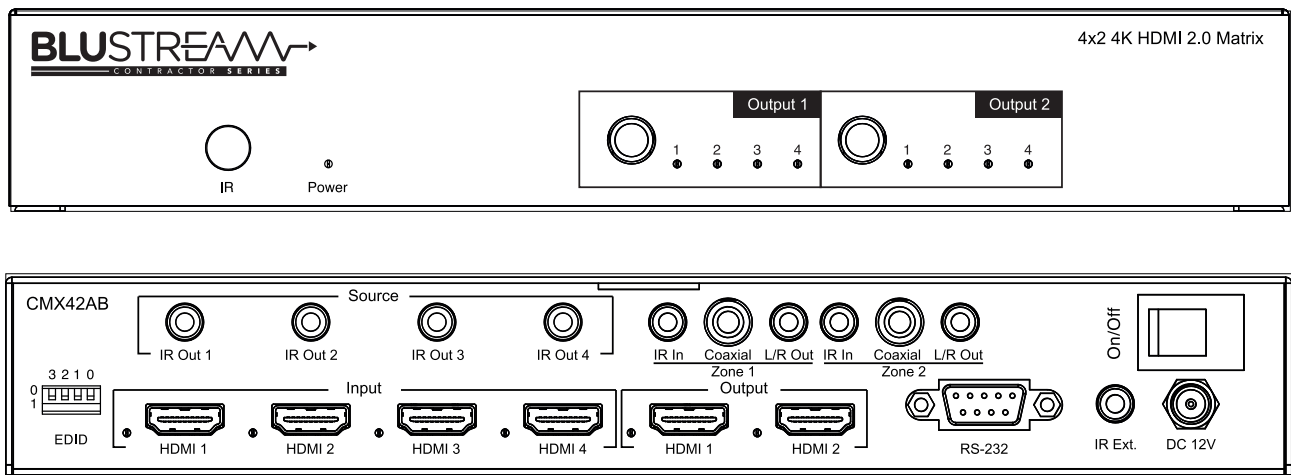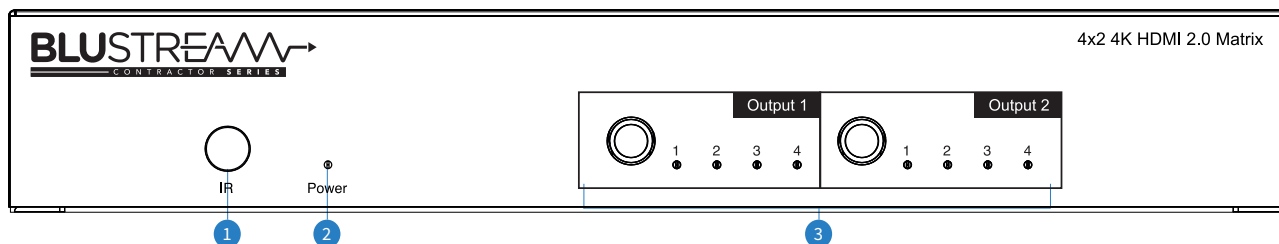# CMX42AB

Quick Reference Guide

Introduction

Our Contractor CMX42AB 4K HDMI Matrix features HDMI 2.0 chipsets with HDCP 2.2 support, allowing distribution of four HDMI sources to two displays. This enables all sources to be viewed seamlessly as required within a Matrix configuration. The unit transmits all HDMI resolutions up to and including HDR and 4K 60Hz 4:4:4. The 4-Way Matrix also includes audio breakout and EDID management.

Key Features:

- Features 4x HDMI inputs which can be independently routed up to two HDMI outputs
- Supports 4K UHD video including HDR (up to 4K @60Hz 4:4:4)
- 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
- IR routing
- Supplied with Blustream 5V IR receivers and emitters
- Control via front panel, IR and RS-232
- 3rd Party drivers available for all major home control brands
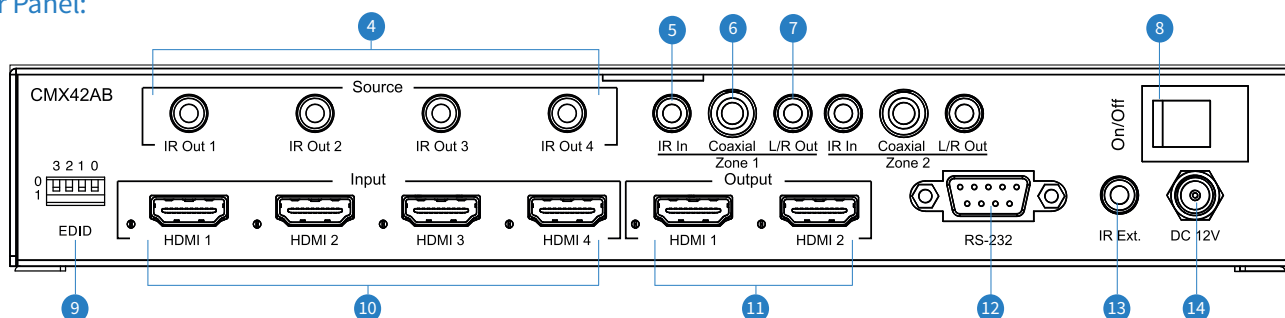- Advanced EDID management
- HDCP 2.2 compliant

