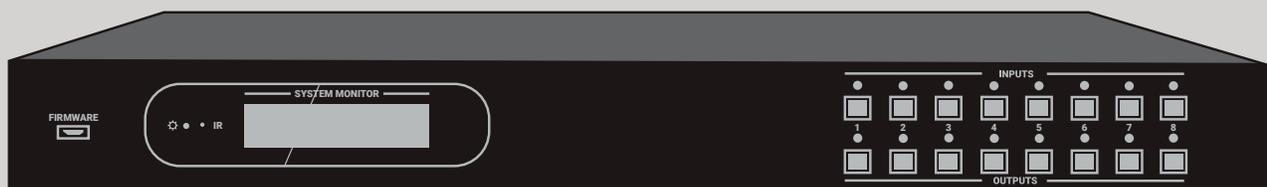


DATA SHEET

AVS-HDMI2-4X4, AVS-HDMI2-8X8, AVSC-HDMI2-8X2

VIDEO MATRIX SWITCHES HDMI 2.0

24/7 TECHNICAL SUPPORT AT 877.877.2269 OR VISIT BLACKBOX.COM



OVERVIEW

VIDEO MATRIX SWITCHES HDMI 2.0 DATA SHEET

INTRODUCTION

The Video Matrix Switch is a professional 4K 4 x 4 or 8 x 8 HDMI 2.0 Matrix Switch with 4 or 8 HDMI inputs, 4 or 8 HDMI outputs, and 4 or 8 SPDIF audio outputs. It is designed for switching four or eight HDMI 2.0 and HDCP 2.2 compliant signals. It also includes powerful EDID management to ensure reliable AV distribution and routing.

You can control the unit via the front panel, IR, RS-232, TCP/IP and web-based GUI.

The 8 x 2 Video Matrix Switch, 18G Seamless Switching, HDMI 2.0 4K 60 Hz 4:4:4 HDR simplifies meeting room and presentation space system integration via one HDBaseT input, four HDMI inputs, one VGA input, one DP input, one USB-C input, one HDBaseT output and one HDMI output. It also has external audio inputs to be embedded in HDBaseT, HDMI and VGA video inputs respectively. It offers MIX audio input for global audio.

The 8 x 2 matrix switch provides true 4K scaling up to 4K @ 60 Hz @ 4:4:4. Both inputs and outputs are capable of providing 4K @ 60 Hz @ 4:4:4 signals. The HDBaseT input and output give you an innovative solution with VLC technology, allowing transmission of HDMI 2.0 signals over a CATx cable while ensuring very high, original image quality. It is designed for use with the VX-HDB2-KIT extender kit. The USB-C input is ideal for AV interfacing with newer MacBook, Chromebook, and Windows PCs, as well as smart phones and tablets.

The 8 x 2 matrix switch supports auto switching on HDMI, HDBaseT and HDMI loop outputs based on TMDS activity signals sensing. It also allows users to control system functionality via Web GUI, RS-232, IR and CEC. Additionally, users can control a relay device such as the rise and fall of a projector screen over RELAY ports.

The matrix switch is designed to be the central component of an AV system. It is ideal for applications where multiple signals with different resolutions must be optimized for displays. It is also suitable for presentation spaces where two displays are needed.

FEATURES (AVS-HDMI2-4X4 AND AVS-HDMI2-8X8)

- FOUR OR EIGHT SPDIF PORTS PROVIDE DE-EMBEDDED HDMI AUDIO OUTPUT
- SUPPORTS 4K X 2K @ 60 HZ 4:4:4 AND 1080P 3D SIGNALS
- SUPPORTS HDMI 2.0, HDCP 2.2 COMPATIBLE, AND IS BACKWARD COMPATIBLE TO THE EARLIER VERSIONS
- TRANSMITS 4K X 2K @ 60 HZ 4:4:4 SIGNAL UP TO 16.4 FEET (5 M) VIA HDMI PORT
- PROVIDES POWERFUL EDID MANAGEMENT, BUILT-IN EDID CAN BE INVOKED VIA DIP SWITCH ON REAR PANEL, RS-232 COMMAND OR WEB-BASED GUI
- CONTROLLABLE VIA FRONT PANEL BUTTON, IR, RS-232, TCP/IP OR WEB-BASED GUI
- LCD SCREEN SHOWS REAL-TIME I/O CONNECTION STATUS
- CONVENIENT FIRMWARE UPGRADE THROUGH MICRO USB PORT
- EASY INSTALLATION WITH RACKMOUNTING DESIGN

