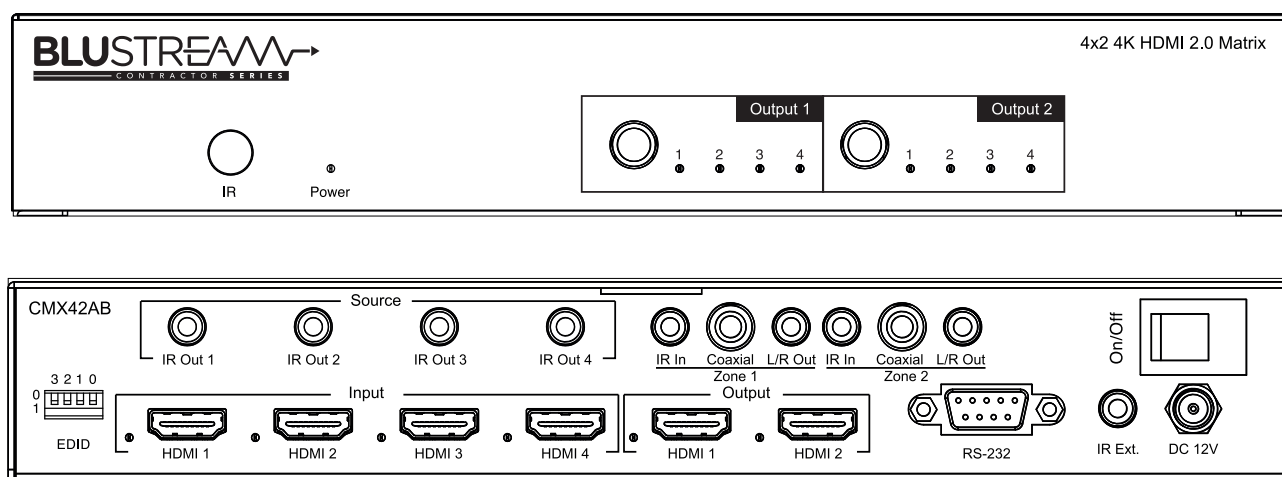


# CMX42AB

## User Manual



## Introduction

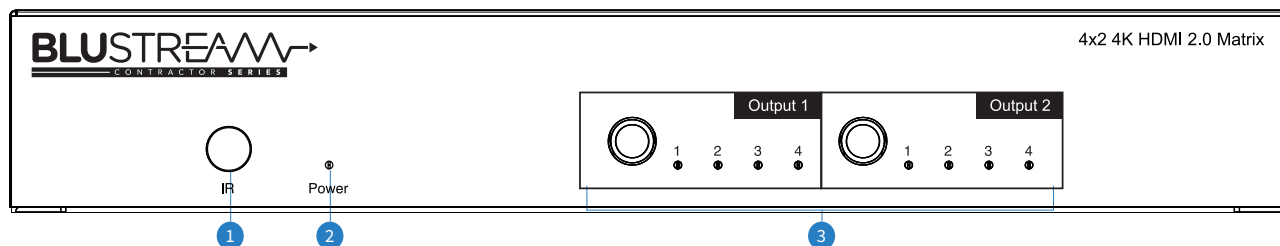
Our Contractor CMX42AB 4K HDMI matrix features HDMI 2.0 chipsets with HDCP 2.2 support, allowing distribution of four HDMI sources to two displays. This enables all sources to be viewed seamlessly as required within a matrix configuration. The unit transmits all HDMI resolutions up to and including 4K 60Hz 4:4:4/HDR. 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 (up to 4K @60Hz 4:4:4/HDR)
- 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

