

▶ HMXL44AB

User Manual

Thank you for purchasing this product.

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.



Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Safety And Performance Notice

The transmission distances of HDMI over UTP cables are measured using TE CONNECTIVITY 1427071-6

EIA/TIA-568-B termination (T568B) of cables is recommended for optimal performance.

To minimize interference of the unshielded twisted pairs in the CAT5e/6 cable do not run the HDBaseT / Cat5e/6/6a cabling with or in close parallel proximity to mains power cables.

Do not substitute or use any other power supply other than the enclosed unit, or a Bluestream approved replacement.

Do not disassemble either the Transmitter or Receiver units for any reason. Doing so will void the manufacturer's warranty.

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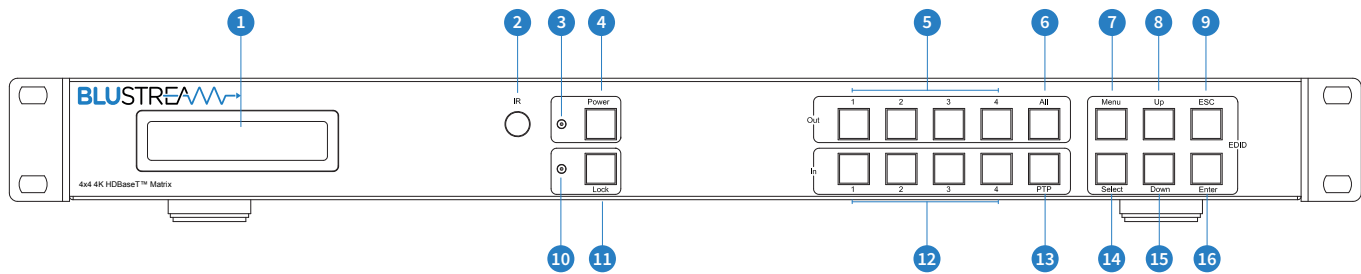
Introduction

Our Essential 4x4 HDBaseT™ Matrix offers unprecedented performance and value for the custom installation market. The HMXL44-KIT is a 4K 4x4 matrix package, delivering HDMI, bi-directional IR and PoH (PoE) up to lengths of 70m over a single CAT cable. The matrix also provides advanced features including Audio breakout, simultaneous HDBaseT™/HDMI outputs and RS-232 pass through to enable 3rd party control of displays. The HMXL44- KIT is supplied with 4 x HEX70ED Receivers.

FEATURES:

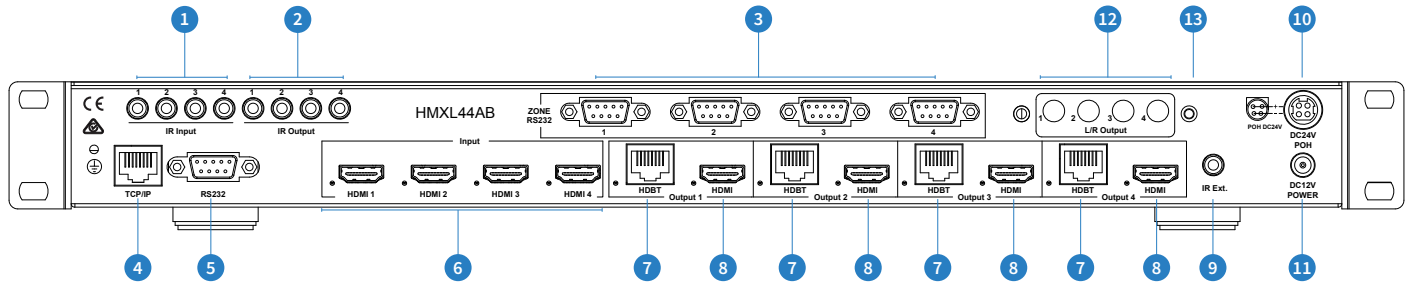
- Features 4x HDMI inputs which can be independently routed to 4x HDBaseT™/HDMI outputs
- Simultaneous HDBaseT™ and HDMI outputs to allow connection to dual displays per zone
- HDMI audio de-embedded to associated analogue L/R audio outputs
- Extends up to distance of 70m over single CAT cable
- Supports 4K UHD video up to 40m (3840 x 2160 @30Hz 4:4:4, 4096 x 2160 @24Hz 4:4:4, and 4K @60Hz 4:2:0)
- Supports 3D signal display
- 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
- Supports bi-directional IR and RS-232 from all input and output locations
- Supplied with Blustream IR receivers and emitters
- Control via front panel, IR, RS-232 and TCP/IP
- HDCP compliant
- Supports PoH (Power over HDBaseT™) to power compatible HDBaseT™ receivers
- 3rd Party drivers available for all major home control brands
- Advanced EDID management
- Matrix kit is supplied with 4 x RX70ED HDBaseT™ receivers
- 1U Design for 19" rack mount integration - mounting kit included
- Matrix can be configured using front panel, supplied IR remote or Matrix PC configuration software.

