
7	Move to Presets	Moves to the preset selected.

No.	Name	Description
8	Pattern	Activates the pattern selected.
9	Stream Selection	Selects the viewable video stream that displays in live view (Primary, Secondary, QuickView) and selects unicast or multicast and throttle settings. ✓ It will not be presented to users who are designated as Viewers.
10	View the Selected Tab	Composed of Live, Settings, Help, and Logout settings menus.
11	Maximize Viewing Area	Scales the image to the full size of the browser. To resize the video pane to normal view, click the Show Toolbar button in the upper-right corner of the window.
12	Take a Snapshot	Captures the image displayed in the video pane and saves it as a JPEG file.
13	Open Stream in New Window	Opens the video in a scalable, independent window. Opening the video in a separate window allows you to view the video while other applications are running. This window can be minimized, maximized, or closed using the title bar buttons of the active window. The window can also be resized by dragging a corner of the window.
14	Pan/Tilt/Zoom	Control the encoder and the pan (left/right) and tilt (up/down) of the connected camera by dragging the mouse. Also, zoom using the scroll wheel on the mouse. ✓ These icons are always available when using the Pelco Media Player. If you are using QuickTime®, PTZ overlay is only available with PMP player.

Selecting a Stream

1. Click <  > from the live screen.
Move to the Stream settings screen.

2. Select one of the following streams.

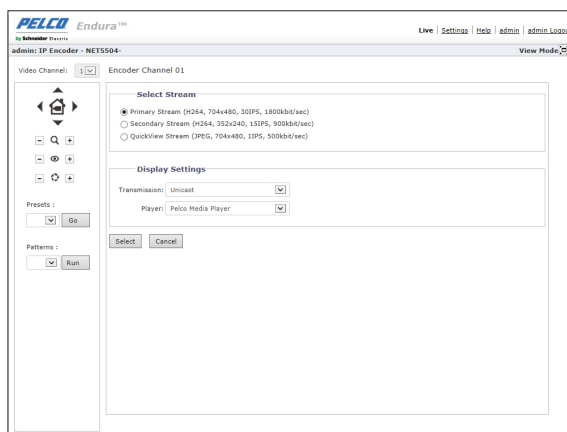
- **Primary STREAM** : To select this stream, click the button next to Primary Stream.
- **Secondary STREAM** : To select this stream, click the button next to Secondary Stream.
- **QuickView STREAM** : To select this stream, click the button next to QuickView Stream.
✓ If the secondary stream has not been configured, only Primary Stream, and QuickView Stream are available.

3. Select the transmission.

- **Unicast** : A unicast transmission sends a separate video stream to each user that is requesting data. Although multiple users might request the same data from the encoder at the same time, duplicate video streams are transmitted to each user. Every unicast user that connects to the encoder consumes additional processing power, which limits the number of simultaneous users who can access the camera.
- **Multicast** : A multicast transmission sends data to multiple users at the same time using one transmission stream. Each multicast user that connects to the camera consumes no additional processing power; therefore, multicast video streams can be sent to an unlimited number of simultaneous users. The multicast transmission setting is available in the primary and secondary stream display settings.

4. Select the Player.

5. Click the <Select> button.



Web Viewer

SYSTEM SETTING

General Settings

Modify the system default settings of the encoder.

General Settings

- Device Name : Set the name to use for the encoder.
 - ✓ The device name must be at least two (2) characters and no more than 63 characters.

Time Settings

- Time Server : Set the time to apply to the encoder.
 - None : Specify no time setting for the encoder.
 - DHCP : Specify the time from the DHCP server.
 - Manual : Select whether the encoder is to be set to the domain of the IP address or NTP server.
- Time Zone : Set the time zone relative to standard time (GMT).
- Current Date : Display the date and time set.

The screenshot shows the 'System' settings page for a Pelco Endura IP Encoder (NET5504). The page has a top navigation bar with 'Lic', 'Settings', 'Video', 'Audio', 'Admin', and 'Logout'. Below this is a sub-header 'Settings: IP Encoder - NET5504' and a tabbed interface with 'System', 'Network', 'Camera Configuration', 'A/V Streams', 'Users', and 'Events'. The 'System' tab is active, showing 'General Settings' with a 'Device Name' field containing 'NET5504'. Below this is the 'Time Settings' section, which includes radio buttons for 'None', 'DHCP', and 'Manual' (selected), a 'Time Zone' dropdown set to 'GMT+3.5', and a 'Current Date' field showing '07-25-2014 08:52:42 (GMT+3.5)'. At the bottom of the settings area are 'Save' and 'Reset' buttons. Further down are three buttons: 'Generate System Log', 'Reboot Encoder', and 'Restore All Encoder Default'. The footer of the page states 'Copyright © 2007-2013, PELCO'.

Channel Names

One input field for each channel on the encoder to allow specification of channel / camera name.

Generate System Log

It will create a system log file that can be used by Pelco Product Support for troubleshooting.

The System Log file will be automatically downloaded using the web browser.

The user will not be prompted for a file name. The downloaded file will be a tar compressed file with a file extension of .tgz.

The file name will be comprised of the characters “_log” appended to the encoder serial number.

Reboot Encoder

Restart the encoder.

Restore All Encoder Defaults

All settings will be restored to the factory default settings.

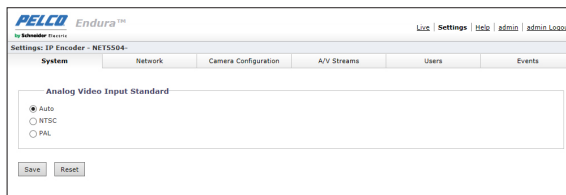
Analog Input

You can set the type of the encoder analog video output.

