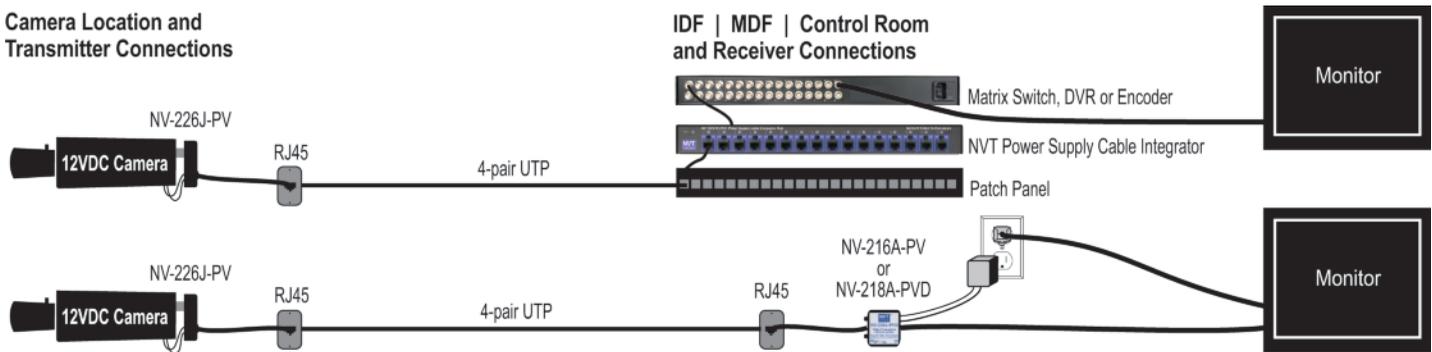




UTP Video Transmitter +12VDC Converter Model NV-226J-PV Installation Manual

Camera Location and Transmitter Connections

IDF | MDF | Control Room and Receiver Connections



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 a dry cloth.
- 7) Do not block any ventilation openings.
- 8) Install in accordance with the manufacturer's instructions.
- 9) Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including DVRs) that produce heat.
- 10) 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 type plug has two blades and a third grounding prong. The wider 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.
- 11) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 12) Only use attachments/accessories specified by the manufacturer.
- 13) Use only with 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 tipover.
- 14) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 15) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as a 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.

TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER OR BACK. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

⚠ This installation should be made by a qualified service person and should conform to all local codes.

⚠ WARNING - Do not install the unit in an environment where the operating ambient temperature exceeds 167° F (75° C). The ventilation should not be impeded by

covering the ventilation openings with items, such as newspapers, table-cloths, curtains, etc. No naked flame sources, such as lighted candles should be placed on the apparatus.

⚠ WARNING - Do not interconnect multiple outputs.

⚠ WARNING - The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

⚠ WARNING - Use only a Certified power cord and plug (coupler / mains) assemblies for location installed.

⚠ WARNING - Power cord is regarded as main disconnect.

⚠ WARNING - The appliance coupler (power cord/mains) shall remain readily operable.

⚠ WARNING - For safety, never put NVT signals in the same conduit as high-voltage wiring.

⚠ WARNING - Do not restrict airflow around any active powered NVT products.

The NVT UTP Video Transmitter +12VDC Converter combines a passive video transmitter with a 24VAC-to-12VDC switching power supply. When used with an NVT Power Supply Cable Integrator, cameras may be located at substantial distances, yet powered from the control room. Unlike conventional CCTV installations or power-over-ethernet IP-based video, this architecture requires no intermediate equipment in closets, and allows the entire system to be powered by a single control-room resident uninterruptible power supply, if required.

Designed as part of NVT's PVD™ system, the NV-226J-PV UTP Video Transmitter +12VDC Converter supports fixed 12VDC cameras that draw up to 400 mA (4.8 Watts) using standard 4-pair RJ45 EIA/TIA 568B compliant premises wiring and pinouts.

Wire Type

The PVD system operates well with Category Unshielded Twisted-Pair (UTP) wire, 24-22 AWG (0,5-0,6mm). NVT signals may reside near electromagnetic fields (in accordance with National

Electrical Code, and other local safety requirements.)

Low voltage camera power video may be sent within same wire bundle.

Do NOT use shielded twisted-pair wire unless it is Category rated. Multi-pair wire with an overall shield (6 or more pairs) is OK.

Do NOT use un-twisted wire.

Wire in underground conduit or wet locations must be polyethylene-jacketed, gel-filled.

Do not run 24/28 VAC within same wire bundle with telecom or other datacom signals.

NVT recommends the use of factory-crimped RJ45 patch cables rather than unreliable field-crimped RJ45s to connect between the NVT device and an adjacent female RJ45 jack.

Wire Distance

It is recommended that the wire distance be measured to ensure that it does not exceed the maximum allowable distance. All measured distances include any coax in the path.

Wire resistance may be measured with an ohmmeter by shorting the two conductors together at the far end, and measuring the loop-resistance out and back

Loop Resistance per 1000ft (300m)

24 AWG	(0,53 mm)	=	52 ohms
23 AWG	(0,57 mm)	=	42 ohms
22 AWG	(0,64 mm)	=	33 ohms
20 AWG	(0,81 mm)	=	21 ohms
19 AWG	(0,91 mm)	=	16 ohms
18 AWG	(1,02 mm)	=	13 ohms

Wire distances are limited as shown in the Wire Distance Guide on back page.

