

► CEX120B-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 Coaxial cables depends on the characteristics and quality of the cable.

Solid and shielded cables terminated with 75 OHM BNC connectors is recommended for optimal performance.

To minimise interference on the coaxial cable do not run 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.

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Introduction

Our CEX120B-KIT HDMI™ extender set offers HDMI distribution over a single Coaxial cable. The product delivers HDMI & Bi-directional IR up to lengths of 120m @ 1080p.

FEATURES:

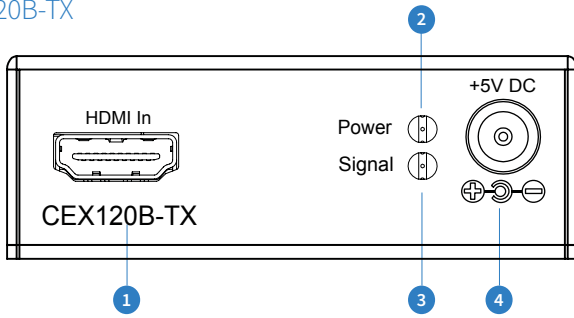
- Extends HDMI 1080p up to a distances of 120m over a single Coaxial cable
- Supports the following video resolutions - 480i, 576i, 720p, 1080i and 1080p
- Supports Bi-directional IR from input and output locations
- Supports audio formats up to 7.1CH
- Supplied with Blustream IR receiver and emitter
- Requires local power at both Transmitter and Receiver, it is possible to power via USB at 5V 1A
- Smart EDID management
- HDCP compliant

WARNING!

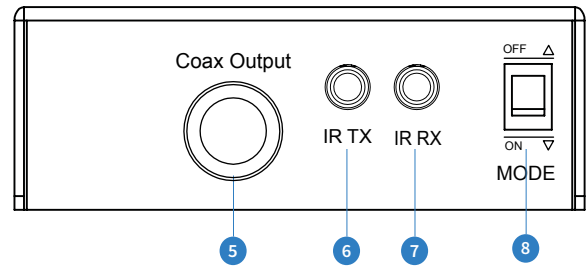
Due to the video processing used in this product, users may experience a minimal delay in signal distribution between Transmitter and Receiver.

Please read these instructions carefully before connecting, operating or adjusting this product. Incorrect termination of the Coaxial connecting cable may result in damage to the Blustream hardware.

CEX120B-TX

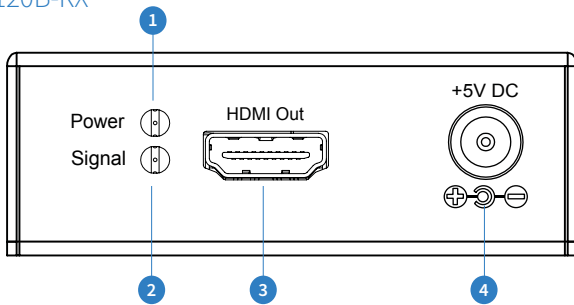


- 1 HDMI input - Connect to the HDMI output of the local source device or Matrix output to be extended to the CEX120B-RX.
- 2 Power LED indicator.
- 3 Signal Status LED - LED indicators on both the Transmitter and Receiver products used to show all connections are active and to help diagnose possible problems (See Page 5 for further details).
- 4 Power port - Connect Blustream 5V DC power supply only. Note - HDMI extender kit must be powered at both the Transmitter and Receiver ends in order for the kit to work.

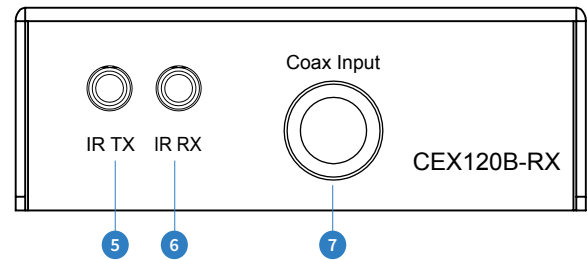


- 5 Coaxial output - BNC connector. Connect to coaxial input on the CEX120B-RX.
- 6 IR TX port - Connect to Blustream 5V Emitter. Connection is used to control the local source device from Blustream IR Receiver connected at the CEX120B-RX.
- 7 IR RX port - Connect to Blustream 5V IR Receiver or IRCAB cable (when used with a third party control processor). Connection is used to extend IR over the coaxial signal to control devices located at the CEX120B-RX end.
- 8 EDID management dip-switches (See page 6 for further details)

CEX120B-RX



- 1 Power LED indicator.
- 2 Signal Status LED - LED indicators on both the Transmitter and Receiver products used to show all connections are active and to help diagnose possible problems (See Page 5 for further details).
- 3 HDMI output - Connect to the HDMI input of the local display.
- 4 Power port - Connect Blustream 5V DC power supply only. Note - HDMI extender kit must be powered at both the Transmitter and Receiver ends in order for the kit to work.



- 5 IR TX port - Connect to Blustream 5V Emitter. Connection is used to control the local display device from control processor or IR sensor located at the source/transmitter end.
- 6 IR RX port - Connect to Blustream 5V IR Receiver. Connection is used to control sources devices located at the CEX120B-TX end.
- 7 Coaxial input - BNC connector. Connect to coaxial output on the CEX120B-TX.

Working with Coaxial cable

The transmission distances of HDMI over Coaxial cables depends on the characteristics, age and quality of the cable therefore it is advised that you use the best possible quality Coaxial cable. Solid and shielded cables terminated with 75 OHM BNC connectors are recommended for optimal performance.

