![ATLONA Connecting Technology]

# Dual HDMI and VGA Switcher w/Scaler and Display Control

*AT-HD-SC-500*

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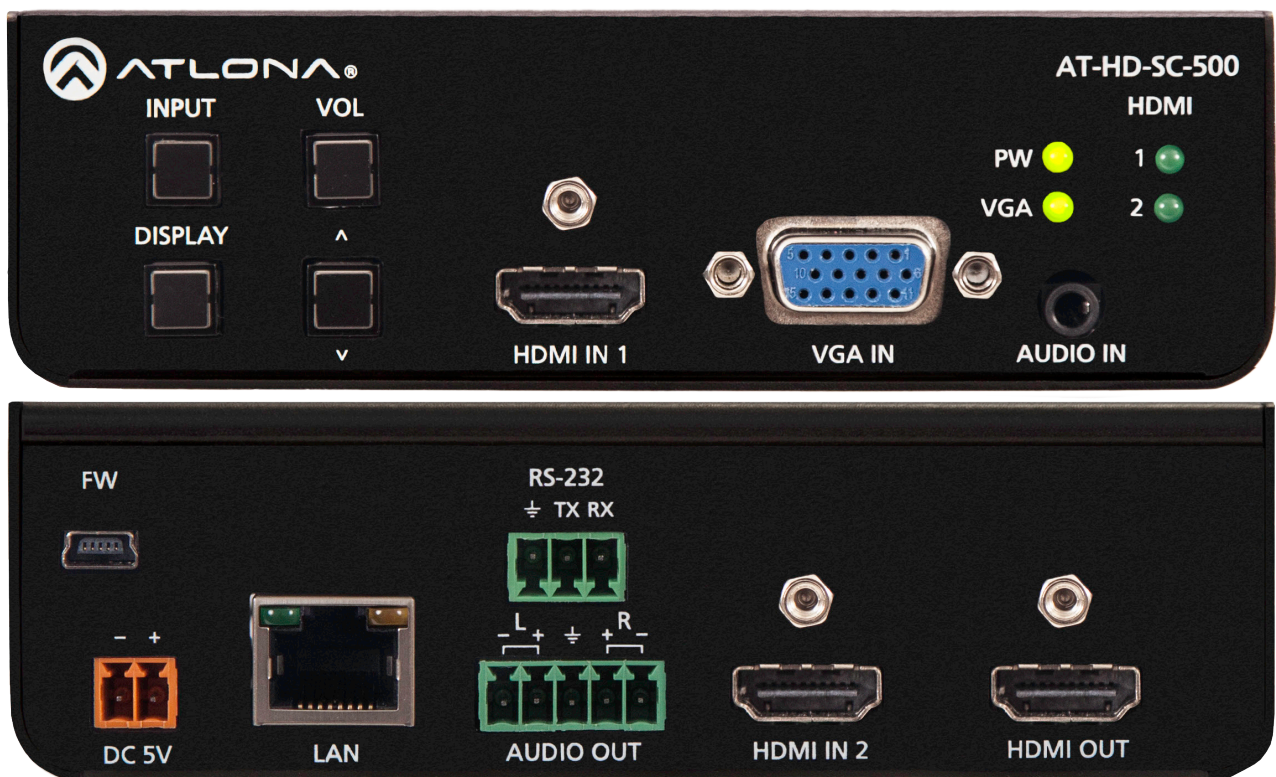
Please check http://www.atlona.com/product/AT-HD-SC-500 for the most recent **firmware update** or **manual**.

# Table of Contents

## Introduction

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 de-embedding, 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 User manual

## Features

- Scales incoming signals up to 1920x1200
- 3 input, 1 output switcher
- Auto-switching (activated through RS-232 or webGUI)
- HDMI inputs support DVI and DisplayPort signals (with adaptors)
- Audio input for embedding audio onto video signals
- Control of brightness, contrast, saturation, hue, and sharpness
- Volume control
- Adjust treble and bass of audio output to ensure the best speaker performance
- Balanced, analog audio output for de-embedding audio to amplifiers or audio systems
- Control via RS-232, TCP/IP, webGUI, and OSD
- Ability to switch HDCP reporting between compliant and non-compliant
- Firmware upgradable for easy field service through USB or webGUI

## Panel Description

### *Front Panel*
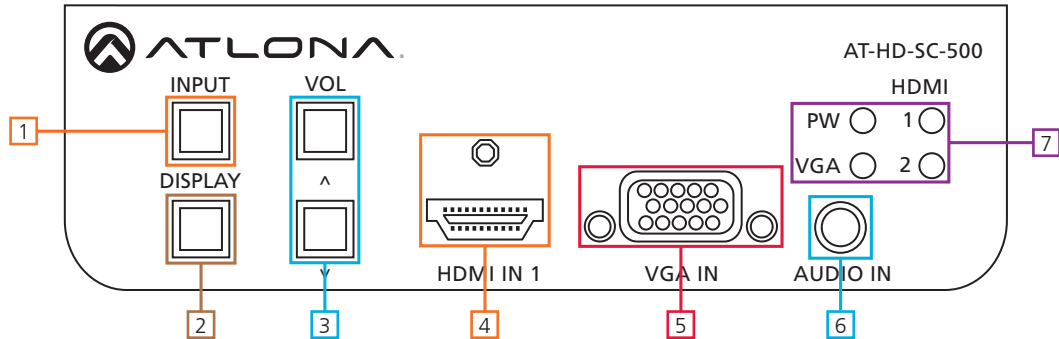


1. INPUT button - Press to switch between HDMI 1, HDMI 2, and VGA inputs
2. DISPLAY button - Press and hold for 5 seconds to bring up the OSD or select items
3. VOLUME - Adjusts the output volume, also used to navigate the OSD menu
4. HDMI IN 1 - Connect HDMI source here (DVI or DisplayPort compatible 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*
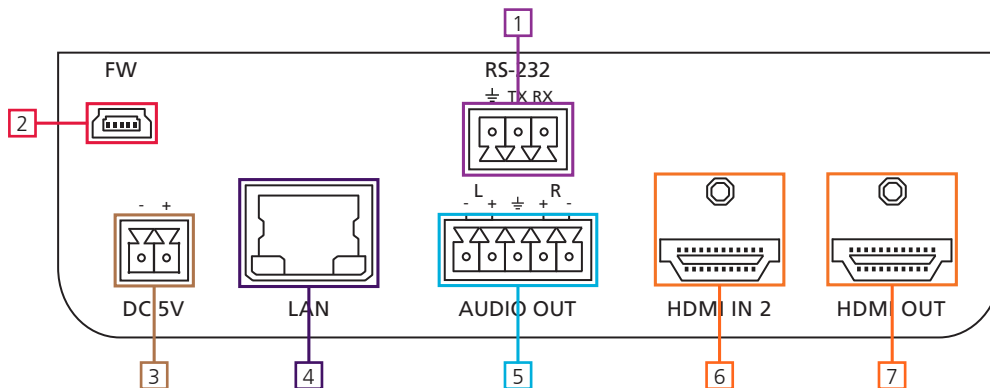


1. RS-232 - Connect control system or PC here to control the HD-SC-500
2. Firmware - Connect to a PC with a USB cable for firmware updating
3. DC 5V - Connect included power supply here
4. LAN - TCP/IP (Ethernet) port, connect to router, computer, or control device
5. AUDIO OUT - Audio output to audio 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)

## 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.



**XLR**

1 ( ⏚ )

3 ( - )

2 ( + )

**Tip (+)**

**RCA**

**Sleeve ( ⏚ Ground)**
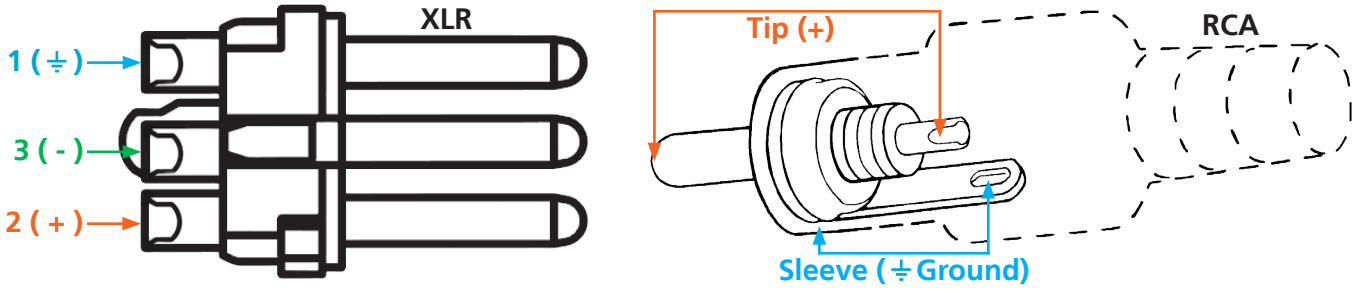
**Note:** Pin outs may vary, please refer to the audio device's manual to ensure a correct connection.
**Important!** When terminating cables, please ensure exposed adjacent wires do not touch. This may result in a short that can damage connected devices.



