

# **iMatrix**

8x8 HDMI 2.0 Matrix with Audio Matrix/ Downscaling/

**AOC Supported** 

Datasheet Model: H88AM





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Version: H88AM\_2021V1.0 www.infobitav.com info@infobitav.com

#### 1. Introduction

The H88AM is a professional 8x8 HDMI 2.0 Matrix Switcher with Audio Matrix. It includes 8 HDMI inputs, 8 HDMI outputs and the last four outputs with down-scaling function, which is designed for switching four HDMI2.0 and HDCP2.3 compliant signals. It also features 8 SPDIF and 8 analog audio outputs for audio matrix.

The matrix switcher features comprehensive EDID management and advanced HDCP handing to ensure maximum functionality with a wide range of video sources.

The matrix switcher not only supports bi-directional IR, RS232 extension but also has IR, RS232, and TCP/IP control options.

#### 1.1 Features

- 8x8 HDMI 2.0 Matrix Switcher.
- Supports 4K/60 4:4:4, HDR, HDCP2.3 compliant.
- Audio Matrix, audio out can be de-embedded from arbitrary input or output.
- Individual volume adjustment on each L+R output.
- Supports 4K to 1080p down-scaling up to 4 outputs.
- HDMI out provides 2.5W to power Active Optical Cable (AOC).
- HDMI Output support up to 5V500mA for AOC cable
- Controllable by front panel, IR, RS232 and TCP/IP.

### 1.2 Package List

- 1x H88AM
- 6x Screws
- 1x RS232 cable (3-pin to DB9)
- 1x IR remote
- 1x User manual
- 2x Mounting ears
- 4x Plastic cushions
- 1x IR receiver
- 1x Power adaptor (DC 24V 2.71A)

