

## ► HEX70B-KIT

### 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 minimise 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 Blustream approved replacement.

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

## Contents

Introduction	03
Features	03
Panel Descriptions	04
Terminating HDBaseT CAT Cables	05
Understanding TX/RX Status Lights	05
4K Video Distribution	06
Application Diagram	06
InfraRed Distribution	07
Specifications	08
Package Contents	08
Maintenance	08
Installer notes	09

# Introduction

Our HEX70B-KIT 4K HDBaseT™ extender set offers market leading features and outstanding value. The product delivers HDMI, Bi-directional IR and Bi-directional PoH (PoE) up to lengths of 70m.

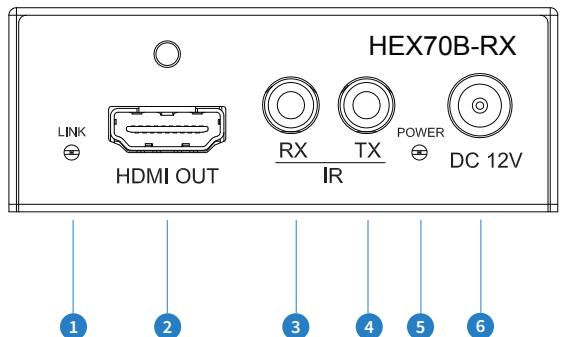
---

## FEATURES:

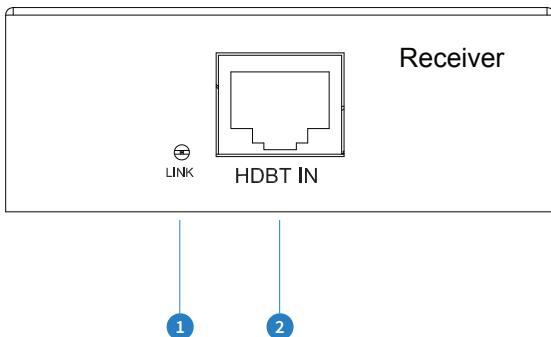
---

- Advanced HDBaseT technology offering uncompressed video and audio with zero latency
- Extends HDMI 1080p up to a distance of 70m over a 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 all industry standard video resolutions including VGA-WUXGA and 480i-4K
- Supports 3D signal display
- Supports bitstream passthrough of multichannel surround sound including object-based audio formats in line with HDMI specifications
- Bi-directional IR pass-through
- Supplied with Blustream IR receiver and emitter
- Supports bi-directional PoH (Power over HDBaseT™) to power extenders from either Transmitter or Receiver end
- HDCP2.2 compliant

## Panel Description HEX70B-RX

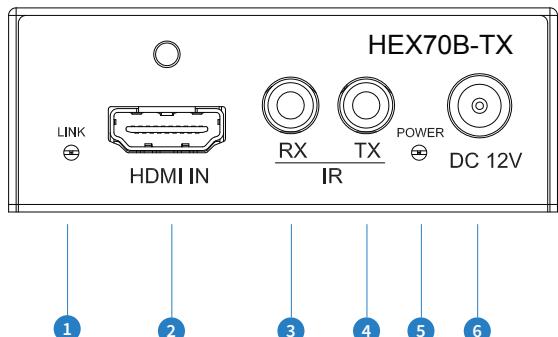


- ① HDMI link indicator
- ② HDMI output
- ③ IR RX jack (to Blustream 5V IR Receiver)
- ④ IR TX jack (to Blustream 5V IR Emitter)
- ⑤ Power status indicator
- ⑥ DC 12V screw type connector

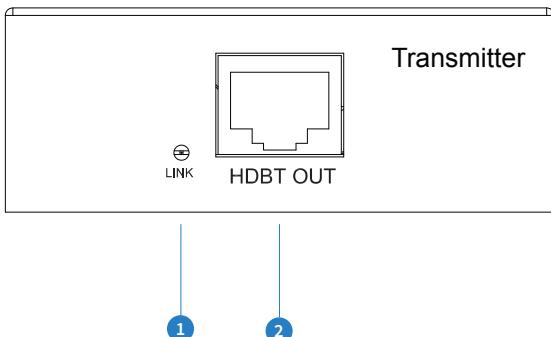


- ① HDBaseT signal link indicator
- ② HDBaseT input

## Panel Description HEX70B-TX



- ① HDMI link indicator
- ② HDMI input
- ③ IR RX jack (to Blustream 5V IR Receiver)
- ④ IR TX jack (to Blustream 5V IR Emitter)
- ⑤ Power status indicator
- ⑥ DC 12V screw type connector



