



**Network Video Technologies**

# **CCTV NETWORK SOLUTIONS**

# NETWORK VIDEO TECHNOLOGIES

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## Who we are, what we do

NVT is in the business of transmitting CCTV video over unshielded twisted pair wire via structured cabling networks. It is our mission to enable our customers to connect cameras and control/recording equipment via transmission methods that provide the highest video quality and system reliability, even under adverse conditions. We allow our customers to fully utilize their currently installed legacy

analog equipment or switch to IP as needed via bridged structured cabling networks that are robust and future proof for any application eventuality.

## NVT... it is all about providing choices

NVT's goal is to provide customer choice. Choice about the use of UTP over coax or fiber; choice to use existing high quality analog cameras over expensive and low performing IP cameras. NVT provides products that allow our customers a choice on how to migrate to structured cabling and IP. We want to educate our customers on how they can use their current analog equipment, connect it via UTP structured cabling and migrate to IP if they so choose on their own schedule and within their own budget constraints.

The NVT Power-Video-Data (PVD) product range allows customers to power cameras at a distance and providing cable saving connections for video and control. All current NVT products utilize a UTP based structured cabling infrastructure to provide organized cable management and future proof application choice to the customer.

## On the horizon

NVT is experiencing substantial growth on a global basis, not only in mature markets like North America, but also in the UK, EU, Latin America and Asia. We have established NVT UTP based video solutions as a reliable CCTV transmission choice. We are very excited to develop quality products for our customers and provide cost effective and future proof solutions to the global market.

## **CONTACT INFORMATION, WARRANTY AND SUPPORT**

### **Who is NVT?**

NVT is the worldwide leader in UTP CCTV transmission. Our focus on this technology enables us to supply excellence in product quality and world-class customer support.

Constant product research and evaluation guarantees that NVT's product offering contains technologies and user interfaces that work for the customer. We only supply products that are best in class, easy to use and well supported.

### **Consistent Stock Availability**

We expect our customers to be able to place an order with us, large or small and receive a professional reception and same day shipment. NVT is sold through hundreds of CCTV product distributor locations in the US and Canada.

### **Fast and Reliable Delivery Capability**

Our goal is fast and reliable delivery of customer orders. This commitment is the primary objective of our logistical infrastructure. Items ordered prior to 4:00PM (PST Monday to Friday) will typically ship the same day.

### **Limited Lifetime Warranty and Advance Replacement**

We offer a unique limited lifetime warranty. If an NVT product fails for any reason, any time, it will be replaced. Just call customer service to make arrangements to return the product and arrange for an advanced replacement shipment.

### **Superior Technical and Application Support**

Our technical staff is trained to provide first line support on every product we sell, providing installers with the reassurance of expert technical backup from 8:00AM to 5:30PM Monday to Friday PST. NVT has over ten sales managers throughout the US and Canada who provide training and support as needed. Our sales team is supported by 17 independent representative groups across the North American region.

### **North American Customer/Technical Support**

NVT customer support can be reached 8:00AM to 5:30PM PST at (800) 959-9870 or at (+1) (650) 462-8100.

# WHY NVT PRODUCTS ARE BETTER

## Why is NVT Technically Better?

In order to create a solution that is robust, reliable and usable, NVT designed products that can be used with confidence under varied conditions. Unlike conventional video baluns, NVT incorporated many technical features into its products, resulting in award winning performance.

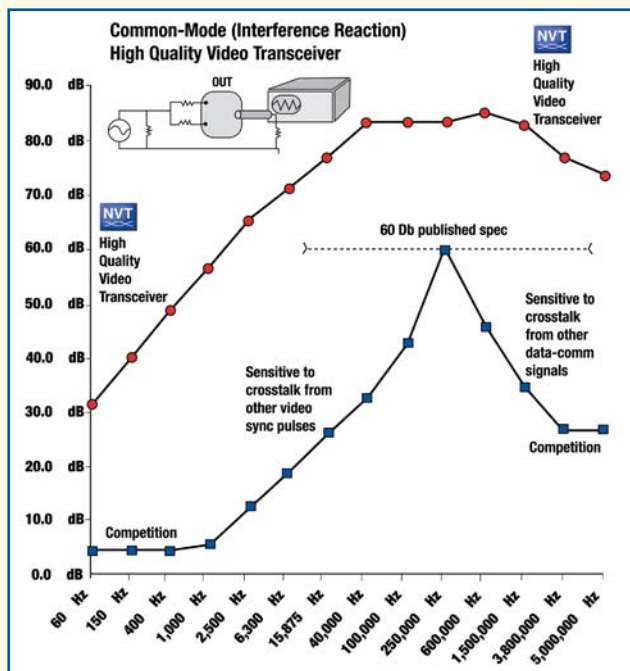
### Here are the details:

#### Video Interference Immunity

When video cables are run near potential interfering sources such as low voltage power, datacom or telecom, most baluns depend on the inherent cross-talk performance of the cable to achieve adequate interference immunity. Unfortunately they only do a limited job of balancing the signal.

One pivotal advantage of NVT products is their unsurpassed interference immunity.

Measured as the Common-Mode Rejection Ratio (CMRR), most baluns have about 30 dB of immunity. NVT's patented technology affords 60 dB of CMRR over the wide frequency range (15KHz to 5MHz) of a video signal.



#### Surge and Lighting Protection

In many locations, the effects of surge or lightning can be a problem affecting security exposure and replacement cost. NVT devices have a seven-element protection circuit that incorporate high-current low-capacitance avalanche-diode, gas-discharge, and multi-stage series inductive and shunt-capacitive filtering. These units meet ANSI/IEEE 587 C62.41. All NVT passive transceivers employ this protection. Floating the equipment at the camera end while grounding the head-end yields exceptional protection. Ordinary baluns don't have this feature.

#### Ground Loop Isolation

Video baluns and NVT transceivers do not have low-frequency ground-loop immunity. They are not worse than a piece of coax, but they're not better either. To ensure ground-loop immunity, NVT recommends floating the low-voltage camera (follow the camera manufacturer's instructions). By doing so, the camera's ground and the control-room ground will never compete and generate noise currents.

