

# ASP-42

**4K60 4:4:4 4x2 HDMI Matrix with USB 3.1 Capture**



## SAFETY INSTRUCTIONS

Please review the following safety precautions. If this is the first time using this model, then read this manual before installing or using the product. If the product is not functioning properly, please contact your local dealer or Aurora for further instructions.



The lightning symbol in the triangle is used to alert you to the presence of dangerous voltage inside the product that may be sufficient to constitute a risk of electric shock to anyone opening the case. It is also used to indicate improper installation or handling of the product that could damage the electrical system in the product or in other equipment attached to the product.



The exclamation point in the triangle is used to alert you to important operating and maintenance instructions. Failure to follow these instructions could result in injury to you or damage to the product.



Be careful with electricity:

- **Power Outlet:** To prevent electric shock, be sure the electrical plug used on the product power cord matches the electrical outlet used to supply power to the Aurora product. Use the power adapter and power connection cables designed for this unit.
- **Power Cord:** Be sure the power cord is routed so that it will not be stepped on or pinched by heavy items.
- **Lightning:** For protection from lightning or when the product is left unattended for an extended period, disconnect it from the power source.



Also follow these precautions:

- **Ventilation:** Do not block ventilation slots, if applicable, on the product, or place any heavy object on top of it. Blocking airflow could cause damage. Arrange components so that air can flow freely. Ensure that there is adequate ventilation if the product is placed in a stand or cabinet. Put the product in a properly ventilated area, away from direct sunlight or any source of heat.
- **Overheating:** Avoid stacking the Aurora product on top of a hot component, such as a power amplifier.
- **Risk of Fire:** Do not place unit on top of any easily combustible material, such as carpet or fabric.
- **Proper Connections:** Be sure all cables and equipment are connected to the unit as described in this manual.
- **Object Entry:** To avoid electric shock, never stick anything in the slots on the case, or remove the cover.
- **Water Exposure:** To reduce the risk of fire or electric shock, do not expose to rain or moisture.
- **Cleaning:** Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- **ESD:** Handle this unit with proper ESD care. Failure to do so can result in failure.

## FCC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two (2) conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.



## Trademarks

*All trademarks in this document are the properties of their respective owners.*

## TABLE OF CONTENTS

<b>PACKAGE CONTENTS</b>	<b>4</b>
<b>OPTIONAL ACCESSORIES</b>	<b>5</b>
<b>INTRODUCTION</b>	<b>7</b>
About	7
Features	7
ASP-42 Front	8
ASP-42 Rear	9
<b>HARDWARE INSTALLATION</b>	<b>10</b>
Mounting and Cabling	10
<b>WEB SETUP PAGES</b>	<b>11</b>
Network Settings	12
Port Settings	13
Video	14
HDMI	16
CAT5e/6/6A	17
<b>APPENDIX 1</b>	<b>18</b>
Troubleshooting	18
Capture does not show video on the PC	18
Unit does not power on	18
Unit is not responding to commands	18
<b>APPENDIX 2</b>	<b>19</b>
Firmware Update	19
<b>APPENDIX 3</b>	<b>20</b>
Technical Specifications	20
<b>APPENDIX 4</b>	<b>21</b>
Warranty	21

## PACKAGE CONTENTS

Please make sure the following items are included within your package.

- 1 QTY ASP-42
- 2 QTY Mounting Ears and screws.

*Power supplies are sold separately.*

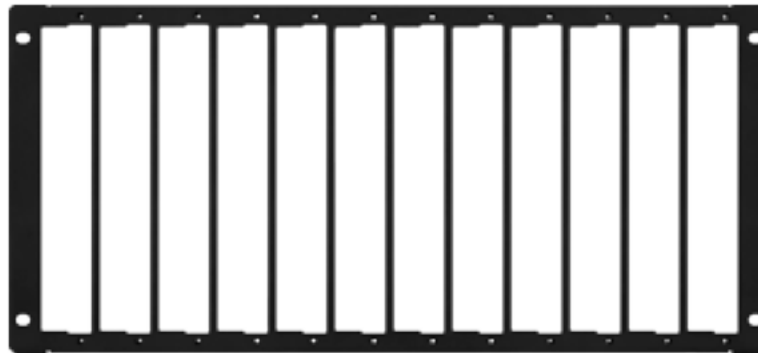
*\*Note: Go to [www.auroramm.com](http://www.auroramm.com) for the latest manual and firmware.*

