



User Manual

ATLONA

8-INPUT TO 8-OUTPUT HDMI 1.3 MATRIX SWITCHER AT-HD-V88M

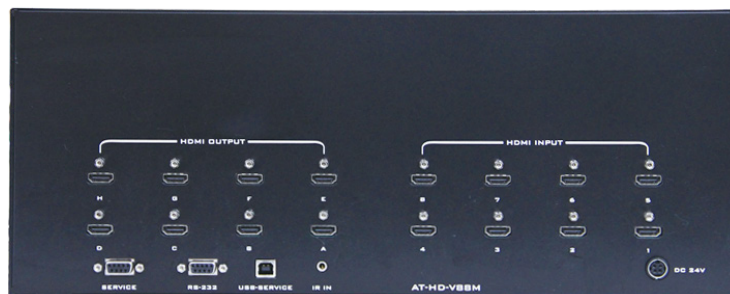


TABLE OF CONTENTS

- 1. Introduction 3
- 2. Applications 3
- 3. Package Contents 3
- 4. System Requirements 3
- 5. Features 4
- 6. Specification 4
- 7. Operation Control 5
 - 7.1 Front Panel 5
 - 7.1.1. Troubleshooting 6
 - 7.2 Rear Panel 7
- 8. Remote Control 7
 - 8.1. IR Custom Code 6
 - 8.2. Discrete IR codes for 8x8 HDMI matrix (IR3)..... 8
 - 8.3. IR Pin Assignment 8
 - 8.4. RS-232 Protocols 9
 - 8.4.1. Pin Assignment 9
 - 8.4.2. Commands 9
- 9. Connection and Installation 11
- 10. Rack Installation Guideline 12
- 11. Safety Information 13
- 12. Warranty 14
- 13. Atlona Product Registration 15

INTRODUCTION

Atлона Technologies' AT-HD-V88M is an 8x8 HDMI Matrix Switcher designed to work as a switcher for multiple Audio/Video sources and displays. This Atлона matrix unit is capable of switching HDMI signals between eight sources and eight displays. Because it is a matrix switch, any or all of the 8 inputs can simultaneously be switched to any or all of the outputs. Along with supporting HDMI 1.3, HDCP 1.1 and DVI 1.0, this device will support high definition video in multiple resolutions of up to 1080p or 1920x1200. The input EDID of this unit is independent, allowing each input to switch between the TV EDID or pre-recorded EDID information. With manual, RS232, as well as IR Remote control options, Atлона's AT-HD-V88M Matrix Switcher is perfect for all applications involving HDMI devices, PC monitors, Plasma TV displays and HDTVs.

APPLICATIONS

- Commercial and Residential Integration
- Event entertainment integration
- Multi-task project presentation
- Showroom display
- Advertisement display control

PACKAGE CONTENTS:

- AT-HD-V88M Unit
- Remote Control
- 24V DC power adaptor
- Power cord
- Operation Manual

SYSTEM REQUIREMENTS:

HDMI input device(s) and HDMI output device(s) with HDMI cables.

FEATURES:

- HDMI 1.3, HDCP 1.1 and DVI 1.0 compliant
- Supports digital video formats in Deep Color 10 bits and new lossless compressed (Dolby TrueHD, Dolby Digital Plus and DTS HD Master Audio) digital audio
- The HDMI inputs clock and phase adjustments are designed for video signal quality to be the same as prior connecting to the matrix.
- Switcher has a preset memory function, which allows user to create multiple presets and recall them when required.
- System Lock function, allows to lock the controls on the front panel
- Compatible with all HDMI sources and displays
- Switcher supports a wide range of PC and HDTV resolutions from 640x480 to 1920x1200 and 480i to 1080p
- Switcher could be controlled through RS232, IR or manual controls on the front panel
- IR input allows users to extend IR signal further away from the switch
- Dolby Digital, DTS digital audio transmission (32-192 kHz Fs sample rate)
- Supports LPCM 7.1 channels output from each independent HDMI ports
- HDMI cable distance test with 1080p at full bitrates, the Input/ Output can run up to 35ft input/50ft output or 50ft input/35ft output
- Independent switchable EDID function for choosing the native resolution of the display
- High Quality Silicon Image Chip-sets are used on all the inputs/outputs of the switcher
- IR frequency is 20 to 60kHz
- Rack Mountable design for easy installation (2U)
- Useful hot keys for quick set up
- Firm housing structure with intensify placement allowing heat dispensing