Front Panel



- 1 LCD display – Shows the status of input/output selection, EDID etc.
- 2 IR receiver window.
- 3 Power LED indicator.
- 4 Power button – Press to power on/off the matrix.
- 5 HDMI output selection button 1 to 4 - To select the output from 1 to 4.
- 6 All button for HDMI outputs – All outputs will work as one (Selects all outputs).
- 7 Menu button – Press to enter EDID set mode (see page 5).
- 8 Up selection button - Press to change segment's value.
- 9 ESC – Press to quit EDID set mode.
- 10 Lock indicator.
- 11 Lock button – Press to lock the buttons of the front panel.
- 12 HDMI input selection button 1 to 4 – Press to select the input from 1 to 4.
- 13 PTP button – Press to mirror all inputs and outputs (e.g. output 1 to input 1, output 2 to input2).
- 14 Selection button – Press to select current setting.
- 15 Down selection button – Press to change segment's value.
- 16 Enter button – Press to set EDID to specified INPUT or copy EDID from specified OUTPUT to specified INPUT.

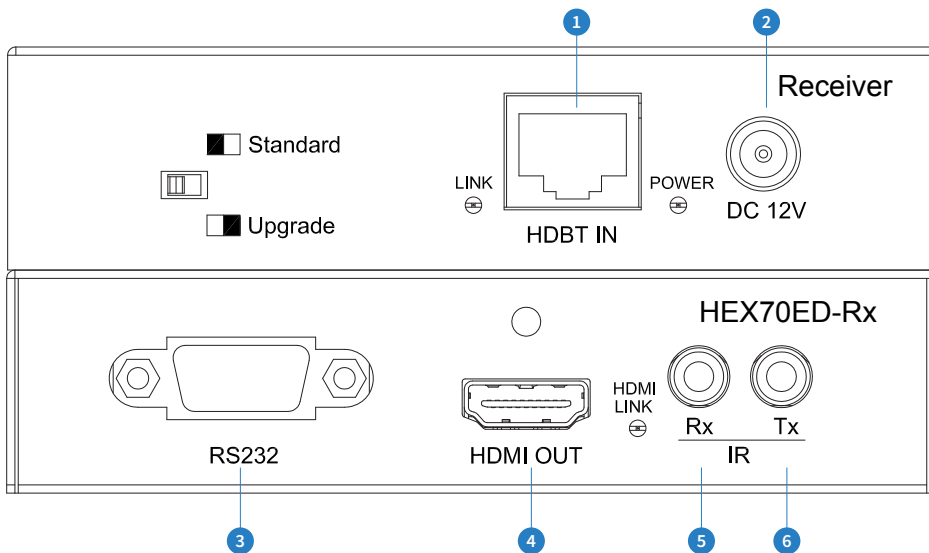
Rear Panel



- 1 IR inputs – 3.5mm stereo jack. Transmits IR to the zone HDBaseT receiver (displays). When using the IRCAB cable (supplied) ensure cable direction is correct.
- 2 IR outputs – 3.5mm mono jack – Routed IR from HDBaseT extender (room end). Use supplied Blustream 5V IR emitters.
- 3 Zone specific bi-directional RS-232 ports – Connect to third party control device to extend RS-232 commands to HDBaseT receivers RS-232 port.
- 4 RJ45 – Connect to LAN for TCP & GUI control
- 5 RS-232 port – For control of the matrix switcher from PC or control processor.
- 6 HDMI inputs – Connect to HDMI sources.
- 7 HDBT output – Connect to HDBaseT receivers.