## OPTIONAL ACCESSORIES

- **RK2-1-K**  
(1RU Rack Mount Holds 2 Units)  
Includes 4 rails and 1 blank



- **RK2-5-K**  
(5RU Rack Mount Holds 12 Units)  
Includes 24 rails and 4 blanks



- **RK2-BP-K**  
(Blank Plate for Rack Mounts)



- **RK2-RL-K**  
(For ASP-42 use in Rack Mounts)



- **PS0081-1**  
(48V 24-Watt PoE Injector)  
Available in –US, –AU, –EU, and –UK worldwide models



## **PS0094-3**

(48V 25-Watt Wall Supply)

Comes with US, AU, EU, and UK interchangeable blades



## INTRODUCTION

### About

The ASP-42 is a 4K60 4x2 HDMI 2.0 matrix with integrated USB 3.1 capture. The USB mirrors the second output to allow seamless capture of any of the 4 inputs to a PC or any conferencing system with USB webcam support. To further round out the product, the ASP-42 has RS-232, IR, and CEC control. Audio is important so in addition to the analog audio output, the unit has a Dante option capable of 2 or 8 channel. The LAN port allows for IP control and serves up internal control pages. The inputs can be set for auto sense or selection can be controlled through the LAN or front buttons. Perfect for Zoom™, WebEx™, and Teams™ rooms, the ASP-42 is the ultimate all in one cost effective solution.

### Features

- **4K60 4:4:4 18Gbps Uncompressed**
- **HDR (High Dynamic Range)**
- **Four HDMI® 2.0/HDCP 2.2 Compatible Inputs**
- **Auto Switching**
- **Two HDMI® 2.0/HDCP 2.2 Compatible Outputs**
- **1G PoE LAN Port Connection**
- **USB 3.1 Capture Output for Computer**
- **IP Port Expansion, RS-232 & IR Control**

## ASP-42 Front



### LEDs

- **Power:** Power will light green when unit is on or in standby.
- **Status:** Status will blink at a normal pace during regular operation and slower pace when in standby.

### OLED Display

Using the buttons as described below, the OLED display will show power state, serial number, MAC address, IP address, and subnet mask.

### Buttons

- **Menu Button:** Cycle through info screens.
- **Up Button:** Select next output. If in input selection mode, select the next input source.
- **Down Button:** Select previous output. If in input selection mode, select the previous input source.
- **Enter Button:** Confirms input selection. After selecting an output, press and hold to enable source selection.

### Miscellaneous

- **IR:** Future use.
- **Factory Reset:** Press and hold Menu and Enter for 5 seconds.



## ASP-42 Rear



### Rear

From left to right:

- **48VDC:** 48 Volt isolated power input (+/- polarity)
- **LAN Connector LED's:**
  - Left LED Green = 1G Link Speed
  - Left LED Orange = 10/100 Mbps Link Speed
  - Right LED is Orange, for general LAN Activity
- **Control RS-232:** Serial port pass-through and control up to 115Kbps.
- **Control IR Out:** Infrared control output 30kHz-60kHz. IR emitter must be 5v compatible.
- **Audio In:** Analog stereo audio input.
- **Audio Out:** Analog stereo audio output.
- **HDMI In 1-4:** Four HDMI inputs up to 4K60 4:4:4.
- **HDMI Out 1 & 2:** HDMI Outputs up to 4K60 4:4:4. Output 2 is mirrored onto the USB Capture.
- **Capture:** USB 3.1 Type B for up to 4K30 4:4:4 output. This output is mirrored from Out 2.