FEATURES (AVSC-HDMI2-8X2)

- HDMI 2.0 AND HDCP 2.2 COMPLIANT. THE VIDEO RESOLUTION CAN BE UP TO 4K @ 60 HZ 4:4:4
- SUPPORTS VIDEO RESOLUTION DOWN-SCALING AND UP-SCALING, 1080P, 1920 X 1200P, 4K @ 30 HZ, 4K @ 60 HZ CAN BE SELECTED FOR HDMI AND HDBASET OUTPUTS.
- SUPPORTS AUTOMATIC SWITCHING
- FEATURES A MIRRORED HDMI OUTPUT FOR HDBASET OUTPUT
- VISUALLY LOSSLESS VIDEO DE-COMPRESSION AND COMPRESSION FOR HDMI SIGNALS TRANSMISSION UP TO 131 FEET (40 METERS) AT 4K AND 229 FEET (70 METERS) AT 1080P ON HDBASET INPUT AND OUTPUT
- HDBASET INPUT AND OUTPUT SUPPORT 24V POC
- EXTERNAL BALANCED AUDIO INPUTS CAN BE EMBEDDED IN ONE HDBASET INPUT AND TWO HDMI VIDEO INPUTS RESPECTIVELY
- OFFERS TWO GROUPS OF AUDIO OUTPUTS (BALANCED AUDIO AND DIGITAL SPDIF AUDIO) FOR AUDIO DE-EMBEDDING
- SUPPORTS MIX AUDIO INPUT AND ITS VOLUME CONTROL
- SUPPORTS HDMI OUTPUT, HDBASET OUTPUT AUDIO CONTROL
- CONTROLLABLE VIA RS-232 LOCAL AND PASS-THROUGH, IR LOCAL AND PASS-THROUGH, TCP/IP, RELAY, CEC AND ON OSD



SPECIFICATIONS COMPARISON CHART

SPECIFICATIONS COMPARISON CHART			
	AVS-HDMI2-4X4	AVS-HDMI2-8X8	AVSC-HDMI2-8X2
VIDEO INPUT CONNECTORS	(4) HDMI Type A F	(8) HDMI Type A F	(1) RJ-45, (4) HDMI Type A F, (1) DisplayPort Type A F, (1) 15-pin VGA F, (1) USB 3.0 Type C
VIDEO OUTPUT CONNECTORS	(4) HDMI Type A F, (4) coax	(8) HDMI Type A F, (8) coax	(2) HDMI Type A F, (1) RJ-45
VIDEO SIGNAL	HDMI 2.0 and HDCP 2.2	HDMI 2.0 and HDCP 2.2	Input: (1) HDBaseT, (4) HDMI, (1) DisplayPort, (1) VGA, (1) USB-C; Output: (2) HDMI, (1) HDBaseT
CONTROL CONNECTORS	(1) 3.5-mm mini jack, (1) RJ-45 female, (1) 3-pin pluggable terminal block	(1) 3.5-mm mini jack, (1) RJ-45 female, (1) 3-pin pluggable terminal block	(3) 3-pin terminal blocks, (4) 3.5-mm jacks, (1) RJ-45, (1) Type-A USB
CONTROL SIGNAL	(1) IR IN, (1) TCP/IP, (1) RS-232	(1) IR IN, (1) TCP/IP, (1) RS-232	(1) RS-232, (2) Relay 1-2, (1) IR Eye, (2) IR IN, (1) IR OUT, (1) TCP/IP, (1) Firmware
AUDIO CONNECTORS	(4) SPDIF ports	(8) SPDIF ports	Input: (4) 5-pin terminal blocks, (1) 3.5-mm jack; Output: (2) 5-pin terminal blocks, (2) Toslink connectors
AUDIO SIGNAL	Dolby Digital, DTS, DTS-HD	Dolby Digital, DTS, DTS-HD	Input: (1) External balanced audio (L+R) for 1-HDBT input port; (1) External balanced audio (L+R) for 2-HDMI input port; (1) External balanced audio (L+R) for 3-HDMI input port; (1) Stereo auxiliary audio for 6-VGA input port; (1) Balanced MIX audio Output: (1) Balanced audio (L+R) for 1-HDMI output audio de-embedding; (1) Digital SPDIF audio (L+R) for 1-HDMI output audio de-embedding; (1) Balanced audio (L+R) for 2-HDBT output audio de-embedding; (1) Digital SPDIF audio (L+R) for 2-HDBT output audio de-embedding
RESOLUTION	640 x 480 @ 60 Hz, 4K x 2K @ 60 Hz 4:4:4, 1080p 3D	640 x 480 @ 60 Hz, 4K x 2K @ 60 Hz 4:4:4, 1080p 3D	Input: HDBaseT: Up to 4K x 2K @ 60 Hz 4:4:4; HDMI: Up to 4K x 2K @ 60 Hz 4:4:4; DP: Up to 4K x 2K @ 60 Hz 4:4:4; VGA: Up to 1920 x 1200 (50/60 Hz); USB-C: Up to 4K x 2K @ 30 Hz Output: HDMI: Up to 4K x 2K @ 60 Hz 4:4:4; HDBaseT: Up to 4K x 2K @ 60 Hz 4:4:4
EDID MANAGEMENT	Built-in EDID data and manual EDID management	Built-in EDID data and manual EDID management	Built-in EDID data and manual EDID management
OPERATING TEMPERATURE	14 to 131° F (-10 to 55° C)	14 to 131° F (-10 to 55° C)	14 to 131° F (-10 to 55° C)
INPUT POWER	100 to 240 VAC, 50/60 Hz	100 to 240 VAC, 50/60 Hz	100 to 240 VAC, 50/60 Hz
OUTPUT POWER	24 VDC, 1.25 A	24 VDC, 2.71 A	24 VDC, 6 A
POWER CONSUMPTION	14 W (max.)	21 W (Max.)	85 W (max.)
DIMENSIONS	1.7" H x 17.2" W x 9.3 D (4.4 x 43.7 x 23.6 cm)	1.7" H x 17.2" W x 9.3 D (4.4 x 43.7 x 23.6 cm)	1.7" H x 17.1" W x 14.0" D (4.4 x 43.6 x 35.6 cm)
WEIGHT	3.8 lb. (1.75 kg)	4.0 lb. (1.82 kg)	6.6 lb. (3 kg)