- 8 HDMI output – Connect to HDMI display. works simultaneously with HDBaseT output.
- 9 IR input for matrix control – For hard wired IR connection. Use mono cable only. Connect to control processor or Blustream 5v IR receiver.
- 10 POH power port – Use supplied 24v DC adaptor to power the HDBaseT extenders.
- 11 Power port – Use supplied 12V DC adaptor to power matrix.
- 12 L/R analogue audio output – 3.5mm stereo jack. Extracted audio will follow the I/O selection. Please note: input must be PCM 2ch audio. Bitstream audio cannot be decoded by matrix.
- 13 GND – Connect to ground.

HEX70ED-RX

The HMXL44 Matrix is supplied with 4x HEX70ED-RX HDBaseT receivers



- 1 HDBaseT input
- 2 12V DC power (not required)
- 3 2-way RS232 (9-pin serial)
- 4 HDMI output
- 5 IR Input 3.5mm stereo jack
- 6 IR Output 3.5mm mono jack

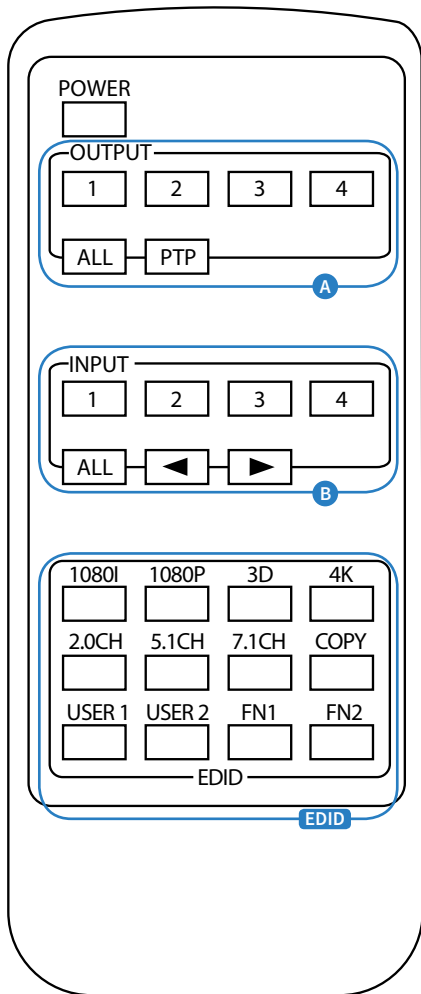
EDID Control

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 determine what the best resolution is to 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 we can remove the need for EDID hand shaking thus making switching quicker and more reliable

Three EDID segments will display on the LCD panel:

INPUT	VIDEO	AUDIO	NOTE
IN1	1080I	2.0CH.	
IN2	1080P	5.1CH	
IN3	3D	7.1CH	
IN4	D1024		D1024=DVI 1024 x 768
IN5	D1080		D1080=DVI 1920 x 1080
IN6	D1200		D1200=DVI 1920 x 1200
IN7	OUT1		OUT1=Copy OUTPUT1 EDID to INPUTx
ALL	OUT2		ALL=Set EDID to ALL INPUTS OUT2=Copy OUTPUT2 EDID to INPUTx
	OUT3		OUT3=Copy OUTPUT3 EDID to INPUTx
	OUT4		OUT4=Copy OUTPUT4 EDID to INPUTx
	OUT5		OUT5=Copy OUTPUT5 EDID to INPUTx
	OUT6		OUT6=Copy OUTPUT6 EDID to INPUTx
	OUT7		OUT7=Copy OUTPUT7 EDID to INPUTx
	OUT8		OUT8=Copy OUTPUT8 EDID to INPUTx

