ATLONA
a PANDUIT company

Opus™ 4K HDR
HDMI to HDBaseT
Matrix Switcher

AT-OPUS-810M
AT-OPUS-68M
AT-OPUS-46M

Atlona Manuals
4K HDR
Matrix Switcher Series

Version Information

Version	Release Date	Notes
1	10/18	Initial release
2	11/18	Added Front Panel Operation

Welcome to Atlona!

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

Registration only takes a few minutes and protects this product against theft or loss. In addition, you will receive notifications of product updates and firmware. Atlona product registration is voluntary and failure to register will not affect the product warranty.

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

Sales, Marketing, and Customer Support

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Atlona, Inc. (“Atlona”) Limited Product Warranty

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:

- 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

- 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

- 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 products is the purchaser’s exclusive remedy and Atlona 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 products and is non-transferrable to any subsequent purchaser(s) or owner(s) of these products.

Coverage Periods

Atlona 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 and Discontinued Products

- 3 years from proof of purchase date for all Refurbished (B-Stock) and Discontinued 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 packaging 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.

Important Safety Information

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCT THE RISK OF ELECTRIC SHOCK
DO NOT OPEN ENCLOSURE OR EXPOSE TO RAIN OR MOISTURE.
NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the product.

The information bubble is intended to alert the user to helpful or optional operational instructions in the literature accompanying the product.

1. Read, follow, and keep these instructions.
2. Heed all warnings.
3. Do not use this product near water. Keep away from wet places, such as: spas, pools, sinks, laundries, wet basements, etc.
4. When cleaning, unplug the unit and wipe with a dry cloth. Do not use damp cloths, cleaning fluids, or aerosols which may result in electric shock, fire, or unit damage.
5. Operate this product using only the included power supply and/or power cable. Use of an unapproved power implement may impair performance, damage the product, or cause fires.
6. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
7. Do not install or place this product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
8. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the product.
9. Only use attachments/accessories specified by Atlona to avoid fire, shock, or other hazards.
10. To reduce the risk of electric shock and/or damage to this product, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this product to rain or moisture.
11. Unplug this product during lightning storms or when unused for long periods of time.
12. Never open, remove unit panels, or make any adjustments not described in this manual. Attempting to do so could result in electric shock, damage to the unit, or other hazards.

Norway: This product was intended for TN power distribution system and IT power system of Norway.

FCC Statement

FCC Compliance and Advisory Statement: This hardware device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed or used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) reorient or relocate the receiving antenna; 2) increase the separation between the equipment and the receiver; 3) connect the equipment to an outlet on a circuit different from that to which the receiver is connected; 4) consult the dealer or an experienced radio/TV technician for help. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Where shielded interface cables have been provided with the product or specified additional components or accessories elsewhere defined to be used with the installation of the product, they must be used in order to ensure compliance with FCC regulations.

Table of Contents

Introduction

The Atlona AT-OPUS-46M, AT-OPUS-68M, and AT-OPUS-810M are part of the Opus™ Series of HDMI® to HDBaseT™ matrix switchers for high dynamic range (HDR) formats. These 4x6, 6x8, and 8x10 matrix switchers are HDCP 2.2 compliant and support 4K/UHD video @ 60 Hz with 4:4:4 chroma sampling, as well as HDMI data rates up to 18 Gbps. The Opus Series enables flexible routing to HDBaseT outputs plus two additional HDMI outputs, and is compatible with the Atlona AT-OPUS-RX receiver or AT-JUNO-451-HDBT switcher for transmission of HDMI, Ethernet pass-through, and bidirectional IR and RS-232 control signals up to 330 feet (100 meters) over CAT6a/7 cable. Visually lossless VESA Display Stream Compression (DSC) enables HDR and 4K/60 4:4:4 signal extension over HDBaseT with no latency. Opus matrix switchers are equipped with a comprehensive host of audio and control system integration features, making them ideal for a wide range of residential and commercial applications requiring multi-zone AV distribution.

Features

- Supports resolutions up to 4K/UHD 60Hz @ chroma sub-sampling 4:4:4, 4K HDR, Dolby Vision 30Hz, and HLG
- Full audio matrix, allowing any audio source to be routed to any audio output
- 2Ch audio de-embedding using the analog audio ports
- Up to 5.1 multichannel audio de-embedding using the Toslink audio ports
- HDCP 2.2 compliant
- Matrixed HDMI outputs
- EDID learning for multiple display EDIDs
- Built in internal EDIDs provide 16 unique EDIDs to ensure compatibility
- Multiple control options such as RS-232, IR, TCP/IP, webGUI, and front panel
- Multi-channel audio pass through up to Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio, and Dolby Atmos
- Internal international power supply

Package Contents

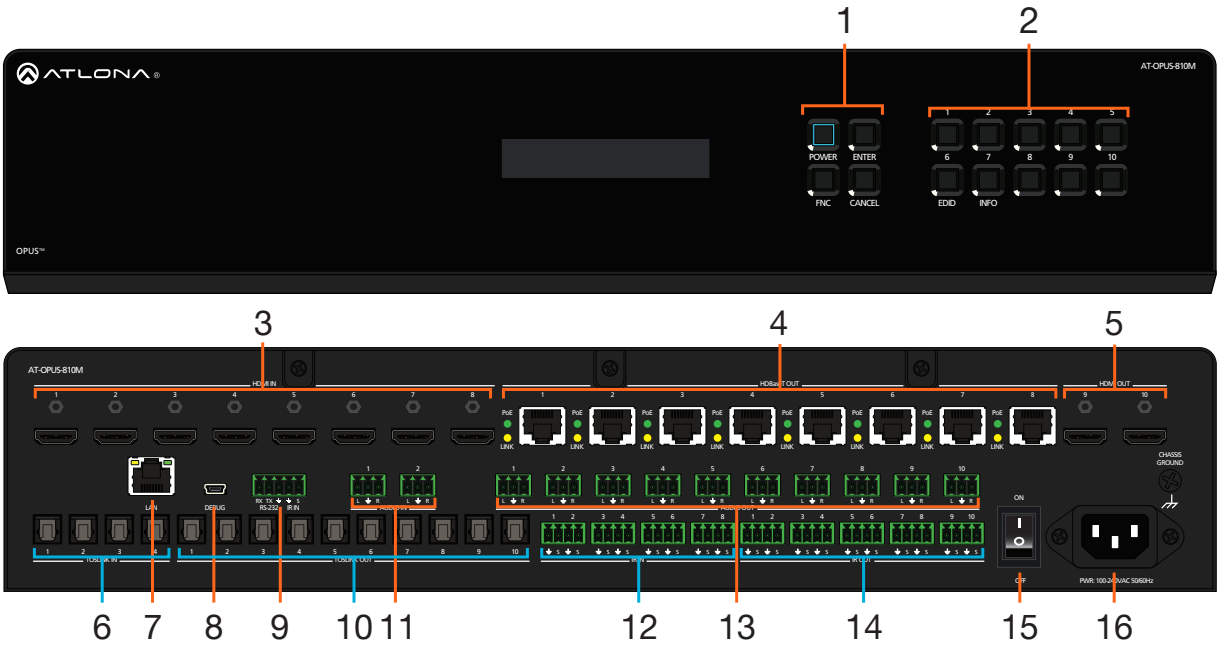
1 x AT-OPUS-810M
1 x Captive screw connector, 5-pin
9 x Captive screw connector, 4-pin
12 x Captive screw connector, 3-pin
1 x Pair rack mount ears
4 x Feet w/screws
1 x IEC power cord
1 x IR remote control
1 x Installation Guide

Operating Notes

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

IMPORTANT: 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



1 Function Buttons
Power - Sets the unit in and out of standby.
Enter - Used for making selections.
FNC - Use to switch number buttons to their secondary function.
CANCEL - Navigates back one step in the OSD.

2 Number Buttons
Use for selection of inputs and outputs.
1 - Press FNC + 1 to route selected input to all outputs.
2 - Press FNC + 2 to turn the front IR receiver on and off.
3 - Press FNC + 6 to open the EDID menu.
4 - Press FNC + 7 to display the device firmware. Press 7 again to view more info.

3 HDMI IN
Connect HDMI cables to these ports from HDMI sources.

4 HDBaseT OUT
Connect a CAT5e/6/6a/7 cable from this port to an HDBaseT receiver.

5 HDMI OUT
Connect HDMI cables from these ports to local HDMI displays.

6 TOSLINK IN
Connect digital audio sources to these ports.

7 LAN
Connect an Ethernet cable from this port to a Local Area Network (LAN).

8 DEBUG
Connect a mini USB cable from this port to a PC to troubleshoot the unit.

9 Control Port
Connect a third party controller or PC to control the matrix through either IR or RS-232

10 TOSLINK OUT
These ports provide digital audio output to audio DSPs, amplifiers, or player devices.

11 AUDIO IN
Connect unbalanced 2CH audio sources to these ports.

12 IR IN
Connect a control system to these ports to route IR signals to the corresponding HDBaseT outputs.

13 AUDIO OUT
This port provides source audio 2CH de-embedding and direct audio loop through for the audio inputs.

14 IR OUT
These ports provide an output for IR signals to each source and the two local HDMI outputs.

15 Power Switch
Toggle this switch to power the unit on or off.

16 100-240VAC 50/60Hz Power Port
Connect the included IEC cord from this port to the wall for power.

Cable Recommendation Guidelines

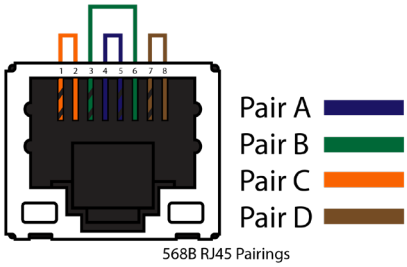
Refer to the tables below for recommended cabling when using Altona products with HDBaseT. The green bars indicate the signal quality when using each type of cable. Higher-quality signals are represented by more bars.

Core	Shielding	CAT5e	CAT6	CAT6a	CAT7
Solid	UTP (unshielded)	▮	▮▮▮	▮▮▮▮	N/A
	STP (shielded)	▮▮	▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮
Performance Rating (MHz)		350	500	600	800

IMPORTANT: Stranded or patch cables are not recommended due to performance issues.

Cable	Max. Distance @ 4K	Max. Distance @ 1080p
CAT5e	295 feet (90 meters)	330 feet (100 meters)
CAT6 / CAT6a / CAT7	330 feet (100 meters)	330 feet (100 meters)

Use of a TIA/EIA 568B termination is recommended for optimal performance.



