

HMX44-18G-KIT

Quick Reference Guide



Introduction

The HMX44-18G Matrix is an industry leading uncompressed, unconverted HDMI 2.0 4K 60Hz 4:4:4 HDCP 2.3/2.2 solution utilising HDBaseT™ 3 technology to deliver HDMI, Bi-directional IR & RS-232, ARC, 1Gb Ethernet, and PoC up to lengths of 100m over a single CAT6A cable.

The HMX44-18G supports uncompressed distribution of the latest HDR resolutions including HDR10/10+ and Dolby Vision resulting in the ultimate in picture quality for your critical viewing areas.

The Matrix also provides advanced features including simultaneous HDBaseT™/HDMI on output 1, video smart scaling on HDBaseT outputs, and an independent 14x4 audio matrix, and ARC. The HMX44-18G includes an in-built web browser interface module for control and configuration of the Matrix, and RS-232, IR and 1Gb Ethernet pass through to enable seamless 3rd party control integration.

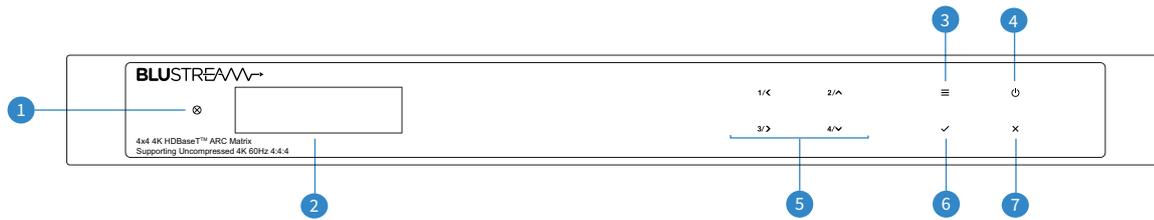
FEATURES:

- Advanced uncompressed, unconverted, HDMI over HDBaseT™ technology offering distribution of bit-for-bit 4K HDMI video and audio over a single CAT6A cable
- Features 4 x HDMI inputs which can be independently routed to 4 x HDBaseT™ outputs
- Output 1 features a simultaneous HDMI and HDBaseT™ output
- Supports distribution of uncompressed HDMI2.0 18Gbps specification including 4K 60Hz 4:4:4 UHD video up to 100m*
- Supports distribution of the latest HDR resolutions including HDR10/10+ and Dolby Vision
- 14x4 Audio Matrix independently controllable from video. Audio source inputs include:
 - 4 x audio breakout from HDMI source inputs
 - 4 x audio breakout from zone outputs
 - 4 x audio return from zone outputs*
 - 1 x optical and 1x analogue audio input
- Supports all known HDMI audio formats including Dolby TrueHD, Dolby Atmos, Dolby Digital Plus and DTS-HD Master Audio transmission
- Integrated Ethernet switch (LAN Serving) when used with Blustream RX18G receiver (1Gb maximum)
- Web interface module for control and configuration of the Matrix
- Supports bi-directional IR and RS-232 on all HDBaseT™ outputs
- Control via front panel, IR, iOS / Android App, RS-232 and TCP/IP
- Supports PoC (Power over Cable) to power the supplied HDBaseT™ receivers
- Advanced EDID management and HDCP 2.3 compliant
- Supplied with 4 x RX18G HDBaseT™ Receivers

* Transmission distance is subject to video format, cable type and installation environment. It is recommended to use a minimum of CAT6A cabling

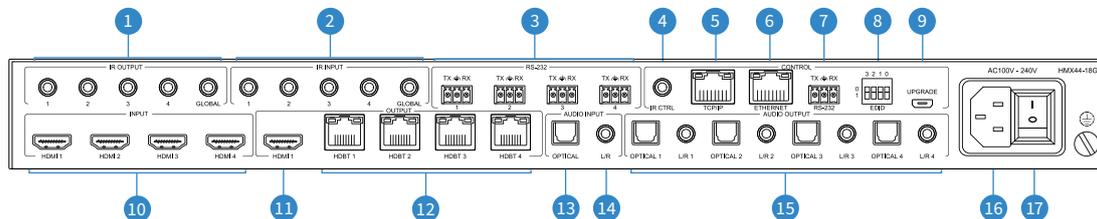
**ARC feature supports HDMI ARC or Optical ARC. Compatible with RX18G only

