

4K/UHD 8x4 HDBaseT and HDMI Matrix Switcher with PoE

AT-UHD-CLSO-840



User Manual

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Introduction

The Atlona AT-UHD-CLSO-840 is a 4K/UHD 8x4 matrix switcher with HDMI® and HDBaseT™ inputs and outputs, flexible audio integration capabilities, and Ethernet-enabled 100 meter HDBaseT extension with PoE remote device powering. It is highly versatile and ideal for presentation environments with content on multiple displays, as well as videoconferencing, presentation capture, and divisible rooms. The AT-UHD-CLSO-840 supports resolutions up to 4K/UHD at 60 Hz with 4:2:0 chroma subsampling. Ethernet pass-through allows HDBaseT Ethernet extension from a control system or network. Audio system integration is streamlined with audio embedding and de-embedding, independent audio matrix switching, dedicated input and output gain controls, and a five-band EQ for each output. The AT-UHD-CLSO-840 is configured and managed using Atlona Management System software or webGUI to simplify installation and support.

Package Contents

- 1 x AT-UHD-CLSO-840
- 8 x 5 pin captive screw female connector
4 x Audio IN and 4 x Audio OUT
- 1 x 3 pin captive screw female connector
RS-232
- 1 x IEC C13 power cable
- 1 x Pair of rack mount ears
- 1 x Installation guide

Features

- HDBaseT ports for up to 100 meters (328 feet)
- Two HDMI and HDBaseT independent outputs
- PoE (Power over Ethernet) to power up to five compatible PoE series receivers or transmitters
e.g. AT-UHD-EX-100CE-RX, AT-HDVS-200-TX, etc
- EDID learning for up to 8 video display EDIDs
- Built in internal EDID mode provides 14 unique EDIDs to ensure compatibility
- Multiple control options such as RS-232, TCP/IP, webGUI, AMS, and front panel
- 2Ch audio embedding and de-embedding through captive screw ports
- Independent zone volume control, mute, and 5 band EQ for captive screw audio outputs
- HDCP 1.4 compliant
- Multi-channel audio pass through up to Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio, and Dolby Atmos on digital outputs
- Supports digital audio up to 24-bit, 192 kHz
- Internal international power supply

Before You Start

- Make sure when connecting a category cable a 568B termination method is used. See page 6 for more details.
- Use a component surge suppressor with line conditioning for best results.

Note: Atlona's warranty does not cover damage due to electrical disturbances. A component surge suppressor with line conditioning is highly suggested, especially in areas with electrical storms.

Panel Description

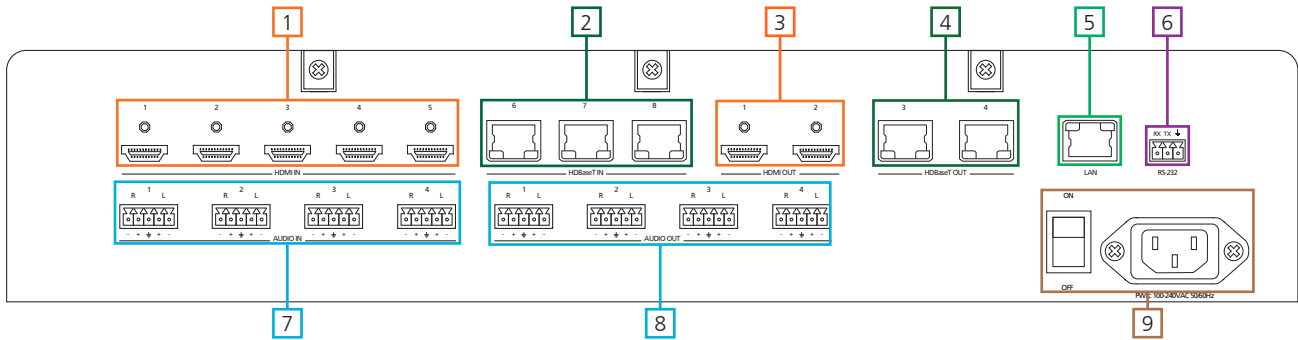
Front Panel



1. Function (FCN) Button - Select for command options. (blue backlight when selected)
 - a. **EDID:** Save/Load EDIDs to individual inputs
 - b. **INFO:** Displays the firmware, IP, and MAC address
 - c. **1:** Save a single input to all the outputs with this function
 - d. **2:** View additional matrix and output RS-232 baud information
2. Cancel Button - Within the function menu use this button to go back one screen or to return to the home screen

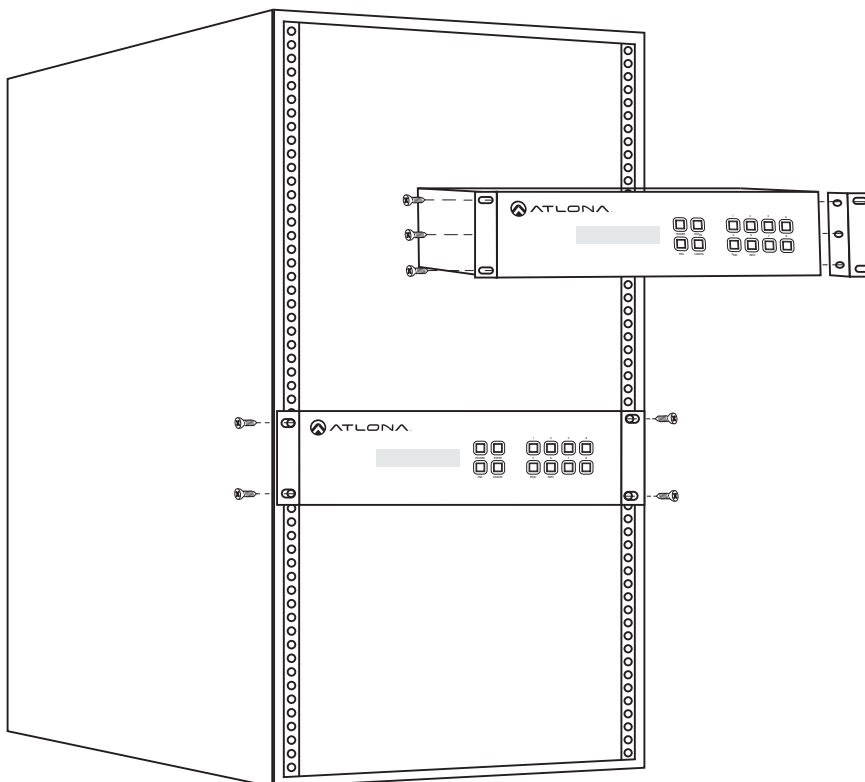
Note: You cannot power off or change functions unless you return to the home screen
3. Power Button - Cycles the power between On (blue backlight) or Standby (red backlight) mode
4. Enter Button - Use to view current status for inputs and outputs or to confirm a command
5. Number buttons - Use these buttons to select input and output paths or use with the function button to change matrix settings

Back Panel



1. HDMI Input - Connect HDMI sources to these ports
e.g. DVD players, Blu-ray players, computers, game consoles, etc
2. HDBaseT Inputs - Connect compatible PoE transmitters to these ports **e.g.** AT-UHD-EX-100CE-TX
3. HDMI outputs - Connect to local displays, AVRs, or transmitters **e.g.** AT-UHD-EX-100CE-KIT
4. HDBaseT Outputs - Connect to compatible PoE receivers
e.g. AT-UHD-EX-100CE-RX or AT-HDVS-200-RX for scaling
5. LAN port - Connect to a network switch for TCP/IP, webGUI, and AMS control, as well as firmware updating
6. RS-232 port - Control the matrix or send zone commands through HDBaseT ports
7. Audio IN - Connect analog audio sources here - Audio inputs follow the corresponding HDBaseT outputs
e.g. Audio IN 1 follows HDBaseT OUT 1
8. Audio out - Captive screw analog audio outs for use with a sound system or multi-channel zone amplifier - Audio outputs can be mirrored to any output or paired to any analog input.
9. Internal power supply - Connect included IEC C13 power cable from here to a power outlet.

Rack Mounting



To rack mount the UHD-CLSO-840 unit: use the rack mount ears, the 6 screws from the sides of the UHD-CLSO-840, and 4 rack screws.

To affix the rack mount ears, remove the three screws on each side of the UHD-CLSO-840 and affix the rack ears to the UHD-CLSO-840 (as shown in the picture to the left).

