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

AT-UHD-CLSO-840 Installation Guide

Please check http://www.atlona.com/product/AT-UHD-CLSO-840 for the most recent **firmware update** or **manual**.

The Atlona AT-UHD-CLSO-840 is a 4K/UHD 8x4 matrix switcher with HDMI® and HDBaseT™ with eight inputs, four discrete 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 to simplify installation and enable remote monitoring 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
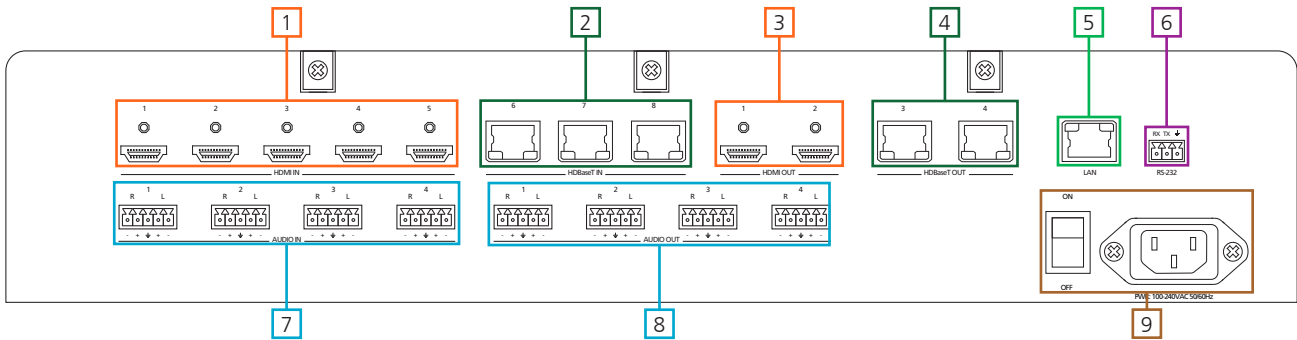
Panel Descriptions

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
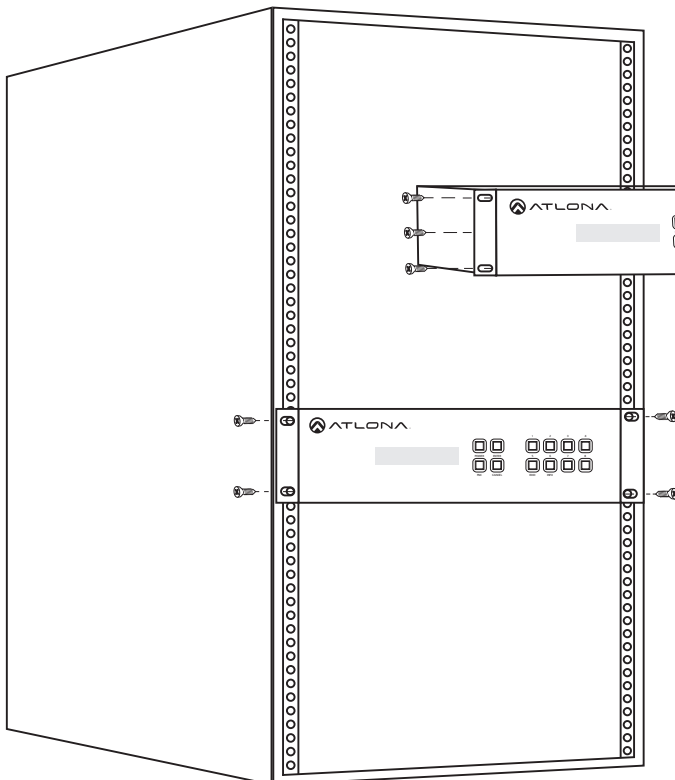   **Note:** You cannot power off or change functions unless you return to the home screen
3. Power Button - Cycles the power between On (blue backlight) or Standby (red backlight) mode
4. Enter Button - Use to view current status for inputs and outputs or to confirm a command
5. Number buttons - Use these 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/router 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 embeds to the corresponding HDBaseT outputs
   e.g. Audio IN 3 follows HDBaseT OUT 3
   Note: Analog inputs cannot be paired with analog outputs and will not deembed to analog outs
8. Audio out - Captive screw analog audio outs for use with program audio or multi-channel zone amplifier - Audio outputs can be mirrored to any output or matrixed to any digital 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 and Connector

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

Important! 4K (UHD) signals are sensitive to cable quality and installation technique. It is recommended to use CAT6a/7 solid core cables for best results.
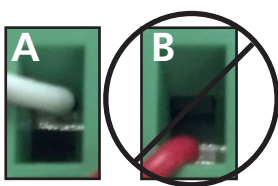
Connector type and size is very important to ensure extenders work correctly. Please use the matching cable type with the correct RJ45 connector. (**e.g.** CAT 7 cable should use a CAT 7 connector)

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.