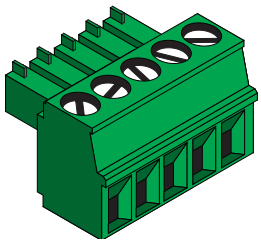
568B RJ45 Pairings

Installation

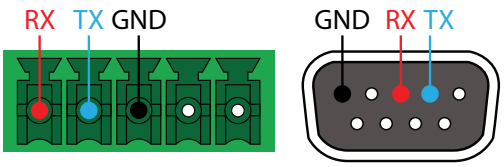
Control

Control

A 5-pin captive screw connector for control has been included. The first three terminals are RS-232 control, the last two terminals are for IR.

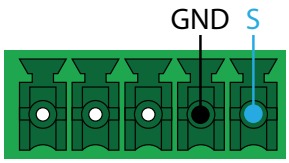


RS-232



Pin out will be determined by the RS-232 cable and connect as RX (receive), TX (transmit) and ⏚ (Ground).

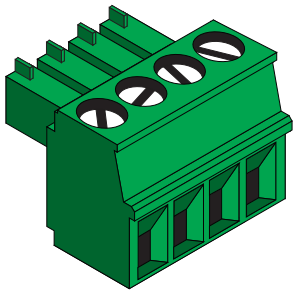
IR

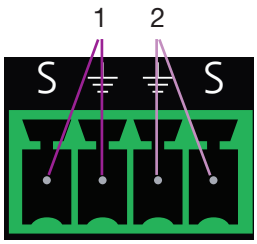


IR IN is connected by a ground and signal wire. Use with 3rd party control systems. For easy termination, Atlona recommends using the 2 meter IR cable AT-LC-CS-IR-2M.

IR

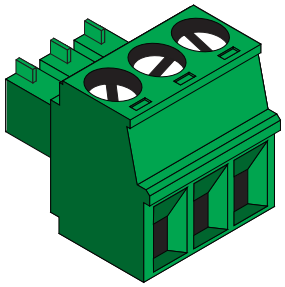
4-pin captive screw connectors have been included for IR routing. Each 4-pin connect will provide connection for 2 IR ports. All IR ports will use a Ground (⏚) and signal (S) wire.

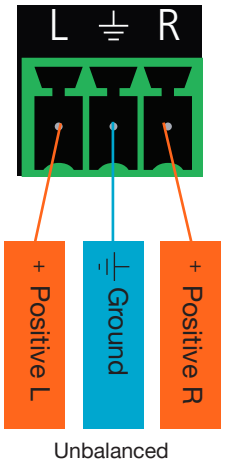




Audio

Connect to an audio DSP, amplifier, or other audio distribution or player devices. Only unbalanced 2CH connections are compatible with the 3-pin captive screw audio ports.





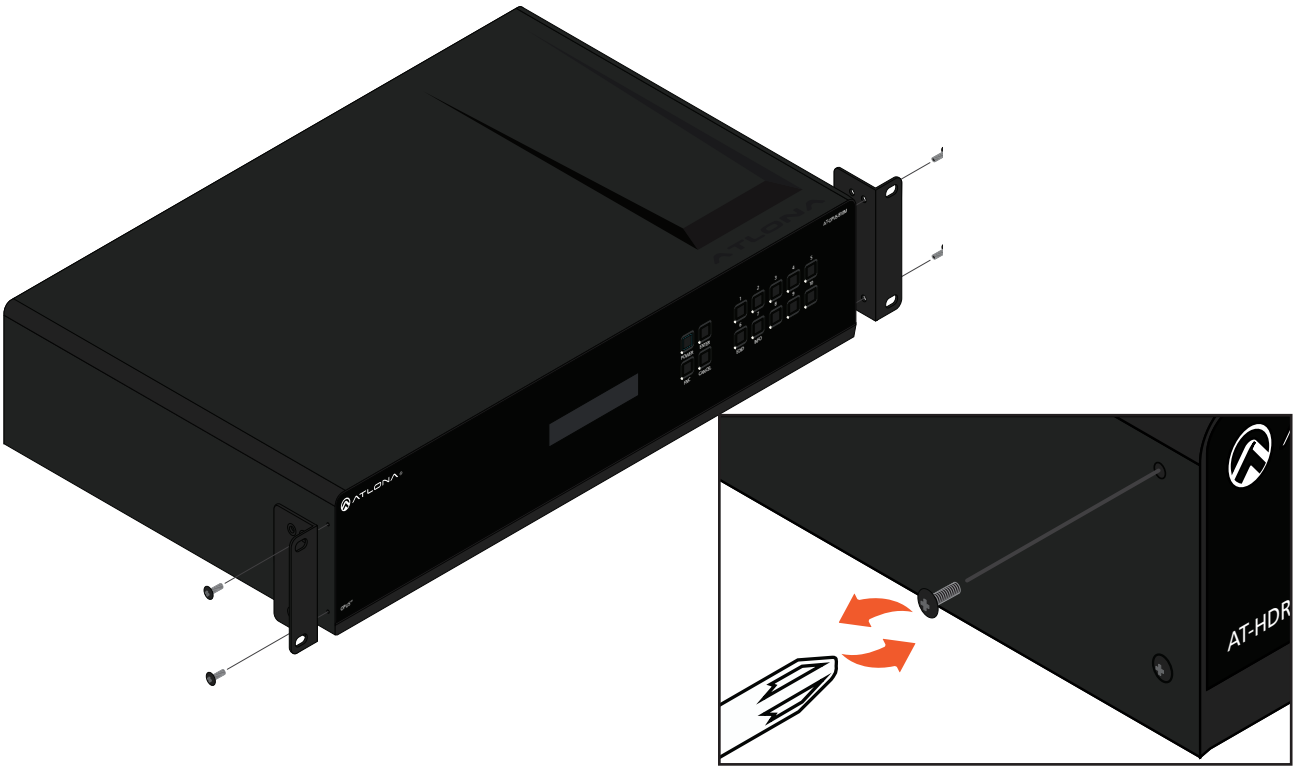
Unbalanced

Mounting Instructions

The AT-OPUS matrix can be mounted in a standard 19-inch rack or placed freestanding on top of a desk or table.

Rack installation

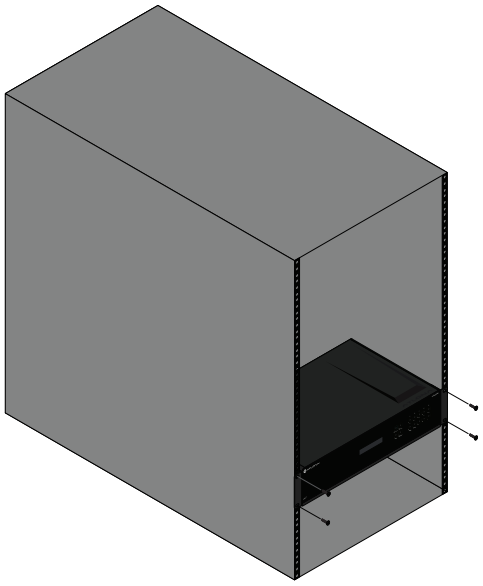
1. Remove the front two case screws from the sides of the case.
2. Attach the included rack ears to each side of the AT-OPUS-810M using the case screws.



3. Install the Opus matrix into a rack, using four rack screws.

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

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



Surface mounting

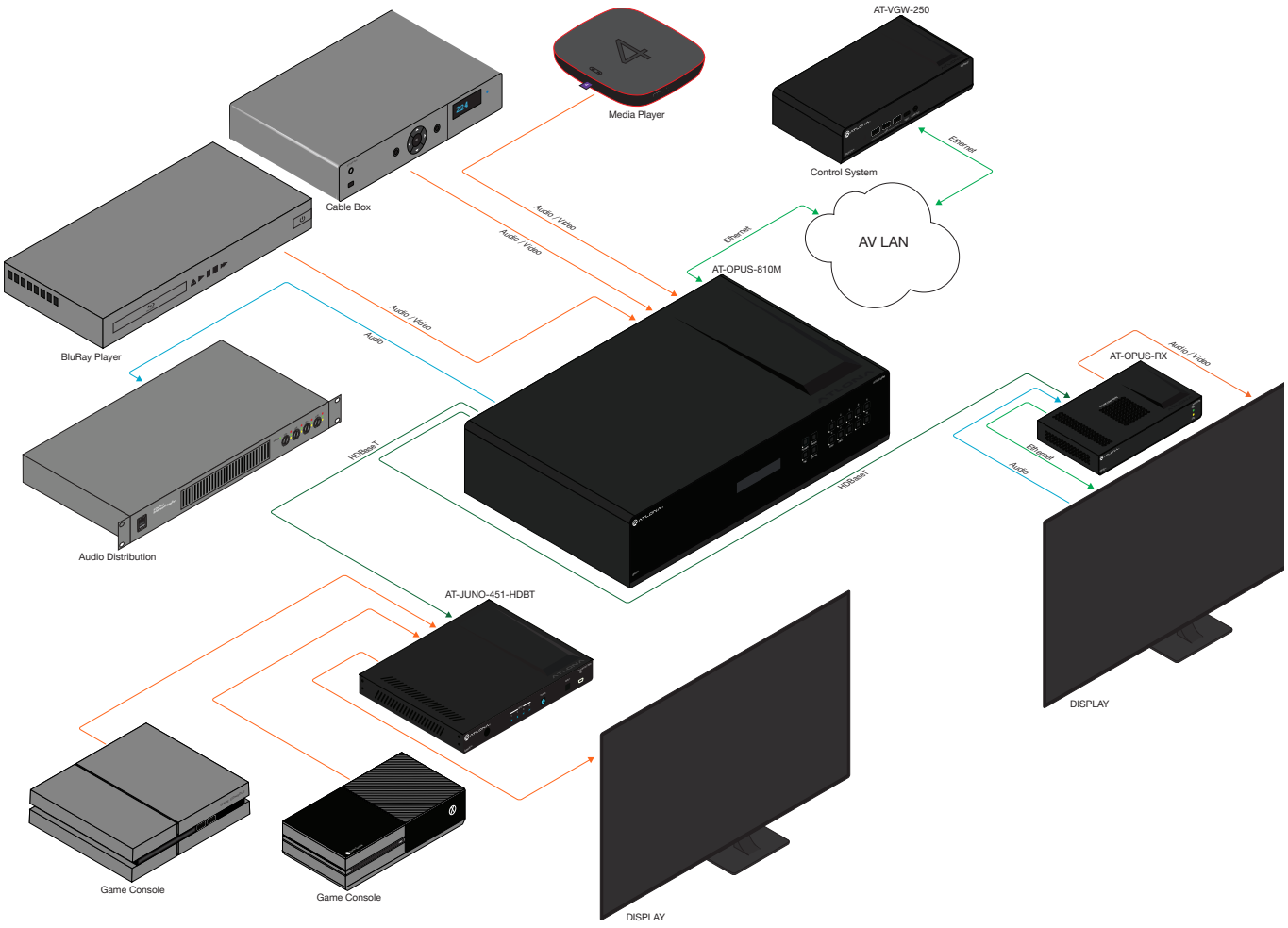
The OPUS matrix can be placed freestanding on top of a desk, a table, or in a cabinet. To prevent damage to the surfaces or unnecessary movement of the matrix, four feet have been included.