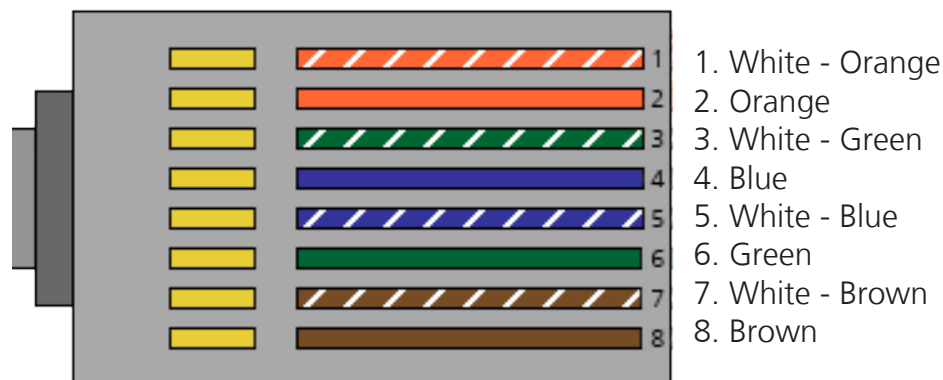
Place the UHD-CLSO-840 in the rack, lining the holes in the rack ears with the holes in the rack. Once placed, use the rack screws to keep the unit in place. (as shown in the picture to the left).

Note: Increase the air flow as needed to maintain the recommended temperature inside the rack.

Note: Do not exceed maximum weight loads for the rack. Install heavier equipment in the lower part of the rack for stability.

Category Cable

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



Use the table below to verify the best category cable for the installation.

Performance Rating		Type of LAN cable	
Wiring	Shielding	CAT5e/6	CAT6a/7
Solid	Shielded (STP/FTP)	***	****
	Unshielded (UTP)	**	N/A
Stranded - Patch cable (Not recommended)	Unshielded (UTP)	*	N/A
	Shielded (STP/FTP)	*	N/A
Termination		Please use EIA/TIA-568-B termination	

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

Note: For cable distances see the specifications on page 25

Connector

Connector type and size is very important to ensure extenders work correctly. Please use the matching cable type with the correct RJ45 connector.

CAT5e cables should use only CAT5e RJ45 connectors

CAT6 cables should use only CAT6 connectors

CAT6a cables should use only CAT6a connectors

CAT7 cables should use only CAT7 connectors

Using the wrong size connectors may result in interference causing loss of signal.

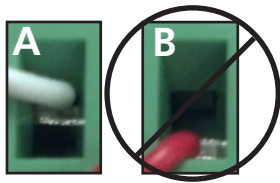
Important! "EZ RJ45 connectors" are not recommended with HDBaseT extenders. Doing so may result in interference with audio and video transmission.

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.



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.



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

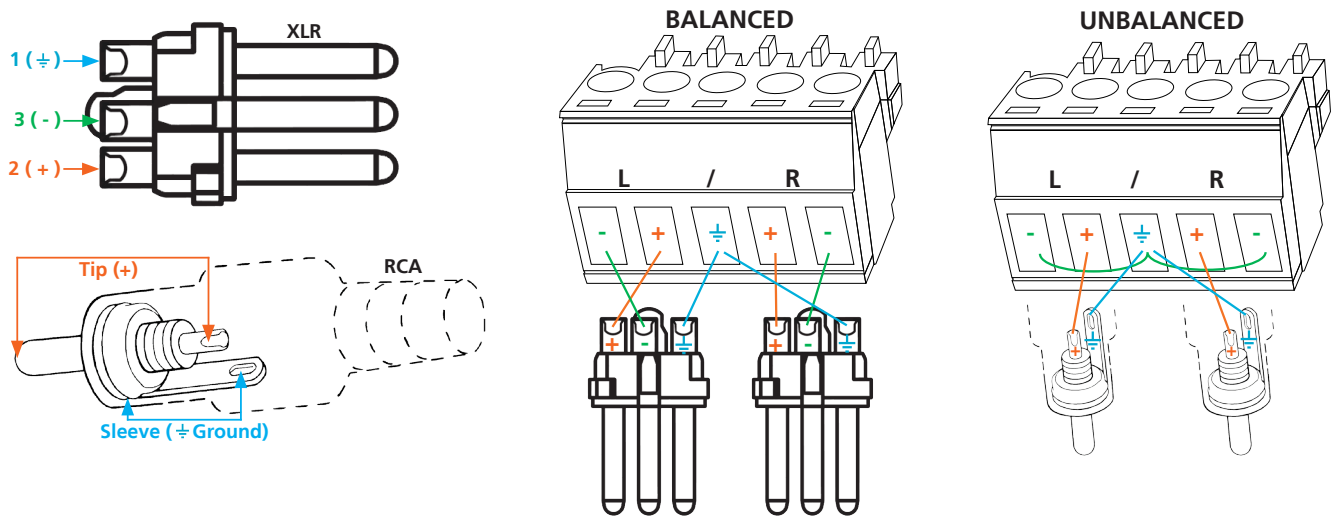


Turn the screws counter clockwise to lower the contact bar to release the wires.

Analog Audio

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

Unbalanced audio connections use one signal wire and a ground, when connecting the wires a jumper between the negative and ground will help alleviate extra noise on the line. Unbalanced audio connections are used if other system components don't support balanced signals.

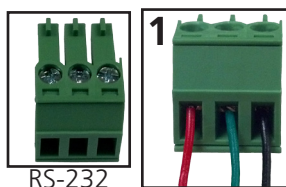


Note: Pin outs may vary, please refer to the audio device's manual to ensure a correct connection.

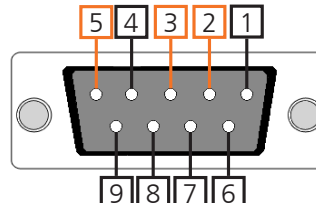
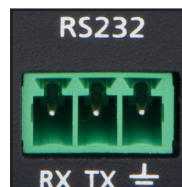
Important! When terminating cables, please ensure exposed adjacent wires do not touch. This may result in a short that can damage connected devices.

RS-232

RS-232 captive screw connector is included. RS-232 pin out will be determined by the RS-232 cable and will connect as Rx (receiver), Tx (transmitter), and \perp (ground). (See picture 1)



