

Atlona HDMI to HDMI Matrix Switcher

AT-H2H-44M and AT-H2H-88M (pictured below)



User Manual

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Revision B (3/11/13): Features added

TCP/IP Page 16-18

Internal EDIDs Page 11

Revision B Firmware 2.0.02 (08/14/13):

DHCP auto on Page 16-23 (TCP/IP instruction has changed)

Introduction

Multiple control options, HD resolutions, and the best audio, the Atlona HDMI® to HDMI matrix switcher is built for your home and professional needs. With the ability to pass 1080p, 1920x1200, all Lossy and Lossless audio formats (including Dolby® TrueHD and DTS-HD Master Audio™), full 3D, and ARC, the AT-H2H Family provides a full range of features that ensures the highest quality experience whether you're watching a movie, giving a presentation, and more.

Package Contents

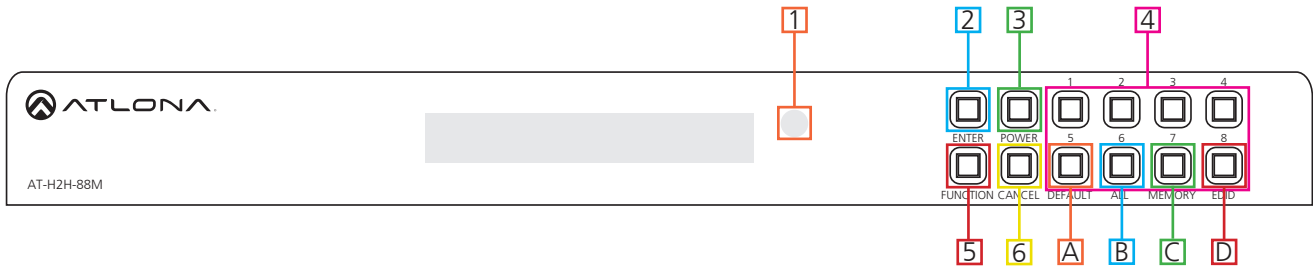
- 1 x AT-H2H Matrix Switcher
- 1 x IR Extender
- 1 x IR Remote Control
- 1 x Pair of dual purpose wall/rack mounts
- 1 x 24V/2.7A DC adaptor
- 1 x User Manual

Features

- Send any source to multiple outputs: with the H2H matrix any combination of inputs and outputs can be used
- EDID™ learning function with multiple EDID memories to ensure picture and sound.
- Programmable I/O memories: save multiple routes for faster switching to the most commonly used configurations
- Built in internal EDID mode provides 12 individual EDIDs to ensure compatibility
- ARC (Audio Return Channel) pass through
- Digital audio de-embedding allows audio to be sent to a distribution amplifier or audio receiver through the S/PDIF port
- Up to Dolby TrueHD and DTS-HD Master Audio pass through on HDMI
- Compatible with DVI/D (with DVI/D to HDMI adapter such as AT14040), allowing DVI/D video source signal to be passed to displays
- Multiple control interfaces such as RS-232, IR, TCP/IP, and the front panel
- Pass through support of all 3D formats.
- HDCP Compliant

Panel Description

Front Panel



1. IR Receiver Window - Receives the signal from the included IR remote control or a 3rd party controller.
2. Power Button - Cycles the power between On (blue backlight) or Standby (red backlight) mode.
3. Enter Button - Use to view current status for inputs and outputs or to confirm a command.
4. Number buttons - Use these buttons to select input and output paths or use with the function button to change matrix settings.
5. Function Button - Select for command options. (blue backlight when selected)
 - A. **Default:** Mirrors all inputs to corresponding outputs. (i.e. 1 to 1, 2 to 2, 3 to 3, etc.)
 - B. **All:** Save a single input to all the outputs with this function.
 - C. **Memory:** Save/load the current input and output route to memory.
 - D. **EDID:** Save/Load EDIDs to individual inputs.

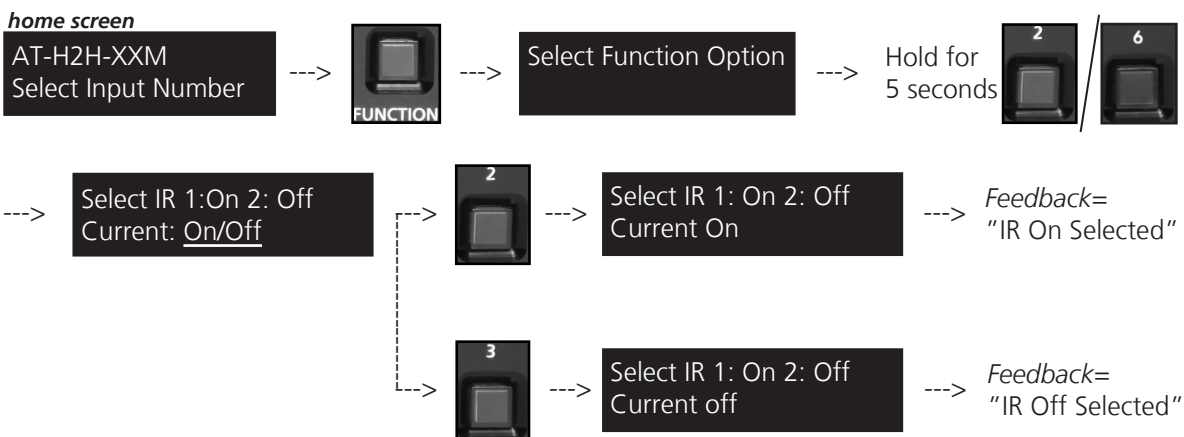
Note: Default setting for EDID is the highest common HD resolution of all connected devices. (i.e. if you have resolutions ranging 720p, 1080i, and 1080p then 720p would be the default resolution for all connected displays.)

6. Cancel Button - Within the functions menu use to go back one screen or to the home screen.

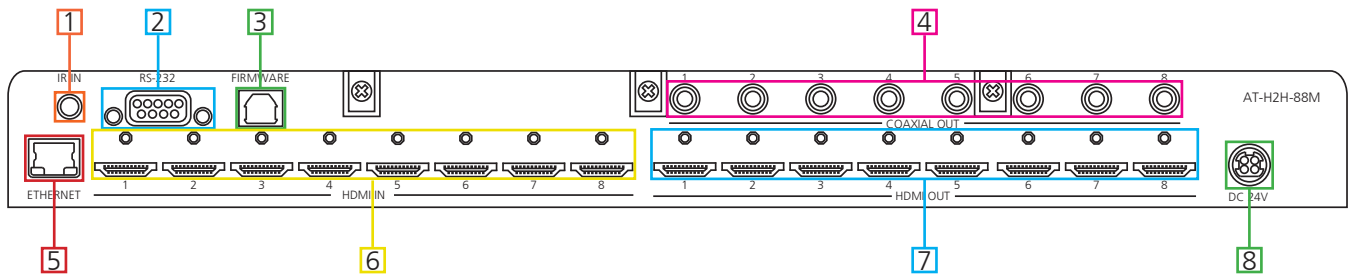
Note: You cannot power off or change functions unless you go to the home screen.