Analog Video Input Standard

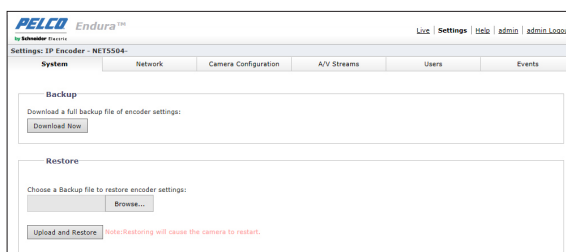
Set the video output type.

- Auto : Automatic conversion according to the video input type connected.
- NTSC : Select to force the video mode if the transfer method supports NTSC.
- PAL : Select to force the video mode if the transfer method supports PAL.



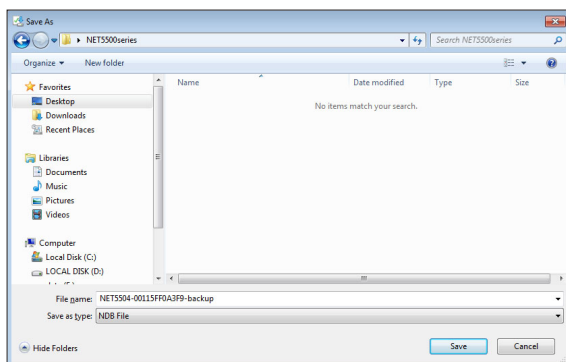
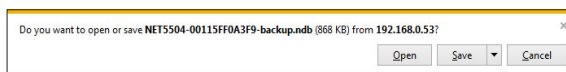
Backup & Restore

You can backup or restore settings. The system will restart automatically after backup or restoration.



Backup Current Settings

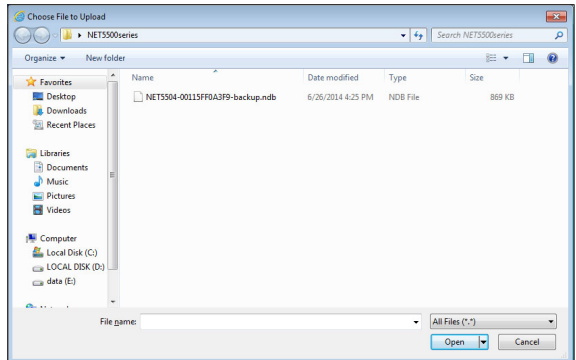
1. Click the [Download Now] button.
The File path setting window will appear.
2. Select the backup path, enter a name, and then click the [Save] button.
Information about the current settings will be saved in ".ndb" file format in the designated location.



Web Viewer

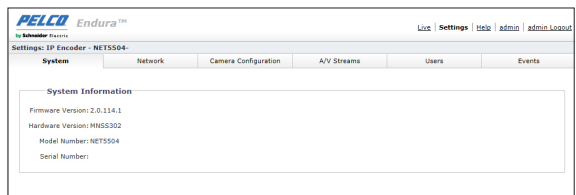
Restore Backup Settings

1. Click the **[Browse...]** button to restore backup settings.
2. Select the desired backup file and click the **[Open]** button.
3. Click the **[Upload and Restore]** button.



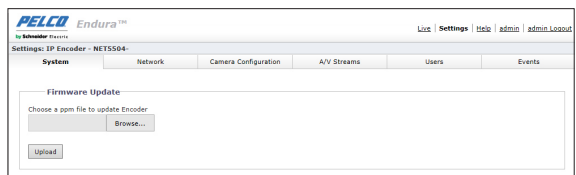
Information

Check the encoder's system information.



Firmware

You can upgrade the encoder's firmware.



NETWORK SETTING

General

Modify the network default settings of the encoder.

System Settings

Set the system hostname and port.

- **Hardware Address** : Presents the MAC Address of the encoder device.
- **Hostname** : A user-friendly name into the Hostname box (1 to 21 characters) using alphanumeric characters should be specified.
A user-friendly name makes it easier to recognize the device on the network. Numeric-only names are not allowed.
- **HTTP Port** : The HTTP port used to access the encoder from a web browser. Default value is 80 (TCP).
- **HTTPS Port** : Security enhanced version of the web communication protocol, HTTP.
Used to set HTTPS mode in SSL; the default value is 443 (TCP).
- **RTSP Port** : Port number used to support remote connection to the encoder from the client software.

IPv4 Settings

Set the IPv4 of the encoder.

- **IP Address** : Displays the currently set IP address.
- **Subnet Mask** : Displays the IP address set for the <Subnet Mask>.
- **Gateway** : Displays the IP address set for the <Gateway>.
- **Primary DNS/Secondary DNS** : Sets a valid IP address for the DNS server.
Settable when DHCP is not selected.

Web Viewer

SSL

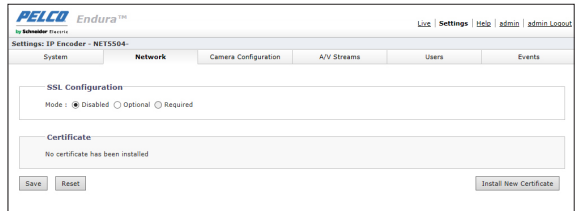
You can either select the security access method for the encoder or install an accreditation certificate.

SSL Configuration

Select a security access method.

Certificate

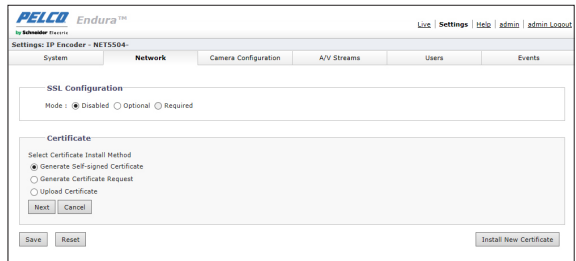
Install an accreditation certificate.



To Install an Accreditation Certificate

1. Click **<Install New Certificate>**.
2. Select a certificate to install.
3. Click **<Next>**.
4. Select the accreditation certificate and key file to install.
5. Click the **<Generate Certificate>** button.

