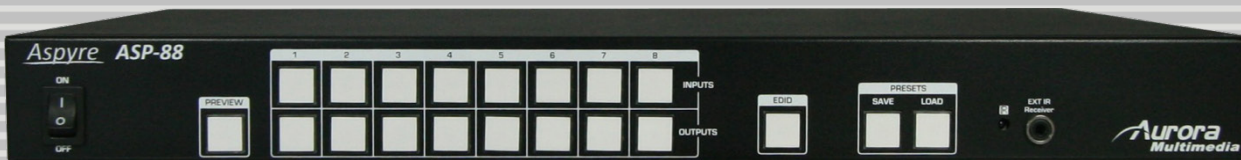**Aurora**

ASP-88 R2

8x8 HDMI Matrix

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 only 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 a long period, disconnect it from the power source.
.

⚠ Also follow these precautions:

- **Ventilation**: Do not block the ventilation slots if applicable on the product or place any heavy object on top of it.
  Blocking the air flow 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 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

Please make sure the following items are included within your package. Contact your dealer if any items are missing or damaged.
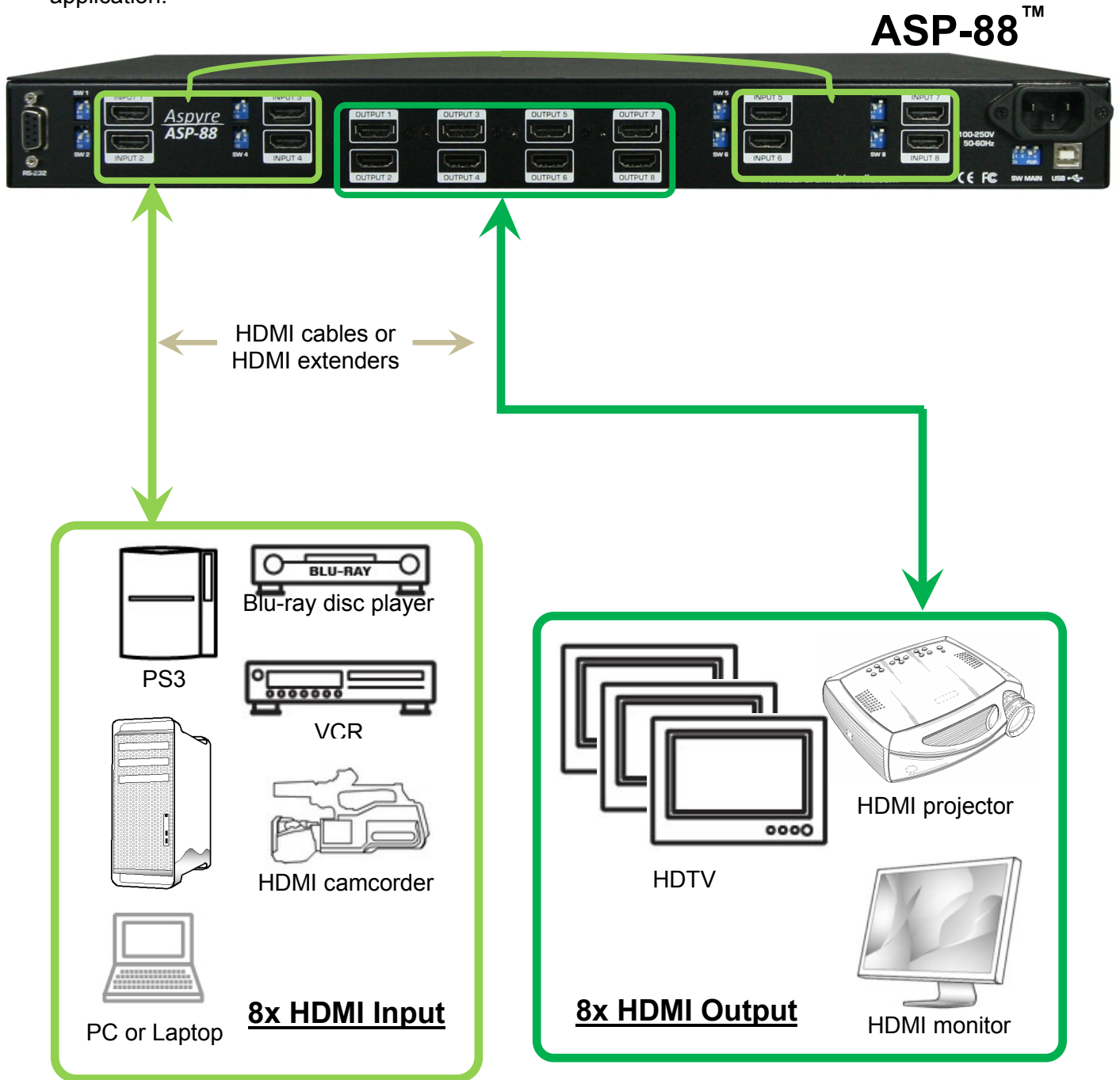
- ASP-88 R2 Matrix
- Remote
- IEC Power Cord x 1
- 2 Rack Mount Angle Brackets
- Owners Manual

Note: Go to www.auroramultimedia.com for latest manual and firmware

INTRODUCTION

About

The **ASP-88**™ 8x8 HDMI Matrix provides the most flexible and cost effective solution in the market to route high definition video sources plus multi-channel (up to 7.1 channel) digital audio from any of the four HDMI sources to the any four displays at the same time. This solution is well suited for use in home theater, conference room presentation systems, or other similar setting or application.

