



BLUSTREAM C44CS-KIT Contractor 4x4 HDBaseT CSC Matrix Kit User Guide

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BLUSTREAM C44CS-KIT Contractor 4x4 HDBaseT CSC Matrix Kit



Product Information

The C44CS-KIT is a 4x4 HDBaseT™ Matrix that supports 4K 60Hz 4:4:4 resolution. It allows you to connect up to four HDMI source devices and distribute their signals to four HDMI displays or sink devices. The matrix also features IR pass-through, TCP/IP control, RS-232 configuration, and upgrade capabilities.

Our Contractor 4x4 HDBaseT™ matrix offers unprecedented performance and value for the custom installation market. The C44CS-KIT is a HDMI 2.0 4K 60Hz 4:4:4 HDCP 2.2 Matrix utilising CSC technology to deliver HDMI, bi-directional IR, and PoC up to lengths of 70m over a single CAT cable. The matrix also provides advanced features including simultaneous HDBaseT™ / HDMI on output 1, video down conversion on HDBaseT™ outputs and a web browser interface module for control and configuration of the matrix. The C44CS-KIT is supplied with 4 x RX70CSL receivers.

FEATURES

- Advanced HDBaseT™ technology offering distribution of video and audio over a single CAT cable
- Advanced Colour Space Conversion (CSC) supports HDMI 2.0 18Gbps specification including HDR*
- Features 4 x HDMI inputs which can be independently routed to 4 x HDBaseT™ outputs
- Output 1 features simultaneous HDMI and HDBaseT™ output
- Video down-conversion on HDBaseT™ 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 4K 60Hz 4:4:4 UHD video up to 40m
- Extends HDMI 1080p video up to 70m
- Supports all industry standard video resolutions including VGA-WUXGA and 480i-4K
- Supports all known HDMI audio formats including Dolby TrueHD, Dolby Atmos, Dolby Digital Plus and DTS-HD Master Audio transmission
- Web interface module for control and configuration of matrix
- Supports bi-directional IR on all HDBaseT™ outputs
- Control via front panel, iOS / Android App, IR, RS-232 or TCP/IP
- Supports 12V PoC (Power over Cable) to power compatible HDBaseT™ receivers
- Supplied with Blustream IR receivers and emitters
- 3rd party drivers available for all major control brands
- 1U design for 19" rack mount integration – mounting kit included
- Advanced EDID management and HDCP 2.2 compliant

- CSC feature compatible with RX70CSL only

Panel Description

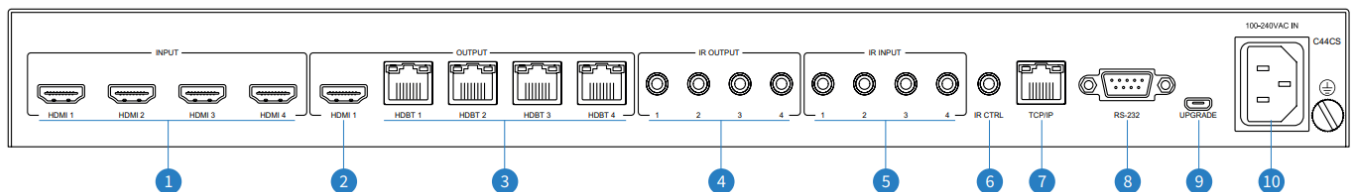
C44CS Matrix Front Panel



1. **IR Receiver** – Built in IR sensor for IR pass through.
2. **Output LCD** – Shows the currently selected output.
3. **Output Up / Down Button** – Press to adjust the selected output up or down.
4. **Input Up / Down Button** – Press to adjust the selected input up or down.
5. **Input LCD** – Shows the currently selected input.

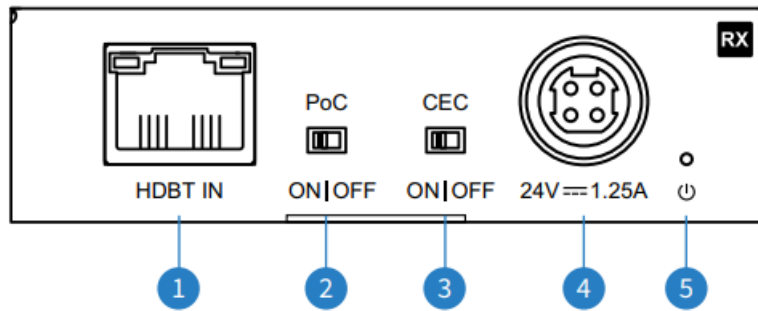
***Note:** Press and hold the Output Up and Input Down buttons for 10 seconds to factory reset the matrix.