1. Turn the unit upside down.
2. Install each foot using the included feet screws, the rubber grips of the feet should be facing up during installation.
3. Turn the unit right-side up and place it in the desired location.

Connection Instructions

1. Connect up to 8 HDMI sources to the HDMI IN ports.
2. Connect up to 8 HDBaseT receivers (AT-OPUS-RX or AT-JUNO-451-HDBT) to the HDBaseT OUT ports.
3. Connect up to 2 local HDMI displays to the HDMI OUT ports.
4. Connect up to 4 digital audio sources to the TOSLINK IN ports.
5. Connect up to 2 unbalanced analog audio inputs to the AUDIO IN ports.
6. Connect the TOSLINK OUT ports to an audio distribution device.
7. Connect the 2CH analog AUDIO OUT ports to a DSP, or audio amplifier.
8. *Optional* For control, connect to the captive screw port for IR and RS-232.
9. *Optional* For IP control and/or Ethernet routing, connect a network switch to the LAN port.
10. *Optional* For IR routing to and from sources and zones, connect a control system, IR receivers, or IR emitters to the IR IN and IR OUT ports.
11. Connect the included IEC power cord to the 100-240VAC 50/60Hz power port.
12. Connect the power cord to an AC outlet.

Connection Diagram



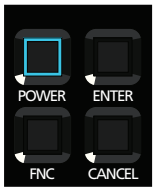
Front Panel Operation

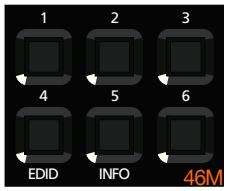
The AT-OPUS front panel provides a way to quickly view current settings, set up routing, load/save EDIDs, and save/recall current I/O routing. This will provide basic settings for use, view the wWebGUI section for more advanced set up and routing, or the IR Remote Control section for easy input and master volume control.

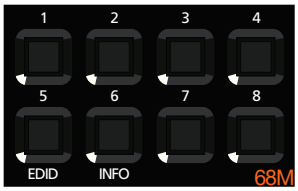
When turned on, the front panel will display initializing until the unit is fully powered and functional. After initial start up, the front panel will display the home screen.

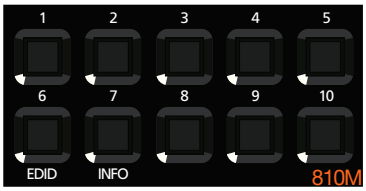
NOTE: After 30 seconds of inactivity, the front panel LCD will turn off. Press any button to activate the LCD again.

For navigating through the front panel options and routing, the FNC, ENTER, CANCEL, and number keys will be used. The number keys will vary per unit but each step will list which key to press for each function.









NOTE: At any point, use the cancel button to return to the home screen. If the front panel display is not on the home screen, no other functions can occur unless the unit is on the home screen.

Routing

Basic

For basic A/V routing, the front panel can be used.

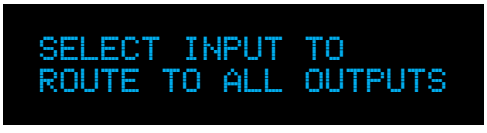
1. Select the **#** button that corresponds with the desired input.
2. Press the **ENTER** button to confirm the selected input.

3. Select the **#** button that corresponds with the desired output.
4. Press the **ENTER** button to confirm the selected output. When successful, an input routed to output message will display.

ALL

To route a single input to all the outputs, use the **ALL** function.

1. Select the **FNC** button.
2. Press the **1** button to select the ALL function.



3. Select the **#** button that corresponds with the desired input. When successful, an input saved to outputs message will display.

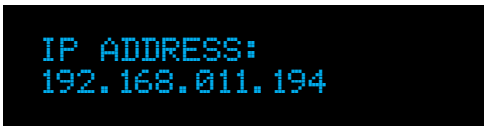
Info

The Info function will display basic information for the unit: firmware version, IP address, IP port, and MAC address.

1. Select the **FNC** button.
2. Press the **INFO** button to bring up the firmware information for the unit.

NOTE: The info button is on a different number key for each unit use button: **7** for the 810M, **6** for 68M, and **5** for 46M.

3. Select the **INFO** button again to cycle through the next info screen.
4. Repeat until the desired info screen is displayed.



IP

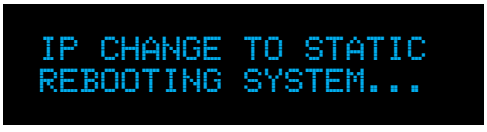
Static

By default the unit will come with DHCP enabled. If a DHCP server is not detected, it will set itself to a static IP of 192.168.0.150 with a subnet mask of 255.255.255.0. It is recommended to set the unit to a static IP, to ensure quick and easy access to the unit at all time.

1. Select the **FNC** button.
2. Press the **#** button that corresponds with IP selection on the unit.

NOTE: The IP button is on a different number key for each unit, use button: **4** for the 810M, **4** for 68M, and **3** for 46M.

3. Select the **2** button to select static IP mode. By default, the IP will set to 192.168.1.254 255.255.0.0.
4. Press the **ENTER** button to confirm the selection. When successful, a change to Static IP message will appear and the unit will reboot.



DHCP

If the IP has been set to static and it needs to be set back to DHCP, the same steps can be used to reset the IP mode.

1. Select the **FNC** button.
2. Press the **#** button that corresponds with IP selection on the unit.

NOTE: The IP button is on a different number key for each unit, use button: **4** for the 810M, **4** for 68M, and **3** for 46M.

3. Select the **1** button to select DHCP IP mode.
4. Press the **ENTER** button to confirm the selection. When successful, a change to DHCP IP message will appear and the unit will reboot.

EDID

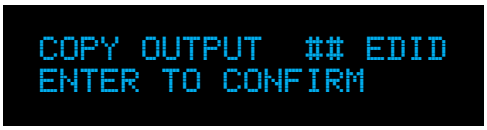
EDIDs can be copied from the connected displays, assigned to inputs, or switched to one of the built in EDIDs to increase compatibility between devices.

Copy

1. Select the **FNC** button.
2. Press the **EDID** button.

NOTE: The EDID button is on a different number key for each unit, use button: **6** for the 810M, **5** for 68M, and **4** for 46M.

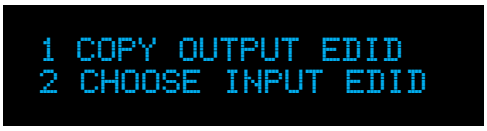
3. Select the **1** button to copy an output EDID.
4. Select the # key that corresponds with the output to save the EDID from.
5. Press the **ENTER** button to confirm the selection. When successful, a EDID saved message will appear and the unit will return to the home screen.



Load

1. Select the **FNC** button.
2. Press the **EDID** button.

NOTE: The EDID button is on a different number key for each unit, use button: **6** for the 810M, **5** for 68M, and **4** for 46M.



3. Select the **2** button to load an output EDID.
4. Select the **#** key that corresponds with the input to load an EDID to.
5. Press ENTER to bring up the EDID mode selection screen.

6. Select the **#** key for the EDID mode to set the input to.

   a. Default will set the EDID to take the highest common resolution between the selected source and all displays it is routed to. - Press 1 for DFLT.

   b. Load one of the previously saved EDIDs to the input, to ensure compatibility with that display. - Press 2 for Saved, followed by the memory number the EDID was saved to, and then ENTER to complete the EDID load.

   c. Select an internal EDID to load one of the 16 built in EDIDs. - Press 3 for INT, followed by the number 1 and 2 keys to navigate through the internal EDIDS, and ENTER to load the internal EDID to the input.

Internal EDID #		Internal EDID #	
1	ATL 1080P 2CH	9	1280x800 RGB 2CH
2	ATL 1080P Multi CH	10	1366x768 RGB 2CH
3	ATL 1080P DD	11	ATL 1080P DVI
4	ATL 1080P 3D 2CH	12	1280x800 RGB DVI
5	ATL 1080P 3D Multi CH	13	4K30 2CH
6	ATL 1080P 3D DD	14	4K30 MultiCH
7	720P 2CH	15	4K60 2CH
8	720P DD	16	4K60 MultiCH

IR

The front panel IR window can be turned on and off to ensure no stray IR signals from blasters are received.

1. Select the **FNC** button.
2. Press the **2** button to pull up the IR menu.

3. Select the **2** button to turn off the IR front panel window.
    a. *If the IR window is already off* Press the **1** button to turn the IR front window back on.

WebGUI

The AT-OPUS includes a built-in webGUI, which allows easy management and control of all features. Follow the instructions below to access the webGUI.

NOTE: All instructions and pictures will display the AT-OPUS-810M. If a selection or button press differs for the 46M and 68M, the alternative will be stated in the instructions.

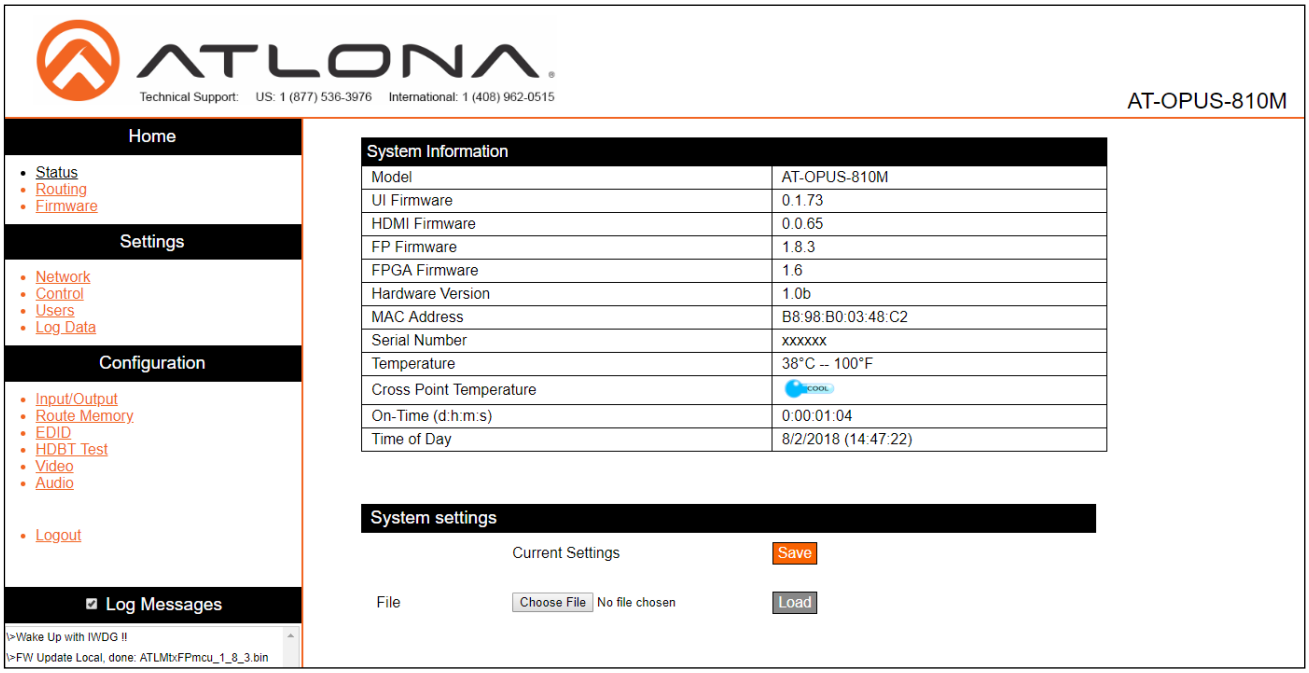
1. View the IP address of the unit using the front panel OSD.
   - Press the FNC button.
   - Press button 7 (INFO). The firmware version will display on the front panel screen.
   - Press button 7 again to bring up the IP address.