Some cameras do not have isolated low-voltage power inputs. For this reason, consider using a power supply that has individually floating outputs. Most multi-output supplies share a common bus with separate fuses, which will not prevent these sorts of ground loops. Unlike con-

ventional multi-output supplies, the NV-4PS10-PVD, NV-16PS10-PVD, NV-8PS13-PVD, and NV-16PS13-PVD provide power that is truly individually floating. Another way to prevent ground-loops is to incorporate active NVT receivers. These devices have a differential input for ground lifting.

#### Distance Equalization

As a signal travels down any wire, its amplitude attenuates. Regardless of the manufacturer (or their extended distance datasheet claims) passive-to-passive solutions will begin to show dim grey images above 750 feet of wire. It's not the baluns, it's the wire. To address this, NVT has active receivers. These devices amplify the signal to compensate for cable-loss, and can bring the signal level back up to 1 volt peak-to-peak. Unlike other devices, NVT active receivers have continuously adjustable gain settings that allow accurate equalization at any distance up to 3000 feet, or 1 mile when used with the NV-653T Transmitter. With ground-loop immune active receivers, field installations go in and work correctly every time.

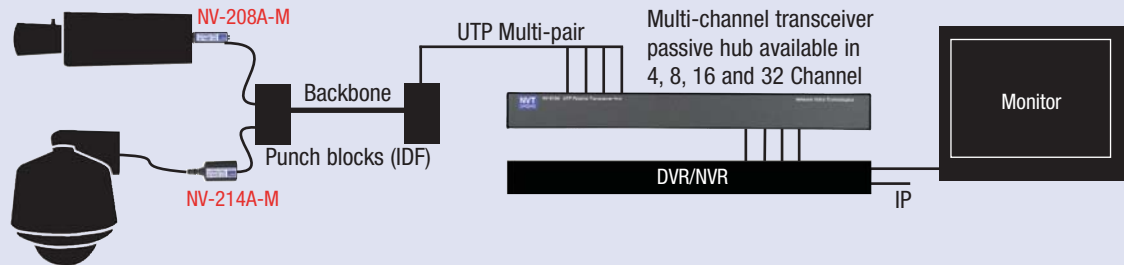
#### Lifetime Warranty

Although not a technical spec per se, NVT's lifetime warranty is one way NVT can demonstrate its confidence in the quality and reliability of its products. Competent tech support and advance-replacements are other measures NVT delivers to provide a total support solution to its customers.

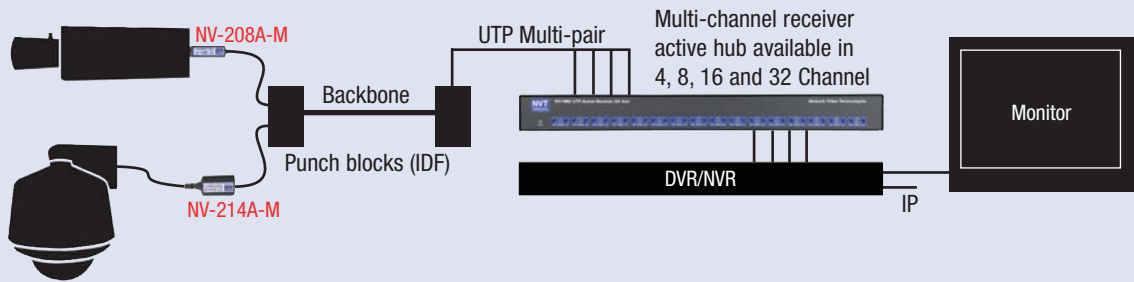
# TRADITIONAL CCTV PRODUCT BENEFITS AND APPLICATIONS

- Fiber-like quality at a fraction of the cost
- Superior interference immunity
- Transmit longer distances than coax
- Potential of using existing cable
- Lower labor costs to install vs. coax {(1) 25 pair pull = (1) coax pull}
- Higher density than coax (1/10th the size)
- UTP is a multi-use cable
- Easier termination and/or repair than coax or fiber
- Lower cost for cable, cable trays, and conduit
- Built-in transient protection

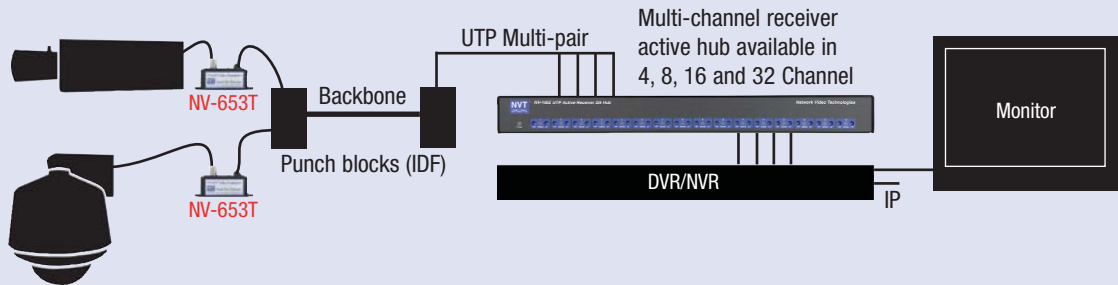
## Passive to Passive Application Up to 750ft (225m)



## Passive to Active Application Up to 3,000ft (1km)



## Active to Active Application Up to 1 mile (1,6km)



### Passive Product Combinations

Transmit/Camera End Passive or Active	Number of Cameras	Maximum Distance*	Camera End Transmit	Receive/MDF Product	Receive/MDF Passive or Active
Passive	1	750ft	NV-208A-M or NV-214A-M	NV-214A-M	Passive
Passive	1-4	750ft	NV-208A-M or NV-214A-M	NV-413A	Passive
Passive	1-8	750ft	NV-208A-M or NV-214A-M	NV-813	Passive
Passive	1-16	750ft	NV-208A-M or NV-214A-M	NV-1613	Passive
Passive	1-32	750ft	NV-208A-M or NV-214A-M	NV-3213	Passive

### Active Product Combinations

Passive	1	3,000ft	NV-208A-M or NV-214A-M	NV-652R	Active
Passive	1-4	3,000ft	NV-208A-M or NV-214A-M	NV-452R	Active
Passive	1-8	3,000ft	NV-208A-M or NV-214A-M	NV-862 or NV-872	Active
Passive	1-16	3,000ft	NV-208A-M or NV-214A-M	NV-1662 or NV-1672	Active
Passive	1-32	3,000ft	NV-208A-M or NV-214A-M	NV-3262 or NV-3272	Active
Active	1-32	5,280ft	NV-653T	NV-3262 or NV-3272	Active

