



# NV-214-A-M Product Installation Manual



## 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) Install in accordance with the manufacturer's instructions.
- 8) Only use attachments/accessories specified by the manufacturer.
- 9) 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.

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

**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.**

**⚠ WARNING - Do not install the unit in an environment where the operating ambient temperature exceeds 122°F (50° C). 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 - 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.**

## Wiring Tech Notes

1. Use point-to-point Unshielded Twisted Pair wire, 24-16 AWG (0,5-1,5mm), stranded or solid, Category rated wire.
2. The video signal may co-exist in the same wire bundle as other video, telephone, data, control signals, or low-voltage power. It is also OK to run NVT video signals in or near electromagnetic fields (in accordance with National Electrical Code, local, or other local safety requirements).
3. Measure the wire distance.
4. DO NOT USE individually shielded twisted pair. Overall shielded, multi-pair (6pr +) or foiled Cat5 is OK.
5. DO NOT USE UN-TWISTED WIRE.
6. Due to near-end crosstalk, don't send a transmit and a receive signal in the same wire bundle over 1000ft (300m). Exceptions: Category 5 or better cable, up to 2,000 ft (600m) are OK.
7. Passive NVT NV-214A-M will transmit receive "up the coax" P/T/Z control signals up to 750ft (225m)
8. Unless prohibited by Electrical Code, the camera and NVT should float, relative to earth ground. This will reduce sensitivity to lightning strikes.

## Measure Your Wire Distance

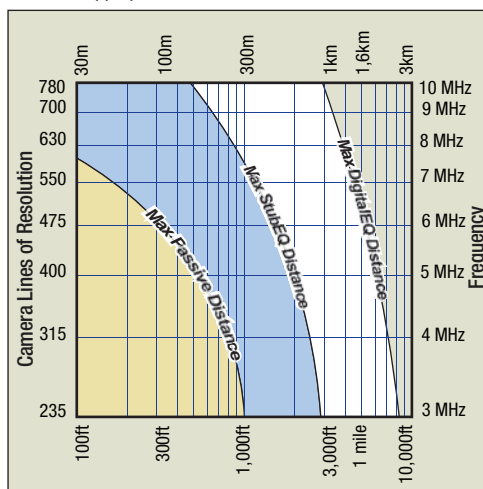
Note: All NVT quoted distance specifications include any coax in the run. It is recommended that the wire distance be measured to ensure that the capability of the NVT product is correct.

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

Wire Resistance per 1,000ft (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 |

Use the correct receiver for your wire distance. If your distance does not exceed the maximum passive distance, use a second NV-214A-M at the monitor end. Otherwise, visit [nvt.com](http://nvt.com) to select the appropriate active receiver.



## Connecting the Camera End

1. Connect the baseband video signal from the camera to the NV-214A-M.
2. Connect the UTP output of the NV-214A-M to existing or new unshielded twisted pair wiring by attaching each conductor of a twisted pair of wires to each screwless terminal. Note wire colors so that polarity may be observed at the receiving end.

## Connecting the Monitor End

1. Connect the UTP conductors to the screwless terminals of the NV-214A-M. Observe polarity.
2. Connect the NV-214A-M to the DVR, video monitor, or other video equipment.
3. Confirm that your monitor or other receiving equipment is correctly terminated with a single 75Ω terminator.

## Troubleshooting

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 in the NVT transceivers, back-to-back. Test each segment of a long cable-run independently. Attempt to isolate the problem.

## Customer Support

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.

US Office: (+1) (650) 462-8100 Fax: (+1) (650) 326-1940  
Email USA: [www.nvt.com/email](http://www.nvt.com/email) Web: [www.nvt.com](http://www.nvt.com)

UK Office: (+44) (0)20 8977 6614 Fax: (+44) (0)20 8973 1855  
Email UK: [www.nvt.com/email](http://www.nvt.com/email) Web: [www.nvt.com](http://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 60065.

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

## 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 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 limitation or exclusion 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.