ASP-88™

HDMI cables or
HDMI extenders

Blu-ray disc player

PS3

VCR

HDMI camcorder

8x HDMI Input

PC or Laptop

HDMI projector

HDTV

8x HDMI Output

HDMI monitor

Features

◆ State-of-the-art chipset embedded for utmost compatibility and reliability

◆ HDMI 3D and Deep Color compliant

◆ HDCP compliant

◆ Allows any source to be displayed on multiple displays at the same time

◆ Allows any HDMI display to view any HDMI source at any time

◆ Supports 7.1 channel digital audio

◆ Supports default HDMI EDID and learns the EDID of displays if necessary

◆ The matrix master can switch every output channels to any HDMI inputs by push button, IR remote control, RS-232 control, or USB control

◆ Easy installation with rack-mounting designs

◆ Fast response time – 2~5 seconds for channel switch

DESCRIPTION

Front Panel
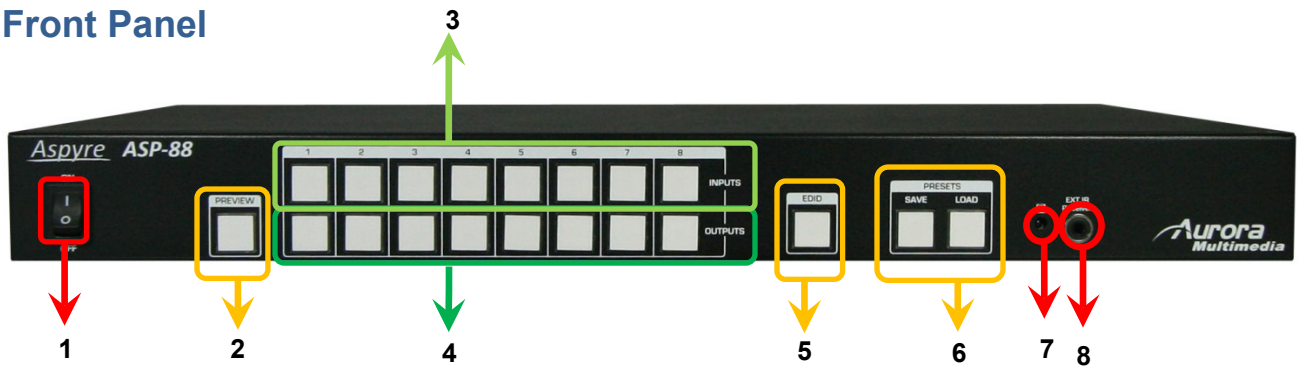
1. **Power:** power on/off switch

2. **PREVIEW Button:** press **PREVIEW** to watch input/output mapping. This function is active when the button is lit.

3. **INPUT Buttons:** press respective button to select input port 1 to 8

4. **OUTPUT Buttons:** press respective button to select output 1 to 8

5. **EDID Button:** press **EDID** button to enter EDID operation (for more detail please see EDID Learning section). This function is active when the button is lit.

6. **PRESETS Buttons:** Save the current input/output mapping to presets or load one of the preset input/output mappings to current configuration by pressing **SAVE** or **LOAD** button respectively.

7. **IR:** infrared sensor to receive any IR commands from the IR remote control.

8. **EXT IR Receiver:** plug in an IR receiver here to receive any IR commands from the IR remote control.

Rear Panel
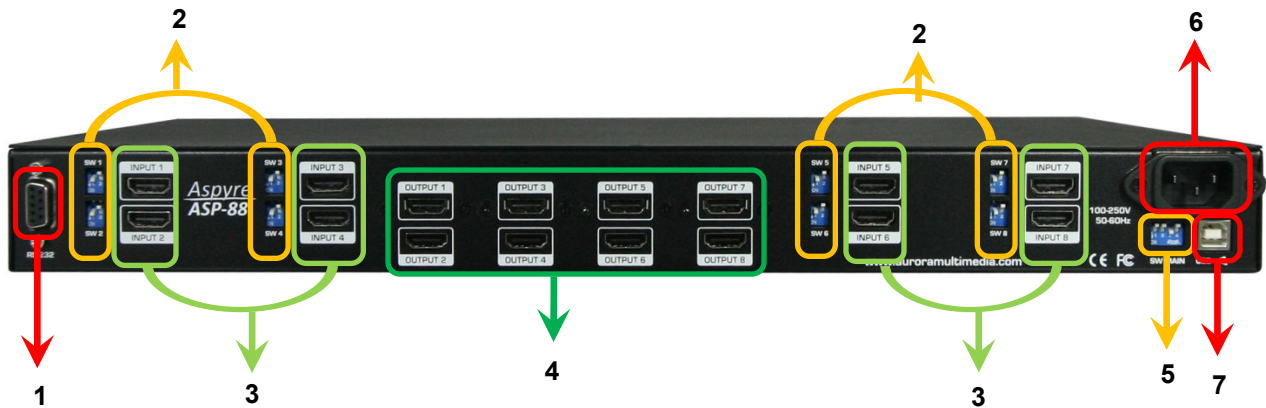
1. **RS-232**: for channel control via RS-232 serial control port
2. **SW1** – **SW8**: two-pin DIP switch for manual EDID and audio/video settings (for more detail please see DIP Switch section in page 7)
3. **INPUT 1** – **INPUT 8**: eight HDMI input ports that connect to HDMI source devices
4. **OUPUT 1** – **OUTPUT 8**: eight HDMI output ports that connect to HDMI displays
5. **SW Main**: four-pin DIP switch for normal operation or firmware update (for more detail please see DIP Switch section in page 8)
6. **AC Power:** plug in the UL AC C13 power cord for 100-250V 50-60Hz AC power
7. **USB**: for channel control via USB control port

