

**Installation and  
Operation Manual**  
**TS515x4 &  
TR515x4**  
*TWISTED SENDER™*

***NITEK®***

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## ***Introduction***

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**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 TS515x4 and TR515x4***

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- ☐ Live video over twisted pair lines for ***up to 1,500 feet***
- ☐ Easy to install with just a screwdriver
- ☐ High resolution color or monochrome video
- ☐ Virtually impervious to hum and noise
- ☐ No power required for the transmitter

## System Specifications

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**TS515x4** System includes the following:

- (4) VB37F Transmitter
- (1) TR515x4 Receiver card

**TR515x4** System includes the following:

- (1) TR515x4 Receiver card

### TRANSMITTER UNIT: (Standard VB37F)

Size	1.3"H x 2.0"W x .95"D
Power Requirements	None
Input-Video	1 vpp composite video Monochrome or Color

### RECEIVER UNIT:

Size	1 card slot
Power Requirements	Power supplied by Card Cage
Input	(4) Low voltage current loop from transmitter unit
Output-Video	(4) 1.0 vpp composite video Monochrome or Color

## Installation

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### 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. Use a multimeter to make sure there is no voltage on the line.

For distances greater than 1,500 feet, there are several other systems available. Contact your local Distributor or NITEK Technical Department for assistance.

WIRE GAGE	DISTANCE IN FEET						
	300	500	1,000	1,500	2,000	2,500	3,000
22	10	16	32	48	64	80	96
24	15	25	51	76	102	127	153
26	25	41	82	123	164	205	246

The TR515 x4 Receiver can be used with any standard twisted pair video camera or Balun type transceiver device. Steps 2 and 3 refer to the NITEK VB37 Balun.

### Step 2)

Check the video input at the transmitter unit to make sure you have video present. Connect the video to the BNC jack of the VB37 transmitter unit. The transmitter is a passive device called a *Balun* and requires no power.

### Step 3)

Connect the twisted pair to the screw terminals and note the polarity of this connection. If the wires are reversed, when you connect the receiver the video will not be viewable on the monitor. Reversing the wires will not damage to unit.

### Step 4)

Plug the receiver card into the NITEK card cage and connect a test monitor to the desired output BNC connector (1, 2, 3 or 4).

## Installation - continued

### Step 5)

Locate the twisted pair input terminals (marked "+" and "-") which match the video output BNC selected. Connect the twisted pair, note the polarity of the connection. If the wires are reversed the video will not be viewable, this will not damage the unit. Reverse the wires and the video will be correct.

### Step 6)

DIP switches are provided so that the unit can be adjusted for the best picture. The following settings are factory recommended for normal conditions. For added sharpness adjust switches 7 and 8. For more gain adjust 5 and 6. Switches 1, 2 and 3, 4 must be operated in pairs.

Unmarked Positions are Off					Video Level Gain		Video Peaking	
Distance	Switch Postion							
	1	2	3	4	5	6	7	8
100-400 ft.								
400-700 ft.					ON			
700-900 ft.			ON	ON	ON			
900-1,100 ft.			ON	ON		ON		
1,100-1,300 ft.			ON	ON		ON	ON	
>1,300 ft.	ON	ON	ON	ON		ON		

### Step 7)

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

## Troubleshooting

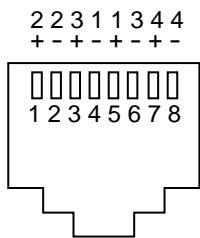
<b>Problem</b> <b>Fix/Cause</b>	<b>Video inverted or rolling and unstable.</b> <ul style="list-style-type: none"><li>• Reverse the wires of the twisted pair at either the transmitter or receiver.</li></ul>
<b>Problem</b> <b>Fix/Cause</b>	<b>No video out at the receiver.</b> <ul style="list-style-type: none"><li>• Check to make sure that there is video in at the transmitter.</li><li>• Make sure that the pair of wires you are using is not open or shorted between the transmit and receive points.</li></ul>
<b>Problem</b> <b>Fix/Cause</b>	<b>Ghost image at the receiver.</b> <ul style="list-style-type: none"><li>• Bridge tap or "T" tap on the twisted pair video line. Remove tap.</li></ul>

## 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 Pair Wiring  
for T568B Jack



T568B