Front Panel Description



- 1 IR Receiver Window
 - 2 LCD Display – Shows the status of input / output selection, EDID etc...
 - 3 Menu Button - Press to access Matrix menu. Refer to full online manual for details
 - 4 Power Button – Press to power on / off the Matrix
 - 5 Selection Buttons - Multi-use buttons
Primary Use:
 First press = HDMI output selection - Press to select output/s from 1 to 4. Output(s) selected will be displayed on the Matrix display. Multiple outputs can be chosen. Then wait 3 seconds or press ‘SELECT’ to move to input selection.
 Second Press = HDMI input selection - Press to select the input from 1 - 4. The Input selected will be displayed on the Matrix display. Press the Select button to confirm switch
 - 6 Select Button – Press to confirm changes within the Matrix menu
 - 7 ESC - Press to exit MENU mode
Secondary Use:
 When the MENU button has been pressed buttons 1, 2, 3 & 4 are used as cursors to navigate the MENU system
 1 = Left, 2 = Up, 3 = Right, 4 = Down
- The matrix can be factory reset by pressing and holding ‘X’ for 10 seconds, press the select button to confirm, or any other button to cancel.

Rear Panel Description



- 1 IR Outputs - 3.5mm mono connector to connect to Blustream IR emitter. Used for local source control
- 2 IR Inputs - 3.5mm stereo connector to connect to Blustream IR receiver or Control Processor. Used to extend IR from Matrix to HDBaseT™ Outputs 1-4
- 3 Bi-directional RS-232 ports. Connect to third party control device to extend RS-232 commands to HDBaseT™ receivers RS-232 port
- 4 IR Control Input - 3.5mm stereo connector to connect to Blustream IR receiver for IR control of the Matrix
- 5 TCP/IP - RJ45 connector for TCP/IP and web-GUI control of the Matrix
- 6 Ethernet passthrough - RJ45 connector for Ethernet passthrough of network data to compatible HDBaseT™ receivers
- 7 RS-232 - Phoenix connector for RS-232 control of the Matrix
- 8 EDID DIP switch – Used for global EDID settings
- 9 Upgrade port - Used for firmware updates
- 10 HDMI Inputs - Connect to source devices
- 11 HDMI Output - Connect to display / AVR device
- 12 HDBaseT™ Outputs - RJ45 HDBaseT™ port to connect to the HDBaseT™ input port of the compatible Blustream HDBaseT™ receiver
- 13 Optical (Toslink) Audio Input - Connect to source device for audio distribution within the HMX44-18G independent audio Matrix
- 14 Analogue Audio Input - 3.5mm L/R stereo jack. Connect to source device for audio distribution within the HMX44-18G independent audio Matrix
- 15 Optical and Analogue Audio Outputs - independent audio Matrix with 8 x dual outputs (Toslink + 3.5mm L/R line level stereo jack). For connection to 3rd party audio devices. **NOTE:** Analogue audio outputs support 2ch PCM only
- 16 IEC Power Socket - Use supplied IEC power cable
- 17 Power Switch

Web-GUI Control

The HMX44-18G 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 the below details:

Default **Username** is: [blustream](#)

Default **Password** is: [@Bls1234](#)

Default **IP Address** is: [192.168.0.200](#)

For further information please see the HMX44-18G 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, as well as pass-through of RS-232 commands to the supplied Blustream HDBaseT™ receivers.

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 HMX44-18G 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 then from this information the source will discover what the best audio and video resolutions that need to be output.

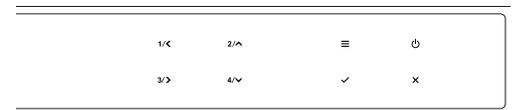
While the objective of EDID is to make connecting a digital display to a source a simple plug and play procedure, issues do arise when multiple displays or video matrix switching is introduced because of the increased number of variables.

By pre-determining the video resolution and audio format of the source and display device you can reduce the time need for EDID handshaking thus making switching quicker, and more reliable.