External IR

IR Receiver

1= Power
2= IR signal (38KHz)
3= Grounding

1 2 3

IR Sockets

EXT IR Receiver: plug in the IR receiver to the IR socket on the front panel of the ASP-88 to receive all IR command signals from the IR remote control

> *You can buy any IR receiving cable in the open market that is compatible to the definition of the IR sockets for the matrix if necessary for replacement use. However, in some cases, IR cables longer than 2m (6ft) may not work properly.*

Supported IR Data Format

Data Format	Suitable	Not Recommended
NEC	✓	
RC5	✓	
TOSHIBA MICOM CODE	✓	
GRUNDIG CODE	✓	
SONY 12 BIT CODE	✓	
SONY 15 BIT CODE	✓	
SONY 20 BIT CODE	✓	
RCA CODE		✓
RCM CODE		✓
MATSUSHITA CODE		✓
MITSUBISHI CODE	✓	
ZENITH CODE	✓	
JVC CODE	✓	
M50560-001P	✓	
MN6125H	✓	
MN6125L	✓	
MN6014_C5D7	✓	
MN6014-C6D6	✓	
MC14457P	✓	
LC7464(AHEA)	✓	
GEMINI_CM	✓	

EDID SETUP

Dip Switch

SW1-SW8 for EDID & audio/video settings

DIP Switch Position		Video	Audio	Description
Pin 1	Pin 2			
OFF [↑]	OFF [↑]	Up to 1080p	Surround[1]	**Default Mode**[2] – Up to 1080p & surround sound audio output up to 7.1ch (DTS-HD Master & Dolby TrueHD)
OFF [↑]	ON [↓]	Up to 1080p	Stereo	**Safe Mode**[3] **–** Make the system output at 1080p video and stereo audio for basic compatibility among HDTVs
ON [↓]	OFF [↑]	Bypass[4]	Bypass[4]	**EDID Learning Mode**[5] – for learning EDID from the display while playing any received HDMI audio format
ON [↓]	ON [↓]	Bypass	Stereo	**EDID Learning & Stereo Mode**[5] – for learning EDID from the display while enforcing stereo output if any HDTV cannot play surround sound normally

> ## Note
> [1] *If the HDTV shows video but without audio, please try to set audio mode to stereo.*
>
> [2] *Factory default setting of [**SW1**]-[**SW8**] is pin 1 at OFF [↑] & pin 2 at OFF [↑] for 1080p and surround sound audio.*
>
> [3] *If you encounter any unsolved audio/video output problem during system installation, please turn any [**SW1**]-[**SW8**] to pin 1 at OFF [↑] & pin 2 at ON [↓] for safe mode to enforce the most compatible 1080p stereo output for system check. However, the safe mode cannot be initiated if your HDMI source is set to enforce 1080p output. In this case, please reconfigure your HDMI source to all resolution output for troubleshooting.*
>
> [4] *Bypass means the matrix will maintain playing the original format of HDMI signals in video and perhaps audio. By setting at this mode, the users may encounter compatibility issue among different kinds of HDMI sources and displays. If you cannot get the audio and/or video output normally at the system installation, please change the DIP switch setting to default mode or even safe mode to verify the functionality of the device.*
>
> [5] *To learn the EDID of the HDMI display for respective HDMI source devices, please see the [**EDID Learning**] section for more detail information.*

SW Main for firmware update (for technical support only)

DIP Switch Position		Pin 1	Pin 2	Pin 3	Pin 4
Normal Operation Mode [via RS-232 port][6]		OFF[↑]	OFF[↑]	OFF[↑]	OFF[↑]
Normal Operation Mode [via USB port][7]		OFF[↑]	OFF[↑]	OFF[↑]	ON[↓]
Firmware Update Mode[8]	Block A [main]	ON[↓]	OFF[↑]	OFF[↑]	OFF[↑]
	Block B [remote]	ON[↓]	OFF[↑]	ON[↓]	OFF[↑]
	Block C [HDMI]	ON[↓]	ON[↓]	OFF[↑]	OFF[↑]

Note

[6] *Factory default for SW Main is pin 1-OFF[↑], pin 2-OFF[↑], pin 3-OFF[↑], & pin 4-OFF[↑].* *PLEASE MAINTAIN THIS SETTING AT ANYTIME FOR REGULAR USE VIA RS-232 CONTROL!*

[7] *Factory default for SW Main is pin1-OFF[↑], pin2- OFF[↑], pin 3-OFF[↑], & pin 4-ON[↓].* *PLEASE MAINTAIN THIS SETTING AT ANYTIME FOR REGULAR USE VIA USB CONTROL!*

[8] *Sequence for firmware update*

WARNING! [Firmware update only can be done via RS-232 port and connection to PC set at COM1)

1. *Power off the ASP-88. Execute the firmware update program on your PC via COM1 port connection to the RS-232 port of the ASP-88 using a straight through (pin-pin) cable.*

2. *Set the pin 1 of [SW Main] at ON[↓] for* **Firmware Update Mode***.*

3. *Set pin 2 and pin 3 at respective positions to assign which Block to be updated.*

4. *Power on the ASP-88. The firmware update program should begin this update sequence automatically. If not, please check the RS-232 connection status between PC and ASP-88.*

