



ASP-882S

8x8 4K60 HDMI Matrix with ARC





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 the 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 the product 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

PACKAGE CONTENTS	4
INTRODUCTION	5
About	5
Features	5
Front	
Rear	7
IR Remote	
IR Cable Pin Assignment	9
EDID Management	
On-panel button operation:	
WEB GUI USER GUIDE	
APPLICATION	
CONNECTOR PIN DEFINITION	21
HDMI	21
CAT5e/6/6A	
RS-232	
IR (Infrared)	
APPENDIX 1	23
Troubleshooting	23
Web Server is Not Responding	23
Display Has Image with Wrong Color	23
Audio Not Working	23
RS-232 Control is Not Working	23
APPENDIX 2	24
Firmware Update	24
APPENDIX 3	
Protocol	
APPENDIX 4	27
Technical Specifications	
APPENDIX 5	
Warranty	





PACKAGE CONTENTS

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

1x 18Gbps 8 x 8 HDMI Matrix 1x 12V/5A Power Adapter 1x IR Remote 1x IR Receiver Cable (1.5m) 1x RS-232 Serial Cable (1.5m, male to female head) 1x AC Power Cord (US, 1.5m) 2x Mounting Ear 8x Machine Screw (KM3*6) 4x Machine Screw (M3*4) 4x Rubber Foot 1x User Manual

*Note: Go to www.auroramm.com for the latest manual and firmware.



INTRODUCTION

About

The 18Gbps 8x8 HDMI Matrix supports the transmission of video (up to 4K2K@60Hz YUV 4:4:4) and multi-channel high resolution digital audio from 8 HDMI sources to 8 HDMI displays. Audio deembedded to analog and coaxial audio is supported from 8 HDMI output ports. While HDMI output ARC function is enabled, the ARC audio from HDMI display devices will be extracted to coaxial audio output. Each HDMI output of this 8x8 HDMI Matrix supports 4K2K to 1080P downscale independently. Control is via front panel buttons, IR remote, RS-232, LAN and Web GUI.

Features

- HDCP 2.2 and HDCP 1.4 compliant
- Video resolution up to 4K2K@60Hz (YUV 4:4:4) on all HDMI ports, as specified in HDMI 2.0b
- Support 18Gbps video bandwidth
- Dolby Vision, HDR10+ and HLG are supported.
- Support 4K->1080P Down Scaler for each output port
- HDMI audio pass-through up to 7.1CH HD audio (LPCM, Dolby TrueHD, and DTS-HD Master Audio)
- Audio de-embedded is supported via analog and coax ports
- ARC, CEC and smart EDID management are supported
- 1U rack mounted design with front panel OLED display
- Control via front panel buttons, IR remote, RS-232, LAN and Web GUI



Front



NO.	Name	Function Description
1	OLED screen	Display matrix switching status, input / output port, EDID, Baud rate, IP Address.
2	Power LED	The LED will light in green when the product is powered on, and red when the product is on standby.
3	IR window	IR receiver window, only receiving the IR remote signal of this product.
4	EDID button	Pressing EDID button, current mode will appear on the LCD. Press for 3 seconds, the mode will be changed between AUTO and MANUAL. Please refer to "8. EDID Management" for more detail.
5	SAVE button	 Used to set all video routing as desired. 1. Press SAVE for 3 seconds to start, and at this time the button LED is on. 2. Select the desired input and output channel within 3 seconds. The LCD will show the mapping status of input 1~8 / output 1~8. 3. Press ENTER to complete the operation. The current mapping will be saved. Note: To exit the SAVE setting, please press the SAVE button again. And it will also be cancelled if there is no operation over 3 seconds.
6	RECALL button	 Used to recall the saved preset. 1. Press RECALL to start, and at this time the button LED is on. 2. Select the input/output number 1~8 defined for the saved presets. The LCD will show the mapping status of the selected preset. 3. Press ENTER to complete the operation. The selected preset will be recalled. Note: To exit the RECALL setting, please press RECALL button again. And it will also be cancelled if there is no operation over 3 seconds.
7	ROUTE button	Press this button to route any input source to any output channel. * More detail is shown as follow.
8	ENTER button	 Lock mode: Press ENTER for 3 seconds to lock the front panel. Press for 3 seconds again to unlock. In locked mode, the LCD will show the mapping status. If any button is pressed, "Keypad Locked" will appear on the LCD. Show Network Address: Press ENTER to show the IP Address and Subnet Mask on the LCD. It will disappear in 3 seconds or after the next operation.
9	IN/OUT button (1~8)	Used to select the input source and output channel. These buttons can also be used for presets. Inputs 1~8 are presets 1~8; Outputs 1~8 are presets 9~16.



