# HEX150CS-KIT
Quick Reference Guide
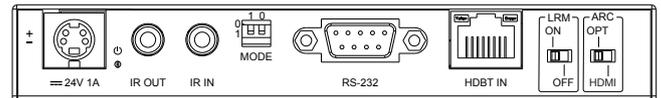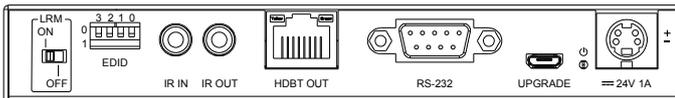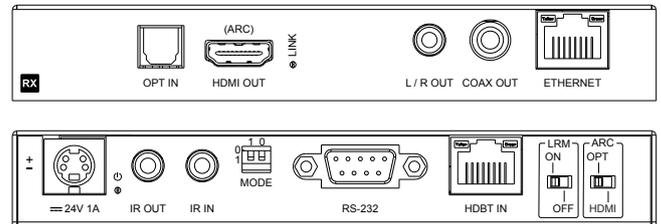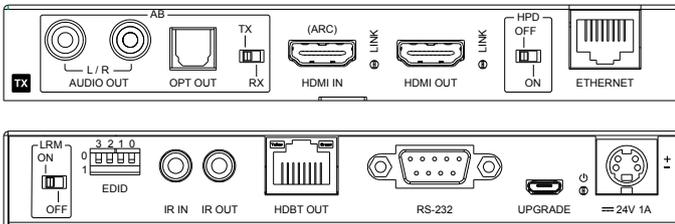
Introduction

Our Platinum range of HDBaseT™ products offer the very best in performance and flexibility. The HEX150CS-KIT extender set is an industry leading HDMI 2.0 4K 60Hz 4:4:4 HDCP2.2 HDBaseT™ solution utilising CSC and Smart-Scale technology on the HDBaseT™ output. The HEX150CS-KIT supports HDMI, bi-directional IR, RS-232 and PoH (PoE) up to lengths of 150m over a single CAT cable. The HEX150CS-KIT also provides enhanced features including ARC via HDMI or optical (S/PDIF) and Ethernet pass through.

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 support
- Smart-Scale technology on the Transmitters HDBaseT™ link allows for a display only capable of supporting lower video resolutions (limited to 4K 60Hz 4:2:0 or 1080p) to receive 4K 60Hz 4:4:4 or 4K 60Hz 4:2:0 video content while still showing the native 4K UHD resolution through the (Transmitter) HDMI loop output. Please note: Smart-Scale does not support 4:2:2 signals.
- Supports 4K 60Hz 4:4:4 UHD video up to 100m, and 1080p video up to 150m (HDBaseT™ long-reach mode)
- Features 1x HDMI loop-out on HEX150CS-TX for integrating local displays or cascading to multiple devices
- Supports all industry standard video resolutions including VGA-WUXGA and 480i-4K
- Supports all known digital HDMI audio formats including Dolby TrueHD, Atmos; DTS-HD Master Audio and DTS:X transmissions
- HDMI re-clocking on the HDBaseT™ Receiver to help solve HDMI compatibility and handshaking issues
- Supports ARC (Audio Return Channel) from display via HDMI and Optical Digital (S/PDIF) input
- Supports audio return to HDMI, optical digital and analogue L/R audio outputs (analogue output supports 2ch PCM only)
- 10/100BaseT Ethernet pass through
- Supports bi-directional RS-232 pass-through
- Supports bi-directional IR pass through with switchable 5V/12V IR hardware support
- Supplied with Blustream 5V IR receiver and emitter
- Bi-directional PoH (Power over HDBaseT™) to power extenders from either transmitter or receiver end
- Advanced EDID management
- HDCP 2.2 Support

Panel Description HEX150CS-RX
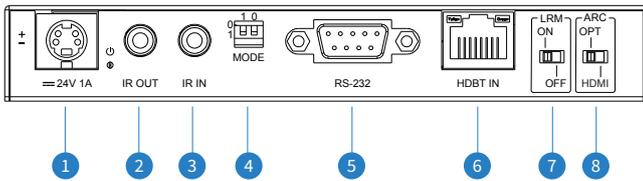
❶ DC 24V 1A 4-pin mini DIN connector