**BALANCED**

**UNBALANCED**

L    /    R
-    +    ⏚    +    -

L    /    R
-    +    ⏚    +    -
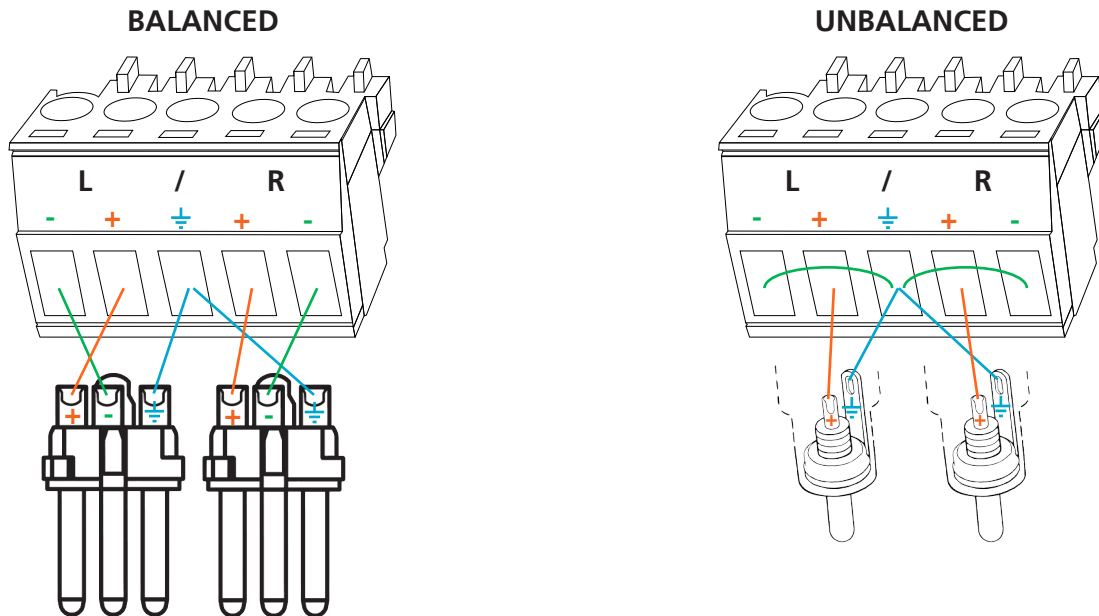
**Important!** With unbalanced connections a jumper is needed between ground and negative to reduce noise

## Network Connections

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 is not compatible with dynamic IP addresses or if you are using the switcher with a TCP/IP control system, DHCP may be turned off and the IP address set using RS-232 commands or the webGUI.
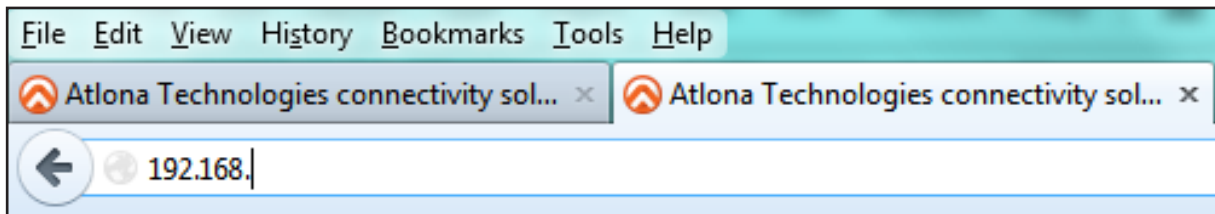
### WebGUI

Atlona has created an easy to use webGUI for initial setup and later changes to the configuration of the HD-SC-500.

To begin, plug a LAN cable into the LAN port of the HD-SC-500 and the network switch, then type the IP address of the unit into a web browser of a PC connected to the same network (as seen below).

**To find the switcher IP:** Select "Information" within the OSD menu or use RS-232 command "IPCFG".



**Important:** If any stability issues are experienced, disable any anti-virus or firewall that may interfere with network communication to the switcher. Once set up is done and the switcher webGUI is no longer being used, the firewall and anti-virus can be re-enabled.



A login screen will appear (this is the same log in for admin and general users). For the first log in (and future admin changes) the username is "root" and password is "Atlona".

**Note:** Only the admin password can be changed (see page 15). The username will always remain "root".



The Info screen displays general system information.

AT-HD-SC-500   Video

| Video | Audio | Picture | EDID | Display | RS-232 | OSD | Config | Network | Logout |

**Input**

Input Selection

HDMI 1 ▾

VGA Adjust

Adjust

Auto Switch

Auto Switch mode          ON

Fallback Port          HDMI 1 ▾

Fallback Time(Sec)      10 ▾
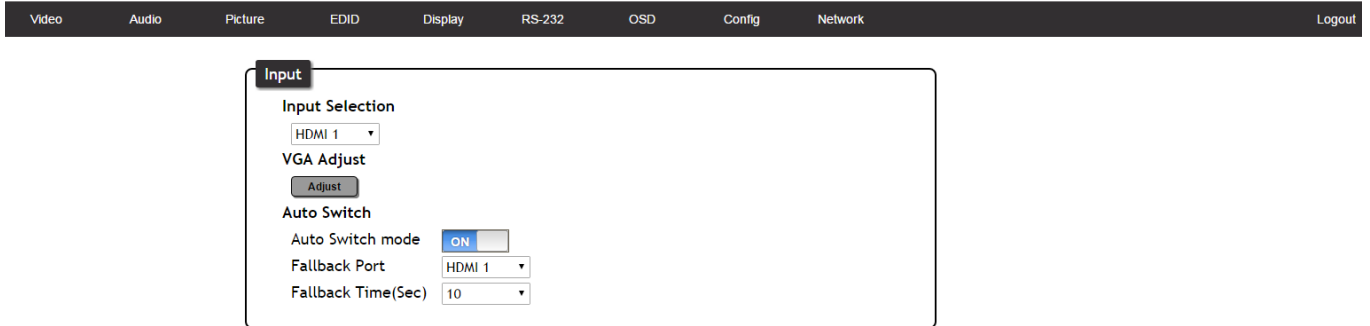
The Video Page enables the input and output video settings to be adjusted to ensure quality and compatibility.

**Input**

Input Selection - Choose between HDMI 1, HDMI 2, and VGA inputs
VGA Adjust - Centers the VGA video on the display
Auto-Switch -
      ON/OFF switch: Toggle auto-switching on and off
      Fallback Port: Select what input to switch to when the current signal is no longer received
      Fallback Time(Sec): Set the amount of time (seconds) after receiving no signal before the
                    input is switched to the fallback port
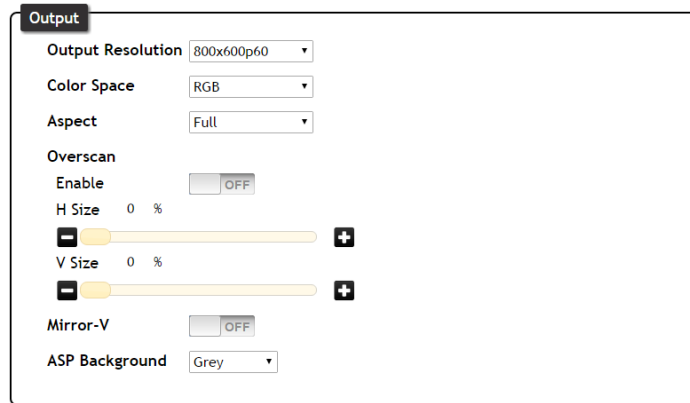
## Output

Output Resolution - Select the output resolution for the HDMI output (see resolution list below)
Color Space - Switch between RGB and YUV
Aspect - Adjusts the height and width of the image to fit the display (see aspect list below)
Overscan
        Enable - Toggle on/off to enable horizontal and vertical sizing
        H Size - Adjusts the width of the video
        V Size - Adjusts the height of the video
Mirror-V - Flips the video upside down and backwards
ASP Background - Changes the horizontal/vertical bars on the picture between black and grey

## Output Resolution -

| | | | | |
|---|---|---|---|---|
| **0** 800x600p60 | **6** 1600x900p60 | **12** 1280x720p30 | **18** 1920x1080i60 | **24** 1920x1080p50 |
| **1** 1024x768p60 | **7** 1600x1200p60 | **13** 1280x720p50 | **19** 1920x1080p23 | **25** 1920x1080p59 |
| **2** 1280x800p60 | **8** 1680x1050p60 | **14** 1280x720p59 | **20** 1920x1080p24 | **26** 1920x1080p60 |
| **3** 1280x1024p60 | **9** 1920x1200pRB | **15** 1280x720p60 | **21** 1920x1080p25 | **27** Native |
| **4** 1366x768p60 | **10** 1280x720p25 | **16** 1920x1080i50 | **22** 1920x1080p29 | |
| **5** 1400x1050p60 | **11** 1280x720p29 | **17** 1920x1080i59 | **23** 1920x1080p30 | |

## Aspect Ratio -

Full - The image will fill the display
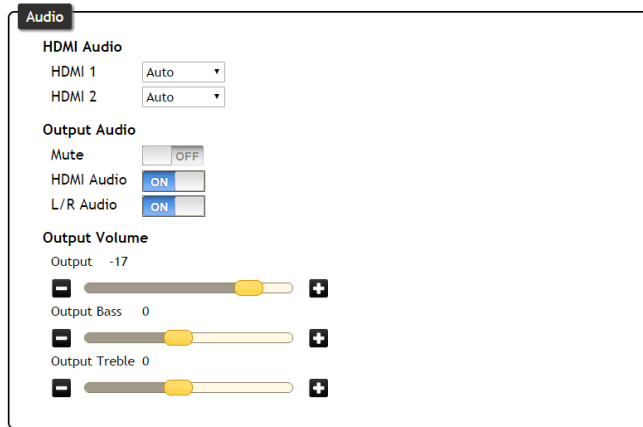16:9 - The image will fit to a 16:9 display
16:10 - The image will fit to a 16:10 display
4:3 - The image will fit to a 4:3 display
Keep Ratio - The image will keep the aspect ratio of the signal sent by the source
        **Note:** Incorrect aspect ratio will display with horrizontal or vertical bars to fill the excess space

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AT-HD-SC-500   Audio

| Info | Video | Audio | Picture | EDID | Display | RS-232 | OSD | Config | Network | | Logout |

**Audio**

**HDMI Audio**
HDMI 1    [Auto ▼]
HDMI 2    [Auto ▼]

**Output Audio**
Mute        [OFF]
HDMI Audio  [ON]
L/R Audio   [ON]

**Output Volume**
Output    -17
[-] ▬▬▬▬●▬▬ [+]
Output Bass    0
[-] ▬▬●▬▬▬▬ [+]
Output Treble  0
[-] ▬▬●▬▬▬▬ [+]

The Audio Page enables adjustments of audio source, volume, bass, and treble, providing a simple solution for audio control.

