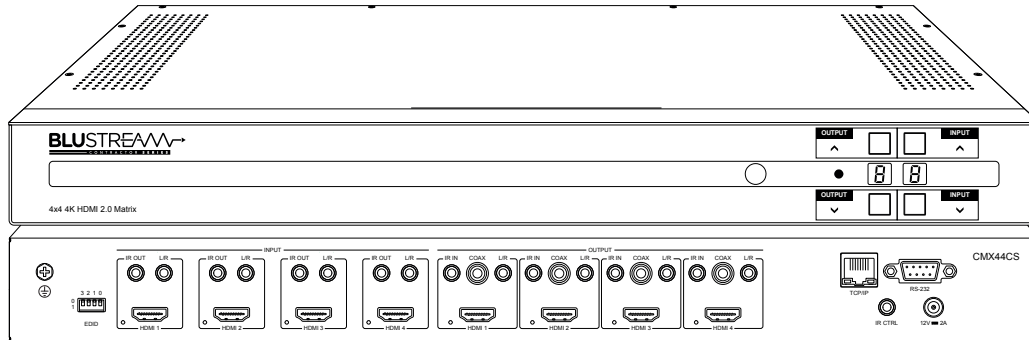# CMX44CS
## Quick Reference Guide



# Introduction

Our Contractor CMX44CS 4K HDMI Matrix offers unprecedented performance and value for the custom installation market. The CMX44CS supports HDMI2.0 with HDCP2.2, allowing distribution of four HDMI sources to four 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 with automatic video down conversion. The 4-way matrix also includes audio breakout and advanced EDID management.

## FEATURES:

- Features 4x HDMI inputs which can be independently routed to 4x HDMI outputs
- Supports HDMI2.0 18Gbps specification including HDR
- Supports up to 4K UHD 60Hz 4:4:4
- Video down-conversion on outputs allowing a display only capable of supporting lower video resolutions (4K 60Hz 4:2:0 or 1080p) to receive 4K 60Hz 4:4:4 video content while still showing maximum original 4K UHD resolution on remaining video outputs
- Supports all industry standard video resolutions including VGA-WUXGA and 480i-4K
- Supports all known HDMI audio formats including Dolby Atmos, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio transmission
- HDMI audio breakout to associated output analogue L/R audio and coaxial digital outputs concurrently
- Control via front panel, IR, RS-232, TCP/IP and Web GUI
- IR routing
- Supplied with Blustream 5V IR receivers and emitters
- 3rd party drivers available for major control brands
- Advanced EDID management
- HDCP2.2 compliant
- 1U Design for 19" rack mount integration - mounting kit included

# Front Panel Description
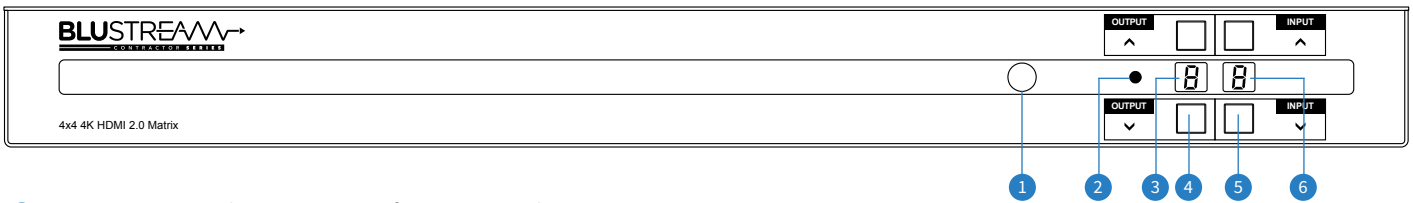


❶ IR Receiver - Built in IR sensor for IR control

❷ Status LED - Illimunates blue when matrix is in standby mode and flashes when IR command is received

❸ Output LCD - Shows the currently selected output

❹ Output Up / Down Button - Press to adjust the selected output up or down

❺ Input Up / Down Button - Press to adjust the selected input up or down

❻ Input LCD - Shows the currently selected input

# Rear Panel Description
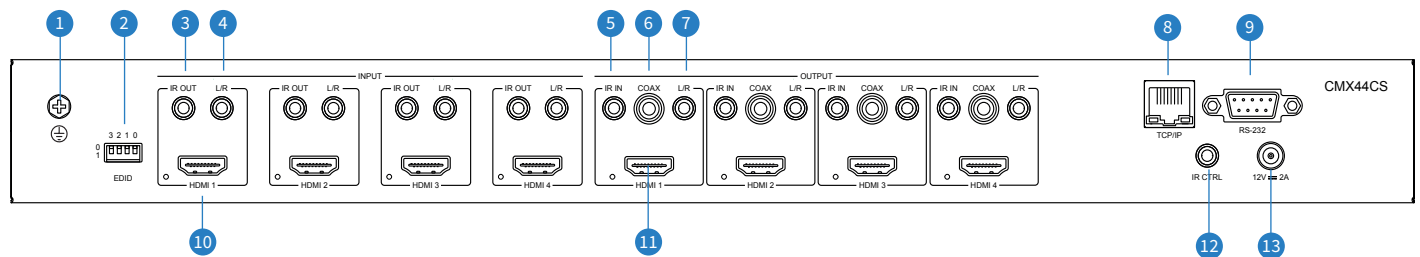


❶ Ground Screw - Chassis ground connection

❷ EDID DIP switch – Used for global EDID settings

❸ IR Receiver Output - 3.5mm mono connector to connect to Blustream IR emitter. Used for local source control

