

# **VI6116**

## **UTP ACTIVE TRANSCEIVER HUB**

### **USER'S MANUAL**



7810 Trade Street, Suite 100  
San Diego, CA 92121, U.S.A.  
Phone: (858) 484-5209  
Fax: (858) 484-1205

## 1. Introduction

The Vigitron VI6116 is a 16 port active UTP video receiver device. It receives quality color video over 6000 feet (2000 m) of point-to-point unshielded twisted pair (UTP) wires when used with VI6100TV active UTP transmitter. It also can be used with Vigitron passive UTP transceivers for up to 3000 feet (1000 m).

This hub uses Category 2-5 twisted pair wires, and is easy to install and cost effective. This receiver HUB has built-in surge suppression to protect video equipment against damaging voltage spikes. Its cross talk and noise immunity ensures quality video signals with no disturbing "hum-bars".

The distance for each channel is easily adjustable using a single potentiometer. In addition, a green LED indicates video presence for each channel. It provides 2 isolated outputs for every video input.

The Vigitron active hubs offer quality video in a highly integrated and cost-effective package. They are ideal for a wide variety of security and surveillance applications that require high-density CCTV equipment.

## 2. Model Numbers and Features:

Model #	Description	Mating Model	Distance
VI6108	8-Port Active HUB	Any passive Baluns or HUBs VI6100VT	3000 feet (1000m) 6000 feet (2000m)
VI6116	16-Port Active HUB	All passive Baluns or HUBs VI6100VT	3000 feet (1000m) 6000 feet (2000m)
VI6132	32-Port Active HUB	All passive Baluns or HUBs VI6100VT	3000 feet (1000m) 6000 feet (2000m)

## 3. Specifications\*

Video Format	NTSC, PAL, and SECAM
Frequency	20 to 6 MHz
Coax	75 Ohm
Twisted Pair	100 Ohms +/- 20%, 24 AWG min, Up to 6000 feet (2000 m) Unshielded Category 2-5
Video Loss	Green LED
CMRR	70 dB
Power	110-240 VAC 50-60Hz
Connectors	UTP: Detachable Screw Terminal, Video: Female BNC
Temperature	Operating: -10C to +70C, Storage: -30C to +70C
Humidity	0 to 95%, non-condensing
Transient Immunity	6000V, 1.2 usec x 50 usec
Material	Aluminum
Dimensions	1.70 x 17.0 x 8.0 Inches, 4.3 x 43 x 20.3 cm (H x W x L),
Weight	3.3 lb, 1500 g
Mounting	19 inch, Rack Mount or Wall Mount (Mounting Kit Included)

\*Specifications subject to change without notice.

## 4. Installation

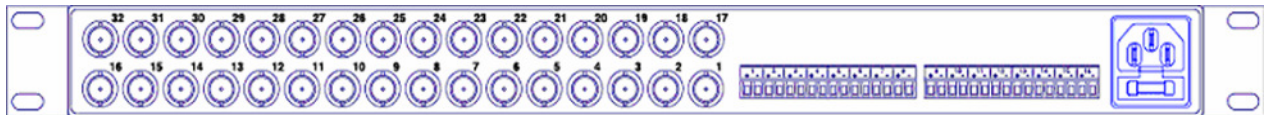
### 4.1 Preparation:

Before getting started verify that you have the following:

- Mounting Hardware and 32 pieces of 2 feet coax Cables (included with the kit).
- Vigitron VI6100VT active transmitter or passive transceivers (See Table in section 2 above for various options and configurations). These transceivers are not included with the kit and are sold separately.
- Use Unshielded Twisted Pair (UTP) wires (24 AWG or better). **Do not** use untwisted wires since it may result in interference and noisy picture. **Do not** use shielded twisted pair wires since it may cause impedance mismatch.
- Verify that each video signal uses conductors from the same twisted pair.
- The UTP transmitter/receiver devices must be used with point-to-point connection of unshielded twisted pair wires. Any extra branch of twisted pair will cause ghost effect and poor quality video.
- **Do not** use more than 6 feet of coax cable between the UTP devices and video equipment.