IR

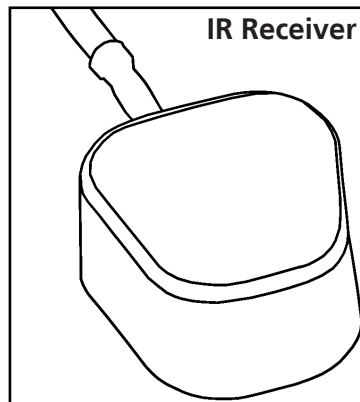
The IR receiver window can sometimes pick up stray reflected IR commands causing loss of functionality. To disable the front panel, see directions below:



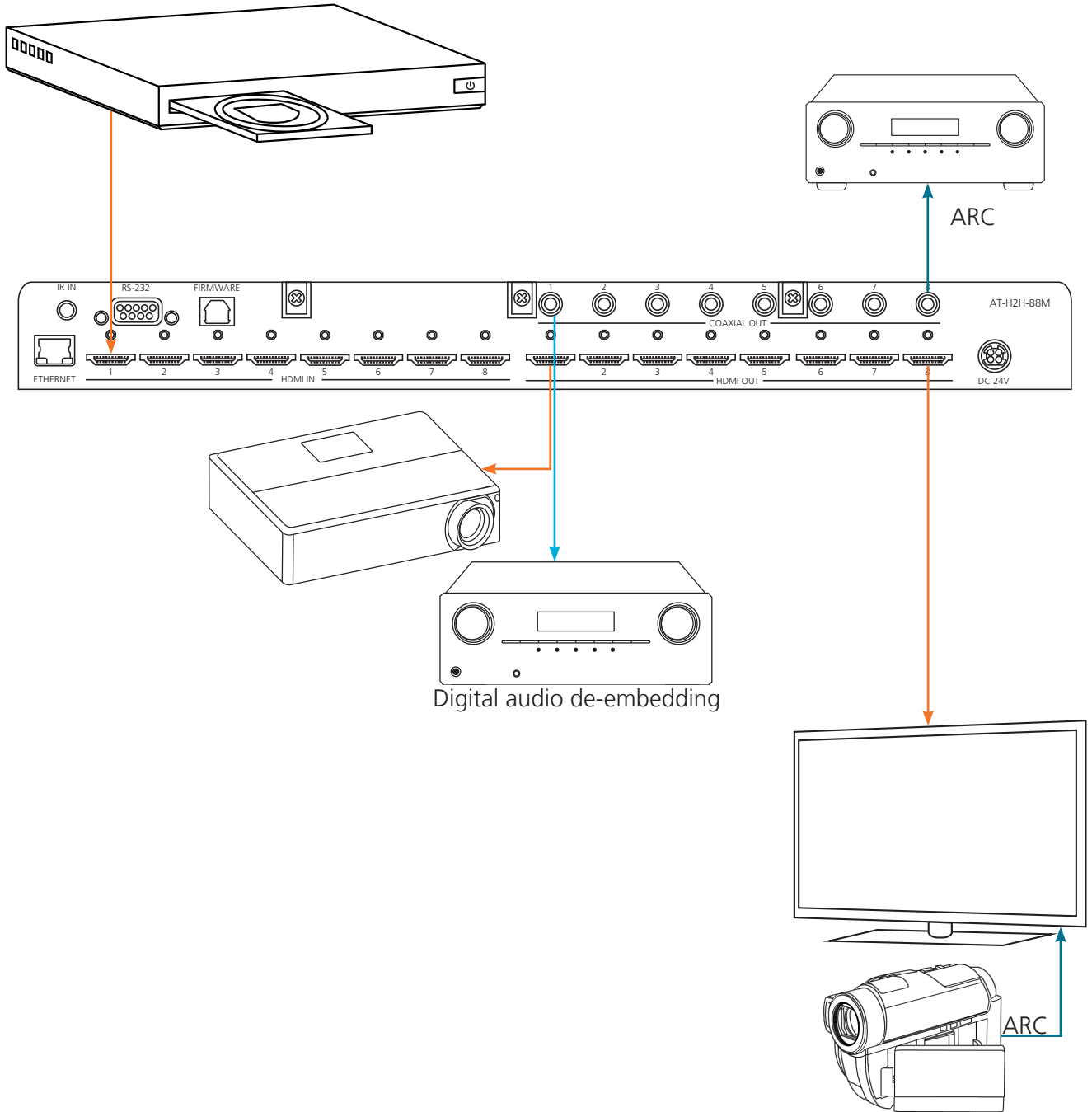
Back Panel



1. Matrix IR IN: Connect included IR receiver (see picture below)
2. RS-232: Connect to this port for control from a computer or 3rd control box.
3. Firmware Update: Type B USB Port used for updating the matrix firmware only
4. Coax Out: Audio de-embedding for distribution amplifiers and AVRs
Compatible with PCM 2Channel, LPCM 5.1, Dolby 2.0, Dolby Digital 5.1, and DTS 5.1
5. Ethernet Port: Used for TCP/IP control
6. HDMI Input Ports: Connect HDMI sources into these ports, such as DVD players, Blu-ray players, computers, etc.
7. HDMI out port: Connect to a display or an AVR
8. Power Port: Use included locking DC adaptor to power the matrix switcher



Connection Diagram



Matrix Front Panel Functions

The AT-H2H'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 **set** an input to an output

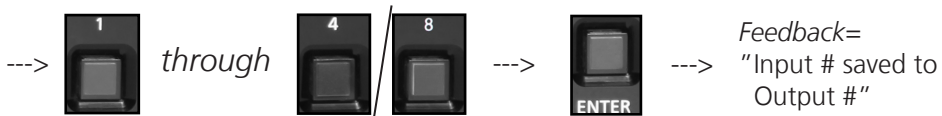
(I.E. Input 1 to output 2)

home screen

AT-H2H-XXM
Select Input Number



Select output number
Press enter to confirm

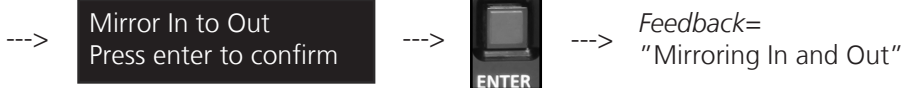


To **mirror** all inputs and outputs -- Ex. Input 1 to output 1, input 2 to output 2, etc.

(I.E. Input 1 to output 1, input 2 to output 2, etc.)

home screen

AT-H2H-XXM
Select Input Number

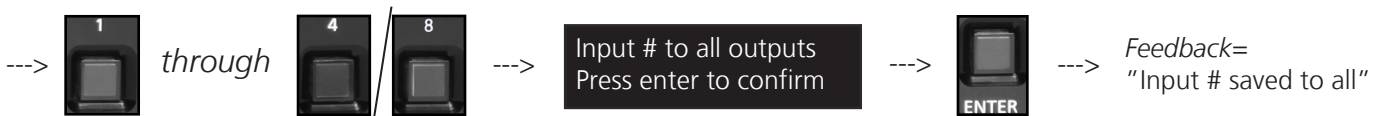


To **route** one input to all outputs -- Ex. Input 5 to output 1, output 2, etc.

(I.E. Input 1 to output 1, 2, 3, and 4)

home screen

AT-H2H-XXM
Select Input Number



I/O Route Memory

Once inputs and outputs have been set they can be saved to memory and recalled later. Multiple individual input/output routes can be saved. The route will remain in memory until a new route has been saved to that memory number or the matrix has been factory reset.

example route

```
O: 1 2 3 4
I: 4 2 1 3
```

To **save** an I/O route to memory

home screen



memory selection



To **load** a saved I/O route

Once an input/output route has been saved, it can be loaded at any time.

home screen

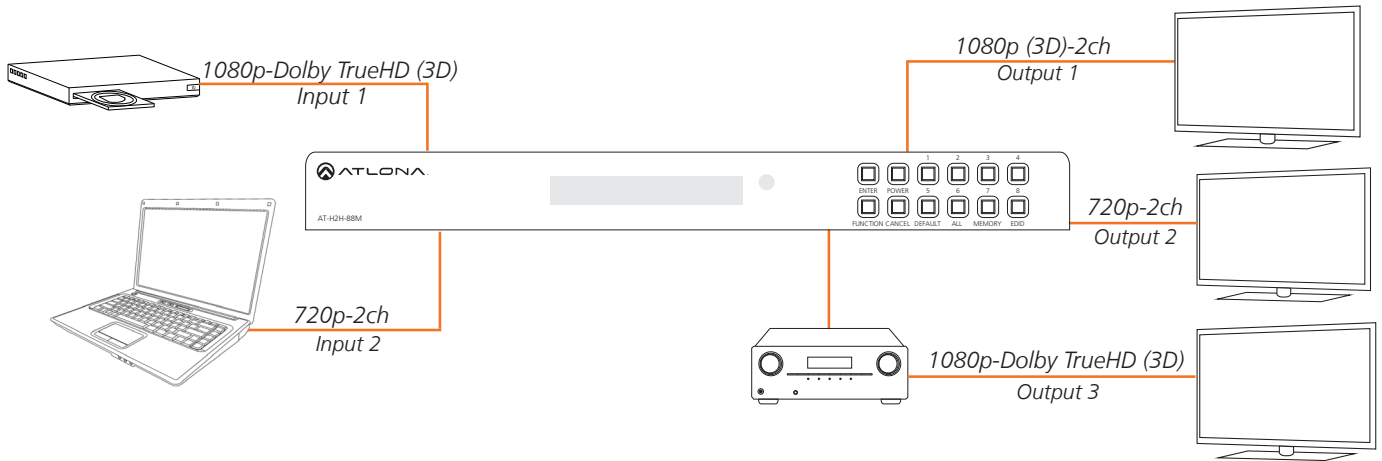


memory selection



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 720p with 2ch audio. Multi-channel audio and 3D are not enabled on internal mode, unless all devices have these features.*)