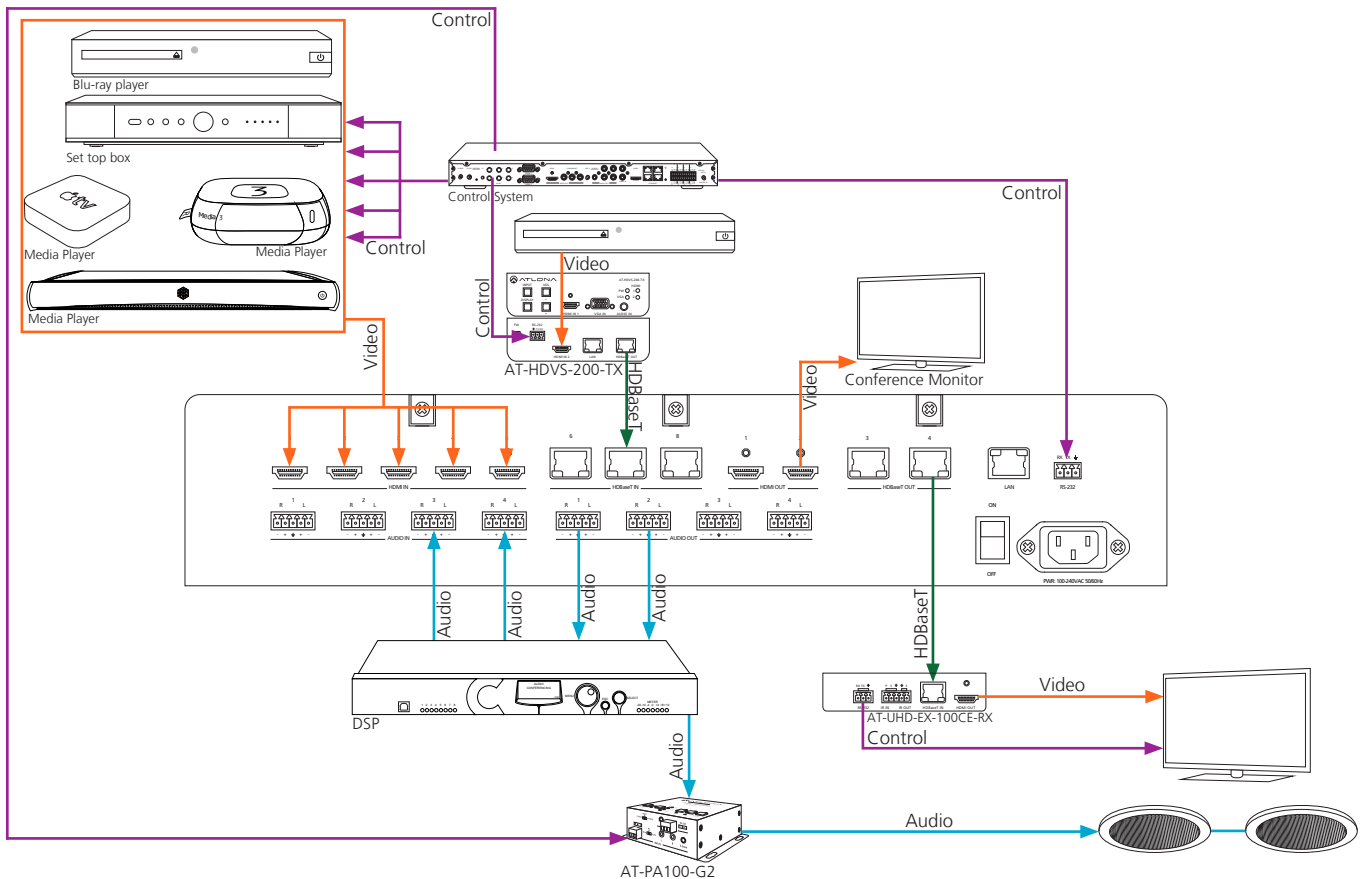
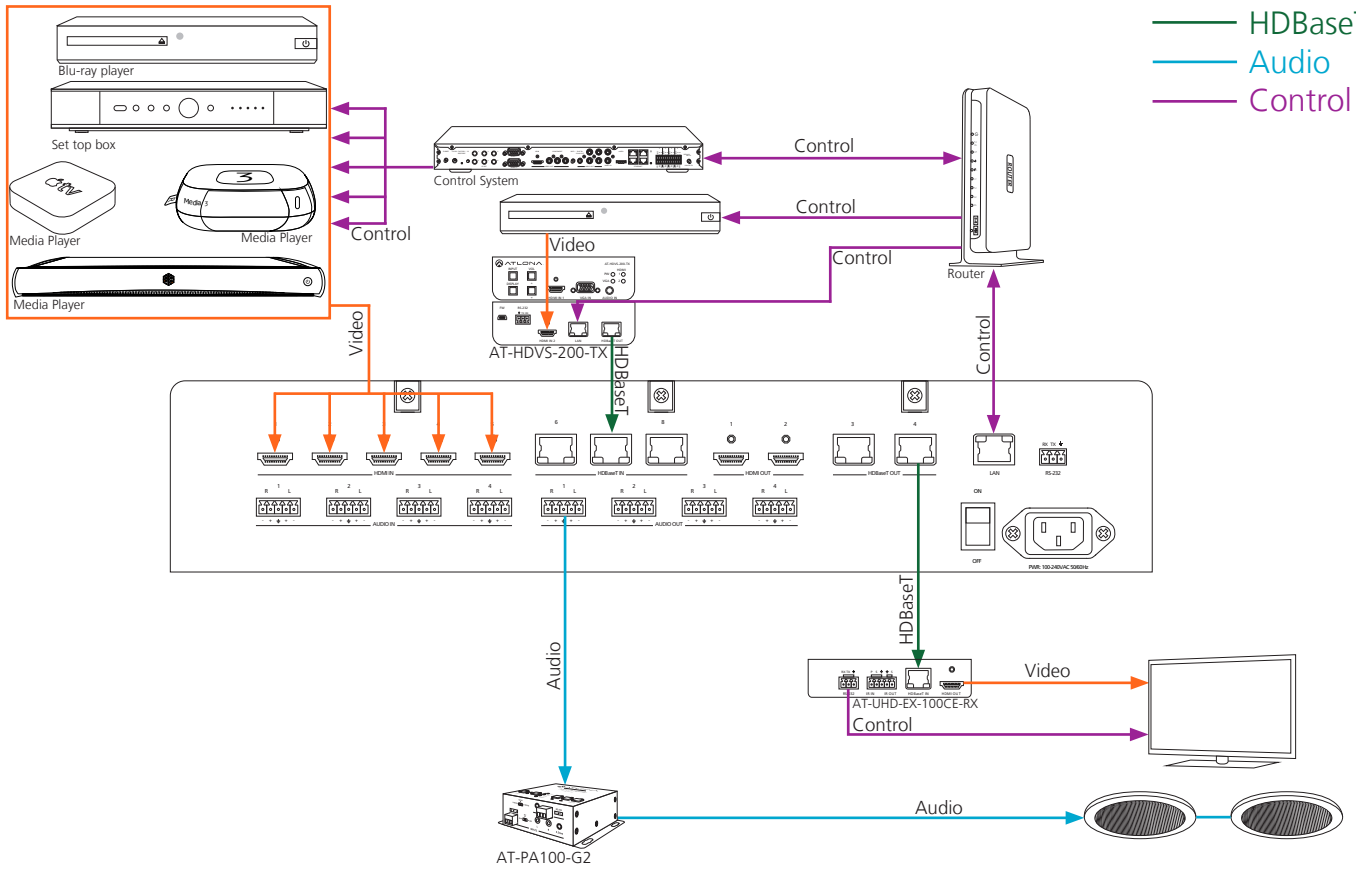
Pin out color will differ per RS-232 cable.



Typical pin out:
2 - TX - Transmitter
3 - RX - Receiver
5 - GND - Ground

Connection Diagram

- Video
- HDBaseT
- Audio
- Control



Note: These products are meant for indoor use only. Do not install or connect the products to any outdoor components.

Matrix Front Panel Functions

The AT-UHD-CLSO-840's front panel has 3 functions: I/O control, EDID, and matrix settings. The following sections go over step by step setup & control.

I/O Control

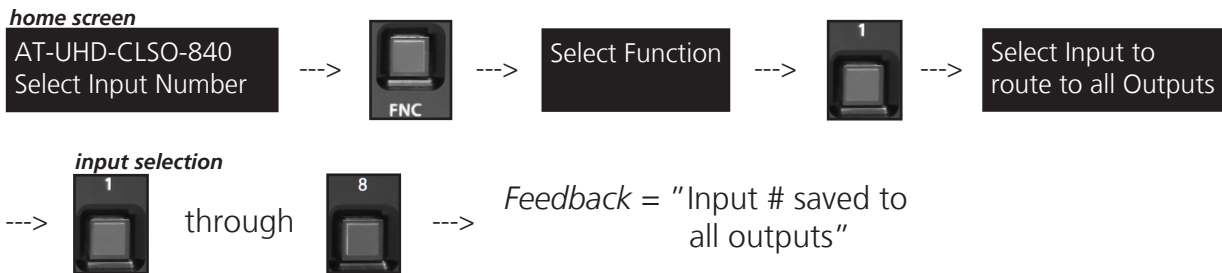
To **route** an input to an output

I.E. Input 1 to output 2



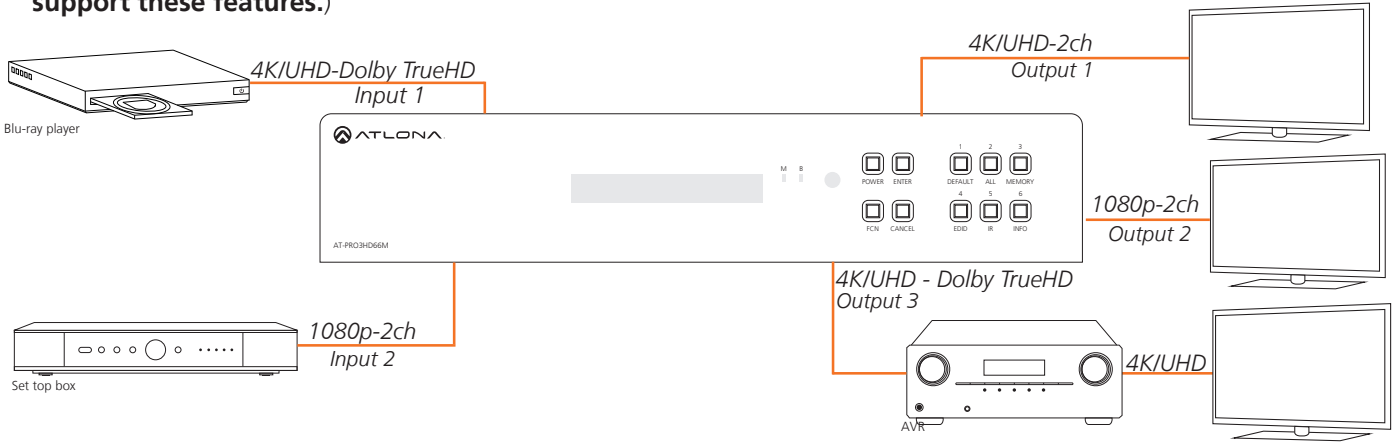
To **route** one input to all outputs

I.E. Input 1 to output 1 through 8



EDID Set Up

When the matrix is completely connected and turned on it will load the **default EDID**, which is the highest common native resolution of the connected devices. (i.e. In the diagram below the default would be 1080p with 2ch audio. **Multi-channel audio and 3D are not enabled on default mode, unless all devices support these features.**)