C44CS Matrix Rear Panel



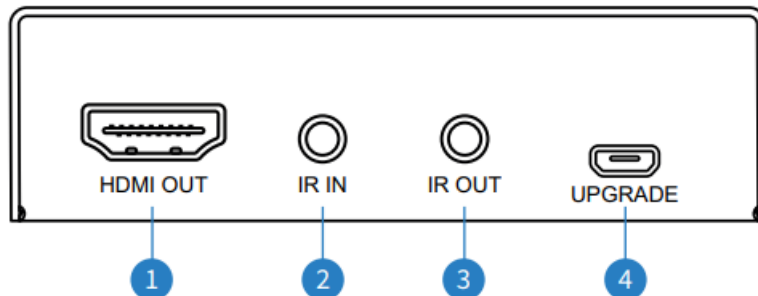
1. **HDMI Inputs** – Connect to source devices
2. **HDMI Output** – Connect to display / sink device – simultaneous with HDBT output 1
3. **HDBaseT™ Outputs** – RJ45 HDBaseT™ port to connect to the HDBaseT™ input port of the supplied Blustream HDBaseT™ receiver. Status lights as follows:
 - **Orange Off** – No HDBaseT™ link
 - **Orange On** – HDBaseT™ link established
 - **Green Off** – No video signal
 - **Green On** – HDCP enabled video passing
 - **Green Flashing** – Video passing with no HDCP
4. **IR Emitter Output** – 3.5mm mono connector to connect to Blustream IR emitter. Used for local Source control
5. **IR Receiver Input** – 3.5mm stereo connector to connect to Blustream IR receiver or Control Processor. Used to extend IR from matrix to HDBaseT™ Outputs 1-4
6. **IR Control Input** – 3.5mm stereo connector to connect to Blustream IR receiver for IR control of the matrix
7. **TCP/IP** – RJ45 connector for TCP/IP and Web GUI control of the matrix
8. **RS-232** – DB9 connector for RS-232 control of the matrix
9. **Micro USB Update Port** – For firmware updates
10. **IEC Power Socket** – Use supplied IEC power cable

RX70CSL Receiver Front Panel



1. **HDBaseT™ Input** – RJ45 HDBaseT™ port to connect to the HDBaseT™ output port of the supplied Blustream HDBaseT™ matrix. Status lights as follows:
 - **Orange Off** – No HDBaseT™ link
 - **Orange On** – HDBaseT™ link established
 - **Green Off** – No video signal
 - **Green On** – HDCP enabled video passing
 - **Green Flashing** – Video passing with no HDCP
2. **PoC Switch** – To enable or disable PoC (Power over Cable) being received from the Matrix, or connected HDBaseT™ Transmitter device
3. **CEC Switch** – To enable or disable passthrough of CEC (Consumer Electronic Control) commands
4. 24V/1.25A DC power input 4-pin DIN connector
5. Power Status Indicator

RX70CSL Receiver Rear Panel



1. HDMI Output
2. **IR Input** – Connect to Blustream 5V 3.5mm IR receiver
3. **IR Output** – Connect to Blustream 5V 3.5mm IR emitter
4. **Upgrade** – Micro-USB port for firmware upgrade of product

Web GUI Control

The C44CS matrix 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 C44CS-KIT User Manual – available to download from the Blustream website.

RS-232 Configuration

The RS-232 port is used for configuration and control of the product. 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 C44CS-KIT 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 using the following RS-232 commands to specify the required EDID:

EDIDxxDFzz

- **Where xx =** Input: 00 refers to ALL inputs; 01-06 = specific input
- **zz = 00:** HDMI 1080p@60Hz, Audio 2ch PCM (Default)
 - **01:** HDMI 1080p@60Hz, Audio 5.1ch DTS/DOLBY
 - **02:** HDMI 1080p@60Hz, Audio 7.1ch DTS/DOLBY/HD
 - **03:** HDMI 1080i@60Hz, Audio 2ch PCM
 - **04:** HDMI 1080i@60Hz, Audio 5.1ch DTS/DOLBY
 - **05:** HDMI 1080i@60Hz, Audio 7.1ch DTS/DOLBY/HD
 - **06:** HDMI 1080p@60Hz/3D, Audio 2ch PCM
 - **07:** HDMI 1080p@60Hz/3D, Audio 5.1ch DTS/DOLBY
 - **08:** HDMI 1080p@60Hz/3D, Audio 7.1ch DTS/DOLBY/HD
 - **09:** HDMI 4K@30Hz 4:4:4, Audio 2ch PCM
 - **10:** HDMI 4K@30Hz 4:4:4, Audio 5.1ch DTS/DOLBY
 - **11:** HDMI 4K@30Hz 4:4:4, Audio 7.1ch DTS/DOLBY/HD
 - **12:** HDMI 4K@60Hz 4:2:0/4K@30Hz 4:4:4, Audio 2ch PCM
 - **13:** HDMI 4K@60Hz 4:2:0/4K@30Hz 4:4:4, Audio 5.1ch DTS/DOLBY
 - **14:** HDMI 4K@60Hz 4:2:0/4K@30Hz 4:4:4, Audio 7.1ch DTS/DOLBY/HD
 - **15:** HDMI 4K@60Hz 4:4:4, Audio 2ch PCM
 - **16:** HDMI 4K@60Hz 4:4:4, Audio 5.1ch DTS/DOLBY
 - **17:** HDMI 4K@60Hz 4:4:4, Audio 7.1ch DTS/DOLBY/HD
 - **18:** DVI 1280×1024@60Hz, Audio None
 - **19:** DVI 1920×1080@60Hz, Audio None
 - **20:** DVI 1920×1200@60Hz, Audio None
 - **21:** HDMI 1920×1200@60Hz, Audio 2ch PCM/6ch PCM
 - **22:** User EDID 1
 - **23:** User EDID 2