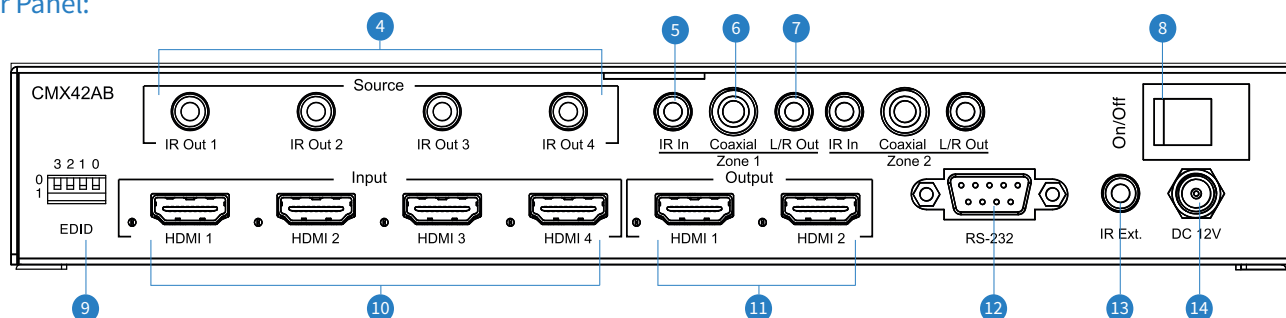
## Panel Description

### Front Panel:



- 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:



- 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.

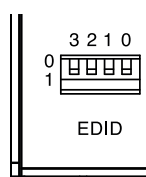
Please see adjacent table for EDID settings.

Note: You must power-cycle the HDMI switcher after changes have been made in order for the EDID settings to update.

### 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

### EDID Dip-switches



## 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

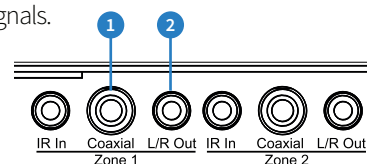
**Flow Control:** None

| 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<br>OUTxxFRyy | Set OUTPUT:xx On or Off<br>Set OUTPUT:xx From INPUT:yy<br>xx=00: Select All OUTPUT Port<br>xx=[01...02]: Select One OUTPUT Port<br>yy=[01...04]: Select One INPUT Port                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EDIDxxCPyy<br>EDIDxxDFzz   | xx=00: Select All INPUT Port<br>xx=[01...04]: Select One INPUT Port<br>yy=[01...02]: Select One OUTPUT Port<br>zz=00: HDMI 1080p@60Hz, Audio 2CH PCM<br>zz=01: HDMI 1080p@60Hz, Audio 5.1CH DTS/DOLBY<br>zz=02: HDMI 1080p@60Hz, Audio 7.1CH DTS/DOLBY/HD<br>zz=03: HDMI 1080i@60Hz, Audio 2CH PCM<br>zz=04: HDMI 1080i@60Hz, Audio 5.1CH DTS/DOLBY<br>zz=05: HDMI 1080i@60Hz, Audio 7.1CH DTS/DOLBY/HD<br>zz=06: HDMI 1080p@60Hz/3D, Audio 2CH PCM<br>zz=07: HDMI 1080p@60Hz/3D, Audio 5.1CH DTS/DOLBY<br>zz=08: HDMI 1080p@60Hz/3D, Audio 7.1CH DTS/DOLBY/HD<br>zz=09: HDMI 4K@30Hz 4:4:4, Audio 2CH PCM<br>zz=10: HDMI 4K@30Hz 4:4:4, Audio 5.1CH DTS/DOLBY<br>zz=11: HDMI 4K@30Hz 4:4:4, Audio 7.1CH DTS/DOLBY/HD<br>zz=12: DVI 1280x1024@60Hz, Audio None<br>zz=13: DVI 1920x1080@60Hz, Audio None<br>zz=14: DVI 1920x1200@60Hz, Audio None<br>zz=15: User EDID 1<br>zz=16: User EDID 2<br>zz=17: GUI Download EDID<br>zz=18: HDMI 4K@60Hz 4:2:0, Audio 2CH PCM<br>zz=19: HDMI 4K@60Hz 4:2:0, Audio 5.1CH DTS/DOLBY<br>zz=20: HDMI 4K@60Hz 4:2:0, Audio 7.1CH DTS/DOLBY/HD<br>zz=21: HDMI 4K@60Hz 4:4:4, Audio 2CH PCM<br>zz=22: HDMI 4K@60Hz 4:4:4, Audio 5.1CH DTS/DOLBY<br>zz=23: HDMI 4K@60Hz 4:4:4, Audio 7.1CH DTS/DOLBY/HD |

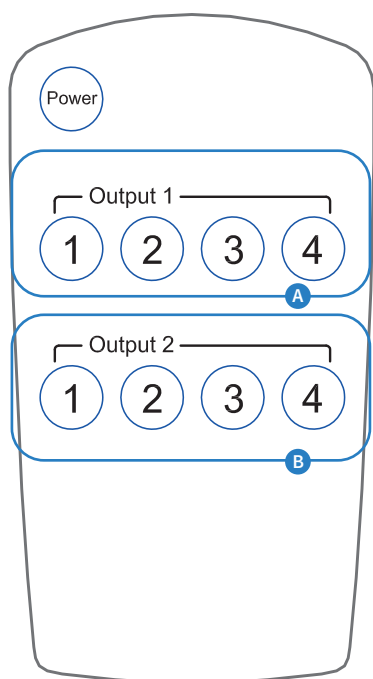
## Audio Breakout

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 multichannel audio signals.

