

Specifications

Environment	HD CCTV, HD-SDI
Device Targeted	HD-SDI (up to 1080i) CCTV equipment that need to bring power and control using a single UTP cable.
Compatible TX Unit	500720, 500720-CL
Compatible Mounting Hardware	500902, 500900, 500910, 500915
Signal Transmission	Signal: SDI (no analog signal) Power: 12VDC or 24VAC 2A max Control signal: any signal using a balanced pair, 60V 1A max
Cabling Requirement	Any 4-pair straight cable Cat5e or 6, 24 AWG or lower
Power Requirements	12VDC 90mA, coming from the same power line as source 24VAC 60mA, coming from the same power line as source 5V 130mA using the external wall mount power supply
Visual Indicators	One for power. One for SDI signal present.
Connectors	One 75 ohm, BNC connector, female. One 4 pin terminal block for power and signal.
RJ45 Pin Configuration	Pin 7-8 for SDI signal Pin 1+3, 2+6 for power (1&3 in parallel, 2&6 in parallel) Pin 4-5 for control
Maximum distance	SD: 150m (500ft) for CAT 5E UTP, 150m (500ft) for CAT 6 UTP. HD: 30m (120ft) using Cat 5E UTP, 45m (150ft) for CAT 6 UTP. Note: Maximum distance is function of the receiving equipment. Dedicated Cat5E/6 cables are recommended with no patch panels. This balun will not work in 3G.
Temperature	Operating: -25° to 60°C (-13° to 140°F) Storage: -40° to 85°C (-40° to 185°F)
Humidity	Maximum 95% (non-condensing)
Enclosure	ABS UL94HB fire retardant plastic
Dimensions	6 x 5.5 x 2.5 cm (2.4" x 2.25" x 1.0")
Weight	70g (2 oz.)
Warranty	2 years
Order Information	M500721 Active HD CCTV Receiver Balun



Active HD CCTV Receiver Balun 500721

Quick Installation Guide

Overview

The Active HD CCTV Receiver Balun (500721) allows one HD-SDI signal with power and control lines to be transmit up to 150 ft. (45m) via a Cat6 cable at HD resolution (720p, 1080i) in a point-to-point configuration. The 500721 supports the transmission of SDI digital video signal (including embedded Audio and/or Time Code) within facilities and between video equipment. The 500721 is installed at the receiver location and used in conjunction with the 500720 or 500720-CL installed at the remote camera location.

Applications

HD CCTV surveillance system
HD-SDI camcorder systems

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Installation

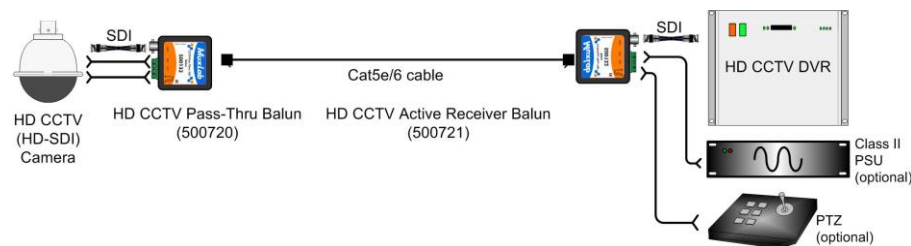
One (1) receiver side balun and one (1) transmitter side balun are required in order to establish a point-to-point connection via a single Cat5e/6 cable. The transmitter (camera) side must have a 500720 or 500720-CL. The power for the unit may be provided via the remote camera power (12VDC or 24VAC) if present, or via the external 5VDC power supply that is included with the 500721.

To install the 500721, perform the following steps:

Caution: Do not attempt to open the housing. There are no user-serviceable parts inside the balun. Opening the unit may void your warranty.

Do not connect the 500721 to a telecommunication outlet wired to unrelated equipment. Making such a connection may damage the equipment and/or the balun. Verify that the desired twisted pairs are not being used for other LAN or telephone equipment.

1. Use a dedicated 4-pair Cat5e/6 cable between the 500720 and 500721. The use of patch panels is not supported.
2. Verify that wiring is EIA 568, “straight-through”, four (4) twisted pairs and has a standard Ethernet RJ45 plug.
3. Connect the 500721 to a HD-SDI receiver (i.e. monitor or DVR) using a short 75 ohm coax, 3m (10ft) for the SDI signal. Connect all wires using 24 AWG or lower gage.
4. At the camera side, connect the 500720 to the SDI video port of the camera equipment (i.e. HD camcorder or HD CCTV camera). Use a short 75 ohm coax (i.e. 1m (3ft)) for the SDI connection. Connect all wires using 24 AWG or lower gage.
5. If no remote power is present at the head end from a 12V or 24V source, connect the external power supply that is included and verify that the power led is illuminated.
6. Power on the video equipment at both ends.
7. Verify the LED status for power and video present when all HD-SDI equipment is powered on.
8. Please see below a typical installation.



Troubleshooting

The following table describe some of the symptoms, probable causes and possible solutions regarding the unit:

Symptom	Probable Cause	Possible Solutions
No video All LEDs are off	Power off	Verify there is power at the video equipment. Verify there is power is available from camera.
No video Only Power LED on.	No continuity on video link	Verify continuity on each pair. Verify that pairs are not swapped or reversed. Verify if both units are connected to the correct inputs and outputs. Verify if all video equipment is digital (SDI).
	SDI in 3G speed (1080p)	Try at lower HD speed (1080i).
Part of image is missing or intermittent. Missing frames or freezing.	Distance exceeded	Verify cable length and grade. Use higher-grade cable if necessary. If source is using 1080p (i.e. 3G-SDI) the distance is reduced (see spec table).
	EMI interference	Try turning off (or moving) nearby wireless LANs, switching power supplies, radio transmission to see if problem persists.
	SDI in 3G speed (1080p)	Try at lower HD speed (1080i).
No power or no control at the camera	Defective cable or equipment incorrectly connected.	Change cable and verify wiring interface. Verify voltage drop in wiring. Note: Power available at 12V is limited. Use different equipment.
	Camera is drawing too much power.	

If you still can't diagnose the problem, please call MuxLab Customer Technical Support at 877-689-5228 (toll-free in North America) or (+1) 514-905-0588 (International).