SPECIFICATIONS

VIDEO MATRIX SWITCH 4 X 4 HDMI 2.0 (AVS-HDMI2-4X4)

FRONT VIEW



AVS-HDMI2-4X4

BACK VIEW



AVS-HDMI2-4X4

WHAT'S INCLUDED WITH THE AVS-HDMI2-4X4

- (1) VIDEO MATRIX SWITCH 4 X 4, HDMI 2.0, 4K 60 HZ 4:4:4, HDR, AUDIO
- (6) SCREWS
- (1) RS-232 CABLE (3-PIN TO DB9)
- (1) IR REMOTE
- (2) MOUNTING EARS
- (4) PLASTIC CUSHIONS
- (1) IR RECEIVER
- (1) POWER ADAPTER (24 VDC, 1.25 A)

VIDEO MATRIX SWITCH 4 X 4 HDMI 2.0 (AVS-HDMI2-4X4)	
INPUT	
INPUT SIGNAL	(4) HDMI
INPUT CONNECTOR	(4) HDMI Type A female
OUTPUT	
OUTPUT SIGNAL	(4) HDMI, (4) SPDIF audio
OUTPUT CONNECTOR	(4) HDMI Type A female, (4) coax
CONTROL	
CONTROL SIGNAL	(1) IR IN, (1) TCP/IP, (1) RS-232
CONTROL CONNECTOR	(1) 3.5-mm mini jack, (1) RJ-45 female, (1) 3-pin pluggable terminal block
VIDEO SIGNAL	HDMI 2.0 and HDCP 2.2
AUDIO SIGNAL	Dolby Digital, DTS, DTS-HD
POWER	
AC ADAPTER INPUT POWER	100 to 240 VAC, 50/60 Hz
OUTPUT POWER	24 VDC, 1.25 A
POWER CONSUMPTION	14 W (max.)
GENERAL	
EDID MANAGEMENT	Built-in EDID data and manual EDID management
RESOLUTION	640 x 480 @ 60 Hz, 4K x 2K @ 60 Hz 4:4:4, 1080p 3D
HDMI CABLE LENGTH	< or = 1.5 ft. (5 m)
OPERATING TEMPERATURE	14 to 131° F (-10 to 55° C)
HUMIDITY	10 to 90% relative humidity
DIMENSIONS	1.7" H x 17.2" W x 9.3 D (4.4 x 43.7 x 23.6 cm)
WEIGHT	3.8 lb. (1.75 kg)