Rear



No.	Name	Function Description
1	IR EXT	If the IR receiver window of the unit is blocked or the unit is installed in a closed area out of infrared line of sight, the IR receiver cable can be inserted to the "IR EXT" port to receive the IR remote signal.
2	L/R OUT (1~8)	Analog audio output port, connected to an amplifier or speaker via a 3.5mm audio cable.
3	COAX OUT (1~8)	Coaxial audio output port, connected to audio output device such as audio amplifier via a coaxial cable.
4	LAN port	TCP/IP control port, connected to PC or router with an RJ45 cable.
5	RS-232 port	Connect to a PC or control system by D-Sub 9-pin cable to transmit RS-232 command.
6	GND	Connect the housing to the ground.
7	INPUT ports (1~8)	HDMI input ports, connected to HDMI source device such as DVD or set-top box with an HDMI cable.
8	OUTPUT ports (1~8)	HDMI output ports, connected to HDMI display device such as TV or monitor with an HDMI cable.
9	DC 12V	Connect to 12V/5A power adapter.

There are three ways of routing:

Way 1:

- 1. Press ROUTE button, and the corresponding button LEDs of the connected input and output ports will be on.
- 2. Select the desired input source, and then select an output channel to route. Currently, the LEDs of the selected input and output ports are on, and other LEDs are off.
- 3. Press ENTER to complete the routing.
- 4. Press ROUTE again to set another routing following 1~3 above.

Note: To exit the route setting, press ROUTE button again. And it will also be cancelled if there is no operation for over 3 seconds.

Way 2:

Select an input source first, and then select the desired output channel to route. Currently, the LEDs of the selected input and output are on.

Note: The route setting will be cancelled if there is no operation over 5 seconds.

Way 3:

Select an output first, and then select a desired input to route. Currently, the LEDs of the selected input and output are on. **Note:** The route setting will be cancelled if there is no operation over 5 seconds.



IR Remote



Power on or Standby: Power on the Matrix or set it to standby mode. **Input 1/2/3/4/5/6/7/8:** Select input source button.

♦ ►: Select the last or next input source button.

Output 1/2/3/4/5/6/7/8: Select output source button.

All: Select all output sources simultaneously. For example, when you press the "All" button and then press input "1"

button, at this time the input "1" source will output to all display devices.

Operation instruction: You need to press the output button first and then press the input button to select the corresponding input source. For example,

Press Output-X (X means output button from 1 to 8, including "All" button), and then press Input-Y (Y means input button from 1 to 8)

The Matrix can be selected input and output source by using the IR remote. There are two ways to receive the IR remote signal.

The first way: The IR window accepts the IR remote signal. When using the IR remote, the furthest distance is 7 meters, and the angle is $\pm 45^{\circ}$. The diagram is shown as below:





The second way: If the IR receiver window of the Matrix is blocked or the Matrix is installed in a closed area out of infrared line of sight, the IR receiver cable can be inserted to the "IR EXT" port to receive the IR remote signal. The furthest distance of using the IR remote is 7 meters and the IR remote is directly faced to the IR receiver head.

The diagram is shown below.



IR Cable Pin Assignment





EDID Management

This Matrix has 21 factory defined EDID settings, 2 user-defined EDID modes and 8 copy EDID modes. You can select defined EDID mode or copy EDID mode to input port via front panel buttons, RS-232 control or Web GUI.

On-panel button operation:

Press the EDID button for 3 seconds to switch EDID mode between AUTO and MANUAL. In auto mode, it will scan through all the outputs and compare the EDID. Then find a common denominator to apply on the inputs.

In manual mode, you can do the following operations:

1. EDID Learning

- Select the output to be learned. The LCD will show the device ID of the output.
- Select the input to learn from the output.
- Press ENTER, and the LCD will show "Success" or "Fail".
- 2. Set Default EDID
 - Select the output 1~8 for 3 seconds as the default EDID of 1~8. The LCD will show "Default + number".
 - Select the input to learn from the default EDID.
 - Press ENTER, and the LCD will show "Success" or "Fail".
- 3. Check Input EDID

Select the input, and the output number and device ID of its learned EDID will be displayed on the LCD.