Specifications

C44CS Matrix

- **Video Input Connectors:** 4 x HDMI Type A, 19-pin, female
- **Video Output Connectors:** 1 x HDMI Type A, 19-pin, female, 4 x HDBaseT™ RJ45 connectors
- **TCP/IP Control:** 1 x RJ45, female
- **RS-232 Serial Ports:** 1 x DB-9, 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):** 437mm x 44mm x 300mm (without feet)

RX70CSL Receiver

- **Video Input Connectors:** 1 x HDBaseT™ RJ45 connectors
- **Video Output Connectors:** 1 x HDMI Type A
- **IR Input Ports:** 1 x 3.5mm stereo jack
- **IR Output Ports:** 1 x 3.5mm mono jack
- **Casing Dimensions (W x H x D):** 85mm x 24mm x 120mm
- **Mounting Wings:** Supplied

C44CS-KIT

- **Power Supply:** Internal 100-240V AC
- **HDBT Power Output:** 12V DC 0.8A per port
- **Shipping Weight:** 6.0kg
- **Operating Temperature:** 23°F to 122°F (-5°C to +50°C)
- **Storage Temperature:** -13°F to 158°F (-25°C to +70°C)

Package Contents

C44CS-KIT

- 1 x C44CS Matrix
- 4 x RX70CSL Receivers
- 1 x Rack Mounting Kit
- 4 x Mounting Kits for RX70CSL
- 4 x Mounting Feet
- 1 x Remote Control
- 4 x IR Emitters
- 5 x IR Receivers
- 1 x Serial Cable – DB9 to DB9

- 1 x IR Control Cable – 3.5mm-3.5mm Cable
- 1 x Quick Reference Guide
- IEC Power Cable(s)

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

Contact: support@blustream.com.au | support@blustream-us.com | support@blustream.co.uk

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.

Information

- **A.** Read these instructions – All the safety and operating instructions should be read before this product is operated.
- **B.** The apparatus should be connected to a mains socket outlet with a protective earthing connection.
- **C.** The socket-outlet shall be installed near the equipment and shall be easily accessible.
- **D.** Do not ingest battery, Chemical Burn Hazard
- **E.** This product contains a coin / button cell battery. If the coin / button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.
- **F.** Keep new and used batteries away from children.
- **G.** If the battery compartment does not close securely, stop using the product and keep it away from children.

- ## Example Schematic

Example Schematic C44CS-KIT

The diagram illustrates the connections for the C44CS-KIT system. A central C44CS-KIT unit is connected to various components:

- 4K Display and 4K Projector:** Both are connected to the C44CS-KIT via BXT0CSL units. The 4K Display is also connected to the AVR. The 4K Projector is connected to the C44CS-KIT via a 40m Max (4K) connection.
- AVR:** Connected to the C44CS-KIT via an RS-232 connection.
- Control Processor:** Connected to the C44CS-KIT via an RS-232 connection.
- Inputs:** The C44CS-KIT has four HDMI inputs (HDMI 1-4) and four HDBT inputs (HDBT 1-4). It also has four IR inputs (IR 1-4) and a TSP/IR input.
- Outputs:** The C44CS-KIT has four HDBT outputs (HDBT 1-4) and four IR outputs (IR 1-4). It also has a TSP/IR output.
- Power:** The C44CS-KIT is powered by a 12V PoC power source.
- Legend:**
 - RS-232 (Red line)
 - HDMI (Orange line)
 - IR (Blue line)
 - CAT (Green line)
 - Network Connection (Purple line)

Documents / Resources

References

- [!\[\]\(71ac35c616fd8bfda805d579390e24d8_img.jpg\) Register a .US.COM domain today!](#)
- [!\[\]\(b10a8b91056068472be58f587e00cb47_img.jpg\) Blustream USA](#)
- [!\[\]\(26a0aa65ffdf9b4c0922ec277970eeda_img.jpg\) Blustream](#)
- [!\[\]\(94aeee9c39a3a3d10654831c4bdd6b76_img.jpg\) Blustream Australia](#)

Manuals+.