

5. Troubleshooting

Problem	Cause	Solution
No picture	Connections are not secure Wrong pair of wires	Make sure the connections are secured properly and wires are not broken or missing. 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 High gauge wires.	Use less than 6 feet of coax cable between the transceiver device and the video source. UTP less 1000 ft. Wire gauge must be 24 or better.
Low quality or blurred picture	Shielded wires	Use unshielded twisted pair wires Cat 2-7 to avoid impedance mismatch.

6. Warranty

Subject to the provisions described below, **Vigatron, Inc.** UTP Passive Hub VI1004 ("Product") is protected by a limited lifetime warranty from the date of purchase from defects in material and workmanship.

Should this product fail to perform as described above within ten years following the original date of purchase, Vigatron, 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 **Vigatron, 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 **Vigatron, Inc.** or an approved agent will void this warranty. The maximum liability of **Vigatron, 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 **Vigatron, Inc.** All defective Products should be returned to **Vigatron, Inc.** with shipping charges prepaid. **Vigatron, 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. Vigatron, 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 Vigatron, Inc. is informed in advance of the possibility of such damages.

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MODEL Vi1004

PASSIVE 4-PORT UTP TRANSCEIVER HUB

USER'S MANUAL



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1. Introduction

The Vigitron Vi1004 is a passive 4-port hub that transmit or receive video or data over unshielded twisted pair (UTP) wires, point-to-point, for distances up to 1000 feet* (330 m). It also provides support for the “up the coax” PTZ control signals.

This hub uses Category 2-7 twisted pair wires, is easy to install, cost effective, and does not require power. It has built-in surge suppression to protect video equipment against damaging voltage spikes. Its cross-talk and noise immunity ensures quality video signals. The Vigitron passive hubs offer quality video in a highly integrated and a cost-effective package. This HUB is ideal for a wide variety of security and surveillance applications that require medium-density CCTV systems.

2. Mating Model Numbers and Features:

Model #	Surge Protect.	Ground Lifting	Distance (feet)	Ground Lifting	Mating Model #
Vi1004	Yes	No	1000*	No	VB1000, Vi1001 Vi1004, Vi1008, Vi1016, Vi1032
		Yes	3000	Yes	Vi6100VR, Vi6104, Vi6008, Vi6116, Vi6132

3. Specifications**

Video Format	NTSC, PAL, and SECAM
Frequency	DC to 6 MHz
Coax	75 Ohm
Twisted Pair	100 Ohms +/- 20%, 24 AWG min, Up to 1000 feet* (330 m) Unshielded Category 2-5
Insertion Loss	0.3 dB
CMRR	50 dB
Power	No power required
Connectors	UTP: Detachable Terminal Blocks and RJ-45 Video: Female BNC Ground: Screw terminal
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	Black ABS Plastic, UL rating of 94V-0
Dimensions	0.90x2.19x4.88 Inches, 2.3x5.6x12.4 cm (HxWxL)
Weight	0.2 Lb, 100 g
Mounting	Philips Screws or VI0010 Rack-Mounting Kit (not Included)

* It is recommended not to exceed 750 feet (250 m) when using Digital Video Recorders.

**Specifications subject to change without notice.

4. Installation

4.1 Preparation:

Before getting started verify that you have the following items:

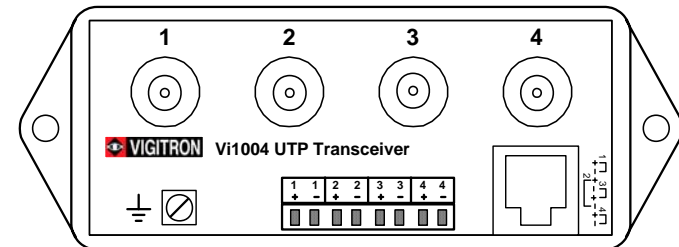
- Unshielded Twisted Pair (UTP) wires (24 AWG or better). **Do not** use untwisted wires since it may result in interference and noisy picture. **Do not** use shielded twisted pair wires since it may cause impedance mismatch.
- Verify that each video signal uses conductors from the same twisted pair.
- The transceiver 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 transceiver devices and video sources.

4.2 Transmitter side installation:

1. Choose the right mating transceivers (See table in section 2).
2. When a single transceiver is used, connect the video source (camera, etc.) through a coax cable (less than 6 feet) 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 green GND wire to chassis ground.
3. When a transceiver hub (i.e., Vi1004) is used, connect the video source (camera, etc.) through a coax cable or directly to the BNC video input of each channel. Connect one end of the UTP wire to the terminal block of the corresponding channel.

4.3 Receiver side installation:

1. Mount the hub near the monitors or DVRs using the VI0010 rack mount panel or by itself.
2. Connect the hub to the video equipment (monitors, VCRs, etc.) using the 2 feet coax cables provided with the kit. Make sure the connections are secured properly.
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. If the picture is scrambled change the polarity of the twisted pair wires to the corresponding terminal block.



The Vi1004 Top View