## HARDWARE INSTALLATION

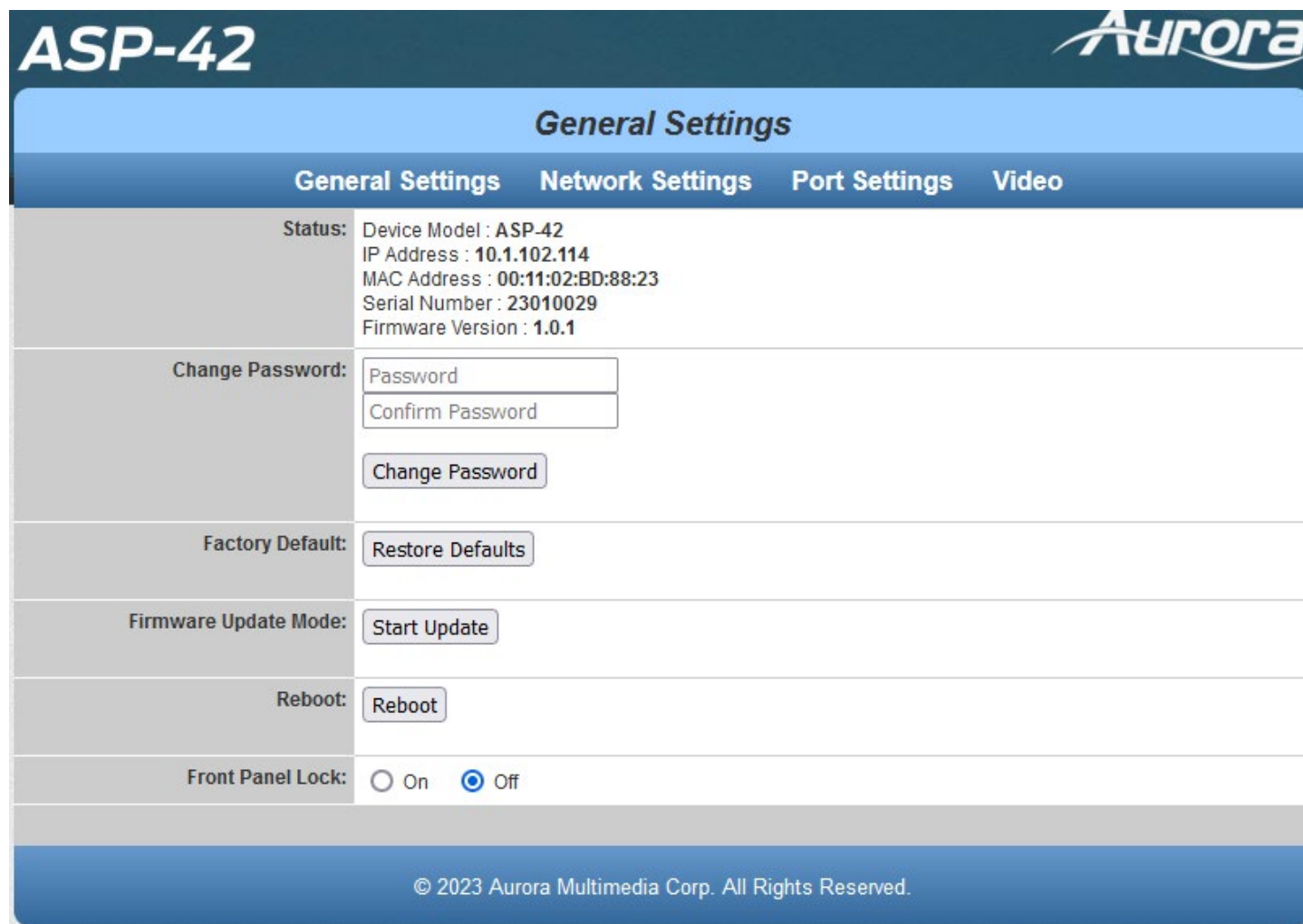
### Mounting and Cabling

1. Mount the ASP-42 according to the application. The ASP-42 comes with mounting ears for under the table or on the wall. Aurora also offers 2 rackmount options for 1RU dual side by side or a 5RU for up to 12 units.
2. Connect CAT cable RJ-45 accordingly to the network switch and to the ASP-42. If it is PoE capable it will power the ASP-42 otherwise the Aurora 48v power supply is required.
3. Connect HDMI Output connectors to one or two monitors. The outputs are capable of 4K60 4:4:4.
4. Connect the HDMI inputs to the sources. The inputs are capable of 4K60 4:4:4.
5. Connect the Capture if required to a PC using a Type B USB 3.1. Note this output is mirrored to Out 2 and can only support up to 4K30 4:4:4
6. Connect any additional requirements to the audio, RS-232, or IR connectors.