▼ NV-872, NV-1672 and NV-3272 are **New!**

\* Any Category UTP Cable

# TRADITIONAL CCTV PRODUCT DESCRIPTIONS

## Single and Four Channel Products

### NV-208A-M Video Transceiver

- Single channel passive transceiver
- “Screwless” terminal video termination
- No power required
- Built-in transient protection
- Supports “up-the-coax” type control signal up to 750ft (225m)
- Transmit with another passive NVT transceiver up to 750ft (225m)
- Transmit up to 3,000ft if used with an NVT active receiver
- Male BNC



### NV-214A-M Video Transceiver

- Single channel passive transceiver
- “Screwless” terminal video termination
- No power required
- Built-in transient protection
- Supports “up-the-coax” type control signal up to 750ft (225m)
- Transmit with another passive NVT transceiver up to 750ft (225m)
- Transmit up to 3,000ft (1km) if used with an NVT active receiver
- Male BNC
- The NV-214A-M features a 9 inch mini-coax pigtail



### NV-413A Four Channel Video Transceiver

- 4-channel passive transceiver with RJ45 or screw terminal video termination
- Supports “up-the-coax” type control signal up to 750ft (225m)
- Distances up to 750ft (225m) when used with an NVT passive transceiver
- Transmit up to 3,000ft (1km) if used with an NVT active receiver
- No power required
- Built-in transient protection
- Two NV-413As may be rack mounted using the NV-RM8/10 Rack Panel kit



### NV-452R Four Channel Video Receiver

- 4-channel active receiver with RJ45 or screw terminal video input
- Distances up to 3,000ft (1km) when used with an NVT passive transceiver
- Distances up to 1 mile (1,6km) when used with an NV-653T transmitter
- Built-in transient protection and ground lifting
- Built-in brightness and sharpness controls
- Blue power LED, green video receive LED
- Two NV-452Rs may be rack mounted using the NV-RM8/10 rack panel kit
- Power supply not included
- Requires floating 24VAC/DC



### NV-652R Video Receiver

- Single channel active receiver with screw terminal video input
- Use with an NVT passive transceiver at distances up to 3,000ft (1km)
- Distances up to 1 mile (1,6km) when used with an NV-653T transmitter
- Built-in transient protection and ground lifting
- Built-in brightness and sharpness controls
- Blue power LED, green video receive LED
- Power supply not included
- Requires floating 12-24VAC/DC
- Up to 10 NV-652Rs may be rack mounted using the NV-RM8/10 Rack Panel Kit



### NV-653T Video Transmitter

- Full-motion CCTV video at distances up to 5,280ft/1 mile (1,6km) when used with active NVT receiver or hub
- Exceptional interference rejection
- Built-in transient protection and ground lifting
- Three-position distance range switch
- Blue power LED, green active LED
- Power supply not included
- Requires floating 24VAC/DC



# TRADITIONAL CCTV PRODUCT DESCRIPTIONS

## Passive Hub Products

### Full Enclosure Models

- Supports RJ45 or screw terminal video termination
- Use with another passive transceiver for distances up to 750ft (225m)
- Use with an NVT active receiver for distances up to 3,000ft (1km)
- No power required
- Built-in transient protection
- Supports “up-the-coax” type control signal up to 750ft (225m)
- Includes one 2ft coax jumper per channel, rackmount hardware and screw terminal adaptors (RJ45A)

### NV-RJ45A Adapter



- Male RJ45 to screw-terminals
- Use with NVT hubs that have RJ45 video ports
- Heavy duty design assures reliable connections
- Included as an accessory on all NVT Hubs

**Note:** All Full Enclosure Models measure 19” wide, 1.7” high, 8.125” deep (482mm wide, 43mm high, 206mm deep)

### NV-813 Eight Channel Passive Transceiver Hub



### NV-1613 Sixteen Channel Passive Transceiver Hub



### NV-3213 Thirty-Two Channel Passive Transceiver Hub



### Stub Hub Enclosure Models

- Supports RJ45 or screw terminal video termination
- Use with another passive transceiver for distances up to 750ft (225m)
- Use with an NVT active receiver for distances up to 3,000ft (1km)
- No power required
- Built-in transient protection
- Supports “up-the-coax” type control signal up to 750ft (225m)
- Includes rackmount hardware and screw terminal adaptors (RJ45A)

**Note:** NV-813S and NV-1613S Stub Hubs measure 19” wide x 1.7” high x 0.8” deep (482mm wide x 43mm high x 20mm deep)  
 NV-3213S Stub Hub measures 19” wide x 1.7” high x 1.8” deep (482mm wide x 43mm high x 46mm deep)

### NV-813S Eight Channel Transceiver Hub



### NV-1613S Sixteen Channel Transceiver Hub



### NV-3213S Thirty-Two Channel Transceiver Hub

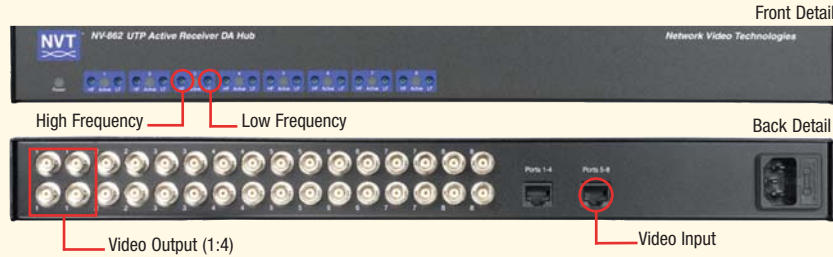


# TRADITIONAL CCTV PRODUCT DESCRIPTIONS

## Manual Equalization Active Receiver Hubs

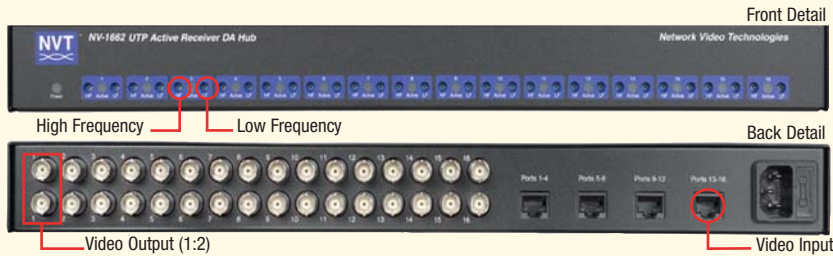
### NV-862 Eight Channel Receiver DA Hub