SPECIFICATIONS

VIDEO MATRIX SWITCH 8 X 8 HDMI 2.0 (AVS-HDMI-8X8)

FRONT VIEW



AVS-HDMI2-8X8

BACK VIEW



AVS-HDMI2-8X8

WHAT'S INCLUDED WITH THE AVS-HDMI2-8X8

- (1) VIDEO MATRIX SWITCH 8 X 8, HDMI 2.0, 4K 60 HZ 4:4:4, HDR, AUDIO
- (6) SCREWS
- (1) RS-232 CABLE (3-PIN TO DB9)
- (1) IR REMOTE
- (2) MOUNTING EARS
- (4) PLASTIC CUSHIONS
- (1) IR RECEIVER
- (1) POWER ADAPTER (24 VDC, 2.71 A)

VIDEO MATRIX SWITCH 8 X 8 HDMI 2.0 (AVS-HDMI2-8X8)	
INPUT	
INPUT SIGNAL	(8) HDMI
INPUT CONNECTOR	(8) HDMI Type A female
OUTPUT	
OUTPUT SIGNAL	(8) HDMI, (8) SPDIF audio
OUTPUT CONNECTOR	(8) HDMI Type A female, (8) coax
CONTROL	
CONTROL SIGNAL	(1) IR IN, (1) TCP/IP, (1) RS-232
CONTROL CONNECTOR	(1) 3.5-mm mini jack, (1) RJ-45 female, (1) 3-pin pluggable terminal block
VIDEO SIGNAL	HDMI 2.0 and HDCP 2.2
AUDIO SIGNAL	Dolby Digital, DTS, DTS-HD
POWER	
AC ADAPTER INPUT POWER	100 to 240 VAC, 50/60 Hz
OUTPUT POWER	24 VDC, 2.71 A
POWER CONSUMPTION	21 W (max.)
GENERAL	
EDID MANAGEMENT	Built-in EDID data and manual EDID management
RESOLUTION	640 x 480 @ 60 Hz, 4K x 2K @ 60 Hz 4:4:4, 1080p 3D
HDMI CABLE LENGTH	< or = 1.5 ft. (5 m)
OPERATING TEMPERATURE	14 to 131° F (-10 to 55° C)
HUMIDITY	10 to 90% relative humidity
DIMENSIONS	1.7" H x 17.2" W x 9.3 D (4.4 x 43.7 x 23.6 cm)
WEIGHT	4.0 lb. (1.82 kg)

SPECIFICATIONS

VIDEO MATRIX SWITCH 8 X 2 HDMI 2.0 (AVSC-HDMI2-8X2)

FRONT VIEW



AVSC-HDMI2-8X2

BACK VIEW



AVSC-HDMI2-8X2

WHAT'S INCLUDED WITH THE AVSC-HDMI2-8X2

- (1) 8 X 2 VIDEO MATRIX SWITCH, 18 G SEAMLESS SWITCHING, HDMI 2.0 4K 60 HZ 4:4:4 HDR
- (2) MOUNTING EARS WITH (6) SCREWS
- (4) PLASTIC CUSHIONS
- (1) IR REMOTE
- (1) IR RECEIVER
- (3) 3-PIN TERMINAL BLOCKS
- (7) 5-PIN TERMINAL BLOCKS
- (1) POWER ADAPTER (24 VDC, 6 A)