HDMI Audio (1 and 2) - Select the audio source for the individual HDMI inputs

Auto - Will detect if receiving DVI signals and take audio from analog audio input
Digital - Will use audio from the HDMI input port
Analog - Will use audio from the analog audio input port

Output Audio

Mute - Toggle the output audio of both the HDMI and analog audio output
HDMI Audio - Toggle the HDMI audio on and off
L/R Audio - Toggle the analog audio on and off

Output Volume - Master volume for both HDMI and analog audio out

Output - Adjust the output volume                    Options: -80 to 0
Output Bass - Adjust the bass of the output          Options: -12 to 15
Output Treble - Adjust the treble of the output      Options: -12 to 15

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AT-HD-SC-500   Picture

| Info | Video | Audio | Picture | EDID | Display | RS-232 | OSD | Config | Network | | Logout |

**Picture**

Brightness  64
[-] ▬▬▬▬●▬▬ [+]
Contrast    64
[-] ▬▬▬▬●▬▬ [+]
Saturation  64
[-] ▬▬▬▬●▬▬ [+]
Hue         64
[-] ▬▬▬▬●▬▬ [+]
Sharpness   32
[-] ▬▬●▬▬▬▬ [+]

Reset Pictures  [Reset all Picture]
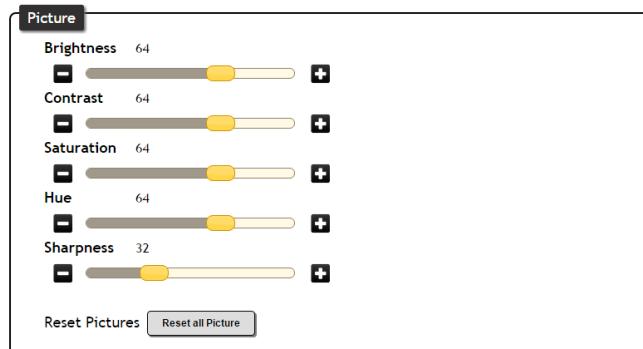
The Picture Page provides output adjustment for brightness, contrast, saturation, hue, and sharpness.

**Note:** Calibrate the display before using these settings to adjust the picture

Reset Pictures - Resets the picture settings of the unit

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AT-HD-SC-500   EDID

| Info | Video | Audio | Picture | EDID | Display | RS-232 | OSD | Config | Network | Logout |
|------|-------|-------|---------|------|---------|--------|-----|--------|---------|--------|

**EDID**

HDMI Prefer Timing  [800x600 ▼]

VGA Prefer Timing  [800x600 ▼]

HDMI1 HDCP  [compliant ▼]

HDMI2 HDCP  [compliant ▼]

The EDID Page enables the preferred input timing to be selected and HDCP compliance reporting to be set.

**HDMI Prefer Timing:** Select the best resolution to ensure compatibility with the input & output
**VGA Prefer Timing:** Select the best resolution to ensure compatibility with the input & output
**HDMI 1 HDCP:** Switch the HDCP reporting between compliant or non-compliant
**HDMI 2 HDCP:** Switch the HDCP reporting between compliant or non-compliant

The HD-SC-500 has two HDCP reporting modes: compliant and non-compliant.

   **Note:** HD-SC-500 does not alter the signal in any way
   **Note:** HD-SC-500 will not pass HDCP compliant content to a non-HDCP display

Compliant -

   Reports to the source it is connected to an HDCP compliant device
   **Note:** Will pass all HDCP compliant and non-compliant source signals to an HDCP compliant display

Non-Compliant -

   Reports to the source it is connected to an HDCP non-compliant device
   **Note:** Some Apple products (and other PCs) will encrypt non-HDCP content, stopping non-HDCP compliant displays from receiving even personal files such as: PowerPoint, Excel, or Word files. Use this mode to pass non-HDCP content (**e.g.** to codecs or video streaming devices)
   **Note:** Blu-Ray content, Apple TV, and other HDCP compliant source signals will not pass when set to non-compliant

**Preferred Timings -**

**0** 800x600          **1** 1024x768          **2** 1280x720          **3** 1280x800          **4** 1366x768
**5** 1680x1050        **6** 1920x1080         **7** 1920x1200
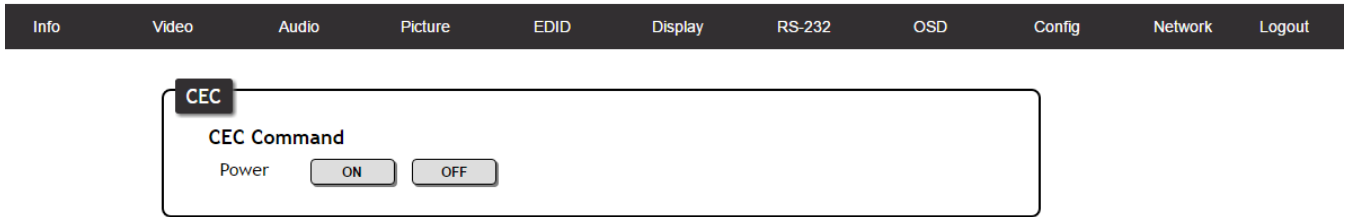
The Display Page includes settings which enable display controls by the switcher. It provides a way to program display control and type of control commands (TCP/IP or RS-232) sent out.

**CEC Control:**

Power -
    On: Sends a command through the HDMI output to turn the connected display on
    Off: Sends a command through the HDMI output to turn the connected display off

**Note:** Consumer Electronics Control (CEC):  Atlona does not guarantee the function of CEC with all televisions.  We can confirm proper operation with many current Samsung, Panasonic, and Sony TVs. Many manufacturers do not support the CEC "Off" command when sent from a source and older TVs use proprietary commands. Atlona only supports those TVs that follow CEC command structure from HDMI 1.2a and support the "off" command when issued by a source. We encourage any dealer to get evaluation product from Atlona prior to designing a system around this control technology or be prepared to use other methods to control their displays if Atlona CEC is not compatible with the installed displays.

**System Settings**

Display Auto Power On - When enabled, the unit will send the programmed (RS-232, IP, or CEC) command to the display to turn on after detecting an A/V signal

Display Auto Power Off - When enabled, the unit will send the programmed command to the display to turn off after not detecting an A/V signal

Power Button Lock - Locks/Unlocks front panel power button

Lamp Cool Down Timer (0-300) - Used with a projector whose lamp cannot be turned on for up to 5 minutes after being shut off. Match settings with lamp delay on projector

Display Warm Up Timer (0-300) - Sets the period of time after the display is turned on, that the power button will be locked

Note: LED will blink blue for the warm up timer period and then stay solid

Note: When timers are set to 0 seconds, they will disable the timer's functions

Auto Power Off Timer (5-240) - Sets the period of time between the loss of A/V signal and when the "Display Off" command is sent

Note: All functionality remains, only the HDBaseT output is turned off

Control Type - Select whether the display auto on/off commands are sent using RS-232, TCP/IP, or CEC

Feedback Verify

On: If receiving no feedback, the product will send the command up to 4 times

Off: The command will only be sent once, whether feedback is received or not

Display Mode -

DispSW AVon: Display switches on/off, source audio/video signal always on

DispSW AVSW: Display switches on/off, source audio/video signal switches on/off

AV SW: Display is always on, source audio/video signal switches on/off

Volume/Mute -

Audio Out: Volume and mute buttons will control volume level of the output

RS-232: Volume/Mute buttons will send the commands using RS-232 to compatible extenders and displays

IP: Volume/Mute buttons will send the commands over Ethernet using the LAN connection

## TCP/IP Settings of Controlled Device:

This option programs the IP parameters for display control. The static IP address set here should match the display's static IP address. To set or view the display's address, check the display's user manual.