**Note:** Please contact your distributor immediately if any damage or defect in the components is found.

### 2. Specification

Video Input       (8) HDMI         Input Connector       (8) Type-A female HDMI         HDMI Input Resolution       Up to 4K@60Hz 4:4:4, HDR         Video Output       (8) HDMI         Output Connector       (8) Type-A female HDMI         HDMI Output Resolution       Up to 4K@60Hz 4:4:4, HDR10 and Dolby Vision         HDMI Output       Supports up to 5V500mA for AoC cable         HDMI Version       Up to 2.0         HDMI Audio Signal       LPCM 7.1 audio, Dolby Atmos®, Dolby® TrueHD, Dolby Digital® Plus, DTS:X™, and DTS-HD® Master Audio™ pass-through.         Digital Audio Output         Output       (8) Digital SPDIF audio         Output Connector       (8) Toslink connector         Digital SPDIF Audio Format       Supports PCM, Dolby Digital, DTS, DTS-HD         Frequency Response       20Hz – 20KHz, ±1dB         Max Output Level       ± 0.05dBFS         THD+N       < 0.05%, 20 Hz – 20 KHz bandwidth, 1 kHz sine at 0dBFS level (or max level)         SNR       > 90dB, 20Hz-20KHz bandwidth         Crosstalk Isolation       < -70 dB, 10 kHz sine at 0 dBFS level (or max level before clipping)         Noise       -90dB         Analog Audio Output       (8) Analog L/R Audio         Output Connector       (8) L&R (RCA)         Digital SPDIF Audio Format	Video		
HDMI Input Resolution  Video Output  (8) HDMI  Output Connector  (8) Type-A female HDMI  HDMI Output Resolution  Up to 4K@60Hz 4:4:4, HDR10 and Dolby Vision  HDMI Output  Supports up to 5V500mA for AoC cable  HDMI Version  HDCP Version  Up to 2.0  HDCP Version  Up to 2.3  LPCM 7.1 audio, Dolby Atmos®, Dolby® TrueHD, Dolby Digital® Plus, DTS:X™, and DTS-HD® Master Audio™ pass-through.  Digital Audio Output  Output  (8) Digital SPDIF audio  Output Connector  (8) Toslink connector  Digital SPDIF Audio Format  Frequency Response  20Hz − 20KHz, ±1dB  Max Output Level  THD+N  SNR  > 90dB, 20Hz-20KHz bandwidth, 1 kHz sine at 0dBFS level (or max level before clipping)  Noise  -90dB  Analog Audio Output  (8) Analog L/R Audio  Output  (8) Analog L/R Audio  Output Connector  (8) Analog L/R Audio  Output Seponse  Analog Audio Format  PCM 2CH  Frequency Response  20 Hz to 20 kHz, ±1dB  Max Output Level  (8) Analog L/R Audio  Output Connector  (8) L&R (RCA)  Digital SPDIF Audio Format  PCM 2CH  Frequency Response  20 Hz to 20 kHz, ±1dB  Max Output Level  Analog L/R Audio  Output Connector  (8) L&R (RCA)  Digital SPDIF Audio Format  PCM 2CH  Frequency Response  20 Hz to 20 kHz, ±1dB  Max Output Level  Analog L/R Audio  Output Connector  (8) L&R (RCA)  Digital SPDIF Audio Format  PCM 2CH  Frequency Response  20 Hz to 20 kHz, ±1dB  Max Output Level  Nax Output Level  Analog L/R Audio  Output Connector  (8) L&R (RCA)  Digital SPDIF Audio Format  PCM 2CH  Frequency Response  20 Hz to 20 kHz, ±1dB  Max Output Level  Analog L/R Audio  Output Level  Analog L/R	Video Input	(8) HDMI	
Video Output       (8) HDMI         Output Connector       (8) Type-A female HDMI         HDMI Output Resolution       Up to 4K@60Hz 4:4:4, HDR10 and Dolby Vision         HDMI Output       Supports up to 5V500mA for AoC cable         HDMI Version       Up to 2.0         HDCP Version       Up to 2.3         HDMI Audio Signal       LPCM 7.1 audio, Dolby Atmos®, Dolby® TrueHD, Dolby Digital® Plus, DTS:X™, and DTS-HD® Master Audio™ pass-through.         Digital Audio Output         Output       (8) Digital SPDIF audio         Output Connector       (8) Toslink connector         Digital SPDIF Audio Format       Supports PCM, Dolby Digital, DTS, DTS-HD         Frequency Response       20Hz – 20KHz, ±1dB         Max Output Level       ±0.05dBFS         THD+N       < 0.05%, 20 Hz – 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)	Input Connector	(8) Type-A female HDMI	