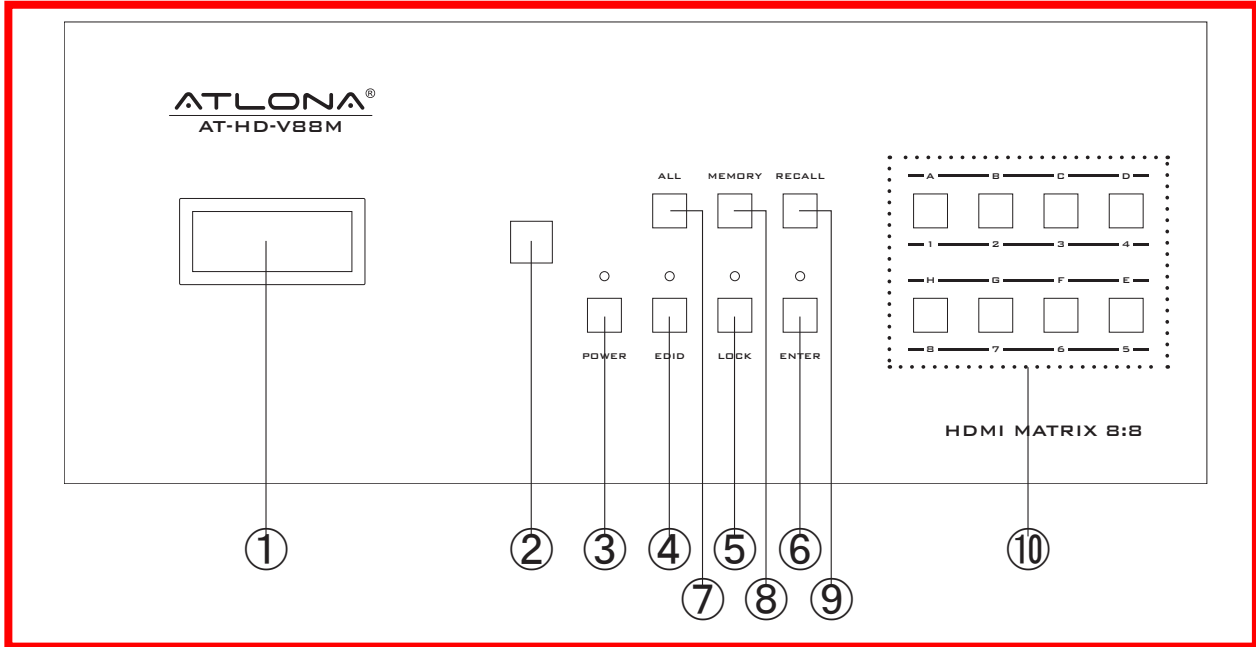
SPECIFICATIONS:

Inputs	8 x HDMI
Outputs	8 x HDMI
IR Frequency	20~60KHz
Power Supply	24VDC/6.25A (Universal)
ESD Protection	Human body model: $\pm 10\text{kV}$ (air-gap discharge) $\pm 6\text{kV}$ (contact discharge)
Dimensions (mm)	482(W) x385(D) x 176(H)
Weight(LB)	19.8
Chassis Material	Aluminum
Silkscreen Color	Metal Black
Power Consumption	100W
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Relative Humidity	20~90% RH (no condensation)

OPERATION CONTROLS

The following sections describe the hardware components of the unit.

7.1. Front Panel



1. Display: displays setting information with each output and input selection.

2. IR sensor.

3. POWER: Press this button to turn the switcher ON. When switcher is ON the LED will illuminate GREEN. Press it again to enter into STANDBY mode, the LED will illuminate in RED.

4. EDID: Press this button to select the EDID function from the Display. There will be two selections available shown on the display: **1. Standard Mode** and **2. TV Mode**. Press the number key to select the desired input first, then press 1 or 2 to select the EDID mode.

