# Installation and Operation Manual

# EX1120 & EX1120RR

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 EX1120*

- ❒ Sends live video ***up to 12,000 feet***
- ❒ Easy to install with just a screwdriver
- ❒ High resolution color or monochrome video
- ❒ Low power consumption
- ❒ Virtually impervious to hum and noise

**EX1120** System includes the following:

(1) TT1120 Transmitter
(1) TR1120 Receiver
(2) Class 2 Power Supplies
(1) Installation Manual

## TRANSMITTER UNIT:

(Stand Alone TT1120 Transmiter)

| | |
|---|---|
| **Size** | 1.7"(4.3cm)H x 4.3"(11cm)W x 2.4"(6.1cm)D |
| **Power Requirements** | 24 VAC 300mA 50/60 Hz Class 2 only |
| **Output** | Low voltage current loop |
| **Input-Video** | 1 vpp composite video Monochrome or Color Pal-NTSC |

## RECEIVER UNIT:

(Stand Alone TR1120 Receiver)

| | |
|---|---|
| **Size** | 1.7"(4.3cm)H x 4.3"(11cm)W x 2.4"(6.1cm)D |
| **Power Requirements** | 24 VAC 100mA 50/60 Hz Class 2 only |
| **Input** | Low voltage current loop from transmitter unit |
| **Output-Video** | 1.0 vpp (variable) composite video Monochrome or Color |

EX1120RR Receiver is 1 card slot in Card Cage and power is supplied by Card Cage.

## *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 loop resistance at the other end. The chart below will give you the length of your wires for a measured resistance. Use a multimeter to make sure there is no voltage on the line, also, check for a very high resistance to ground and an open when the far end of the wires is opened. For distances greater than 12,000 feet, there are several other systems available, contact your local Distributor or NITEK Technical Department for assistance.

| WIRE GAGE | DISTANCE IN FEET (METERS) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 500 (152) | 1,000 (304) | 2,000 (610) | 3,000 (915) | 4,000 (1219) | 5,000 (1524) | 6,000 (1828) |
| 22 | 16 | 32 | 64 | 97 | 129 | 161 | 193 |
| 24 | 25 | 51 | 102 | 153 | 204 | 255 | 306 |
| 26 | 41 | 82 | 163 | 245 | 326 | 408 | 490 |

| WIRE GAGE | DISTANCE IN FEET (METERS) | | | | | |
|---|---|---|---|---|---|---|
| | 7,000 (2134) | 8,000 (2438) | 9,000 (2744) | 10,000 (3048) | 11,000 (3352) | 12,000 (3656) |
| 22 | 225 | 258 | 290 | 322 | 354 | 387 |
| 24 | 357 | 408 | 459 | 510 | 561 | 612 |
| 26 | 571 | 653 | 735 | 816 | 898 | 979 |

### Step 2)

Check the video input at the transmitter unit to make sure you have video present. Connect the twisted pair to the terminals marked “VIDEO +” 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 using the following table.

TRANSMITTER SWITCH TABLE

| DISTANCE | SWITCH POSITION | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| <4000 ft<br><1219 m | | | | |
| 4000 ft<br>1219 m | ON | | | |
| 5000 ft<br>1524m | | ON | | |
| 6000 ft<br>1828 m | | | ON | |
| 7000 ft<br>2134 m | ON | ON | ON | |
| 8000 ft<br>2438 m | | | ON | ON |
| >9000 ft<br>>2744 m | ON | ON | ON | ON |

Unmarked positions are OFF

**Step 3)**

Connect the 24VAC Class 2 power supply to the power terminals and apply power.

**Step 4)**

At the receiver end, connect the receiver BNC jack to a test monitor. Also, connect the twisted pair to the terminals marked "VIDEO +" and "**–**". Be sure to note polarity of the connection. If the wires are reversed the video will not be viewable but this will not damage the unit. Reverse the wires and the video will be correct. On the Stand Alone Receiver there is an "Earth Ground" terminal, for surge protection. If the "Earth Ground" is not connected the unit will be grounded through the coax shield. Set **both** of the DIP switches on the receiver by using the Receiver Switch Table.