Remote Control Description



OUTPUT AND INPUT SELECTION

- A** Selects the zone OUTPUT you wish to change the source on (Numbers 1 - 4 correspond to the zone outputs 1 - 4)
- B** Selects the source INPUT you wish to change on the selected zone (Numbers 1 - 4 correspond to the source inputs 1 - 4)

EXAMPLE

To switch source 2 to zone 4 you would press 4 in the output section (A) followed by pressing 2 in the Input section (B).

ALL button: The all button selects all the inputs or outputs in its corresponding box. Example: (The "All" button in the Output box selects all the zones so all zones will change to what source input is selected next)

PTP: This button will align all the zone outputs with the like numbered source inputs. Example: Input 1 to output 1, input 2 to output 2, etc

EDID SET UP

The HMXL44AB provides a comprehensive range of EDID settings.

Below are three examples of how to deploy the desired EDID setting when using the supplied remote.

- A. Fix EDID to an Input or ALL inputs:** Press the desired video resolution button (1080I / 1080P / 3D / 4K), then select the desired audio format (2.0CH / 5.1CH / 7.1CH), then select the source input you want this EDID information allocated to by pressing the INPUT 1 - 4 or the ALL button
- B. Copy EDID of Output-X to an Input or ALL:** Press the COPY button then select the OUTPUT you wish to copy the EDID information from, then select the source input you want to copy this EDID to by selecting the INPUT 1-4 or the ALL button.
- C. User defined EDID to an Input or ALL inputs:** Press USER1 / USER2 button then select the source you wish to assign this EDID to by selecting INPUT 1-4 or the ALL button

NOTE: The button press sequence should be finished in 5 seconds, otherwise the operation is discarded.

Infrared (IR) Distribution

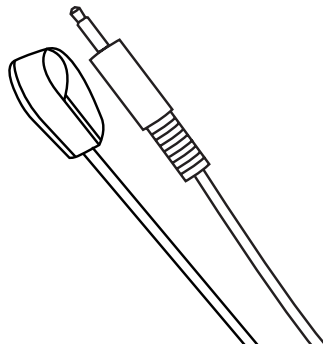
The Blustream HMXL44 Matrix includes multiple options for control and routing of IR.

Blustream Infrared products are all 5V and NOT compatible with alternate manufacturers Infrared solutions.

The HMXL44 Matrix is supplied with all necessary IR hardware required and includes:

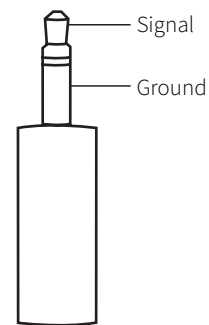
IR Emitter

Blustream IR Emitter designed for discrete IR control of hardware



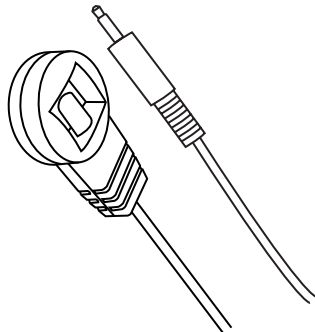
Infrared 3.5mm Pin-Out

IR Emitter - Mono 3.5mm

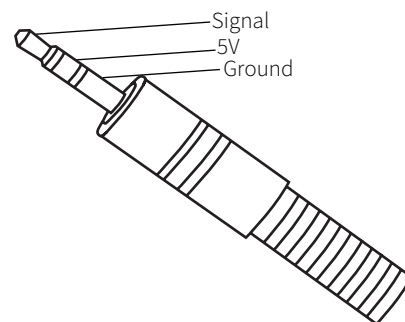


IR Receiver

Blustream IR receiver to receive IR signal and pass-through Blustream products



IR Receiver - Stereo 3.5mm

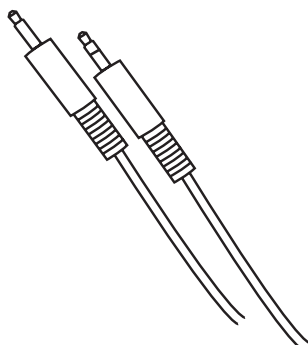


IR Control Cable

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

Will work with 12v IR third party products.