NOTE: If the unit is not receiving an IP address from a DHCP server, the unit will default to 192.168.0.150 255.255.255.0. To set the unit to a set static IP, press the FNC button followed by 4 (OPUS-46M will use button 3). Select the Static IP option and press enter. The default static IP address and netmask is 192.168.1.254 255.255.0.0.

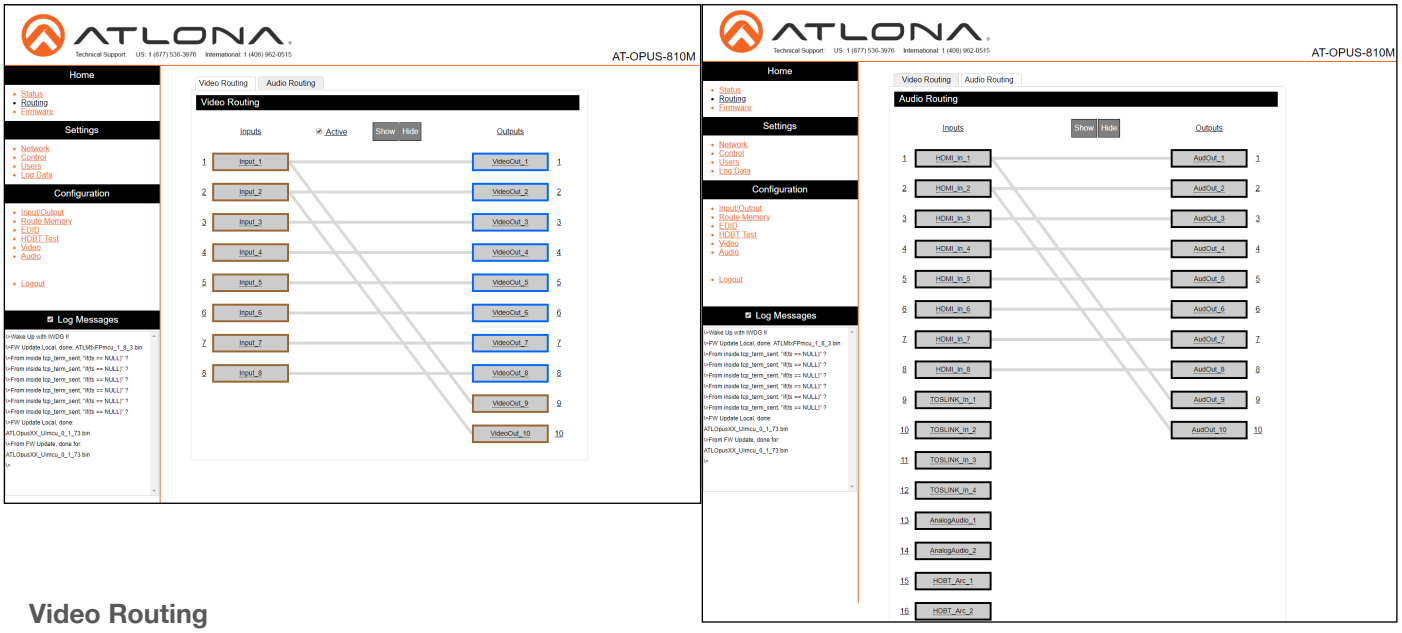
2. Launch a web browser and enter the IP address of the unit.
3. The AT-OPUS **Login** page will be displayed.
4. Enter the following information on the **Login** page.

   Login: **admin**
   Password: **Atlona**

5. Click the Login button. The info page will display, giving all the general information of the AT-OPUS.



6. Select **Routing** from the side menu.



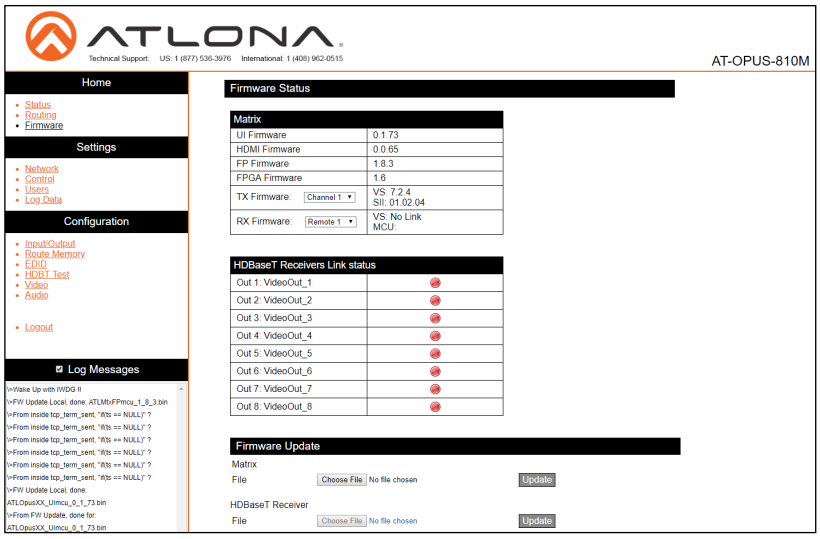
Video Routing

This section will display the connection and routing status of all the current video inputs and outputs.

Audio Routing

This section will display the connection and routing status of all the current audio inputs and outputs.

7. Select **Firmware** from the side menu.



Firmware

UI, HDMI, FW, and FPGA Firmware - The current matrix firmwares will display in these fields. Verify the latest firmware by checking the individual product pages under the Firmware tabs.

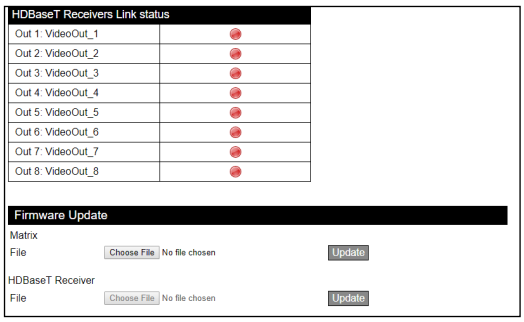
https://atlona.com/product/AT-OPUS-46M/ - for the AT-OPUS-46M

https://atlona.com/product/AT-OPUS-68M/ - for the AT-OPUS-68M

https://atlona.com/product/AT-OPUS-810M/ - for the AT-OPUS-810M

TX firmware - This will display the current firmware for the HDBaseT outputs.

RX firmware - This will display the current firmware for compatible receivers (e.g. AT-OPUS-RX) HDBaseT inputs.



HDBaseT Receivers Link status - A red circle will display when no receiver is connected or it is receiving no signal. A green circle will display when there is a receiver connected.

Firmware Updating

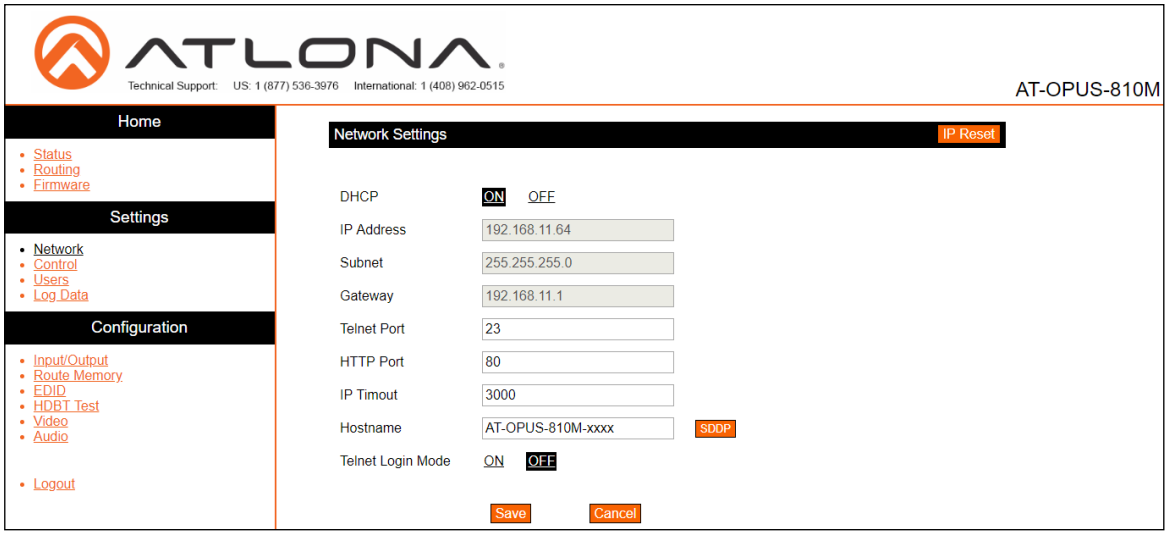
WARNING: Power loss during the update process may damage devices and/or render the system non-functional.

Matrix File - Select the Choose File button to search the local PC for the firmware file. Once found, press the open button, the file name will display next to the Choose File button. Press Update once the file is selected.

NOTE: There may be multiple firmware files for each matrix, but the UI firmware must be updated before proceeding to the other firmware files.

HDBaseT Receiver File - Select the Choose File button to search the local PC for the firmware file. Once found, press the open button, the file name will display next to the Choose File button. Press Update once the file is selected.