Connecting NV-226J-PV at Camera End

Connect the black power conductor to the camera's negative power terminal. Connect the red lead to the camera's +12VDC power terminal. Then connect the Male BNC to the camera's video output.

Connect a factory-terminated RJ45 patch cable (rather than unreliable field-terminated RJ45s) between the NV-226J-PV and an adjacent female RJ45 jack. Straight-through wiring pinouts are:

1	Wht/org	Video +
2	Org/wht	Video -
3	Wht/grn	Not used
4	Blu/wht	Power -
5	Wht/blu	Power +
6	Grn/wht	Not used
7	Wht/brn	Power +
8	Brn/wht	Power -

Connecting PVD at the Power Supply Cable Integrator

Bring the 4-pair PVD cable from each camera back to the location of the Power Supply Cable Integrator. NVT recommends that an RJ45 Patch Panel be used here in conjunction with RJ45 patch-cords. Use of these EIA/TIA 568B compliant practices allows for easy testing with an RJ45 (LAN) tester, as well as moves and changes.

The Power Supply Cable Integrator may be one of:

NV-216A-PV or **NV-218A-PVD** single channel device.

NV-704J-PVD or **NV-716J-PVD** in conjunction with a multi-output power supply with individually floating outputs. Most conventional multi-output power supplies employ a bus architecture which is unsuitable for this application.

NV-4PS10-PVD or **NV-16PS10-PVD** in conjunction with a passive or active receiver hub, such as the NV-413, NV-813(S), NV-1613(S), NV-3213(S), NV-442, NV-452R, NV-842, NV-1642, NV-3242, NV-872, NV-1672 or NV-3272.

NV-4PS13-PVD, NV-8PS13-PVD, NV-16PS13-PVD, NV-8PS42-PVD, NV-16PS42-PVD, or NV-32PS42-PVD

For further instructions, please refer to the installation manual for the selected receive-end equipment.

Power Distance Chart

Fixed 12VDC Camera used with NV-226J-PV		
Power Supply Voltage	24 VAC	28 VAC
B&W Camera, 2.4 W		
2-pair 24 AWG	1,586ft (478m)	2,220ft (677m)
2-pair 23 AWG	1,999ft (609m)	2,799ft (853m)
Color Camera 4.8 W		
2-pair 24 AWG	795ft (242m)	1,113ft (339m)
2-pair 23 AWG	1,002ft (306m)	1,403ft (428m)

Technical Specifications

Video

Passive Transceiver
DC to 10 MHz 0.5 dB typ

Common Mode/Differential

Mode Rejection
15 KHz to 10 MHz 60 dB typ

Power

Input voltage 13 to 30 VAC/DC
Class II SELV floating power supply
Output voltage 12VDC, regulated
Output current 400 mA

Wires

Two 5" (125mm)
18 AWG (1mm)
Black -

Connectors and Impedance

RJ45 UTP input 100 ± 20 ohms
Male BNC output 75 ohms

Environmental

Temperature -4 to 167° F (-20 to 75° C)
Humidity 0 to 95% non-condensing
Transient Immunity per ANSI / IEEE687 C62.41

Mechanical

Size 1.52 in (38,6 mm) wide
2.27 in high (5,77 mm)
0.8 in deep (2,03 mm)
[Excluding connectors]

Product Weight 1.8oz (50g)
Packaged Weight 0.16lb (0,07kg)

Agency

The NV-226J-PV is listed and/or conforms to the following certifications and directives:



UL listed to UL2044 or UL/IEC60065 cUL Listed to CAN/CSA22.2 No.1 for Canada CE mark under EMC and low voltage directives for the European Union. Complies with FCC part 15B limits

Troubleshooting

If you are experiencing problems, check the RJ45 pinouts. Check with an RJ45 tester. NVT recommends factory crimped RJ45 cables. Avoid field crimping. Test each segment of a long cable run independently. Attempt to isolate the problem. Attempt to simplify your setup. View the camera's video output locally. Measure AC and DC voltages. Power the camera locally.

Customer Support

NVT customer support can be reached 8:00 AM to 5:30 PM Monday through Friday.

US Office: (+1) (650) 462-8100
US Fax: (+1) (650) 326-1940
UK Office: (+44) (0)20 8977 6614
UK Fax: (+44) (0)20 8973 1855
Email USA: www.nvt.com/email
Email UK: www.nvt.com/email
Web home page: www.nvt.com

Returns

Please call before returning units to NVT. Returned materials must have a "Returned Materials Authorization" (RMA) number from NVT marked on the outside of the shipping carton.

Limited Lifetime Warranty

NVT warrants that the product conforms to NVT's applicable published specifications and is free of defects for the life of the product. There shall be no other warranties, express, statutory, or otherwise, including any implied warranty of merchantability, of fitness, or any other obligation on the part of NVT with respect to any of the products.

In the event that any of the products is damaged, altered, or modified without the express written consent of NVT, any warranty for those products will cease and NVT will have no further liability as it pertains to those products.

NVT assumes no responsibility for damages or penalties incurred resulting from the use of this product in a manner or location other than for which it is intended.

NVT's liability under any warranties shall be discharged by replacing or repairing any part or parts which do not conform to the applicable warranty under normal and proper use. NVT's liability with respect to any product shall not exceed a refund of the price received by NVT for that product, and in no event shall NVT have any liability for any incidental, consequential, special, or indirect damages.

Some states do not allow the exclusion or limitation of special, incidental, or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Specifications subject to change without notice.