Clockwise

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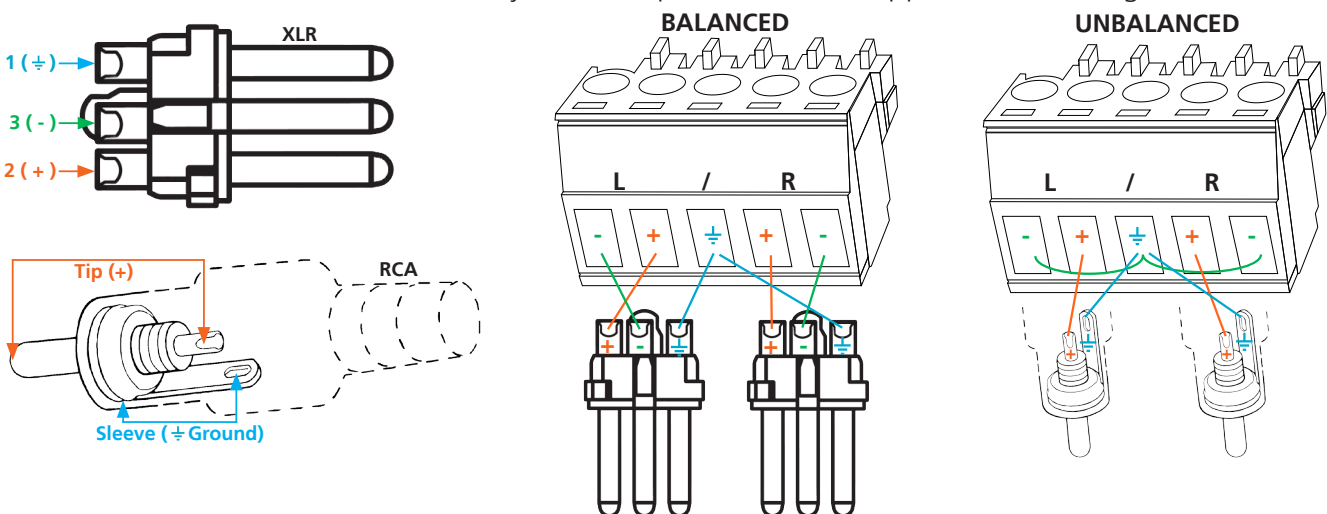
Counter Clockwise

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

Analog Audio

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

XLR
1 (⏚)
3 (-)
2 (+)

Tip (+)
RCA
Sleeve (⏚ Ground)

BALANCED
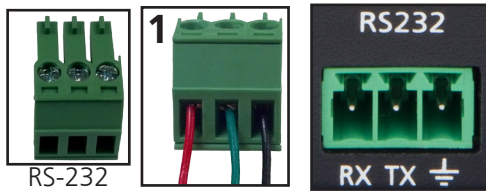L / R
- + ⏚ + -

UNBALANCED
L / R
- + ⏚ + -

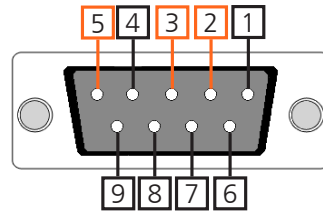**Note:** Pin outs may vary, please refer to the audio device's manual to ensure a correct connection.
Important! When terminating cables, please ensure exposed adjacent wires do not touch. This may result in a short that can damage connected devices.

