NEW!

Model NV-EC1701 EoC Ethernet over Coax Transceiver
with PoE, PoE+, or High Power PoE

Features:

- Transmit 10/100 BaseT Full Duplex Ethernet up to 2,500m (8,000ft) or more* over RG-59/U
- 48 or 56VDC is distributed over the coax to all connected equipment. Powers PoE, PoE+ or High Power PoE cameras (or other PoE devices), up to 60 watts*
- One EoC transceiver at the network-end can support multiple* remote transceivers/IP cameras using the NV-EC4BNC adaptor/splitter
- Up to four transceivers can be rack mounted on an NV-RMEC16 Rack Mount Tray Kit, connecting up to 16 cameras
- Easy configuration, no PC required
- Transparently supports all networking protocols (UDP, TCP/IP, HTTP, Multicast, etc.)
- Advanced 128-bit AES encrypted transmission and PoE+ power technology
- Built-in transient protection; Industrial temperature range
- Available in 1-4 Camera System Kits
- Limited lifetime warranty

The NVT Model NV-EC1701 Ethernet-over-Coax EoC Transceiver is a compact media converter that allows 10/100 BaseT Ethernet and PoE+ power to be transmitted using coax cable. These devices are often used in legacy installations where existing cable is re-deployed as part of an upgrade to IP cameras. 48 or 56VDC class 2 power is delivered to one transceiver, which distributes it to multiple* remote transceivers, and their PoE, PoE+ or High Power PoE cameras.

These transceivers are extremely simple to use, with no IP or MAC addressing required. Status LEDs indicate power and link connectivity/activity for RJ45 and BNC ports. They are backed by NVT's award-winning customer support and limited lifetime warranty.

* Distance and number of devices supported will often be lower due to power delivery voltage-drop on the cable. See Cable Distance Chart on page 5 and 6.

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Technical Specifications

RJ45 ETHERNET INTERFACE

Connectivity:	RJ45, auto-crossover
Cable type:	4-pair Cat5 or better
Distance:	up to 100m (328ft)
Speed:	10/100 Base T, half/full duplex, auto-negotiation auto MDI/MDIX cross-over
Latency:	3mS

Data throughput:
85Mbps ±10% useable bandwidth per network Example: Four megapixel cameras, all sharing one coax network, each sending 20Mbps video stream(s).

Power Output:
This Power Sourcing Equipment (PSE) supports Powered Devices (PDs) that are compatible with IEEE 802.3af/at, or PDs that draw up to 45 watts*. For maximum power/distance, 48VDC appears on all eight RJ45 pins, and are current-protected and transient-protected.

POWER CONSUMPTION

Consumption per transceiver:	3.0 W @ 48VDC

Total system consumption: = total consumption of transceivers
+ total consumption of PDs (entry station)
+ total power dissipated in the cable

COAX BUILDING WIRING INTERFACE

Connectivity:	BNC, RG-59/U or similar One control room EoC transceiver may support multiple* remote EoC transceivers
Impedance:	25 to 100Ω
Distance:	see page 5 and 6
Transmission technology:	OFDM, 128-bit AES encryption

***IMPORTANT NOTE:**

Distance will often be shorter due to power delivery voltage-drop on the cable. See Maximum Per-Camera Cable Distance Chart on page 5. Power supplies may be used simultaneously at more than one EoC Transceiver.

LED STATUS INDICATORS

Power:	Blue “Power On”
BNC Interface:	Green “Link”
RJ45 Interface:	Green “Link”

MECHANICAL

Body:	100mm (4in) long 33mm (1.3in) high 38mm (1.5in) wide
Transceiver weight:	119g (4.2oz)
Power supply weight:	300g (10.6oz)
Power cord weight:	156g (5.5oz)
Total weight:	575g (20.3oz)

POWER SUPPLY

Power supplies are external inline, with an IEC380-C14 power inlet and 1.8m (6ft) line-cord. Input voltage is 100 ~240VAC 50-60Hz. A molded P1J 5.5mm barrel connector provides Class 2 (SELV) regulated output with one of these three ratings:

Use only the power cord provided with the unit or equivalent UL approved type SPT-2, SVT, or SJT, 18/3 AWG 100~240VAC, 1A 60°C Max. 4.5m (15ft) long. One end with IEC380-C13 appliance coupler and the other end with NEMA 1015P or equivalent for your country.

