CMX88AB

Quick Reference Guide

Introduction

Our Contractor CMX88AB 4K HDMI Matrix offers unprecedented performance and value for the custom installation market. The CMX88AB supports HDMI2.0 with HDCP2.2, allowing distribution of eight HDMI sources to eight displays. This enables all sources to be viewed as required within a matrix configuration. The unit transmits all HDMI resolutions up to and including 4K 60Hz 4:4:4. The 8-Way matrix also includes audio breakout, EDID management and a web browser interface module for control and configuration of the matrix.

Key Features:

- Features 8x HDMI inputs which can be independently routed to 8x HDMI outputs
- Supports 4K UHD video including HDR (up to 4K @60Hz 4:4:4)
- Independent video down conversion on all HDMI outputs allowing a display only capable of supporting lower 4K video resolutions (4K 60Hz 4:2:0) to receive 4K 60Hz 4:4:4 video content while still showing maximum original 4K UHD resolution on remaining outputs
- Supports all industry standard video resolutions including VGA-WUXGA and 480i-4K
- Supports bitstream passthrough of multichannel surround sound including object-based audio formats in line with HDMI specifications
- HDMI audio breakout to associated output analogue L/R audio and coaxial digital outputs concurrently
- Web interface module for control and configuration of the Matrix
- Control via front panel, IR, RS-232 & TCP/IP
- 3rd party drivers available for all major home control brands
- Advanced EDID management
- HDCP 2.2 compliant

Panel Description

Front Panel:

8x8 4K HDMI 2.0 Matrix
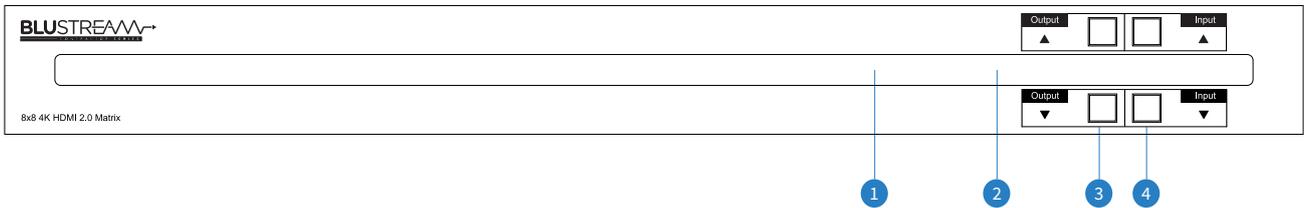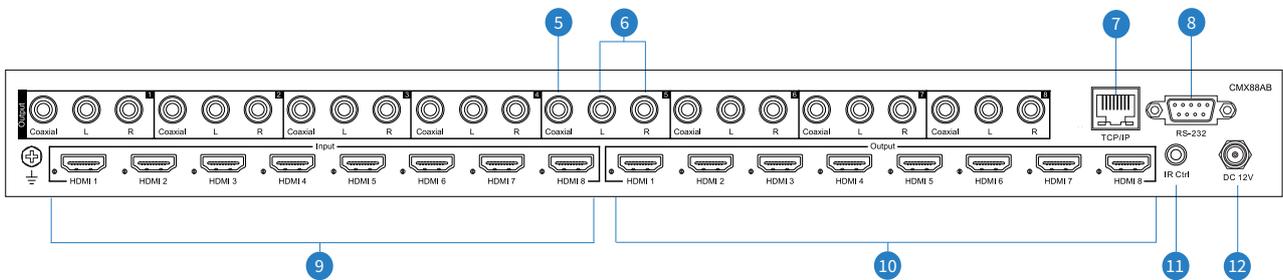
1. IR receiver window for Matrix control
2. LED indicator - Will flash when IR commands are received
3. HDMI output selection buttons UP/DOWN. Press to scroll through HDMI outputs 1-8 (A = all outputs)
4. HDMI input selection buttons UP/DOWN. Press to scroll through HDMI inputs 1-8

Rear Panel:

5. Coaxial digital audio output - RCA (SPDIF)
6. Analog L/R audio output - Supports 2 channel PCM only. The Matrix does not down-mix multi-channel audio signals.
7. TCP/IP connection - Connect to local network. Default network setting is DHCP.

   Note: If Matrix is not connected to a router the default IP address is 192.168.0.200
8. RS-232 serial port - For control of switcher by third party control devices

9. HDMI inputs - connect to HDMI source devices
10. HDMI outputs - connect to HDMI display devices
11. IR control - IR input for Martrix control. Connect 5V Blustream IR receiver.
12. Power port - Use included 12V/3A DC power adaptor

Front Panel Additional Controls:

The front panel buttons can be used for other control features:
* INPUT UP - Press and hold for 3 seconds to power off the Matrix (press to power on when in standby mode)
* INPUT DOWN - Press and hold for 10 seconds to turn on/off front panel button lock
* OUTPUT UP - Press and hold for 3 seconds to set PTP mode (output 1 = input 1, output 2 = input 2 etc)

Adjusting The EDID Settings

The EDID configuration can be altered using the Web GUI of the Matrix or using serial commands as above.
Note: The 4K auto down conversion feature will read the EDID from the display and output a suitable 4K video resolution. The handshake will not know if the method of HDMI signal distribution between Matrix and display is capable of supporting 4K resolutions. You may have to use EDID management to lower the source resolution to support your method of signal distribution, especially if your displays are only capable of 1080P (or lower) support.