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 ⏚ (ground). (See picture 1)

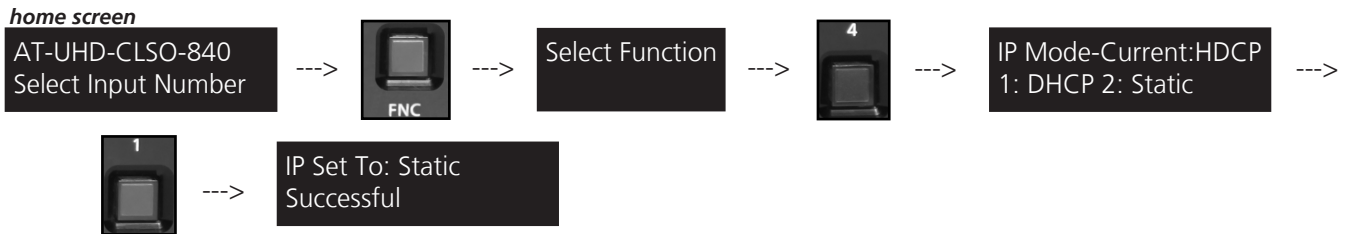RS-232

Pin out color will differ per RS-232 cable.

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

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 the front panel, RS-232 commands, webGUI, or AMS.

The 840 can easily be set to a static IP (192.168.1.254) through the front panel (see below):
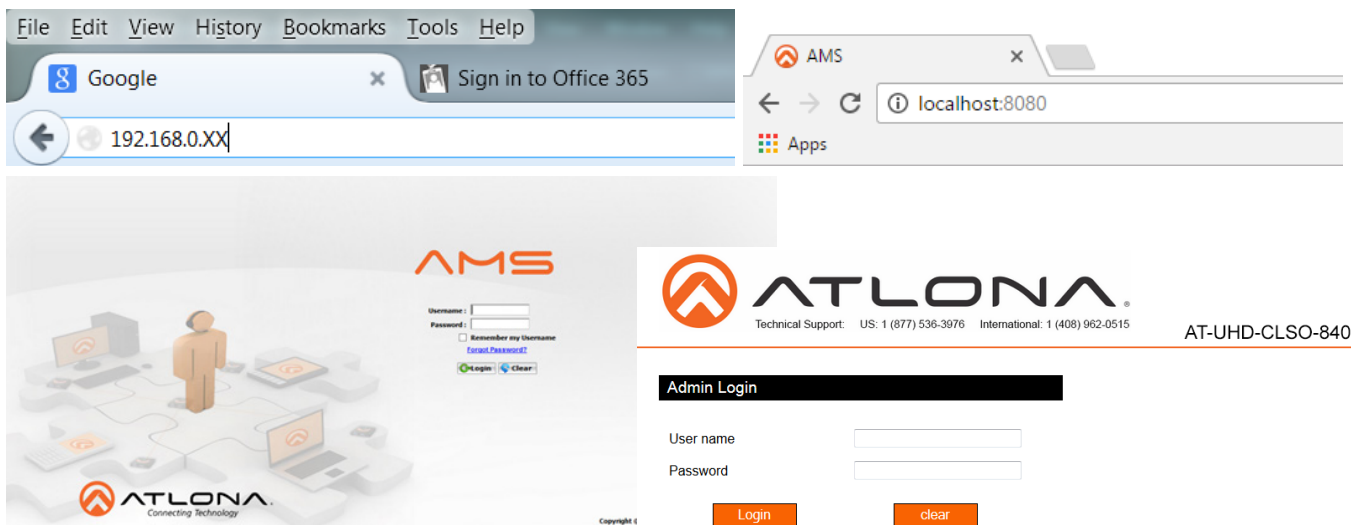
home screen

| AT-UHD-CLSO-840 Select Input Number | ---> | FNC | ---> | Select Function | ---> | 4 | ---> | IP Mode-Current:HDCP 1: DHCP 2: Static | ---> |

| 1 | ---> | IP Set To: Static Successful |

AMS & webGUI

Atlona provides two simple solutions for setup and control: a built in webGUI and the free software AMS.

