

**Installation and
Operation Manual**
EX560,
EX560x4
& TT560
TWISTED SENDER™

NITEK®

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Reduce risk of fire or electrical shock do not expose this product to rain or moisture.

Introduction

Twisted Sender has been designed by NITEK® to transmit video signals over a point to point pair of wires. The wire should be free of voltage or other outside signals. **Twisted Sender** can turn your in-house phone lines, leased telephone lines or cable runs into pathways for video signals. **Twisted Sender** is ideal for shopping malls, parking garages, remote gates, large factories, airports or any number of places where you need to connect video equipment.

Features of the EX560, EX560x4 and TT560

- Sends live video ***up to 6,000 feet***
- Easy to install with just a screwdriver
- High resolution color or monochrome video
- Low power consumption
- Virtually impervious to hum and noise

System Specifications

EX560 System includes the following:

- (1) TT560 Transmitter, (1) TR560 Receiver and
- (2) wall power transformers

EX560x4 System includes the following:

- (4) TT560 Transmitters, (1) TR560x4 Receiver Card
- (4) wall power transformers

TT560 System includes the following:

- (1) TT560 Transmitter Only and
- (1) wall power transformer

TRANSMITTER UNIT:

(Standard TT560)

| | |
|---------------------------|---|
| Size | 1.6"H x 4.3"W x 2.4"D |
| Power Requirements | 12 to 24 AC\DC 300mA max 100mA typ. 50\60 Hz, Class 2 |
| Output | Low voltage current loop from receiver unit |
| Input-Video | 1.0 vpp composite video Monochrome or Color |

RECEIVER UNIT:

(Standard TR560 Receiver)

| | |
|---------------------------|--|
| Size | 1.6"H x 4.3"W x 2.4"D |
| Power Requirements | 12 to 24 AC\DC 100mA 50\60 Hz Class 2 |
| Input | Low voltage current loop from transmitter unit |
| Output-Video | 1.0 vpp composite video Monochrome or Color |

RECEIVER UNIT:

(Standard TR560x4 Receiver Card)

| | |
|---------------------------|--|
| Size | 1 card slot |
| Power Requirements | Powered from Rack |
| Input | Low voltage current loop from transmitter unit |
| Output-Video | 1.0 vpp composite video Monochrome or Color |

Installation

Step 1)

Check the twisted pair for continuity. Do this by shorting the pair of wires at one end and use an ohm meter to check the resistance at the other end. The chart below will give you the length of your wires for a measured resistance. For distances greater than 6,000 feet, there are several other systems available, contact your local Distributor or NITEK Technical Department for assistance.

Also use a multimeter to make sure there is no voltage on the line, very high resistance to ground and an open when the far end of the wires is opened.

| Wire Gage | DISTANCE IN FEET (METERS) | | | | | | |
|-----------|---------------------------|---------------|---------------|---------------|----------------|----------------|----------------|
| | 500 (152) | 1000 (304) | 2000 (610) | 3000 (915) | 4000 (1219) | 5000 (1524) | 6000 (1828) |
| 22 | 16 | 32 | 64 | 96 | 128 | 160 | 192 |
| 24 | 25 | 51 | 102 | 153 | 204 | 255 | 306 |
| 26 | 41 | 82 | 164 | 246 | 328 | 410 | 492 |

Check the video input to the transmitter unit to make sure you have video present. Connect video to the BNC jack of the TT560 transmitter unit. Connect the twisted pair to the terminals marked "WIRE PAIR +" and "-". There is also an "Earth Ground" terminal, this connection is required for proper surge protection. If the "Earth Ground" is not connected the unit will be grounded through the coax shield. Set the DIP switches on the transmitter as follows:

| DISTANCE | SWITCH POSITION | | | |
|------------|-----------------|----|---|---|
| | 1 | 2 | 3 | 4 |
| < 2000 ft. | | | | |
| > 2000 ft. | ON | | | |
| > 4500 ft. | ON | ON | | |

Unmarked positions are OFF

Installation - continued

Step 3)

Connect the supplied wall power transformer to power terminals. There is no polarity for DC operation. The transmitter unit can also be powered from the same power as the camera.

Step 4)

At the receiver end, connect the receiver BNC jack to a test monitor.