❷ IR OUT (to Blustream 5V 3.5mm IR emitter)

❸ IR IN (to Blustream 5V 3.5mm IR receiver)

❹ Mode dip-switch - To switch RS-232 serial port between pass-through and firmware update mode

❺ DB9 RS-232 / Serial connector

❻ HDBaseT™ input

❼ HDBaseT™ Long Range Mode (ON / OFF)

❽ Audio return selection switch - Switch between HDMI ARC and TOSLINK (Optical) when selecting which audio source to return
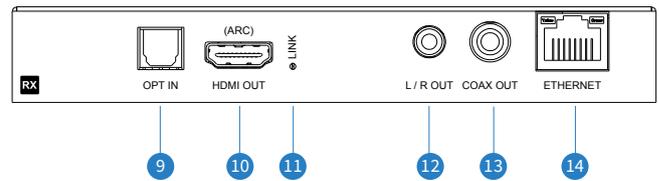
❾ Optical audio input - TOSLINK audio input. Connects to the Optical output of the local display device for Audio Return feature

❿ HDMI Output - connect to HDMI (ARC) on display

⓫ HDMI signal link indicator

⓬ Analogue 2ch stereo audio output (3.5mm). Note: Audio input format must be 2ch PCM

⓭ Coaxial Digital audio output (RCA)

⓮ Ethernet port - RJ45. Connect to display to extend 10/100 network from Transmitter.

Panel Description HEX150CS-TX
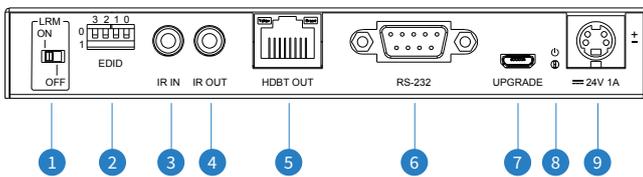
❶ HDBaseT™ Long Range Mode (ON / OFF)

❷ EDID DIP switch (UP=0, DOWN=1)

❸ IR IN (to Blustream 5V 3.5mm IR receiver)

❹ IR OUT (to Blustream 5V 3.5mm IR emitter) RS-232 / Serial connector

❺ HDBaseT™ output

❻ DB9 RS-232 / Serial connector

❼ USB Upgrade port

❽ Power status indicator

❾ DC 24V 4-pin mini DIN connector

❿ Analogue audio 2ch L/R output - Connects to third party audio amplifier for audio breakout of either local HDMI or Audio Return Channel from HEX150CS-RX. Note: Audio input format must be 2ch PCM

⓫ Optical TOSLINK audio output. Connects to local AV amplifier when using Audio Return Channel (ARC) or Local/Source HDMI audio breakout
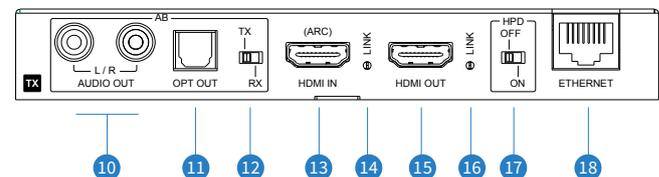
⓬ Audio Breakout TX/RX selection switch - Select TX for local HDMI input audio breakout for Analogue RCA 2ch output or Optical. Select RX for ARC audio breakout from RX

⓭ HDMI input - connect to HDMI (ARC) on AVR or source

⓮ HDMI input signal link indicator

⓯ Local HDMI Loop-output

⓰ HDMI output signal link indicator

⓱ ARC CTRL - Select TX to allow ARC audio breakout without a local source connected to HDMI Input. Select Source to allow ARC to be returned via the source connected to the local HDMI Input

⓲ Ethernet port - RJ45. Connect to local network product to extend 10/100 network to Receiver

Understanding the Transmitter/Receiver status lights

The Blustream HEX150CS-KIT extender solutions include status LED indicators on both the Transmitter and Receiver products to show all connections are active and to help diagnose possible problems.