- ✓ To delete the accreditation certificate installed, select the certificate and click **<Delete Certificate>**.



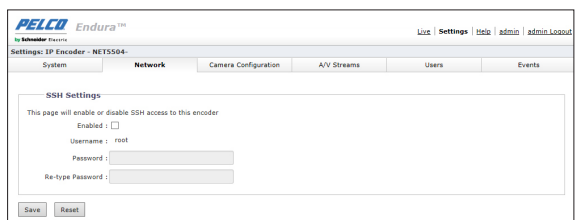
SSH

The SSH settings page enables or disables SSH access to the camera. SSH is a user-enabled protocol that allows Pelco Product Support to log onto and service the camera for advanced troubleshooting purposes. From the SSH settings page, users with the appropriate permissions can enable or disable SSH access to the camera.

SSH Settings

Set SSH accessibility on the encoder.

- Username : This attribute has a fixed value of "root" and cannot be changed.
- Password : SSH Password must be between 4 and 64 characters.
- Re-type Password : Enter your password again.



802.1x

When connected to a network, select 802.1x protocol to install the certificate.

802.1x Port Security

- Protocol : Specify the 802.1x protocol.
- Username : Enter the client certificate ID.
- Password : Enter the certificate key password. If the key file used is not encrypted, you don't need to enter it.

The screenshot shows the '802.1x Port Security' configuration page. At the top, there's a navigation bar with 'List', 'Settings', 'Help', 'Admin', and 'Admin Logout'. Below this is a sub-header 'Settings: IP Encoder - NET5504'. The main content area has tabs for 'System', 'Network', 'Camera Configuration', 'A/V Streams', 'Users', and 'Events'. The 'Network' tab is selected. Under '802.1x Port Security', there are two radio buttons: 'On' (selected) and 'Off'. Below them is a 'Protocol' dropdown menu showing 'EAP-MD5'. At the bottom are 'Save' and 'Reset' buttons.

SNMP

The system or network manager can use the SNMP protocol to monitor network equipment or operate environment settings and other tasks remotely.

SNMP Configuration

- SNMP v2c : Use SNMP version 2.
- SNMP V3 : Use SNMP version 3.

The screenshot shows the 'SNMP Configuration' page. It has the same navigation bar and sub-header as the previous page. The 'Network' tab is selected. Under 'SNMP Configuration', there are two radio buttons: 'No SNMP Server' (selected) and 'SNMP V2c'. Below 'SNMP V2c' are fields for 'Community String' (set to 'public'), 'Trap Configuration', 'Address', and 'Community String'. Below these are fields for 'Engine ID', 'Engine ID', 'SNMP user', 'Authentication' (set to 'NONE'), 'Privacy' (set to 'NONE'), and 'Trap Configuration' with an 'Address' field. At the bottom are 'Save' and 'Reset' buttons.

Web Viewer

CAMERA CONFIGURATION

Choose number 1 to the number of channels on the encoder.

General

Setup the camera connected to the encoder.

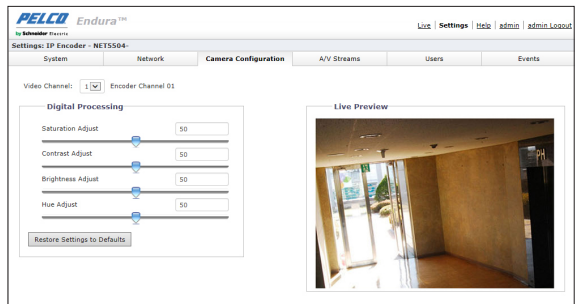
Digital Processing

Adjust each camera channel video input.

- Saturation Adjust : Adjust video saturation.
 - Contrast Adjust : Adjust video contrast.
 - Brightness Adjust : Adjust video brightness.
 - Hue Adjust : Adjust video tint.
- ✓ Click **<Restore Settings to Defaults>** to restore the factory settings.

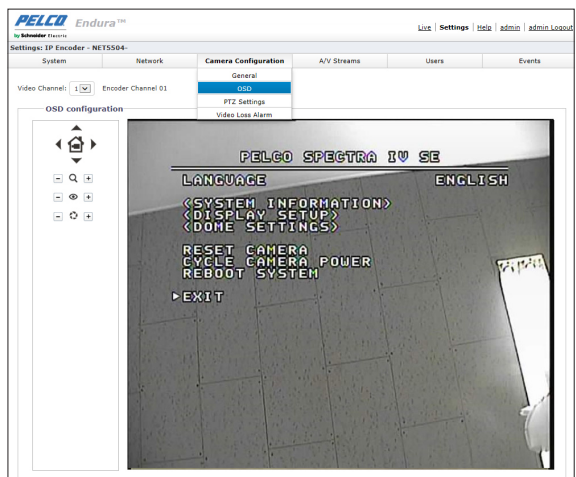
Live Preview

Check videos of the selected video channel.



OSD

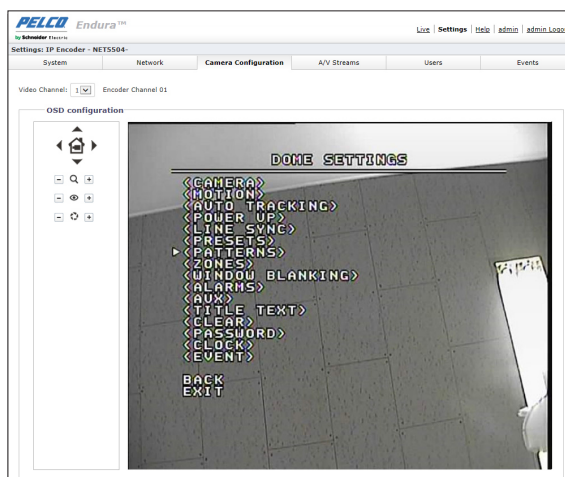
Use the arrow keys on your keyboard to navigate through the menus then press the Enter key to make your selection.