❹ Analogue L/R Audio Input - 3.5mm stereo connector allows audio to be embedded over HDMI input signal

❺ IR Receiver Input - 3.5mm stereo connector to connect to Blustream IR receiver or 3rd party control processor

❻ Coaxial Digital Audio Output - RCA (S/PDIF)

❼ Analogue L/R Audio Output - 3.5mm stereo connector with fixed line level output. Supports 2 channel PCM audio formats only

❽ TCP/IP - RJ45 connector for TCP/IP and web-GUI control of the matrix

❾ RS-232 - DB9 connector for RS-232 control of the matrix

❿ HDMI Inputs - Connect to source devices

⓫ HDMI Outputs - Connect to display devices

⓬ IR Control Input - 3.5mm stereo connector to connect to Blustream IR receiver for IR control of the matrix

⓭ Power Port - Use included 12V/2A DC power adaptor

# Web-GUI Control

The CMX44CS features an in-built web-GUI which can be used for control and configuration of the matrix. By default the matrix is set to DHCP, however if a DHCP server (eg: network router) is not installed the matrix IP address will revert to below details:

Default **Username** is: blustream          Default **Password** is: 1234          Default **IP Address** is: 192.168.0.200

For further information please see the CMX44CS User Manual - available to download from the Blustream website.

# RS-232 Configuration

The RS-232 port is used for configuration and control of the matrix. The default RS-232 communication settings are:

**Baud Rate:** 57600     **Data Bit:** 8     **Stop Bit:** 1     **Parity Bit:** none

For a complete RS-232 command list please see the CMX44CS User Manual - available to download from the Blustream website.

---

# EDID Control

EDID (Extended Display Identification Data) is a data structure that is used between a display and a source. This data is used by the source to find out what audio and video resolutions are supported by the display. By pre-determining the video resolution and audio format of the source and display device you can reduce the time needed for EDID hand shaking thus making switching quicker and more reliable.

Configuration of the EDID settings for each input can be achieved either via DIP switches on the rear of the matrix or by using the following RS-232 or TCP/IP API commands to specify the required EDID:

**EDID*xx*DF*zz***

Where    xx = Input:   00 refers to ALL inputs;   01-04 = specific input

          zz = EDID as shown below

          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

**EDID Dip switches**

```
      3 2 1 0
  0  ┌─────────┐
     │ ▯ ▯ ▯ ▯ │
  1  └─────────┘
```
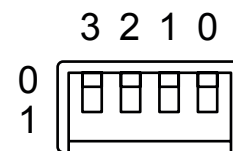
**EDID**

EDID Dip switches

[DIP]=0000: HDMI 1080p@60Hz, Audio 2ch PCM
[DIP]=0001: HDMI 1080p@60Hz, Audio 5.1ch DTS/DOLBY
[DIP]=0010: HDMI 1080p@60Hz, Audio 7.1ch DTS/DOLBY/HD
[DIP]=0011: HDMI 1080i@60Hz, Audio 2ch PCM
[DIP]=0100: HDMI 1080i@60Hz, Audio 5.1ch DTS/DOLBY
[DIP]=0101: HDMI 1080i@60Hz, Audio 7.1ch DTS/DOLBY/HD
[DIP]=0110: HDMI 4K@60Hz 4:2:0, Audio 2ch PCM
[DIP]=0111: HDMI 4K@60Hz 4:2:0, Audio 5.1ch DTS/DOLBY
[DIP]=1000: HDMI 4K@60Hz 4:2:0, Audio 7.1ch 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 DTS/DOLBY
[DIP]=1011: HDMI 4K@60Hz 4:4:4, Audio 7.1ch 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 (use API to left to adjust)

# Specifications

## CMX44CS

- **Video Input Connectors:** 4 x HDMI Type A, 19-pin, female
- **Video Output Connectors:** 4 x HDMI Type A, 19-pin, female
- **Audio Output Connectors:** 4 x RCA (S/PDIF), 4x Analogue audio L/R (3.5mm stereo Jack)
- **Audio Input Connectors:** 4 x Analogue audio L/R (3.5mm stereo Jack)
- **RS-232 Serial Port:** 1 x DB9 conenctor, female
- **IR Input Ports:** 5 x 3.5mm stereo jack
- **IR Output Ports:** 4 x 3.5mm mono jack
- **Rack Mountable:** 1U rack height, rack ears included
- **Casing Dimensions (W x H x D):** 440mm x 225mm x 44mm (without feet)
- **Dimensions (W x H x D):** 440mm x 231mm x 50mm
- **Shipping Weight:** 2.3kg
- **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 screw terminal

**NOTE:** *Specifications are subject to change without notice. Weights and dimensions are approximate.*

# Package Contents

## CMX44CS

- 1 x CMX44CS
- 1 x 12V/2A DC power supply
- 1 x Remote control
- 4 x IR emitter
- 5 x IR receiver
- 1 x Rack 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.