RS-232 control operation: Connect the Matrix to PC with a serial cable, then open a Serial Command tool on PC to send ASCII command "s edid in x from z!" to set EDID. For details, please refer to "EDID Setting" in the ASCII command list of "10. RS-232 Control Command".

Web GUI Operation: Please check the EDID management in the "Input page" of "9. Web GUI User Guide".

	Input Setting					
tatus	mpar becong					
ideo	Inputs	Active	Name	EDID		
	HDMI 1		Input1	1080P,Stereo Audio 2.0		
nput	HDMI 2		Input2	1080P,Stereo Audio 2.0		
1.1	HDMI 3		Input3	1080P,Stereo Audio 2.0		
utput	HDMI 4	0	Input4	1080P,Stereo Audio 2.0		
EC .	HDMI 5		Input5	1080P,Steneo Audio 2.0		
	HDMI 6		Input5	1080P,Stereo Audio 2.0		
twork	HDMI 7		Input7	1080P,Stereo Audio 2.0		
stem	HDMI 8		Input8	1080P,Stereo Audio 2.0		
	Load EDID to user i Select EDID File:	nemory novec. your computer		Select Destination:	User Define 1	✓ Ujikad



The defined EDID setting list of the product is shown below:

EDID Mode	EDID Description
1	1080p, Stereo Audio 2.0
2	1080p, Dolby/DTS 5.1
3	1080p, HD Audio 7.1
4	1080i, Stereo Audio 2.0
5	1080i, Dolby/DTS 5.1
6	1080i, HD Audio 7.1
7	3D, Stereo Audio 2.0
8	3D, Dolby/DTS 5.1
9	3D, HD Audio 7.1
10	4K2K30_444, Stereo Audio 2.0
11	4K2K30_444, Dolby/DTS 5.1
12	4K2K30_444, HD Audio 7.1
13	4K2K60_420, Stereo Audio 2.0
14	4K2K60_420, Dolby/DTS 5.1
15	4K2K60_420, HD Audio 7.1
16	4K2K60_444, Stereo Audio 2.0
17	4K2K60_444, Dolby/DTS 5.1
18	4K2K60_444, HD Audio 7.1
19	4K2K60_444, Stereo Audio 2.0 HDR
20	4K2K60_444, Dolby/DTS 5.1 HDR
21	4K2K60_444, HD Audio 7.1HDR
22	USER1
23	USER2
24	Copy from hdmi output 1
25	Copy from hdmi output 2
26	Copy from hdmi output 3
27	Copy from hdmi output 4
28	Copy from hdmi output 5
29	Copy from hdmi output 6
30	Copy from hdmi output 7
31	Copy from hdmi output 8



WEB GUI USER GUIDE

The Matrix can be controlled by Web GUI. The operation method is shown as below:

Step 1: Get the current IP Address.

The default IP address is 192.168.1.100. You can get the current IP address in two ways: **The first way:** You can get the IP address via panel button. On the initial OLED display, press "ENTER" button, and the current IP address will appear on the screen.

The second way: You can get the IP address via RS-232 control. Send the command " r ipconfig!" through an ASCII Command tool, then you'll get the feedback information as shown below:

IP:192.168.62.109 in the above figure is the IP Address of the Matrix (the IP address is variable, depending on what the specific machine returns).

For the details of ASCII control, please refer to "10. RS-232 Control Command".

Step 2: Connect the TCP/IP port of the Matrix to a PC with an UTP cable and set the IP address of the PC to be in the same network segment with the Matrix.

Step 3: Input the IP address of the Matrix into your browser to enter Web GUI page.



After entering the Web GUI page, there will be a Login page, as shown below:





Select the Username from the list and enter the password. The default passwords are:

Username User Admin Password user admin

After entering the password, click the "LOGIN" button and the following Status page will appear.