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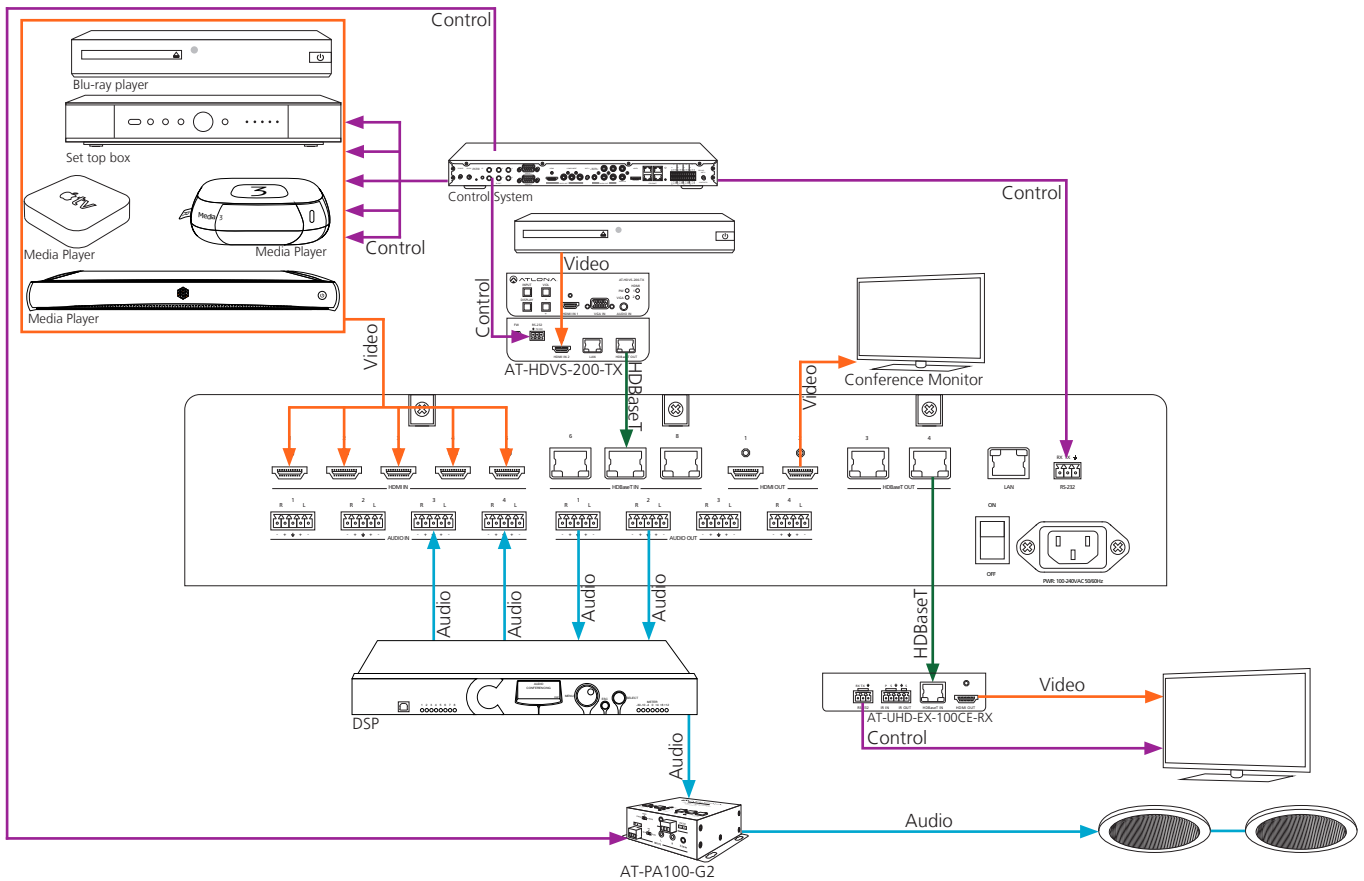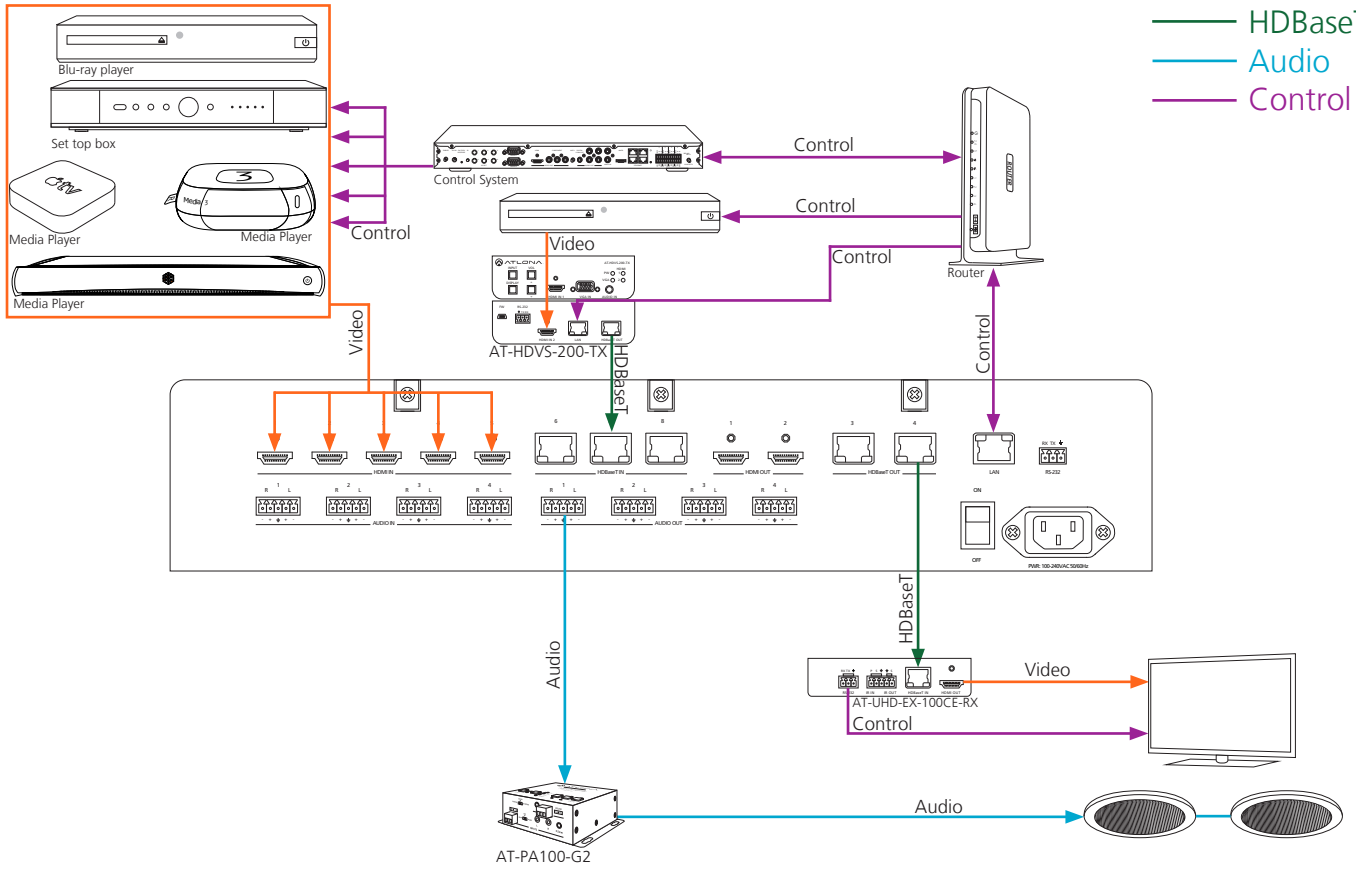
GUI IP Address: may be found using the front panel buttons. Press the FCN button, followed by the INFO button. The matrix information will display on the front panel LED. Press the INFO button repeatedly until the IP is displayed.

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".

Connection Diagram

Troubleshooting

1. How do my analog outputs work?

   Analog outputs can be matrixed to digital inputs and the HDMI/HDBaseT outputs. The ports can be paired with a specific digital input or mirrored to a specific digital output
   (e.g. analog out 2 can have the same audio as HDBaseT in 5).

2. How can I update my unit?

   Firmware and instructions can be found and downloaded from http://www.atlona.com/product/AT-UHD-CLSO-840 under the firmware tab. Updates can be processed through AMS or the webGUI.

3. My unit isn't acting right, how do I factory reset it?

   Press and hold the FCN and INFO buttons for 5 seconds. Wait five seconds after relasing the buttons before resuming normal operation.

4. My network doesn't support DHCP, how do I set the unit to a static IP?

   The 840 can easily be set to a static IP (192.168.1.254) through the front panel (see below):

home screen

| AT-UHD-CLSO-840
Select Input Number | ---> | [FNC] | ---> | Select Function | ---> | [4] | ---> | IP Mode-Current:HDCP
1: DHCP 2: Static | ---> |

| [1] | ---> | IP Set To: Static
Successful |