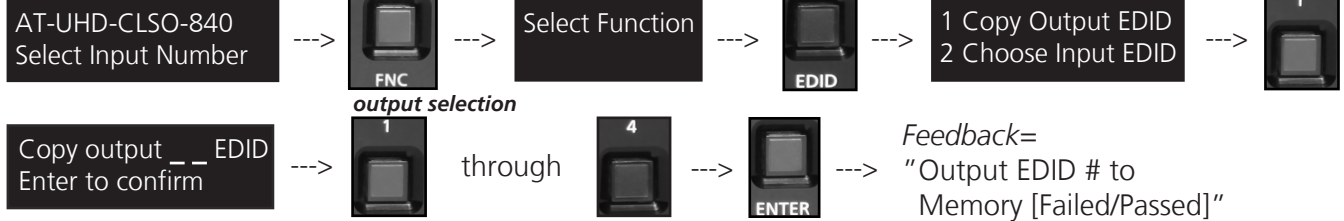


On default, all devices in the diagram will work at 1080p. If a device is not syncing or a different resolution is required, internal EDID or EDID copy and load should resolve these issues. The UHD-CLSO can copy and store up to 8 EDIDs to memory.

Step 1: copy an EDID

Before an EDID can be loaded to an input, it must first be copied to the matrix's memory. Each display's EDID can be saved individually to one of the matrix's eight preset EDID memories.

home screen

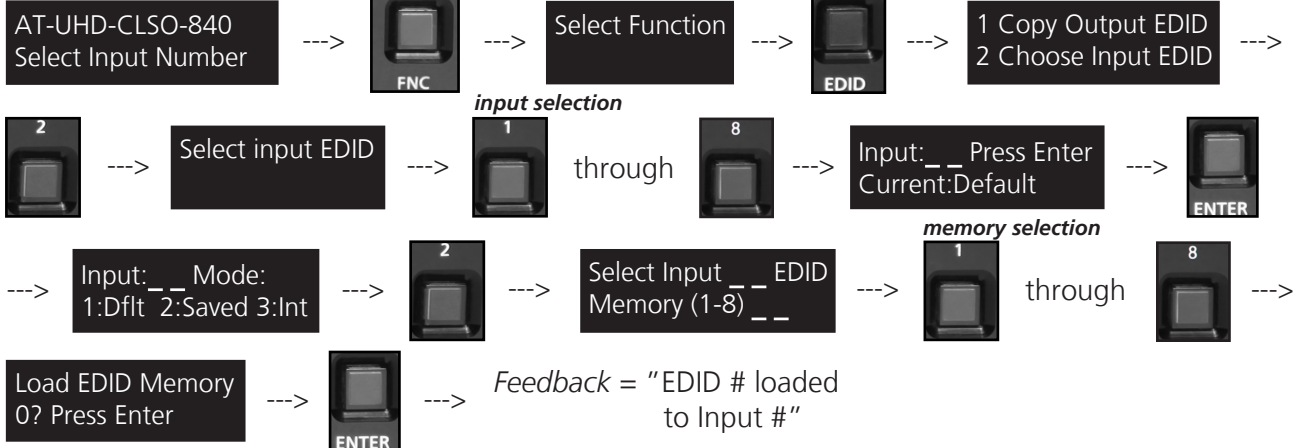


Step 2: load a copied EDID to an input

Once EDIDs have been copied to memory they can be loaded to a specific input.

Note: (refer to the diagram above) Using the EDID of output 3 with input 1 will enable 4K/UHD and Dolby TrueHD to pass. With these settings, output 2 will receive no audio or video and output 1 will receive no audio.

home screen



Step 3: Load an internal EDID to an input

If the first two steps don't produce the correct resolution or audio configuration, the fourteen internal EDIDs should resolve the issue.

Internal EDID options

- EDID 1: 1080P 2CH audio
- EDID 2: 1080P HD multi-channel audio 7.1*
- EDID 3: 1080P Dolby Digital/DTS 5.1
- EDID 4: 1080P 3D 2CH audio
- EDID 5: 1080P 3D HD multi-channel audio 7.1*
- EDID 6: 1080P 3D Dolby Digital/DTS 5.1
- EDID 7: 720P 2CH audio
- EDID 8: 720P Dolby Digital/DTS 5.1
- EDID 9: 1280x800 RGB 2CH audio
- EDID 10: 1366x768 RGB 2CH audio
- EDID 11: 1080P DVI**
- EDID 12: 1280x800 DVI**
- EDID 13: 3840x2160 2CH audio
- EDID 14: 3840x2160 multi-channel audio 7.1*

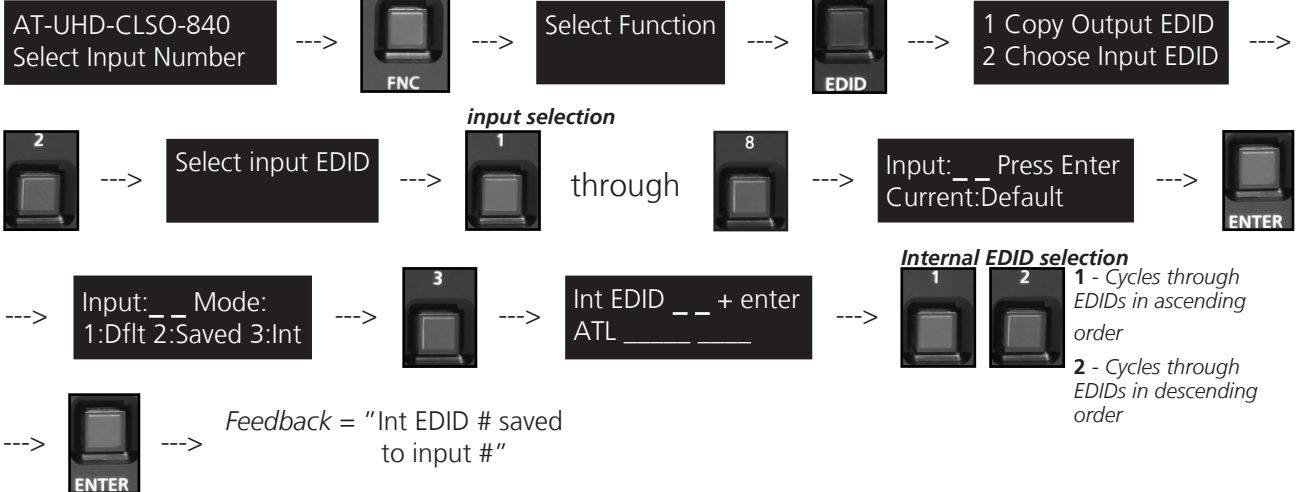
Front panel display readout

- ATL 1080P 2CH
- ATL 1080P Multi CH
- ATL 1080P DD
- ATL 1080P 3D 2CH
- ATL 1080P 3D MultiCH
- ATL 1080P 3D DD
- ATL 720P 2CH
- ATL 720P DD
- ATL 1280x800 RGB 2CH
- ATL 1366x768 RGB 2CH
- ATL 1080P DVI
- ATL 1280x800 RGB DVI
- ATL UHD 2CH
- ATL UHD MultiCH

* Recommended EDID for AVR use

** Recommended EDID for DVI projectors use

home screen



RS-232 and TCP/IP commands:

To access different EDIDs through RS-232 or TCP/IP, the following commands must be used.