**Note:** The switcher and the display must be on the same network and subnet for these commands to work
**Note:** Be sure the static IP address set for the display does not match any other device on the network

IP Mode -
    Non-login: Does not require a username and password when using TCP/IP to control the display
    Login: Requires a username and password to control the display through TCP/IP
IP Address & Port - Set to match the display's static IP
Username & Password - Required when in login mode
Save - Saves the IP settings for accessing the controlled device

## RS-232/IP Commands:

ASCII/Hex - Set which type of commands are sent to the display
On/Off/Volume+/Volume-/Mute - Enter the specific commands and feedback that will be sent/received when using any of the control options
**Note:** Individual commands will be found in the display's manual
End of line symbols - None, CR, LF, CR-LF, Space, STX, ETX, Null - Select the appropriate symbol from the drop down list. Carriage return, line feed, and carriage return with line feed are the most commonly used line terminators.
**Note:** Be sure to check the display's manual for the correct line terminator
Feedback - Feedback commands can be set by typing in the field or will auto fill after pressing the test button.
**Note:** If the command is incorrect, you will get a red 'Timeout!' message at the top of the RS-232 field

Toll free: 1-877-536-3976
Local: 1-408-962-0515

**RS-232 Parameter Setting**

    Console - Adjust the RS-232 parameters of the HD-SC-500 to make it compatible with
            control systems.

    Save - Once the RS-232 parameters are changed, press the save button to make it live on
            the unit.



The OSD Page adjusts the position, color, and settings of the OSD menu.

**OSD**

    Position - Adjusts where the OSD menu appears on the display
            Options: Left-Top, Right-Top, Right-Bottom, Left-Bottom, Center

    Transparency - Makes the OSD menu lighter or darker for easier viewing
            Options: 0-15

    Info. Timer - Changes the amount of time the source information appears on the display
            Options: 5-100 (seconds)

    Menu Timer - Changes how long the menu appears on the display
            Options: 5-100 (seconds)

    Info. Display - Toggle the resolution and source information on and off
            Options: Off, On, Auto

    Background - Change the background color for the OSD menu for better visibility
            Options: Grey, Cyan, Magenta, Yellow
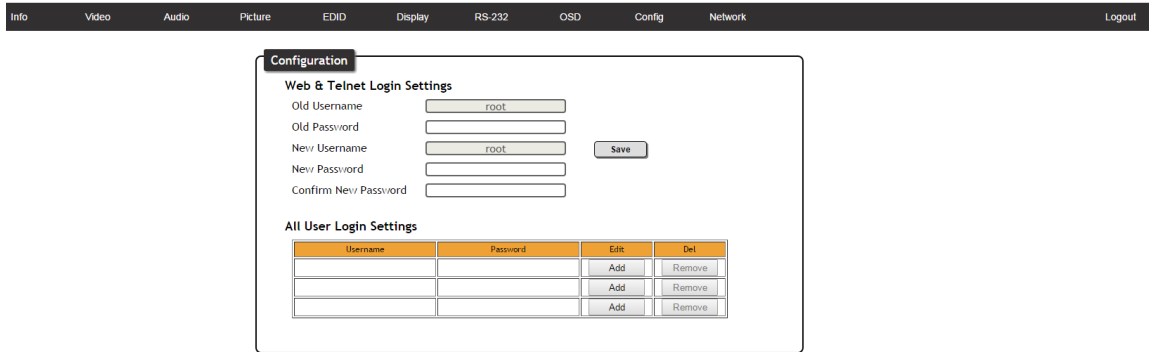
The Configuration Page allows non-admin users to be added or the admin password to be changed.

Only 3 non-admin users can be added. Press the add button. A pop up screen will appear (see below). Fill in the username and password than press save changes. Users will not have the ability to access this page.

Admin password can also be changed. Be sure to write this information down as admin is the only profile allowed to add/remove users.

> **Note:** Default username= "root" and password= "Atlona"
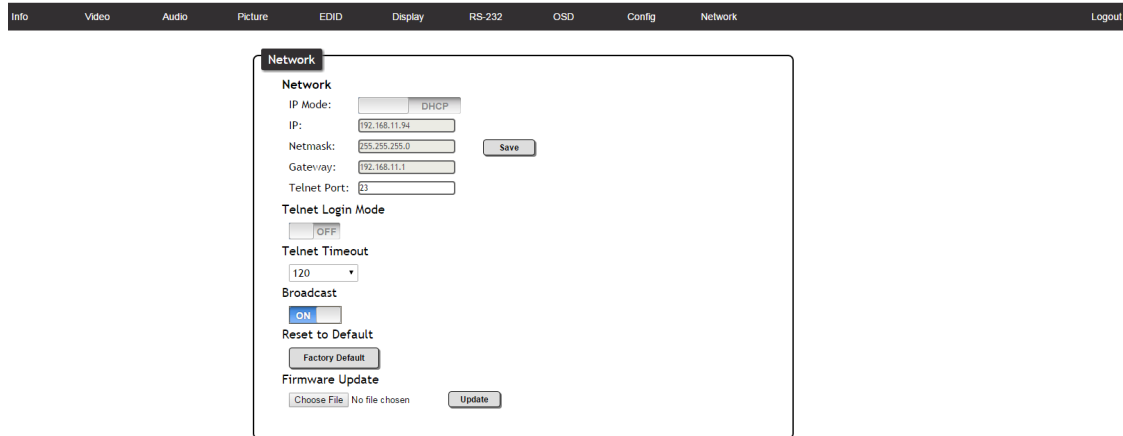


**Network:** IP address, netmask, gateway, and telnet port can be set to any settings compatible with your network. The Netmask and Gateway must match your existing network settings

IP Mode -
  Static: Set a fixed IP address
  **Note:** For a stable connection when using a control system, it is best to set up a static IP. As you select an IP address, make certain no other devices on your network are using that IP address
  DHCP: Dynamic Host Configuration Protocol will automatically select an IP address on the network that is not already in use
Telnet Login Mode - Turn on/off - requires a password to adjust settings
Telnet Timeout - Set the auto log-off time between 1 and 3600 seconds
Broadcast - Turn on and off the feedback through all control ports
Reset to Default - Reset the device to factory settings
Firmware Update - Use this feature to find and load the MCU firmware to the switcher
  **Note:** Firmware can be found and downloaded from the atlona.com/product/at-hd-sc-500/ page under the firmware tab.

# RS-232

## Connection

RS-232 pin out is determined by the RS-232 cable and connects as Rx (receiver), Tx (transmitter), and ⏚ (ground). (See picture 1)
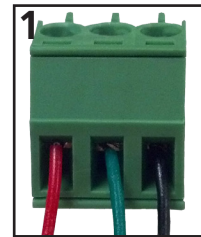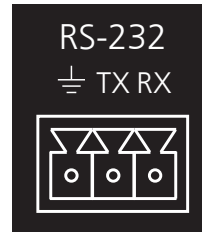
RS-232 is often connected through a DB 9-pin to captive screw connector. The pins have functions associated with them, some will are unassigned.

> **Note:** Typical DB9 connectors use pin 2 for TX, pin 3 for RX, and pin 5 for ground. On some devices functions of pins 2 and 3 are reversed.
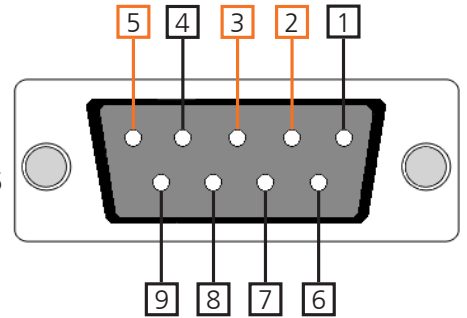
## Set Up

To set up the RS-232 terminal (if not using 3rd party software) use the following steps:

1. Connect the HD-SC-500 to a PC using a DB9 to DB9 or DB9 to USB cable
   > **Note:** A gender changer and/or null modem may be needed between some connections
   a. Remove the DB9 connector, strip and connect the wires to the included captive screw connector (as explained above), then connect the captive screw connector to the switcher
2. Go to the Device Manager folder (see picture A)
3. Find the HD-SC-500 COM port and right click with a mouse and select properties (see picture B)
   > **Note:** If unsure which COM port is the HD-SC-500, unplug the cable and plug it back in. It will disappear and reappear on the COM port list.
4. Under the properties menu select the port settings tab and update the menu to the **HD-SC-500 default settings of**: Bits Per Second: 115200, Data Bits: 8, Parity: None, Stop Bits: 1 and Flow Control: None. (see picture C)

Set up is done and any terminal program may be used to control the HD-SC-500 now.