The LED will illuminate while setting the EDID. After the selection is made, press the enter key to confirm the selection. **Standard mode** means the device will use the internal built-in EDID. **TV mode** means the device will use TV or Audio Receiver EDID. Factory default setting is on TV mode.

Notes:

1. When the EDID switch is set to TV, the device will detect the first HDMI output source's EDID from A to D and record in the unit regardless of the HDMI output source from E to H. If the first detected output source is DVI, it will pass along to the next source, until the first HDMI is detected. The detection priority is HDMI v1.3 > HDMI v1.2 > DVI.

2. When the EDID is on STD, the device will use the built-in EDID Video Supports < 1080p 10 bits (max) Audio Supports = PCM2

5. LOCK: Press this button to lock all functions on the front panel and press it again to release the lock function. When the LED illuminate in GREEN, lock function is activate. If the LED is not illuminate, the key lock is released.

6. ENTER: Press this button after each and every selection to confirm the selection. If this button is not pressed after 20 second of the selection, the selection will be void.

7. ALL: Press this button to set all the outputs to display the same input. After, pressing the “All” button, press an input number and press enter to confirm the selection.

8. MEMORY: Press this button to set your desired preset (total of 6 presets). Press the desired setting number first. When all the inputs/outputs are being set, press MEMORY to record into the system.

*there are 6 settings can record into the system.

Factory default setting is 1.12345678, 2.87654321,
3.11223344, 4.55667788, 5.11221122, 6.33443344.

9. RECALL: Press this button to recall the previous preset from the memory total of 6 presets, and select from 1~6 for the desire setting. Press the enter button to confirm the selection.

10. **OUT A to H & IN 1 to 8**: Press the output source selection to correspond to the inputs. First press your output selection from A to H and wait for 2 sec. Then press the input selection again from 1 to 8 then press the enter button to confirm your setting. Each output selection only allows a single input setting each time.

7.1.1. Troubleshooting:

1. No Video Signal – please try learning EDID see. Page 4 sec. 4

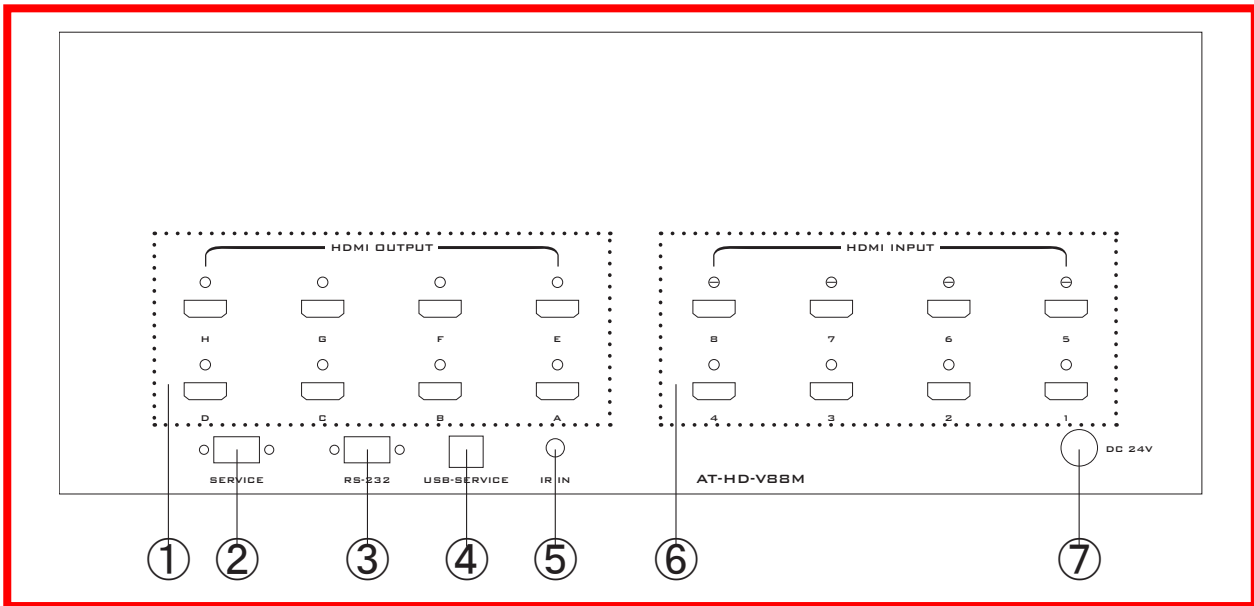
2. No Video on one of the TV's: Most likely one of the TV's has a lower resolution capability than others. The switcher has no ability to scale one output to a lower resolution, therefore the lower resolution settings would have to be forced on the source. Please switch your DVD Player or another source to the lowest displays optimal resolution. If you don't want to sacrifice the quality on all the TV's, Atlona offers HDMI Down Converter to convert the signal from (example: 1080p→720P)