Step 5)

Connect the twisted pair to the terminals marked "WIRE PAIR +" and "-". Connect the twisted pair and note the polarity of the connection. If the wires are reversed the video will not be viewable, this will not hurt the unit. Just reverse the wires and the video will be correct. There is also an "Earth Ground" terminal, for surge protection. If the "Earth Ground" is not connected the unit will be grounded through the coax shield or the rack in the case of a rack card unit. Set the DIP switches on the receiver as follows:

| Unmarked Positions are Off | | | | Video Level Gain | | Video Peaking | | |
|---------------------------------|-----------------|----|----|------------------|----|---------------|----|---|
| DISTANCE IN FEET (meters) | SWITCH POSITION | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| < 500 (152) | | | | | | | | |
| 1000 (304) | | | | | ON | | | |
| 1500 (457) | | | ON | ON | | ON | | |
| 2000 (608) | | | | | ON | | ON | |
| 2500 (762) | | | ON | ON | ON | | ON | |
| 3000 (914) | | | ON | ON | | ON | ON | |
| 3500 (1066) | ON | ON | ON | ON | | ON | ON | |
| 4000 (1219) | ON | ON | ON | ON | ON | ON | ON | |
| 4500 (1371) | | | ON | ON | ON | | ON | |
| 5000 (1524) | | | ON | ON | | ON | ON | |
| 5500 (1676) | ON | ON | ON | ON | | ON | ON | |
| 6000 (1828) | ON | ON | ON | ON | ON | ON | ON | |

Installation - continued

The settings listed are for normal conditions. Other settings are possible. For added sharpness adjust switches 7 and 8. For more gain adjust 5 and 6. Switches 1, 2, 3 and 4 adjust for frequency compensation and must be adjusted in pairs. i.e. 1 and 2 or 3 and 4 must be operated together.

Step 6)

The receiver unit should be powered using the wall pack power supply provided with the unit. Rack card receivers are powered from the rack. For multiple stand-alone receiver units a common power supply may be used.

Step 7)

You can now disconnect the test monitor and connect the video out of the receiver unit as needed for your installation.

Troubleshooting

Problem **Video inverted or rolling and unstable.**
Fix/Cause • Reverse the wires of the twisted pair at either the transmitter or receiver.

Problem **No video out at the receiver.**
Fix/Cause • Check to make sure that there is video in at the transmitter end.
• Make sure that the pair of wires you are using is not open or shorted between the transmit and receiver points.
• Check power to the receiver. The receiver must be powered with the supplied wall pack.

Problem **Ghost image at the receiver.**
Fix/Cause • Bridge tap or "T" tap on the twisted pair video line. Remove tap.

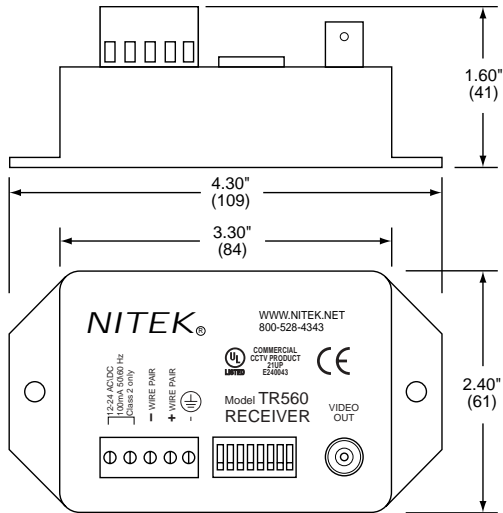
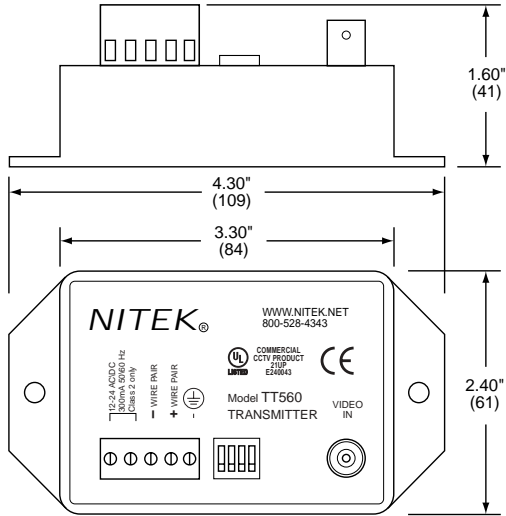
For additional help with problems please call NITEK® Technical Assistance at (800) 528-4343. Hours are from 8am to 5pm Central Standard Time Monday through Friday. We are always ready to help.

Twisted Sender Warranty

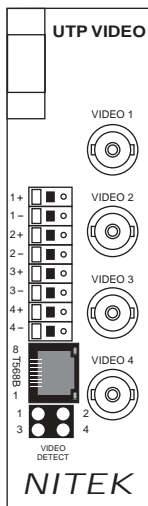
NITEK® warranties that the **Twisted Sender** will be free from defects in materials and/or workmanship. Defective units will be repaired or replaced at our option within 2 years from the date of shipment. This warranty does not apply to units abused through misuse or subjected to improper and/or excessive voltage, beyond our control.

Twisted Sender is a trademark of Northern Information Technology, Inc.

Twisted Sender Transmitter



Stand-alone Twisted Sender Receiver



TR560x4 Twisted Sender Receiver

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