| Command | Feedback | Description |
| --- | --- | --- |
| System sta | Model: AT-HD-SC-500<br>MAC Addr: b8-98-b0-00-00-19<br>Address Type: DHCP<br>Netmask: 255.255.255.0<br>Gateway: 192.168.11.1<br>HTTP Port: 80<br>Telnet Port: 23<br>Firmware: 1.3.10<br>On/Up Time(dd HH:mm:ss):<br>2:22:19:4<br>Power Status: PWON | Displays the model number of the unit |
| Version | Version | Displays the firmware version |
| Mreset | Mreset | Reset the unit to factory settings and restarts the switcher |
| Lock | Lock | Deactivates the front panel buttons |
| Unlock | Unlock | Reactivates the front panel buttons |
| Input X<br>**e.g.** Input HDMI 1 | Input X<br>**e.g.** Input HDMI 1 | Select the input device. X= HDMI 1, HDMI 2, VGA, or sta<br>**e.g.** Set the input to HDMI 1 |
| x1$ X<br>**e.g.** x1$ off | x1$ X<br>**e.g.** x1$ off | Turn the output video on/off  X=on, off<br>**e.g.** Turns the output video off |
| ASwPrePort X<br><br>**e.g.** ASwPrePort sta | ASwPrePort X<br><br>**e.g.** ASwPrePort Prev | Sets the default fallback input for autoswitching<br>X= HDMI1, HDMI2, VGA, Prev, sta<br>**e.g.** Display the current fallback input |
| ASwOutTime X<br>**e.g.** ASwOutTime 45 | ASwOutTime X<br>**e.g.** ASwOutTime 45 | Sets period of time after loss of signal before auto switching to selected fallback input X=1-600 |
| OSD X<br>**e.g.** OSD 4 | OSD X<br>**e.g.** OSD 4 | Adjusts the position of the OSD menu on the screen<br>**e.g.** positions the OSD menu on the center of the screen |
| QOSD | QOSD | Exits the OSD menu |
| Up | Up | Scrolls up in the OSD menu |
| Down | Down | Scrolls down in the OSD menu |
| Select | Select | Selects options within the OSD menu |
| OSDBGRND X<br>**e.g.** OSDBGRND 3 | OSDBGRND X<br>**e.g.** OSDBGRND 3 | Sets the OSD menu background color x=0-3, sta<br>**e.g.** Set the OSD background color to Yellow |
| OSDAlpha X<br>**e.g.** OSDAlpha 2 | OSDAlpha X<br>**e.g.** OSDAlpha 2 | Sets the OSD menu transparency x=0-15, sta<br>**e.g.** Sets the OSD menu transparency to 2 |
| INFOOSD X<br>**e.g.** INFOOSD on | INFOOSD X<br>**e.g.** INFOOSD on | Turns info menu on/off x=on, off, auto, sta<br>**e.g.** Turns the info menu on |
| VOUTOSD X<br>**e.g.** VOUTOSD off | VOUTOSD X<br>**e.g.** VOUTOSD off | Turn the volume bar on the display on/off<br>**e.g.** Product volume level will no longer display when changes are made |
| MENUTMR X<br>**e.g.** MENUTMR 25 | MENUTMR X<br>**e.g.** MENUTMR 25 | Set the OSD menu timeout x=5-100, sta<br>**e.g.** Set the menu timeout to 25 seconds |
| INFOTMR X<br>**e.g.** INFOTMR 15 | INFOTMR X<br>**e.g.** INFOTMR 15 | Sets the timer for how long the info menu displays x=5-100, sta<br>**e.g.** Sets the info menu to display for 15 seconds |
| AutoSW X<br>**e.g.** AutoSW on | AutoSW X<br>**e.g.** AutoSW on | Enable/Disable auto switching or display auto switching status<br>**e.g.** Turns auto switching on |

## OSD Position -

**0** Upper Left      **1** Top Right      **2** Bottom Right      **3** Bottom Left      **4** Center

## OSD background color -

**0** Grey      **1** Cyan      **2** Magenta      **3** Yellow

| Command | Feedback | Description |
|---|---|---|
| BRT XX<br>**e.g.** BRT 30 | BRT XX<br>**e.g.** BRT 30 | Set output brightness value<br>**e.g.** Set output brightness to 30 |
| CTRST XX<br>**e.g.** CTRST 20 | CTRST XX<br>**e.g.** CTRST 20 | Set output contrast value<br>**e.g.** Set output contrast to 20 |
| SATRT XX<br>**e.g.** SATRT 65 | SATRT XX<br>**e.g.** SATRT 65 | Set output saturation value<br>**e.g.** Set output contrast to 65 |
| HUE XX<br>**e.g.** HUE 38 | HUE XX<br>**e.g.** HUE 38 | Set output hue value<br>**e.g.** Set output hue to 38 |
| SHARP XX<br>**e.g.** Sharp 11 | Sharp XX<br>**e.g.** Sharp 11 | Set output sharpness value<br>**e.g.** Set output sharpness to 11 |
| VGAAuto | VGAAuto | Adjusts VGA picture to the center of the display - Only valid when VGA is selected |
| MirrorV X<br>**e.g.** MirrorV on | MirrorV X<br>**e.g.** MirrorV on | Turns the output video upside down and backwards x=on, off, sta |
| HDCPSet1 X<br>**e.g.** HDCPSet1 on | HDCPSet1 X<br>**e.g.** HDCPSet1 on | Set HDCP reporting for HDMI IN 1 x=on, off, sta<br>**e.g.** Set HDCP reporting for HDMI IN to compliant |
| HDCPSet2 X<br>**e.g.** HDCPSet2 off | HDCPSet2 X<br>**e.g.** HDCPSet2 off | Set HDCP reporting for HDMI IN 1 x=on, off, sta<br>**e.g.** Set HDCP reporting for HDMI IN to non-compliant |
| PTIMGVGA X<br>**e.g.** PTIMGVGA 2 | PTIMGVGA X<br>**e.g.** PTIMGVGA 2 | Set the preferred input timing for the VGA port x=0-6, sta<br>**e.g.** Set the input timing for the VGA port to 1280x720 |
| PTIMGHDMI X<br>**e.g.** PTIMGHDMI 4 | PTIMGHDMI X<br>**e.g.** PTIMGHDMI 4 | Set the preferred input timing for the HDMI ports x=0-6, sta<br>**e.g.** Set the preferred input timing for the HDMI ports to 1366x768 |
| VidOutRes X<br>**e.g.** VidOutRes 22 | VidOutRes X<br>**e.g.** VidOutRes 22 | Set the output resolution x=0-27, sta<br>**e.g.** Set the output resolution to 1920x1080p29 |
| Aspect X<br>**e.g.** Aspect 2 | Aspect X<br>**e.g.** Aspect 2 | Set the output aspect ratio x=0-4<br>**e.g.** Set the output aspect ratio to 16:10 |
| ASPBGRND X<br>**e.g.** ASPBGRND 1 | ASPBGRND X<br>**e.g.** ASPBGRND 1 | Set the background color of the aspect ratio<br>**e.g.** Set the aspect ratio background to black |
| Zoom X<br>**e.g.** Zoom on | Zoom X<br>**e.g.** Zoom on | Enable/disable overscan (zoom) x=on, off, sta<br>**e.g.** Enables overscan |
| HZoom X<br>**e.g.** HZoom 10 | HZoom X<br>**e.g.** HZoom 10 | Adjusts the horizontal overscan x=0-50, sta<br>**e.g.** Adjust the width of the signal to 10 |
| VZoom X<br>**e.g.** VZoom 12 | VZoom X<br>**e.g.** VZoom 12 | Adjusts the vertical overscan x=0-50, sta<br>**e.g.** Adjust the height of the signal to 12 |
| SetCS X<br>**e.g.** SetCS 1 | SetCS X<br>**e.g.** SetCS 1 | Sets the color space x=0, 1, sta<br>**e.g.** Sets the color space to YUV |
| PicReset | PicReset | Resets all picture settings to default |

## HDCP reporting -

**on** compliant          **off** non-compliant

## Output Resolutions -

| | | | | |
|---|---|---|---|---|
| **0** 800x600p60 | **6** 1600x900p60 | **12** 1280x720p30 | **18** 1920x1080i60 | **24** 1920x1080p50 |
| **1** 1024x768p60 | **7** 1600x1200p60 | **13** 1280x720p50 | **19** 1920x1080p23 | **25** 1920x1080p59 |
| **2** 1280x800p60 | **8** 1680x1050p60 | **14** 1280x720p59 | **20** 1920x1080p24 | **26** 1920x1080p60 |
| **3** 1280x1024p60 | **9** 1920x1200pRB | **15** 1280x720p60 | **21** 1920x1080p25 | **27** Native |
| **4** 1366x768p60 | **10** 1280x720p25 | **16** 1920x1080i50 | **22** 1920x1080p29 | **sta** |
| **5** 1400x1050p60 | **11** 1280x720p29 | **17** 1920x1080i59 | **23** 1920x1080p30 | |

## Preferred Timings -

| | | | | |
|---|---|---|---|---|
| **0** 800x600 | **1** 1024x768 | **2** 1280x720 | **3** 1280x800 | **4** 1366x768 |
| **5** 1920x1080 | **6** 1920x1200 | **sta** | | |

## Aspect Ratio -

| | | | | |
|---|---|---|---|---|
| **0** Full | **1** 16:9 | **2** 16:10 | **3** 4:3 | **4** Keep Ratio |