Status Page

The Status page provides basic information about the Model, the installed firmware version and the network settings of the device.

ra I	8x8 Series HDMI 2.0b Matrix		🕹 Admin Log	g out
9	Status			
	Model	ASP-882S		
	Firmware Version	V1.03.01/V2.04		
	Hostname	IP-module-F2693		
	IP Address	192.168.0.100		
	Subnet Mask	255.255.0.0		
	Gateway	192.168.0.1		
	MAC Address	6C:DF:FB:0F:26:93		

Video Page

Status Switch Video Input Output	Output Output1 Output2 Output3	Input Input1 Input2	Pr	Presets Name preset1	Presets Set	Presets Save Save	Presets Clear Clear
Video Input Output	Output Output1 Output2 Output3	Input Input1 Input2		Presets Name preset1	Presets Set	Presets Save	Presets Clear Clear
Video Input Output	Output1 Output2 Output3	Input1 Input2		preset1	Set	Save	Glear
Input Output	Output2 Output3	Input2		procet2			
Output	Output3			presetz	Set	Save	Clear
Output		Input3		preset3	Set	Save	Clear
	Output4	Input4		preset4	Set	Save	Clear
CEC	Output5	Input5		preset5	Set	Save	Clear
	Output6	Input6		preset6	Set	Save	Clear
Network	Output7	Input7		preset7	Set	Save	Clear
System	Output8	Input8		preset8	Set	Save	Clear
	All Outputs	Please select					

You can do the following operations on the Video page:



- ① **Output:** The current device's OUTPUT port. You can select signal source for it.
- (2) **Input:** You can select signal source for the corresponding OUTPUT port.
- ③ Presets Name: You can name the current scene with maximum length of 12

characters (Chinese name is unsupported).

④ **Presets Set:** You can recall the settings of the last saved audio-video matrix relationship.

(5) Presets Save: You can save audio-video matrix relationship. Up to 16 presets can

be saved.

6 Presets Clear: You can clear the saved audio-video matrix relationship.

Input Page

Aurora	8x8 Series HDMI 2.0b Matrix				Admin Log out Power on
Status	Input Setting				
	Inputs	Active	Name	EDID	
Video	HDMI 1	•	Input1	1080P,Stereo Audio 2.0 🛛 🗸	
Input	HDMI 2	•	Input2	1080P,Stereo Audio 2.0 🛛 🗸	
	HDMI 3	•	Input3	1080P,Stereo Audio 2.0 🛛 🗸	
Output	HDMI 4	•	Input4	1080P,Stereo Audio 2.0 🛛 🗸	
CEC	HDMI 5	•	Input5	1080P,Stereo Audio 2.0 🛛 🗸	
	HDMI 6	•	Input6	1080P,Stereo Audio 2.0 🛛 🗸	
Network	HDMI 7	•	Input7	1080P,Stereo Audio 2.0 🛛 🗸	
System	HDMI 8	•	Input8	1080P,Stereo Audio 2.0 🛛 🗸	
	Load EDID to user m Select EDID File:	emory Brosse. our computer	Damlart	Select Destination: User Define1	V totad

You can do the following operations on the Input page:

- (1) Inputs: Input channel of the device.
- 2 Active: It indicates whether the channel is connected to a signal source.
- ③ Name: The input channel's name. You can modify it by entering the corresponding

name (max length: 12 characters) in the input box (Chinese name is unsupported).

(4) **EDID:** You can set the current channel's EDID. The specific operation is as follows:

Set EDID for the User





Click the "Browse" button, then select the bin file. If you select the wrong EDID file, there will be a prompt, as shown in the following figure:



Make sure to select the correct file, then you can check the name of the selected file. Select "User 1" or "User 2", then click "Upload". After successful setting, it will prompt as follows:



Download the EDID File of the Corresponding Input Channel

Click the drop-down box of "Select EDID File" to select the corresponding input channel. Then click "Download" to download the corresponding EDID file.

Output Page

Status							_
	Output Setting						
Video	Outputs	Cable	Name	Scaler Mode	ARC	Stream	
	Output 1	•	Output1	Bypass 🗸	OFF ON	OFF ON	
Input	Output 2	•	Output2	Bypass V	ON ON	OFF ON	
Output	Output 3	•	Output3	Bypass 🗸 🗸	OPP ON	OFF ON	
	Output 4	•	Output4	Bypass 🗸 🗸	OPP ON	OFF ON	
CEC	Output 5	•	Output5	Bypass 🗸	OFF ON	OFF ON	
Network	Output 6	•	Output6	Bypass V	OFF ON	OFF ON	
	Output 7	•	Output7	Bypass 🗸	OFF ON	OFF ON	
System	Output 8	•	Output8	Bypass 🗸	OFF ON	017 ON	

You can do the following operations on the Output page:



1) **Outputs:** Output channel of the device.