Configuration of Matrix EDID settings can be achieved in one of three ways:

- 1 Using Matrix web browser interface
- 2 Using Matrix front panel (see below)
- 3 Using Matrix EDID DIP switches (see product User Manual)

To change the input signal type using the Matrix front panel press the following:



Using Matrix Front Panel Buttons:

- a. Press the MENU button
- b. Scroll down to 'EDID Management'. Press the SELECT button to enter into EDID configuration mode
- c. Scroll through EDID management options and select 'Built-In EDID' or 'Copy Output xx'

Built-IN EDID Selection:

- d. Select the input you wish to fix the EDID on (1-4) or select 'All'. Use UP/DOWN buttons to toggle the selection and press the SELECT button to move to EDID selection
- d. Select video resolution + audio format required (4K, 1080p, 3D, 2ch, 5.1 etc). Use the UP/DOWN buttons to toggle the selection and press the SELECT button to apply. The SELECT button LED will flash orange when complete

Copy Output EDID:

- e. Select the HDBaseT™ output you wish to copy the EDID from. Use the UP/DOWN buttons to toggle the selection and press the SELECT button to move to the input selection that you wish to copy the EDID to
- f. Select the HDMI input (1-4) or select 'All' to copy to all HDMI inputs. Press the SELECT button to apply

Specifications

- **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
- **Audio Input Connectors:** 1 x Analogue audio L/R (3.5mm stereo Jack), 1 x Optical (S/PDIF)
- **Audio Output Connectors:** 4 x Analogue audio L/R (3.5mm stereo Jack), 4 x Optical (S/PDIF)
- **RS-232 Serial Port:** 5 x 3-pin phoenix connector
- **TCP/IP Control Port:** 1 x RJ45, female
- **Ethernet Passthrough Port:** 1 x RJ45, female
- **IR Input Ports:** 6 x 3.5mm stereo jack
- **IR Output Ports:** 5 x 3.5mm mono jack
- **Product Upgrade Port:** 1 x Micro USB, female
- **Rack Mountable:** 1U rack height, rack ears included
- **Casing Dimensions (W x H x D):** 436mm x 360mm x 44mm (without feet)
- **Shipping Weight:** 8.7kg
- **Operating Temperature:** 23°F to 131°F (-5°C to +55°C)
- **Storage Temperature:** -13°F to 158°F (-25°C to +70°C)
- **Power Supply:** Internal 100-240V AC
- **HDBaseT Power Output:** 24V DC 0.75A per port

Package Contents

- 1 x HMX44-18G
- 4 x RX18G
- 1 x Rack mounting kit
- 1 x Remote control
- 4 x IR emitters
- 5 x IR receivers
- 1 x Serial Cable - DB9 to 3-pin phoenix connector
- 1 x IR Control Cable - 3.5mm-3.5mm Cable
- IEC Power Cable(s)
- 1 x Quick Reference Guide

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

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.
 - H. If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.
 - I. **WARNING:** Please refer the information on exterior bottom enclosure for electrical and safety information before installing or operating the apparatus.
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- A. Lisez ces instructions - Toutes les instructions de sécurité et d'utilisation doivent être lues avant d'utiliser ce produit.
 - B. L'appareil doit être raccordé à une prise de courant avec une mise à la terre de protection.
 - C. La prise de courant doit être installée à proximité de l'appareil et doit être facilement accessible.
 - D. Ne pas ingérer la batterie, risque de brûlure chimique
 - E. Ce produit contient une pile bouton. Si la pile bouton est avalée, elle peut provoquer de graves brûlures internes en seulement 2 heures et peut entraîner la mort.
 - F. Conservez les piles neuves et usagées hors de portée des enfants.
 - G. Si le compartiment à piles ne ferme pas correctement, cessez d'utiliser le produit et tenez-le hors de portée des enfants.
 - H. Si vous pensez que des piles ont pu être avalées ou placées à l'intérieur d'une partie du corps, consultez immédiatement un médecin.
 - I. **AVERTISSEMENT :** Avant d'installer ou d'utiliser l'appareil, veuillez vous référer aux informations figurant sur le boîtier inférieur extérieur pour les informations relatives à l'électricité et à la sécurité.