8 Select **Network** from the side menu.



Network

DHCP - Switch between static and DHCP modes by selecting ON (DHCP) or OFF (Static).

IP, Netmask, Gateway - his will display the current IP settings on DHCP. When set to static, fill in the IP address, netmask, and gateway.

Telnet Port - Set the telnet port if needed for control.

HTTP Port - Set the port for HTTP listening.

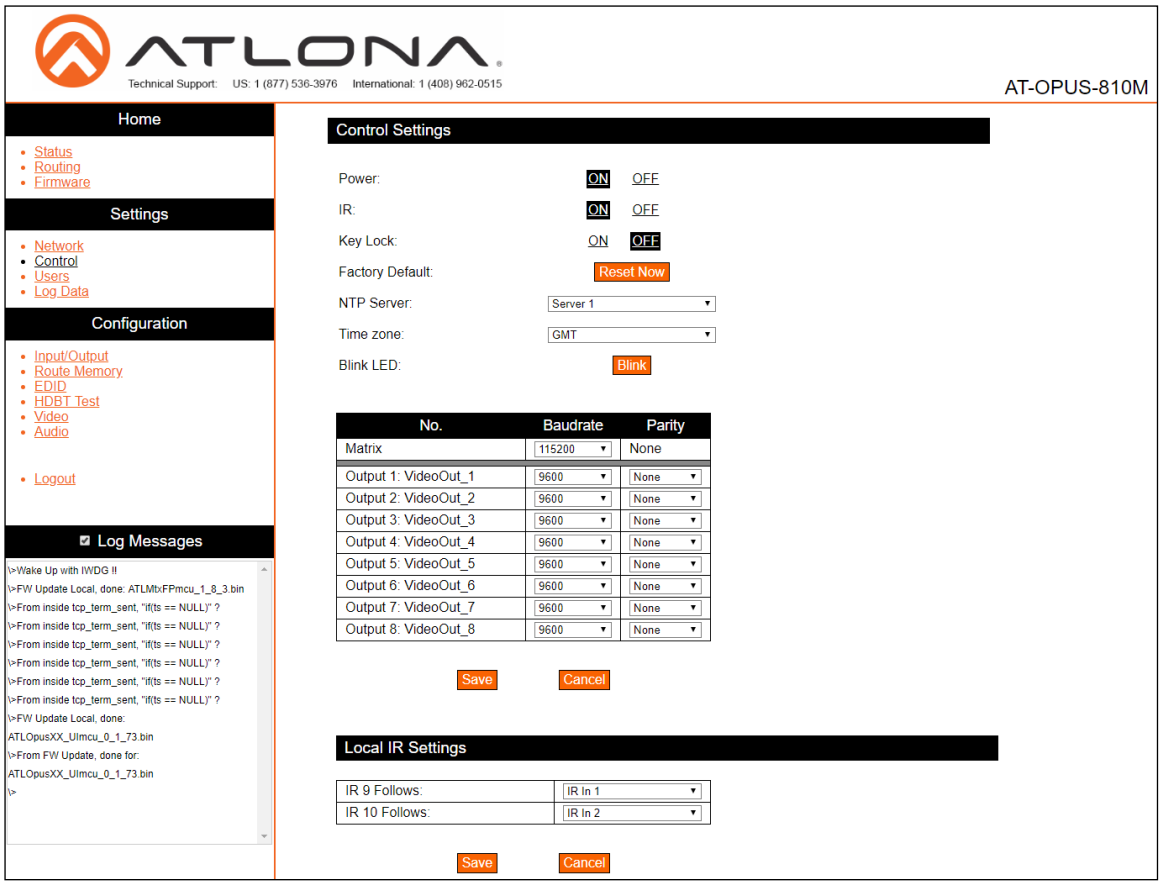
IP Timeout - Set the amount of time between actions before the current user is logged out.

Hostname - Set the name for the matrix, this will show up in network discovery.

SDDP button - Select the SDDP to enable Simple Device Discovery Protocol announcement for use with Control4 devices on the network.

Telnet Login Mode - Toggle telnet login mode on and off. If on, a username and password will be required to control the unit via TCP/IP.

9 Select **Control** from the Side menu.



System

Power - Toggles the unit between on and standby.

IR - Turns the IR window on the front of the unit on and off.

Key Lock - Lock and unlock the front panel keys.

Factory Default - Select to set the unit back to the original factory settings.

NTP Server - Select the NTP server to sync the MCU internal clock and log times with the selected server.

Time Zone - Select the local time zone for log timestamps and the MCU internal clock.

Blink LED - Blinks the PWR button's LED to help discover the unit within a rack when there are multiple units.

RS-232 Parameter Setting

Console - Select the baud rate and parity. Default baud rate and parity is 1152000 and None.

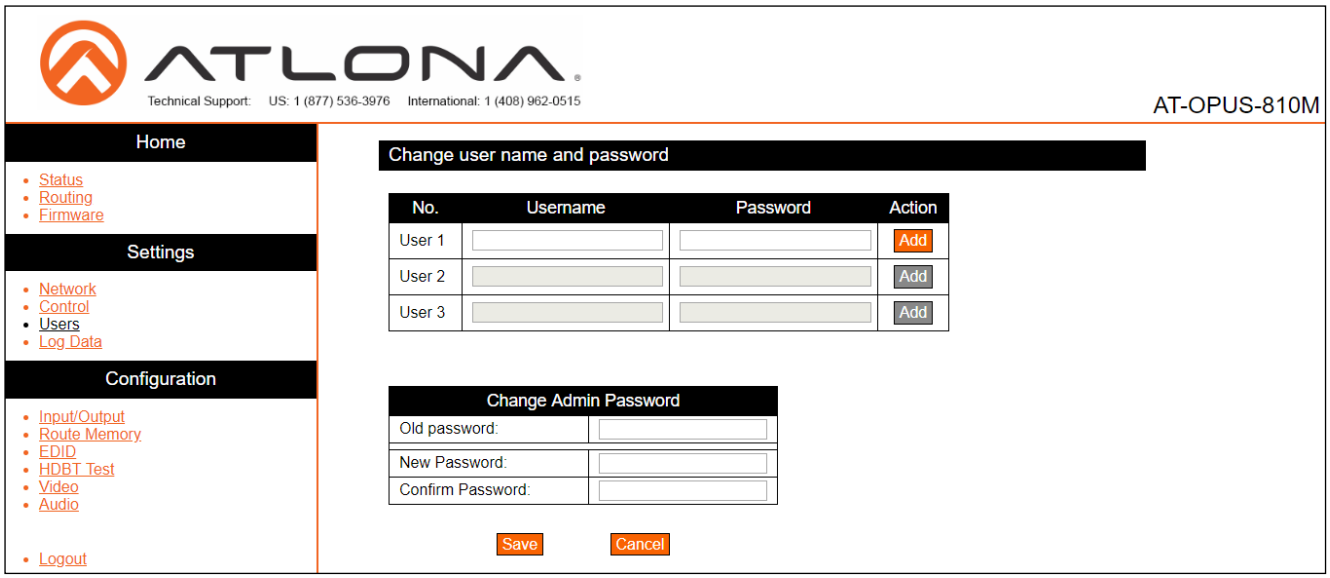
Output - Select the baud rate and parity. Default baud rate and parity is 9600 and None.

Local IR Setting

IR 9 and 10 Follows - Select the IR input port signals that the IR OUT 9 and 10 will output.

These ports will be IR 7 and 8 on AT-OPUS-68M and IR 5 and 6 on AT-OPUS-46M.

10 Select **Users** from the side menu.



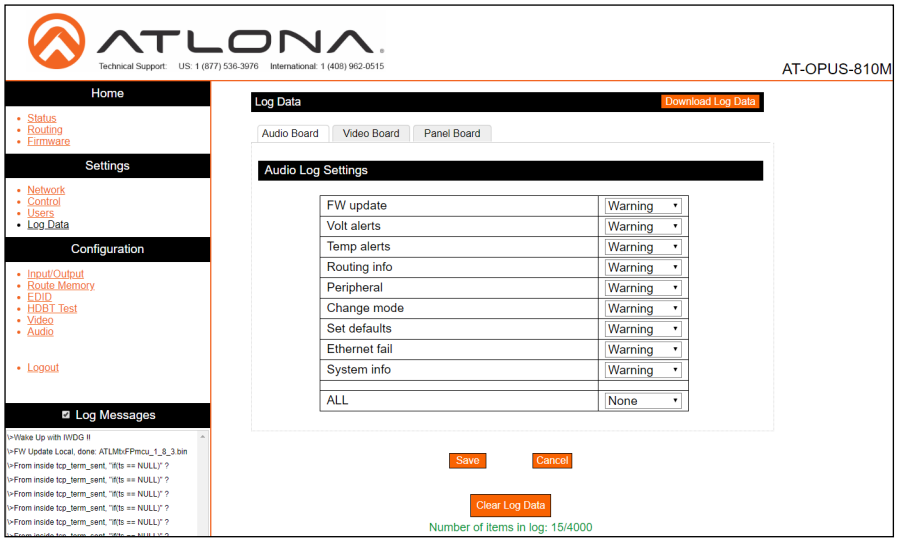
Users

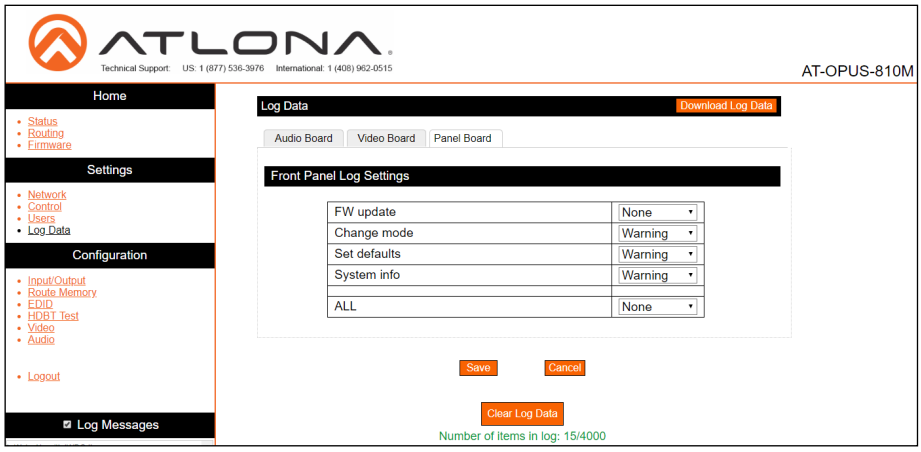
Additional Users - Add up to three additional users, each with individual passwords.