## WEB SETUP PAGES

Web Setup pages can be accessed by typing in the IP address of the unit (example: 192.168.1.100). You will then be prompted for a username and password. The default username and password are “admin.” It is highly advisable to change the units to a unique username and password for security reasons. Make certain the ASP-42 unit is connected to the 1GbE network and it has a unique IP Address or there will be communication issues. The images below may change with firmware revisions as we are always enhancing the capabilities.

### General Settings



General Settings	
Status:	Device Model : ASP-42 IP Address : 10.1.102.114 MAC Address : 00:11:02:BD:88:23 Serial Number : 23010029 Firmware Version : 1.0.1
Change Password:	<input type="password"/> <input type="password"/> <input type="button" value="Change Password"/>
Factory Default:	<input type="button" value="Restore Defaults"/>
Firmware Update Mode:	<input type="button" value="Start Update"/>
Reboot:	<input type="button" value="Reboot"/>
Front Panel Lock:	<input type="radio"/> On <input checked="" type="radio"/> Off

© 2023 Aurora Multimedia Corp. All Rights Reserved.

**Status** shows the units IP Address MAC Address, Serial Number and Firmware Version.

**Factory Default** will restore default settings to the unit.

**Firmware Update Mode** allows the user to update the unit’s firmware over TFTP.

**Front Panel Lock** disables the unit’s front buttons to prevent tampering or accidental changes.

Network Settings

ASP-42

Aurora

Network Settings

General Settings

Network Settings

Port Settings

Video

Current Network Settings:

IP Address : 10.1.102.114  
Subnet Mask : 255.255.255.0  
Gateway : 10.1.102.1  
MAC Address : 00:11:02:BD:88:23

Network Configuration:

Mode

☐ Static

☒ DHCP

☐ Auto-IP

Static IP Address

192

168

1

10

Subnet Mask

255

255

255

0

Gateway

192

168

1

1

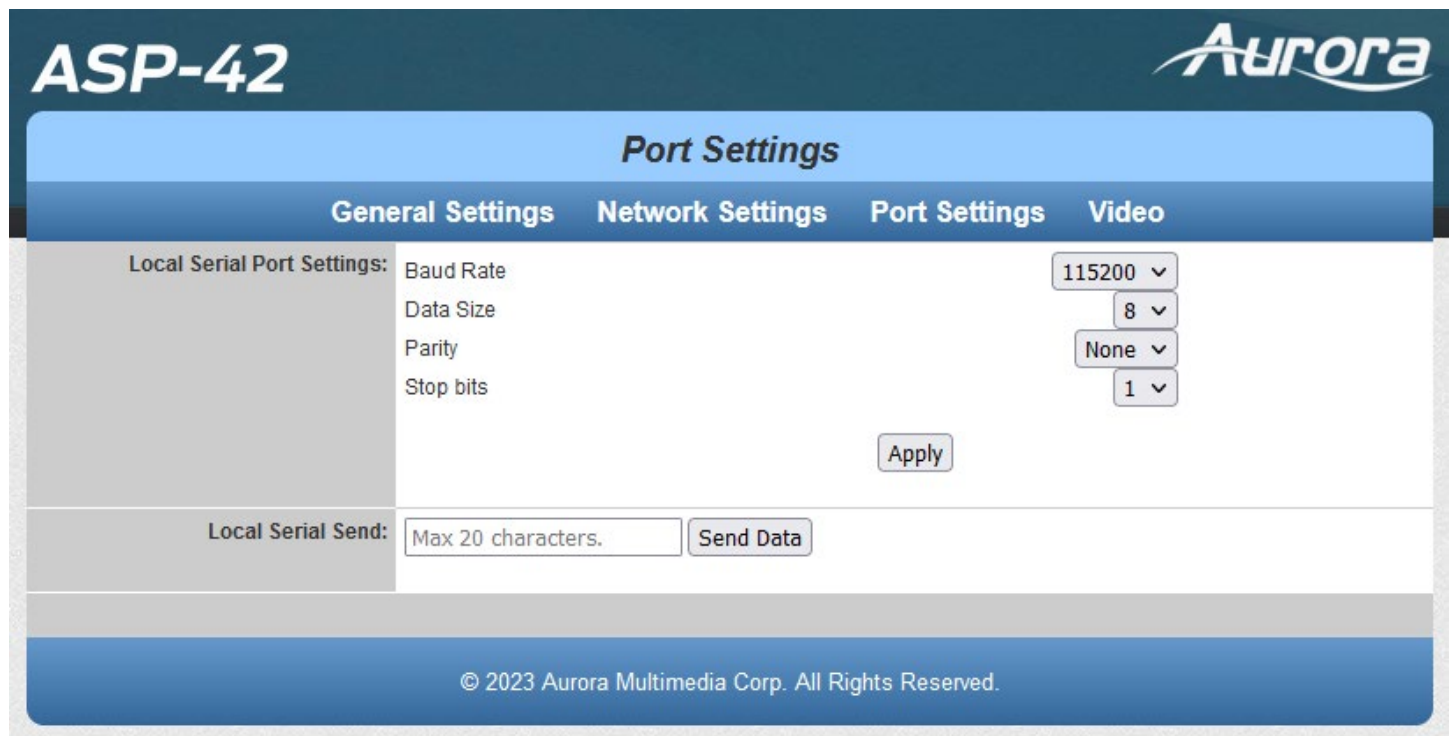
Apply Changes

© 2023 Aurora Multimedia Corp. All Rights Reserved.

**Current Network Settings** will display the unit’s current IP Address, Subnet Mask, and Gateway.

**Network Configuration** allows the user to set the unit’s IP Addressing mode. If set to static, the user can set a static IP Address, Subnet Mask, and Gateway.

## Port Settings



**Local Serial Port Settings** allow the user to set the Baud Rate, Data Size, Parity, and Stop Bits of the unit's RS-232 port.

**Local Serial Send** allows the user to send an up to a 20 character string out of the unit's RS-232 port.

## Video

ASP-42

**Video Settings**

General Settings
Network Settings
Port Settings
Video

Video Route:

OUT1	OUT2
<div style="border: 1px solid #ccc; padding: 5px; display: inline-block;">IN2 ▾</div>	<div style="border: 1px solid #ccc; padding: 5px; display: inline-block;">IN4 ▾</div>
<div style="background-color: #007bff; color: white; padding: 5px 10px; border: 1px solid #007bff;">Apply</div>	<div style="background-color: #007bff; color: white; padding: 5px 10px; border: 1px solid #007bff;">Apply</div>

Output Video Info:

	OUT1	OUT2
RESOLUTION	1920x1080	No signal
INTERFACE	HDMI	No Signal

Input Video Info:

	IN1	IN2	IN3	IN4
RESOLUTION	Not routed	1920x1080	Not routed	No Signal
COLOUR SPACE	Not routed	CbCr4:4:4	Not routed	No Signal
HDCP	Not routed	HDCP 2.2	Not routed	No Signal
HOTPLUG STATUS	Disconnected	Connected	Disconnected	Disconnected
EDID MODE	<div style="border: 1px solid #ccc; padding: 5px; display: inline-block;">LPCM ▾</div> <div style="background-color: #007bff; color: white; padding: 5px 10px; border: 1px solid #007bff;">Apply</div>	<div style="border: 1px solid #ccc; padding: 5px; display: inline-block;">LPCM ▾</div> <div style="background-color: #007bff; color: white; padding: 5px 10px; border: 1px solid #007bff;">Apply</div>	<div style="border: 1px solid #ccc; padding: 5px; display: inline-block;">LPCM ▾</div> <div style="background-color: #007bff; color: white; padding: 5px 10px; border: 1px solid #007bff;">Apply</div>	<div style="border: 1px solid #ccc; padding: 5px; display: inline-block;">LPCM ▾</div> <div style="background-color: #007bff; color: white; padding: 5px 10px; border: 1px solid #007bff;">Apply</div>