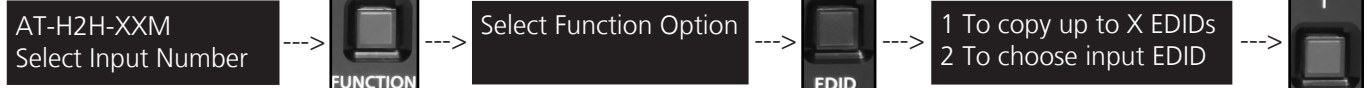


On default, all devices in the diagram will work at 720p. If a device is not syncing or a different resolution is required, internal EDID or EDID copy and load should resolve these issues. The AT-H2H can copy multiple EDIDs to memory.

To **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 EDID memories.

home screen



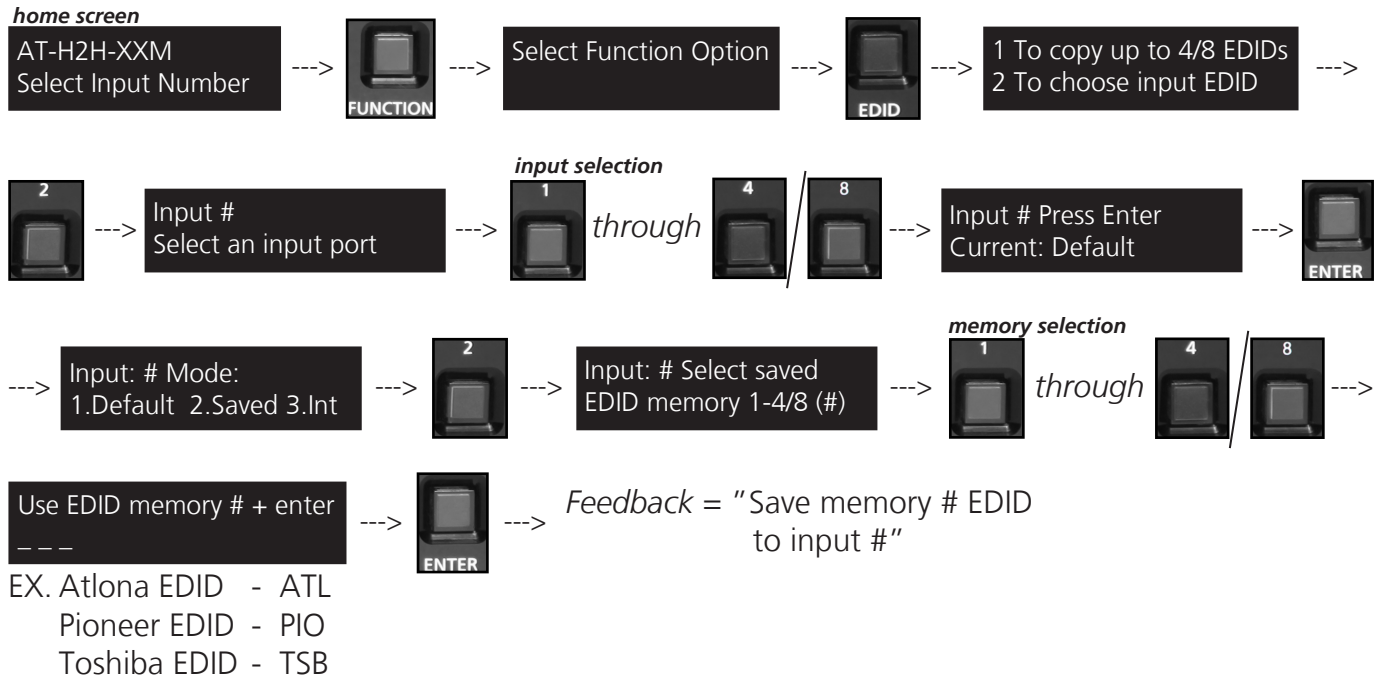
memory selection



Step 2: load a copied EDID onto an input

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

Note: (refer to the diagram on page 9) Using the EDID of output 3 with input 1 will enable 1080p, 3D, and Dolby TrueHD to pass. Output 2 will receive no audio or video and output 1 will receive no audio with these settings.

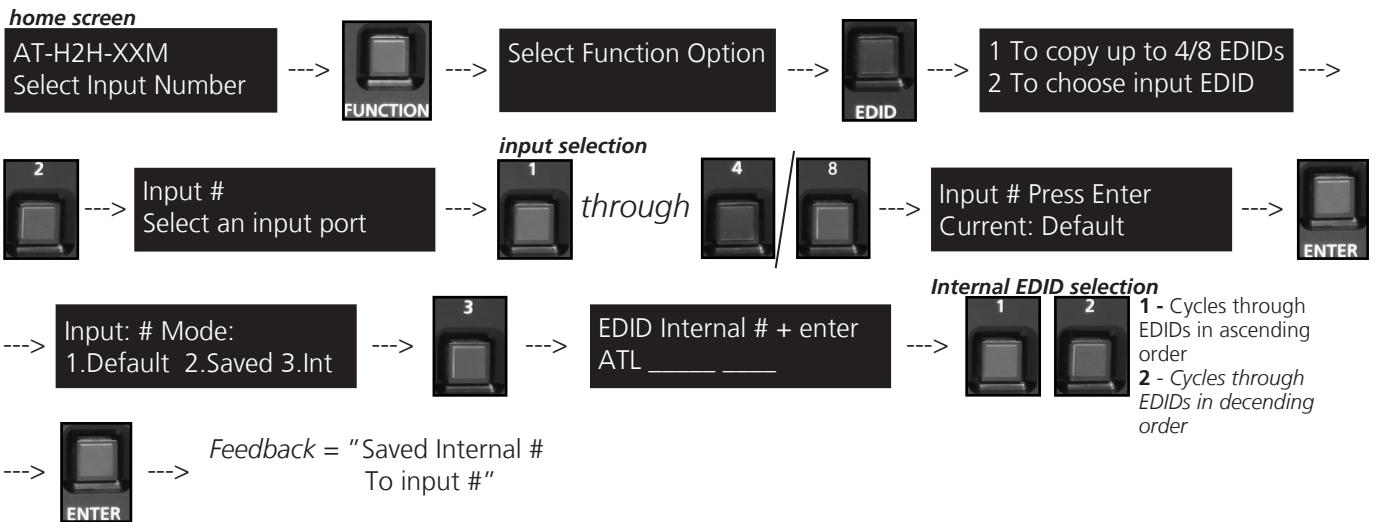


Step 3: Load an internal EDID to an input

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

<i>Internal EDID options</i>	<i>Front panel display readout</i>
EDID 1: 1080P 2CH audio	ATL 1080P 2CH
EDID 2: 1080P multichannel audio*	ATL 1080P Multi CH
EDID 3: 1080P Dolby Digital/DTS 5.1**	ATL 1080P DD
EDID 4: 1080P 3D 2CH audio	ATL 1080P 3D 2CH
EDID 5: 1080P 3D multichannel audio*	ATL 1080P 3D Multi CH
EDID 6: 1080P 3D Dolby Digital/DTS 5.1**	ATL 1080P 3D DD
EDID 7: 720P 2CH audio	ATL 720P 2CH
EDID 8: 720P Dolby Digital/DTS 5.1**	ATL 720P DD
EDID 9: 1280x800 RGB 2CH audio	ATL 1280x800 RGB 2CH
EDID 10: 1366x768 RGB 2CH audio	ATL 1366x768 RGB 2CH
EDID 11: 1080P DVI***	ATL 1080P DVI
EDID 12: 1280x800 DVI***	ATL 1280x800 RGB DVI

- * Recommended EDID for use of an AVR
- ** Recommended EDID for use of the S/PDIF audio de-embedding
- *** Recommended EDID for use of DVI projectors



RS-232 commands:

To access the different EDIDs through RS-232 the following commands must be used.