RS-232 Control Port

The Matrix can be controlled via 9-pin serial RS-232 cable.

BLUSTREAM RS-232		REMOTE CONTROL CONSOLE	
PIN	Assignment	PIN	Assignment
1	NC	1	NC
2	Tx	2	Rx
3	Rx	3	Tx
4	NC	4	NC
5	GND	5	GND
6	NC	6	NC
7	NC	7	NC
8	NC	8	NC
9	NC	9	NC

Baud Rate: 57600 bps
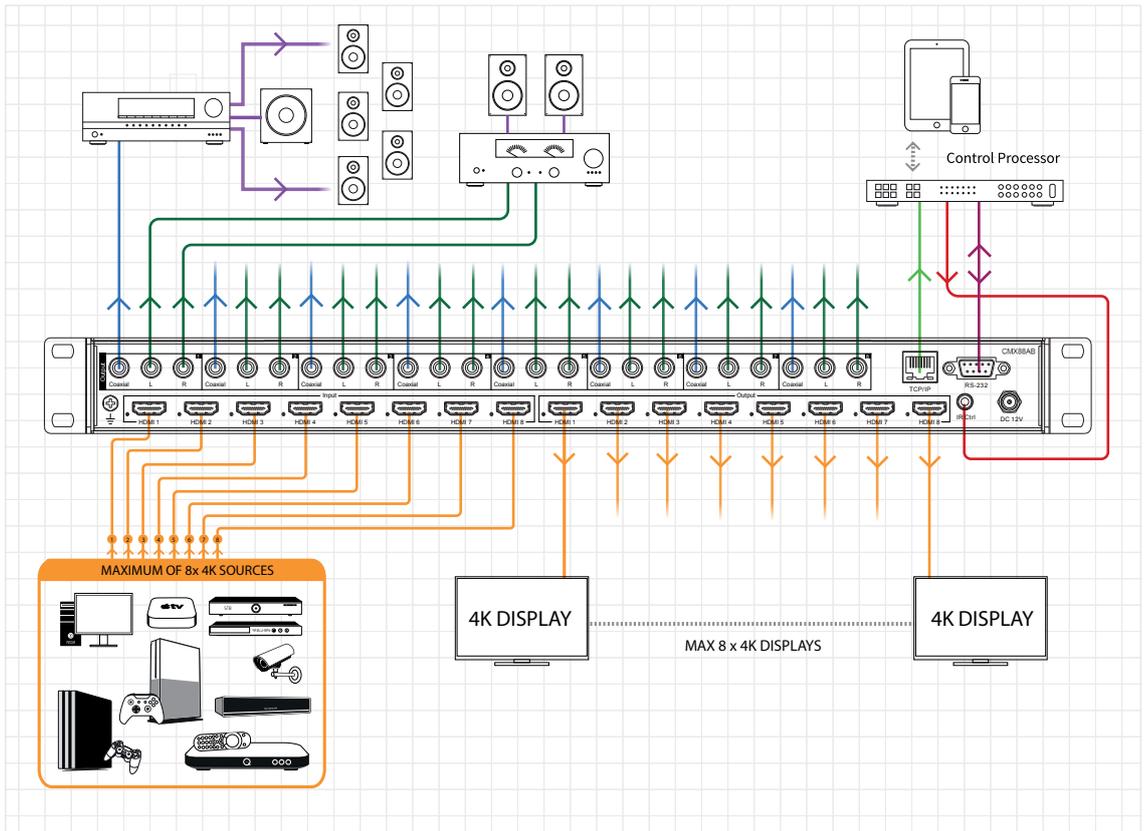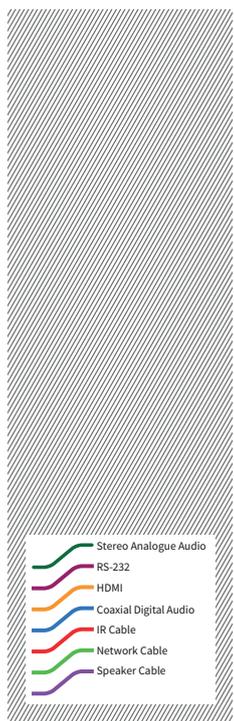
Data Bit: 8-bit