Panel Description

Front Panel:

BLUSTREAM→
C O N T R A C T O R   S E R I E S

4x2 4K HDMI 2.0 Matrix

Output 1   Output 2
1 2 3 4   1 2 3 4

IR   Power

1 IR receiver window for Matrix control

2 Power LED indicator

3 HDMI output selection buttons 1-2. Press to scroll through source inputs per HDMI output

Rear Panel:

CMX42AB

Source
IR Out 1   IR Out 2   IR Out 3   IR Out 4   IR In   Coaxial   L/R Out   IR In   Coaxial   L/R Out
                                                      Zone 1   Zone 2

3 2 1 0
0
1
EDID   Input   Output
   HDMI 1   HDMI 2   HDMI 3   HDMI 4   HDMI 1   HDMI 2   RS-232   IR Ext.   DC 12V

On/Off

4 IR output - 3.5mm mono jack provides routed IR emitter output for discrete control of sources

5 IR input - 3.5mm stereo jack provides zone specific routed IR receiver input

6 Coaxial digital audio output - RCA (SPDIF)

7 Analog L/R audio output - 3.5mm stereo audio jack, Supports 2 channel PCM only

8 Power on/off switch

9 EDID DIP switch - Used to manage the video and audio resolution output by the connected source device.

10 HDMI inputs - connect to HDMI source devices

11 HDMI outputs - connect to HDMI display devices

12 RS-232 Serial port - For control of switcher by third party control devices

13 IR control - IR input for switcher control. Connect 5V Blustream IR receiver

14 Power port - Use included 12V/2A DC power adaptor

Adjusting The EDID Settings

The EDID configuration can be altered using the dip-switches located on the rear panel of the Matrix.
Please see adjacent table for EDID settings.
Note: You must power-cycle the HDMI Matrix after changes have been made in order for the EDID settings to update.

EDID Dip-switches

3 2 1 0
0
1
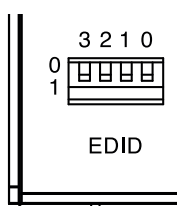
EDID

EDID Dip-switches

[DIP]=0000: HDMI 1080p@60Hz, Audio 2ch PCM
[DIP]=0001: HDMI 1080p@60Hz, Audio 5.1ch PCM/DTS/DOLBY
[DIP]=0010: HDMI 1080p@60Hz, Audio 7.1ch PCM/DTS/DOLBY/HD
[DIP]=0011: HDMI 1080i@60Hz, Audio 2ch PCM
[DIP]=0100: HDMI 1080i@60Hz, Audio 5.1ch PCM/DTS/DOLBY
[DIP]=0101: HDMI 1080i@60Hz, Audio 7.1ch PCM/DTS/DOLBY/HD
[DIP]=0110: HDMI 4K@60Hz 4:2:0+4K@30Hz 4:4:4, Audio 2ch PCM
[DIP]=0111: HDMI 4K@60Hz 4:2:0+4K@30Hz 4:4:4, Audio 5.1ch PCM/DTS/DOLBY
[DIP]=1000: HDMI 4K@60Hz 4:2:0+4K@30Hz 4:4:4, Audio 7.1ch PCM/DTS/DOLBY/HD
[DIP]=1001: HDMI 4K@60Hz 4:4:4, Audio 2ch PCM
[DIP]=1010: HDMI 4K@60Hz 4:4:4, Audio 5.1ch PCM/DTS/DOLBY
[DIP]=1011: HDMI 4K@60Hz 4:4:4, Audio 7.1ch PCM/DTS/DOLBY/HD
[DIP]=1100: DVI 1280x1024@60Hz, Audio None
[DIP]=1101: DVI 1920x1080@60Hz, Audio None
[DIP]=1110: DVI 1920x1200@60Hz, Audio None
[DIP]=1111: Software Control EDID

RS-232 Serial Control

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
LEDON/OFF	Set Front Panel LED Always On or Auto Turn Off in Power On State
RESET	Reset System To Default Setting (Type "Yes" To Confirm, "No" To Discard)
OUTxxFRON/OFF OUTxxFRyy	Set OUTPUT:xx On or Off Set OUTPUT:xx From INPUT:yy 　　xx=00: Select All OUTPUT Port 　　xx=[01...04]: Select One OUTPUT Port 　　yy=[01...04]: 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

Audio Breakout

The Matrix includes audio breakout from the selected HDMI input to associated analogue L/R audio and coaxial digital outputs. Extracted audio will be concurrent with the corresponding HDMI video output. Note: Source input must be PCM 2ch audio for analogue audio outputs to work. The Matrix does not down-mix multi-channel audio signals.