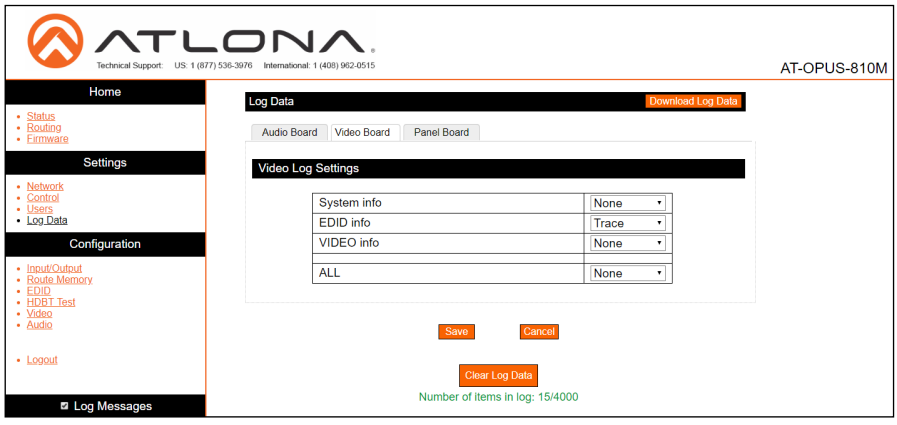
Admin Password - Update the admin password for the matrix. Only the admin password may be changed, the username will remain admin.

NOTE: The passwords cannot contain any special characters. e.g !@#$%/^&*\?+-;'".

11 Select **Log Data** from the side menu.



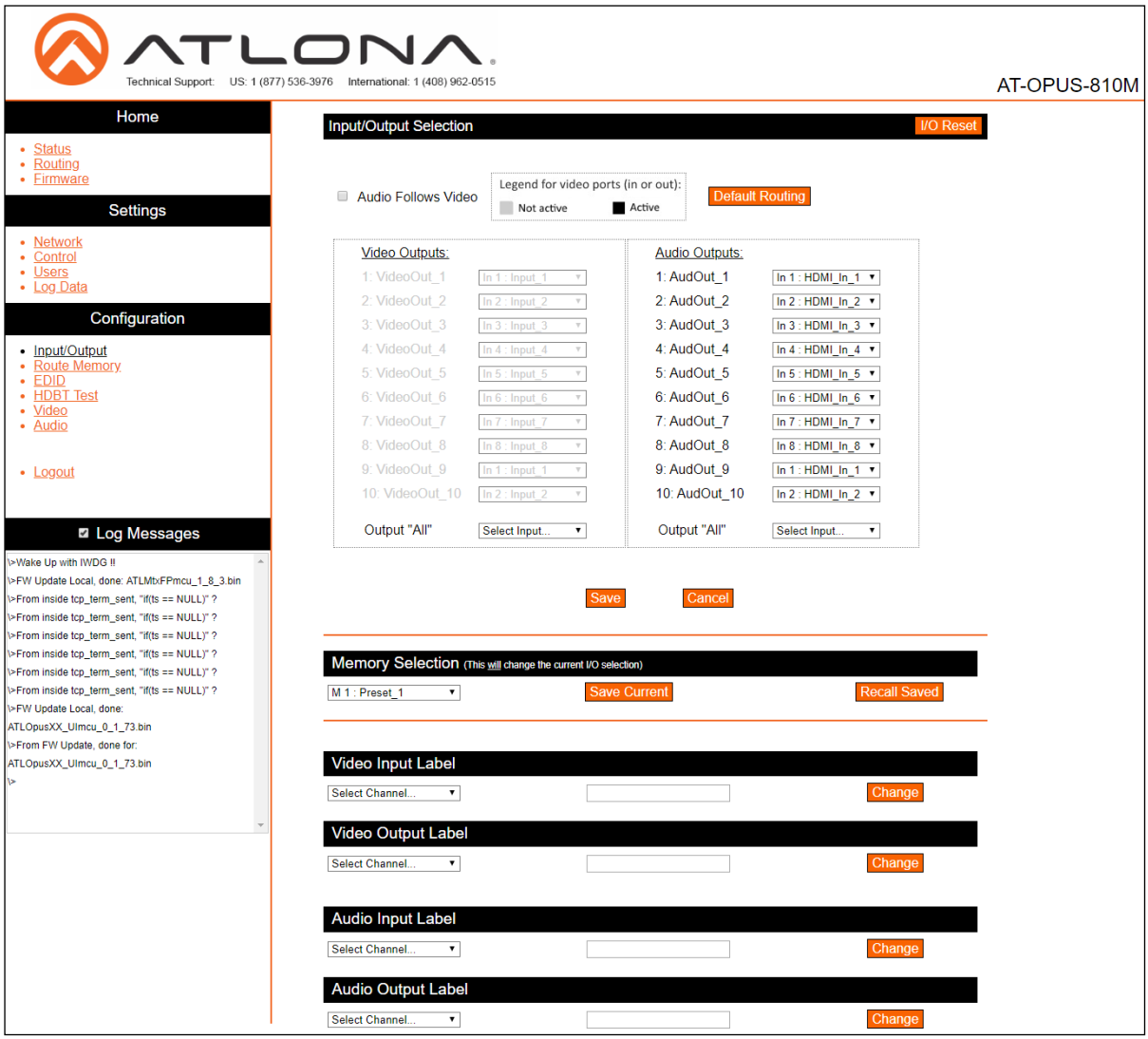




Log Data

These sections will allow selections as to which specific items the unit will log, from FW update warnings, to video switching. The in-depth logs will allow for troubleshooting ease, should an issue occur.

12 Select **I/O Settings** from the side menu.



Input/Output Selection

Default Routing - Press this button to reset all routing to the default settings which is input 1 to output 1, input 2 to output 2, etc., and audio ports to the corresponding HDMI input port. Ports 9 and 10 will follow ports 1 and 2 respectively (46M - ports 5 and 6 will follow port 1 and 2, 68M - ports 7 and 8 will follow ports 1 and 2).

Video Output - Select the desired input from the drop down menu. Ports with active source signals will appear black.

Audio Output - Select the desired audio source from the drop down menu. Corresponding analog audio and TOSLINK audio ports will use the same source audio signals.

NOTE: If a multichannel audio (up to 5.1 channels) source is selected, the analog audio will not output any sound, only the corresponding TOSLINK audio port will output audio.

Save/Recall - Use these buttons to switch to the selected routing (save) or reset the webGUI to the current routing (cancel.)

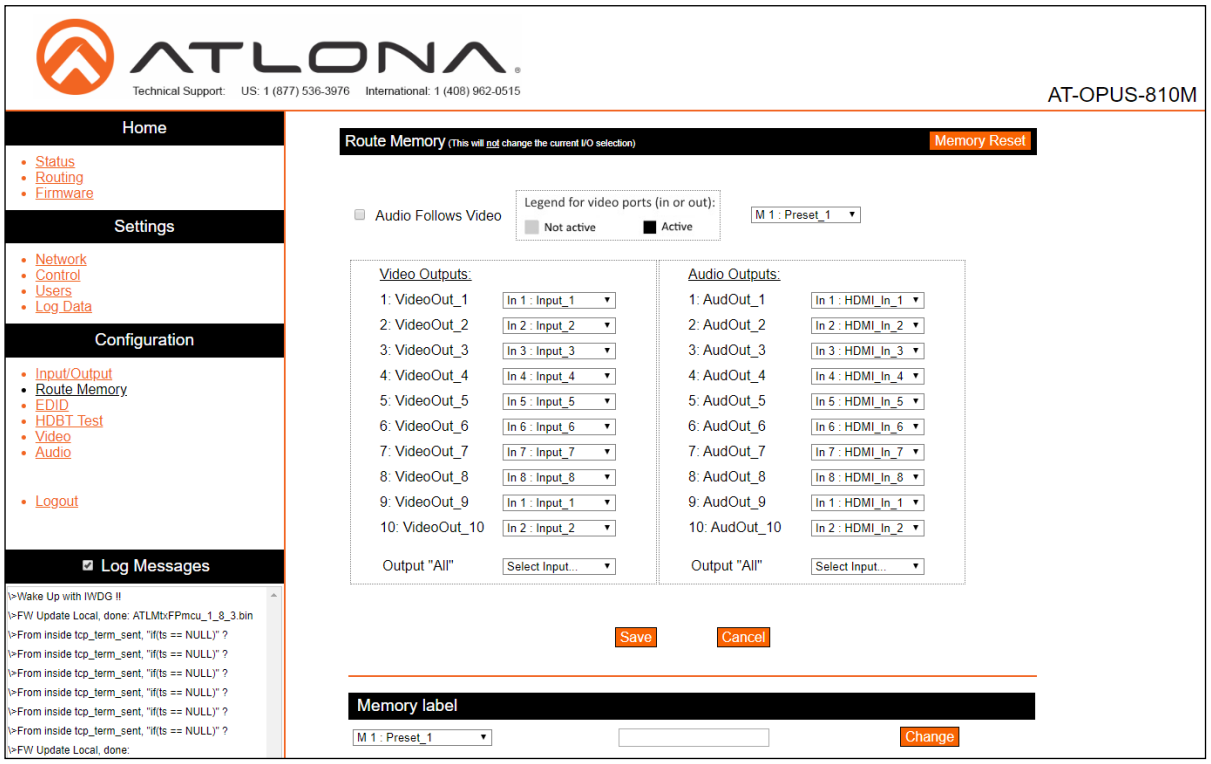
Memory Selection

Select the route memory from the drop down and press either Save Current (to save the current I/O routes to the selected memory number) or Recall Saved (to load a previously saved I/O route).

Video/Audio Input/Output Labels

Select the desired port from the drop down menu, type in the new name for the port in the blank field, and press Change to make it live in the I/O selection.

13 Select **Route Memory** from the side menu.



Route Memory

Memory Reset - Select this button to clear the currently saved route memories.

Audio Follows Video - When selected, the audio selection will de-embed audio from the corresponding video output selection. e.g. AudOut_1 will de-embed audio from VideoOut_1's source.

Memory Number - Use the drop down menu to select the route memory to save to.

Video Output - Select the desired input from the drop down menu. Ports with active source signals will appear black.

Audio Output - Select the desired audio source from the drop down menu. Corresponding analog audio and TOSLINK audio ports will use the same source audio signals.