Output Connector (8) Type-A female HDMI HDMI Output Resolution Up to 4K®60Hz 4:4:4, HDR10 and Dolby Vision HDMI Output Supports up to 5V500mA for AoC cable HDMI Version Up to 2.0 HDCP Version Up to 2.3 HDMI Audio Signal LPCM 7.1 audio, Dolby Atmos®, Dolby® TrueHD, Dolby Digital® Plus, DTS:X™, and DTS-HD® Master Audio™ pass-through.  Digital Audio Output (8) Digital SPDIF audio Output Connector (8) Toslink connector Digital SPDIF Audio Format Supports PCM, Dolby Digital, DTS, DTS-HD Frequency Response 20Hz − 20KHz, ±1dB Max Output Level ±0.05dBFS  THD+N 2006, 20 Hz − 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level) SNR > 90dB, 20Hz-20KHz bandwidth Crosstalk Isolation < -70 dB, 10 kHz sine at 0 dBFS level (or max level before clipping) Noise -90dB  Analog Audio Output Output (8) Analog L/R Audio Output Connector (8) L&R (RCA) Digital SPDIF Audio Format PCM 2CH Frequency Response 20 Hz to 20 kHz, ±1dB  Max Output Level 10 Hz to 20 kHz, ±1dB  Ana Output Level 20 Hz to 20 kHz, ±1dB  Ana Output Level 10 Hz to 20 kHz, ±1dB  Ana Output Level 20 Hz to 20 kHz, ±1dB  Ana Output Level 20 Hz to 20 kHz, ±1dB  Ana Output Level 20 Hz to 20 kHz, ±1dB  Ana Output Level 20 Hz to 20 kHz, ±1dB  Ana Output Level 20 Hz to 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR > 80dB, 20Hz-20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR > 80dB, 20Hz-20 kHz bandwidth  Crosstalk Isolation < -80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)  Output load capability 1k ohm and higher (supports 10x paralleled 10k ohm loads)	HDMI Input Resolution	Up to 4K@60Hz 4:4:4, HDR	
HDMI Output Resolution  HDMI Output  Supports up to 5V500mA for AoC cable  HDMI Version  Up to 2.0  HDCP Version  Up to 2.3  HDMI Audio Signal  HDMI Audio Signal  Digital Audio Output  (8) Digital SPDIF audio  Output Connector  Digital SPDIF Audio Format  Frequency Response  THD+N  Analog Audio Output  (8) Analog L/R Audio  Output (9) Analog L/R Audio  Output (90 Analog L/R Audio  Output Level  Analog Audio Output  (8) Analog L/R Audio  Output Level  Analog Audio Output  (8) Analog L/R Audio  Output Level  Analog Audio Output  (8) Analog L/R Audio  Output Level  Analog Seponse  Analog Audio Output  (8) Analog L/R Audio  Output Level  Analog Audio Format Seponse  Analog Audio Format Seponse  Output Level  Analog Audio Output  Output Seponse  Analog Audio Format Seponse  Analog Audio Forma	Video Output	(8) HDMI	
HDMI Output Supports up to 5V500mA for AoC cable  HDMI Version Up to 2.0  HDCP Version Up to 2.3  HDMI Audio Signal LPCM 7.1 audio, Dolby Atmos®, Dolby® TrueHD, Dolby Digital® Plus, DTS:X™, and DTS-HD® Master Audio™ pass-through.  Digital Audio Output  Output (8) Digital SPDIF audio Output Connector (8) Toslink connector Digital SPDIF Audio Format Supports PCM, Dolby Digital, DTS, DTS-HD Frequency Response 20Hz − 20KHz, ±1dB  Max Output Level ±0.05dBFS  THD+N 2008, 20 Hz − 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR > 90dB, 20Hz-20KHz bandwidth  Crosstalk Isolation < -70 dB, 10 kHz sine at 0 dBFS level (or max level before clipping)  Noise -90dB  Analog Audio Output (8) Analog L/R Audio Output (8) L&R (RCA)  Digital SPDIF Audio Format PCM 2CH  Frequency Response 20 Hz - 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level before clipping)  Max Output Level -20 Hz to 20 kHz, ±1dB  2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  THD+N -20 VS, 20 Hz - 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level before clipping)  SNR > 80dB, 20Hz-20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level before clipping)  L-R level deviation < -80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)  Output load capability 1k ohm and higher (supports 10x paralleled 10k ohm loads)	Output Connector	(8) Type-A female HDMI	