Configuration and operation for presets and patterns

Patterns and presets can be configured directly from the OSD for third-party cameras that support these features.

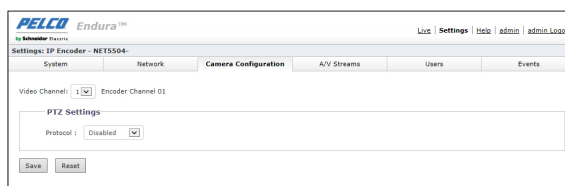
1. Access the OSD from the Settings page.
2. Using the arrow keys select Dome Settings, and then press the Enter key.
3. Using the arrow keys select Presets or Patterns, and then press the Enter key.
4. Proceed to program presets and patterns. Refer to the Installation/Operation manual for the appropriate Product from Camera Solutions.



PTZ Settings

Set up each camera's PTZ settings.

- Protocol : Select a supported PTZ protocol.
- Address : Enter the D or P protocol address of the connected PTZ.
- Baud Rate : Select the transfer speed of the connected PTZ.

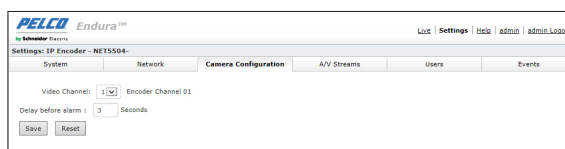


Video Loss Alarm

Set whether to activate the alarm if video is no longer present. The camera is not functioning properly.

Delay before alarm

Set the period of video loss, in seconds, that will trigger a video loss alarm.



A/V STREAMS SETTING

✓ Click **<Show All Configurations>** to check the current video streaming information.

PELCO Endura™

by Schneider Electric

Live Settings Help Admin Admin Logout

Settings: IP Encoder - NET5504

System Network Camera Configuration A/V Streams Users Events

Audio Configuration

Video Channel: 1 Encoder Channel 01

Audio: ☒ Enabled ☐ Disabled

Mute: ☐

Input Level: 50

Save Reset

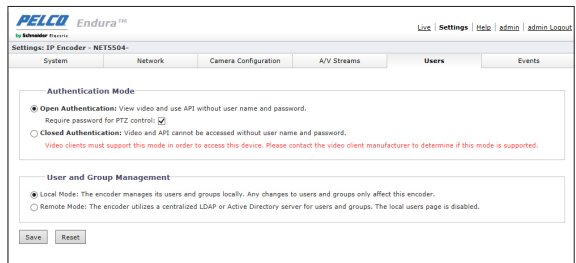
USER SETTING

General Settings

Set up user authentication mode and local/remote information.

Authentication Mode

Set public/private settings of the authentication mode.



PELCO Endura™
Web Viewer
Settings: IP Encoder - NET5504
System | Network | Camera Configuration | A/V Streams | Users | Events

Authentication Mode

☒ **Open Authentication:** View video and use API without user name and password.
Require password for PTZ control: ☒
☐ **Close Authentication:** Video and API cannot be accessed without user name and password.
Video clients must support this mode in order to access this device. Please contact the video client manufacturer to determine if this mode is supported.

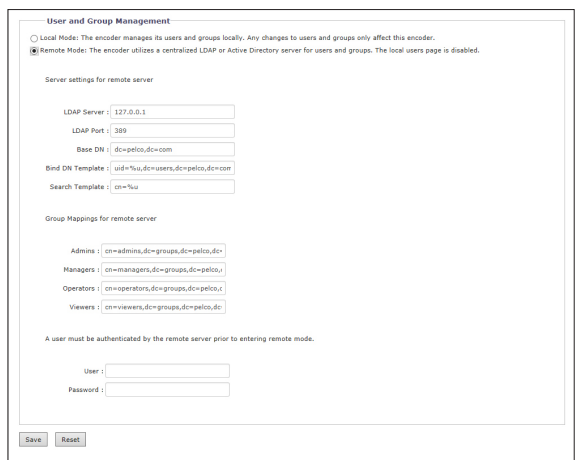
User and Group Management

☒ **Local Mode:** The encoder manages its users and groups locally. Any changes to users and groups only affect this encoder.
☐ **Remote Mode:** The encoder utilizes a centralized LDAP or Active Directory server for users and groups. The local users page is disabled.

Save Reset

User and Group Management

- Local Mode : The default setting is local mode. Any changes to users and groups affect only the camera that you are accessing.
- Remote Mode : Set remote mode for users connected through LDAP or the Active Directory server.
- LDAP Server : Specify the IP address or hostname of the LDAP server.
- LDAP Port : Specify the port over which the encoder will communicate with the LDAP server. The default port for LDAP Communications is 389.
- Base DN : Type the distinguished name (DN) that is the basis for LDAP searches.
- Bind DN Template : Provide the template to format the username (provided when the user logs on to the encoder) for searches in the LDAP .
- Search Template : Provide the LDAP search query for users found in the Base DN.
The search must match an entry in the LDAP user record to the bind name (username).
- Admins : Remote server Group Mapping value to be used for Admin designated users.
- Managers : Remote server Group Mapping value to be used for Manager designated users.
- Operators : Remote server Group Mapping value to be used for Operator designated users.
- Viewers : Remote server Group Mapping value to be used for Viewer designated users.
- User : Input the username credential of a user who can be authenticated through the LDAP server.
- Password : LDAP Server password.



User and Group Management

☐ Local Mode: The encoder manages its users and groups locally. Any changes to users and groups only affect this encoder.
☒ Remote Mode: The encoder utilizes a centralized LDAP or Active Directory server for users and groups. The local users page is disabled.