- 8-channel active receiver supports RJ45 or screw terminal video termination
- Use with an NVT passive transceiver for distances up to 3,000ft (1km)
- Use with an NVT active transmitter for distances up to 1 mile (1,6km)
- High-Density 19" 1U high enclosure features 8 ports
- Four BNC outputs per channel
- Built-in brightness and sharpness controls
- Blue Power LED, green video receive LED
- Built-in transient protection and ground lifting
- Includes (8) 2-ft coax jumper cables, rack mount hardware and (2) screw terminal adaptors (NV-RJ45A)



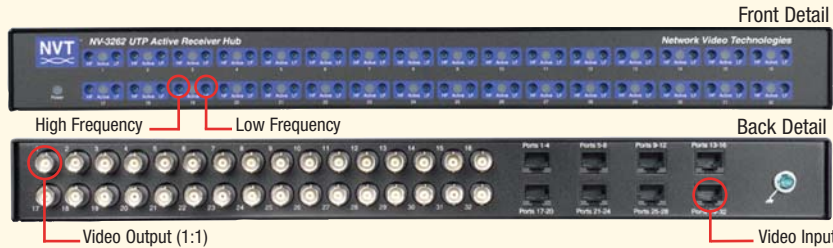
### NV-1662 Sixteen Channel Receiver DA Hub

- 16-channel active receiver hub supports RJ45 or screw terminal video termination
- Use with an NVT passive transceiver at distances up to 3,000ft (1km)
- Use with an NVT active transmitter at distances up to 1 mile (1,6km)
- High-Density 19" 1U high enclosure features 16 ports
- Two BNC outputs per channel
- Built-in brightness and sharpness controls
- Blue Power LED, green video receive LED
- Built-in transient protection and ground lifting
- Includes (16) 2-ft coax jumper cables, rack mount hardware and (4) screw terminal adaptors (NV-RJ45A)



### NV-3262 Thirty-Two Channel Receiver Hub

- 32-channel active receiver hub supports RJ45 or screw terminal video termination
- Use with an NVT passive transceiver at distances up to 3,000ft (1km)
- Use with an NVT active transmitter at distances up to 1 mile (1,6km)
- High-Density 19" 1U high enclosure features 32 ports
- Built-in brightness and sharpness controls
- Blue Power LED, green video receive LED
- Built-in transient protection and ground lifting
- Includes (32) 2-ft coax jumper cables, rack mount hardware and (8) screw terminal adaptors (NV-RJ45A)



### NV-RJ45A Adapter



- Male RJ45 to screw-terminals
- Use with NVT hubs that have RJ45 video ports
- Heavy duty design assures reliable connections
- Included as an accessory on all NVT Hubs



# NVT INTRODUCES DIGITALEQ™ HUBS

## New! DigitalEQ™ Active Hubs

### NV-872 Eight Channel DigitalEQ™ Receiver DA Hub

- Per channel fully automatic digital signal distance equalization and polarity correction
- Use with an NVT passive transceiver for distances up to 3,000ft (1km)
- Use with an NVT active transmitter for distances up to 1 mile (1,6km)
- Four distribution amplifier video outputs per channel
- Supports screw-terminal or RJ45 UTP video inputs
- High-Density 19" 1U high enclosure
- Built-in transient protection and ground lifting
- Includes (8) 2-foot (60cm) coax jumper cables, rack mount hardware and (2) screw terminal adaptors (NV-RJ45A)



### NV-1672 Sixteen Channel DigitalEQ™ Receiver DA Hub

- Per channel fully automatic digital signal distance equalization and polarity correction
- Use with an NVT passive transceiver at distances up to 3,000ft (1km)
- Use with an NVT active transmitter at distances up to 1 mile (1,6km)
- Two distribution amplifier video outputs per channel
- Supports screw-terminal or RJ45 UTP video inputs
- High-Density 19" 1U high enclosure
- Built-in transient protection and ground lifting
- Includes (16) 2-foot (60cm) coax jumper cables, rack mount hardware and (4) screw terminal adaptors (NV-RJ45A)



### NV-3272 Thirty-Two Channel DigitalEQ™ Receiver Hub

- Per channel fully automatic digital signal distance equalization and polarity correction
- Use with an NVT passive transceiver at distances up to 3,000ft (1km)
- Use with an NVT active transmitter at distances up to 1 mile (1,6km)
- Supports screw-terminal or RJ45 UTP video inputs
- High-Density 19" 1U high enclosure
- Built-in transient protection and ground lifting
- Includes (32) 2-foot (60cm) coax jumper cables, rack mount hardware and (8) screw terminal adaptors (NV-RJ45A)