HDMI Version  HDCP Version  Up to 2.3  HDMI Audio Signal  LPCM 7.1 audio, Dolby Atmos®, Dolby® TrueHD, Dolby Digital® Plus, DTS:X™, and DTS-HD® Master Audio™ pass-through.  Digital Audio Output  Output  (8) Digital SPDIF audio  Output Connector  Supports PCM, Dolby Digital, DTS, DTS-HD  Frequency Response  20Hz − 20KHz, ± 1dB  Max Output Level  ± 0.05dBFS  THD+N  SNR  > 90dB, 20Hz-20KHz bandwidth, 1 kHz sine at 0dBFS level (or max level before clipping)  Noise  90dB  Analog Audio Output  (8) Analog L/R Audio  Output Connector  (8) Tequency Response  20Hz − 20KHz bandwidth, 1 kHz sine at 0dBFS level (or max level before clipping)  Noise  90dB, 20Hz-20KHz bandwidth  Crosstalk Isolation  (8) L&R (RCA)  Digital SPDIF Audio Format  Frequency Response  20 Hz to 20 kHz, ±1dB  20 Vms ± 0.5dB, 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  THD+N  Analog L/R bandwidth, 1 kHz sine at 0dBFS level (or max level before clipping)  Noise  PCM 2CH  Frequency Response  20 Hz to 20 kHz, ±1dB  20 Vms ± 0.5dB, 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  THD+N  SNR  > 80dB, 20Hz-20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level before clipping)  L-R level deviation  < 0.05 dB, 1 kHz sine at 0dBFS level (or max level before clipping)  Output load capability  1k ohm and higher (supports 10x paralleled 10k ohm loads)	HDMI Output Resolution	Up to 4K@60Hz 4:4:4, HDR10 and Dolby Vision	
HDCP Version  Up to 2.3  LPCM 7.1 audio, Dolby Atmos®, Dolby® TrueHD, Dolby Digital® Plus, DTS:X™, and DTS-HD® Master Audio™ pass-through.  Digital Audio Output  Output (8) Digital SPDIF audio  Output Connector (8) Toslink connector  Digital SPDIF Audio Format Supports PCM, Dolby Digital, DTS, DTS-HD  Frequency Response 20Hz − 20KHz, ±1dB  Max Output Level ±0.05dBFS  THD+N 20MB, 20Hz − 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR > 90dB, 20Hz-20KHz bandwidth  Crosstalk Isolation < -70 dB, 10 kHz sine at 0 dBFS level (or max level before clipping)  Noise 90dB  Analog Audio Output (8) Analog L/R Audio  Output Connector (8) L&R (RCA)  Digital SPDIF Audio Format PCM 2CH  Frequency Response 20 Hz to 20 kHz, ±1dB  2 0 Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  THD+N 2005%, 20 Hz − 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR > 80dB, 20Hz-20 kHz bandwidth  Crosstalk Isolation < -80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)  L-R level deviation < 0.05 dB, 1 kHz sine at 0dBFS level (or max level before clipping)  Output load capability 1k ohm and higher (supports 10x paralleled 10k ohm loads)	HDMI Output	Supports up to 5V500mA for AoC cable	
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Digital Audio Output         Output       (8) Digital SPDIF audio         Output Connector       (8) Toslink connector         Digital SPDIF Audio Format       Supports PCM, Dolby Digital, DTS, DTS-HD         Frequency Response       20Hz – 20KHz, ±1dB         Max Output Level       ±0.05dBFS         THD+N       < 0.05%, 20 Hz – 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)	HDCP Version	Up to 2.3	
Output (8) Digital SPDIF audio Output Connector (8) Toslink connector Digital SPDIF Audio Format Supports PCM, Dolby Digital, DTS, DTS-HD Frequency Response 20Hz – 20KHz, ±1dB  Max Output Level ±0.05dBFS  THD+N 2005%, 20 Hz – 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR > 90dB, 20Hz-20KHz bandwidth Crosstalk Isolation < -70 dB, 10 kHz sine at 0 dBFS level (or max level before clipping)  Noise 90dB  Analog Audio Output (8) Analog L/R Audio Output Connector (8) L&R (RCA) Digital SPDIF Audio Format PCM 2CH Frequency Response 20 Hz to 20 kHz, ±1dB  Max Output Level 2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  THD+N 2.0Vfms ± 0.5dB. 2 V = 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR > 80dB, 20Hz-20 kHz bandwidth Crosstalk Isolation < -80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)  Utput load capability 1k ohm and higher (supports 10x paralleled 10k ohm loads)	HDMI Audio Signal		