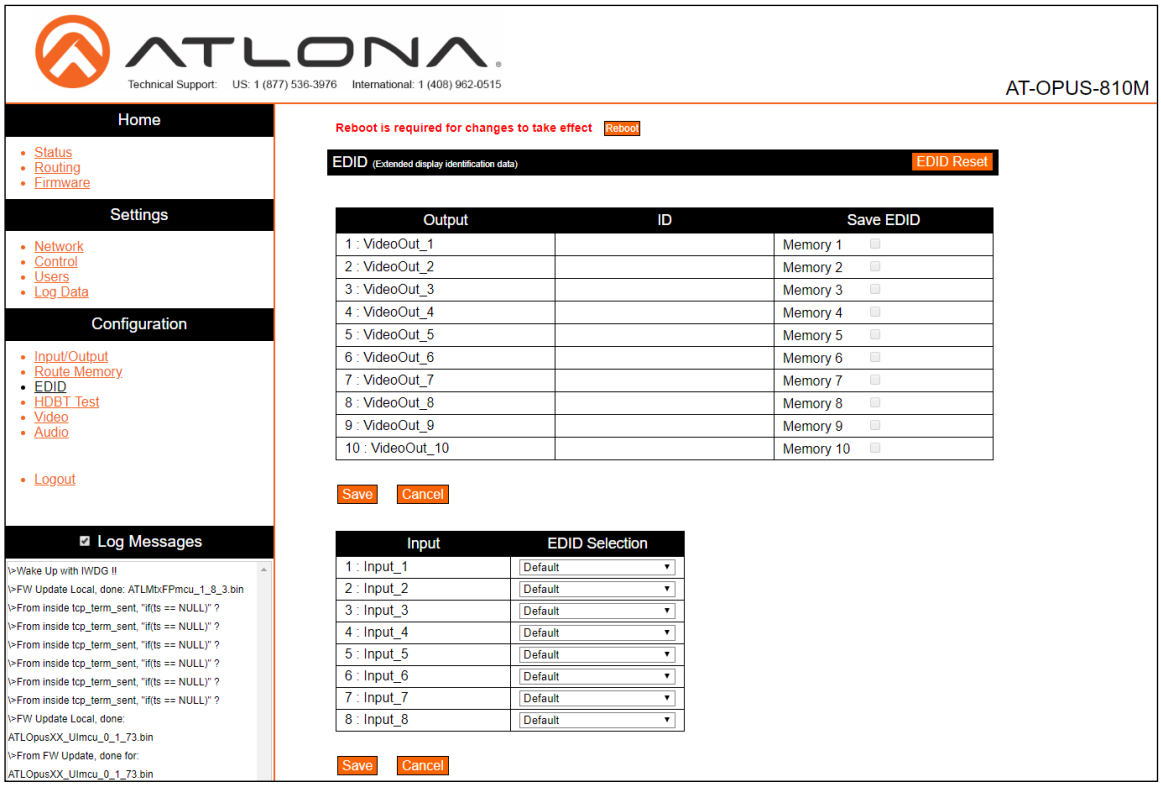
NOTE: If a multichannel audio (up to 5.1 channels) source is selected, the analog audio will not output any sound, only the corresponding TOSLINK audio port will output audio.

Save/Recall - Use these buttons to switch to the selected routing (save) or reset the webGUI to the previous routing (cancel.)

Memory Label

Select the desired memory route number from the drop down menu, type in the new name in the blank field, and press Change to make it live in the memory drop down menu.

14 Select **EDID** from the side menu.



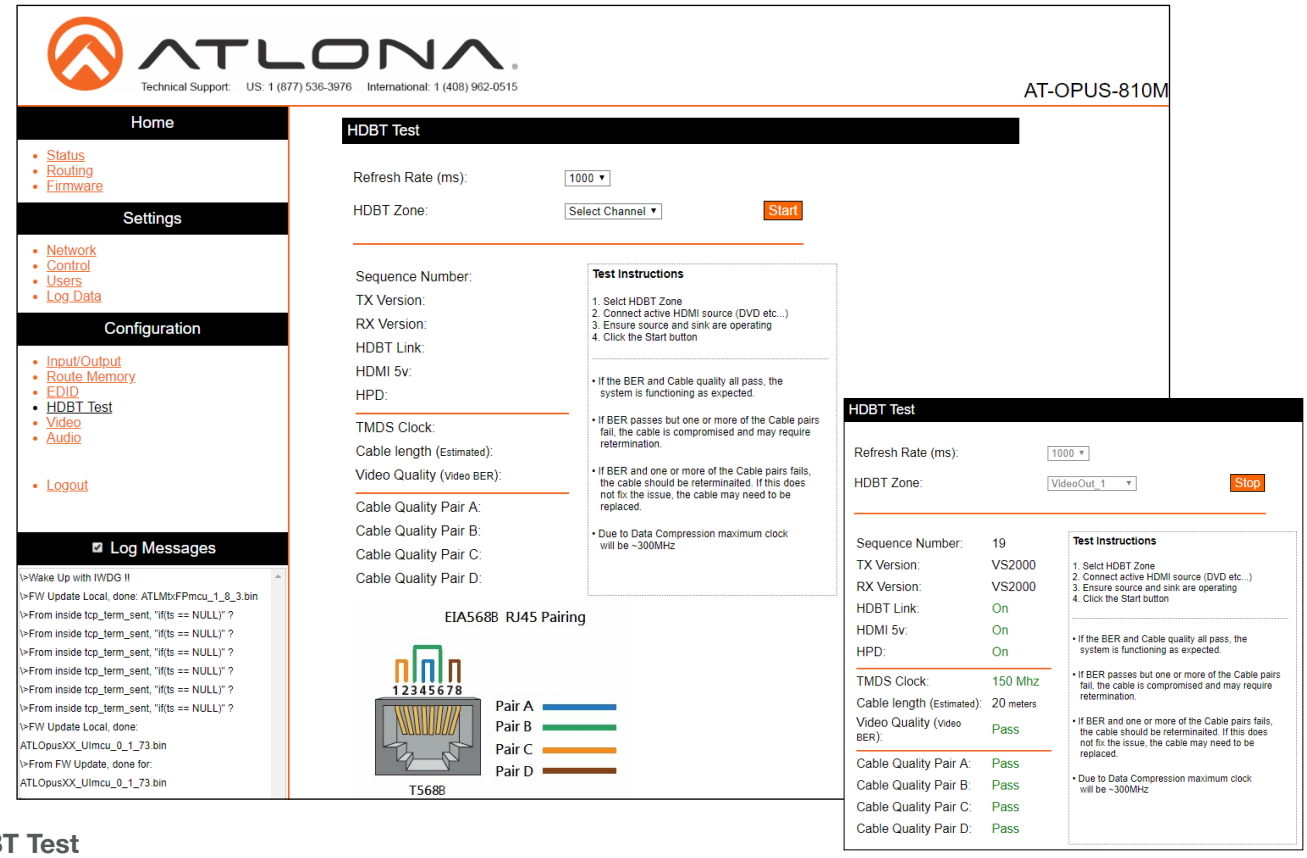
EDID

Output - The ID field will display the current EDID name of the connected output, select the checkbox next to Memory # to save that EDID information to memory.

Input EDID Selection - Use the drop down menu to select from default (highest common resolution between source and display), 16 internal EDIDs, and the previously saved EDIDs.

Internal EDID #		Internal EDID #	
1	ATL 1080P 2CH	9	1280x800 RGB 2CH
2	ATL 1080P Multi CH	10	1366x768 RGB 2CH
3	ATL 1080P DD	11	ATL 1080P DVI
4	ATL 1080P 3D 2CH	12	1280x800 RGB DVI
5	ATL 1080P 3D Multi CH	13	4K30 2CH
6	ATL 1080P 3D DD	14	4K30 MultiCH
7	720P 2CH	15	4K60 2CH
8	720P DD	16	4K60 MultiCH

15 Select **HDBT Test** from the side menu.



HDBT Test

Refresh Rate (ms) - Select the amount of time (in ms) for the OPUS to refresh its results of the HDBaseT signal test. Select between 500, 1000, 1500, 2000, and 3000 milliseconds.

HDBT Zone - Use the drop down menu to select which HDBaseT output is being tested. Only active connections can be tested.

Start/Stop - Use the start/stop button to run or cancel the HDBaseT signal testing. The webGUI will remain active until the testing stops.

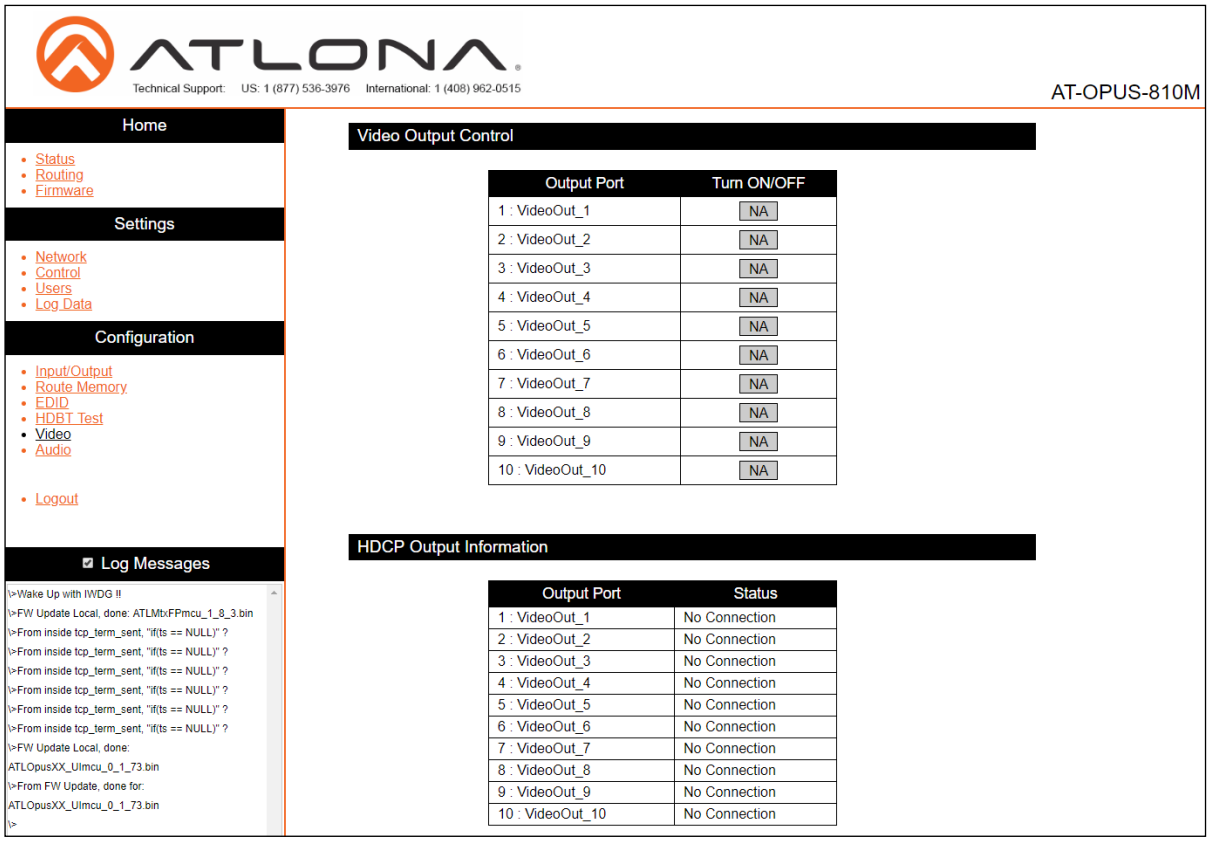
Failure

One or more Pairs - Reterminate the cable.