Server settings for remote server

LDAP Server : 127.0.0.1
LDAP Port : 389
Base DN : dc=pelico,dc=com
Bind DN Template : uid=%u,dc=users,dc=pelico,dc=com
Search Template : cn=%u

Group Mappings for remote server

Admins : cn=admin,dc=groups,dc=pelico,dc=com
Managers : cn=managers,dc=groups,dc=pelico,dc=com
Operators : cn=operators,dc=groups,dc=pelico,dc=com
Viewers : cn=viewers,dc=groups,dc=pelico,dc=com

A user must be authenticated by the remote server prior to entering remote mode.

User :
Password :

Save Reset

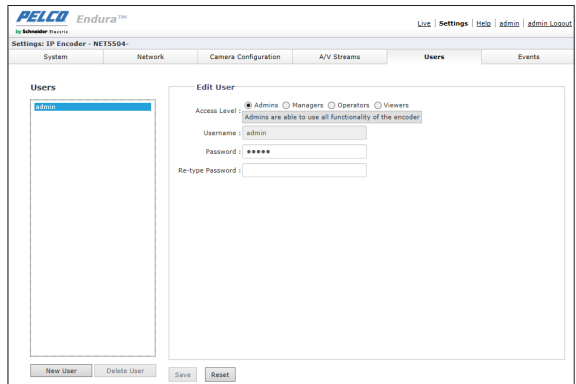
Web Viewer

Users

Set up settings relating to user management and rights.

To Add a User Account

1. At the bottom left screen click the **<New User>** button.
2. Select **<New User>**.
 - Access Level : Set the rights for the account.
 - Admins : Permissions include access to all camera settings.
 - Managers : Permissions include access to all settings except this user cannot modify user permissions or restore factory default settings.
 - Operators : Permissions include view video, use PTZ functions, and use the API.
 - Viewers : Permissions include view video and use the API.
 - Username : Specify the user name.
 - Password : Specify the password.



To Change User Account Information

1. Select from the user list the username to be changed.
2. Modify the desired fields and click **<Save>**.

To Delete a User Account

1. Select from the user list the username to be deleted.
2. Click **<Delete User>**.

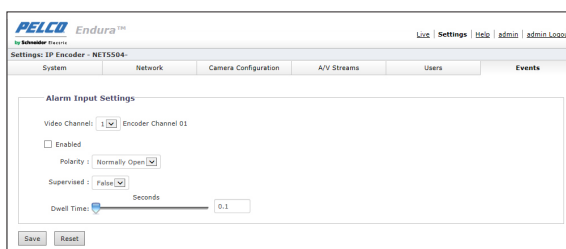
EVENTS SETTING

Alarm Source

Set the alarm input method, time of action and form of action.

Alarm Input Settings

- Video Channel : Select the alarm, settings, and video channel.
- Polarity
 - Normal Open : The alarm sensor is in an open state by default and the alarm goes off when it becomes closed.
 - Normal Close : The alarm sensor is in a closed state by default and the alarm goes off when it becomes open.
- Supervised : Select either True or False from the Supervised drop-down menu.
- Dwell Time : Defines the amount of time that the alarm remains activated after having been triggered by a change of polarity.

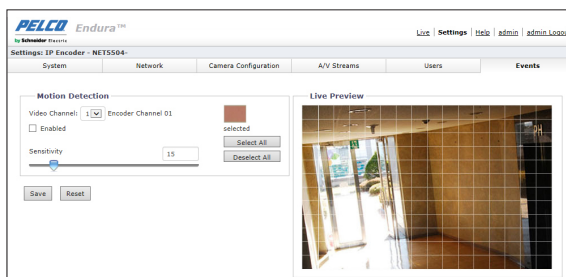


Motion Detection

You can select the event signal to be given if a movement is detected.

To Set Motion Detection

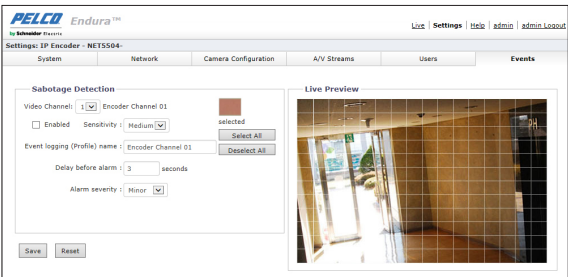
1. Select Video Channel and Sensitivity.
2. Drag the mouse over the Live Preview screen and set the motion detection area.
 - Select All : Select all areas.
 - Deselect All : Deselect all areas.



Web Viewer

Sabotage Detection

You can select the event signal to go off when tampering with a camera (covering the lens, change in camera position, etc.) is detected.



Relay Open/Close Handler

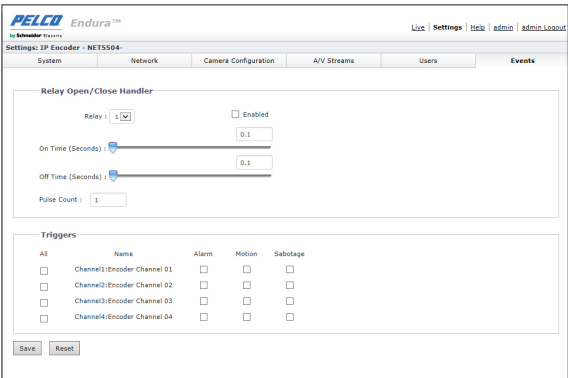
Set the relay alarm information.

Relay Open/Close Handler

Set the alarm output time.

Triggers

Set alarm occurrence items for each channel.
Check the events that you want to set off the alarm.



SMTP Notification Handler

A message will be sent to the e-mail address registered in the SMTP server when an alarm is set off.

