



INSTALLATION MANUAL©

ST-CCTV-VBAC-POEPTZ 1 Channel Power Over Ethernet UTP Active Video Balun Transceiver

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PACKAGE CONTENTS

This package contains:

- One ST-CCTV-VBACT-POEPTZ Active Video Transmitter
- One ST-CCTV-VBACR-POEPTZ Active Video Receiver
- One installation manual

Note: A DC power supply is required. Selection of a power supply with the correct voltage and ampere rating is determined by the voltage drop for the specific length of UTP cable used between the transmitter and receiver. Consult your UTP cable manufacturer's specifications to determine the voltage drop.

PRODUCT DESCRIPTION

The ST-CCTV-VBAC-POEPTZ Active Video Balun Transceiver allows the transmission of real-time video and power over Unshielded Twisted Pair (UTP). The ST-CCTV-VBACT-POEPTZ video transmitter converts an unbalanced video signal to a balanced signal transmitted over UTP. The ST-CCTV-VBACR-POEPTZ video receiver then converts the balanced video signal to an unbalanced signal for display on the device. These units offer excellent common mode and multi-channel interference rejection and the transmission and display of high quality color video for security, surveillance, video conferencing, video distribution and PTZ control signal applications.

The ST-CCTV-VBAC-POEPTZ also transmits electrical power along with data to remote devices over standard UTP cable. In applications such as security surveillance and elevator surveillance the Power Over Ethernet (POE) feature allows the UTP cable to replace power, video coaxial and data cables making system installations easier, faster and less expensive without building remodeling.

SPECIFICATIONS

ST-CCTV-VBAC-POEPTZ

Specifications (Typical)

1. Video Frequency Response	DC-6MHz
2. Video Common Mode and Differential Mode Rejection	15KHz-6MHz 60dB typical
3. Wire Type	UTP DC Loop Resistance $\leq 18\Omega/100m$
4. Interface	2 PIN UTP Terminal Block BNC (female) Connector RJ45 Connector DC Jack
5. Impedance	Twisted Pair: 100 Ω BNC Coax: 75 Ω
6. Transmission Distance (video only)	1800 meters / 5,905 feet
7. Suppression	6KV 1.2uSx50uS; 4KV 8uSx30uS
8. Power	RX : 38VDC max. (input); TX : 12VDC (output)
9. Environmental	32° - 122° F, 0%-95% Humidity
10. Dimensions	3.2"x.2.3"x1.2" (with BNC)
11. Weight	4.6 oz

INSTALLATION AND OPERATION

1. UNPACKING and HANDLING

Each unit is shipped assembled and factory tested.

Ensure that all accessories are removed from the container before discarding packing material

2. MECHANICAL INSPECTION

Inspect the front and rear of the equipment for shipping damage. Make sure the equipment is clean, and no connectors are broken, damaged, or loose. If equipment appears to be damaged or defective please contact your distributor or SecurityTronix in the USA at 1-610-429-1511 for assistance.

3. PRODUCT PICTURES and WIRING DIAGRAM



ST-CCTV-VBACT-POEPTZ



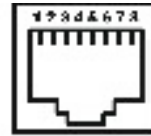
ST-CCTV-VBACR-POEPTZ

4. HARDWARE CONNECTIONS and ADJUSTMENT



- a. Connect the video source (e.g., security camera) to the ST-CCTV-VBACT-POE's BNC port using coaxial cable with BNC connectors.
- b. If the video source requires power connect the ST-CCTV-VBACT-POE's power lead to the source. Many CCTV cameras are 12V DC.
- c. Connect the ST-CCTV-VBACT-POE transmitter and ST-CCTV-VBACR-POE receiver together using UTP cable between the transmitter's and receiver's RJ45 jacks. The diagram below specifies required wire/pin positions.