- ① Coaxial digital output - Output 1
- ② Analogue fixed line level output 3.5mm stereo jack - Output 1



## Remote Control Description



### OUTPUT AND INPUT SELECTION

- A** Selects the source you wish to view in zone OUTPUT 1  
(Numbers 1 - 4 correspond to the source inputs 1 - 4)
- B** Selects the source you wish to view in zone OUTPUT 2  
(Numbers 1 - 4 correspond to the source inputs 1 - 4)

### EXAMPLE

To switch source 2 to zone 1 you would press 2 button in the Output 1 section (A).

## Infrared (IR) Distribution

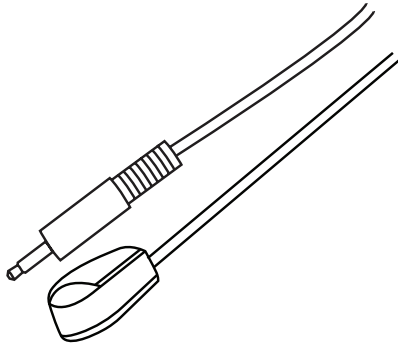
The Blustream range of matrix products include multiple options for control and routing of IR.

**IMPORTANT: Blustream Infrared products are all 5v and NOT compatible with alternative manufacturers Infrared solutions. When using third party 12v IR control solutions please use supplied Blustream IRCAB cable for IR conversion.**

Each Blustream Matrix and HDBaseT receiver is supplied with all necessary IR hardware required and includes:

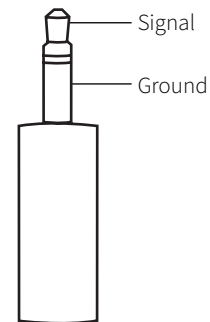
### IR Emitter - IR1 & IR2 (IR2 sold separately)

Blustream 5V IR Emitter designed for discrete IR control of hardware



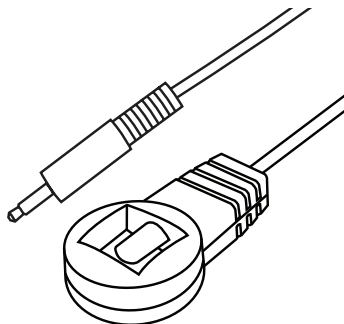
### Infrared 3.5mm Pin-Out

IR Emitter - Mono 3.5mm

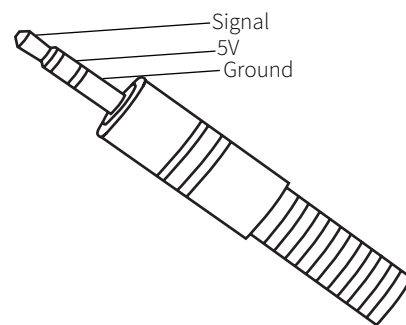


### IR Receiver - IRR

Blustream 5V IR receiver to receive IR signal and distribute through Blustream products



### IR Receiver - Stereo 3.5mm

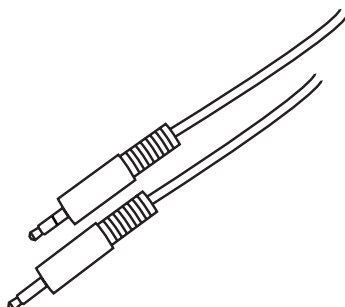


### IR Control Cable - IRCAB

Blustream IR Control cable 3.5mm Mono to 3.5mm Stereo for linking third party control solutions to Blustream products.

Compatible with 12v IR third party products.