Command	Feedback	Description
EDIDMSetX default	EDIDMSetX default	Sets the EDID of an input to the default EDID Ex. EDIDMset2 default - sets input 2 to default
EDIDMSetX saveY	EDIDMSetX saveY	Sets the EDID of an input to the previously saved EDID memory Ex. EDIDMset1 save3 - sets input 1 to the EDID memory 3
EDIDMSetX intZ	EDIDMSetX intZ	Sets the EDID of an input to one of the internal EDIDs Ex. EDIDMset3 int6 - sets input 3 to the internal EDID - 1080p 3D Dolby Digital 5.1

Matrix Settings

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-H2H has matrix settings viewable through the front panel. View current I/O settings, firmware version, FPGA version, and the baud rate of the matrix.

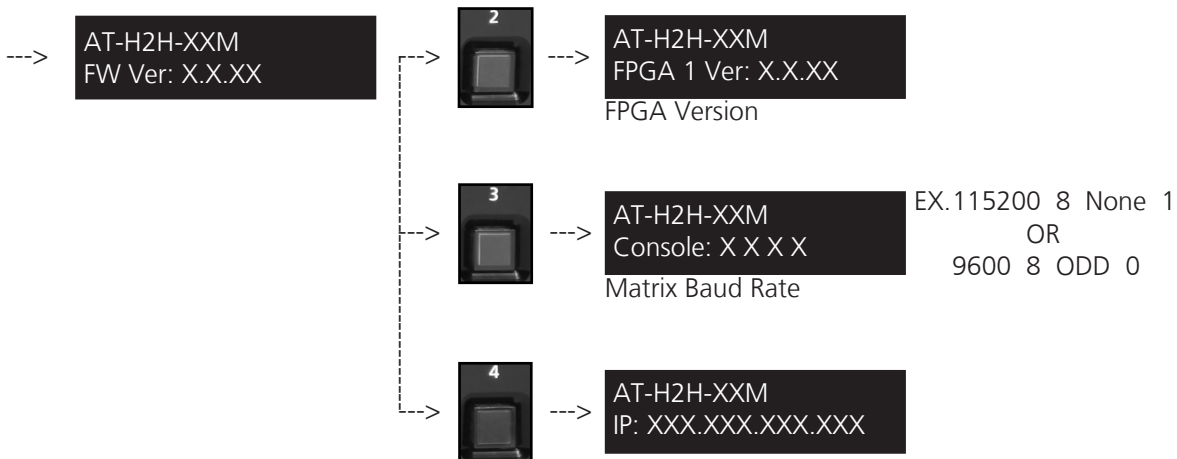
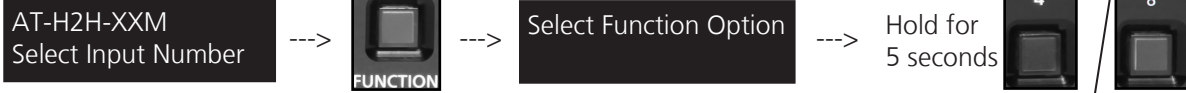
View I/O settings

home screen



View Firmware/Baud Rate/FPGA settings

home screen



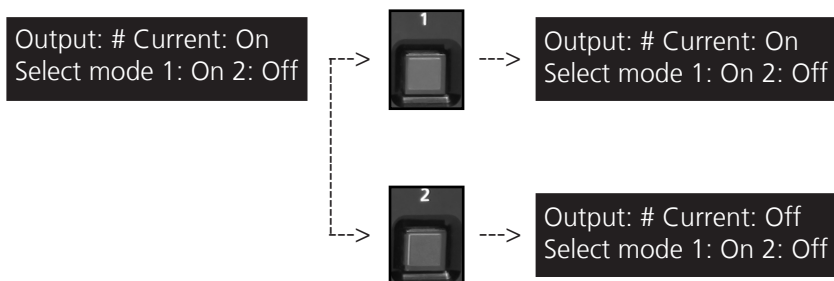
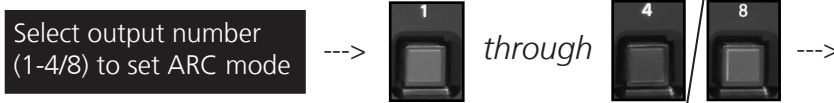
S/PDIF

The S/PDIF port is used for two audio options, ARC or matrix source audio de-embedding. When using one, the other is disabled. By default the matrix comes with ARC turned off on all ports, this enables the S/PDIF to de-embed audio from the matrix source. To switch between ARC and matrix source audio, ARC must be turned on or off. Enable or disable ARC through RS-232 (see page 18) or front panel (see below).

home screen



input selection

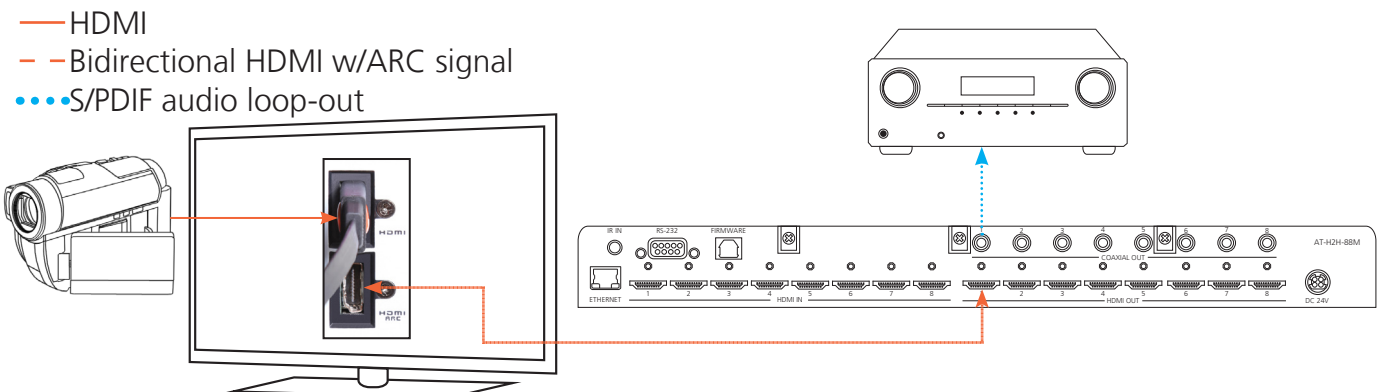


Audio Return Channel (ARC)

ARC enables a source connected to a display to route audio to an AVR or zone amp.