3. Audio Receiver only shows Stereo or PCM – Most of TV's are only able to handle Stereo or PCM though HDMI, therefore if you had learned EDID of the TV, than that EDID mode is being used to send signal to AV Receiver. You can learn EDID of the receiver (see page 4 sec. 4); however if TV is not able to understand Digital Audio it might “Mute” or output distorted audio.

4. No Signal on any of the TV's: Make sure the Input/Output cables are working by connecting them to the sources and displays directly, bypassing the switcher

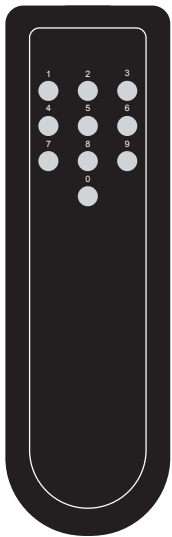
5. Not All of my sources are HDMI: The solution to it is to contact Atlona for a conversion box to convert any signal you might have to HDMI. Atlona offers a wide variety of conversion boxes specifically designed for application such as this.

7.2. Rear Panel



1. HDMI OUTPUT A - H: Used to connect to desired HDMI displays.
2. SERVICE: Used for firmware upgrading.
3. RS-232: Used for controlling the switch through serial commands.
4. USB SERVICE: Used for firmware upgrade
5. IR IN: Use to extend your IR receiver with IR extender cable that accepts only 38KHz.
6. HDMI INPUT 1 to 8: Use to connect the HDMI or DVI sources
7. DC 24V: Plug the 24V DC power supply into the unit and connect the adaptor to AC wall outlet.

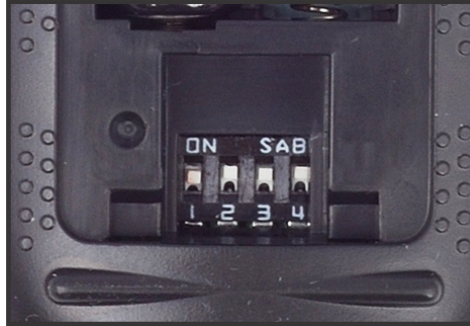
REMOTE CONTROL



This remote control can be set with multiple formats according to the dipswitch setting. There are total of four dipswitches with two types of settings. When the dip switches are all set to ON/↑ the remote control is able to control all outputs and all inputs. (For example, when output A wants to select input 5, Press 1 first, wait for a second then press 5. The output display A will display input source 5. Other settings referring to the below section are output based to control the input selections. (For example, when all the dip switches are set to OFF/↓ this setting is based on output A Which means it can only control the input selections. When output A wants to select input 3, pressing 3 only switches output display A to display input source 3's contents.)