+ 48VDC 60W
+ 56VDC 60W
+ 56VDC 90W

60W power supply body dimensions:	125mm (4.90 in) long: 32mm (1.25 in) high 50mm (2.00 in) wide
60W power supply weight:	300g (10.6oz) 32mm (1.25 in) high 60mm (2.36 in) wide
90W power supply body dimensions:	145mm (5.70 in) long
Power supply operating temperature:	-30°C to +50°C (-22°F to 122°F) 20 to 85% RH non-condensing
Power supply storage temperature:	-40°C to +85°C (-40°F to 185°F) 0 to 95% RH non-condensing
Transient Immunity:	5x20µS 3000A, 6000V ESD 20KV, 200pF
Power cord weight:	156g (5.5oz)

REGULATORY

UL Listed to IEC/UL 60950-1 Complies with FCC part 15B limits

Specifications subject to change without notice.

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Product and Accessories

NV-EC1701: Single transceiver only, no power supply

NV-PS48-60W: 48VDC power supply, 60 watts with IEC line cord

NV-PS56-60W: 56VDC power supply, 60 watts with IEC line cord

NV-PS56-90W: 56VDC power supply, 90 watts with IEC line cord

NV-BNCT: BNC "T" adaptor

NV-EC4BNC: 1:4 BNC splitter adaptor

NV-PC4PR: RJ45 Patch Cord, 4-pair 3' (1m) Grey

NV-DPSC4: Detachable Power Supply Cord Splitter 1:4 2ft

NV-RMEC16: Rack mounting chassis, 19" x 1U holds up to 4 NV-EC1701 transceivers plus power supplies. Includes NV-DPSC4 Power Cord Splitter (Transceivers and power supplies not included)

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Product Kits

Single EoC Transmission System

NV-EC1701-KIT1:
- 2 NV-EC1701 Transceivers
- 1 NV-PS48-60W Power Supply with IEC line cord
- 2 NV-PC4PR patch-cord

Dual EoC Transmission System

NV-EC1701-KIT2:
- 3 NV-EC1701 Transceivers
- 1 NV-PS48-60W Power Supply with IEC line cord
- 1 NV-BNCT BNC "T" Adaptor
- 3 NV-PC4PR patch-cord

Triple EoC Transmission System

NV-EC1701-KIT3:
- 4 NV-EC1701 Transceivers
- 1 NV-PS48-60W Power Supply with IEC line cord
- 1 NV-EC4BNC 1:4 BNC splitter adaptor
- 4 NV-PC4PR patch-cord

Quadruple EoC Transmission System

NV-EC1701-KIT4:
- 5 NV-EC1701 Transceivers
- 1 NV-PS48-60W Power Supply with IEC line cord
- 1 NV-EC4BNC 1:4 BNC splitter adaptor
- 5 NV-PC4PR patch-cord

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Cable Type and Power Distance Capacity

The distance capability of wire is dependant on its ability to deliver DC power, and separately, to deliver high-frequency data signals.

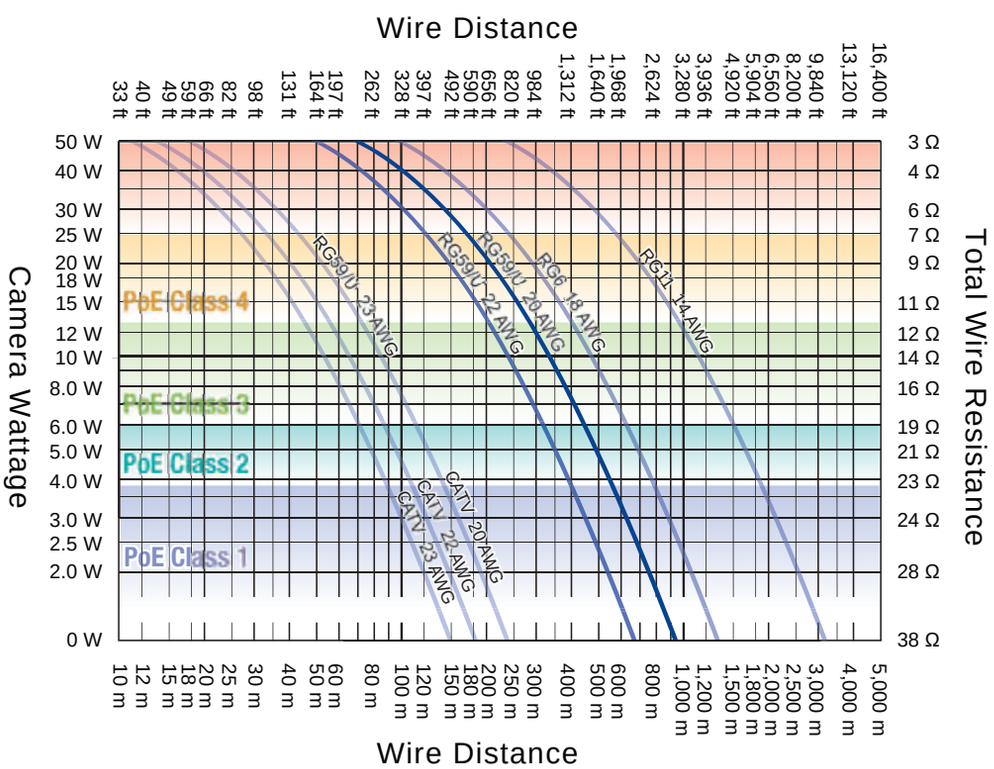
The graph below shows maximum power delivery when using a 48V power supply. If you are using a 56V power supply, your distances will be 2.6 times those shown in the graph. If you are not delivering power to your camera (or other remote device), then this graph does not apply. The graph on the next page shows the maximum data delivery rate.