5. *After the OK message shows up to indicate the firmware update sequence for designated Block is complete, please turn off the ASP-88.*

6. *Repeat step 3 ~ step6 if you want to update the firmware of the remaining Blocks.*

7. *Set the [SW Main] switch position to* **Normal Operation Mode***.*
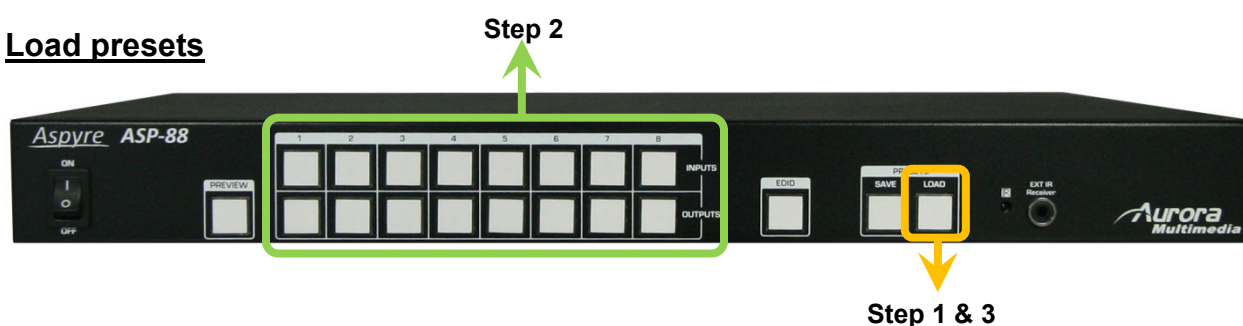
8. *Power on the ASP-88.*

OPERATION

Front Panel Manual Switching

1. Press the **INPUT** button on the front panel to select input source port, which will be lit once selected.
2. Press the **OUTPUT** buttons on the front panel to select output display ports, which will be lit once selected, to display HDMI signal from selected input port.

Front Panel Preset Switching

Load presets

1. Press the **LOAD** button in the PRESETS menu on the front panel and the LED will turn on.
2. Select the preset profile number to load the corresponding mapping.
3. Press the **LOAD** button to execute the setting. After loading procedure, the LED will turn off.

Input Port	Preset Profile Number	Output Port	Preset Profile Number
1	1	1	9
2	2	2	10
3	3	3	11
4	4	4	12
5	5	5	13
6	6	6	14
7	7	7	15
8	8	8	16

Save Presets

Step 2

Step 1 & 3
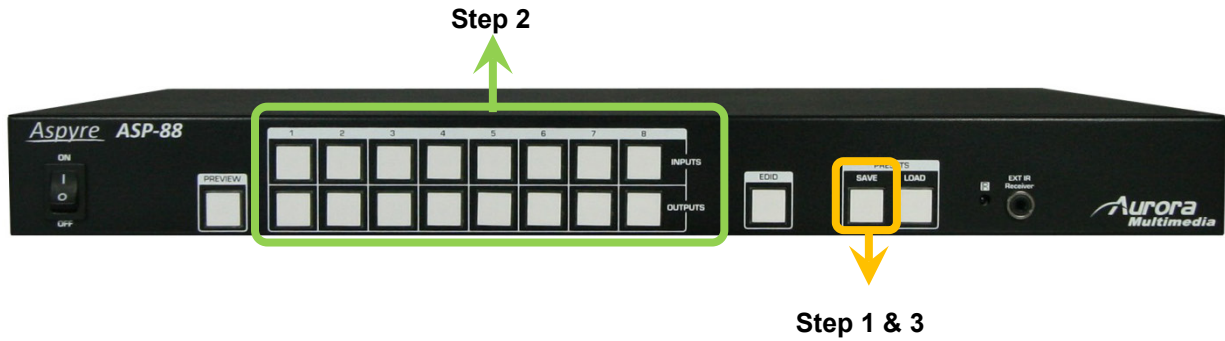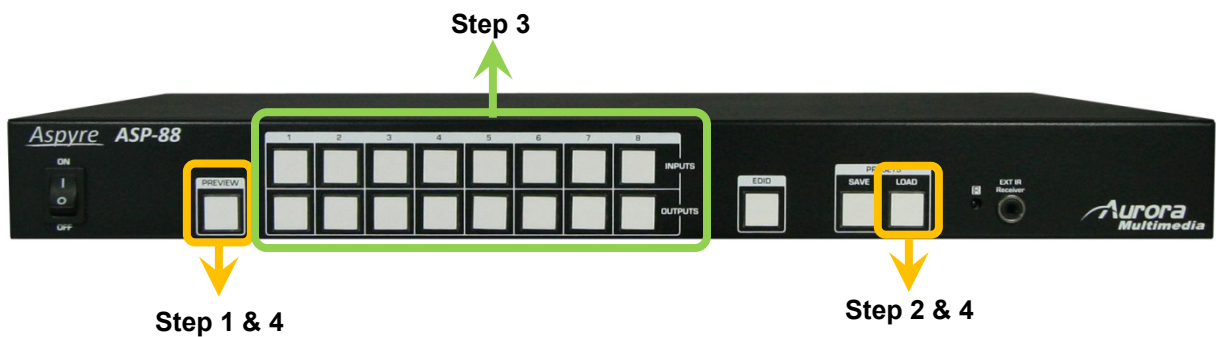
1. Press the **SAVE** button in the PRESETS menu on the front panel and the LED will turn on.
2. Select the preset profile number and save the current mapping profile to the memory.
3. Press the **SAVE** button to execute the setting. After loading procedure, the LED will turn off.

