Dual HDMI and VGA Switcher
w/ Scaler and Display Control

AT-HD-SC-500 Installation Guide

Please check http://www.atlona.com/product/AT-HD-SC-500 for the most recent **firmware update** or **manual**.

The dual HDMI and VGA switcher w/scaler provides a multisystem solution. Use the HD-SC-500 as: a standalone 3 in 1 out switcher for small systems, an analog to digital video converter for systems with no VGA ports, and a scaler for systems with displays that require specific resolutions. Supports scaling of video up to 1920x1200/1080p, VGA conversion and audio embedding and deembedding, the HD-SC-500 has a function in almost any system.

Package Contents
- 1 x AT-HD-SC-500
- 3 x captive screw female connector (5 pin: audio, 3 pin: RS-232, 2 pin: power)
- 1 x Wall/table mount ears
- 1 x 5V captive screw power supply (AT-PW5V3.6A-CAPT)
- 1 x Installation Guide

Panel Description

Front Panel
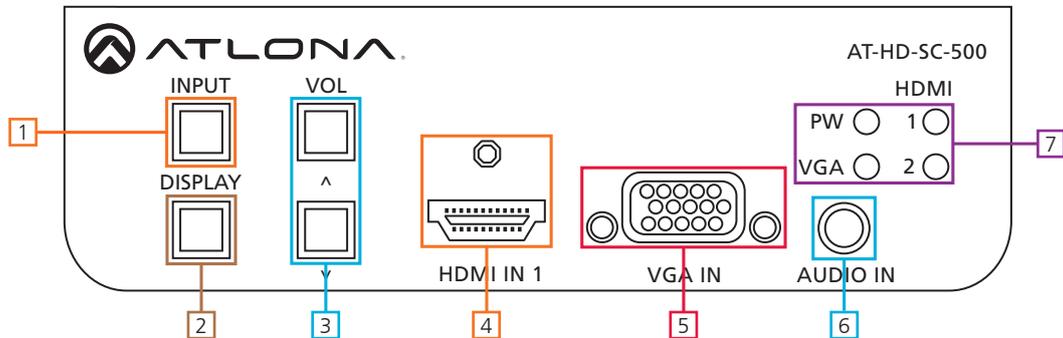
1. INPUT button - Press to switch between HDMI 1, HDMI 2, and VGA inputs
2. DISPLAY button - Press and hold for 5 seconds to bring up the OSD or select items
3. VOLUME - Adjusts the output volume, also used to navigate the OSD menu
4. HDMI IN 1 - Connect HDMI source here (DVI or DisplayPort compatible with adaptor)
5. VGA IN - Connect analog (VGA or RGB) video source here
6. AUDIO IN - Connect audio source here to be embedded with the input video
7. Status LEDs -
     PW LED: Illuminates when receiving power
     VGA, HDMI 1 & 2 LED: Illuminates to indicate the currently selected source

Back Panel
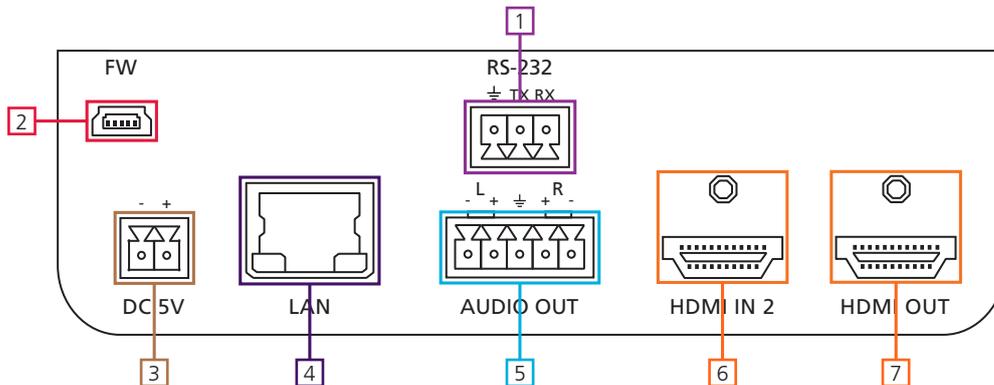
1. RS-232 - Connect control system or PC here to control the HD-SC-500
2. Firmware - Connect to a PC with a USB cable for firmware updating
3. DC 5V - Connect included power supply here
4. LAN - TCP/IP (Ethernet) port, connect to router, computer, or control device
5. AUDIO OUT - Audio output to audio amplifiers (**e.g.** AT-PA100-G2) or audio systems
6. HDMI IN 2 - Connect HDMI source here (DVI or DisplayPort compatible with adaptors)
7. HDMI OUT - Connect to display or extender (**e.g.** AT-UHD-EX-100CE-KIT)

Mounting

The HD-SC-500 comes with mounting brackets that can be used to affix the unit to a table, desk, etc.