Of BER and any pairs - Replace the cable.

Of one or more pairs after retermination - Replace the cable.

16 Select **Video** from the side menu.



Video Output Control

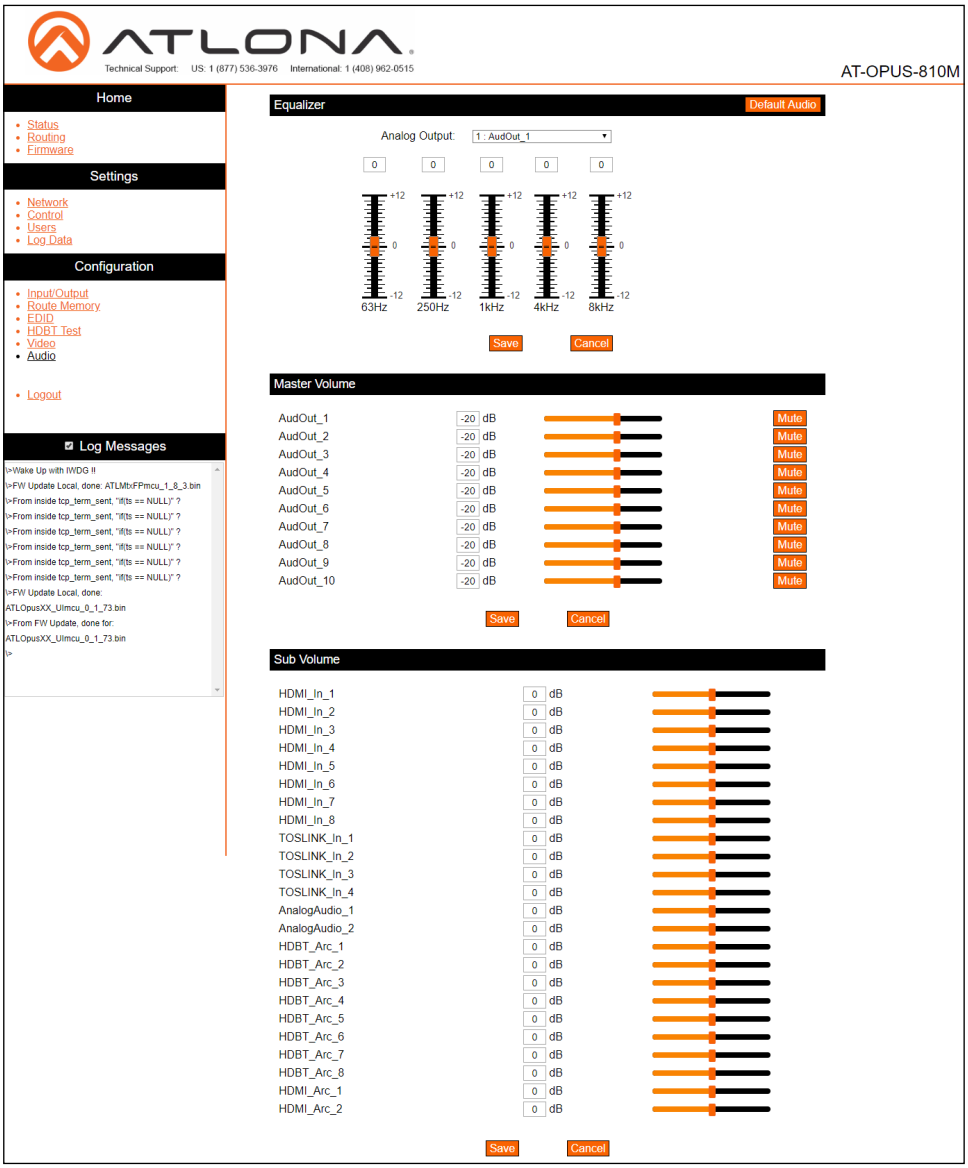
Output Port - Future Feature.

Input

HDCP Status - Displays the current HDCP status of the output.

The HDCP status states are: No Connection, HDCP 1.4, HDCP 2.2, and Non Compliant.

17 Select **Audio** from the side menu.



Equalizer

Default Audio - Resets all the audio settings to factory default. Analog audio will be equalized to 0 on all 5 bands, master audio will be set back to -20 dB, and the Sub Volumes will all be set back to 0 dB.

Analog Output - Select the analog audio output to adjust the 5 band equalization on. Save each adjustment before switching to another output.

Slider and adjustment field - Use the slider to adjust between level -12 and 12 on each band, or type the desired numeric value into the field above the slider.

Master Volume

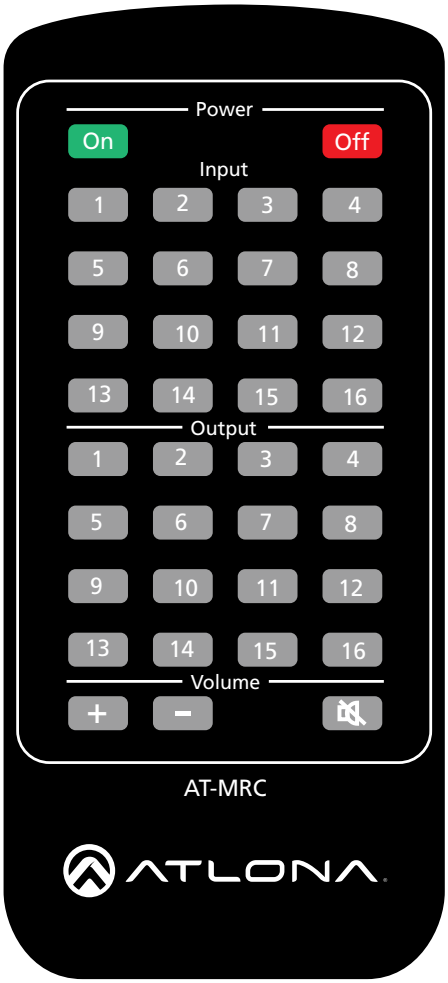
Adjust the analog audio output volume value individually by slider or manual input from -71 dB to 15 dB or completely mute the audio using the Mute button found next to the slider. This will adjust the analog audio output only.

Sub Volume

Adjust the volume level of the input signals using manual input into the dB fields or by adjusting the slider to the desired level.

IR Remote Control

The AT-OPUS comes with an IR Remote Control for easy routing.



Power On - Turn the unit on.

Power Off - Set the unit into standby mode.

Output - Select the number key for the corresponding output port for routing.

Input - Select the number key for the corresponding input port for routing.

NOTE: Only buttons 1 through 8 are used in the Input section and 1 through 10 in the Output section for 810M.
46M: 1 through 4 for input and 1 through 6 for output
68M: 1 through 6 for input and 1 through 8 for output

To route the HDMI inputs and outputs:

1. Make sure the unit is powered on, if not, select the Power On button.
2. Press the Input # button of the device to route.
3. Press the Output # button for the device the input will be routed to.

The selected input will route to the output.

Volume + - Adjusts the master volume up by 1 level per push.

Volume - - Adjusts the master volume down by 1 level per push.

Mute - Mutes the audio output of the matrix.

AMS

For full configuration of the OPUS, AMS 2.0 is available from https://atlona.com/AMS for free. Two options can be used for installation: The free Linux based software download or the easy to install server hardware (AT-AMS-HW).

Once AMS has been set up:

1. Open a browser on the same network as AMS 2.0 and go to the IP of AMS 2.0.
   a. View the AMS 2.0 installation instructions on how to find the IP of the software.
2. Enter the login information on the AMS 2.0 page, then click the **Login** button.
3. View the AMS manual for AMS configuration.

Appendix

Specifications

Ports	
HDMI IN/OUT	Type A, 19-pin female, locking
HDBaseT OUT	RJ45
AUDIO IN/OUT	Unbalanced, 3-pin captive screw
LAN	RJ45
DEBUG	Mini-USB
RS-232	3-pin captive screw
IR IN/OUT	2-pin captive screw
TOSLINK IN/OUT	S/PDIF, Optical fiber connector

Video	
UHD/HD/SD	4096×2160@24/25/30/50/60Hz, 3840×2160@24/25/30/50/60Hz, 2048x1080p, 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
VESA	2560×2048, 2560×1600, 2048×1536, 1920×1200, 1680×1050, 1600×1200, 1600×900, 1440×900, 1400×1050, 1366×768, 1360×768, 1280×1024, 1280×800 1280×768, 1152×768, 1024×768, 800×600
Color Space	YUV, RGB
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0
Color Depth	8-bit, 10-bit, 12-bit
HDR	HDR10 & HLG @ 60Hz and Dolby® Vision™ @ 30Hz

Audio	
HDMI IN / OUT	PCM 2Ch, LPCM 5.1, LPCM 7.1, Dolby® Digital, DTS® 5.1, Dolby Digital Plus™, Dolby TrueHD, DTS-HD Master Audio™, Dolby Atmos®, DTS:X®
TOSLINK	PCM 2Ch, Dolby® Digital, DTS® 5.1
Sample Rate	32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
Bit Rate	24-bit (max.)

Resolution / Distance	4K/UHD - Feet / Meters		1080p - Feet / Meters	
HDMI	15	5	30	10
CAT5e/6	295	90	330	100
CAT-6a / CAT-7	330	100	330	100

Signal	
Bandwidth	18 Gbps
HDMI	2.0
CEC	On output, by trigger
HDCP	up to 2.2

Appendix

Temperature	Fahrenheit	Celsius
Operating	32 to 104	0 to 40
Storage	-40 to 158	-40 to 70
Humidity (RH)	20% to 90%, non-condensing	

Power	
Consumption	160 W
Idle Consumption	115 W
Supply	Internal, AC 100-240V 50/60Hz

Dimensions	Inches	Milimeters
H x W x D	3.47 x 17.24 x 11.79	88.1 x 438 x 299.5
H x W x D (w/feet)	3.89 x 17.24 x 11.79	98.8 x 438 x 299.5
Rack Size	2U	

Weight	Pounds	Kilograms
Device	11.91 lbs	5.4 kg

Certification	
Unit	CE, FCC
Power Supply	CE, FCC, UL, TUV, RoHS