The screenshot shows the 'Settings: IP Encoder - NET5504' page. The 'SMTP Notification Handler' section includes a 'Video Channel' dropdown set to 'Encoder Channel 01', an 'Enabled' checkbox, a 'Message' text area, and 'From' and 'Subject' input fields. Below this is an 'Attach JPEG Snapshot' checkbox and a 'Copy Settings To' button. The 'SMTP Server' section includes 'Host Address', 'Port' (set to 25), 'Username', 'Password', and 'Authentication' (set to 'NO_AUTH'). The 'E-mail Address List' section contains a table with 10 rows for adding email addresses.

Enable	No.	Address	Alarm	Motion	Substage
<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	10		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

HELP

Click the <Help> tab to check Web viewer information.

The screenshot shows the 'Help Resources' page. It includes a 'Help Resources' section with a note about consulting resources for help. Below this is a 'Manuals' section stating that manuals are available online, on the resource CD, or in printed form. It lists two sources: 'Webbels' and 'The manuals are also available on the CD that shipped with your encoder.' There is also a 'Contact Us' section with contact information for Pelco Product Support via email or telephone.

Help Resources
For help with this encoder, please consult the following resources.

Manuals
The manuals for this product are available online from the Pelco website, on the resource CD that came with your encoder, or in printed form. The most up-to-date manuals are available on the Pelco website.

1. Website:
2. The manuals are also available on the CD that shipped with your encoder.

Contact Us
Can't find what you're looking for? Please contact Pelco Product Support either via email or telephone.

1. E-mail:
2. Telephone: +1 800 289 9100

Appendix

PRODUCT SPECIFICATION

SUPPLIED ACCESSORIES

Power Adapter	NET5501/NET5504 : 12V through auto-ranging DC(12V, 1.25A)		NET5508/NET5516 : 12V through auto-ranging DC(12V, 2.08A)	
Power Cord / AC PLUG	Based on country designation			
Terminal Block	NET5501 : 5-pin terminal blocks x 2	NET5504 : 6-pin terminal blocks x 2	NET5508 : 10-pin terminal blocks x 2	NET5516 : 10-pin terminal blocks x 2, 8-pin terminal blocks x 2
Rack Mount / Wall Mount	2, Rack Mount			
Rubber Feet	4 (for desktop)			

VIDEO / AUDIO

Video Standards	NTSC / PAL			
Video Encoding	H.264, Main profile			
Video Resolutions				
Analog Cameras	NTSC		PAL	
D1	720 x 480		720 x 576	
4CIF	704 x 480		704 x 576	
2CIF	704 x 240		704 x 288	
CIF	352 x 240		352 x 288	
Video Input	NET5501 : 1 BNC video inputs	NET5504 : 4 BNC video inputs	NET5508 : 8 BNC video inputs	NET5516 : 16 BNC video inputs
Video Output	NET5501 : 1 BNC looping video outputs	NET5504 : 4 BNC looping video outputs	NET5508 : 8 BNC looping video outputs	NET5516 : -
Audio Input	NET5501 : 1 channels	NET5504 : 4 channels	NET5508 : 8 channels	NET5516 : 16 channels
Audio Format	Pulse code modulation (PCM)			
Sampling Resolution	8bit / u-Law			
Sampling Frequency	8kHz			

PTZ CONTROL

Interface	Two RS-422/RS-485, video in
Protocol	Pelco P and Pelco D

ALARMS / RELAYS

Alarms In	NET5501 : 1	NET5504 : 4	NET5508 : 8	NET5516 : 16
Relays Out	NET5501/NET5504 : 1		NET5508 : 2	NET5516 : 4

POWER

Power Consumption				
Input Voltage	12 VDC			
Current	NET5501 : 316 mA	NET5504 : 433 mA	NET5508 : 1.25 A	NET5516 : 1.33 A
Power (Maximum $\pm 5\%$)	NET5501 : 3.792 W	NET5504 : 5.196 W	NET5508 : 15 W	NET5516 : 15.96 W

FRONT PANEL INDICATORS

Video presence	Not Lit : A camera has not been connected yet Green : Camera video is present at the video in connector Red : Video is no longer present; the camera is not functioning properly
Network status	Off : The unit is not connected to the network Solid amber : The unit is connected to the network using the 100Mbps standard Solid red : The unit is connected to the network using the 10Mbps standard Solid green : The unit is connected to the network using the 1Gbps standard
Pelco badge(power)	The Pelco badge glows blue when the unit has power
Unit status	Green : The unit is functioning normally Red : The unit is in an error condition

ENVIRONMENTAL

Operating Temperature	0 to 50°C
Operating Humidity	80% maximum relative humidity, noncondensing

PHYSICAL

Dimensions(mm)	NET5501/NET5504 : 240(W) x 160(D) x 44(H)	NET5508/NET5516 : 430(W) x 236(D) x 44(H)
Unit Weight(Kg)	NET5501 : 1.02 NET5504 : 1.07	NET5508 : 2.35 NET5516 : 2.4

Appendix

TROUBLESHOOTING (FAQ)

Problem	Action
The product does not turn on in any way.	<ul style="list-style-type: none">• Check the connection status of the power cable.• Check the power to the power socket.
No monitoring video is displayed at all.	<ul style="list-style-type: none">• Check whether the video cable of the camera is connected properly.• Check the power of the camera.• Check the settings of the camera lens.
I failed to connect the PC to the Encoder.	<ul style="list-style-type: none">• Check whether the LAN cable and the hub are connected properly to the Encoder.• If the network settings of the Encoder contain DHCP, check the change history of the DHCP server (router).• Use Device Utility or Endura Utilities to check if the network settings of the Encoder have changed in any way.
I cannot access the Encoder because I forgot the admin ID and the password.	<ul style="list-style-type: none">• Reset the Encoder to the factory default as instructed on page 18 of the user manual.• When the reset is completed, the default access information is: ID:admin and Password:admin.
Access by the Web has failed.	<ul style="list-style-type: none">• Check whether the network cable for Internet connection is properly connected to the LAN port of the product.• If the Encoder is connected to the router, use the IP address of the router.
I can access the Web but still no video image is displayed.	<ul style="list-style-type: none">• This may happen when the communications provider or network administrator has blocked the service port of the Encoder.• Try to access the Web using the new port numbers.