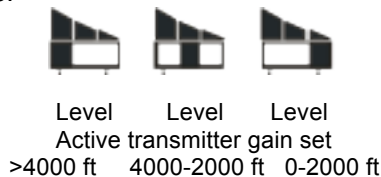
PIN	Color	Function	PIN	Color	Function
1	W-O	Video+	5	W-B	Power+
2	O	Video-	6	G	Data-
3	W-G	Data+	7	W-BR	Power-
4	B	Power+	8	BR	Power-



- d. Connect two wires of a UTP cable from the ST-CCTV-VBACT-POE's Data wire block to the remote CCTV camera. Make note which color wire is connected to the wire block's polarity. You will need to ensure the same wires and polarities are connected to the camera and the ST-CCTV-VBACR-POE's Data wire block.
- e. Connect two wires from another UTP cable to the ST-CCTV-VBACR-POE's Data wire block to the remote CCTV camera's controller (e.g., joy stick). Again, make sure the wire connections have the same polarity on the transmitter, receiver and camera.
- f. Connect a coaxial cable with BNC connectors between the ST-CCTV-VBACR-POE's BNC port and the receiving device (e.g., display, DVR recorder).
- g. Connect an appropriately rated DC power supply to the ST-CCTV-VBACR-POE's power jack. **NOTE: The ST-CCTV-VBACR-POE requires more than 12V DC to deliver power to a remote device (e.g., CCTV camera). However, power losses will occur depending on the length and gauge of the UTP cable connecting the transmitter and receiver. Therefore, before selecting a power supply you must determine the amount of voltage drop for your particular length/gauge of UTP cable and add that amount (voltage drop) back in to the required power supply voltage. As UTP cable specifications vary, you must refer to the manufacturer's specifications for the UTP cable being used.**
- h. Connect the power supply to an AC outlet. An LED on each unit will display a green light indicating the transmitter / receiver is powered.

Settings

- a. The ST-CCTV-VBACT-POE will require gain adjustment consistent with cable distance. Use the following as a reference guide for setting the transmitter's Gain Control per distance.



- b. Use the ST-CCTV-VBACR-POE's brightness control to adjust the required brightness level.
- c. Image sharpness may be affected with the length of the transmission cable. The ST-CCTV-VBACR-POE's Sharpness Control can be used to achieve the best image

sharpness. Refer to the reference guide below to set the sharpness control's DIP switches per cable distance.

	1000 ft		2130 ft		3278 ft		4261 ft
	1327 ft		2458 ft		3442 ft		4590 ft
	1639 ft		2622 ft		3770 ft		4753 ft
	2000 ft		3000 ft		4100 ft		5000 ft

Active receiver sharpness chart (suggested for best color video transmit distance)

5. TROUBLESHOOTING

- a. Make sure all component, data and UTP cable connections are tight and not loose.
- b. Ensure the UTP wire connections on the transmitter and receiver are using the same pins and the data wires the correct polarities.
- c. The quality of UTP cables has a major effect on the usable distance of transmission lines and the quality of the displayed signal. Therefore, the actual transmission length is subject to the quality of the UTP cables being used. Professional grade transmission lines should be used.
- d. If your device is not displaying a video signal check to be sure the transmitter and receiver each have power. Then check all wire connections for tight fit and correct polarity.
- e. If interference appears on the image check all system connections including camera, housing, monitor, DVR, etc. as well as ensuring all devices are property grounded.
- f. If the image appears twisted or wobbly make sure the wire connections on the transmitter and receiver have the same polarities. Also check the UTP cable connections to the RJ45 connectors are in the correct order.
- g. If the image is too bright the received signal may be too strong and require adjustment using the ST-CCTV-VBACR-POE's Brightness Control and Sharpness Control. It may also be necessary to adjust the ST-CCTV-VBAT-POE's gain control.
- h. If the remote CCTV camera cannot be powered by the ST-CCTV-VBACT-POE transmitter (i) check the power to the remote camera and determine what the voltage level is at the camera, (ii) check the input voltage to the ST-CCTV-VBACR-POE receiver to see whether it is in the required range, (iii) recalculate the voltage drop from the receiver to the camera for the length/gauge of UTP cable being used – the voltage drop together with an “undersized” power supply will keep sufficient power from arriving at the camera, (iv) make sure the wiring of the UTP cable to the RJ45 plugs is in the appropriate order, and/or (v) shut down the camera's power, disconnect power to the camera and reconnect/re-energize to make sure the ST-CCTV-VBAC-POE is not in overload protection status.
- i. If power is getting to the remote camera but PTZ controls are not functioning correctly (i) make sure the 2-wire UTP data cables have tight connections at the remote camera, transmitter, receiver and controller and (ii) ensure the polarities for the 2 UTP data wires are consistent among the remote camera, transmitter, receiver and controller connections.

- j. Further troubleshooting assistance can be found on-line at www.securitytronix.com in addition to support from SecurityTronix sales engineers at 1-610-429-1511.