Receiver:

- The HDMI signal link light will be off when there is no connection with a display/sink
- The HDMI link light will be on when there is an active connection with a display
- The HDBaseT™ RJ45 link light (orange) will be off when there is no CAT cable/active HDBaseT™ connection on the RJ45 HDBaseT™ input
- The HDBaseT™ RJ45 link light (orange) will blink if there is an unstable connection between the Transmitter and Receiver
- The HDBaseT™ RJ45 link light (green) will blink when a CAT cable is connected to the HDBaseT™ RJ45 input and an active connection is achieved with the Transmitter.

Transmitter:

- The Input HDMI signal link light will be off when there is no connection with a source device
- The Output HDMI-Loop signal link light will be off when there is no connection with a display/sink
- The Input HDMI link light will be on when there is an active connection with a source device
- The Output HDMI-Loop link light will be on when there is an active connection with a display/sink
- The HDBaseT™ RJ45 link light (orange) will be off when there is no CAT cable/active HDBaseT™ connection on the RJ45 HDBaseT™ output
- The HDBaseT™ RJ45 link light (orange) will blink if there is an unstable connection between the Transmitter and Receiver
- The HDBaseT™ RJ45 link light (green) will blink when a CAT cable is connected to the HDBaseT™ RJ45 output and an active connection is achieved with the Receiver / Matrix.

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.

Configuration of extender EDID settings can be achieved using the product dip-switches of the HEX150CS-TX. EDID dip-switch settings are shown below:

Global EDID settings

Dip-switch position '0' = Off

Dip-switch position '1' = On
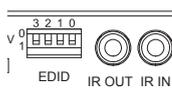
EDID Dip-switches

[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: EDID pass-through

Specifications

HEX150CS-TX

- Video input: 1x HDMI Type A, female
- Video output: 1x HDBaseT™ RJ45 connector
  1x HDMI Type A, female
- Audio output: 2x RCA stereo analogue
  1x S/PDIF Optical Toslink
- RS-232 serial port: 1x DB9 female connector
- Ethernet: 1x RJ45 connector (10/100BaseT)
- Upgrade: 1x Micro-USB connector
- IR input: 1x 3.5mm stereo jack
- IR output: 1x 3.5mm mono jack
- EDID DIP switch: 4-pin
- Mounting kit included
- Dimensions excl. connections (W x D x H):
  156mm x 123mm x 23mm
- Shipping weight (Kit): 1.6kg
- Power: 24V/1A DC, 4-pin mini DIN connector
- Operating temperature: 32°F to 104°F (0°C to 40°C)
- Storage temperature: -4°F to 140°F (-20°C to 60°C)

HEX150CS-RX

- Video input: 1x HDBaseT™ RJ45 connector
- Video output: 1x HDMI Type A, female
- Audio output: 1x 3.5mm L/R analogue audio
  1x Digital Coaxial (RCA)
- Audio input: S/PDIF Optical Toslink
- RS-232 serial port: 1x DB9 female connector
- Ethernet: 1x RJ45 connector (10/100BaseT)
- IR input: 1x 3.5mm stereo jack
- IR output: 1x 3.5mm mono jack
- Mode DIP switch: 2-pin
- Mounting kit included
- Dimensions excl. connections (W x D x H):
  148mm x 134mm x 23mm
- Power: 24V/1A DC, 4-pin mini DIN connector
- Operating temperature: 32°F to 104°F (0°C to 40°C)
- Storage temperature: -4°F to 140°F (-20°C to 60°C)

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

Package Contents

HEX150CS-KIT

- 1 x HEX150CS-TX and 1 x HEX150CS-RX
- 1 x 24V/1A DC power supply
- 1 x IR emitter (IRE)
- 1 x IR receiver (IRR)
- 2 x Mounting bracket sets
- 1 x Quick Reference Guide

HEX150CS-RX (when sold individually)

- 1 x HEX150CS-RX
- 1 x Mounting bracket set

Maintenance

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

For the full Blustream HEX150CS-KIT User Manual please visit the Blustream website: www.blustream.co.uk / www.blustream.com.au