8.1. IR Custom Code

NO.	DATA
1	88
2	89
3	8A
4	8C
5	8D
6	8E
7	90
8	91
9	92
0	95

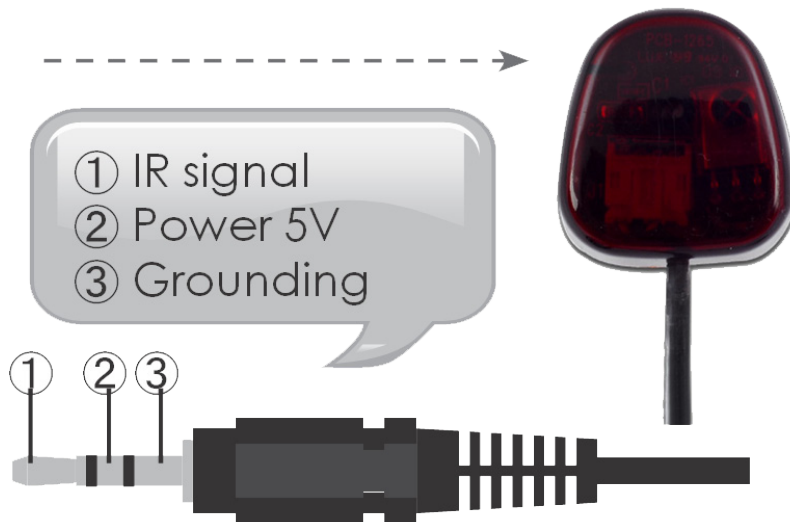


8.2. Discrete IR codes for 8x8 HDMI matrix (IR3)

Select / Dipswitch	input 1	input 2	input 3	input 4	input 5	input 6	input 7	input 8
output A ↓↓↓↓	0x88	0x89	0x8A	0x8C	0x8D	0x8E	0x90	0x91
output B ↑↓↓↓	0x88	0x89	0x8A	0x8C	0x8D	0x8E	0x90	0x91
output C ↓↑↓↓	0x88	0x89	0x8A	0x8C	0x8D	0x8E	0x90	0x91
output D ↑↑↓↓	0x88	0x89	0x8A	0x8C	0x8D	0x8E	0x90	0x91
output E ↓↓↑↓	0x88	0x89	0x8A	0x8C	0x8D	0x8E	0x90	0x91
output F ↑↑↑↓	0x88	0x89	0x8A	0x8C	0x8D	0x8E	0x90	0x91
output G ↓↓↑↑	0x88	0x89	0x8A	0x8C	0x8D	0x8E	0x90	0x91
output H ↑↑↑↑	0x88	0x89	0x8A	0x8C	0x8D	0x8E	0x90	0x91

8.3. IR Pin Assignment

IR Receiver



8.4. RS-232 Protocols

8.4.1. Pin Assignment

AT-HD-V88M			Remote Control Console	
PIN	Assignment		PIN	Assignment
1	NC		1	NC
2	Tx	→	2	Rx
3	Rx		3	Tx
4	NC		4	NC
5	GND		5	GND
6	NC	←	6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 9600 bps

Data bit: 8 bits

Parity: None

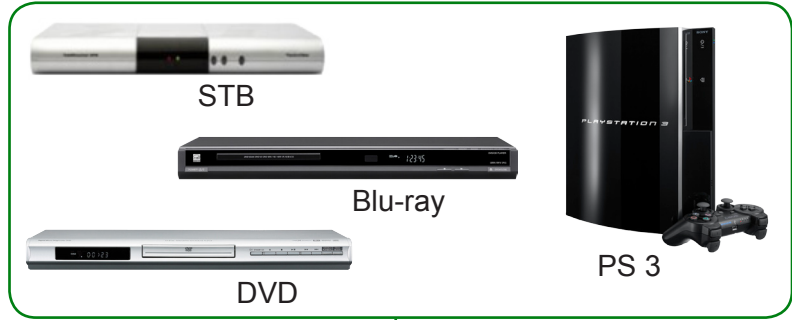
Flow Control: None

8.4.2. Commands

COMMAND	ACTION
POWER 00	Power Off (standby)
POWER 01	Power On
PORT 11	Output A select Input1
PORT 12	Output A select Input2
PORT 13	Output A select Input3
PORT 14	Output A select Input4
PORT 15	Output A select Input5
PORT 16	Output A select Input6
PORT 17	Output A select Input7
PORT 18	Output A select Input8
PORT 21	Output B select Input1
PORT 22	Output B select Input2
PORT 23	Output B select Input3
PORT 24	Output B select Input4
PORT 25	Output B select Input5
PORT 26	Output B select Input6
PORT 27	Output B select Input7
PORT 28	Output B select Input8
PORT 31	Output C select Input1
PORT 32	Output C select Input2
PORT 33	Output C select Input3
PORT 34	Output C select Input4
PORT 35	Output C select Input5