**VI6116 Dual Output Front View**



**VI6116 Dual Output Rear View**

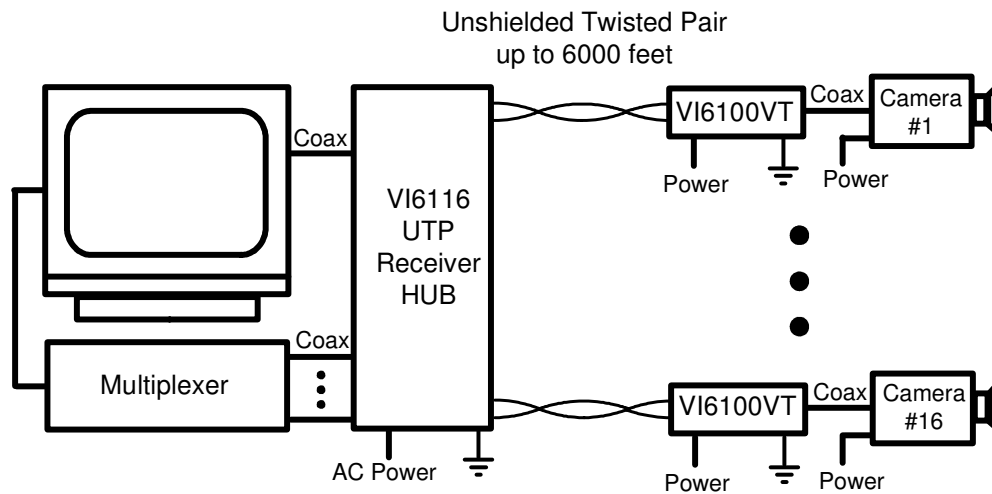
### 4.2 Transmitter side installation:

1. Choose the right mating transmitters or transceivers.
2. When a single transceiver (i.e.Vi1000) is used, connect the video source (camera, etc.) through a coax cable or directly to the BNC video input of each transceiver. Connect one end of the UTP wire to the terminal block of each transceiver. Connect the GND wire to chassis ground.
3. When a Vi6100VT active transmitter is used, connect the video source (camera, etc.) through a coax cable or directly to the BNC video output of the UTP transmitter. Connect the UTP wire to the terminal block of the UTP transmitter. Connect the ground wire to a solid ground thru an 18 AWG or thicker wire. Connect the power supply to the UTP transmitter power connector. Set the distance switch to HI for distances longer than 3000 feet or set it to LO for distances below 3000 feet.

### 4.3 Receiver side installation:

1. Mount the hub near the monitors or VCRs using the rack mount or wall mount hardware provided with the kit.
2. Connect the BNC outputs to the video equipment (monitors, VCRs, etc.) using the 2 feet coax cables provided with the kit. Make sure the connections are secured properly. There are 2 outputs available for each video input,

3. Connect the other end of the UTP wire, to the hub's detachable terminal block. Make sure to match the corresponding numbers on the detachable terminal block and BNC connectors.
4. Connect power cord to an AC outlet.
5. Adjust the front potentiometer for best image quality for each channel. If the picture is scrambled change the polarity of the twisted pair wires to the corresponding terminal block.



**The VI6116 Dual Output Application Diagram**

## 5. Troubleshooting

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
No picture	Connections are not secure	Make sure the connections are secured properly and wires are not broken or missing.
	Wrong pair of wires	Verify that each video signal uses conductors from the same twisted pair.
Scrambled picture	Wrong polarity	Check polarity on each pair of wires. Make sure to match the corresponding numbers on the detachable terminal block and BNC connectors
Picture is unstable and has ghost effect	Long stubs	The transceiver devices must be used with point to point connection of unshielded twisted pair wires. Remove any extra branch of twisted pair wires. Verify that there are no star configurations.
Noisy picture	Untwisted pair of wires	Use twisted pair wires to avoid interference.
Dim picture	Long wires	Use less than 6 feet of coax cable between the transceiver device and the video source. UTP less 1000 ft.
	High gauge wires.	Wire gauge must be 24 or better.
Low quality or blurred picture	Shielded wires	Use unshielded twisted pair wires Cat 2-5 to avoid impedance mismatch.

## 6. Warranty

Subject to the provisions described below, Vigitron, Inc. UTP Active Hubs, VI6108, VI6116, VI6132 ("Product") is protected by a limited three-year warranty from the date of purchase from defects in material and workmanship.

Should this product fail to perform as described above within three years following the original date of purchase, Vigitron, Inc. will ship a replacement for the failed product upon return of the defective product.

This warranty does not apply if, in the judgment of Vigitron, Inc., Product fails due to damage from shipment, handling, storage, accident, abuse or misuse, or if it has been used or maintained in a manner not conforming to Product manual instructions, has been modified in any way, or has had any serial number removed or defaced. Repair by anyone other than Vigitron, Inc. or an approved agent will void this warranty. The maximum liability of Vigitron, Inc. under this warranty is limited to the purchase price of the Product covered by the warranty.

Prior to returning any defective Product, the end customer or the reseller from whom the end customer originally purchased the Product must obtain a Return Materials Authorization (RMA) number from Vigitron, Inc. All defective Products should be returned to Vigitron, Inc. with shipping charges prepaid. Vigitron, Inc. will not accept collect shipments.

Except as specifically provided in this agreement or as required by law, the warranties and remedies stated above are exclusive and in lieu of all others, oral or written, expressed or implied. Any and all other warranties, including implied warranties of merchantability, fitness for a particular purpose and non-infringement of third party rights are expressly excluded. Vigitron Inc. shall not under any circumstances be liable to any person for any special incidental, indirect or consequential damages, including, without limitation, damages resulting from use or malfunction of the products, loss of profits or revenues or costs of replacement goods, even if Vigitron, Inc. is informed in advance of the possibility of such damages.

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