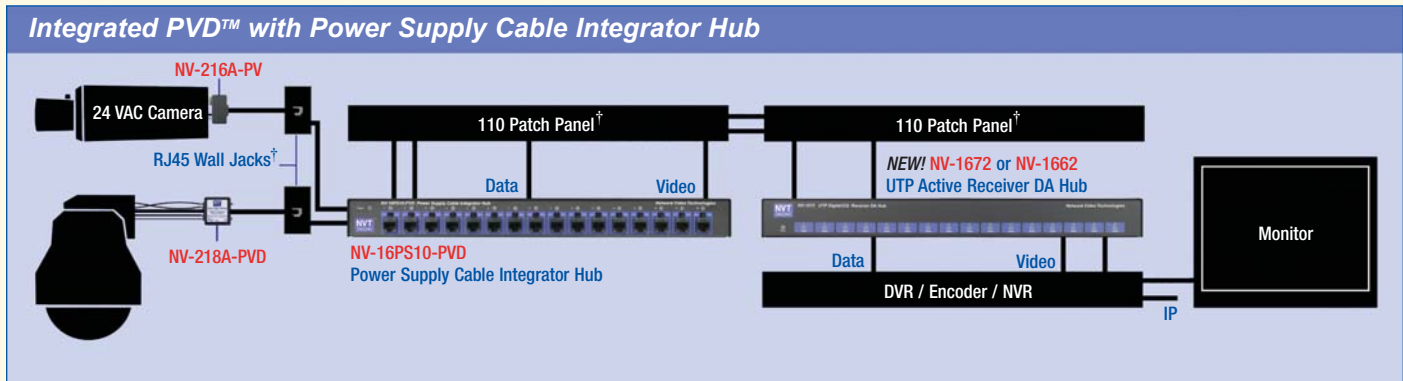
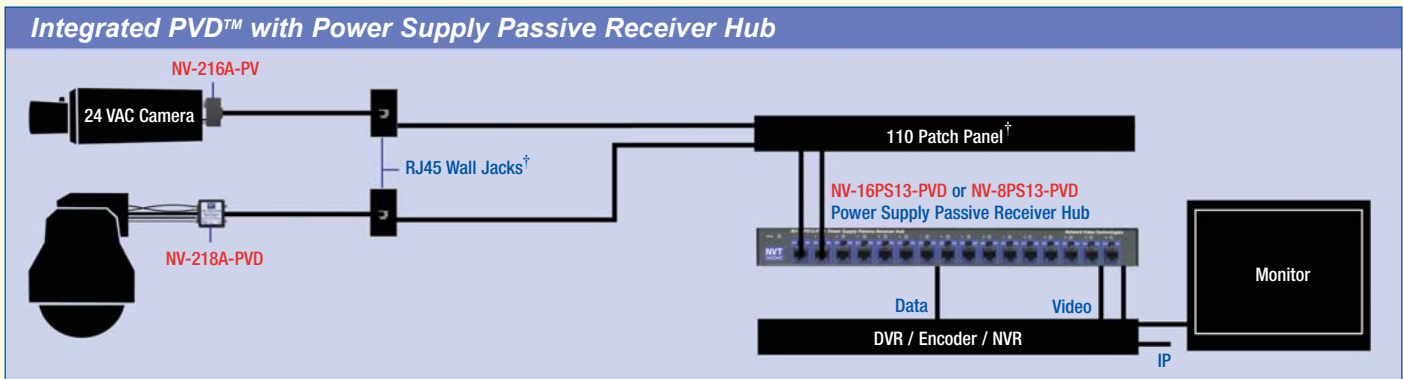
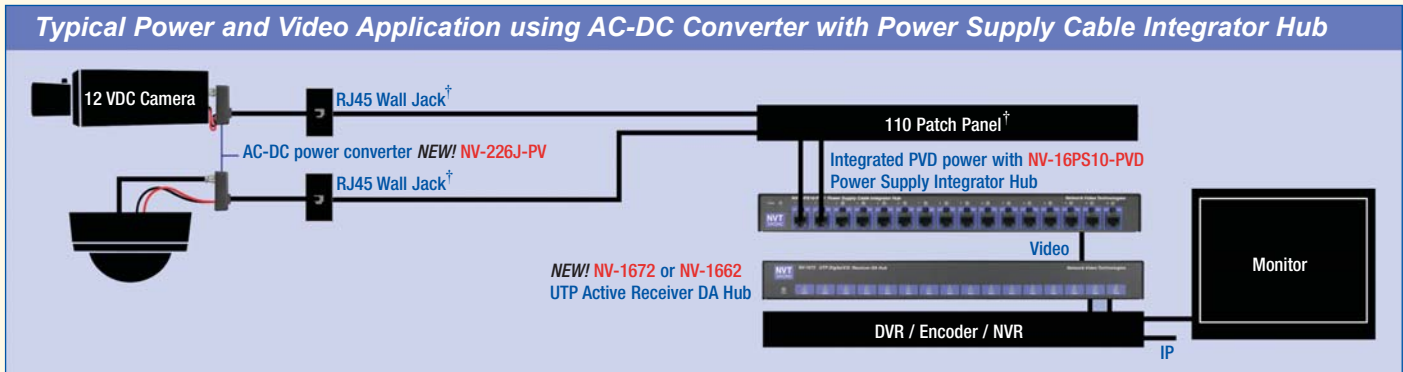
### NV-RJ45A Adapter



- Male RJ45 to screw-terminals
- Use with NVT hubs that have RJ45 video ports
- Heavy duty design assures reliable connections
- Included as an accessory on all NVT Hubs

# PVD™ HYBRID CCTV CABLING BENEFITS AND APPLICATION SOLUTIONS

- Uses cable plant of the future vs. coax
- Run only one CAT5 4-pair to each camera location to transmit power, video and data
- Power cameras at distances beyond PoE
- PVD™ system integrates within a structured cabling environment
- Uses EIA/TIA 568B standard pin-outs
- Analog camera choices significantly out number IP camera choices and are less than half the cost
- Analog cameras with analog video transmission and NVR/DVR/Encoders provide the best of both worlds
- UTP video signals can share the same pathways as communication networks with no impact on one another
- High-resolution video 24x7x365 without impacting the LAN
- Provides a migration path to IP



† Optional Jack and 110 Patch Panel at this location to meet EIA/TIA 568B cabling standard.

## PVD™ PRODUCTS

### **NV-216A-PV** Single Channel Video Transceiver

- Male BNC connector supports on-camera mounting
- Single channel Power-Video transceiver with RJ45 jack
- Male BNC video and 18 AWG power connections
- Compatible with NVT's PVD architecture and EIA/TIA568B
- Video distances up to 750ft (225m) when used with another passive transceiver
- Video distances up to 3,000ft (1km) with an NVT active receiver
- Supports "up-the-coax" type control signal up to 750ft (225m) when used with a passive transceiver
- Exceptional interference rejection
- Built-in transient protection



### **NV-218A-PVD** Single Channel Video Transceiver

- Single channel Power-Video-Data transceiver with RJ45, BNC and screwless video terminals
- Compatible with NVT's PVD architecture and EIA/TIA568B
- Mini-coax pigtail supports in-camera mounting in most dome cameras
- Video distances up to 750ft (225m) when used with another passive transceiver
- Video distances up to 3,000ft (1km) with an NVT active receiver
- Supports "up-the-coax" type control signal up to 750ft (225m) when used with a passive transceiver
- Exceptional interference rejection
- Built-in transient protection



### **NV-226J-PV** Single Channel Video Transmitter +12VDC Converter

- Converts 24 VAC to 12 VDC at up to 400 mA to power cameras at long distances
- Male BNC connector supports camera mounting
- RJ45 jack compatible with NVT's PVD architecture and EIA/TIA 568B
- Power distances up to 2,000ft
- Video distances up to 3,000ft (1km) with an NVT active receiver
- Exceptional interference rejection
- Built-in transient protection