Output Connector  Digital SPDIF Audio Format  Frequency Response  20Hz - 20KHz, ± 1dB  Max Output Level  ±0.05dBFS  THD+N  SNR  > 90dB, 20Hz-20KHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR  > 90dB, 20Hz-20KHz bandwidth  Crosstalk Isolation  <-70 dB, 10 kHz sine at 0 dBFS level (or max level before clipping)  Noise  -90dB  Analog Audio Output  Output  (8) Analog L/R Audio  Output Connector  (8) L&R (RCA)  Digital SPDIF Audio Format  PCM 2CH  Frequency Response  20 Hz to 20 kHz, ±1dB  2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  THD+N  SNR  > 80dB, 20Hz-20 kHz bandwidth  Crosstalk Isolation  <-80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)  Crosstalk Isolation  -80dB, 20Hz-20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR  Crosstalk Isolation  -80dB, 10 kHz sine at 0dBFS level (or max level before clipping)  Utput load capability  Ne on max level (or max level before clipping)	Digital Audio Output		
Digital SPDIF Audio Format  Frequency Response  20Hz – 20KHz, ± 1dB  ± 0.05dBFS  THD+N	Output	(8) Digital SPDIF audio	
Frequency Response 20Hz – 20KHz, ±1dB  Max Output Level ±0.05dBFS  THD+N      <0.05%, 20 Hz – 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR > 90dB, 20Hz-20KHz bandwidth  Crosstalk Isolation < -70 dB, 10 kHz sine at 0 dBFS level (or max level before clipping)  Noise -90dB  Analog Audio Output  Output (8) Analog L/R Audio  Output Connector (8) L&R (RCA)  Digital SPDIF Audio Format PCM 2CH  Frequency Response 20 Hz to 20 kHz, ±1dB  Max Output Level 2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal	Output Connector	(8) Toslink connector	
Max Output Level±0.05dBFSTHD+N< 0.05%, 20 Hz - 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)	Digital SPDIF Audio Format	Supports PCM, Dolby Digital, DTS, DTS-HD	
THD+N    Co.05%, 20 Hz - 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)	Frequency Response	20Hz – 20KHz, ±1dB	
THD+N  max level)  SNR  > 90dB, 20Hz-20KHz bandwidth  Crosstalk Isolation  < -70 dB, 10 kHz sine at 0 dBFS level (or max level before clipping)  Noise  -90dB  Analog Audio Output  Output  (8) Analog L/R Audio  Output Connector  (8) L&R (RCA)  Digital SPDIF Audio Format  Frequency Response  20 Hz to 20 kHz, ±1dB  2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV)  nominal consumer line level signal	Max Output Level	±0.05dBFS	
SNR > 90dB, 20Hz-20KHz bandwidth  Crosstalk Isolation < -70 dB, 10 kHz sine at 0 dBFS level (or max level before clipping)  Noise -90dB  Analog Audio Output  Output (8) Analog L/R Audio  Output Connector (8) L&R (RCA)  Digital SPDIF Audio Format PCM 2CH  Frequency Response 20 Hz to 20 kHz, ±1dB  Max Output Level 2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  < 0.05%, 20 Hz - 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR > 80dB, 20Hz-20 kHz bandwidth  Crosstalk Isolation < -80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)  L-R level deviation	THD+N	· ·	
Crosstalk Isolation <a href="#">&lt; -70 dB, 10 kHz sine at 0 dBFS level (or max level before clipping)</a> Noise -90dB  Analog Audio Output  Output (8) Analog L/R Audio Output Connector (8) L&R (RCA)  Digital SPDIF Audio Format PCM 2CH  Frequency Response 20 Hz to 20 kHz, ±1dB  Max Output Level 2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  THD+N	SNR	· · · · · · · · · · · · · · · · · · ·	
Noise -90dB  Analog Audio Output  Output (8) Analog L/R Audio  Output Connector (8) L&R (RCA)  Digital SPDIF Audio Format PCM 2CH  Frequency Response 20 Hz to 20 kHz, ±1dB  Max Output Level 2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  < 0.05%, 20 Hz - 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR > 80dB, 20Hz-20 kHz bandwidth  Crosstalk Isolation < -80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)  L-R level deviation < < 0.05 dB, 1 kHz sine at 0dBFS level (or max level before clipping)  Output load capability 1k ohm and higher (supports 10x paralleled 10k ohm loads)	-		