Steps

1. Check to be sure the display supports ARC
2. Enable ARC on the HDMI output of the matrix through RS-232 (see page 18) or front panel (see steps above)
3. Connect the HDMI Matrix output port to the ARC labeled input port on the display
NOTE: The Matrix must be connected to the display's HDMI ARC input
4. Connect the source to a non ARC HDMI input port on the display
5. Connect the S/PDIF port to an AVR or Zone Amp
NOTE: The S/PDIF port used must be the same output number as the HDMI port connected to the display



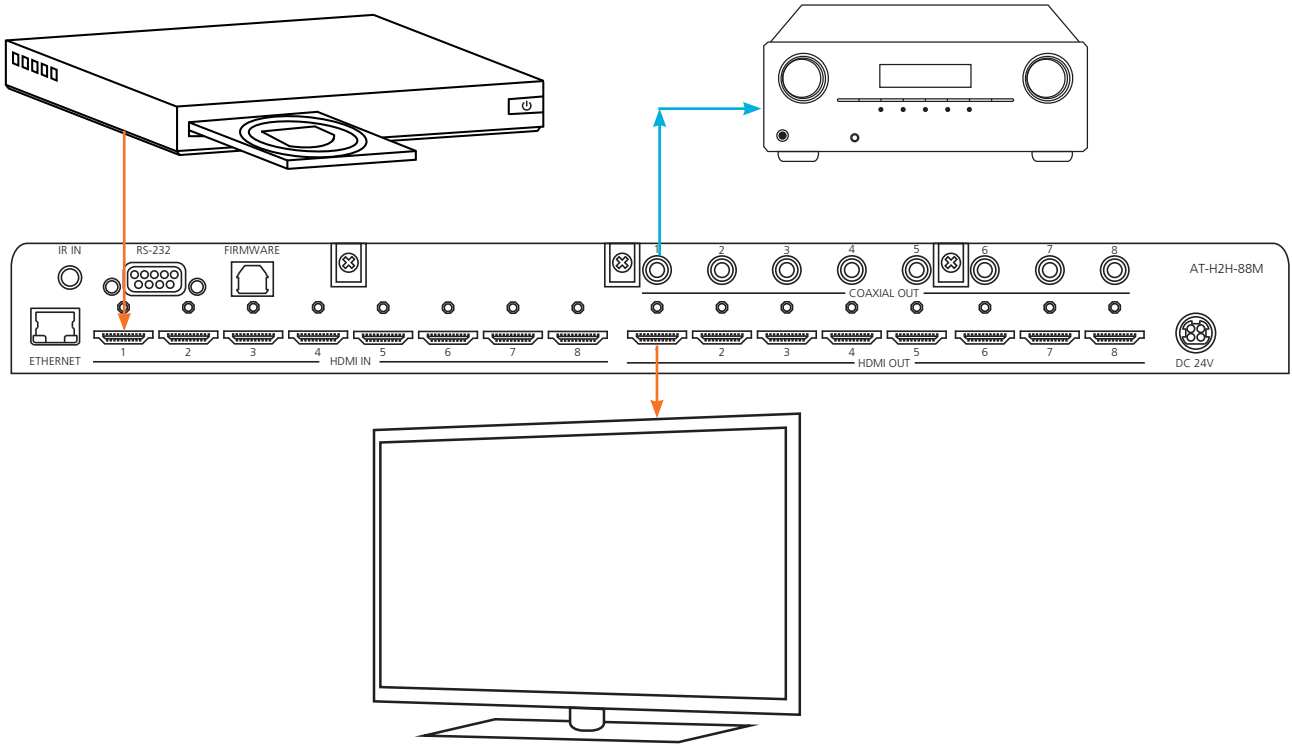
Matrix source audio loop-out

By default the matrix is enabled to de-embed source audio out through the S/PDIF port to an AVR or zone amp.

NOTE: If audio does not pass through, check to make sure ARC is turned off.

NOTE: HD audio formats are not supported through S/PDIF.

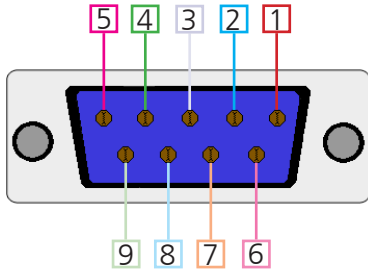
Ex. Dolby TrueHD or DTS-HD Master Audio



RS-232

Connection

RS-232 is connected through a 9-pin female DB connector. Only pins 2, 3, and 5 are terminated.



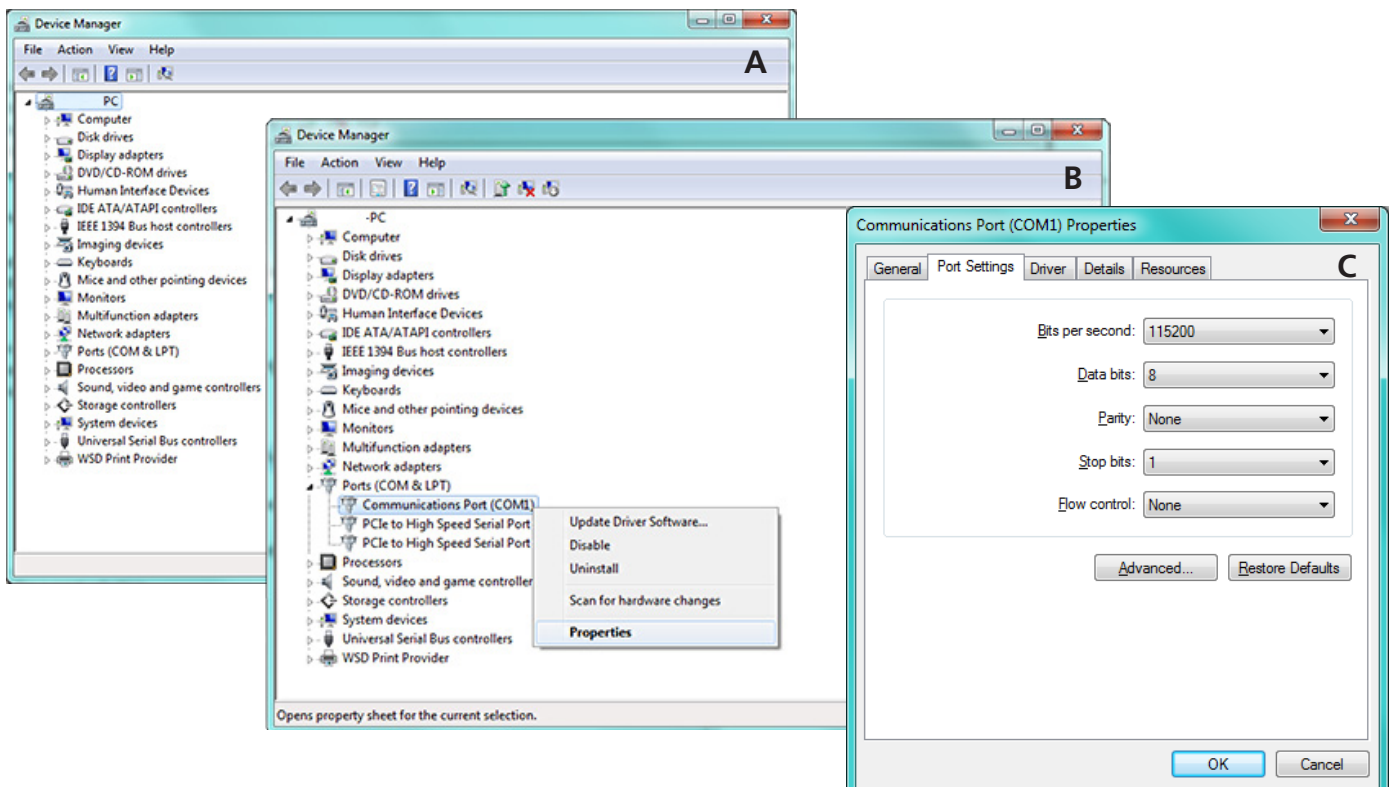
No.	Pin	Function
1	----	Not used
2	Tx	Transmit
3	Rx	Receive
4	----	Not used
5	Gnd	Ground
6	----	Not used
7	----	Not used
8	----	Not used
9	----	Not used

Set Up

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

1. Connect the matrix to a PC using a 9pin to 9pin cable
2. Go to the Device manager folder (see picture A)
3. Find the Matrix COM port and right click with a mouse and select properties (see picture B)
NOTE: If unsure which COM port is the matrix, unplug the 9pin 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 **matrix 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 matrix now.



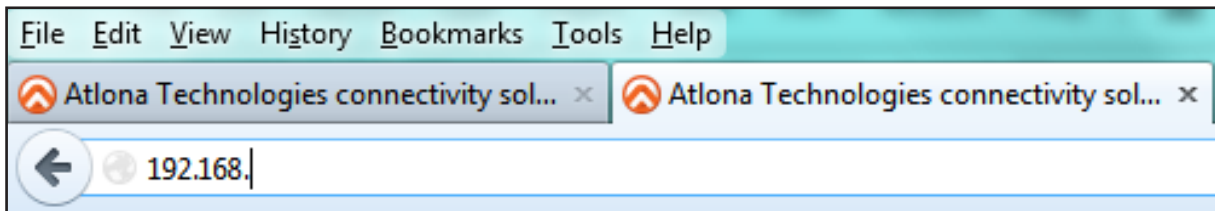
TCP/IP

For convenience, the matrix comes with DHCP default on. This enables the matrix to be connected to a network or network device with no worries of the IP overriding another device.