**NEW!**

### **NV-704J-PVD** Four Channel Cable Integrator

- 4-Channel Power-Video-Data Cable Integrator with RJ45 video termination
- Connectivity for up to four cameras, each via a single RJ45 4-pair cable
- Use with the NV-218A-PVD, NV-216A-PV, or NV-226J-PV at the camera
- EIA/TIA 568B compatible
- Uses any third-party Class 2 UL power supply to power cameras via UTP over significant distances
- Cable management solution from the camera to the wiring closet and on to the Control Room
- Wall-mountable; rack-mountable using the NV-RM8/10 panel



### **NV-716J-PVD** Sixteen Channel Cable Integrator

- 16-Channel Power-Video-Data Cable Integrator with RJ45 video termination
- Connectivity for up to sixteen cameras, each via a single RJ45 4-pair cable
- Use with the NV-218A-PVD, NV-216A-PV, or NV-226J-PV at the camera
- EIA/TIA 568B compatible
- Uses any third-party Class 2 UL power supply to power cameras via UTP over significant distances
- Cable management solution from the camera to the wiring closet and on to the Control Room
- 1U high; 1" deep; wall or rack-mountable

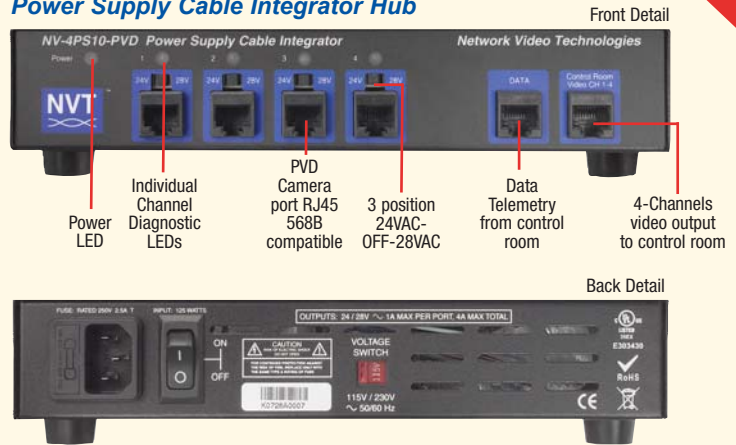


# PVD™ POWER SUPPLY HUBS

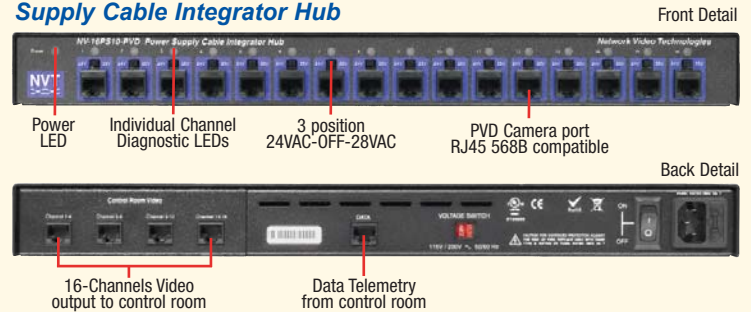
## Multichannel Power Supply Cable Integrator Hubs

- Provides Class 2 SELV camera power, pass through video and telemetry data connection from 4 – 16 cameras, each via a single RJ45 4-pair UTP cable
- Standard telecom/datacom structured cabling pinouts per EIA/TIA 568B
- Independently selectable 24 or 28 VAC with 1 Amp max per channel
- Automatic-reset fault protection, transient protection
- Individually floating outputs ensure total ground-loop immunity
- Diagnostic LEDs show load/no load, miswires and overload conditions
- Use with the NV-216A-PV, NV-218A-PVD or the NV-226J-PV transceiver at the camera and passive or active receivers at the control room
- Power cameras via UTP over significant distances
- 1 U high; 12" deep; wall, desk or rack-mountable

### New! NV-4PS10-PVD Four Channel Power Supply Cable Integrator Hub



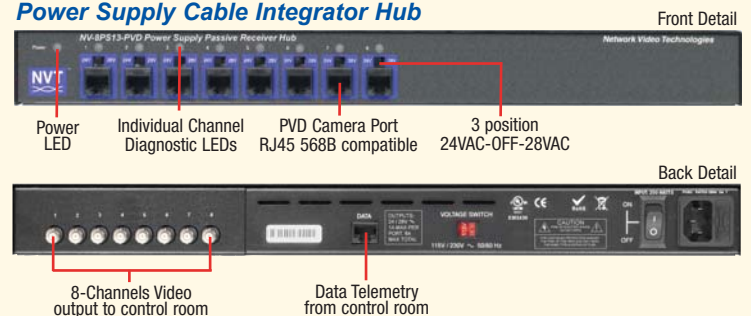
### NV-16PS10 Sixteen Channel Power Supply Cable Integrator Hub



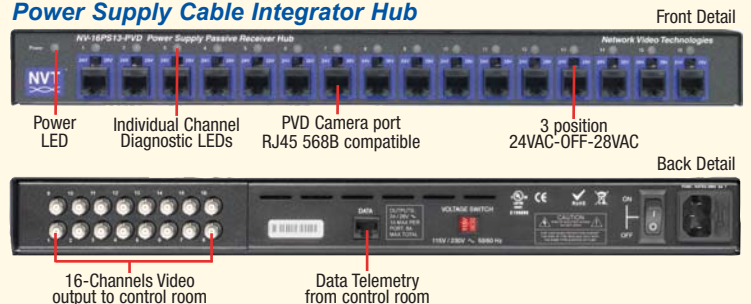
## Multichannel Power Supply Passive Receiver Hubs

- Provides Class 2 SELV camera power, pass through video and telemetry data connection from 8 – 16 cameras, each via a single RJ45 4-pair UTP cable
- Standard telecom/datacom structured cabling pinouts per EIA/TIA 568B
- Independently selectable 24 or 28 VAC with 1 Amp max per channel (10 Amp aggregate)
- Automatic-reset fault protection, transient protection
- Individually floating outputs ensure total ground-loop immunity
- Diagnostic LEDs show load/no load, miswires and overload conditions
- Use with the NV-216A-PV, NV-218A-PVD or the NV-226J-PV transceiver at the camera for video distances up to 750ft (1km)
- Power cameras via UTP over significant distances
- 1 U high; 12" deep; wall, desk or rack-mountable