Larger oval hole will be attached to the wall/table.

Mounting bracket x 2

Circular holes will always be attached to the unit.
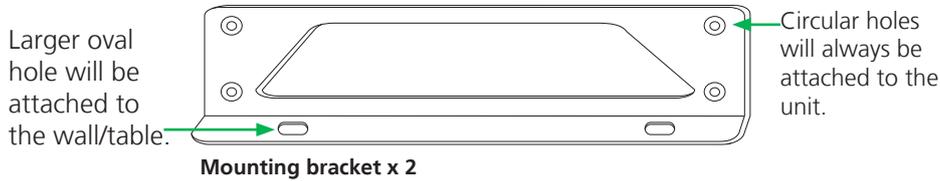
To affix the mounting brackets to the unit, use the four included screws. The bracket can be affixed with the oval holes pointing to the bottom (for against the wall - picture A) or the oval holes facing the top (for under tables - picture B).

A

B
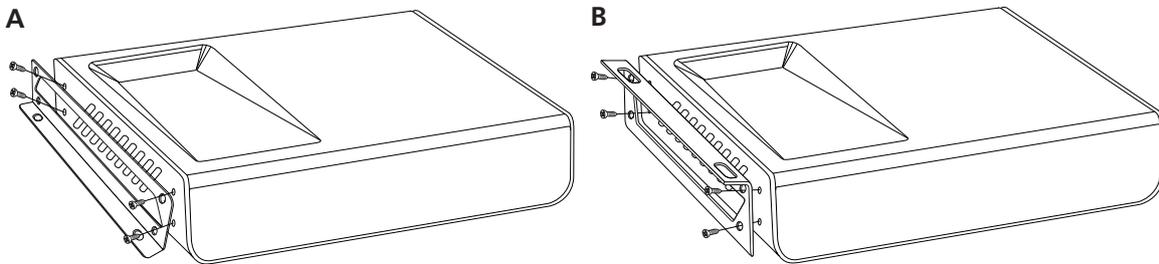
Captive Screw

The captive screw connectors allow you to cut cables to a suitable length, reducing cable clutter while providing a more reliable connection.

Connecting

When connecting the cables to the female captive screw connector it is important that the wires be terminated correctly. The female captive screw connector has a contact plate at the top and must have the wires touching it for signal to pass. When wired correctly (see picture A) the signal will pass, incorrectly (see picture B) no signal will pass.

A   B

The captive screw connectors have a contact bar that is adjusted to compress the wire against the top contact plate. Use the screws at the top of the connector to compress the wire against the contact plate.

Clockwise

Turn the screws clockwise to raise the contact bar to the upper contact plate and hold the wires in place.

Counter Clockwise

Turn the screws counter clockwise to lower the contact bar to release the wires.

Analog Audio

A captive screw analog audio connector is provided to ensure a more reliable and secure connection. The captive screw connector supports balanced and unbalanced audio output.

Balanced audio connections use two signal wires and a ground to minimize interference to audio signals. Unbalanced audio connections use one signal wire and a ground and are used if other system components don't support balanced signals.
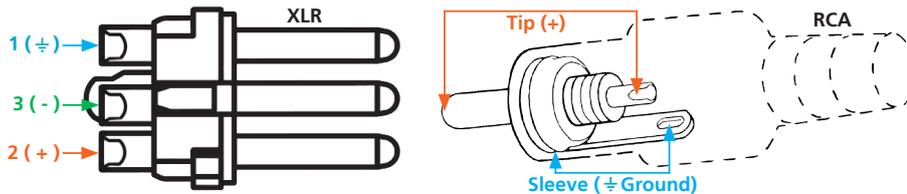
Note: Pin outs may vary, please refer to the audio device's manual to ensure a correct connection.
Important! When terminating cables, please ensure exposed adjacent wires do not touch. This may result in a short that can damage connected devices.