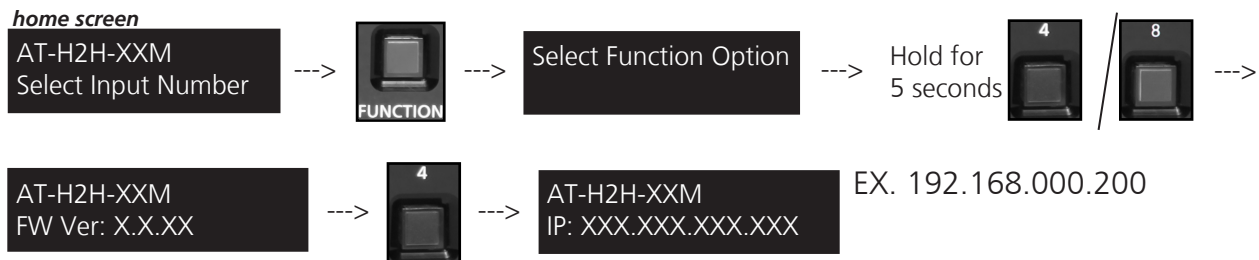
TCP/IP WebGUI

Atlona has created an easy to use WebGUI for changing settings and controlling the matrix.


To begin, plug a LAN cable into the matrix and your network, then type the IP address of the matrix into a web browser (as seen below).



To find the matrix IP:



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



AT-H2H-88M Login

Please input username and password.

Username:

Password:

[Login](#) [Clear](#)


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


Note: Only the admin password can be changed (see page 20). The username will always remain "root".

Note: H2H-44M and H2H-88M screen shots will display alternately to show both GUIs

The home screen tab will display the general system information. If the matrix is powered off the FPGA will not display (see first image). Once the power is on it will display (see second image).

Note: When the matrix is turned off many fields within the WebGUI will not display information. Be sure the matrix is powered on for complete access.

 AT-H2H-44M		
Home	Network Setup	Status/Setting
Model:	AT-H2H-44M	
Firmware Version:	0.3.17	
FPGA Version:	Please turn on the power	
Hardware Version:	A	
MAC Address:	B8-98-B0-00-00-00	

 AT-H2H-88M		
Home	Network Setup	Status/Setting
Model:	AT-H2H-88M	
Firmware Version:	0.3.17	
FPGA Version:	0.5.00	
Hardware Version:	A	
MAC Address:	B8-98-B0-00-00-00	

ATLONA		AT-H2H-44M Setup	
<u>Home</u>	Network Setup	<u>Status/Setting</u>	
DHCP	<u>ON</u>	OFF	
IP Address	<input type="text" value="192.168.000.200"/>		
Subnet	<input type="text" value="255.255.255.000"/>		
Gateway	<input type="text" value="192.168.000.001"/>		
Telnet Port	<input type="text" value="23"/>		
Login Mode	<u>ON</u>	OFF	

The network set up page will allow the IP information to be changed. When a change is made the screen will grey and the ability to save or cancel will display at the bottom (see below).

Note: When DHCP is on, the IP cannot be configured. Turn DHCP off to enable IP configuration.

Note: For a stable connection, when using a control system it is best to set up a static IP.

ATLONA		AT-H2H-88M Setup	
<u>Home</u>	Network Setup	<u>Status/Setting</u>	
DHCP	<u>ON</u>	OFF	
IP Address	<input type="text" value="192.168.000.200"/>		
Subnet	<input type="text" value="255.255.255.000"/> x		
Gateway	<input type="text" value="192.168.000.001"/>		
Telnet Port	<input type="text" value="23"/>		
Login Mode	<u>ON</u>	OFF	
		<u>Save Setting</u>	<u>Cancel</u>

Note: Be sure to save all changes before moving to the next page

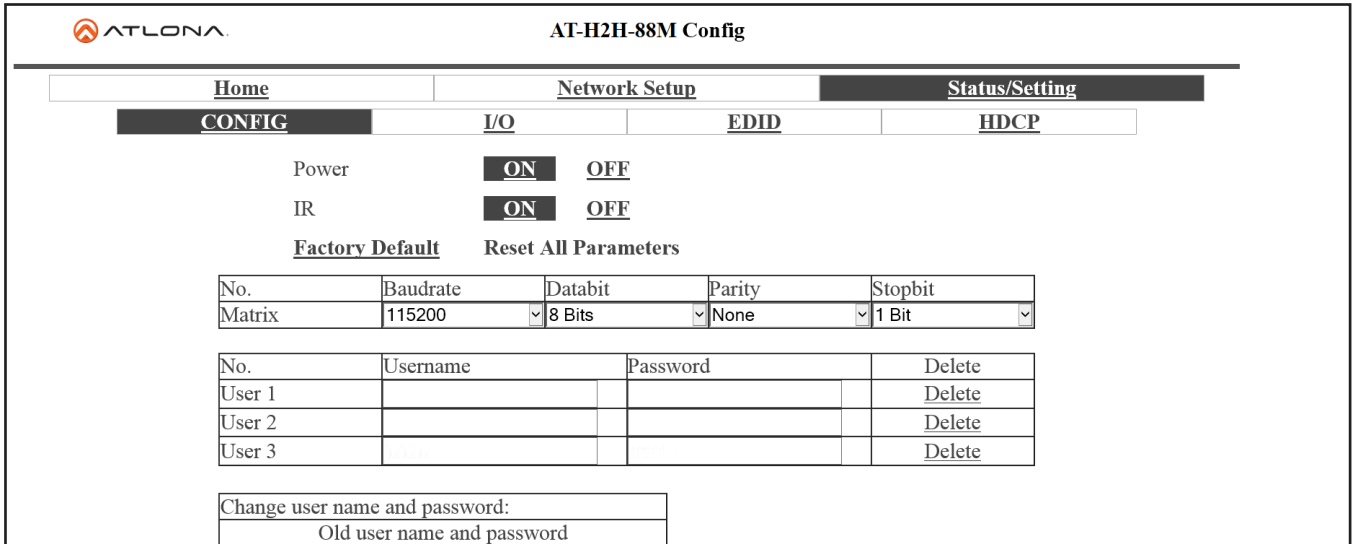
Login Mode has been added to provide a secure telnet login. Once Login Mode has been turned on a username and password will be required on all IP connections to the matrix.

Note: Login Mode should not be used when using a control system.

Note: The username and password used in IP Login Mode will be the same login information as the WebGUI

The config page under status/setting will allow power to be turned off/on, the front IR window to be turn off/on (see page 4), and the matrix baud rate to be changed.

Note: Default baud rate of the matrix has been set for the best compatibility with other devices (i.e. projectors). Baud rates should not be changed unless an incompatibility occurs.