### NV-8PS13-PVD Eight Channel Power Supply Cable Integrator Hub



### NV-16PS13-PVD Sixteen Channel Power Supply Cable Integrator Hub



# PVD™ HYBRID PRODUCT SELECTION

Passive to Passive Structured Cabling CCTV Product Combinations					Surge Suppression	Ground Loop Isolation	RF Noise Immunity	Crosstalk Immunity	No Power Required	Distance Equalization	Lifetime Warranty	"Up-the-coax" PTZ
Number of Cameras	Maximum Video Distance	Camera End Transmit	IDF Product Midspan	MDF Product Receive								
1	750ft	NV-216A-PV, NV-218A-PVD or NV-226J-PV		NV-218A-PVD	✓		✓	✓	✓	✓	✓	✓
1-4	750ft	NV-216A-PV, NV-218A-PVD or NV-226J-PV	NV-4PS10-PVD or NV-704J-PVD	NV-413A	✓		✓	✓	✓	✓	✓	✓
1-8	750ft	NV-216A-PV, NV-218A-PVD or NV-226J-PV	NV-4PS10-PVD (2 each) or NV-704J-PVD (2 each)	NV-813	✓		✓	✓	✓	✓	✓	✓
1-8	750ft	NV-216A-PV, NV-218A-PVD or NV-226J-PV		NV-8PS13-PVD	✓	✓	✓	✓	✓	✓	✓	✓
1-16	750ft	NV-216A-PV, NV-218A-PVD or NV-226J-PV	NV-16PS10-PVD or NV-716J-PVD	NV-1613	✓		✓	✓	✓	✓	✓	✓
1-16	750ft	NV-216A-PV, NV-218A-PVD or NV-226J-PV		NV-16PS13-PVD	✓	✓	✓	✓	✓	✓	✓	✓
1-32	750ft	NV-216A-PV, NV-218A-PVD or NV-226J-PV	NV-16PS10-PVD (2 each) or NV-716J-PVD (2 each)	NV-3213	✓		✓	✓	✓	✓	✓	✓

Passive to Active Structured Cabling Product Combinations					Surge Suppression	Ground Loop Isolation	RF Noise Immunity	Crosstalk Immunity	No Power Required	Distance Equalization	Lifetime Warranty	"Up-the-coax" PTZ
Number of Cameras	Maximum Video Distance	Camera End Transmit	IDF Product Midspan	MDF Product Receive								
1-4	3,000ft	NV-216A-PV, NV-218A-PVD or NV-226J-PV	NV-4PS10-PVD or NV-704J-PVD	NV-452R	✓	✓	✓	✓	•	✓	✓	†
1-8	3,000ft	NV-216A-PV, NV-218A-PVD or NV-226J-PV	NV-4PS10-PVD (2 each) or NV-704J-PVD (2 each)	NV-862 or NV-872	✓	✓	✓	✓	•	✓	✓	†
1-16	3,000ft	NV-216A-PV, NV-218A-PVD or NV-226J-PV	NV-16PS10-PVD or NV-716J-PVD	NV-1662 or NV-1672	✓	✓	✓	✓	•	✓	✓	†
1-32	3,000ft	NV-216A-PV, NV-218A-PVD or NV-226J-PV	NV-16PS10-PVD (2 each) or NV-716J-PVD (2 each)	NV-3262 or NV-3272	✓	✓	✓	✓	•	✓	✓	†

➤ NV-226J-PV, NV-4PS10-PVD, NV-8PS13-PVD, NV-16PS13-PVD, NV-872, NV-1672, and NV-3272 are **New!**

• Power required at receive end only † RS-422 or 485 only

## Power Distance Charts

Standard Distance NV-216A-PV at the 24 VAC Camera		
Power Supply Voltage	24 VAC	28 VAC
<b>B&amp;W Camera 24 VAC, 100 mA, 2.4 W</b>		
2-pair 24 AWG	807ft (246m)	2,100ft (640m)
2-pair 23 AWG (Cat6)	1,018ft (310m)	2,647ft (1km)
<b>Color Camera 24 VAC, 200 mA, 4.8 W</b>		
2-pair 24 AWG	404ft (123m)	1,050ft (320m)
2-pair 23 AWG (Cat6)	509ft (155m)	1,324ft (403m)
<b>Color Camera 24 VAC, 300 mA, 7.2 W</b>		
2-pair 24 AWG	268ft (82m)	699ft (213m)
2-pair 23 AWG (Cat6)	339ft (103m)	882ft (269m)

Pan/Tilt/Zoom NV-218A-PVD at the 24 VAC Camera		
Power Supply Voltage	24 VAC	28 VAC
<b>P/T/Z Camera 24 VAC, 1 Amp, 24 W</b>		
2-pair 24 AWG	90ft (27m)	210ft (64m)
2-pair 23 AWG (Cat6)	110ft (33m)	265ft (80m)

Extended Distance NV-226J-PV at the 12 VDC Camera		
Power Supply Voltage	24 VAC	28 VAC
<b>B&amp;W Camera 12 VDC, 100 mA, 1.2 W</b>		
2-pair 24 AWG	3,000ft (1km)	3,000ft (1km)
2-pair 23 AWG (Cat6)	3,000ft (1km)	3,000ft (1km)
<b>Color Camera 12 VDC, 200 mA, 2.4 W</b>		
2-pair 24 AWG	1,569ft (478m)	2,136ft (650m)
2-pair 23 AWG (Cat6)	1,978ft (602m)	2,693ft (821m)
<b>Color Camera 12 VDC, 300 mA, 3.6 W</b>		
2-pair 24 AWG	1,046ft (318m)	1,424ft (434m)
2-pair 23 AWG (Cat6)	1,319ft (402m)	1,795ft (547m)
<b>Color Camera 12 VDC, 400 mA, 4.8 W</b>		
2-pair 24 AWG	784ft (239m)	1,068ft (325m)
2-pair 23 AWG (Cat6)	989ft (301m)	1,346ft (410m)

**Notes:** Actual distance will depend on the camera's inrush and operating current, minimum operating voltage, and the wire's environmental temperature. Please consult NVT Customer Support for further information.