## Color Space -                                              ## Aspect Background -

| | | | | |
|---|---|---|---|---|
| **0** RGB | **1** YUV | **sta** | **0** Grey | **1** Black |

| Command | Feedback | Description |
|---|---|---|
| AudioSrcX Y<br>**e.g.** AudioSrc1 ana | AudioSrcX Y<br>**e.g.** AudioSrc1 ana | Set audio source for HDMI inputs X=1,2 Y=auto, dig, ana<br>**e.g.** Set HDMI input 1 to receive audio from the analog input |
| HDMIAUD X<br>**e.g.** HDMIAUD off | HDMIAUD X<br>**e.g.** HDMIAUD off | Turns audio on/off for the HDMI output x=on, off, sta<br>**e.g.** Turns the audio off for the HDMI output |
| LRAUD X<br>**e.g.** LRAUD on | LRAUD X<br>**e.g.** LRAUD on | Turns the audio on/off for the analog audio output<br>**e.g.** Turns the analog audio output on |
| AnaGain X<br>**e.g.** AnaGain 8 | AnaGain X<br>**e.g.** AnaGain 8 | Set the analog input gain X=1-16<br>**e.g.** Sets analog input gain to 8 |
| VOUT1 +<br>**e.g.** VOUT1 + | VOUT1 XX<br>**e.g.** VOUT1 -5 | Increase the volume output by 1<br>**e.g.** Increases the volume output by 1 |
| VOUT1 -<br>**e.g.** VOUT1 - | VOUT1 XX<br>**e.g.** VOUT1 -20 | Decrease the volume output by 1<br>**e.g.** Decreases the volume output by 1 |
| VOUT1 X<br>**e.g.** VOUT1 -10 | VOUT1 X<br>**e.g.** VOUT1 -10 | Set the volume to a specific level from -80 to 0<br>**e.g.** Set the volume to -10 |
| VOUTMute1 X<br>**e.g.** VOUTMute1 on | VOUTMute1 X<br>**e.g.** VOUTMute1 on | Mute/unmute all audio output  x=on, off, sta<br>**e.g.** Mute all audio output |
| Bass X<br>**e.g.** Bass + | Bass X<br>**e.g.** Bass 5 | Adjusts the bass of the audio output x= +, -, sta, -12 to 15<br>**e.g.** Increases the bass by 1 |
| Treble X<br>**e.g.** Treble -5 | Treble X<br>**e.g.** Treble -5 | Adjusts the treble of the audio output x= +, -, sta, -12 to 15<br>**e.g.** Sets the treble to -5 |
| CMDFMT X<br>**e.g.** CMDFMT hex | CMDFMT X<br>**e.g.** CMDFMT hex | Set the command format X=ascii, hex, or sta<br>**e.g.** Set the command format to hex |
| SetCmd X[Y]<br><br>**e.g.** SetCmd on[PWR ON] | SetCmd X[Y]<br><br>**e.g.** SetCmd on[PWR ON] | Sets the RS-232 or IP command for the selected button or function<br>X= on, off, vol+, vol-, and mute Y= command<br>**e.g.** Set the on command to send the command PWR ON |
| SetEnd X[Y]<br><br><br>**e.g.** SetEnd off[CR-LF] | SetEnd X[Y]<br><br><br>**e.g.** SetEnd off[CR-LF] | Sets the line termination for the chosen command<br>X= on, off, vol+, vol-, mute, fbkon, fbkoff, fbkmute<br>Y= None, CR, LF, CR-LF, Space, STX, ETX, and null<br>**e.g.** Set the command off to have a carriage return and line feed |
| SetCmdFB X[Y]<br>**e.g.** SetCmdFB on[PWRON] | SetCmdFB X[Y]<br>**e.g.** SetCmdFB on[PWRON] | Set the feedback string for the sent command<br>X=on, off, mute Y=Command |
| TrigCEC X<br>**e.g.** TrigCEC on | TrigCEC X<br>**e.g.** TrigCEC on | Triggers the stored CEC command to turn the display on and off<br>X= on, off |
| TrigRS X<br>**e.g.** TrigRS vol+ | TrigRS X<br>**e.g.** TrigRS vol+ | Triggers the RS-232 command from RS-232 or IP<br>X= on, off, vol+, vol-, and mute |
| TrigIP X<br>**e.g.** TrigIP vol- | TrigIP X<br>**e.g.** TrigIP vol- | Triggers the IP command from RS-232 or IP<br>X= on, off, vol+, vol-, and mute |
| CtrlType X<br>**e.g.** CtrlType rs-232 | CtrlType X<br>**e.g.** CtrlType rs-232 | Sets the control type X= IP, RS232, CEC, sta<br>**e.g.** Set the control type to RS-232 |
| AutoDispOff X | AutoDispOff X | Enable or disable display auto off X= on, off, sta |
| AutoDispOn X | AutoDispOn X | Enable or disable display auto on X= on, off, sta |
| LampCool X<br>**e.g.** LampCool 30 | LampCool X<br>**e.g.** LampCool 30 | Set period of time after the display is turned off that the power command will not send X= 0-300, sta |
| DisWarmUp X<br>**e.g.** DisWarmUp 50 | DisWarmUp X<br>**e.g.** DisWarmUp 50 | Set period of time after the display is turned on that the power command will not send X= 0-300, sta |
| BTNVol X<br>**e.g.** BTNVol sta | BTNVol X<br>**e.g.** BTNVol sta | Set what type of command the audio buttons send<br>X= AudOut, RS232, IP, or sta<br>AudOut - Controls the volume of the unit |
| AutoPwrMode X<br>**e.g.** AutoPwrMode AVSW | AutoPwrMode X<br>**e.g.** AutoPwrMode AVSW | Set the display mode for auto power on and off<br>X= DISPAVON, DISPAVSW, AVSW, sta |
| PWLock X<br>**e.g.** PWLock sta | PWLock X<br>**e.g.** PWLock on | Lock or unlock the display key<br>X= on, off, sta |
| SetOff X<br>**e.g.** SetOff 43 | SetOff X<br>**e.g.** SetOff 43 | Set the time (seconds) before the product goes into standby<br>X= 0-240, sta |

Each command is terminated with a carriage return.
Feedback is terminated with a carriage return and line feed.
**Note:** If the command fails or is incorrect the feedback should be "Command FAILED"

| | | |
|---|---|---|
| CSpara[W,X,Y,Z] | CSpara[115200,8,0,1] | Set RS232 parameter [W,X,Y,Z] is baudrate,data-length,parity,stop-bit |
| CliMode X<br>**e.g.** CliMode non-login | CliMode X<br>**e.g.** CliMode non-login | Sets the control device's IP mode X= sta, login, non-login<br>**e.g.** Sets the IP mode to non-login |
| CliUser X<br>**e.g.** CliUser | CliUser X<br>**e.g.** CliUser admin | Sets the IP username for login X= username, (blank)<br>**e.g.** Display the IP username by leaving x blank |
| CliPass X<br>**e.g.** CliPass AtlonA | CliPass X<br>**e.g.** CliPass AtlonA | Sets the IP password for login X= password, (blank)<br>**e.g.** Set the IP password to AtlonA |
| CliIPAddr X<br>**e.g.** CliIPAddr sta | CliIPAddr X<br>**e.g.** CliIPAddr 192.168.0.23 | Sets the IP address of the controlled device X= IP#, sta<br>**e.g.** Display the IP address of the controlled device<br>**Note:** DHCP must be turned off for this command to work |
| CliPort X<br>**e.g.** CliPort 24 | CliPort X<br>**e.g.** CliPort 24 | Sets the IP port of the controlled device X= port#, sta<br>**e.g.** Set the IP port to 24 |

## IP Commands

| Command | Feedback | Description |
|---|---|---|
| IPCFG | IP   Addr : x.x.x.x<br>Netmask : x.x.x.x<br>Gateway : x.x.x.x<br>IP Port: x.x.x | Displays IP address configuration |
| IPTimeout XX<br>**e.g.** IPTimeout 120 | IPTimeout XX<br>**e.g.** IPTimout 120 | Determines amount of seconds of inactivity before TCP/IP disconnects |
| IPQuit | IPQuit | Logs out of TCP/IP |
| IPAddUser sta | TCP/IP username & password list:<br>- user password<br>- user password<br>- user password | Will display a list of users |
| IPAddUser X Y | TCP/IP user was added | Add a user for TCP/IP control. X=User Y=Password<br>**e.g.** IPAddUser Atlona 1234 (User=Atlona 1234=Password) |
| IPDelUser X | TCP/IP user was deleted | Delete a user from TCP/IP X=User (Ex. IPDelUser Atlona) |
| IPDHCP sta | IPDHCP sta<br>**e.g.** IPDHCP on | Displays the status of DHCP |
| IPDHCP on | IPDHCP on | Turns DHCP on |
| IPDHCP off | IPDHCP off | Turns DHCP off |
| IPStatic X Y Z<br>**e.g.** IPStatic 192.168.1.1 255.255.255.0 192.168.1.200 | IPStatic X Y Z<br>**e.g.** IPStatic 192.168.1.1 255.255.255.0 192.168.1.200 | Sets static IP address<br>IPStatic Address(X) Netmask(Y) Gateway(Z) |
| IPPort X | IPPort X | Set the TCP/IP port  (ex. IPPort 230) |
| IPLogin sta | IPLogin sta<br>**e.g..** IPLogin on | Displays IPLogin status<br>**e.g.** IPLogin is on |
| IPLogin on | IPLogin on | Enables IPLogin |
| IPLogin off | IPLogin off | Disables IPLogin |
| Broadcast sta | Broadcast sta | Displays broadcast mode status |
| Broadcast on | Broadcast on | Enables broadcast mode |
| Broadcast off | Broadcast off | Disables broadcast mode |
| UartPara W,X,Y,Z<br><br>**e.g.** UartPara 115200,8,0,1 | UartPara W,X,Y,Z<br><br>**e.g.** UartPara 115200,8,0,1 | Set UART parameters<br>W=baud rate X=data length Y=parity Z=stop-bit<br>**e.g.** Set the parameters to 115200, 8, 0, 1 |
| UartPara sta | UartPara W,X,Y,Z | Displays UART parameters |