## RECEIVER SWITCH TABLE

| DISTANCE IN FEET | SWITCH POSITION | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** |
| 1,000ft (304m) | ON | | | | | | | | | | | |
| 2,000ft (609m) | | ON | | | | | | | | | | |
| 3,000ft (914m) | | | ON | | | | | | | | | |
| 4,000ft (1219m) | | | | ON | | | | | | | | |
| 5,000ft (1524m) | | | | | ON | | | | | | | |
| 6,000ft (1828m) | | | | | | ON | | | | | | |
| 7,000ft (2134m) | | | | | | | ON | | | | | |
| 8,000ft (2438m) | | | | | | | | ON | | | | |
| 9,000ft (2744m) | | | | | | | | | ON | | | |
| 10,000ft (3048m) | | | | | | | | | | ON | | |
| 11,000ft (3352m) | | | | | | | | | | | ON | |
| 12,000ft (3656m) | | | | | | | | | | | | ON |

Unmarked positions are OFF

Place both switches to the same setting.

**Step 5)**

On the Stand Alone receiver unit connect the 24VAC Class 2 power supply to the power terminals. For multiple receiver units a common power supply may be used**.** The rack card receivers get their power from the rack and can be hot swapped. For the best performance use the dip switchs to adjust for distance. The pots may be adjusted for level and peaking.

**Step 6)**

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.
- Make sure that the pair of wires you are using is not open or shorted between the transmit and receive points.
- Check power to both the transmitter and receiver units.

**Problem** **Ghost image at the receiver.**

***Fix/Cause***

- Bridge tap or "T" tap on the twisted pair video line. Remove tap.

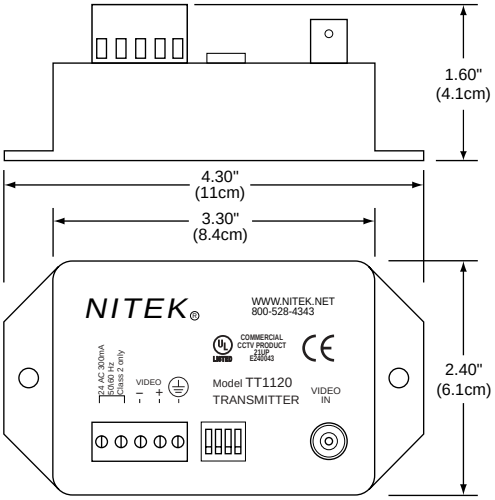
For additional help with problems please call NITEK Technical Assistance at (800) 528-4343. Hours are from 8 a.m. to 5 p.m. Central Standard Time Monday through Friday. We are always ready to help.

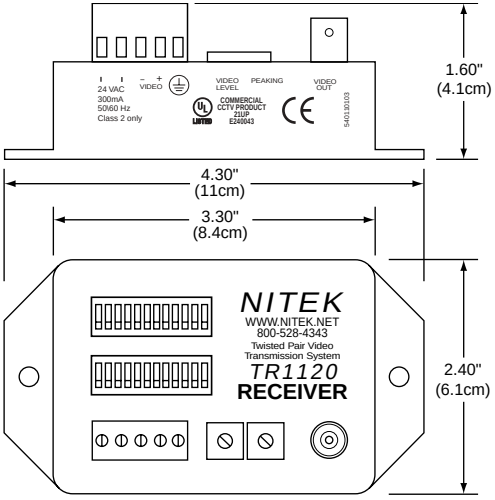
## *Twisted Sender Warranty*

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** and NITEK are trademarks of Northern Information Technology, Inc.

## Stand-alone TT1120 Transmitter




## Stand-alone TR1120 Receiver

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