Command	Feedback	Description
EDIDMSetX default	EDIDMSetX default	Sets the EDID of an input to the default EDID e.g. EDIDMset2 default - sets input 2 to default
EDIDMSetX saveY	EDIDMSetX saveY	Sets the EDID of an input to the previously saved EDID memory e.g. EDIDMset1 save3 - sets input 1 to EDID memory 3
EDIDMSetX intZ	EDIDMSetX intZ	Sets the EDID of an input to one of the internal EDIDs e.g. EDIDMset3 int6 - sets input 3 to internal EDID 6 - 1080p 3D Dolby Digital 5.1
EDIDOutX saveY	EDIDOutX saveY	Save an output EDID to memory e.g. EDIDOut2 save4 - saves output 2s EDID to memory 4
EDIDOutX inY	EDIDOutX inY	Set the EDID of the selected output to the selected input EDID e.g. EDIDOut3 in1 - sets output 3s EDID to match input 1

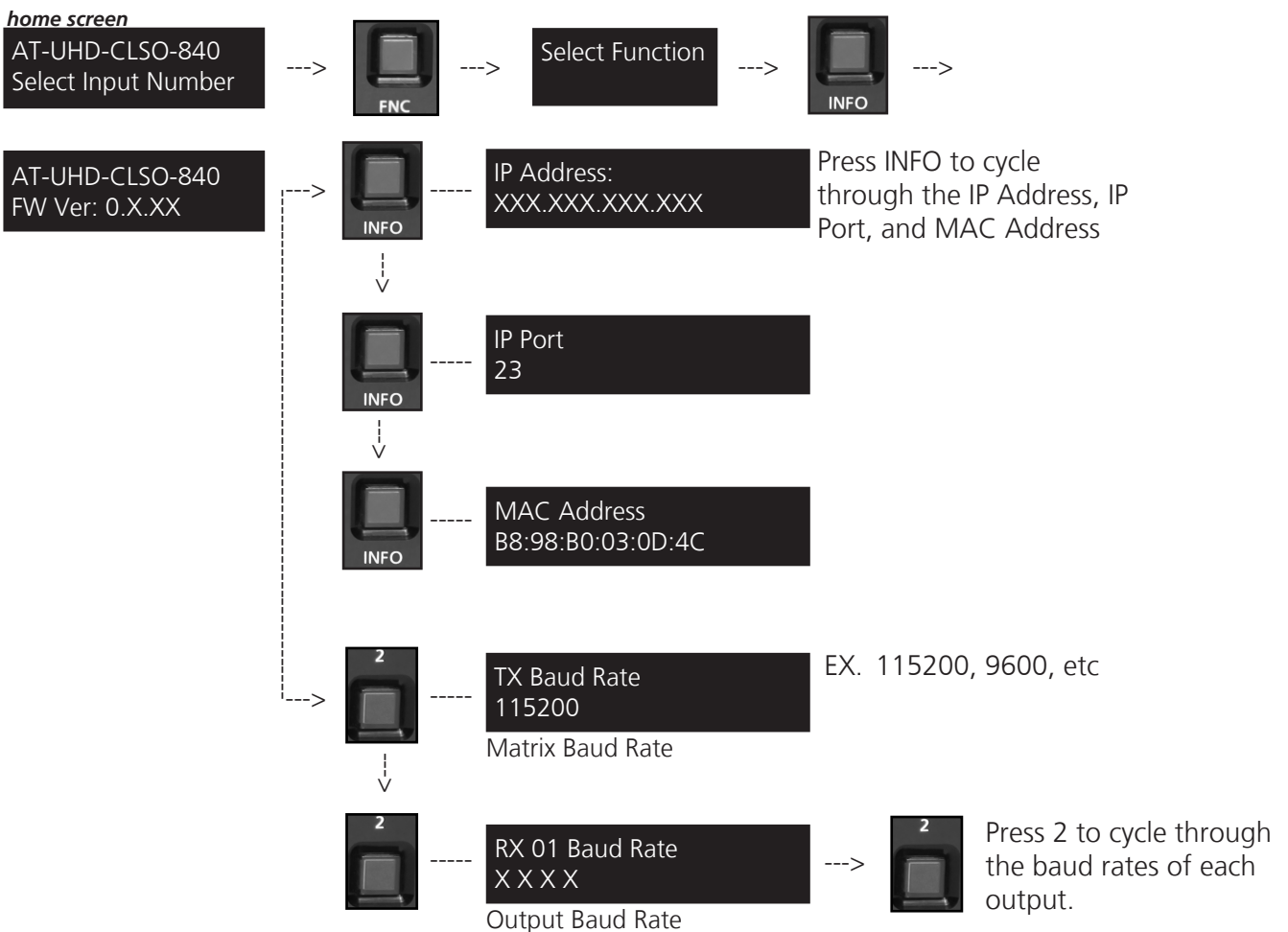
Matrix Status

When installing or troubleshooting it's important to verify settings, or be able to come back to a project and see how it was set up. The AT-UHD-CLSO-840 matrix settings are viewable through the front panel display. View current I/O settings, firmware version, IP, MAC Address, and the RS-232 baud rates of not just the matrix but output zones as well.



View current I/O settings



View Firmware/Baud Rate settings



Factory Reset

Press and hold the  and  buttons for 5 seconds for the factory reset to occur

Note: The matrix will not display any signs of the reset. Please wait 5 additional seconds and resume normal operation

Ethernet

For convenience, the UHD-CLSO-840 comes with DHCP on. This enables the matrix 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 matrix with a TCP/IP control system, this feature may be turned off and the IP address set using RS-232 commands, webGUI, or AMS.

To disable DHCP, use the following command: IPDHCP off. Once disabled, set the IP address using the IPStatic command (e.g. IPStatic 192.168.1.56).

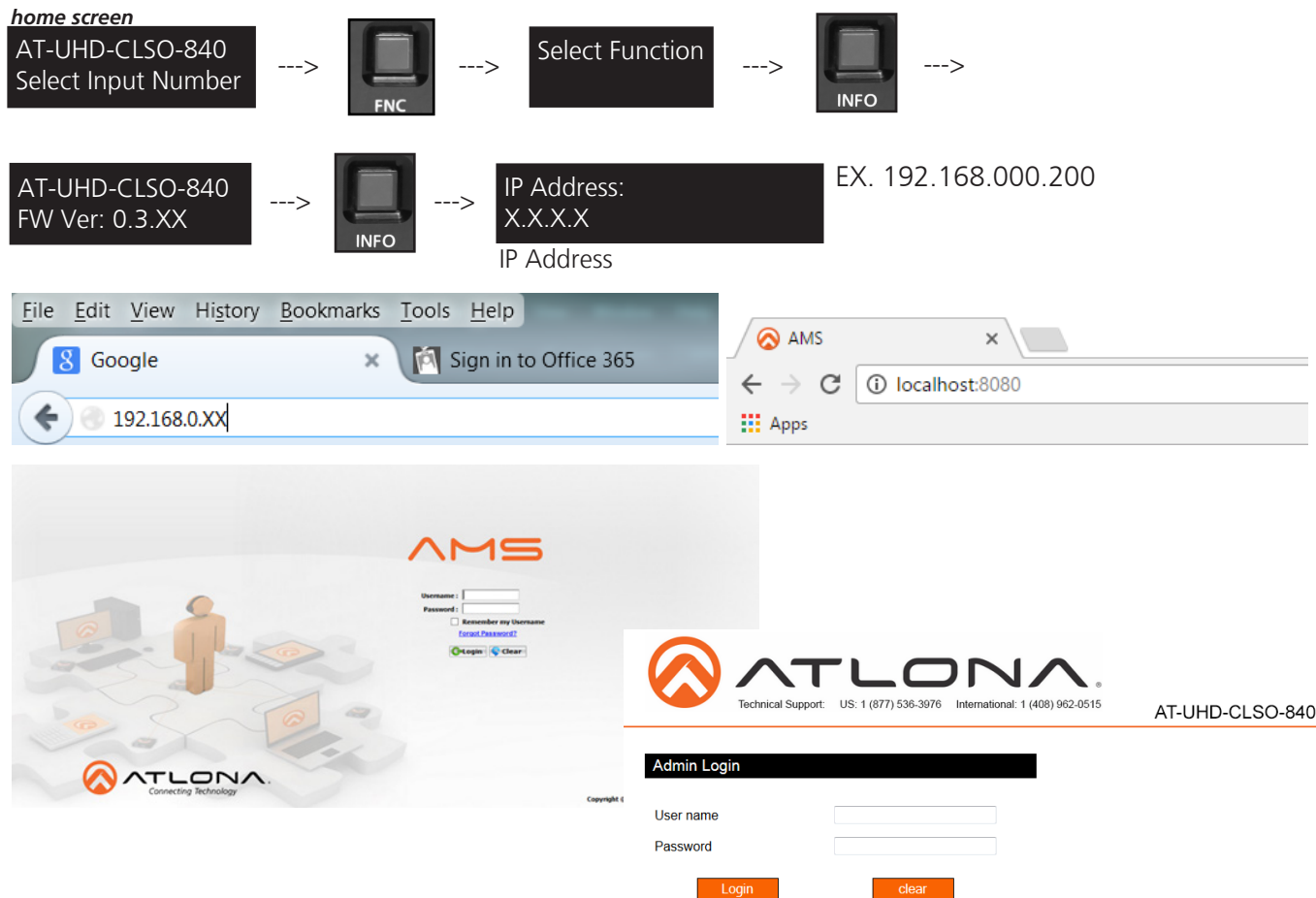
AMS & webGUI

Atlona provides two simple solutions for setup and control: a built in webGUI and the free software AMS (AMS functionality coming soon).

To download AMS, go to: <http://atlona.com/product/at-sw-ams/>

To get to the log in screen of AMS: type localhost:8080 into the web browser on the computer AMS is running on. It will go straight to the log in for AMS.