BALANCED   UNBALANCED
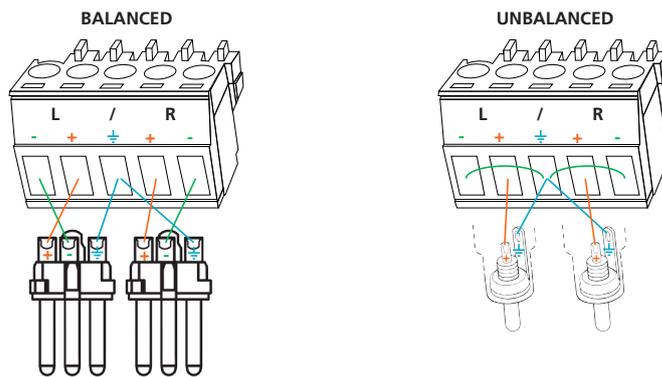
Important! With unbalanced connections a jumper is needed between ground and negative to reduce noise

Power and RS-232
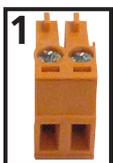
1 Power   **2** RS-232

Female captive screw connectors are included: Power (see picture 1), RS-232 (see picture 2).

3 - +

The power cable (picture 3) will have exposed wires. Each wire is encased in a different colored cover.

Black: - **White**: +

4 Pin out color will differ per RS-232 cable.
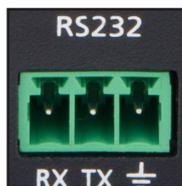
RS-232 pin out will be determined by the RS-232 cable and will connect as Rx (receiver), Tx (transmitter), and ⏚ (ground). (See picture 4)
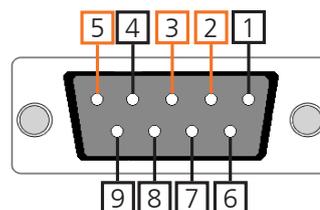
Typical pin out:
2 - TX - Transmitter
3 - RX - Receiver
5 - GND - Ground

Category Cable and Connector

For the category cables used in the installation of these products, please be sure to use a 568B termination as pictured below:

Important! 4K (UHD) signals are sensitive to cable quality and installation technique. It is recommended to use CAT6a/7 solid core cables for best results.

Connector type and size is very important to ensure extenders work correctly. Please use the matching cable type with the correct RJ45 connector. (**e.g.** CAT 7 cable should use a CAT 7 connector)

Ethernet

For convenience, the HD-SC-500 comes with DHCP on. This enables the switcher to be connected to a network without knowing available IP addresses. If your network does not allow dynamic IP addresses or if you are using the switcher with a TCP/IP control system, this feature may be turned off and the IP address set using front panel.

Note: Press and hold the Input button, on the front panel, for 15 seconds to switch between static and DHCP mode. The Display button will flash. Two button flashes means the unit is in static mode and four button flashes means the unit is DHCP mode. Static IP configuration will be: 192.168.1.254 - 255.255.255.0