(2) **Name:** The current output channel's name. You can modify it in the input box (max length: 12 characters, Chinese name is unsupported).

③ **Cable:** It indicates the connection status of output ports. When the output port is connected to the display, it shows green, otherwise, it shows gray.

- (4) Scaler Mode: Set the current output resolution mode.
- 5 **ARC:** Turn on/off the ARC function.
- 6 **Stream:** Turn on/off the output stream.

Aurora Input Control **Output Contro** Status Video Ð Input + ▶ CEC ы 11 •• + **1**))

CEC Page

You can perform CEC management on this page:

1 **Input Control:** You can control the operation of each input source by clicking the icons on the page.

2 **Output Control:** You can control the operation of each display, such as power on/off, volume +/-, active source switching.





Network Page

A	8x8 Series HDMI 2.0b Matrix					💄 Admin	Log out	Power on
Aurora								
Status	IP Setting							
Video	IP Mode	Static DHCP						
Input	IP Address 19	2.168.0.100		Gateway	192.168.0.1			
Output	Subnet 25			Teinet Port	23			
CEC								
Network	TCP Port 80	00						
System	Web Login Setting							
	Username	User Admin						
	Old Password							
	New Password							
	Confirm Password							
	Product Model iM:	atrix H88A						
			Set Network Defaults	Save				

Set the Default Network

Click "Set Network Defaults", there will be a prompt, as shown in the following figure:



Click "OK" to search the IP Address again, as shown in the following figure:

Aurora	IP Mode	State: DHCP			
	IP Address		Gaterapy		
Status					
Video					
Input					
Output					
CEC		ung			
Network		User Admin			
System	Old Password				
	New Password				
	Report Maria				
			Set Network Definalis	w)	
	1				





After searching is completed, it will switch to the login page, the default network setting is completed.

Modify Username

Click the "User" button, enter the correct Old Password, New Password, and Confirm Password, then click "Save". After successful modification, there will be a prompt, as shown in the following figure:



Note: Input rules for changing passwords:

- (1) The password can't be empty.
- (2) New Password can't be the same as Old Password.
- (3) New Password and Confirm Password must be the same.

Modify Network Setting

Modify the Mode/IP Address/Gateway/Subnet Mask/Telnet Port as required, click "Save" to save the settings, then it will come into effect.

After modification, if the Mode is "Static", it will switch to the corresponding IP Address; if the Mode is "DHCP", it will automatically search and switch to the IP Address assigned by the router.

IP Settings				
Mode	Static	DHCP		
IP Address	192.168.1.100		Gateway	
Subnet Mask	255.255.255.0		Teinet Port	23



System Page

A	8x8 Series HDMI 2.0b Matrix	🕹 Admin Log out	Power on
Aurora			
Status	Panel Lock		
Video	OFF CN		
Input	Beep		
Output	OFF ON		
CEC	LCD		
Network	OFF Always on 15s 30s 60s		
System	Sacial Paul Pate		
	Senai Dauu Kate		
	4800 9600 19200 38400 57600 115200		
	Firmware Update		
	Browse.	Update	
	Factory Reset	Reset	
	Reboot	Reboot	

(1) **Panel Lock:** Click "Panel Lock" to lock/unlock panel buttons. "On" indicates that panel buttons are unavailable; "Off" indicates panel buttons are available.

2 **Beep:** Click "Beep" to turn on/off the beep.

- ③ LCD: You can turn on/off the LCD and set the turn-on time (15s/30s/60s).
- (4) Serial Baud Rate: Click the value to set the Serial Baud Rate.
- 5 **Firmware Update:** Click "Browse" to select the update file, then click "Update" to

complete firmware update.

- 6 Factory Reset: You can reset the unit to factory defaults by clicking "Reset".
- (7) **Reboot:** You can reboot the unit by clicking "Reboot".

Note: After reset/reboot, it will switch to the login page.



APPLICATION





The terms HDMI and HDMI High-Definition Multimedia interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.