PELCO TROUBLESHOOTING CONTACT INFORMATION

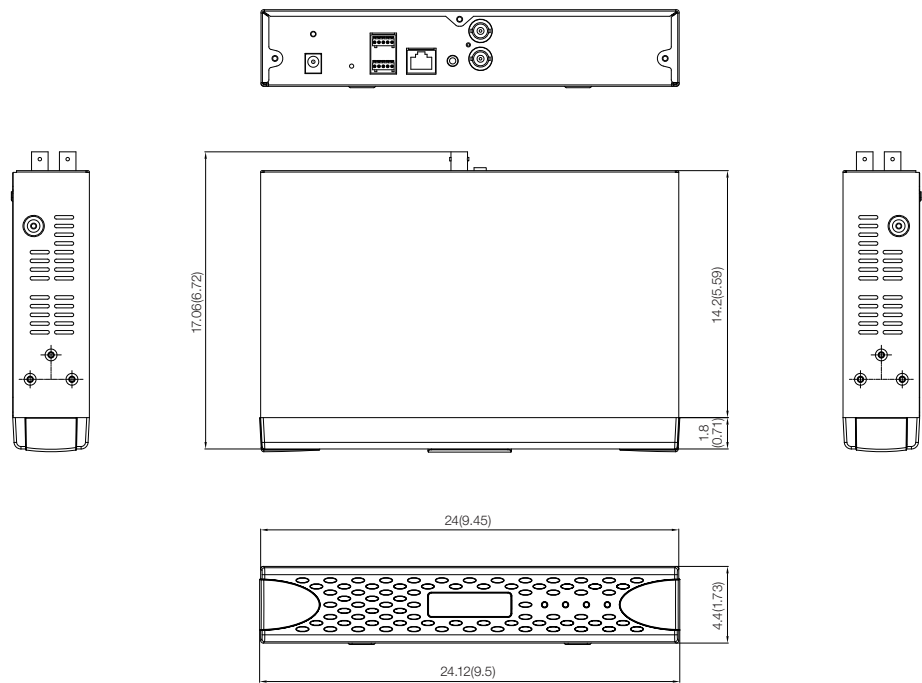
If the instructions provided fail to solve your problem, contact Pelco Product Support at 1-800-289-9100 (USA and Canada) or +1-559-292-1981 (international) for assistance. Be sure to have the serial number available when calling.

Do not try to repair the unit yourself. Leave maintenance and repairs to qualified technical personnel only.

PRODUCT OVERVIEW

NET5501

Unit : cm (inch)

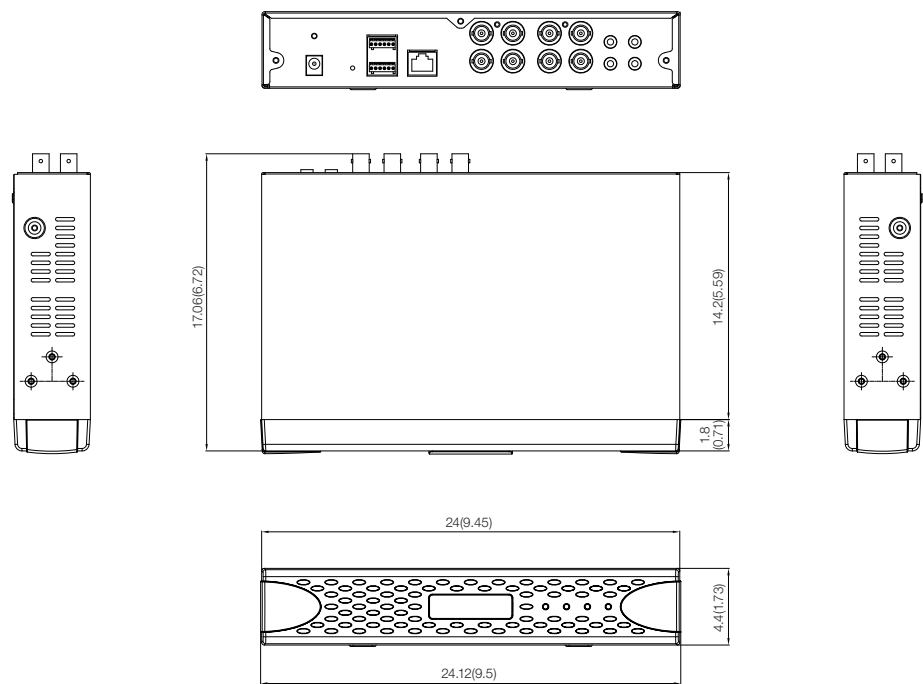


NOTE : VALUES IN PARENTHESES ARE INCHES; ALL OTHERS ARE CENTIMETERS.