VIDEO MATRIX SWITCH 8 X 2 HDMI 2.0 (AVSC-HDMI2-8X2)	
VIDEO INPUT	
VIDEO INPUT SIGNAL	(1) HDBaseT, (4) HDMI, (1) DisplayPort, (1) VGA, (1) USB-C
VIDEO INPUT CONNECTOR	(1) RJ-45, (4) HDMI Type A female, (1) DisplayPort Type A female, (1) 15-pin VGA female, (1) USB 3.0 Type C
INPUT VIDEO RESOLUTION	HDBaseT: Up to 4K x 2K @ 60 Hz 4:4:4; HDMI: Up to 4K x 2K @ 60 Hz 4:4:4; DP: Up to 4K x 2K @ 60 Hz 4:4:4; VGA: Up to 1920 x 1200 (50/60 Hz); USB-C: Up to 4K x 2K @ 30 Hz
VIDEO OUTPUT	
VIDEO OUTPUT SIGNAL-	(2) HDMI, (1) HDBaseT
VIDEO OUTPUT CONNECTOR	(2) HDMI Type A female, (1) RJ-45
OUTPUT VIDEO RESOLUTION	HDMI: Up to 4K x 2K @ 60 Hz 4:4:4; HDBaseT: Up to 4K x 2K @ 60 Hz 4:4:4;
HDMI VERSION	2.0
HDCP VERSION	2.2
AUDIO INPUT	
AUDIO INPUT SIGNAL	(1) External balanced audio (L+R) for 1-HDBT input port; (1) External balanced audio (L+R) for 2-HDMI input port; (1) External balanced audio (L+R) for 3-HDMI input port; (1) Stereo auxiliary audio for 6-VGA input port; (1) Balanced MIX audio
AUDIO INPUT CONNECTOR	(4) 5-pin terminal blocks, (1) 3.5-mm jack
FREQUENCY RESPONSE	20 Hz – 20 kHz, ± 3 dB
MAX. INPUT LEVEL	2.0 Vrms ± 0.5 dB. 2V = 16 dB headroom above - 10 dBV (316 mV) nominal consumer line level signal
INPUT IMPEDANCE	> 10 kOhms
AUDIO OUTPUT	
AUDIO OUTPUT SIGNAL	(1) Balanced audio (L+R) for 1-HDMI output audio de-embedding; (1) Digital SPDIF audio (L+R) for 1-HDMI output audio de-embedding; (1) Balanced audio (L+R) for 2-HDBT output audio de-embedding; (1) Digital SPDIF audio (L+R) for 2-HDBT output audio de-embedding
AUDIO OUTPUT CONNECTORS	(2) 5-pin terminal blocks, (2) Toslink connectors
FREQUENCY RESPONSE	20 Hz – 20 kHz, ± 3 dB
MAX. OUTPUT LEVEL	2.0 Vrms ± 0.5 dB. 2V = 16 dB headroom above - 10 dBV (316 mV) nominal consumer line level signal



SPECIFICATIONS

VIDEO MATRIX SWITCH 8 X 2 HDMI 2.0 (AVSC-HDMI2-8X2) (CONTINUED)

VIDEO MATRIX SWITCH 8 X 2 HDMI 2.0 (AVSC-HDMI2-8X2) (CONTINUED)	
THD N+	< 0.05% (-80dB), 20Hz – 20 kHz bandwidth, 1 kHz sine at 0 dBFS level (or max level)
SNR	> 80 dB, 20 Hz - 20 kHz bandwidth
CROSSTALK ISOLATION	> 70 dB, 10 kHz sine at 0 dBFS level (or max level before clipping)
L/R LEVEL DEVIATION	< 0.3 dB, 1 kHz sine at 0 dBFS level (or max level before clipping)
FREQUENCY RESPONSE DEVIATION	< ± 0.5 dB 20 Hz - 20 kHz
OUTPUT LOAD CAPABILITY	1 k-Ohm and higher (supports 10x paralleled 10 k-Ohm loads)
STEREO CHANNEL SEPARATION	> 70 dB @ 1 kHz
NOISE LEVEL	-80 dB
CONTROL PORT	
CONTROL SIGNAL	(1) RS-232, (2) RELAY 1-2, (1) IR EYE, (2) IR IN, (1) IR OUT, (1) TCP/IP, (1) FIRMWARE
CONTROL CONNECTOR	(3) 3-pin terminal blocks, (4) 3.5-mm jacks, (1) RJ-45, (1) Type-A USB
POWER	
AC POWER INPUT POWER	100 to 240 VAC, 50/60 Hz
OUTPUT POWER	24 VDC, 6 A
POWER CONSUMPTION	85 W (max.)
GENERAL	
TRANSMISSION MODE	HDBaseT
TRANSMISSION DISTANCE	HDBaseT Input/Output: 1080p @ 60 Hz ≤ 229 feet (70 meters); 4K @ 60 Hz ≤ 131 feet (40 meters)
BANDWIDTH	18 Gbps
OPERATING TEMPERATURE	14 to 131° F (-10 to 55° C)
STORAGE TEMPERATURE	-13 to 158° F (-25 to 70° C)
HUMIDITY	10 to 90% relative humidity
DIMENSIONS	1.7" H x 17.1" W x 14.0" D (4.4 x 43.6 x 35.6 cm)
WEIGHT	6.6 lb. (3 kg)