AT-H2H-88M Config

Home | Network Setup | Status/Setting

CONFIG | I/O | EDID | HDCP

Power ON OFF

IR ON OFF

Factory Default **Reset All Parameters**

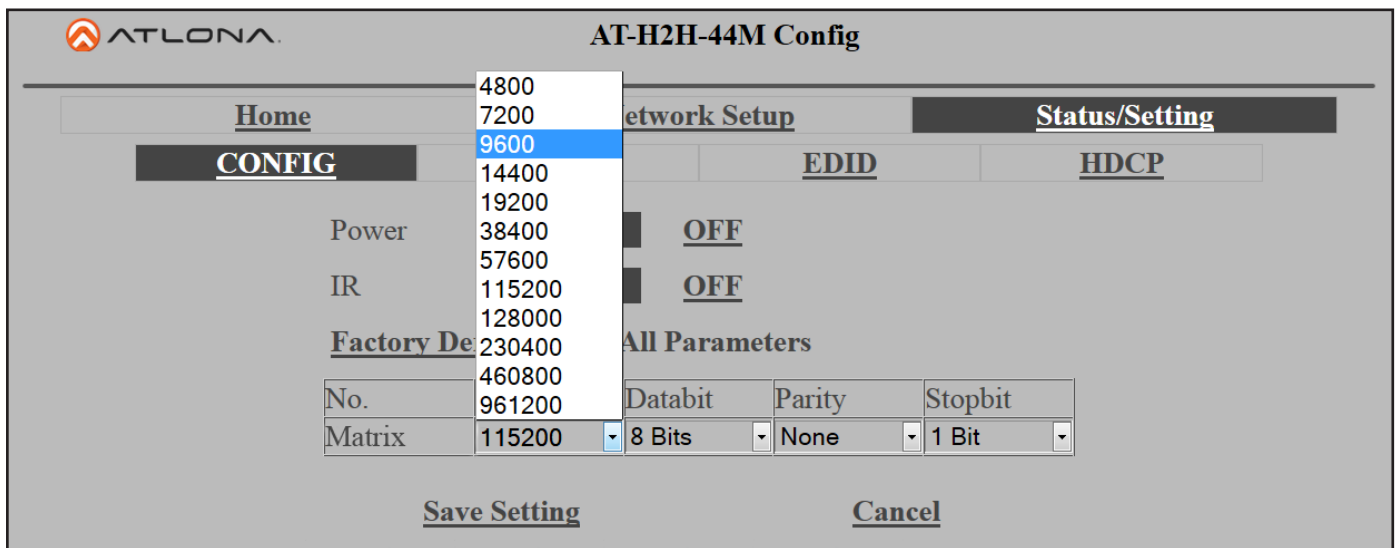
No.	Baudrate	Databit	Parity	Stopbit
Matrix	115200	8 Bits	None	1 Bit

No.	Username	Password	Delete
User 1			Delete
User 2			Delete
User 3			Delete

Change user name and password:
Old user name and password

A grey screen will display the save and cancel options when making changes. Remember to save all settings before moving on to the next page.

Note: All like fields can be changed during one edit.



AT-H2H-44M Config

Home | Network Setup | Status/Setting

CONFIG | EDID | HDCP

Power OFF

IR OFF

Factory De **All Parameters**

No.	Baudrate	Databit	Parity	Stopbit
Matrix	115200	8 Bits	None	1 Bit

Save Setting **Cancel**

Adding, deleting, and updating users can also be done from the config page. User changes can only be done by the admin. Admin user name is always "root" and default password is "Atlona".

Note: Only the admin password can be changed. The username will always remain "root"

No.	Username	Password	Delete
User 1			Delete
User 2			Delete
User 3			Delete


Change user name and password:	
Old user name and password	
Username	<input type="text"/>
Password	<input type="text"/>
New user name and password	
Username	<input type="text"/>
Password	<input type="text"/>
PW again	<input type="text"/>

Note: Always remember to save settings before moving to the next page

No.	Username	Password	Delete
User 1	Atlona	Matrix	Delete
User 2	Pro3	RS-232	Delete
User 3			Delete

Change user name and password:	
Old user name and password	
Username	<input type="text" value="root"/>
Password	<input type="text" value="Atlona"/>
New user name and password	
Username	<input type="text" value="root"/>
Password	<input type="text" value="*****"/>
PW again	<input type="text" value="*****"/>


The I/O page allows input and output routes to be changed easily by drop down menu. Output All will route one selected input to all the outputs.

 **AT-H2H-44M Status**

<u>Home</u>	<u>Network Setup</u>	Status/Setting
<u>CONFIG</u>	I/O	<u>EDID</u>
		<u>HDCP</u>

Output 1		Input 2
Output 2		Input 1
Output 3		Input 1
Output 4		Input 1
Output All		None

Note: All routes can be changed while in the grey edit screen. Remember to save after all changes have been made.

 **AT-H2H-88M Status**

<u>Home</u>	<u>Network Setup</u>	Status/Setting
<u>CONFIG</u>	I/O	<u>EDID</u>
		<u>HDCP</u>

Output 1		Input 6
Output 2		Input 3
Output 3		Input 6
Output 4		Input 6
Output 5		Input 3
Output 6		Input 6
Output 7		Input 6
Output 8		Input 6
Output All		None

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

For compatibility and ease of use, EDID configuration has been added. Each input has a drop down selection for internal, default, and saved EDIDs (see pages 9-11 for EDID information).

Note: When saving an EDID to memory through the WebGUI, the output will save to the corresponding memory. **Ex.** Output 2 will only save to Memory 2

ATLONA AT-H2H-44M EDID				
Home		Network Setup		Status/Setting
CONFIG		I/O	EDID	HDCP
Input	Input EDID	Output	Display's EDID	Save Display's EDID to:
Input 1	ATL 1080P 2CH	Output 1	E3D420VX	Memory 1
Input 2	ATL 1080P 2CH	Output 2	No connection	Memory 2
Input 3	ATL 1080P 2CH	Output 3	SONY TV	Memory 3
Input 4	ATL 1080P 2CH	Output 4	SAMSUNG TV	Memory 4

Internal EDIDs (see page 11) provide 12 options for video and audio to ensure compatibility and reliability.

Auto default mode will choose the highest common video resolution and audio format that is supported by all outputs.

Each EDID saved to memory will be noted as MM and the number of its output.

**Clicking on the Display's EDID link will provide a breakdown of the selected output's EDID

Note: MM#s in the picture above are examples of saved EDIDs

Note: Remember to save after all changes to ensure complete compatibility.

ATLONA AT-H2H-88M EDID				
Home		Network Setup		Status/Setting
CONFIG		I/O	EDID	HDCP
Input	Input EDID	Output	Display's EDID	Save Display's EDID to:
Input 1	ATL 1080P 2CH	Output 1	<u>E3D420VX</u>	Memory 1
Input 2	ATL 1080P 2CH	Output 2	No connection	Memory 2
Input 3	ATL 1080P Multi CH	Output 3	<u>SONY TV</u>	Memory 3
Input 4	ATL 1080P DD	Output 4	<u>SAMSUNG</u>	Memory 4
Input 5	ATL 1080P 3D 2CH	Output 5	No connection	Memory 5
Input 6	ATL 1080P 3D DD	Output 6	No connection	Memory 6
Input 7	ATL 720P 2CH	Output 7	No connection	Memory 7
Input 8	ATL 720P DD	Output 8	No connection	Memory 8
	ATL 1280x800 RGB 2CH			
	ATL 1366x768 RGB 2CH			
	ATL 1080P DVI			
	ATL 1280x800 RGB DVI			
	Default			
	(MM1)E3D420VX			
	(MM2)Unknown			
	(MM3)SONY TV			
	(MM4)SAMSUNG TV			
	(MM5)Unknown			
	(MM6)Unknown			
	(MM7)Unknown			
	(MM8)Unknown			

The HDCP page will display the output's ability to support HDCP content or not.

Several messages will appear under different circumstances:

Supported - HDCP is supported by the display

Not Supported - The display is unable to support HDCP

Non-HDCP Source - A source that does not support HDCP

No connection - If no source is selected/connected, HDCP status cannot be determined

ATLONA		AT-H2H-88M HDCP		
<u>Home</u>		<u>Network Setup</u>		<u>Status/Setting</u>
<u>CONFIG</u>		<u>I/O</u>	<u>EDID</u>	<u>HDCP</u>
	Output 1		Supported	
	Output 2		No connection	
	Output 3		Non-HDCP Source	
	Output 4		Supported	
	Output 5		No connection	
	Output 6		Supported	
	Output 7		No connection	
	Output 8		No connection	

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 (ex. Power is on = 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 (in3 to out3)
x1\$	x1\$	Turns off output channel (to turn off output 3 = x3\$)
x1All	x1All	Sets selected input to all outputs (x3All would set input 3 to all)
x1AVx2	x1AVx2	Switch input to output (input 3 to output 2 = x3AVx2)
x1AVx2,x3,x4	x1AVx2,x3,x4	Switch input to multiple outputs (input 3 = x3AVx1,x2)
IRON	IRON	Turns on the IR receiver
IROFF	IROFF	Turns off the IR receiver
Statusx1	x7AVx1	Shows what input is connected to selected output
Status	x1AVx1,x2AVx2, x3AVx4,	Displays which inputs are currently connected to which outputs
SaveY (ex. Save2)	SaveY (ex. Save2)	Saves settings for future use, preset options 0 to 4
RecallY (ex. Recall2)	RecallY (ex. Recall2)	Recalls saved settings for the number you selected
ClearY (ex. Clear2)	ClearY (ex. Clear2)	Erases the save for the number you selected
Mreset	Mreset	Sets matrix back to the default settings

Each command or feedback is terminated with a carriage return.