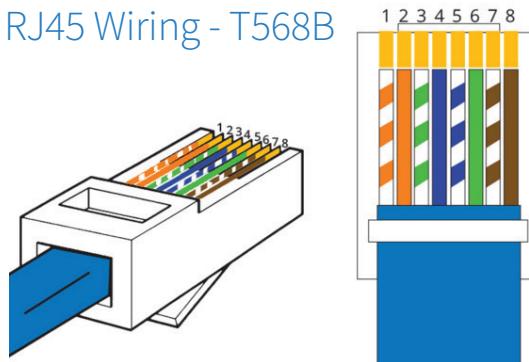
- ① HDBaseT signal link indicator
- ② HDBaseT output

## Terminating the interconnecting HDBaseT CAT cable

It is important that the interconnecting CAT cable between the Blustream HDBaseT products is terminated using the correct RJ45 pin configuration. The link CAT cable **MUST** be a 'straight' (pin-to-pin) CAT cable and it is advised that this is wired to the T568B wiring standard as this format is less prone to EMI (Electro-Magnetic Interference).

When installing CAT cables it is advised that you use the best possible CAT cable quality possible. HDMI distribution products will only work if used with CAT5e standard cable or above. Blustream recommends using a CAT6 (or better) cable for your installations, especially when running over longer distances, in areas of high EMI, or for 4K signal distribution.

RJ45 Wiring - T568B



## Understanding the HEX70B signal status lights

The Blustream HEX70B 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.

### **Understanding the status lights:**

#### **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 link light will be off when there is no CAT cable/active HDBaseT connection on the RJ45 HDBaseT input
- The HDBaseT link light will blink if there is an unstable connection between the Transmitter/Matrix and Receiver
- The HDBaseT link light will be lit when a CAT cable is connected to the HDBaseT RJ45 output on the Transmitter/Matrix and an active connection is achieved with the Receiver
- The Power link light will be off when no power is connected to the Receiver, or to the connected Transmitter unit
- The Power link light will be on when power is connected directly to the Receiver or is being received from the Transmitter unit

#### **Transmitter:**

- The HDMI signal link light will be off when there is no connection with a source device
- The HDMI link light will be on when there is an active connection with a source device
- The HDBaseT link light will be off when there is no CAT cable/active HDBaseT connection on the RJ45 HDBaseT output
- The HDBaseT link light will blink if there is an unstable connection between the Transmitter and Receiver/Matrix
- The HDBaseT link light will be lit when a CAT cable is connected to the HDBaseT RJ45 output on the Transmitter and an active connection is achieved with the Receiver/Matrix.
- The Power link light will be off when no power is connected to the Transmitter, or to the connected Receiver unit
- The Power link light will be on when power is connected directly to the Transmitter or is being received from the Receiver unit