A Distance Calculator can be found at www.nvt.com.

PoE devices require a minimum of 43V to operate. With a 48V supply, we have 5V of allowable voltage drop on the wire. With a 56V supply, we have 13V of allowable voltage drop on the wire.

The voltage will dip in proportion to the remote (camera) load. The graph below shows what what PoE power distances are supported for various loads and wire types.

- Start with the camera wattage at the left. Sometimes IP cameras are listed as to their PoE Class rather than wattage. If this is the case, use the colored classes instead.
- Now read over to the right until you find your kind of wire. Then look up (feet) or down (meters) to find your maximum wire distance.
- Now read over to the right until you find your kind of wire. Then look up (feet) or down (meters) to find your maximum wire distance.



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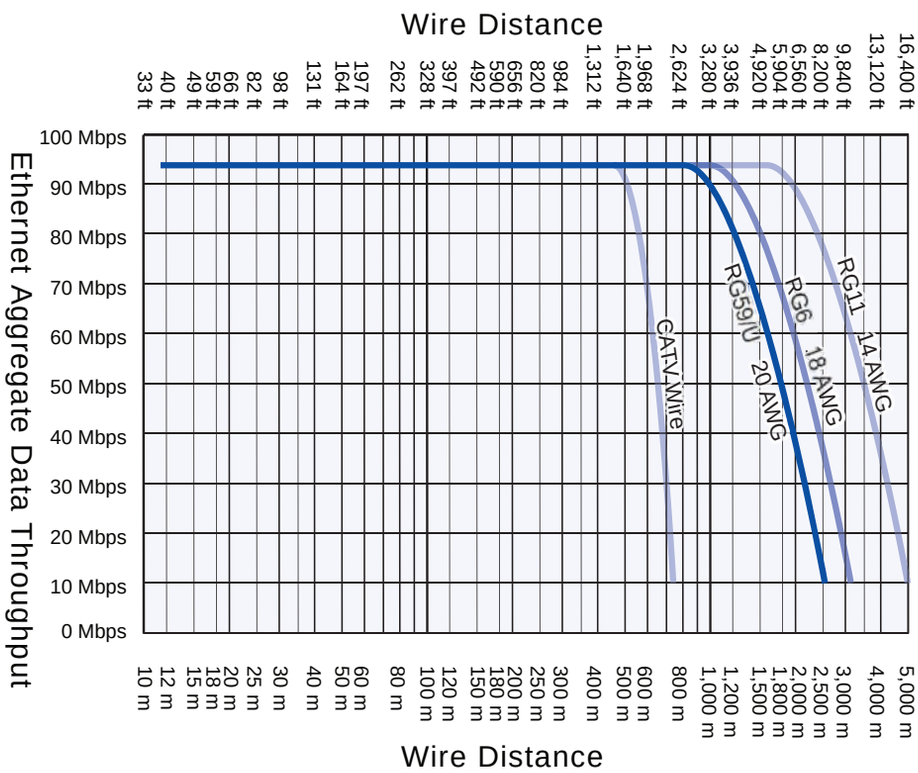
Cable Type and Data Distance Capacity

There are a wide variety of wire qualities, from copper-plated steel at the low end (CATV wire) to high performance low-loss pure copper. The graph below will help you determine your data throughput as a function of wire type and distance.

A Distance Calculator can be found at www.nvt.com.



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410-1701-4-D1