Note: Cable is directional as indicated



Specifications

- Video Input Connectors: 4x HDMI Type A, 19-pin, female
- Video Output Connectors: 4x HDMI Type A, 19-pin, female, 4x HDBaseT™ RJ45 connector
- Audio Output Connectors: 4x 3.5mm Analogue audio stereo jack
- RS-232 serial port: 5x DB-9, female
- TCP/IP Control: 1x RJ45, female
- IR Input Ports: 5x 3.5mm stereo jack
- IR Output Ports: 4x 3.5mm mono jack
- Rack-Mountable: 1U rack height, rack ears included
- Dimensions (WxDxH): 428x235x43mm, without feet
- Shipping Weight: 2.7kg
- 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/5A DC (main), 24v 2.5A DC (POH), screw type connectors

Package Contents:

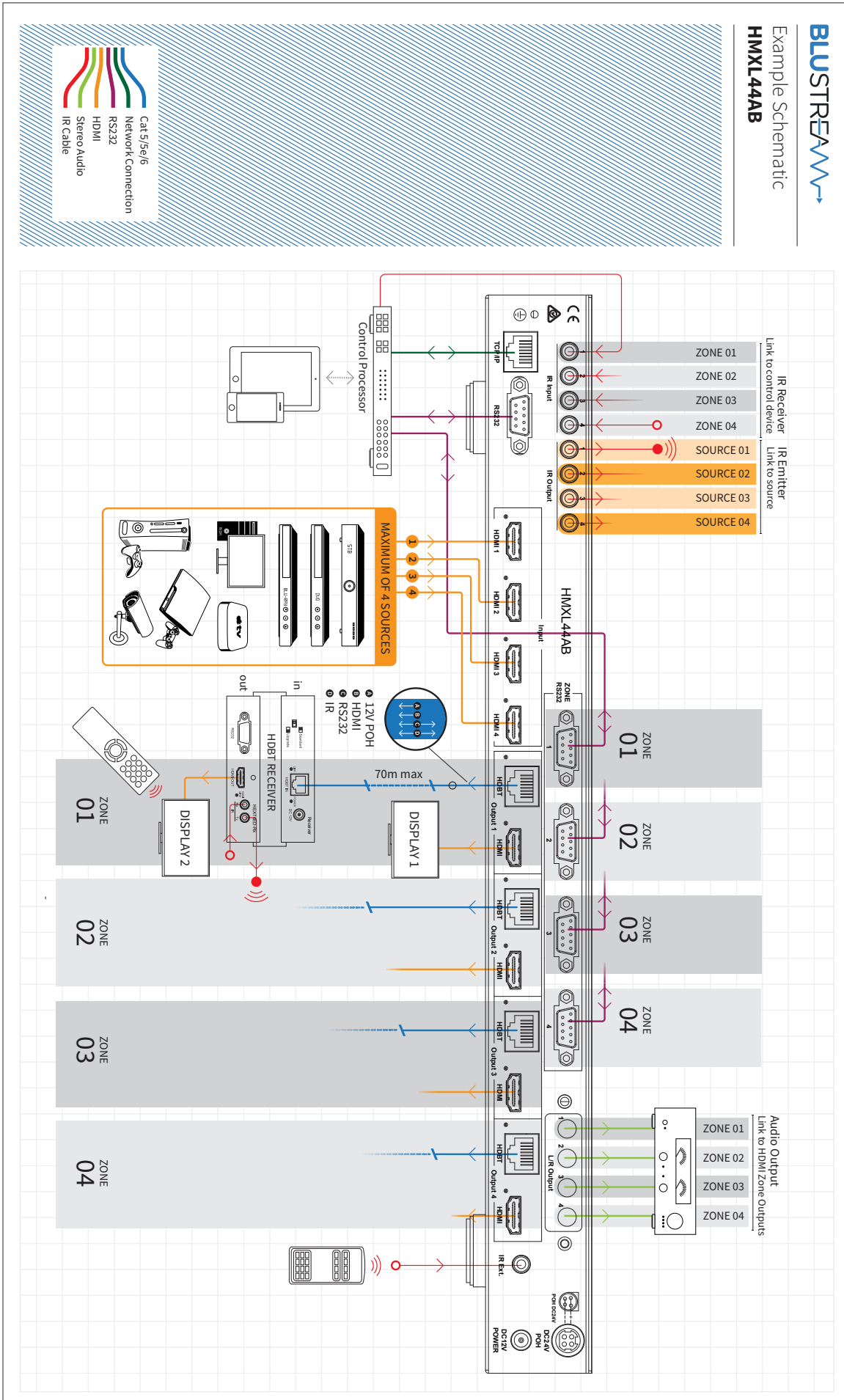
- 1 x HMXL44AB
- 4 x HEX70ED-RX
- 1x Rack mounting kit for HMXL44AB
- 4 x Mounting kit for HEX70B-RX
- 1 x 12V/5A power supply
- 1 x 24V/2.5A power supply
- 1 x Remote control
- 4 x IR control cable - 3.5mm-3.5mm cable
- 4 x IR emitter
- 5 x IR receiver
- 1 x User manual