Preview presets

Step 3

Step 1 & 4   **Step 2 & 4**

1. Press the **PREVIEW** button on the front panel.
2. Press the **LOAD** button.
3. Select the preset profile number to load the corresponding mapping and press the respective button.
4. Press the **LOAD** button or **PREVIEW** button to escape PREVIEW presets state

Preview mapping status

Step 2

Step 1 & 3
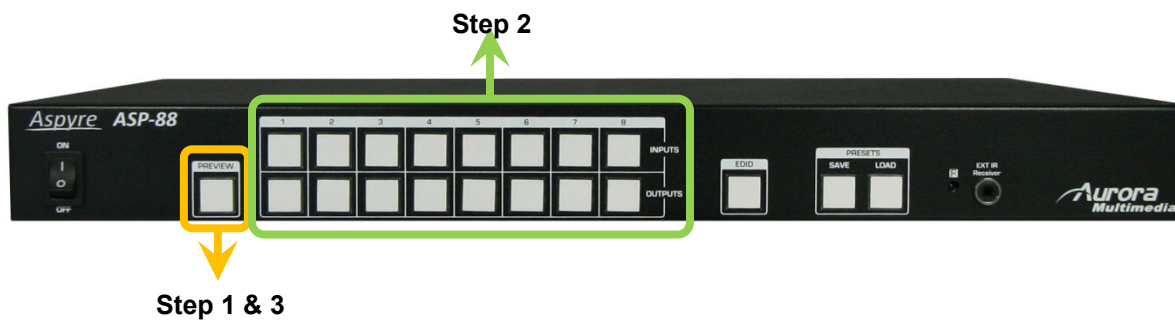
1. Press the **PREVIEW** button on the front panel.
2. Check mapping by push **INPUTS** or **OUTPUTS** buttons.
3. Press the **PREVIEW** button to escape PREVIEW status.

Remote Control

POWER	Power on/off
Fn	Function key
INPUT 1	HDMI input port 1
INPUT 2	HDMI input port 2
INPUT 3	HDMI input port 3
INPUT 4	HDMI input port 4
INPUT 5	HDMI input port 5
INPUT 6	HDMI input port 6
INPUT 7	HDMI input port 7
INPUT 8	HDMI input port 8
OUTPUT 1	HDMI output port 1
OUTPUT 2	HDMI output port 2
OUTPUT 3	HDMI output port 3
OUTPUT 4	HDMI output port 4
OUTPUT 5	HDMI output port 5
OUTPUT 6	HDMI output port 6
OUTPUT 7	HDMI output port 7
OUTPUT 8	HDMI output port 8

1. Select one input port from **INPUT 1** to **INPUT 8** in the MATRIX SIDE section.

2. Select the output ports from **OUTPUT 1** to **OUTPUT 8** in the MATRIX SIDE section to show this selected input source channel

Function Key	FUNCTION
FN + SOURCE SEL. 1	Escape System LOCK
FN + SOURCE SEL. 2	Enter System LOCK (most buttons, IR control, and RS-232 control become inactive, except Escape System LOCK command)

Software

Software Control Menu   **Status Indicator**
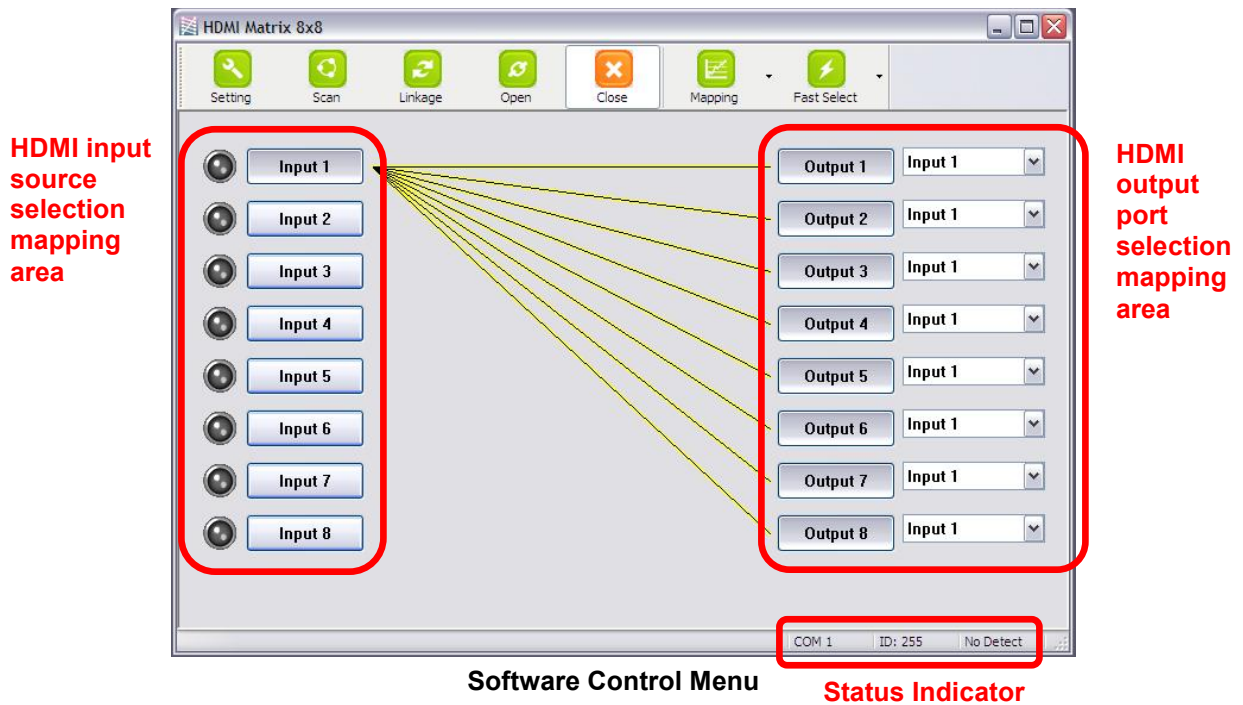
1. Scan button

Serial Port Scan

Press **Scan** button, the machine will scan the all com port and show them.

