

Model VH3200

UTP Modular Hub

Installation and Operation Manual

Note: This installation should be made by a qualified service person and conform with local codes.



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

Specifications

VH3200 System includes the following:

- (1) VH3200 Hub
- (1) Wall power transformer

Size 1.75"H x 19"W x 10"D

Input

Low voltage current loop from balanced UTP transmitters

Power Requirements 24VAC, 800mA

Output-Video

1.0vpp composite video
Monochrome or Color

Installation

The VH3200 UTP modular hub is designed to operate with a mix of Nitek UTP video cards either active or passive. If you are using pre-existing wire or are not sure of the distance you are going the following wire tests are highly recommended.

Checking the Wire

1. **Loop Resistance** - Short one end and check the resistance between the wires at the other end. This will give you the loop resistance and wire distance (See Chart).
2. **Open Loop** - Open the shorted end and check for infinity at the other end.
3. **Short or Leakage to Ground** - With both ends open check each wire to earth ground. The reading should be infinity or megohms.
4. **No Voltage on Wires** - With both wires open check for DC or AC, other than stray AC, on the wires.

For distances greater than 3,000 feet an amplified transmit source may be needed.

Wire Gage	Distance in Feet (Meters)						
	500 (150)	1000 (300)	2000 (600)	3000 (900)	4000 (1200)	5000 (1500)	6000 (1800)
22	16	32	64	97	129	161	194
24	26	51	103	154	205	257	308
26	41	82	163	245	326	408	490

Connecting the Hub

If using the unit as a receiver, connect the twisted pair from the camera end to the screw terminals on the back, make sure of the polarity of the connection. If the wires are reversed the video will be unviewable on the monitor. Connect the matching BNC to your video system as needed.

If using the unit as a transmitter, connect your video source to the BNC and connect the twisted pairs leading to your monitor end to the matching screw terminals. Note the polarity of your connections.

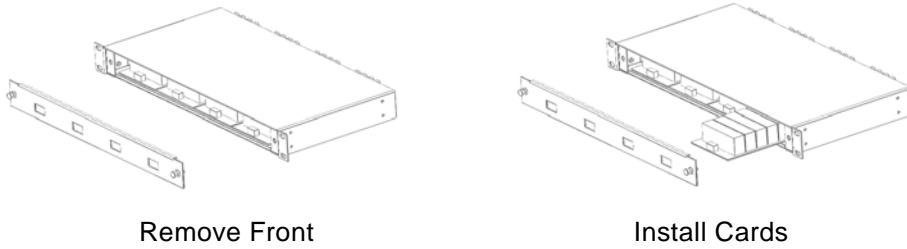
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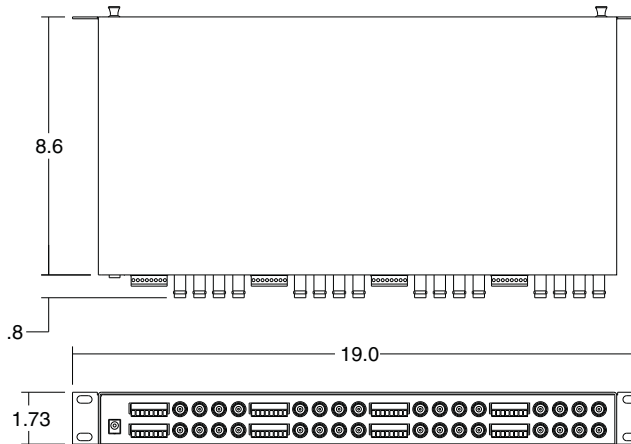
Installing Cards

Remove the front panel of the VH3200 by pulling on both front knobs. Insert a card between the card guides. Push the card to the rear until it slides into the edge connector and the front of the card is flush with the front of the VH3200. Replace the front panel and press the knobs in to lock it in place. Refer to the instruction sheet with each card for setup of each card.



Powering the Hub

The VH3200 is powered from a 24VAC wall pack. It uses a maximum of 18VA so several units can be run from a larger supply. Contact Nitek Tech Support for recommendations.



Troubleshooting

Problem
Fix/Cause

Video inverted or rolling and unstable.

- Reverse the wires of the twisted pair at either the transmitter or receiver.

Problem
Fix/Cause

No video out at the receiver.

- Check to make sure that there is video in at the transmit 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.

Problem
Fix/Cause

Ghost image at the receiver.

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

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

Limited Warranty

Nitek warrants that this unit 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.

For complete warranty details contact Nitek.


Installation Instructions

TR515x8 Card

NITEK®

Note: This installation should be made by a qualified service person and conform with local codes.

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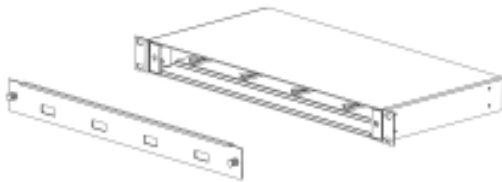
 Reduce risk of fire or electrical shock. Do not expose this product to rain or moisture.

Specifications

Power Requirements: Power is supplied by VH3200

UTP Wire Length: up to 1500 feet with passive transmitter

To install the TR515x8, remove the front panel of the VH3200 Modular Hub by pulling on the two front panel knobs. Insert the card into any open slot. Replace the front cover and press the knob in to lock it in place.



Remove front panel



Install cards

Determining Cable Length

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. Use the chart below to determine the length of your wires for a measured resistance. Also, use the multimeter to test the line and make sure there is no voltage on it. Testing each line and recording the length for each camera run can greatly reduce installation time. For distances greater than 1,500 feet different receiver units are recommended, contact NITEK for specific model numbers.

WIRE GAGE	DISTANCE IN FEET (METERS)						
	500 (152)	1,000 (304)	2,000 (610)	3,000 (914)	4,000 (1219)	5,000 (1524)	6,000 (1829)
22	16	32	64	97	129	161	194
24	26	51	103	154	205	257	308
26	41	82	163	245	326	408	490

TR515x8 Card w/Passive (Balun) Transmitter

1. Connect Balun to camera - Using the installation manual provided with the balun, connect it to the video source, usually a video camera. If you have a UTP ready camera connect the twisted pair directly to the camera video out.

2. Connect twisted pair to VH3200 - The twisted pair connects to the terminal blocks on the rear of the VH3200.

3. Connect video out to your system - Using standard coax cable, connect from the video out BNC to your system as needed for viewing.

4. Set DIP switch for distance - Using the chart below set the 8 position DIP switch on the TR515x8 for the distance of your twisted pair line plus any coax on each end. The modules are numbered to match the connections. Do not just try settings to see what works. Knowing the distance and setting the switch will save you time and provide you with the best possible picture. Note that the settings listed are for standard communication cable. Should you be using wire gages less than 22 awg or **shielded wire** with less than 10 pair your setting may vary, call Nitek Tech Support for help.

Unmarked Positions are Off					Video Level Gain	Video Peaking		
Distance	Switch Position							
	1	2	3	4	5	6	7	8
<100-400 ft. (30-121 m)								
400-700 ft. (121-213 m)					ON			
700-900 ft. (213-274 m)			ON	ON	ON			
900-1,100 ft. (274-335 m)			ON	ON		ON		
1,100-1,300 ft. (335-396 m)			ON	ON		ON	ON	
>1,300 ft. (396 m)	ON	ON	ON	ON		ON		