Parity: None

Stop Bit: 1-bit

Flow Control: None

RS-232 COMMAND	DESCRIPTION
?	Print Help Information
HELP	Print Help Information
STATUS	Print System Status And Port Status
PON	Power On, System Run On Normal Sta
POFF	Power Off, System Run On Power Save State
IRON/OFF	Set System IR Control On Or Off
KEYON/OFF	Set System KEY Control On Or Off
BEEPON/OFF	Set Onboard Beep On Or Off
LCDON/OFF	Set Front Panel LCD Always On or Auto Turn Off in Power On State
RESET	Reset System To Default Setting (Type "Yes" To Confirm, "No" To Discard)
OUTxxON/OFF OUTxxFRyy	Set OUTPUT:xx On or Off Set OUTPUT:xx From INPUT:yy xx=00: Select All OUTPUT Port xx=[01...08]: Select One OUTPUT Port yy=[01...08]: Select One INPUT Port
EDIDxxCPyy EDIDxxDFzz	xx=00: Select All INPUT Port xx=[01...04]: Select One INPUT Port yy=[01...04]: Select One OUTPUT Port zz=00: HDMI 1080p@60Hz, Audio 2CH PCM zz=01: HDMI 1080p@60Hz, Audio 5.1CH DTS/DOLBY zz=02: HDMI 1080p@60Hz, Audio 7.1CH DTS/DOLBY/HD zz=03: HDMI 1080i@60Hz, Audio 2CH PCM zz=04: HDMI 1080i@60Hz, Audio 5.1CH DTS/DOLBY zz=05: HDMI 1080i@60Hz, Audio 7.1CH DTS/DOLBY/HD zz=06: HDMI 1080p@60Hz/3D, Audio 2CH PCM zz=07: HDMI 1080p@60Hz/3D, Audio 5.1CH DTS/DOLBY zz=08: HDMI 1080p@60Hz/3D, Audio 7.1CH DTS/DOLBY/HD zz=09: HDMI 4K@30Hz 4:4:4, Audio 2CH PCM zz=10: HDMI 4K@30Hz 4:4:4, Audio 5.1CH DTS/DOLBY zz=11: HDMI 4K@30Hz 4:4:4, Audio 7.1CH DTS/DOLBY/HD zz=12: DVI 1280x1024@60Hz, Audio None zz=13: DVI 1920x1080@60Hz, Audio None zz=14: DVI 1920x1200@60Hz, Audio None zz=15: User EDID 1 zz=16: User EDID 2 zz=17: GUI Download EDID zz=18: HDMI 4K@60Hz 4:2:0, Audio 2CH PCM zz=19: HDMI 4K@60Hz 4:2:0, Audio 5.1CH DTS/DOLBY zz=20: HDMI 4K@60Hz 4:2:0, Audio 7.1CH DTS/DOLBY/HD zz=21: HDMI 4K@60Hz 4:4:4, Audio 2CH PCM zz=22: HDMI 4K@60Hz 4:4:4, Audio 5.1CH DTS/DOLBY zz=23: HDMI 4K@60Hz 4:4:4, Audio 7.1CH DTS/DOLBY/HD
OUTxxCSCcc	Set OUTPUT:xx Colour Space Convert mode: xx=00: Select All OUTPUT Port xx=[01...08]: Select One OUTPUT Port cc=OFF: Disable CSC mode (output signal will match input signal) cc=420: Always convert 4K 60Hz 4:4:4 to 4K 60Hz 4:2:0 cc= AUTO: Automatically convert 4K 60Hz 4:4:4 to 4K 60Hz 4:2:0 when Matrix detects display does not support 4K 60HZ 4:4:4

BLUSTREAM→
CONTRACTOR SERIES

Example Schematic
CMX88AB

Stereo Analogue Audio
RS-232
HDMI
Coaxial Digital Audio
IR Cable
Network Cable
Speaker Cable

Control Processor

MAXIMUM OF 8x 4K SOURCES

4K DISPLAY   MAX 8 x 4K DISPLAYS   4K DISPLAY

Specifications:

Video Input Connectors: 8x HDMI Type A, 19-pin, female
Video Output Connectors: 8x HDMI Type A, 19-pin, female
Audio Output Connectors: 8x RCA (SPDIF), 8x Analogue audio RCA (L/R)
RS-232 Serial Port: 1x DB-9, female
TCP/IP Control: 1x RJ45, female
IR Input Ports: 1x 3.5mm stereo jack
Casing Dimensions (W x D x H): 441mm x 226mm x 45mm
Dimensions Inc. Connections (W x D x H): 441mm x 234mm x 51mm
Shipping Weight: 3.5kg
Operating Temperature: 32°F to 104°F (0°C to 40°C)
Storage Temperature : -4°F to 140°F (-20°C to 60°C)
Power Supply : 12V/3A DC

Package Contents:

• 1x CX88AB
• 1x 12V/3A DC power supply
• 1x Remote control
• 1x IR receiver
• 1x 1x IR control cable - 3.5mm to 3.5mm cable
• 1x Mounting kit
• 1x Quick reference guide

Certifications

FCC NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.

CAUTION - changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CANADA, INDUSTRY CANADA (IC) NOTICES

This Class B digital apparatus complies with Canadian ICES-003.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

CORRECT DISPOSAL OF THIS PRODUCT

This marking indicates that this product should not be disposed with other household wastes. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmentally safe recycling.

Installer Notes

Installer Notes

www.blustream-us.com
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