Select the RS232 serial port connected to the machine. And set device ID 255 is for all device.

Only the same device id or 255 can get the command you sent.

Press **OK**. Get the new status from the machine you select.
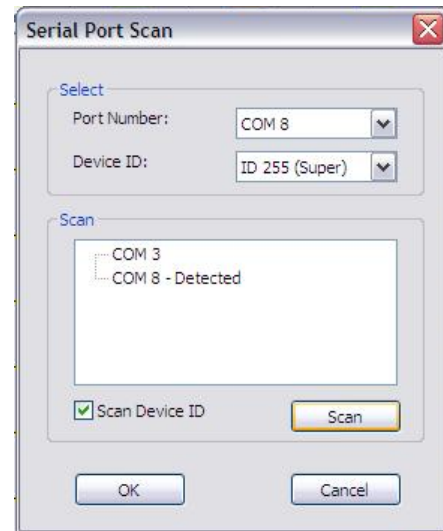
2. Setting button

Press **Get** button to read back device ID.
Press **Set** button to write device ID.

3. Linkage button

Press **Linkage** button to read back all status.

4. Open/Close button

Press this button to close or open COM port.

5. Mapping button

Select All Output

Select "set all output," then select the source on main menu. You can quickly set all output to the same source.

Unselect All Output

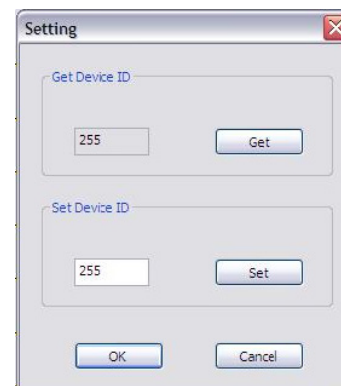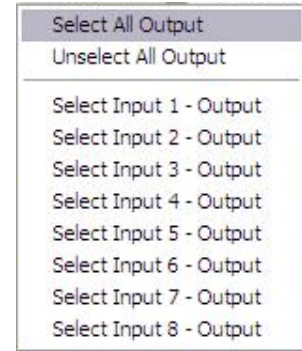Release output selection.

Select Input1~8-Output

Select Input Source. Then select the output port icon.

Example

Select input source 1. Then select output port 1 and port 2. The video and audio will be sent to port 1 and port 2.

6. Fast Select button:

Press **Fast select** button for quick setting

Input one ➡ Output Port one
Input two ➡Output Port two
…..

Press Fast select pull down menu
Select Input Num-Output Num

Input source #1 ➡ Output port #1
Input source #2 ➡ Output port #2
……

Select Input - All Output

Send the same source to all output
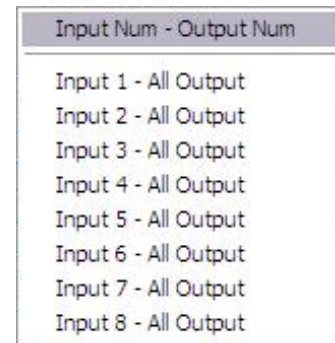
7. Output Port:

Pull down menu and select which source to be sent to this output port.

One by one setting

On main menu screen

First select input source. Then select the output ports which you want to send the video and audio from this source. When you select the input source, the source will change to gray. When you select the output port one by one, the selected output port will change to gray.

The linking line will change to yellow.

Group setting

First select output ports one by one. Then select the input source. The selected output ports change the setting at the same time.

By using Terminal

Baud rate: 9600
Data length: 8bit
Parity check: No
Stop bit: 1

EDID Learning

The EDID learning function is only necessary whenever you encounter any display connected to the HDMI output port that cannot play audio and video properly. Because the HDMI source devices and displays may have various level of capability in playing audio and video, the general principle is that the source device will output the lowest standards in audio format and video resolutions to be commonly ac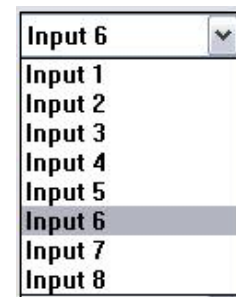ceptable among all HDMI displays. In this case, a 720p stereo HDMI signal output would be probably the safest choice. Nevertheless, the user can force the matrix to learn the EDID of the lowest capable HDMI display among others to make sure all displays are capable to play the HDMI signals normally by performing the procedures stated below.

> **ⓘ** **SW1-SW8's Pin 1 must be set to "ON" and left there for EDID Learning Mode. Turning to "OFF" will return to factory defaults.**
>
> | DIP Switch Position | Description |
> |---|---|
> | **Pin 1** | |
> | **ON [↓]** | **EDID Learning** – for learning EDID from the display |

Method 1: Use the front panel on the master unit

Button	Function
OUTPUT 1-8	EDID will be read from display from the respective output port
INPUT 1-8	The EDID will be sent to the HDMI source connected to respective HDMI input port

1. Push **EDID** button to enter EDID learning mode

2. Select one or multiple **INPUTS 1-8** buttons that you want those input ports to learn the EDID of the display from certain **OUTPUT** port. The input port is selected when the LED is on. Push the **INPUT** button again if you want to cancel this input port to learn EDID.