Each command is terminated with a carriage return.
Feedback is terminated with a carriage return and line feed.
**Note:** If the command fails or is incorrect the feedback should be "Command FAILED"
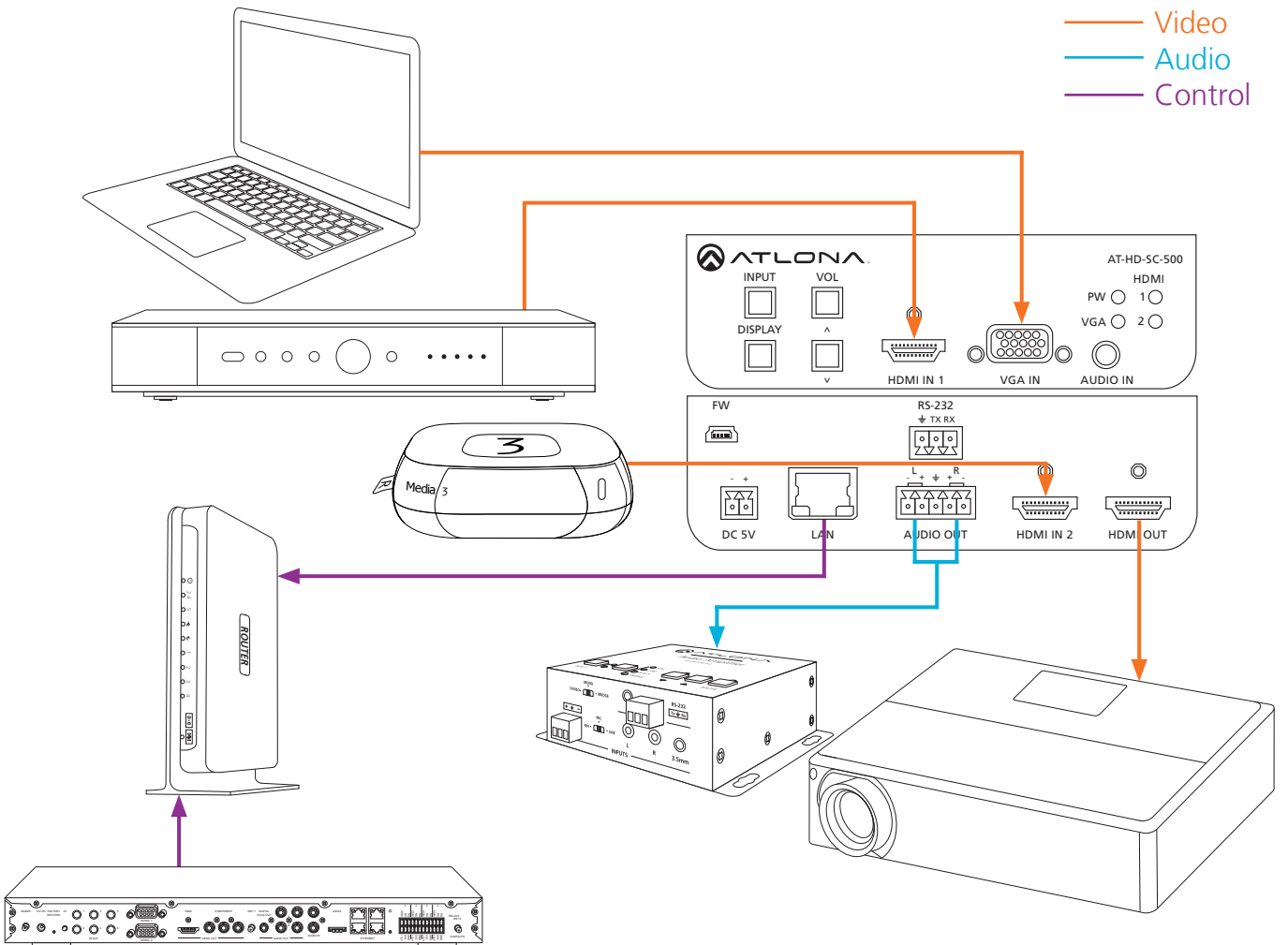
## OSD Menu

| Input Selection | HDMI1 | | | |
|---|---|---|---|---|
| | HDMI2 | | | |
| | VGA | | | |
| | Menu Back | | | |
| Input Resolution | HDMI | 800x600 | | |
| | | 1024x768 | | |
| | | 1280x720 | | |
| | | 1280x800 | | |
| | | 1366x768 | | |
| | | 1920x1080 | | |
| | | 1920x1200 | | |
| | VGA | 800x600 | | |
| | | 1024x768 | | |
| | | 1280x720 | | |
| | | 1280x800 | | |
| | | 1366x768 | | |
| | | 1920x1080 | | |
| | | 1920x1200 | | |
| | Menu Back | | | |
| Output Resolution | Output Resolution 1 of 3 | Output Resolution 2 of 3 | Output Resolution 3 of 3 | |
| | 800x600 | 720p30 | 1080p50 | |
| | 1024x768 | 720p50 | 1080p59.94 | |
| | 1280x800 | 720p59.94 | 1080p60 | |
| | 1280x1024 | 720p60 | NATIVE | |
| | 1366x768 | 1080i50 | Menu Back | |
| | 1400x1050 | 1080i59.94 | | |
| | 1600x900 | 1080i60 | | |
| | 1600x1200 | 1080p23.98 | | |
| | 1680x1050 | 1080p24 | | |
| | 1920x1200 | 1080p25 | | |
| | 720p25 | 1080p29.97 | | |
| | 720p29.97 | 1080p30 | | |
| Picture Adjust | Brightness | 0 to 100 | | |
| | Contrast | 0 to 100 | | |
| | Saturation | 0 to 100 | | |
| | Hue | 0 to 100 | | |
| | Sharpness | 0 to 100 | | |
| | Picture Reset | | | |
| | Color Space | RGB | | |
| | | YUV | | |
| | Menu Back | | | |
| Aspect | Full | | | |
| | 16:9 TV | | | |
| | 16:10 TV | | | |
| | 4:3 TV | | | |
| | Keep Ratio | | | |
| | Menu Back | | | |
| Overscan | Enable | No | | |
| | | Yes | H Size % | 0 to 50 |
| | | | V Size % | 0 to 50 |

| Audio | Audio On Off | On |
|-------|--------------|-----|
| | | Off |
| | HDMI Audio | On |
| | | Off |
| | L R Audio | On |
| | | Off |
| | Treble | -12 to 15 |
| | Bass | -12 to 15 |
| | HDMI1 EBD. Aud | Auto |
| | | Digital |
| | | Analog |
| | HDMI2 EBD. Aud | Auto |
| | | Digital |
| | | Analog |
| | Menu Back | |
| OSD | Position | Left-Top |
| | | Right-Top |
| | | Right-Bottom |
| | | Left-Bottom |
| | | Center |
| | Transparency | 0 to 15 |
| | Info. Timer | 5 to 100 |
| | Menu Timer | 5 to 100 |
| | Info. Display | Auto |
| | | On |
| | | Off |
| | Background | Grey |
| | | Cyan |
| | | Magenta |
| | | Yellow |
| | Menu Back | |
| Control Settings | CEC | On |
| | | Off |
| | BTN Disp. Sel | None |
| | | RS-232 |
| | | IP |
| | BTN Vol. Sel | Audio Out |
| | | RS-232 |
| | | IP |
| | Auto Disp. On | On |
| | | Off |
| | Auto Disp. Off | On |
| | | Off |
| | Display Key Lock | On |
| | | Off |
| | Cool Down Tmr | 0-300 |
| | Auto Power Off | 0-240 |
| | Warm Up Timer | 0-300 |
| | Control Type | RS-232 |
| | | IP |
| | | CEC |
| | Feedback Vrfy. | On |
| | | Off |
| | Menu Back | |

| Others | In Auto Switch | On |
| | | Off |
| | VGA Auto Adj. | |
| | HDMI1 HDCP | Compliant |
| | | Non-Compliant |
| | HDMI2 HDCP | Compliant |
| | | Non-Compliant |
| | Mirror-V | On |
| | | Off |
| | ASP Background | Grey |
| | | Black |
| | Menu Back | |
| Information | Source    HDMI<br>Name     XXXX<br>Product   XXXX<br><br>Sink       HDMI XXX<br>Model     XXXX XX<br>Native1    XXXXxXXXX<br>Native2    XXXXxXXXX<br>IP Address     xxx.xxx.x.xx<br>F W Version    VX.X.XX | |
| | Menu Back | |
| System Reset | | |
| Menu Exit | | |