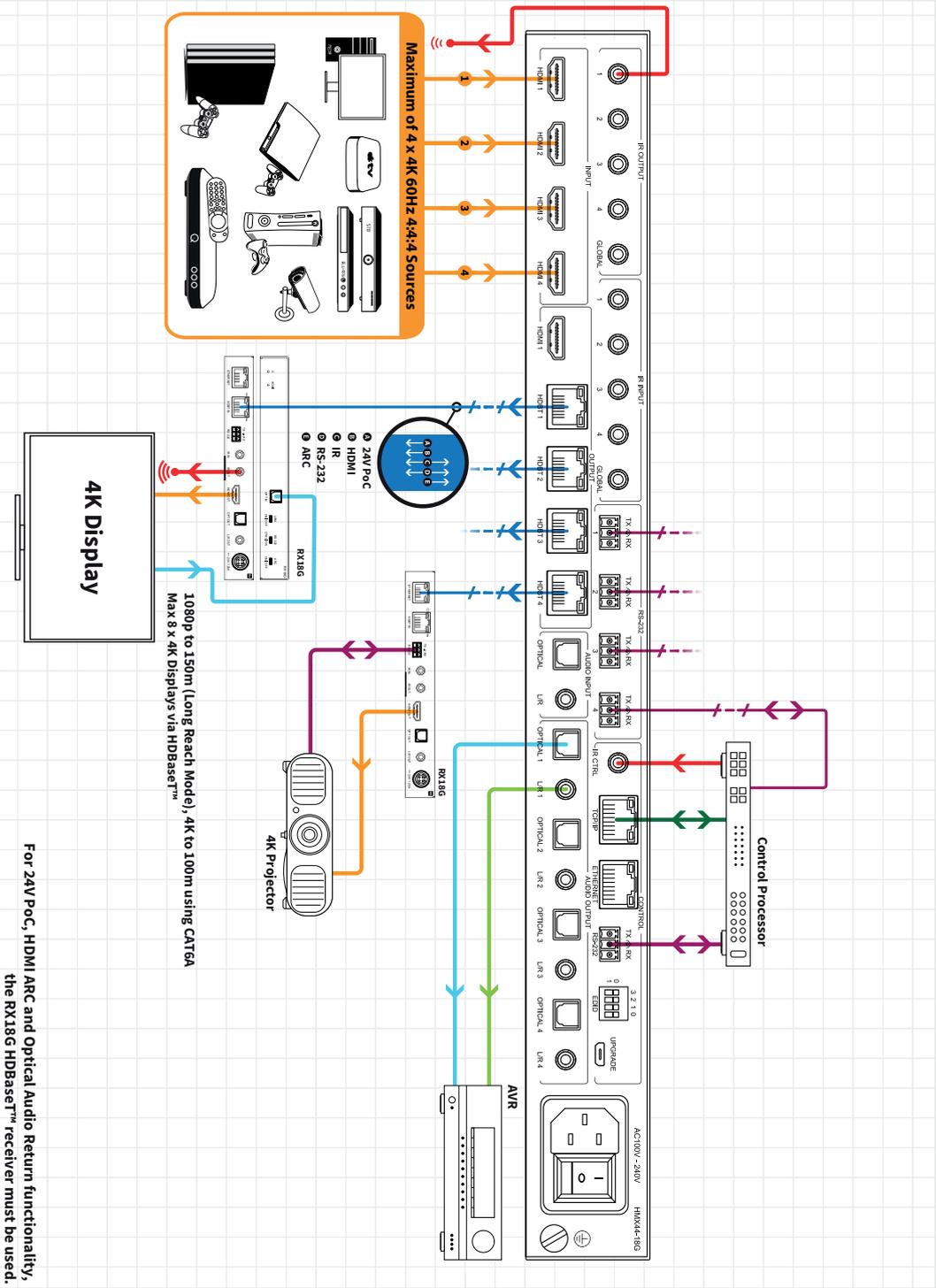
Maintenance

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

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Example Schematic
HMX44-18G

- RS-232
- HDMI
- CAT6A Cable
- Network Connection
- Optical/Digital
- Stereo/Audio
- IR



For 24V PoC, HDMI ARC and Optical Audio Return functionality, the RX18G HDBaset™ receiver must be used.

Notes...



www.blustream.com.au

www.blustream-us.com

www.blustream.co.uk