**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 foil 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.

<table>
<thead>
<tr>
<th>Wire Resistance per 1,000ft (300m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 AWG (0.53 mm) = 52 ohms</td>
</tr>
<tr>
<td>23 AWG (0.57 mm) = 42 ohms</td>
</tr>
<tr>
<td>22 AWG (0.64 mm) = 33 ohms</td>
</tr>
<tr>
<td>20 AWG (0.61 mm) = 21 ohms</td>
</tr>
<tr>
<td>19 AWG (0.91 mm) = 16 ohms</td>
</tr>
<tr>
<td>18 AWG (1.02 mm) = 13 ohms</td>
</tr>
</tbody>
</table>

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 to select the appropriate active receiver.

**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 75ohm 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: nvt.com/email Web: www.nvt.com
UK Office: (+44) (020) 8977 6614 Fax: (+44) (020) 8973 1855
Email UK: www.nvt.com/email Web: 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 UL326065.
- 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 part 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.