

**NEW!**



## Model NV-ER1804 TBus™ Four Port Receiver



### Features:

- Transmit 10/100 BaseT Full Duplex Ethernet up to 8,000ft over RG-59/U, 2,000ft over 2-Wire/UTP, or 1,300ft over Shielded Twisted Pair\*
- The TBus architecture allows multipoint operation in any star or daisy-chained topology, with any combination of wire types and up to 16 remote transmitters/IP cameras
- Transparently supports all networking protocols (UDP, TCP/IP, HTTP, Multicast, etc.) using advanced 128-bit AES encryption
- 10/100/1000 uplink Ethernet connectivity
- Easy configuration, no PC required
- 56 VDC is distributed over the Tbus to all connected equipment. PoE, PoE+, or High Power PoE cameras (or other PoE devices), up to 50 Watts\* are supported
- Built-in transient protection; Industrial temperature range

The NVT Model NV-ER1804 TBus Ethernet over Coax/UTP Receiver is a compact bus-architected receiver hub that has four TBus ports, each capable of supporting multiple TBus transmitters and their subsequent 10/100 BaseT Ethernet and PoE+ powered devices.

The TBus transmission medium can be coax, 2-Wire/UTP, or Shielded twisted-Pair. Data rates up to 200 Mbps are achievable, making these devices the ideal choice in new or legacy installations where existing cable is re-deployed as part of an upgrade to IP cameras. 56 VDC is provided by a local power supply. These transmitters are extremely simple to use, with no IP or MAC addressing required. Status LEDs indicate power and link connectivity/quality/activity for RJ45 and Tbus ports.

The NV-ER1804 is backed by NVT's award winning customer support, limited lifetime warranty, and advance replacement.

\*Distance and number of devices supported may lower due to limited power supply capacity and wire voltage-drop, or data-rate limiting due to the selected wire's high-frequency signal attenuation. See manual or IP Distance Calculator at [nvt.com](http://nvt.com).

### Network Video Technologies

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[nvt.com](http://nvt.com) • [www.nvt.com/email](mailto:www.nvt.com/email)



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## Technical Specifications

### TBUS BUILDING WIRING INTERFACE

Number of Ports: Four TBus Interfaces  
 Supports multiple \* remote TBus Transmitters including the NV-ET1801 and the NV-ET1804  
 Data Rate: Up to 200Mbps combined network speed  
 Impedance: 25 to 100 Ω  
 Distance: See pages 4 and 5  
 Transmission technology: OFDM, 128-bit AES encryption

### RJ45 UPLINK INTERERFACE

Connectivity: 10/100 BaseT, Auto-crossover

### POWER CONSUMPTION

Consumption: 3.0 W @ 10 to 56 VDC  
 Total system consumption: + total consumption of PDs (IP cameras)  
 = total consumption of transceivers  
 + total power dissip ated in the wire

### \*IMPORTANT NOTE:

Data rate, distance and number of devices supported may lower ue to power supply capacity, wire voltage-drop or signal attenuation. See Wire Distance Charts on pages 4 and 5. For fault/safety, never use more than two power supplies within one TBus network.

### LED STATUS INDICATORS


Power: Blue “Power On”  
 Flashes when joining  
 BNC/ 2-Wire Interface: Green “Link”  
 Green/Amber “Quality”  
 RJ45 Interface: Green “Link”  
 Blinks with Data

### MECHANICAL / ENVIRONMENTAL

Receiver body dimensions: 8.43 in (214.12mm) long  
 (excluding connectors) 1.38 in (35.05mm) high  
 4.4 in (111.76mm) wide  
 Receiver weight: 1.64lbs. (0.74kg)  
 Operating and storage temperature: -40°F to 185°F (-40°C to +85°C)  
 20 to 85% RH non-condensing  
 Transient Immunity: 5x20μS 3000A, 6000V  
 ESD 20KV, 200pF

### POWER SUPPLY

Power is usually supplied from the TBus Receiver. For optional supplemental local power, an additional Class 2 power supply may be purchased. These supplies are external inline, with an IEC380-C14 power inlet and 6ft (1.8m) line-cord. Input voltage is 100 ~240VAC 50-60Hz. A molded P1J 5.5mm barrel connector provides Class 2 (SELV) regul ated output with one of these three ratings:

One TBus system may not have more than two power supplies (including those within a Receiver Hub). Use only the power cord  + 56VDC 60W or + 56VDC 90W provided with the unit or equivalent UL approved type SPT-2, SVT, or SJT, 18/3 AWG 100~240 VAC , 1A 60°C Max . 15ft (4.5m) long. One end with IEC380-C13 appliance coupler and the other end with NEMA 1015P or equivalent for your country.

60W power supply body dimensions: 4.90 in (125mm) long:  
 1.25 in (32mm) high  
 2.00 in (50mm) wide  
 90W power supply body dimensions: 5.70 in (145mm) long  
 1.25 in (32mm) High  
 2.36 in (60mm) wide  
 1 lb (450g)

Power supply operating temperature: -22°F to 122°F (-30°C to +50°C)  
 20 to 85% RH non-condensing

Power supply storage temperature: -40°F to 185°F (-40°C to +85°C)  
 0 to 95% RH non-condensing

Transient Immunity: 5x20μS 3000A, 6000V  
 ESD 20KV, 200pF

Power cord weight: 5.5oz (156g)

### 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-ER1804: Four port receiver only



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)



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## Wire 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.