Appendix

NET5504

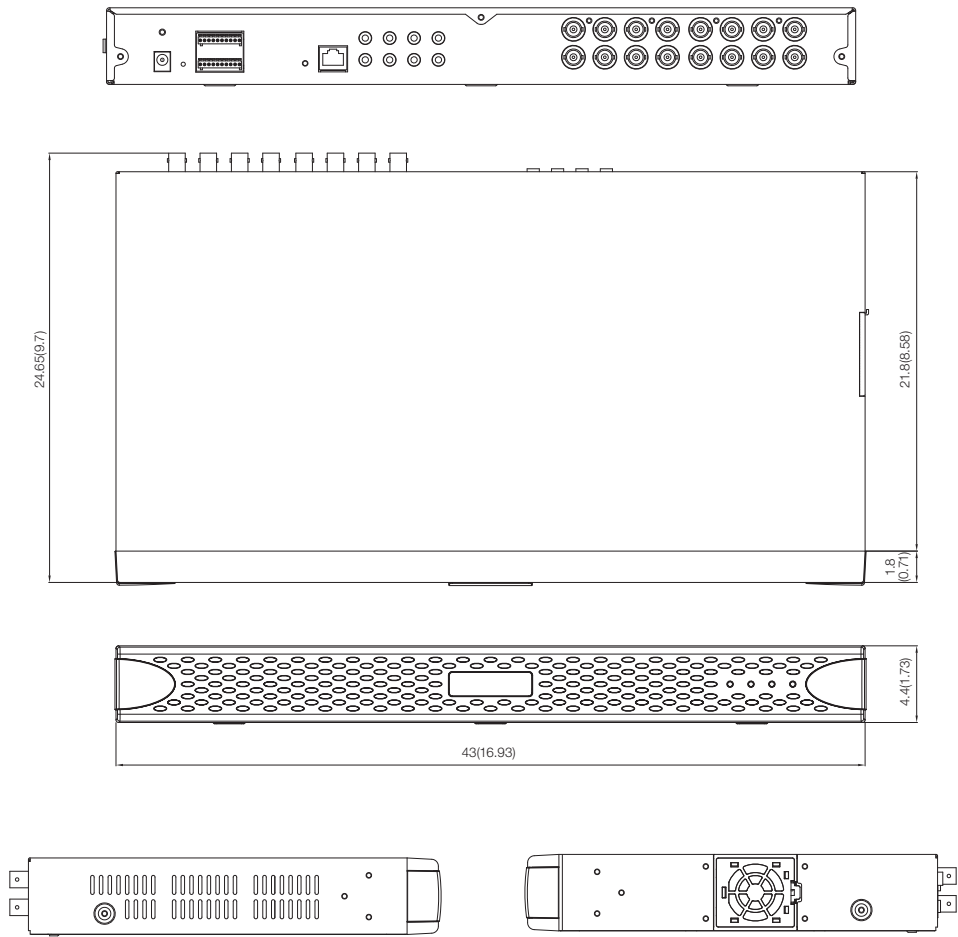
Unit : cm (inch)



NOTE : VALUES IN PARENTHESES ARE INCHES; ALL OTHERS ARE CENTIMETERS.

NET5508

Unit : cm (inch)

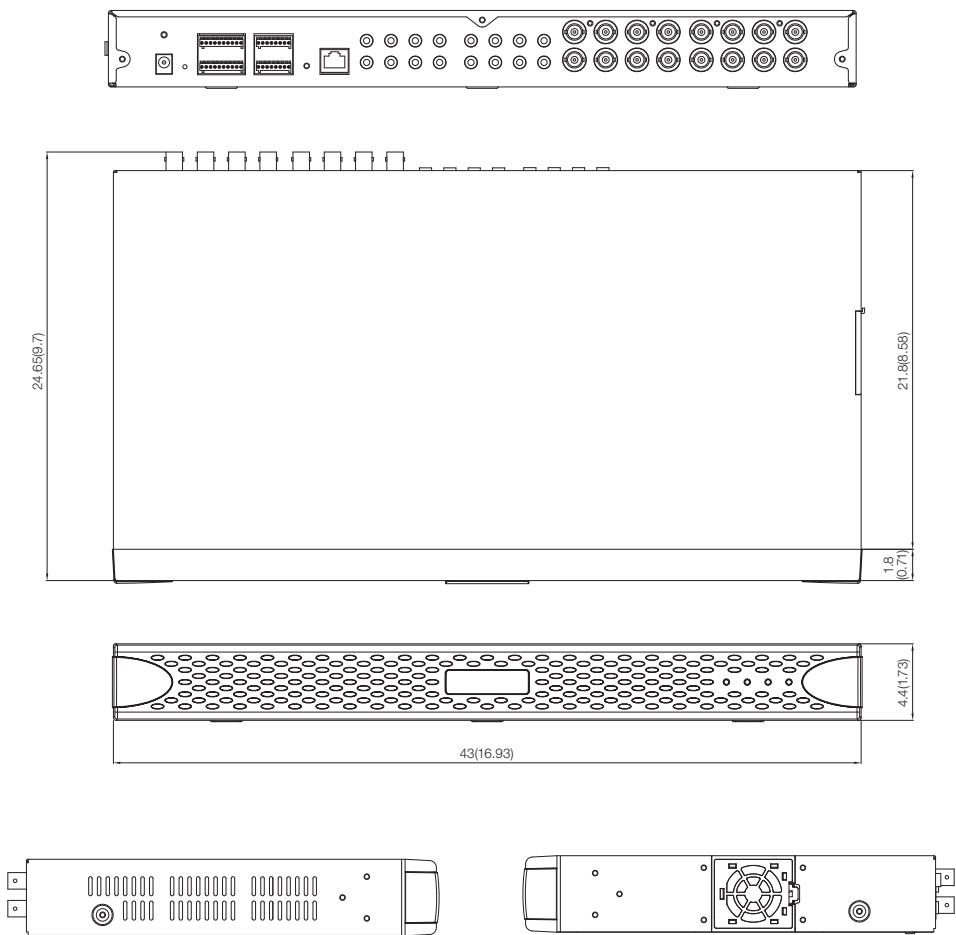


NOTE : VALUES IN PARENTHESES ARE INCHES; ALL OTHERS ARE CENTIMETERS.

Appendix

NET5516

Unit : cm (inch)



NOTE : VALUES IN PARENTHESES ARE INCHES; ALL OTHERS ARE CENTIMETERS.

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REVISION HISTORY

Manual #	Date	Comments
C5654M	07/14	Original version
C5654M-A	10/14	Changed power consumption values. Changed the model name(Network Video Encoders → Video Encoder)

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