## Connection and Installation



atlona.com

Toll free: 1-877-536-3976
Local: 1-408-962-0515

# Specifications

## Video Resolutions

| | |
|---|---|
| IN | 1080p@23.98/24/25/29.97/30/50/59.94/60Hz, 1080i@50/59.94/60Hz, 720p@50/59.94/60Hz, 576p, 576i, 480p, 480i<br>1920x1200, 1680x1050, 1600x1200, 1600x900, 1440x900, 1400x1050, 1366x768, 1360x768, 1280x1024, 1280x800, 1280x768, 1152x864, 1024x768, 800x600, 640x480 |
| Preferred IN Resolution | 800x600, 1024x768, 1280x720, 1280x800, 1366x768, 1920x1080, 1920x1200 |
| OUT | 1080p@23.98/24/25/29.97/30/50/59.94/60Hz, 1080i@50/59.94/60, 720p@25/29.97/30/50/59.94/60<br>800x600, 1024x768, 1280x800, 1280x1024, 1366x768, 1400x1050, 1600x900, 1600x1200, 1680x1050, 1920x1200 |
| Color Space | YUV, RGB |
| Chroma Subsampling | 4:4:4, 4:2:2 |
| Color depth | 8-bit, 10-bit, 12-bit |

## Audio

| | |
|---|---|
| Analog IN | 3.5mm stereo jack, -10 dBu nominal input |
| Analog OUT | Balanced, +4 dBu nominal analog output. Max output +18 dBu (only from 2Ch PCM sources) |
| HDMI | PCM 2Ch, LPCM 5.1, LPCM 7.1, Dolby Digital, DTS 5.1, Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos |
| Sample Rate | 32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz |
| Bit rate | up to 24-bit |

## Distance

| | | |
|---|---|---|
| HDMI @ 1080p | up to 10 meters | up to 30 feet |

## Signal

| | |
|---|---|
| Bandwidth | 6.75 Gbps |
| CEC | |
| HDCP | Switchable - Compliant/Non-compliant |

## Temperature

| | | |
|---|---|---|
| Operating | 0°C to 50°C | 32°F to 122°F |
| Storage | -20°C to 60°C | -4°F to 140°F |
| Humidity | 20 to 90% non-condensing | |

## Power

| | |
|---|---|
| Consumption | 10.4W |
| Supply | Input: AC100-240V ~ 50/60Hz 0.5A<br>Output: DC 5V/3.6A |

## Dimension

| | | |
|---|---|---|
| H x W x D | 38 x 127 x 102 (mm) | 1.5 x 5 x 4.02 (inch) |

## Weight

| | | |
|---|---|---|
| Device | 0.27 kg | 0.60 lbs |

## Certification

| | |
|---|---|
| Product | CE, FCC |
| Power Supply | CE, FCC, RoHS, RCM, TUV |

# Safety Information

## *Safeguards*

To reduce the risk of electric shock, do not expose this product to rain or moisture

Do not modify the wall plug. Doing so will void the warranty and safety features.

If the wall plug does not fit into your local power socket, hire an electrician to replace your obsolete socket.

This equipment should be installed near the socket outlet and the device should be easily accessible in the case it requires disconnection.

## *Precautions*

FCC regulations state that any unauthorized changes or modifications to this equipment, not expressly approved by the manufacturer, could void the user's authority to operate this equipment.

Operate this product using only the included external power supply. Use of other power supplies could impair performance, damage the product, or cause fires.

In the event of an electrostatic discharge this device may automatically turn off. If this occurs, unplug the device and plug it back in.

Protect and route power cords so they will not be stepped on or pinched by anything placed on or against them. Be especially careful of plug-ins or cord exit points from this product.

Avoid excessive humidity, sudden temperature changes or temperature extremes.

Keep this product away from wet locations such as bathtubs, sinks, laundries, wet basements, fish tanks, and swimming pools.

Use only accessories recommended by Atlona to avoid fire, shock, or other hazards.

Unplug the product before cleaning. Use a damp cloth for cleaning and not cleaning fluid or aerosols. Such products could enter the unit and cause damage, fire, or electric shock. Some substances may also mar the finish of the product.

Never open, remove unit panels, or make any adjustments not described in this manual. Attempting to do so could expose you to dangerous electrical shock or other hazards. It may also cause damage to your product. Opening the product will void the warranty.

Do not attempt to service the unit. Disconnect the product and contact your authorized Atlona reseller or contact Atlona directly.

# Atlona, Inc. ("Atlona") Limited Product Warranty Policy

## Coverage

Atlona warrants its products will substantially perform to their published specifications and will be free from defects in materials and workmanship under normal use, conditions and service.

Under its Limited Product Warranty, Atlona, at its sole discretion, will either:

A)  repair or facilitate the repair of defective products within a reasonable period of time, restore products to their proper operating condition and return defective products free of any charge for necessary parts, labor and shipping

<div align="center">OR</div>

B)  replace and return, free of charge, any defective products with direct replacement or with similar products deemed by Atlona to perform substantially the same function as the original products

<div align="center">OR</div>

C)  refund the pro-rated value  based on the remaining term of the warranty period, not to exceed MSRP, in cases where products are beyond repair and/or no direct or substantially similar replacement products exist.

Repair, replacement or refund of Atlona's products is the purchaser's exclusive remedy and Atlona's liability does not extend to any other damages, incidental, consequential or otherwise.

This Limited Product Warranty extends to the original end-user purchaser of Atlona's products and is non-transferrable to any subsequent purchaser(s) or owner(s) of these products.

## Coverage Periods

Atlona's Limited Product Warranty Period begins on the date of purchase by the end-purchaser. The date contained on the end-purchaser 's sales or delivery receipt is the proof purchase date.

**Limited Product Warranty Terms – New Products**
• 10 years from proof of purchase date for hardware/electronics products purchased on or after June 1, 2013
• 3 years from proof of purchase date for hardware/electronics products purchased before June 1, 2013
• Lifetime Limited Product Warranty for all cable products

**Limited Product Warranty Terms – Refurbished (B-Stock) Products**
• 3 years from proof of purchase date for all Refurbished (B-Stock) hardware and electronic products purchased on or after June 1, 2013

## Remedy

Atlona recommends that end-purchasers contact their authorized Atlona dealer or reseller from whom they purchased their products.  Atlona can also be contacted directly. Visit www.atlona.com for Atlona's contact information and hours of operation. Atlona requires that a dated sales or delivery receipt from an authorized dealer,  reseller or end-purchaser is provided before Atlona extends its warranty services. Additionally, a return merchandise authorization (RMA) and/or case number, is required to be obtained from Atlona in advance of returns.

Atlona requires that products returned are properly packed, preferably in the original carton, for shipping. Cartons not bearing a return authorization or case number will be refused. Atlona, at its sole discretion, reserves the right to reject any products received without advanced authorization. Authorizations can be requested by calling 1-877-536-3976 (US toll free) or 1-408- 962-0515 (US/international) or via Atlona's website at www.atlona.com.

## Exclusions

This Limited Product Warranty excludes:

• Damage, deterioration or malfunction caused by any alteration, modification, improper use, neglect, improper packing or shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature.
• Damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Atlona to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product.
• Equipment enclosures, cables, power supplies, batteries, LCD displays, and any accessories used in conjunction with the product(s).
• Products purchased from unauthorized distributors, dealers, resellers, auction websites and similar unauthorized channels of distribution.

### Disclaimers

This Limited Product Warranty does not imply that the electronic components contained within Atlona's products will not become obsolete nor does it imply Atlona products or their electronic components will remain compatible with any other current product, technology or any future products or technologies in which Atlona's products may be used in conjunction with. Atlona, at its sole discretion, reserves the right not to extend its warranty offering in instances arising outside its normal course of business including, but not limited to, damage inflicted to its products from acts of god.

### Limitation on Liability

The maximum liability of Atlona under this limited product warranty shall not exceed the original Atlona MSRP for its products. To the maximum extent permitted by law, Atlona is not responsible for the direct, special, incidental or consequential damages resulting from any breach of warranty or condition, or under any other legal theory. Some countries, districts or states do not allow the exclusion or limitation of relief, special, incidental, consequential or indirect damages, or the limitation of liability to specified amounts, so the above limitations or exclusions may not apply to you.

### Exclusive Remedy

To the maximum extent permitted by law, this limited product warranty and the remedies set forth above are exclusive and in lieu of all other warranties, remedies and conditions, whether oral or written, express or implied. To the maximum extent permitted by law, Atlona specifically disclaims all implied warranties, including, without limitation, warranties of merchantability and fitness for a particular purpose. If Atlona cannot lawfully disclaim or exclude implied warranties under applicable law, then all implied warranties covering its products including warranties of merchantability and fitness for a particular purpose, shall provide to its products under applicable law. If any product to which this limited warranty applies is a "Consumer Product" under the Magnuson-Moss Warranty Act (15 U.S.C.A. §2301, ET SEQ.) or other applicable law, the foregoing disclaimer of implied warranties shall not apply, and all implied warranties on its products, including warranties of merchantability and fitness for the particular purpose, shall apply as provided under applicable law.

### Other Conditions

Atlona's Limited Product Warranty offering gives legal rights, and other rights may apply and vary from country to country or state to state. This limited warranty is void if (i) the label bearing the serial number of products have been removed or defaced, (ii) products are not purchased from an authorized Atlona dealer or reseller. A comprehensive list of Atlona's authorized distributors, dealers and resellers can be found at www.atlona.com .

## Atlona, Inc Product Registration

Thank you for purchasing this Atlona product. - We hope you enjoy it and will take an extra few moments to register your new purchase.

Registration creates an ownership record if your product is lost or stolen and helps ensure you'll receive notification of performance issues and firmware updates.

At Atlona we respect and protect your privacy, assuring you that your registration information is completely secure. Atlona product registration is completely voluntary and failure to register will not diminish your limited warranty rights.

To register go to: http://www.atlona.com/registration