GUI IP Address: may be found using the front panel buttons. Press the FNC button, followed by the INFO button. The matrix information will display on the front panel LED. Press the INFO button repeatedly until the IP is displayed.



The diagram illustrates the steps to find the IP address and access the AMS login screen:

- home screen:** AT-UHD-CLSO-840 Select Input Number
- Press **FNC** button
- Screen displays: **Select Function**
- Press **INFO** button
- Screen displays: **AT-UHD-CLSO-840 FW Ver: 0.3.XX**
- Press **INFO** button
- Screen displays: **IP Address: X.X.X.X** (EX. 192.168.000.200)

The browser screenshot shows the address bar with `localhost:8080` and the AMS login page with the following fields:

Username:
 Password:
 Remember my Username

The login page footer includes the ATLONA logo, contact information (Technical Support: US: 1 (877) 536-3976 International: 1 (408) 962-0515), and the model number AT-UHD-CLSO-840.

A login screen will appear (this is the same log in for admin and general users). For the first login to AMS, the username is "admin" and password is "admin123". The login for the webGUI will be username "root" and password "Atlona".

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System Information Download Log

Model	AT-UHD-CLSO-840
UI Firmware	0.1.30
FP Firmware	Unknown
MAC Address	B8:98:B0:03:21:0E
Serial Number	xxxxxx
Temperature	41°C --- 106°F
Operating Time	11/8/2016 (15:38:54)

Save System Settings

Load system settings

File No file chosen Load

The home page will allow the user to see the general system information, download the matrix log, and save/load system settings. The information displayed will help figure out if the matrix is up to date, how long it has been running, and other key information.

The Download Log button is for Atlona Tech Support Team only. Tech Support may request the log be sent to them for more in depth troubleshooting.

Note: To save the log, press the "Download Log" button. The file will automatically save to the "download" folder.

Save System Settings will backup the current settings of: network, users, I/O labels, and the current I/O settings of the matrix. If the matrix requires a factory reset, the backed up settings can be loaded onto the matrix.

Note: To save the system settings, press the "Save System settings" button. The file will automatically save to the download folder. The file can be renamed (using a project name may make the file easier to find later) but the file extension should not be altered (altering the extension may corrupt or make the file unusable).

Note: To load the system settings, click the browse button on the webGUI. Once the search folder displays, select the file and press the load button. A progress bar will display to make it easier to know when the upload is complete. If a restart is required, a prompt will display.

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Firmware Status

Matrix	
UI Firmware	0.1.37
FP Firmware	Unknown
HDBaseT TX VS100	13092110
HDBaseT RX VS100	13092100

HDBaseT Remote	
(Zone 1): In 6	13092110
(Zone 2): In 7	No Link
(Zone 3): In 8	No Link
(Zone 4): Out 3	13092100
(Zone 5): Out 4	No Link

Firmware Update

Matrix

File No file chosen

HDBaseT Remote

No file chosen

The firmware page displays the matrix, HDBaseT transmitter chips, and HDBaseT receivers firmware version and provides an easy way to update.

Download the most current firmware from <http://atlon.com/product/AT-UHD-CLSO-840>. Once the firmware is on the computer use the browse button to select the correct file. Press the update button and a progress bar will display. If a restart is required, the webGUI will display a prompt.

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Network Settings

DHCP ON OFF

IP Address

Subnet

Gateway

Telnet Port

HTTP Port

IP Timeout

Hostname

Telnet Login Mode ON OFF

The network page enables the matrix IP settings to be altered. If a static IP is required, then DHCP needs to be turned off. Once off, the settings will be available to change.

Login mode, when on, will request a password whenever a control device is connected to the matrix.

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Control Settings

Power: ON OFF

Key Lock: ON OFF

Factory Default:

NTP Server:

Time zone:

Blink LED:

RS-232	Baudrate	Databit	Parity	Stopbit
System:	<input type="text" value="115200"/>	<input type="text" value="8 Bit"/>	<input type="text" value="None"/>	<input type="text" value="1 Bit"/>
(Zone 1): In 6	<input type="text" value="115200"/>	<input type="text" value="8 Bit"/>	<input type="text" value="None"/>	<input type="text" value="1 Bit"/>
(Zone 2): In 7	<input type="text" value="115200"/>	<input type="text" value="8 Bit"/>	<input type="text" value="None"/>	<input type="text" value="1 Bit"/>
(Zone 3): In 8	<input type="text" value="115200"/>	<input type="text" value="8 Bit"/>	<input type="text" value="None"/>	<input type="text" value="1 Bit"/>
(Zone 4): Out 3	<input type="text" value="115200"/>	<input type="text" value="8 Bit"/>	<input type="text" value="None"/>	<input type="text" value="1 Bit"/>
(Zone 5): Out 4	<input type="text" value="115200"/>	<input type="text" value="8 Bit"/>	<input type="text" value="None"/>	<input type="text" value="1 Bit"/>

The control page will allow simple functions to be changed. Turn the matrix on/off and front panel key lock on/off. The time zone and baud rates (for matrix and zone outputs) can be altered as well.

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Change user name and password

No.	Username	Password	Action
User 1	<input type="text"/>	<input type="text"/>	<input type="button" value="Add"/>
User 2	<input type="text"/>	<input type="text"/>	<input type="button" value="Add"/>
User 3	<input type="text"/>	<input type="text"/>	<input type="button" value="Add"/>

Change Admin Password

Old password:

New Password:

Confirm Password:

The Users page allows non-admin users to be added or the admin password to be changed. Only 3 non-admin users can be added. Type in the username and password to the fields and press add. Users will not have the ability to access this page. Admin password (default username="root" and password="Atlona") can also be changed. Be sure to write this information down as admin is the only profile allowed to add/remove users.

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Input/ Output Selection I/O Reset

Video Out 1: Output_1	HDMI Audio	Digital ▼	In 1 : Input_1 ▼
Video Out 2: Output_2	HDMI Audio	Digital ▼	In 2 : Input_2 ▼
Video Out 3: Output_3	HDMI Audio	Digital ▼	In 3 : Input_3 ▼
Video Out 4: Output_4	HDMI Audio	Digital ▼	In 4 : Input_4 ▼

Output "All" None ▼

Audio out follows:

Audio Out 1	Mirror	On ▼	Out 1 : Output_1 ▼
Audio Out 2	Mirror	Off ▼	In 7 : Input_7 ▼
Audio Out 3	Mirror	On ▼	Out 3 : Output_3 ▼
Audio Out 4	Mirror	Off ▼	In 4 : Input_4 ▼

Save Cancel

Input Label

In 1 : Input_1 ▼ Change

Output Label

Out 1 : Output_1 ▼ Change

Note: Default label is Input_X or Output_X. Labels will follow corresponding ports.

Ex. Input 6 will default to label Input_6

The I/O page makes an easy way to set up input and output routing and labeling.

The inputs and outputs have the option for labeling to help make routing and switching simpler. Label each input and output individually. Select what source or zone that is to be labeled, type the name in the box, and press change.

Note: Labels are limited to 16 characters and no spaces

HDMI Audio

Digital - Will use the program audio from the digital inputs

Analog - Will embed the audio from the analog audio inputs

Audio Out

Mirror -

On: Will output the audio of the selected HDMI or HDBaseT output

Off: Will output the audio of the selected HDMI or HDBaseT input

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Route Memory (This will not change the current I/O selection) [Memory Reset](#)

Preset select: M1 : Preset_1 ▼

Video Out 1: Output_1	HDMI Audio	Digital ▼	In 1 : Input_1 ▼
Video Out 2: Output_2	HDMI Audio	Digital ▼	In 2 : Input_2 ▼
Video Out 3: Output_3	HDMI Audio	Digital ▼	In 3 : Input_3 ▼
Video Out 4: Output_4	HDMI Audio	Digital ▼	In 4 : Input_4 ▼

Audio out follows:

Audio Out 1	Mirror	Off ▼	In 1 : Input_1 ▼
Audio Out 2	Mirror	On ▼	Out 2 : Output_2 ▼
Audio Out 3	Mirror	Off ▼	In 3 : Input_3 ▼
Audio Out 4	Mirror	On ▼	Out 4 : Output_4 ▼

[Save](#)
[Cancel](#)

Memory label

M1 : Preset_1 ▼ [change](#)

Memory Selection (This will change the current I/O selection)

M1 : Preset_1 ▼ [Select](#)

The Route Memory page provides set up, labeling, and configuration of multiple preset memories for fast and easy control.

Set Up

- Select Route Memory # from the 'Preset Select' drop down menu
- Set the input/output routes
- Save to memory
- Label the route memory preset
- Repeat as needed until all route memories are saved

Note: Switching does not occur during the set up and labeling of route memory.

To apply route memory to the matrix: Select the route memory # from the memory selection drop down menu and press the 'Select' button.