**Video Route** allows the user to set the input sent to each output.

**Output Video Info** displays the current output resolution and interface mode of each output.

**Input Video Info** displays the current resolution, hotplug status, color space, and HDCP level for each routed input. Unrouted inputs will display "Not Routed". You can also set the EDID of each input as passthrough or a custom EDID.

Auto Sense:

Mode:
☐ On
☒ Off

Out1:
IN1 Priority 
IN2 Priority 
IN3 Priority 
IN4 Priority

Out2:
IN1 Priority 
IN2 Priority 
IN3 Priority 
IN4 Priority

CEC Commands:

© 2023 Aurora Multimedia Corp. All Rights Reserved.

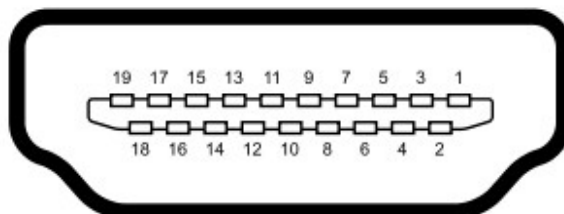
**Auto Sense** allows the user to enable automatic source selection for each output. Out 1 and Out2 can be configured independently.

**CEC Commands** allows the user to send HDMI CEC control commands to the connected display.



## CONNECTOR PIN DEFINITION

### HDMI









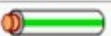




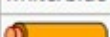
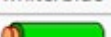
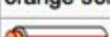
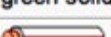
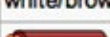
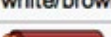
Type A (Receptacle) HDMI

<b>Pin 1</b>	TMDS Data2+	<b>Pin 8</b>	TMDS Data0 Shield	<b>Pin 15</b>	SCL
<b>Pin 2</b>	TMDS Data2 Shield	<b>Pin 9</b>	TMDS Data0–	<b>Pin 16</b>	SDA
<b>Pin 3</b>	TMDS Data2–	<b>Pin 10</b>	TMDS Clock+	<b>Pin 17</b>	DDC/CEC Ground
<b>Pin 4</b>	TMDS Data1+	<b>Pin 11</b>	TMDS Clock Shield	<b>Pin 18</b>	+5 V Power
<b>Pin 5</b>	TMDS Data1 Shield	<b>Pin 12</b>	TMDS Clock–	<b>Pin 19</b>	Hot Plug Detect
<b>Pin 6</b>	TMDS Data1–	<b>Pin 13</b>	CEC		
<b>Pin 7</b>	TMDS Data0+	<b>Pin 14</b>	Reserved (N.C. on device)		



## CAT5e/6/6A

### T568A and T568B Wiring

Pin	T568A Pair	T568B Pair	Wire	T568A Color	T568B Color	Pins on plug face (socket is reversed)
1	3	2	tip	 white/green stripe	 white/orange stripe	 Pin Position 8 7 6 5 4 3 2 1
2	3	2	ring	 green solid	 orange solid	
3	2	3	tip	 white/orange stripe	 white/green stripe	
4	1	1	ring	 blue solid	 blue solid	
5	1	1	tip	 white/blue stripe	 white/blue stripe	
6	2	3	ring	 orange solid	 green solid	
7	4	4	tip	 white/brown stripe	 white/brown stripe	
8	4	4	ring	 brown solid	 brown solid	

## APPENDIX 1

### Troubleshooting

It is advisable to make certain all units are using the latest firmware and drivers before troubleshooting.

#### Capture does not show video on the PC

- Make certain source does not exceed 4K30 4:4:4.
- Capture mirrors Out 2 so make certain source is routed to output 2.
- Verify a USB 3.1 Type B cable is used.

