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 RX Unit	500720, 500720-CL, 500721
Signal Transmission	Signal: SDI (no analog), Power: 12VDC or 24VAC 2A max, Control signal: any signal using a balanced pair, 1A max.
Cabling Requirement	Any 4-pair straight cable Cat5e or 6, 24 AWG or lower.
Connectors and cables	One 75 ohm cable with a male BNC connector. Two pairs of wire 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	When used with 500721:
	SD: 150m (500ft) for CAT 5E UTP,
	    150m (500ft) for CAT 6 UTP.
	HD (720p, 1080i): 45m (150ft) using Cat 5E UTP,
	    45m (150ft) for CAT 6 UTP.
	
	When used with another 500720-CL or 500720:
	SD: 120m (400ft) for CAT 5E UTP,
	    150m (500ft) for CAT 6 UTP.
	HD (720p, 1080i): 30m (100ft) using Cat 5E UTP,
	    35m (120ft) for CAT 6 UTP.
	This balun will not work in 3G (1080p).
	Note: Maximum distance is function of the receiving equipment.
	Dedicated Cat5E/6 cables are recommended with no patch panels

Temperature	Operating: -40° to 60°C (-40° to 140°F) Storage: -40° to 85°C (-40° to 185°F)
Humidity	Maximum 95% (non-condensing)
Enclosure	Cast Aluminum
Dimensions	2 x 2.6 x 4.7 cm (0.8" x 1.85" x 1.05") excluding cables.
Weight	60g (2 oz.)
Warranty	Lifetime
Order Information	500720-CL HD CCTV Pass-Thru Balun with Cable Leads

HD CCTV Pass-Thru Balun
500720-CL
Quick Installation Guide

Overview
The HD CCTV Pass-Thru Balun with Cable Leads (500720-CL) allows one HD CCTV (HD-SDI) video channel to be transmitted along with remote power and PTZ control via a Cat5E or Cat6 cable at HD resolution (720p, 1080i) in a point-to-point configuration. The 500720-CL supports transmission of SDI digital video (including embedded Audio and/or Time Code) within facilities and between video equipment. The product is used in conjunction with another 500720-CL or 500720 or in conjunction with the 500721 for greater distance.

Applications
HD-CCTV surveillance system

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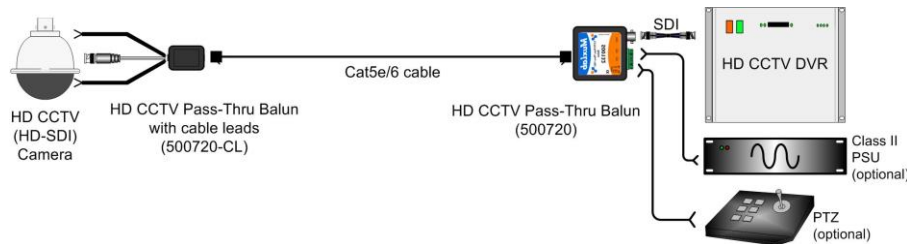E-mail: videoease@muxlab.com   URL: www.muxlab.com

Installation

Identify the baluns to be installed. The 500720-CL is installed at the camera side and either the 500720 or 500721 is installed at the DVR end. To install the HD CCTV Pass-Thru Balun, perform the following steps:

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

Do not connect the HD CCTV Pass-Thru Balun to a telecommunication outlet wired to unrelated equipment. Making such a connection may damage the equipment and/or the HD CCTV Pass-Thru 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 source-side HD CCTV Pass-Thru Balun and the receiver-side balun with no patch panel or wall plate in between.

2. Verity that wiring is EIA 568 "straight-through", has four twisted pairs and has the standard Ethernet RJ45 plug.

3. Connect the HD CCTV Pass-Thru Balun to the SDI video port of the source equipment (*i.e.*, HD camcorder or HD-CCTV camera). Use a short 75 ohm coax, 1m (3ft), for the SDI signal. Connect all wiring using 24 AWG gage or lower.

4. At the receiver side, connect the 500720, 500700-CL or 500721 to the HD-SDI receiver (i.e. monitor or DVR).

5. If using the 500721 at the receiver and there is no remote power present, connect the external power supply to the 500721 and Verify the power led.

6. Power on the video equipment at both ends. If the 500721 is being used, verify that the power and SDI sync LEDs. are ON.

7. Please find below a typical installation:

HD CCTV (HD-SDI) Camera — HD CCTV Pass-Thru Balun with cable leads (500720-CL) — Cat5e/6 cable — HD CCTV Pass-Thru Balun (500720) — SDI — HD CCTV DVR — Class II PSU (optional) — PTZ (optional)

Troubleshooting

The following tables describe some of the symptoms, probable causes and possible solutions regarding the HD-SDI Balun:

Video Symptom	Probable Cause	Possible Solutions
No video	No continuity in video link	Check continuity on each pair. Check if pairs are not swapped or reversed. Check if the four pairs are present.
	Power off	Check power supplies of video equipment. If using an active rx balun check power.
	Improper connection and/or wrong equipment	Check if balun are connected to the correct inputs and outputs. Check if equipment are both digital (SDI).
	SDI in 3G speed(1080p)	Try a lower speed HD (1080i).
Part of picture missing or intermittent. Missing frame or freezing.	Exceeded distance	Verify cable length and grade. Use higher grade cable if necessary. If source is using 1080p (this use the 3G-SDI rate) the distance is greatly reduced.
	EMI interference	Try turning off (or move) nearby wireless LANs, switching power supplies, radio transmission to see if problem disappear.
	SDI in 3G speed(1080p)	Try a lower speed HD (1080i).
No power or no control on remote source	Defective cable or equipment incorrectly connected. Too much power needed by the source.	Change cable and verify wiring interface. Check voltage drop in wiring. Note: Power available at 12V is very limited. Use different equipment.

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).