1 Coaxial digital output - Output 1

2 Analogue fixed line level output 3.5mm stereo jack - Output 2

Example Schematic CMX42AB

Legend:
- Stereo Analogue Audio
- RS-232
- HDMI
- Coaxial Digital Audio
- IR Cable
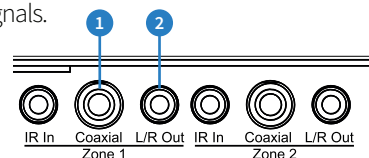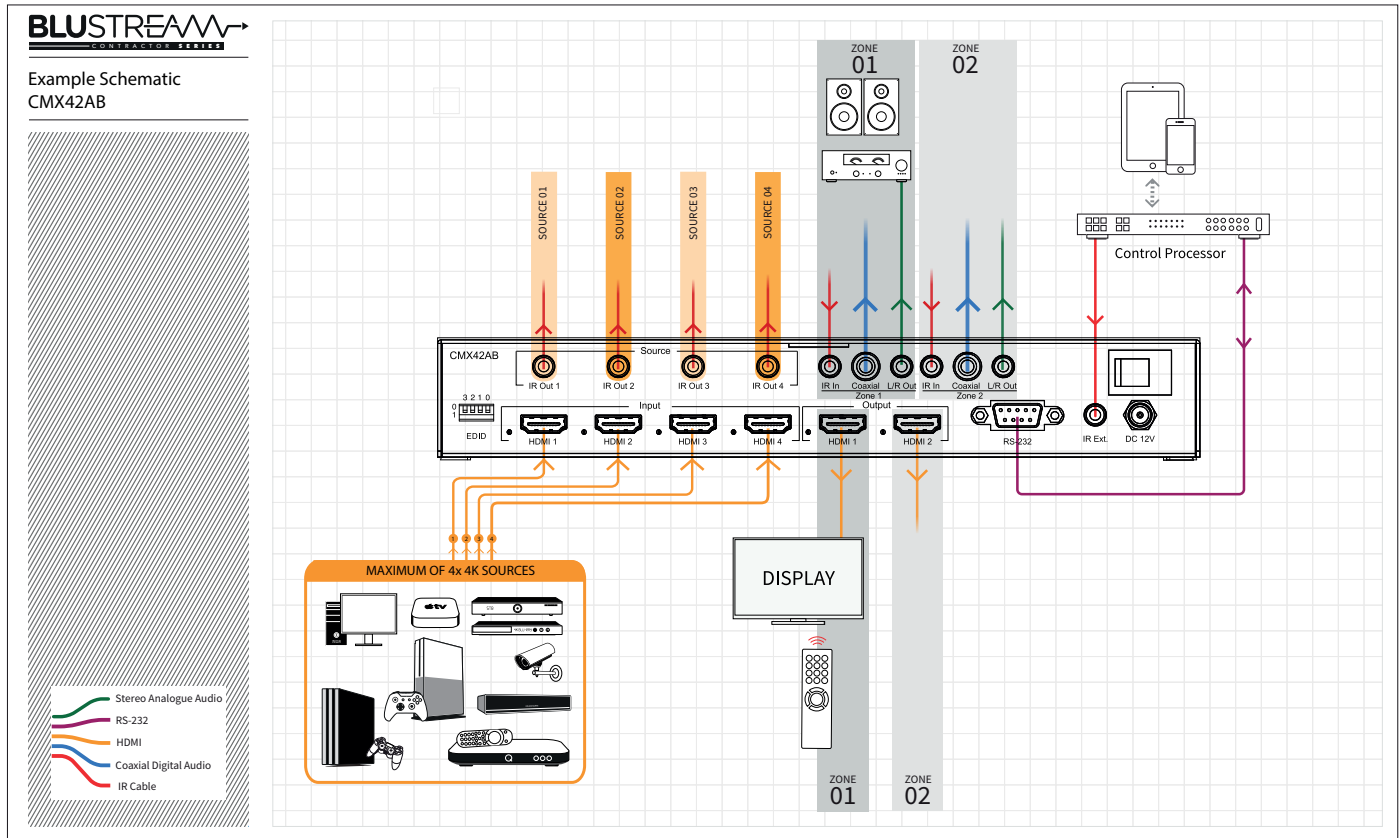
Specifications:

Video Input Connectors: 4x HDMI Type A, 19-pin, female

Video Output Connectors: 2x HDMI Type A, 19-pin, female

Audio Output Connectors: 2x RCA (SPDIF), 2x 3.5mm stereo jack (L/R)

RS-232 Serial Port: 1x DB-9, female

IR Input Ports: 3x 3.5mm stereo jack

IR Output Ports: 4x 3.5mm mono jack

EDID: 4-Pin DIP switch

Casing Dimensions (W x D x H): 255mm x 104mm x 40mm

Dimensions Inc. Connections (W x D x H): 255mm x 115mm x 47mm

Shipping Weight: 1.5kg

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/2A DC

Package Contents:

- 1 x CMX42AB
- 1 x 12V/2A DC power supply
- 1 x Remote control
- 4 x IR emitter
- 3 x IR receiver
- 1 x Mounting kit
- 1 x 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