Note: Check the I/O tab to verify selected memory route has been loaded.

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EDID (Extended display identification data) EDID Reset

Output	Output EDID	EDID Memory
1 : Output_1		none ▼
2 : Output_2		none ▼
3 : Output_3	ATL HDVS 200 RX	EDID Memory 3 ▼
4 : Output_4		none ▼

Save Cancel

Input	EDID Selection
1 : Input_1	ATL 1080P 2CH ▼
2 : Input_2	ATL 1080P 2CH ▼
3 : Input_3	ATL 1080P 2CH ▼
4 : Input_4	ATL 1080P 2CH ▼
5 : Input_5	ATL 1080P 2CH ▼
6 : Input_6	ATL 1080P 2CH ▼
7 : Input_7	ATL 1080P 2CH ▼
8 : Input_8	ATL 1080P 2CH ▼

Save Cancel

The EDID page is used for saving EDIDs, loading EDIDs, or using internal EDIDs on the input ports. Each output will have an individual EDID that can be saved to memory. The matrix has 8 available EDID memory presets. Each display EDID can be saved to the corresponding memory number. **e.g.** Output 2 to EDID memory 2. Once saved, the EDIDs can be loaded to the input to ensure compatibility. Internal EDIDs can also be loaded to inputs. There are 14 internal EDIDs. The list can be found on page 11.

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HDCP Settings [HDCP Reset](#)

Output Port	Status
1 : Output_1	No Connection
2 : Output_2	No Connection
3 : Output_3	Non-Compliant
4 : Output_4	No Connection

Input	Compliance
1 : Input_1	Compliant
2 : Input_2	Compliant
3 : Input_3	Auto
4 : Input_4	Compliant
5 : Input_5	Compliant
6 : Input_6	Not Compliant
7 : Input_7	Compliant
8 : Input_8	Compliant

[Save](#)
[Cancel](#)

The HDCP page provides a quick way to see whether a display is HDCP compliant or not and allow the input HDCP reporting to be set.

- Note:** CLSO-840 protects HDCP encoded content and will not pass HDCP content to a non-HDCP compliant device.
- Note:** Some devices flag all content as protected when connected to an HDCP compliant display. This prevents what should be non-protected content from reaching devices (**i.e.** teleconference system) through the CLSO-840.
- Note:** When HDCP reporting is non-compliant, only user created content is transmitted. Protected content from all sources (**e.g.** BluRay, AppleTV, etc) is blocked.

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HDVS Capability

Input 6

HDVS-200

Input Selection	Not Available
Preferred Resolution	Not Available
Auto Switch	Not Available
Display switch	Not Available
IP address	192.168.11.149

Input 7

Not Connected

Input Selection	Not Available
Preferred Resolution	Not Available
Auto Switch	Not Available
Display switch	Not Available

[Change](#)
[Cancel](#)

Input 8

Not Connected

Input Selection	Not Available
Preferred Resolution	Not Available
Auto Switch	Not Available
Display switch	Not Available

[Change](#)
[Cancel](#)

Output 3

Not Connected

IP address	Not Available
------------	---------------

Output 4

Not Connected

IP address	Not Available
------------	---------------

The HDVS page provides a quick way to see what HDVS product is connected to which HDBaseT port. The product name and IP will display. By clicking on the IP link, the page will switch to the webGUI of the selected HDVS.

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Equalizer [Audio Reset](#)

Output: 1: Output_1

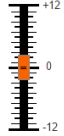
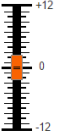



0

0

0

0





0

63Hz
250Hz
1kHz
4kHz
8kHz









[Save](#)
[Cancel](#)

Master Volume

Output_1	-10 dB		Mute
Output_2	-10 dB		Mute
Output_3	-10 dB		Mute
Output_4	-10 dB		Mute

[Save](#)
[Cancel](#)

Sub Volume

Input_1	-10 dB	
Input_2	-10 dB	
Input_3	-10 dB	
Input_4	-10 dB	
Input_5	-10 dB	
Input_6	-10 dB	
Input_7	-10 dB	
Input_8	-10 dB	

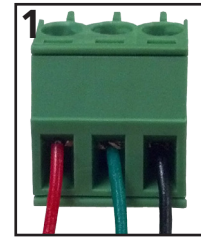
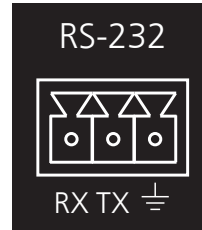
[Save](#)
[Cancel](#)

The audio page supports adjustment of 5 band EQ for the analog audio outputs ensuring the best audio performance for each zone. 5 band frequency options at 63Hz, 250Hz, 1kHz, 4kHz, and 8kHz as well as zone output volume/mute and audio input volume.

RS-232

Connection

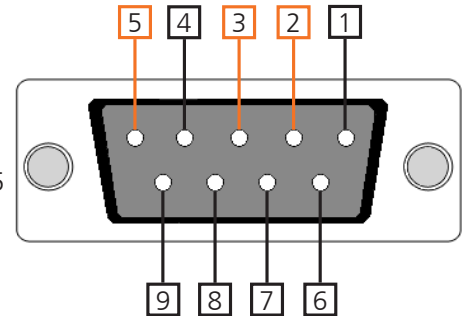
RS-232 pin out will be determined by the RS-232 cable and will connect as Rx (receiver), Tx (transmitter), and \perp (ground). (See picture 1)



Wire color will differ by cable manufacturer.

RS-232 is often connected through a DB 9-pin to captive screw connector. The pins will have functions associated with them, some will be 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.



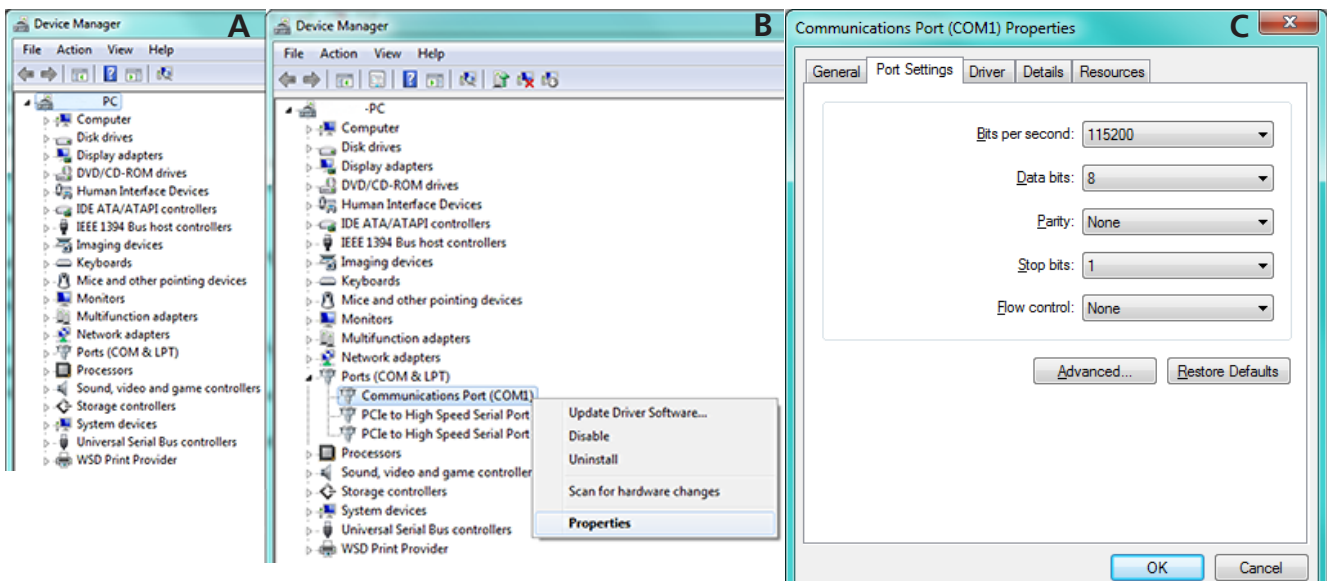
Set Up

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

1. Connect the UHD-CLSO-840 to a PC using a DB9 (Stripped and connected to 3pin captive screw) to USB cable
2. Go to the Device Manager folder (see picture A)
3. Find the UHD-CLSO COM port and right click with a mouse and select properties (see picture B)

Note: If unsure which COM port is the UHD-CLSO, 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 **UHD-CLSO-840 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 hyperterminal program may be used to control the UHD-CLSO now.



RS-232 & TCP/IP Control Commands

The command codes are case sensitive, do not change capitalization, spacing, or lettering.