CONNECTOR PIN DEFINITION

HDMI



Type A (Receptacle) HDMI

Pin 1	TMDS Data2+	Pin 8	TMDS Data0 Shield	Pin 15	SCL
Pin 2	TMDS Data2 Shield	Pin 9	TMDS Data0–	Pin 16	SDA
Pin 3	TMDS Data2–	Pin 10	TMDS Clock+	Pin 17	DDC/CEC Ground
Pin 4	TMDS Data1+	Pin 11	TMDS Clock Shield	Pin 18	+5 V Power
Pin 5	TMDS Data1 Shield	Pin 12	TMDS Clock-	Pin 19	Hot Plug Detect
Pin 6	TMDS Data1–	Pin 13	CEC		
Pin 7	TMDS Data0+	Pin 14	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	
2	3	2	ring	green solid	orange solid	Pin Position
3	2	3	tip	white/orange stripe	white/green stripe	56432
4	1	1	ring	blue solid	0 blue solid	
5	1	1	tip	white/blue stripe	white/blue stripe	1811
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	

RS-232

The RS-232 is a 3.5mm TRS connector. Tip is TX (output), ring is RX (input), and Sleeve is ground. To simplify connections Aurora offers pre-molded RS-232 cables in null and none nulled in male and female DB9.

IR (Infrared)

It will autosense a TS or a TRS connector to determine if an IR emitter (TS) or IR receiver (TRS) is inserted. The IR receiver must be with carrier inverted to work. The tip is signal, ring is 5V, and sleeve is ground.

IR Receiver CA0026-1 (30kHz - 60kHz)



IR Receiver CA0026-1 (30kHz - 60kHz)





APPENDIX 1

Troubleshooting

It is advisable to make certain all units are using the latest firmware before troubleshooting. Also make sure all network connections are operating on 1G.

Web Server is Not Responding

Make certain PC is on same VLAN, Network IP range, and subnet

Display Has Image with Wrong Color

- Make certain to learn the EDID from the display and save into each unit HDMI input ports.
- If different displays are used with the same source, an EDID with a common denominator must be used. For example, if one destination is 4K UHD and the other is 1080p and the 4K EDID is utilized, the 1080p screen will not get an image if the source is 4K capable. In this case it would be better to use a 1080p EDID.

Audio Not Working

- Verify correct EDID usage. If EDID has 5.1 surround sound listed, and display cannot do 5.1 there will be no audio. Lack of EDID will also cause a source to output DVI which lacks audio.
- Check the volume on the display or amplifier.

RS-232 Control is Not Working

- Check wiring for RX, TX, and Ground.
- Check the baud rate of the PC or control system.
- Confirm the protocol being utilized with a terminal program.





APPENDIX 2

Firmware Update

For the latest firmware updates please go <u>www.auroramm.com</u>.

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



APPENDIX 3

Protocol

The product also supports RS-232 control. You need a serial cable with RS-232 male head and DB9 transfer USB male head. The RS-232 head of the serial cable is connected to the RS-232 control port with DB 9 at the rear of the Matrix, and the USB head of the serial cable is connected to a PC. The connection method is as follows:



Then, open a Serial Command tool on PC to send ASCII command to control the Matrix. The ASCII command list about the product is shown below.

RS-232 & Telnet Commands						
Poud Pate: 0600 9N1 DP0 Fomale						
3aud Rate: 9600 8N1 DB9 Female (Pins 2-TX, 3-RX, 5-GND), Straight through Cable to PC ! is the start character to active a command ? is the start character to query status ~ is the start character of the response /x0D (<cr> aka carriage return) is the end character. Commands are case sensitive. Capitals only. Note: In the protocol table, lower-case "x" is a placeholder for the available parameters. Capital "X", is an actual parameter which equates to 'ignore / do nothing' for a route command.</cr>						
Command	String Format	Information				
Route Command	!RTx1 x2 x3 x4 x5 x6 x7 x8 <cr></cr>	x1-x8 = output relative to input. Example: !RT315X8052 <cr> 0 = Unroute X = ignore (do nothing) In this example Output 1 is routed to 3 Output 2 is routed to 1 Output 3 is routed to 5 Output 4 is ignored and left alone Output 5 is routed to 8 Output 6 is unrouted Output 7 is routed to 5 Output 8 is routed to 2 Additional examples: (In-to-Out) IRTXX2X0044<cr> IRT4X4XXXX<cr> (2to3, 0to5-6, 4to7-8) IRT4X4XXXX<cr> (0to1-2-3, 1to4) Response: -RTx1 x2 x3 x4 x5 x6 x7 x8<cr></cr></cr></cr></cr></cr>				