Wire should be Category rated UTP cable. Low-voltage camera power, Video and RS-422 or RS-485 may be sent within the same wire bundle. Do not run 24 VAC or 28 VAC in the same wire bundle with other telecom or datacom signals. However, you can share the same wire/cable tray.

# MULTIMEDIA PRODUCT OVERVIEW AND PRODUCT APPLICATIONS

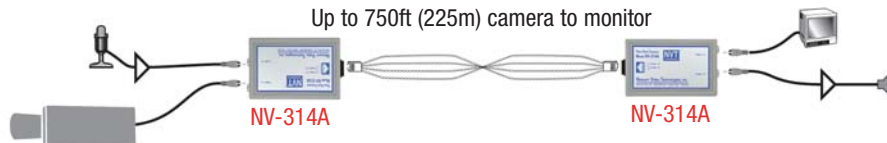
## Multimedia Product Overview

The NVT Multimedia product range allows one-way or two-way transmission of real-time color video and audio over Unshielded Twisted-Pair (UTP) telephone wire at extended distances. The product choices allow the installer to select small systems to larger systems capable of short or longer distance transmission and reception. Distances up to 3,000ft can be accommodated with this system. Baseband (composite) signals of any type are supported.

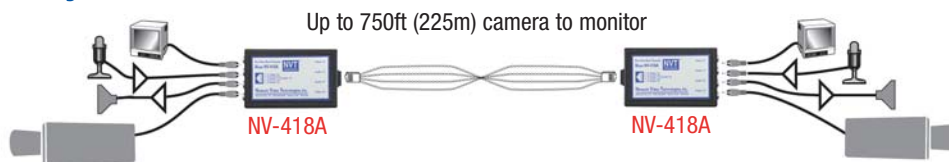
The unparalleled interference rejection of the NVT Multimedia product range allow video signals to co-exist in the same wire bundle as CCTV, telephone, datacom, or low-voltage power circuits. This allows the use of a shared or existing cable plant, leveraging in-house economies.

Applications include Security/Surveillance, video distribution, video conferencing, distance learning, video arraignment or visitation.

### One way short distance

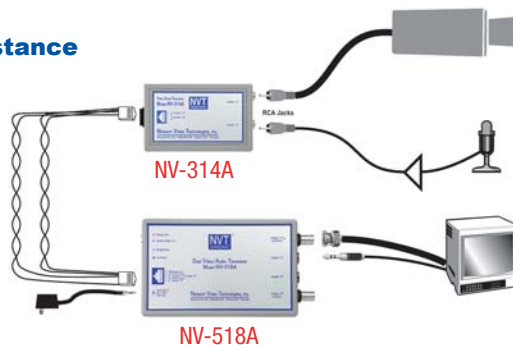


### Two way short distance

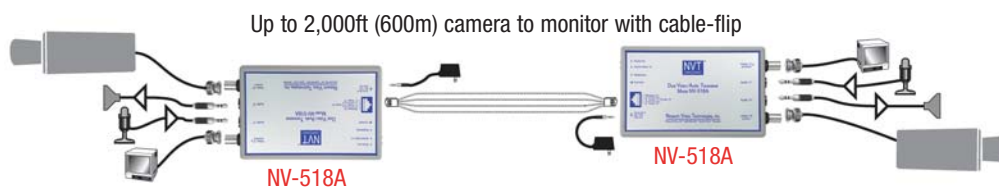


### One way long distance

Up to 3,000ft (1km)  
camera to monitor



### Two way long distance



For best crosstalk immunity, use Cat5 or better wire for distances greater than 1,000ft.  
(Or use separate jacketed bundles for transmit and receive paths.)

## MULTIMEDIA PRODUCTS

### **NV-314A** Video/Audio Transceiver

- Full-motion monochrome or color video and audio at distances up to:
  - 750ft (225m) when used with another passive transceiver
  - 3,000ft (1km) when used with an active receiver such as the NV-518A
- No power required
- Exceptional interference rejection
- Supports “up-the-coax” type control signals
- RJ45 and RCA jack connections
- Built-in transient protection



### **NV-418A** Bi-directional Video/Audio Transceiver

- Dual full-motion monochrome or color video and audio at distances up to:
  - 750ft (225m) when used with another passive transceiver
  - 3,000ft (1km) when used with an active receiver such as the NV-518A
- No power required
- Exceptional interference rejection
- Supports “up-the-coax” type control signals
- RJ45 and RCA jack connections
- Built-in transient protection



### **NV-518A** Bi-directional Video/Audio Transceiver

- Bi-directional full-motion monochrome or color video and audio
- Distances up to:
  - 2,000ft (600m) when used with another NV-518A
- Exceptional interference rejection
- Brightness and sharpness controls
- Power LED, and Active LED
- BNC, 1/4" Phone and RJ45 jack connections
- Built-in transient protection and ground lifting
- Power transformer included



## RACK MOUNT MULTI-CHANNEL PRODUCTS

### **Two Way Short Distance Cards**

#### **NV-418AR** Bi-directional Video/Audio Transceiver Card

- Rack mount version of the NV-418A to be used with the NV-RM15
- Dual full-motion monochrome or color video and audio
- Distances up to:
  - 750ft (225m) when used with another NV-418A
- No power required
- Exceptional interference rejection
- Supports “up-the-coax” type control signals
- RJ45 and RCA jack connections
- Built-in transient protection
- May be used as dual transmitter or dual receiver



### **Two Way Long Distance Cards**

#### **NV-518AR** Bi-directional Video/Audio Transceiver Card

- Rack mount version of the NV-518A to be used with the NV-RM15
- Bi-directional full-motion monochrome or color video and audio
- Distances up to:
  - 2,000ft (600m) when used with another NV-518A
- Exceptional interference rejection
- Built-in transient protection and ground lifting
- Brightness and sharpness controls
- Power LED, and Active LED
- BNC, 1/4" Phone and RJ45 jack connections



### **Multi-Channel Rack mount**

#### **NV-RM15** Rack mount Video/Audio Transceiver System

- Fifteen channel rack mount Video/Audio Transceiver System
- Allows the co-location of up to fifteen transceivers in one compact enclosure
- No cooling fans required
- Power Supply included
- Transceivers sold separately



**HIGHEST VIDEO QUALITY AND  
SYSTEM RELIABILITY UNDER  
ADVERSE FIELD CONDITIONS**

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