Command	Feedback	Description
PWON	PWON	Power on
PWOFF	PWOFF	Power off
PWSTA	PWx	Will display the power status of the matrix e.g. Power is on, feedback will be PWON
Version	Firmware #	Brings up the current firmware version
Type	Model #	Brings up the model information
Lock	Lock	Locks the front panel of the matrix so no buttons are active
Unlock	Unlock	Unlocks the front panel of the matrix, enabling the buttons again
All#	x1AVx1,x2AVx2,...	Resets all inputs to corresponding outputs e.g. input 1 to output 1, input 2 to output 2, input 3 to output 3, etc
x1\$ Y	x1\$ Y	Changes status of output channel Y= on/off/sta e.g. to turn off output 3 = x3\$ off
x1All	x1All	Sets selected input to all outputs e.g. x3All would set input 3 to all
x1AVx2 e.g. x3AVx7	x1AVx2 e.g. x3AVx7	Switch input to output e.g. input 3 to output 7
VOUTX Y e.g. VOUT2 +	VOUTX (YY) e.g. VOUT2 (-70)	Turns the volume of the chosen output up, down, or displays status x = output number y = +, -, sta, # (set between -79 and 15 dB) e.g. Turn the volume up from level -71dB to -70dB on analog output 2
VINX Y e.g. Turn the vo	VINX Y e.g. Turn the vo	Turns the volume of the chosen input up, down, or displays status x = input number y = +, -, sta, # (set between -79 and 15 dB) e.g. Turn the volume up from level -71dB to -70dB on analog output 2
VOUTMuteX Y e.g. VOUTMute2 on	VOUTMuteX Y e.g. VOUTMute2 on	Mute the volume level of the chosen analog output Y=on,off,sta e.g. Mute the volume of analog output 2
Statusx1	x7AVx1	Shows what input is connected to selected output
MirrorAudioX OutY	MirrorAudioX OutY	Set which video output the analog audio output mirrors x = 1, 2, 3, 4 y = 1, 2, 3, 4 e.g. MirrorAudio2 Out3 sets analog out 2 to use video output 3s audio
AudioSrcX Y	AudioSrcX Y	Select the source of the audio for HDMI/HDBaseT outputs x = 1, 2, 3, 4 y = ana (analog audio inputs), dig (HDMI/HDBaseT inputs)
x1Ax3 e.g. x6Ax4	x1Ax3 e.g. x6Ax4	Route the video inputs to audio outputs x = 1, 2, 3, 4, 5, 6, 7, 8 y = 1, 2, 3, 4 e.g. Routes input HDBaseT 6 audio to analog output 4
Status	x1AVx1,x2AVx2, x3AVx4,	Displays which inputs are currently connected to which outputs
SaveY e.g. Save2	SaveY e.g. Save2	Saves I/O route settings for future use, preset options 0 to 8
RecallY e.g. Recall2	RecallY e.g. Recall2	Recalls saved I/O route settings for the chosen preset number
ClearY e.g. Clear2	ClearY e.g. Clear2	Erases the saved I/O route settings for the chosen preset number
TrigCECX Y e.g. TrigCEC2 on	TrigCECX Y e.g. TrigCEC2 on	Triggers the HDMI output to send power CEC commands x = 1, 2, 3, 4 (output number) y = on, off e.g. Sends CEC on command to the HDMI display connected to output 2
Mreset	Mreset	Sets matrix back to the default settings

Each command or feedback is terminated with a carriage return and line feed.

Note: If the command fails or is incorrect the feedback should be "Command FAILED"

To help with zone troubleshooting the matrix will broadcast (when enabled) "#*PORTXX_[feedback]" when receiving any feedback from any zone.

Command	Feedback	Description
CSpara[W,X,Y,Z]	CSpara[W,X,Y,Z]	Change the baud parameters of the switcher to meet control needs W (baud rate) = 2400, 4800, 9600, 19200, 38400, 57600, or 115200 X (data length) = 8, 9 Y (parity) = 0 (None), 1 (Odd), 2 (even) Z (stop bit) = 1, 2
RS232paraV[W,X,Y,Z]	RS232para1[W,X,Y,Z]	Change the baud parameters of the connected receiver V (zone #) - 1, 2, 3, 4, 5 W (baud rate) = 2400, 4800, 9600, 19200, 38400, 57600, or 115200 X (data length) = 8, 9 Y (parity) = 0 (None), 1 (Odd), 2 (even) Z (stop bit) = 1, 2
RS232zoneX[command] e.g. RS232zone1[PWRO]	RS232zoneX[command] e.g. RS232zone1[PWRO]	Send commands to devices connected to receiver RS-232 ports Check the user manual of controlled device for the commands X (zone #) = 1, 2, 3, 4, 5 e.g. Turns the power on for the device connected in zone 1
IPCFG	IP Addr : x.x.x.x Netmask : x.x.x.x Gateway : x.x.x.x IP Port: x.x.x	Displays IP address configuration
IPTimeout XX e.g. IPTimeout120	IPTimeout XX e.g. IPTimeout120	Determines amount of seconds of inactivity before TCP/IP disconnects
IPQuit	IPQuit	Logs out of TCP/IP
IPAddUser	TCP/IP username & password list: - user password - user password - 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 Ex. 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)
IPChangePass W X Y Z	IPChangePass W X Y Z	Changes the user/admin password w = user x = old password y = new password z = new password e.g. IPChangePass root Atlona abc123 abc123
IPDHCP sta	IPDHCP sta Ex. 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	IPStatic (address) (netmask) (gateway)	Sets a static IP address e.g. IPStatic 192.168.1.1 255.255.255.0 192.168.1.200
IPPort	IPPort Y	Set the TCP/IP port (ex. IPPort 230)
IPLogin sta	IPLogin sta e.g. IPLogin on	Displays IPLogin status e.g. IPLogin is on
IPLogin on	IPLogin on	Enables IPLogin
IPLogin off	IPLogin off	Disables IPLogin
Broadcast X	Broadcast X	Displays broadcast mode X = on, off, sta
InputBroadcast X	InputBroadcast X	Displays input broadcast mode X = on, off, sta
InputStatus e.g. InputStatus	InputStatus XXXXXXXX e.g. InputStatus 00100100	Displays which inputs are connected (0 = not connected 1 = connected) e.g. Inputs 3 & 6 are connected

Zones -

1: HDBaseT IN 6

2: HDBaseT IN 7

3: HDBaseT IN 8

4: HDBaseT OUT 1

5: HDBaseT OUT 2

Specifications

Video Resolutions

Video	3840x2160@30/25/24Hz*, 1080p@60/59.9/50/30/29.97/25/24/23.98Hz, 1080i@60/59.94/50Hz, 720p@60/59.94/50Hz, 576p@50Hz, 576i@50Hz, 480p@60/59.96Hz, 480i@60Hz	
VESA	2560x1600, 2048x1536, 1920x1200, 1680x1050, 1600x1200, 1440x900, 1400x1050, 1280x1024, 1280x800, 1366x768, 1360x768, 1152x864, 1024x768, 800x600, 640x480	
Color Space	YUV, RGB	
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0	
Color Depth	8-bit, 10-bit, 12-bit	

Audio

Analog Output	PCM 2Ch (de-embedded)	
HDBaseT Output	PCM 2Ch, LPCM 5.1, LPCM 7.1, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS 5.1, DTS-HD Master Audio	
Sample Rate	32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz	
Bit Rate	16-bit, 20-bit, 24-bit	

Distance

CAT5e/6 @ 4K	up to 70M	up to 230 ft
CAT6a/7 @ 1080p	up to 100M	up to 330 ft
HDMI IN/OUT @ 4K	up to 5M	up to 15 ft
HDMI IN/OUT @ 1080p	up to 10M	up to 30 ft

Signal

Bandwidth	9 Gbps
CEC	Yes
HDCP	1.4

Temperature

Operating	0°C to 40°C	32°F to 104°F
Storage	-40°C to 70°C	-40°F to 158°F
Humidity	10 to 90% non-condensing	

Power

Consumption	77W
Idle Consumption	60W
Supply	AC100~240V 50/60Hz

Dimension

H x W x D	88.00 x 438.00 x 306.00 (mm)	3.46 x 17.24 x 12.04 (inch)
H x W x D w/feet	99.00 x 438.00 x 306.00 (mm)	3.90 x 17.24 x 12.04 (inch)
H x W x D w/rack ears	88.00 x 482.60 x 306.00 (mm)	3.46 x 19.00 x 12.04 (inch)
Rack Unit	2U	

Weight

Device	4.92 kg	10.84 lbs
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Certification

Product	CE, FCC, RoHS, TUV
---------	--------------------

*3840x2160@30/25/24Hz supported @ RGB/4:4:4 8-bit only

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 a grounded 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.

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.

This product has been modified for connection to an IT power distribution system

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
- OR**
- 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
- OR**
- 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>