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

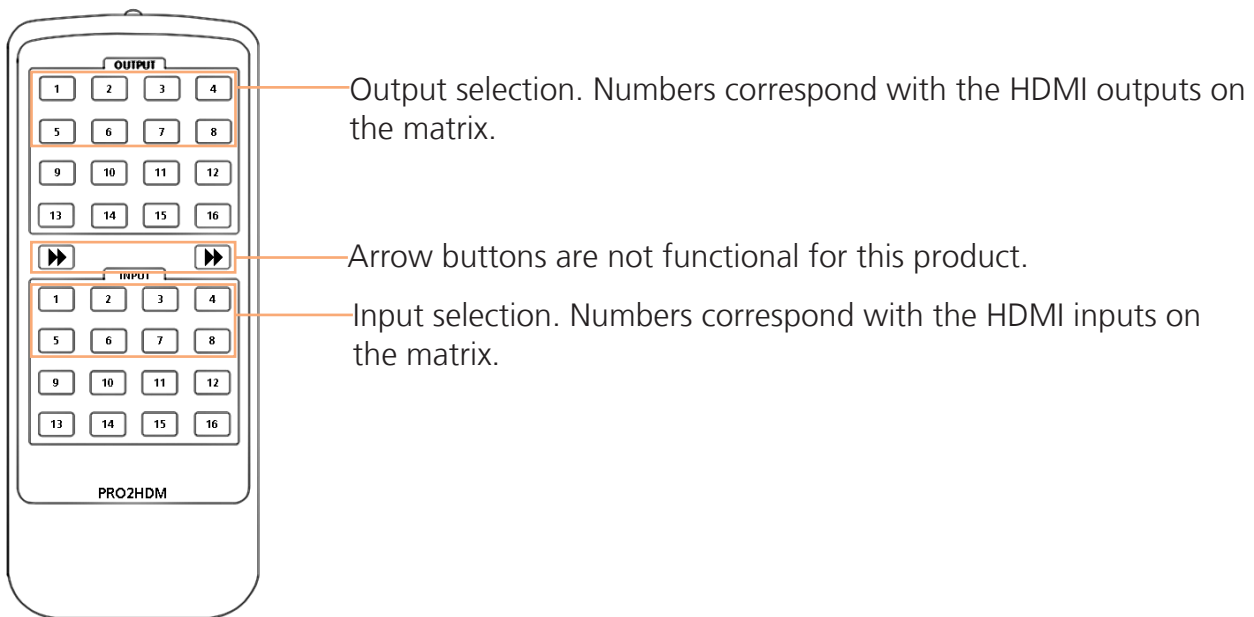
TCP/IP Commands

Command	Feedback	Description
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	IPTimeout XX (Ex. IPTimout120)	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)

TCP/IP Commands Cont.

IPDelUser [X]	TCP/IP user was deleted	Delete a user from TCP/IP X=User (Ex. IPDelUser Atlona)
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 Ex. 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 Ex. IPLogin on	Displays IPLogin status
IPLogin on	IPLogin on	Enables IPLogin
IPLogin off	IPLogin off	Disables IPLogin
Broadcast sta	Broadcast sta	Displays broadcast mode status
Broadcast on	Broadcast on	Enables broadcast mode
Broadcast off	Broadcast off	Disables broadcast mode

Remote Control



Updating and Resetting

Updating firmware

Atlona has made field firmware updating easy. Simply download firmware from Atlona.com and upload the file to the matrix.

NOTE: Only use a Windows computer to update the matrix. Use of an Apple computer to update will cause the matrix to be unusable until the update is redone with a Windows computer.

Needs:

- Verify the current firmware version
- RS-232 9 Pin to 9 Pin cable.
- PC (not compatible with MAC)
- OS that supports USB mass storage devices
- USB A to USB B cable (i.e. AT11008)

To **view** the current firmware use RS-232 command "**Version**" or front panel (see page 12).

Preparing the Matrix:

- Unplug the power cable.
- Hold the Cancel button while plugging the power back in.
- Connect the USB B to USB A cable into the Matrix and the Computer.

Updating the Matrix:

The computer should auto detect the connection, if it does not, open the USB device from "my computer".

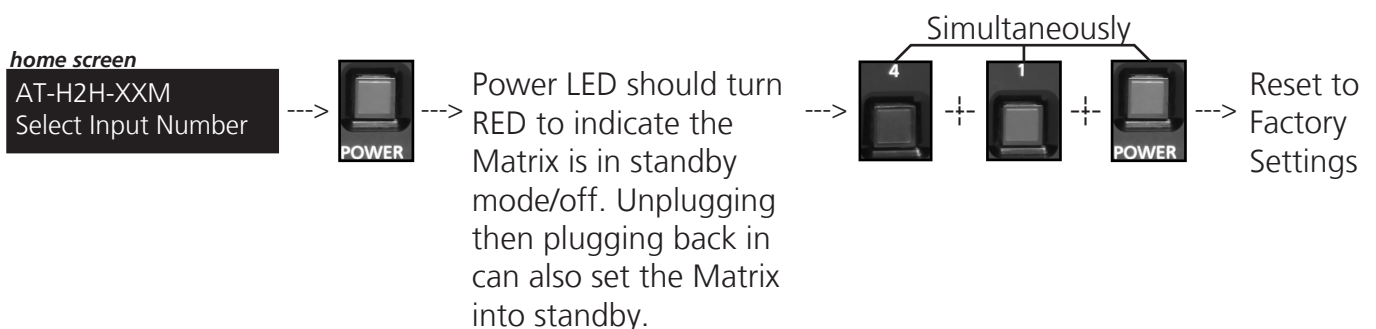
- Click open in a new folder. (if auto run detects connection)
- Delete the file in the folder. (there should be only one file, if more, delete all files)
- Copy and Paste the new firmware file into the USB folder.
- Unhook the Matrix from the computer.
- Unplug the power cable from the AT-H2H
- Plug the power back in and start the matrix normally. Your update should be complete

If you wish to verify the new firmware, use the RS-232 command "**Version**".

Resetting to factory settings

Atlona understands that settings can be troublesome and at times its just easier to set things back to factory settings. To make things easier a simple one step reset was created.

To reset the matrix, hold down the buttons 1 and 4 while powering on. If successful the matrix will be back to factory settings when it turns on.



Specifications

Bandwidth	6.75Gbps	
Ports	AT-H2H-44M	AT-H2H-88M
Video input	4 x HDMI	8 x HDMI
Video output	4 x HDMI	8 x HDMI
Audio output	4 x S/PDIF	8 x S/PDIF
IR input	1 x 3.5 mm	1 x 3.5 mm
Control: RS-232	1 x 9pin (RS-232)	1 x 9pin (RS-232)
Control: TCP/IP	1 x RJ45	1 x RJ45
Firmware update	1 x USB B	1 x USB B
Power Consumption	20.6W	33.8W
Audio	Passes up to Dolby TrueHD or DTS-HD Master Audio	
Resolution	Video: up to 1080p@60Hz VESA: up to 1920x1200	
Dimensions	1.74 x 17.25 x 10 (inch) 44.2 x 438 x 254 (mm)	
Weight	AT-H2H-44M 6.45 lbs 2.93 kg	AT-H2H-88M 6.95 lbs 3.15 kg
Rack Size	1 U, 19 in. standard electronics rack	
Temperature	Operating 32°F to 104°F 0°C to 40°C	Storage 4°F to 140°F 20°C to 60°C
Certifications	CE, FCC, RoHS, cULus for power supplies	

Safety Information

Safeguards



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



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



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



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

Precautions

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

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

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

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

Avoid excessive humidity, sudden temperature changes or temperature extremes.

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

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

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

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

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

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

Coverage

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

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

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

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