Note: Cable is directional as indicated



## 4x2 Matrix IR Database

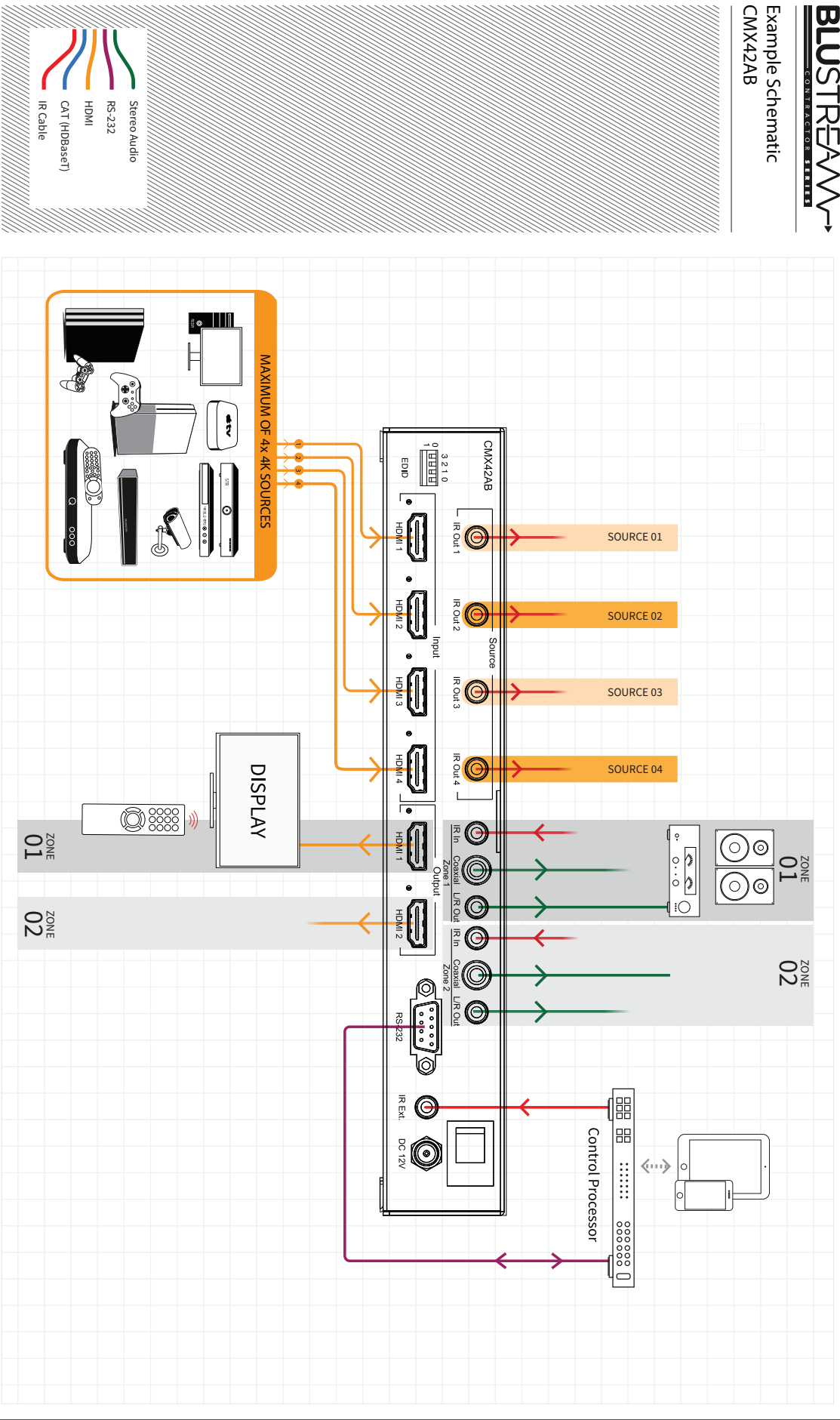
[illegible]

## 4x2 Matrix IR Database

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BLUSTREAM  
-CONFACOR SERIES-

Example Schematic  
CMX42AB



## 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:

- 1x CX42AB
- 1x 12V/2A DC power supply
- 1x Remote control
- 4x IR emitter
- 3x IR receiver
- 1x Mounting kit
- 1x Quick reference guide

## Maintenance:

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

Components inside this unit are not user serviceable. Do not remove the protective cover from the unit. Removing any panel from this product will invalidate the manufacturers warranty.

## 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.