#### Unit does not power on

- The ASP-42 only requires standard PoE. Make certain the switch is capable of PoE.
- If using a wall supply, make certain it is an Aurora 48v Supply.

#### Unit is not responding to commands

- Check the IP address and make certain control system or controlling device is in same IP range and subnet. Also, verify they are on the same VLAN.
- Make certain there are no other devices using the same IP address.

## APPENDIX 2

### Firmware Update

For the latest firmware updates please go [www.auroramm.com](http://www.auroramm.com).

You must sign up to the Customer Portal to download firmware with instructions on how to update.

## APPENDIX 3

### Technical Specifications

Model Name	ASP-42
Technical	
HDMI Inputs	4 (HDMI 2.0b, HDCP 2.2)
HDMI Outputs	2 (HDMI 2.0b, HDCP 2.2)
Audio Analog	Stereo Line In/Out
LAN	RJ-45 10/100/1000M PoE
Video Bandwidth	600MHz
Video Resolution	Up to 4K2K 4:4:4 @ 60Hz
RS-232	Up to 115k Baud
IR	Bi-Directional
USB Connector	USB 3.1 Type B
Expansion Port	Dante® 2Ch/8Ch and ReAX™
Interface	IR, Front Buttons, Web Server
Mechanical	
Housing	Black Aluminum Enclosure
Dimensions (L x W x H)	177.04 x 104.14 x 26.42mm [6.97" x 4.10" x 1.04"]
Weight	.453kg [1lbs]
Mounting	Optional: Rack Mount Vertical, Rack Mount Horizontal, Under Table Mount
Power Supply	48v DC (2 Pin Euro) or PoE (LAN)
Power Consumption	4 Watts
Operation Temperature	0~40° C [32~104° F]
Storage Temperature	-20~60° C [-4~140° F]
Relative Humidity	20~90% RH [No Condensation]
Package Contents	1x ASP-42, 2x Mounting Ears

## APPENDIX 4

### Warranty

#### Limited 5 Year Warranty

Aurora Multimedia Corporation ("Manufacturer") warrants that this product is free of defects in both materials and workmanship for a period of 5 years as defined herein for parts and labor from date of purchase. This Limited Warranty covers products purchased in the year of 2019 and after. Motorized mechanical parts (Hard Drives, DVD, etc.), mechanical parts (buttons, doors, etc.), remotes and cables are covered for a period of 1 year. Touch screen displays are covered for 1 year; touch screen overlay components are covered for 90 days. Supplied batteries are not covered by this warranty. During the warranty period, and upon proof of purchase, the product will be repaired or replaced (with same or similar model) at our option without charge for parts or labor for the specified product lifetime warranty period.

This warranty shall not apply if any of the following:

- A. The product has been damaged by negligence, accident, lightning, water, act-of-God or mishandling; or,
- B. The product has not been operated in accordance with procedures specified in operating instructions; or,
- C. The product has been repaired and or altered by other than manufacturer or authorized service center; or,
- D. The product's original serial number has been modified or removed; or,
- E. External equipment other than supplied by manufacturer, in determination of manufacturer, shall have affected the performance, safety or reliability of the product; or,
- F. Part(s) are no longer available for product.

In the event the product needs repair or replacement during the specified warranty period, product should be shipped back to Manufacturer at Purchaser's expense. Repaired or replaced product shall be returned to Purchaser by standard shipping methods at Manufacturer's discretion. Express shipping will be at the expense of the Purchaser. If Purchaser resides outside the contiguous US, return shipping shall be at Purchaser's expense.

**No other warranty, express or implied other than Manufacturer's shall apply.**

Manufacturer does not assume any responsibility for consequential damages, expenses or loss of revenue or property, inconvenience or interruption in operation experienced by the customer due to a malfunction of the purchased equipment. No warranty service performed on any product shall extend the applicable warranty period. This warranty does not cover damage to the equipment during shipping and Manufacturer assumes no responsibility for such damage. This product warranty extends to the original purchaser only and will be null and void upon any assignment or transfer.



## Aurora Multimedia Corporation

205 Commercial Court | Morganville, NJ 07751

Phone: 732-591-5800 | Fax: 732-591-5801