Query Route	?RT <cr></cr>	Responds with ~RTx1 x2 x3 x4 x5 x6 x7 x8 <cr> x1-x8 = output relative to input. Example: Output 1 is routed to input 7 so position x1 would equal 7. If nothing is routed to an output then the value will be 0 (zero).</cr>
Preset Store	!PSx <cr></cr>	x = 1-8 Responds: ~PSx <cr></cr>
Preset Recall	!PRx <cr></cr>	x = 1-8 Responds: ~PRx <cr></cr>
Firmware Version	?VR <cr></cr>	Responds with the current firmware version number Example ~VR1.00 <cr></cr>
Factory Default	!FD <cr></cr>	Responds with ~FD <cr></cr>
IP Address	!IPA-xxx.xxx.xxx.xxx< <cr></cr>	x= IP Address ex. 192.168.1.13 Responds with ~IPA-xxx.xxx.xxx.xxx <cr></cr>
EDID Write	!EDWx-y0 y1y255 <cr></cr>	x= HDMI Input 1-8 y0-y255 = EDID Data in ASCII HEX representation



APPENDIX 4

Technical Specifications

Technical						
HDMI Compliance	HDMI 2.0b					
HDCP Compliance	HDCP 2.2 and HDCP 1.4					
Video Bandwidth	18Gbps	18Gbps				
Video Resolution	Up to 4K2K@50/60Hz (4:4:4)					
Color Space	RGB, YCbCr 4:4:4/4:2:2/4:2:0					
Color Depth	8-bit, 10-bit, 12-bit					
HDMI Audio Formats (Pass-	LPCM 2/5.1/7.1, Dolby Digital, DTS 5.1, Do	olby Digital+, Dolby TrueHD, DTS-HD Mast	er Audio, Dolby Atmos, DTS:X			
through)						
Coax Audio Formats	LPCM 2.0, Dolby Digital / Plus, DTS 5.1					
L/R Audio Formats	PCM2.0					
HDR formats	HDR10, HDR10+, Dolby Vision, HLG					
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge) , ±4kV (Contact	discharge)				
Connection						
Input Ports	8×HDMI Type A [19-pin female] 1×IR EXT	8×HDMI Type A [19-pin female] 1×IR EXT [3.5mm Stereo Mini-jack]				
	8×HDMI Type A [19-pin female] 8×Coax A	udio (RCA)				
Output Ports	8×L/R Audio [3.5mm Stereo Mini-jack]	8×L/R Audio [3.5mm Stereo Mini-jack]				
Control Ports	1×TCP/IP [RJ45]					
Mashaniaal	1×RS-232 [D-Sub 9]					
Mechanical						
Housing	Metal Enclosure	Metal Enclosure				
Color	Black	Black				
Dimensions	440mm (W)×200mm (D)×44.5mm (H)	440mm (W)×200mm (D)×44.5mm (H)				
Weight	2.8kg					
Power Supply	Input: AC 100 - 240V 50/60Hz Output: DC 12V/5A (US/EU standard, CE/FCC/UL certified)					
Power Consumption	43W					
Operating Temperature	-10°C ~ 45°C / 14°F ~ 113°F					
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F					
Relative Humidity	/e Humidity 20~90% RH (non-condensing)					
Resolution / Cable length	4K60 - 4K30 - 1080P60 - Feet / Meters Feet / Meters Feet / Meters					
HDMI IN / OUT	16ft / 5M	32ft / 10M	50ft / 15M			
The use of "Premium High-Speed	HDMI" cable is highly recommended.	1				

*Note: Specifications subject to change without notice.



APPENDIX 5

Warranty

Limited 3 Year Warranty

Aurora Multimedia Corporation ("Manufacturer") warrants that this product is free of defects in both materials and workmanship for a period of 3 years as defined herein for parts and labor from date of purchase. This Limited Warranty covers products purchased in the year of 2025 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.







205 Commercial Court | Morganville, NJ 07751

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