Analog Audio Output  Output  Output Connector  (8) L&R (RCA)  Digital SPDIF Audio Format  Frequency Response  20 Hz to 20 kHz, ±1dB  2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  THD+N  THD+N  SNR  > 80dB, 20Hz-20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR  > 80dB, 20Hz-20 kHz bandwidth  Crosstalk Isolation  < -80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)  L-R level deviation  Output load capability  1k ohm and higher (supports 10x paralleled 10k ohm loads)			
Output Connector  (8) L&R (RCA)  Digital SPDIF Audio Format  Frequency Response  20 Hz to 20 kHz, ±1dB  2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  THD+N  SNR  > 80dB, 20Hz-20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR  > 80dB, 20Hz-20 kHz bandwidth  Crosstalk Isolation  < -80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)  L-R level deviation  Output load capability  1k ohm and higher (supports 10x paralleled 10k ohm loads)		-3000	
Output Connector  (8) L&R (RCA)  Digital SPDIF Audio Format  Frequency Response  20 Hz to 20 kHz, ±1dB  2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal	-	(8) Analog I /P Audio	
Digital SPDIF Audio Format  Frequency Response  20 Hz to 20 kHz, ±1dB  2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  THD+N  Crosstalk Isolation  Cro	•	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Frequency Response  20 Hz to 20 kHz, ±1dB  2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  THD+N  Crosstalk Isolation  Crosstalk	•		
Max Output Level  2.0Vrms ± 0.5dB. 2 V = 16 dB headroom above -10dBV (316 mV) nominal consumer line level signal  < 0.05%, 20 Hz – 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  SNR  > 80dB, 20Hz-20 kHz bandwidth  Crosstalk Isolation  < -80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)  L-R level deviation  < 0.05 dB, 1 kHz sine at 0dBFS level (or max level before clipping)  Output load capability  1k ohm and higher (supports 10x paralleled 10k ohm loads)			
mominal consumer line level signal  THD+N  Crosstalk Isolation  L-R level deviation  Output load capability  nominal consumer line level signal  < 0.05%, 20 Hz – 20 kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)  > 80dB, 20Hz-20 kHz bandwidth  < -80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)  < 0.05 dB, 1 kHz sine at 0dBFS level (or max level before clipping)  1k ohm and higher (supports 10x paralleled 10k ohm loads)	r requericy response		
THD+N  max level)  SNR  > 80dB, 20Hz-20 kHz bandwidth  Crosstalk Isolation  <-80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)  L-R level deviation  <-0.05 dB, 1 kHz sine at 0dBFS level (or max level before clipping)  Output load capability  1k ohm and higher (supports 10x paralleled 10k ohm loads)	Max Output Level	` '	
Crosstalk Isolation < -80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)  L-R level deviation < 0.05 dB, 1 kHz sine at 0dBFS level (or max level before clipping)  Output load capability 1k ohm and higher (supports 10x paralleled 10k ohm loads)	THD+N	·	
L-R level deviation < 0.05 dB, 1 kHz sine at 0dBFS level (or max level before clipping)  Output load capability 1k ohm and higher (supports 10x paralleled 10k ohm loads)	SNR	> 80dB, 20Hz-20 kHz bandwidth	
Output load capability 1k ohm and higher (supports 10x paralleled 10k ohm loads)	Crosstalk Isolation	< -80 dB, 10 kHz sine at 0dBFS level (or max level before clipping)	
	L-R level deviation	< 0.05 dB, 1 kHz sine at 0dBFS level (or max level before clipping)	
Noise -80dB	Output load capability	1k ohm and higher (supports 10x paralleled 10k ohm loads)	
	Noise	-80dB	