# 4K Video Distribution

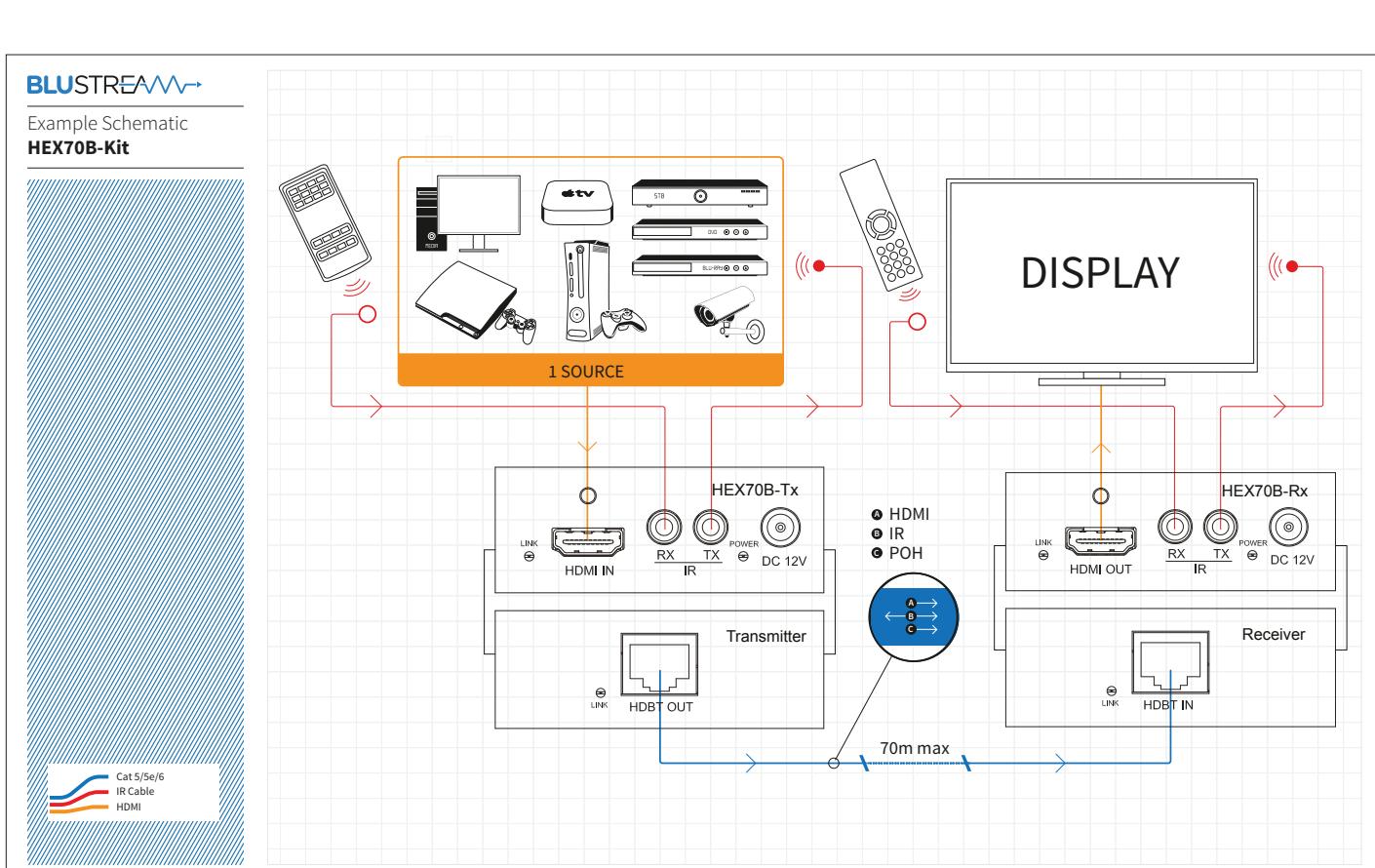
The HEX70B is designed to distribute 4K video formats up to 4K 30Hz 4:4:4 & 4K 60Hz 4:2:0. Any video formats above this resolution cannot be distributed using the HEX70B extender kit.

**Please note:** The HEX70B-KIT supports EDID and HDCP 2.2 pass-through which may result in loss of signal should your source be able to output video signals up to 4K 60Hz 4:4:4 (18Gbps). Due to the limitations in HDBaseT video distribution it is not possible to pass 18Gbps HDMI over a CAT cable without manipulation of the HDMI signal using scaling, colour space conversion or compression.

Should you experience problems with video distribution please try the following to make sure your source device is outputting a maximum video format of either 4K 60Hz 4:2:0 or 4K 30Hz 4:4:4

- Fix the video output resolution within the source device
- Use an EDID management device on the HDMI output of your source device. This will trick the source device into thinking it is connected to a lower resolution display of up to 4K 60Hz 4:2:0 or 4K 30Hz 4:4:4

For distribution of video resolutions exceeding the maximum capabilities of the HEX70B extender kit please contact your local Blustream distributor



## Infrared (IR) Distribution

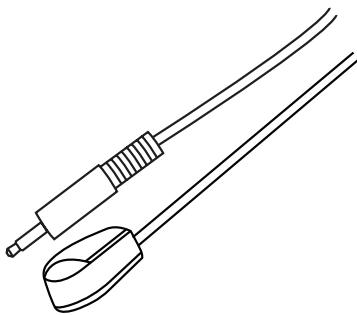
The Blustream range of HDBaseT products include multiple options for control and routing of IR.