PORT 36	Output C select Input6
PORT 37	Output C select Input7
PORT 38	Output C select Input8
PORT 41	Output D select Input1
PORT 42	Output D select Input2
PORT 43	Output D select Input3
PORT 44	Output D select Input4
PORT 45	Output D select Input5
PORT 46	Output D select Input6
PORT 47	Output D select Input7
PORT 48	Output D select Input8
PORT 51	Output E select Input1
PORT 52	Output E select Input2
PORT 53	Output E select Input3
PORT 54	Output E select Input4
PORT 55	Output E select Input5
PORT 56	Output E select Input6
PORT 57	Output E select Input7
PORT 58	Output E select Input8
PORT 61	Output F select Input1
PORT 62	Output F select Input2
PORT 63	Output F select Input3
PORT 64	Output F select Input4
PORT 65	Output F select Input5
PORT 66	Output F select Input6
PORT 67	Output F select Input7
PORT 68	Output F select Input8
PORT 71	Output G select Input1
PORT 72	Output G select Input2
PORT 73	Output G select Input3
PORT 74	Output G select Input4
PORT 75	Output G select Input5
PORT 76	Output G select Input6
PORT 77	Output G select Input7
PORT 78	Output G select Input8
PORT 81	Output H select Input1
PORT 82	Output H select Input2
PORT 83	Output H select Input3
PORT 84	Output H select Input4
PORT 85	Output H select Input5
PORT 86	Output H select Input6
PORT 87	Output H select Input7
PORT 88	Output H select Input8