Control	
Control port	(1) FIRWARE, (1) IR EYE, (1) RS232, (1) TCP/IP,
Control Connector	(1) USB-A, (1) 3.5mm jack, (1) 3-pin terminal block, (1) RJ45
General	
Transmission Distance	4K/60Hz/444 5m,4K/60Hz/420 10m,1080P 15m
Bandwidth	18Gbps
Operation Temperature	-5°C ~ +55°C
Storage Temperature	-25°C ~ +70°C
Relative Humidity	10% ~ 90%
External Power Supply	Input: AC 100V~240V, 50/60Hz; Output : 24V DC 2.71A
Power Consumption	24W
Dimension (W*H*D)	436.4mm*44mm*236mm
Net Weight	3kg

#### Video Resolution Down-scaling:

The product supports video resolution down-scaling, the 4K input can be automatically degraded to 1080p output for compatibility with 1080p display, shown in the below chart.

	Input			Output	
#	Resolution	Refresh	Color Space	Downscale	1080p Specs
1	3840x2160	60	4:4:4	Support	1080p@60Hz 4:4:4
2	3840x2160	30	4:4:4	Support	1080p@30Hz 4:4:4
3	3840x2160	24	4:4:4	Support	1080p@24Hz 4:4:4
4	3840x2160	60	4:2:0	Support	1080p@60Hz 4:4:4
5	3840x2160	30	4:2:0	Support	1080p@30Hz 4:4:4
6	3840x2160	24	4:2:0	Support	1080p@24Hz 4:4:4
7	3840x2160	60	4:2:2	Not Support	N/A
8	3840x2160	30	4:2:2	Not Support	N/A
9	3840x2160	24	4:2:2	Not Support	N/A

**Note:** Only last four outputs (output 5, output 6, output 7 and output 8) have down-scaling function.

## 3. Panel Description

### 3.1 Front Panel



No.	Name	Description		
1)	Power Indicator	<ul><li>Illuminates green when device powered on;</li><li>Turns red in standby mode.</li></ul>		
2	IR sensor	Built-in IR sensor, receives IR signal sent from IR remote.		
3	INPUT selector button OUTPUT selector button	<ul> <li>Total 8 input selector buttons, press one of buttons to switch input source.</li> <li>Total 8 output selector buttons, press the buttons to select output channel.</li> </ul>		
4	ENTER button	Confirm operation.		
	LOCK button	Press this button for 3 seconds to lock/unlock all front buttons.		
	ALL button	Select all outputs to convert an input to all outputs:  → Press INPUTS 1 + ALL + ENTER		
	<b>CLEAR</b> button	Withdraw button.		
(5)	PRESET RECALL HOLD TO STORE	<ul> <li>Press and hold the button 1~4 to save the current switching status to the corresponding preset 1~4.</li> <li>Press the button 1~4 to recall the saved preset 1~4.</li> </ul>		

### 3.2 Rear Panel



No.	Name	Description
1	INPUTS	HDMI input ports, 8 in total, connects with HDMI sources.
2	OUTPUTS	8 in total, connects with HDMI displays. The latter four HDMI ports have down-scaling function.
3	AUDIO MATRIX OUTPUTS	SPDIF: Audio output ports for de-embedded HDMI audio, 8 in total.  L&R (RCA): Audio output ports for de-embedded HDMI audio, 8 pairs in total.
4	IR EYE	Connects with external IR receiver for using the IR remote to control the Matrix Switcher.
5	RS232	3-pin terminal block to connect the RS232 control device (e.g. PC) or a device to be controlled by RS232 commands.
6	FIREWARE	USB-A port for updating firmware.
7	TCP/IP	RJ45 port to connect the control device (e.g. PC) to control the matrix by GUI.
8	DC 24V	Connect with 24VDC 2.71A power adaptor.