**IMPORTANT: Blustream Infrared products are all 5v and NOT compatible with alternative manufacturers Infrared solutions. When using third party 12v IR control solutions please use Blustream IRCAB cable for IR conversion (sold separately).**

Each Blustream Matrix and HDBaseT extender kit is supplied with all necessary IR hardware required and includes:

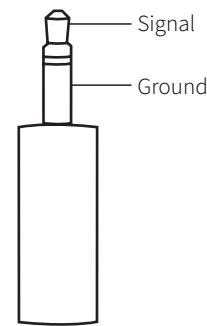
### IR Emitter - IR1 & IR2 (IR2 sold separately)

Blustream 5V IR Emitter designed for discrete IR control of hardware



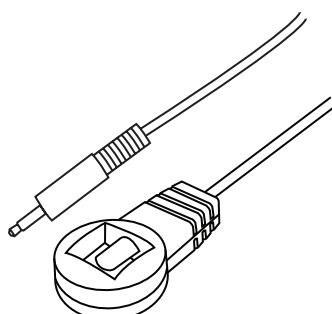
### Infrared 3.5mm Pin-Out

IR Emitter - Mono 3.5mm

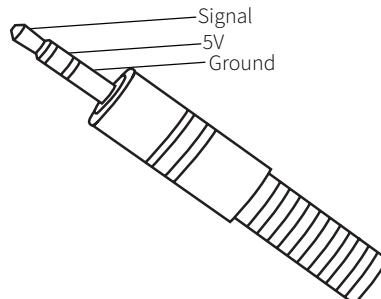


### IR Receiver - IRR

Blustream 5V IR receiver to receive IR signal and distribute through Blustream products



### IR Receiver - Stereo 3.5mm

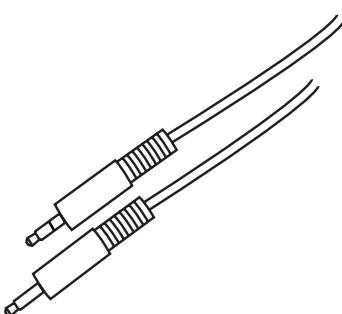


### IR Control Cable - IRCAB

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

Compatible with 12v IR third party products.

Note: Cable is directional as indicated



# Specifications

## HEX70B-TX

- Video input: 1x HDMI Type A, female
- Video output: 1x HDBaseT RJ45 connector
- IR input: 1x 3.5mm stereo jack
- IR output: 1x 3.5mm mono jack
- Mounting kit included
- Dimensions excl connections (W x D x H):  
105mm x 73mm x 27mm
- Shipping weight (Kit): 1 kg
- Power: 12V/2A DC, screw type 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)

## HEX70B-RX

- Video input: 1x HDBaseT RJ45 connector
- Video output: 1x HDMI Type A, female
- IR input: 1x 3.5mm stereo jack
- IR output: 1x 3.5mm mono jack
- Mounting kit included
- Dimensions excl connections (W x D x H):  
105mm x 73mm x 27mm
- Shipping weight (Kit): 1 kg
- Power: 12V/2A DC, screw type 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

## HEX70B-KIT

- 1 x HEX70B-TX and 1 x HEX70B-RX
- 1 x 12V/2A DC power supply
- 1 x IR emitter (IRE)
- 1 x IR receiver (IRR)
- 2 x Mounting bracket sets
- 1 x User manual

## HEX70B-RX (when sold individually)

- 1 x HEX70B-RX
- 1 x Mounting bracket set

## HEX70B-TX (when sold individually)

- 1 x HEX70B-TX
- 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.

Components inside this kit are not user serviceable. Do not remove the protective cover from either unit. Removing any panel from this product will invalidate the manufacturers warranty.

## Installer notes:



[www.blustream.co.uk](http://www.blustream.co.uk)

[www.blustream.com.au](http://www.blustream.com.au)