3. Select the HDMI display that you want the matrix to learn its EDID by push the **OUTPUT** button connected to this display.

4. Press the **EDID** button to initiate the EDID learning sequence. If the sequence is done successfully, the front panel will get back to normal operation mode. If the sequence is failed, the LED of the chosen input ports will flash then please try again.

Method 2: Manually connect HDMI displays to HDMI input ports

1. Power up the matrix. Connect the HDMI display that its EDID needs to be learned to any of the HDMI **INPUT1-INPUT8** port where your source device has trouble to show the picture normally.

2. To learn the display's EDID for source device connected to respective HDMI **INPUT1**-**INPUT8** port, pull both pins of respective DIP switch **SW1-SW8** up-and-down to stay at ON[⬇]-ON[⬇] and wait for about 5 seconds to complete the EDID learning process. You DON'T NEED to pull up the DIP switch again unless you want to learn another display's EDID by pulling both DIP switch pin 1 & pin 2 of **SW1-SW8** up-and-down one more time.

3. Repeat step1 & step2 if you want to learn the EDID of this HDMI display on any other HDMI input ports that have same trouble playing the audio/video properly.

SERIAL COMMANDS

RS-232 Commands

! 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

Command	String Format	Information
Route Command	!Rxtoz<cr>	x = input port number = 0-8 - 0 is to unroute z = output port number(s) = 1-8 For more than one port number use a comma to separate. Example 1,4
Preset Command	!Px<cr>	x = 1-9
Query Route	?Rx<cr>	x = input port number = 0-8
Firmware Version	!VR<cr>	Responds with the current firmware version number

RS-232 Command Usage

Example	Example String	Example Response
Route Input 1 to Output 1, 2, 3, and 4	!R1to1,2,3,4<cr>	~R1to1,2,3,4<cr>
Trigger Preset 2	!P2<cr>	~P2<cr>
Query the routes	?R2<cr>	~R1to2,3<cr>

CONNECTOR PIN DEFINITION

RS-232 Serial Port

Baud Rate: 9600 8N1
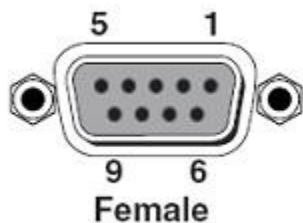
NO.	PIN	STATE
1	N/A	
2	Tx	**TX**
3	Rx	**RX**
4	N/A	
5	GND	**GND**
6	N/A	
7	N/A	
8	N/A	
9	N/A	

HDMI
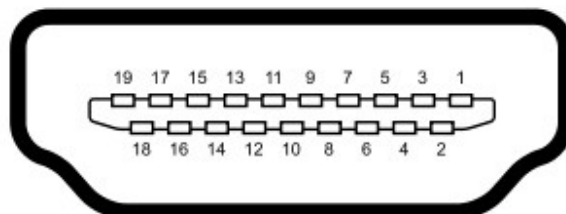
Type A (Receptacle) HDMI

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)		

APPENDIX 1   Troubleshooting

Problem	Solution
1. No Video Signal.	a. Check that the power plug is properly inserted into a functioning power outlet. b. Make certain source is on. c. Verify routing is correct d. Learn EDID
2. LED is not lit	a. Check 5v power supply is plugged in. b. Check to see if Wall supply is plugged into wall outlet. c. Make certain wall outlet has power.
3. RS-232 not working	a. Verify baud rate of 9600 8N1and pin out.
4. IR not working	a. Verify using proper emitter or receiver to specifications outlined. Use Aurora branded accessories for best results.

APPENDIX 2   IR CODES

Default Custom Code — IR2 Code: 00 FF
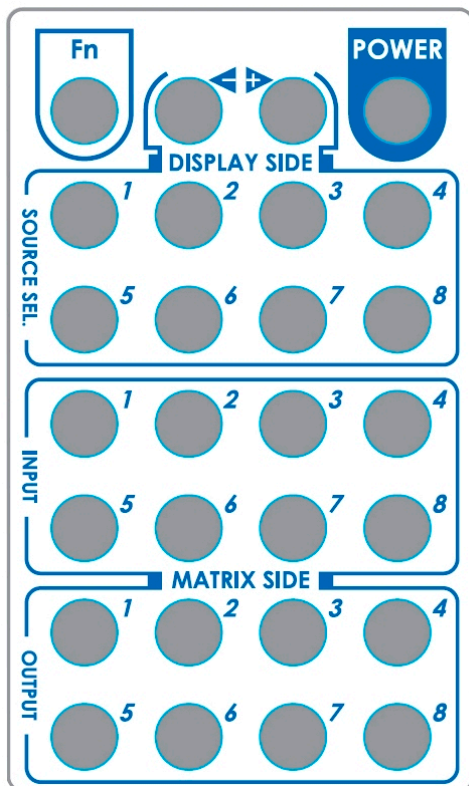
Function **0x17**	◀ **0x0A**	▶ + **0x0C**	POWER **0x02**
SOURCE SEL. 1 **0x54**	SOURCE SEL. 2 **0x55**	SOURCE SEL 3 **0x56**	SOURCE SEL. 4 **0x01**
SOURCE SEL. 5 **0x57**	SOURCE SEL. 6 **0x58**	SOURCE SEL. 7 **0x59**	SOURCE SEL. 8 **0x06**
INPUT 1 **0x18**	INPUT 2 **0x5B**	INPUT 3 **0x19**	INPUT 4 **0x07**
INPUT 5 **0x1B**	INPUT 6 **0x5A**	INPUT 7 **0x1A**	INPUT 8 **0x04**
OUTPUT 1 **0x0E**	OUTPUT 2 **0x0D**	OUTPUT 3 **0x12**	OUTPUT 4 **0x05**
OUTPUT 5 **0x1C**	OUTPUT 6 **0x1D**	OUTPUT 7 **0x1F**	OUTPUT 8 **0x1E**