CONNECTION AND INSTALLATION



Up to 8 Sources



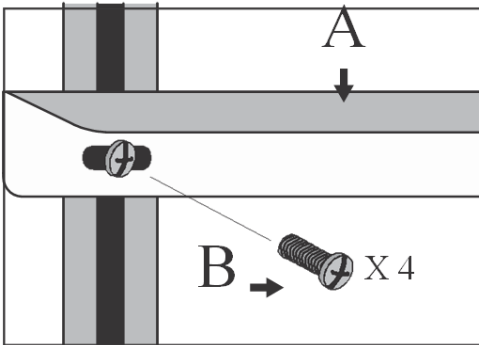
RACK INSTALLATION GUIDELINE

A L-Shape holder x 2

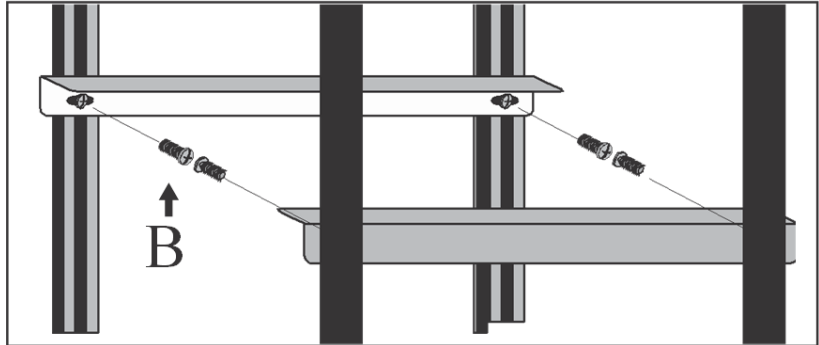


B  **Assembly Screw x 4**

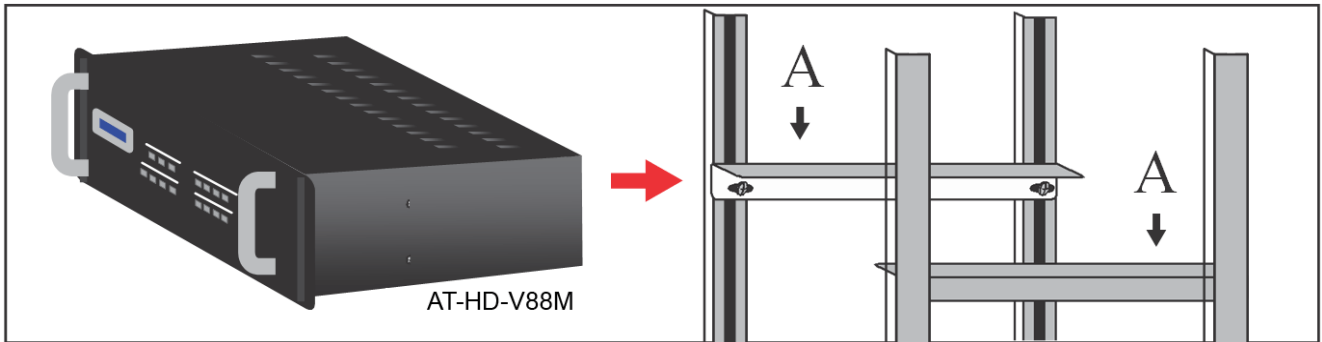
C  **Assembly Screw x 4**



1. Screw Assembly screw with L-Shape holder to rack frame



2. The Assembly screw on the same position, one on the Right side and the other on the Left side of rack frame



3. Side the unit on top of the L-Shape holder



4. Screw Assembly screw in front of the rack

SAFETY INFORMATION

Safeguards

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

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

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

This equipment should be installed near the socket outlet and the device should be easily accessible in 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 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. Do not use cleaning fluid or aerosols, which could enter the unit and cause damage, fire or electrical shock. Some substances may also mar the finish of the product.

Never open or 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 AT-HD-V88M. Opening the product will void the warranty.

Do not attempt to service the unit. Instead disconnect it and contact your Authorized ATLONA reseller or contact ATLONA directly.

1. LIMITED WARRANTY

Atlona Technologies warrants that (a) its products (the "Product") will perform substantially in accordance with the accompanying written materials for a period of 3 YEARS from the date of receipt and (b) that the Product will be free from defects in materials and workmanship under normal use and service for a period of 3 years. In the event applicable law imposes any implied warranties, the implied warranty period is limited to 3 years from the date of receipt. Some jurisdictions do not allow such limitations on duration of an implied warranty, so the above limitation may not apply to Customer.

2. CUSTOMER REMEDIES

Atlona Technologies and its suppliers' entire liability and Customer's exclusive remedy shall be, at Atlona Technologies' option, either return of the price paid for the Product, or repair or replacement of the Product that does not meet this Limited Warranty and which is returned to Atlona Technologies with a copy of Customer's receipt. This Limited Warranty is void if failure of the Product has resulted from accident, abuse, or misapplication. Any replacement Product will be warranted for the remainder of the original warranty period or 3 year, whichever is longer.

3. NO OTHER WARRANTIES

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, ATLONA TECHNOLOGIES AND ITS SUPPLIERS DISCLAIM ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH REGARD TO THE PRODUCT AND ANY RELATED WRITTEN MATERIALS. THIS LIMITED WARRANTY GIVES CUSTOMER SPECIFIC LEGAL RIGHTS. CUSTOMER MAY HAVE OTHER RIGHTS DEPENDING ON THE JURISDICTION.

4. NO LIABILITY FOR DAMAGES

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL ATLONA TECHNOLOGIES OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR INDIRECT DAMAGES FOR PERSONAL INJURY, LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, OR ANY OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OF OR INABILITY TO USE THIS PRODUCT, EVEN IF ATLONA TECHNOLOGIES HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY CASE, ATLONA TECHNOLOGIES' AND ITS SUPPLIERS' ENTIRE LIABILITY UNDER ANY PROVISION OF THIS AGREEMENT SHALL BE LIMITED TO THE AMOUNT ACTUALLY PAID BY YOU FOR THE PRODUCT. BECAUSE SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

ATLONA PRODUCT REGISTRATION

Thank you for purchasing this Atlona product — we hope you'll enjoy it.

We also hope that you'll take a 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 and assure you that your registration information is completely secure. Of course, Atlona product registration is totally voluntary and failure to register will not diminish your limited warranty rights.

To register go to www.atlona.com/registration

