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 electronic fields (in accordance with National Electrical Code, and other local safety requirements). Low voltage camera power, video and RS-422 or RS485 may be sent within the same wire bundle as datacom signals not telecom. 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, get-filled. Do not run 24/28 AWG 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.

Measure Your Wire Distance

All NVT quoted distance specifications include any coax in the run. It is recommended that the wire resistance be measured to ensure the capability of the NVT product is correct.

Video Distance: Recommended wire distances for best resolution is shown in Figure 1. Wire resistance is measured with an ohm-meter by shorting the two conductors together at the far end, and measuring the loop-resistance out and back. See Figure 2.

Power-Vedio Fixed camera single channel application

Power and Video at the Camera End

1. Connect the baseband Video signal output from the camera to the male BNC on the NV-216A-PV or NV-218A-PV.
2. Connect the camera’s Power input to the 18AWG Power wires on the NV-215A-PV or NV-216A-PV. Verify wire, camera load and wire resistance limit for the maximum distance that Power can travel using Figure 3.
3. Connect the 4-pair Cat-5 using the 2-pin RJ45 connector on the UTP run to the Equipment Room as shown in Figure 4.

Connecting the Power-Vedio at the Equipment Room End

1. Connect the baseband Video input twisted pair to the screws terminals adjacent to the RJ45 connector on the NV-215A-PV, or using the 8-pin RJ45 connector on the NV-216A-PV or NV-218A-PV as shown in Figure 4.
2. Connect the baseband Video signal output from the BNC pigtail on the NV-215A-PV or the BNC of the HV-215A-PV directly to the Video monitor, multiplexer, or DVR.
3. Connect Power via a Class II (SELV) low-voltage Power supply.

NVT recommends the use of 18AWG solid wire. NVT also recommends Power supplies with individually floating outputs.

Power-Vedio-Data P/T/Z camera single channel application

Connecting Power-Vedio-Data at the Camera End

1. Connect the baseband Video signal output from the camera to the Male BNC pigtail connector on the NV-218A-PVD.
2. Connect the camera’s Power input to the screwless terminals marked Power on the PVD connector of the NV-218A-PVD. Verify wire, camera load and wire resistance limit for the maximum distance that Power can travel using Figure 3.
3. If the camera supports P/T/Z telemetry over RS-422 or RS-485, connect the camera’s Data terminals to the Data screwless terminals on the NV-218A-PVD.
4. Connect the 4-pair Cat-5 using the 8-pin RJ45 connector on the UTP run to the Control end as shown in Figure 4.

Connecting the Power-Vedio-Data at the Equipment Room

1. Connect the 4-pair Cat-5 from the camera end to the RJ45 connector on the NV-218A-PVD.
2. Connect the baseband Video signal output from the BNC pigtail on the NV-218A-PVD directly to the Video monitor, multiplexer or DVR.
3. Connect the control equipment data port to the screwless terminals marked data on the NV-218A-PVD.
4. Connect the Power screwless terminals to a Class II (SELV) low-voltage Power supply. NVT recommends the use of 18AWG solid wire. NVT also recommends Power supplies with individually floating outputs.
Limited Warranty

NVT warrants that the product conforms to NVT’s applicable published specifications and is free of defects and workmanship, 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 product is damaged or 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 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 appropriate 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 limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Customer Support

If you are experiencing problems, attempt to simplify your setup. Test each cable segment separately. For example, test the camera and monitor together without the other equipment. Then add the NVT transceivers, back-to-back. Test each segment of a long cable run independently. Attempt to isolate the problem.

NVT customer support is available for consultation from 8:00 AM to 5:30 PM PST Monday through Friday. In addition, emergency after-hours callback support is available.

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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.

Agency

These NVT products are listed and/or conform to the following certifications and directives:

UL Listed to UL2044 or UL/IEC 60665.
CSA Listed to CAN/CSA-Z22.1 No. 1 for Canada.
CE Mark under EMC and low voltage
Complies with FCC part 15 B limits
Directives for the European Union.

Camera Connections

NV-716J-PVD Wiring Diagram

Channel 1 Channel 2 Channel 3 Channel 4 Channel 5 Channel 6 Channel 7 Channel 8
1 Video 1+ 1 Video 2+ 1 Video 3+ 1 Video 4+ 1 Video 5+ 1 Video 6+ 1 Video 7+ 1 Video 8+
1 Video 1- 1 Video 2- 1 Video 3- 1 Video 4- 1 Video 5- 1 Video 6- 1 Video 7- 1 Video 8-
Figure 5 (previous page).

Channel 9 Channel 10 Channel 11 Channel 12 Channel 13 Channel 14 Channel 15 Channel 16
1 Video 9+ 1 Video 10+ 1 Video 11+ 1 Video 12+ 1 Video 13+ 1 Video 14+ 1 Video 15+ 1 Video 16+
1 Video 9- 1 Video 10- 1 Video 11- 1 Video 12- 1 Video 13- 1 Video 14- 1 Video 15- 1 Video 16-

Power-Video-Data 4-Channel Application using the NV-704J-PVD at the Telecommunications Closet or IDF

Figure 4 (previous page).

Power-Video-Data at the Equipment Room End

4. Connecting the NV-716J-PVD’s Control Room outputs to the NV-1613A or NV-4025 via UTP using RJ45 connectors and Cat5 cable. The control end printouts are shown in Figure 5 (previous page). If PTZ telemetry is required, connect a second RJ45 Cat5 cable from the data port to the DVR's RS-422 or RS-485, control output.

Power-Video-Data 16-Channel Application using the NV-716J-PVD at the Telecommunications Closet of IDF

Power-Video-Data at the Camera End

1. Connecting the NV-216A-PV or the NV-218A-PVD as shown in the examples on the other side.

2. Connecting the 4-pair Cat5 UTP cables coming from the camera into the appropriate camera port on the NV-704J-PVD using the RJ45 connector as shown in Figure 4 (previous page).

3. Connecting the outputs of your independent power supply into the appropriate Camera Power terminals on the NV-704J-PVD. Torque to 2 in-lbs (0.22 Nm). NVT recommends the use of 18AWG (1.0 mm) solid conductor wire. NVT also recommends that the external power supply have individually floating outputs.

Power-Video-Data at the Equipment Room End

4. Connecting the NV-716J-PVD's Control Room outputs to the NV-1613, NV-1613S, NV-1662 or NV-1672 via UTP using RJ45 connectors and Cat5 cable. See the NV-716J-PVD wiring diagram above. If PTZ/telemetry is required, connect additional RJ45 Cat5 cable(s) from the data port to the DVRs RS-422 or RS-485 Code Converter (alternately known as a data distribution unit or fan-out unit). Additional details can be found at www.nvt.com.

Power-Video-Data at the Camera End

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