Custom Code — IR3 Code: 0x12 0x21

Custom Code: 0x12 0x21								
	Output 1	Output 2	Output 3	Output 4	Output 5	Output 6	Output 7	Output 8
Source 1	**0xA1**	**0xB1**	**0xC1**	**0xD1**	**0xE1**	**0xF1**	**0x11**	**0x21**
Source 2	**0xA2**	**0xB2**	**0xC2**	**0xD2**	**0xE2**	**0xF2**	**0x12**	**0x22**
Source 3	**0xA3**	**0xB3**	**0xC3**	**0xD3**	**0xE3**	**0xF3**	**0x13**	**0x23**
Source 4	**0xA4**	**0xB4**	**0xC4**	**0xD4**	**0xE4**	**0xF4**	**0x14**	**0x24**
Source 5	**0xA5**	**0xB5**	**0xC5**	**0xD5**	**0xE5**	**0xF5**	**0x15**	**0x25**
Source 6	**0xA6**	**0xB6**	**0xC6**	**0xD6**	**0xE6**	**0xF6**	**0x16**	**0x26**
Source 7	**0xA7**	**0xB7**	**0xC7**	**0xD7**	**0xE7**	**0xF7**	**0x17**	**0x27**
Source 8	**0xA8**	**0xB8**	**0xC8**	**0xD8**	**0xE8**	**0xF8**	**0x18**	**0x28**

Custom Code — IR4 Code: 0x13 0x31

Custom Code: 0x13 0x31								
	Output 1	Output 2	Output 3	Output 4	Output 5	Output 6	Output 7	Output 8
Source 1	0xAE	0xBE	0xCE	0xDE	0xEE	0xFE	0x1E	0x2E
Source 2	0xAD	0xBD	0xCD	0xDD	0xED	0xFD	0x1D	0x2D
Source 3	0xAC	0xBC	0xCC	0xDC	0xEC	0xFC	0x1C	0x2C
Source 4	0xAB	0xBB	0xCB	0xDB	0xEB	0xFB	0x1B	0x2B
Source 5	0xAA	0xBA	0xCA	0xDA	0xEA	0xFA	0x1A	0x2A
Source 6	0xA9	0xB9	0xC9	0xD9	0xE9	0xF9	0x19	0x29
Source 7	0xA8	0xB8	0xC8	0xD8	0xE8	0xF8	0x18	0x28
Source 8	0xA7	0xB7	0xC7	0xD7	0xE7	0xF7	0x17	0x27

Note: Using terminal to set Custom Code

Example: Set custom code from 0x01 0xEE to 0x13 0x31
>>IR4   -------------- command (using RS-232 terminal command mode)
>>IR4   -------------- echo

Command	Custom Code
IR2	0x00 0xFF
IR3	0x12 0x21
IR4	0x13 0x31

For further information, please check the installation CD.

APPENDIX 3   Technical Specifications

Model Name	ASP-88
Technical	
Role of usage	True 4x4 matrix
HDMI compliance	3D & Deep Color
HDCP compliance	Yes
Video bandwidth	Single-link 225MHz [6.75Gbps]
Video support	480i / 480p / 720p / 1080i / 1080p60 8-12 bit color
Audio support	Surround sound (up to 7.1ch) or stereo digital audio
ESD protection	[1] Human body: ±19kV [air-gap discharge] & ±12kV [contact discharge] [2] Core chipset: ±8kV
PCB stack-up	4-layer board [impedance control — differential 100Ω; single 50Ω]
Input	8x HDMI + 1x RS-232 + 1x 3.5mm
Output	8x HDMI
HDMI input selection	Push button / IR remote / RS-232 / USB
IR remote control	Electro-optical characteristics: τ = 25°; carrier frequency: 36-40kHz
HDMI connector	Type A [19-pin female]
RS-232 connector	DE-9 [9-pin D-sub female]
3.5mm connector	IR socket for IR receiver
DIP Switch	[SW1-SW8]: 2-pin for EDID & audio/video settings [SW Main]: 4-pin for normal operation or firmware update
Mechanical	
Housing	Black Aluminum enclosure
Dimensions [L x W x H]	290 x 440 x 44mm [11.4" x 1'5" x 1.7"]
Weight	3250g [7.2 lbs]
Mounting	1RU Rack Mounting with Ears
Power supply	AC Power 100-240V
Power consumption	60 Watts [max]
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-88 2x Rack Ears 1x IR Remote 1x UL AC C13 Power Cord 1x User Manual

Specifications subject to change without notice.

> ℹ️ *USB or RS-232 control must be connected either one at a time. Connecting both types of cables may cause command confusion.*

APPENDIX 4   Warranty

Limited 3 Year Warranty

Aurora Multimedia Corp. ("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 2009 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.

     F. Part(s) are no longer available for product.

In the event that 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.

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