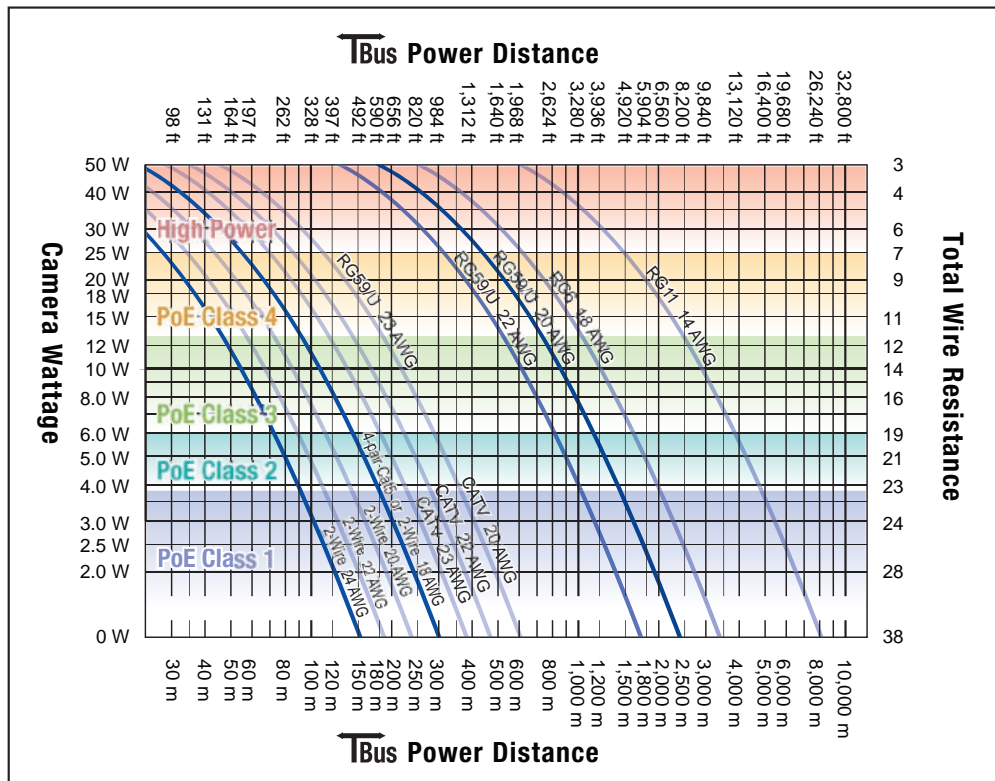
The graph below shows maximum power delivery when using a 56V power supply. If you are locally powering your camera (or other remote device), then this graph does not apply. The graph on the next page shows the maximum data delivery rate.

[A Distance Calculator can be found at www.nvt.com.](http://www.nvt.com)

PoE devices require a minimum of 43V to operate. 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 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.
- If your wire is not among the examples, simply measure its total resistance and find that value on the right side of the graph. The maximum supported wattage is on the left.



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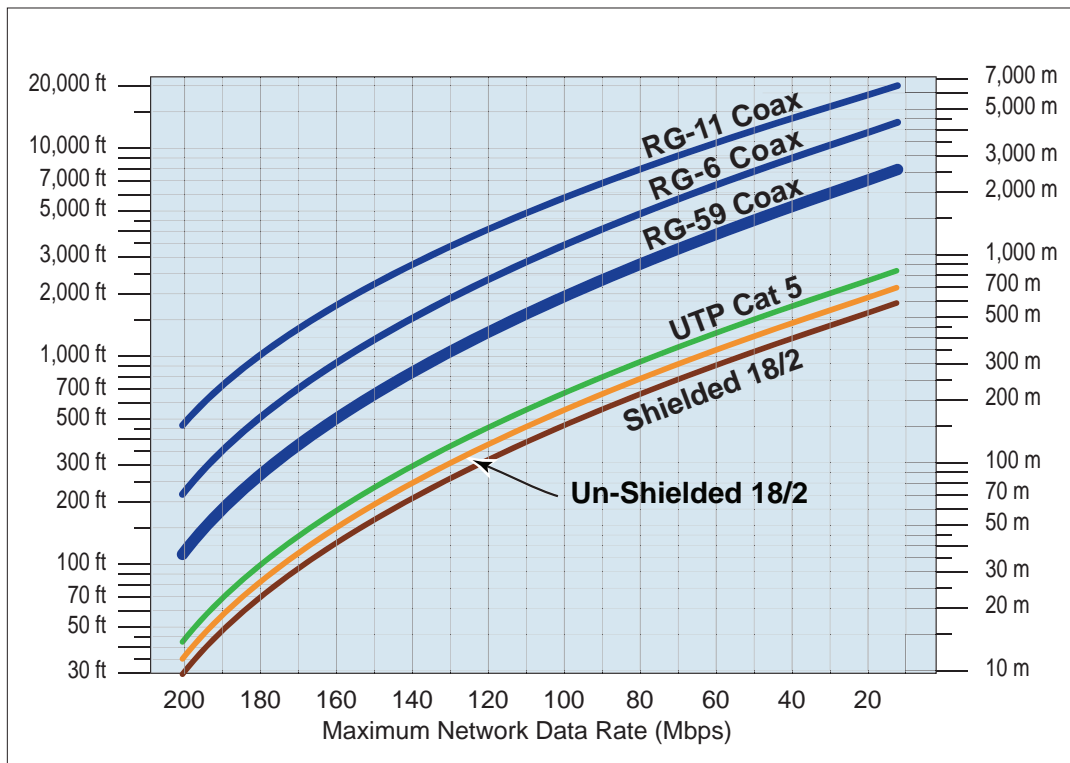


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## Wire Type and Data Distance Capacity

In addition to the power distance limitation, maximum data throughput is limited by wire quality. The graph below will help you determine your data throughput.

A [Distance Calculator](http://www.nvt.com) can be found at [www.nvt.com](http://www.nvt.com).



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