Maintenance

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

BLUSTREAM

Example Schematic
HMXL44AB



RS232 Pin Assignment

MT0404-QFI		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

RS232 and Telnet Commands

NO.	COMMAND	ACTION
1	?	Print Help Information
2	HELP	Print Help Information
3	STATUS	Print System Status And Port Status
4	PON	Power On, System Run On Normal State
5	POFF	Power Off, System Run On Power Save State
6	IRON/OFF	Set System IR Control On Or Off
7	KEYON/OFF	Set System KEY Control On Or Off
8	APMON/OFF	Set Advanced Process Mode On Or Off
9	BEEPON/OFF	Set Onboard Beep On Or Off
10	RESET	Reset System To Default Setting, (Should Type \"Yes\" To Confirm, \"No\" ToDiscard)
11	OUTxxON/OFFSet	Set OUTPUT:xx On Or Off, xx=[01...04]
	OUT01ON/OFF	Set OUTPUT1 ON or OFF
	OUT02ON/OFF	Set OUTPUT2 ON or OFF
	OUT03ON/OFF	Set OUTPUT3 ON or OFF
	OUT04ON/OFF	Set OUTPUT 4 ON or OFF
12	OUTxxFRyy	Set OUTPUT:xx From INPUT:yy, xx=00: Select All OUTPUT Port,xx=[01...04]: SelectOne OUTPUT Port,yy=[01...04]: Select One INPUT Port
	OUT01FR01	OUTPUT 1 to INPUT 1
	OUT01FR02	OUTPUT 1 to INPUT 2
	OUT01FR03	OUTPUT 1 to INPUT 3
	OUT01FR04	OUTPUT 1 to INPUT 4
	OUT02FR01	OUTPUT 2 to INPUT 1
	OUT02FR02	OUTPUT 2 to INPUT 2
	OUT02FR03	OUTPUT 2 to INPUT 3
	OUT02FR04	OUTPUT 2 to INPUT 4
	OUT03FR01	OUTPUT 3 to INPUT 1
	OUT03FR02	OUTPUT 3 to INPUT 2
	OUT03FR03	OUTPUT 3 to INPUT 3
	OUT03FR04	OUTPUT 3 to INPUT 4
	OUT04FR01	OUTPUT 4 to INPUT 1
	OUT04FR02	OUTPUT 4 to INPUT 2
	OUT04FR03	OUTPUT 4 to INPUT 3
OUT04FR04	OUTPUT 4 to INPUT 4	



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