Connection and Installation

Video — Video
Audio — Audio
Control — Control
Ethernet — Ethernet

Laptop PC

Video

Video

AT-HD-SC-500

INPUT   VOL

DISPLAY   ^

              v   HDMI IN 1   VGA IN   AUDIO IN

HDMI
PW   1
VGA 2

Blu-ray player

FW   RS-232
                          TX RX

DC 5V   LAN   AUDIO OUT   HDMI IN 2   HDMI OUT

Ethernet

Video

Audio

Video

Control

Router

Ethernet

Control System

Projector

Media 3
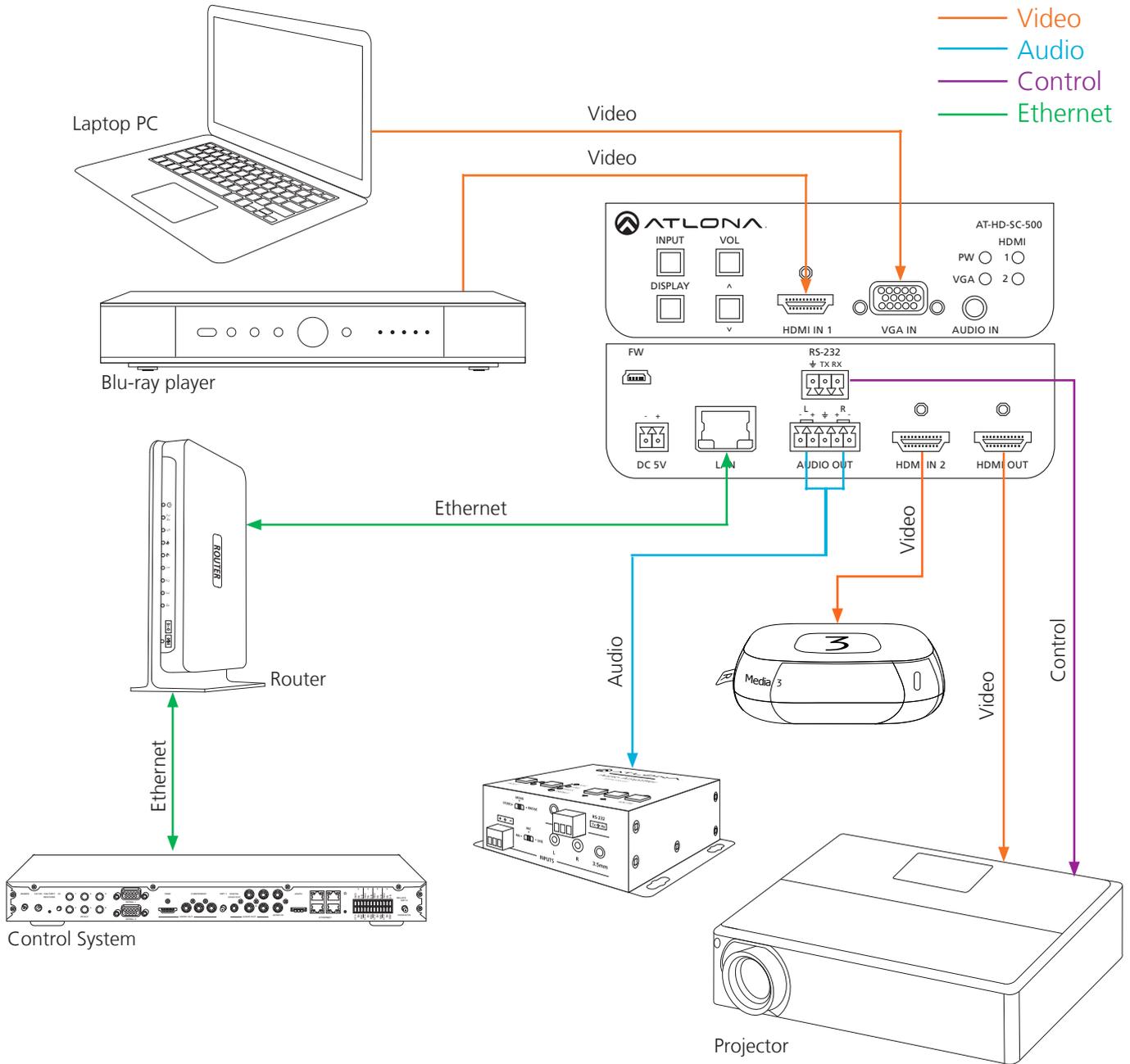
Troubleshooting

1. My HD-SC-500 is losing its static IP address after rebooting.

    Please update the unit with the latest firmware.

2. I'm not getting any analog audio after rebooting the unit.

    Please update the unit with the latest firmware.

3. The RS-232/IP commands aren't working for display control.

    Please update the HD-SC-500 with the latest firmware. In addition, make sure that the unit set to the desired control method (e.g., RS-232, TCP/IP). Be sure to include any end-of-line characters (such as CR, LR, etc.) at the end of the command line.

4. The Auto-Switch feature isn't working.

    Please ensure that Auto-Switching is enabled and that the fallback time is set to at least 10 seconds. Auto-Switching can be enabled through the On-Screen Display, webGUI, or by using the AutoSW on command. Fallback time can be set using the webGUI or by using the ASwOutTime command and should be set to at least 10 seconds. If using Mini DisplayPort-to-HDMI or Mini DisplayPort-to-VGA adapters, make sure that active adapters, which are compatible with DisplayPort 1.2 or higher, are being used.

5. My Mac computer/device is not passing to a codec or video streaming device or it is slow syncing to the display.

    Set HDCP to "non-compliant." This setting can be changed through the On-Screen Display, webGUI, or by using the HDCPSet1 off and HDCPSet2 off commands. The HDCPSet1 command controls the setting for HDMI 1 In and HDCPSet2 controls HDMI In 2.

6. HDCP content (e.g., Blu-Ray, Apple TV) isn't passing.

    Set HDCP to "compliant." This setting can be changed through the On-Screen Display, webGUI, or by using the HDCPSet1 on and HDCPSet2 on commands. The HDCPSet1 command controls the setting for HDMI 1 In and HDCPSet2 controls HDMI In 2.

7. My HD-SC-500 is not communicating with my control system, using RS-232.

    Verify that the RS-232 captive screw block is securely connected to the RS-232 port on the HD-SC-500. Make sure that the captive screw block is wired correctly (see page 4) and that the correct RS-232 settings are being used. The default RS-232 settings for the HD-SC-500 are: baud rate: 115200, data bits: 8, parity: none, stop bits: 1. To test RS-232, connect a computer directly to the HD-SC-500 using a USB-to-RS-232 adapter. Once connected to the computer, launch a terminal program, such as Hercules or hTerm, and send a command. If RS-232 is functioning properly, then RS-232 feedback will be displayed.