To minimise interference on the coaxial cable do not run cabling with or in close parallel proximity to mains power cables.

It is recommended that there are no joins in the Coaxial cable as these may result in signal loss and decrease distance capabilities of the extender kit. Should joins be required it is advised that a back-to-back Coaxial coupler is used. The Coaxial cable can be terminated with either a BNC or F-type connector (CEX120B-KIT is supplied with 2x F-type to BNC converters) using one of two methods:

- Crimp-style or Compression connectors - They are typically more difficult to install, but can attain the greatest lengths and best connections when used correctly.
- Screw-on connectors - Are easy to use, but are less secure. With a Screw-on connector there is rarely a good bond between the cable shielding and the metal of the outer part of the connector, resulting in an increase risk of interference on the cable.



Understanding the CEX120B-KIT status lights

The Blustream HDMI Coaxial extender solution includes 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:-

Blustream CEX120B-TX

- The Red power status light will be lit when the 5V 1.2A DC power supply is connected and off when no power supply is connected.
- The Green signal status light will be lit when there is an active HDMI source connected to the HDMI input.

Blustream CEX120B-RX

- The Red power status light will be lit when the 5V 1.2A DC power supply is connected and off when no power supply is connected.
- The Green signal status light will be lit when there is an active Coaxial cable connection between the CEX120B-TX and CEX120B-RX.

Blustream Support department are on hand to assist with signal distribution issues should they arise - please email us at one of the email addresses below

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.

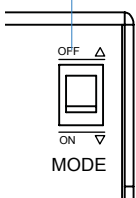
While the objective of EDID is to make connecting a digital display to a source a simple plug and play procedure issues do arise.

By pre-determining the video resolution and audio format of the source and display device you can potentially work around compatibility issues associated with some display and source combinations.

The CEX120B-KIT has 2x dip-switches on the Transmitter which allow you to fix the Video and Audio resolution to one of the settings shown below.

Adjusting the EDID settings

EDID Dip-switches



The EDID configuration can be altered using the 2x dip-switches located on the side panel of the CEX120B Transmitter.

Please see table below for EDID settings.

Note: *You must power-cycle the CEX120B-TX after changes have been made in order for the EDID settings to update.*

Dip-switch settings

[DIP]=Off/Off: HDMI 1080p, Multi-channel audio

[DIP]=Off/On: HDMI 1080p, Audio 2ch PCM

[DIP]=On/Off: HDMI 720p 60Hz, Audio 2ch PCM

[DIP]=On/On: Copy EDID from display

EDID learning

Should you not know the EDID values of the connected display the EDID configuration can be copied from the display connected to the HDMI output of the CEX120B-RX.

- 1 Set both dip-switches on the CEX120B-TX to ON/ON.
- 2 Power the Transmitter
- 3 The Green LED on the CEX120B-TX will light up indicating the EDID learning procedure is complete.

Note:

- Do not change the dip-switch settings after learning mode has been completed otherwise the built-in EDID learning information will be lost.
- Video resolution is limited to 1080p when the EDID is copied from the display (Dip-switches both in position '1,1').

InfraRed (IR) Distribution

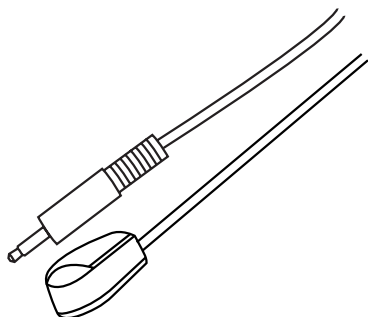
The Blustream HDMI extender products include multiple options for control and routing of IR.

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 HDMI extender kit is supplied with all necessary IR hardware required and includes:

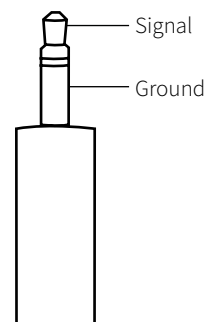
IR Emitter - IR1 & IR2 (IR2 sold separately)

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



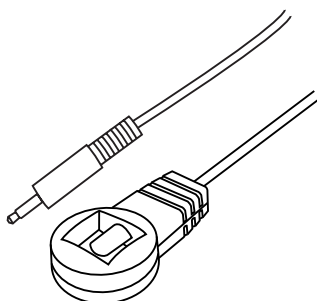
InfraRed 3.5mm Pin-Out

IR Emitter - Mono 3.5mm

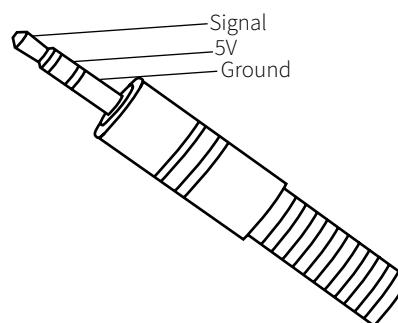


IR Receiver - IRR

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



IR Receiver - Stereo 3.5mm

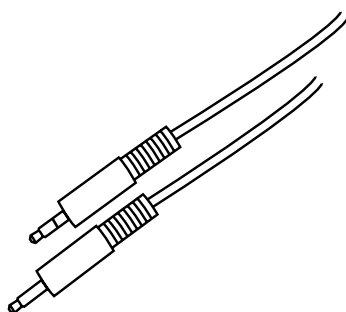


IR Control Cable - IRCAB (sold separately)

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

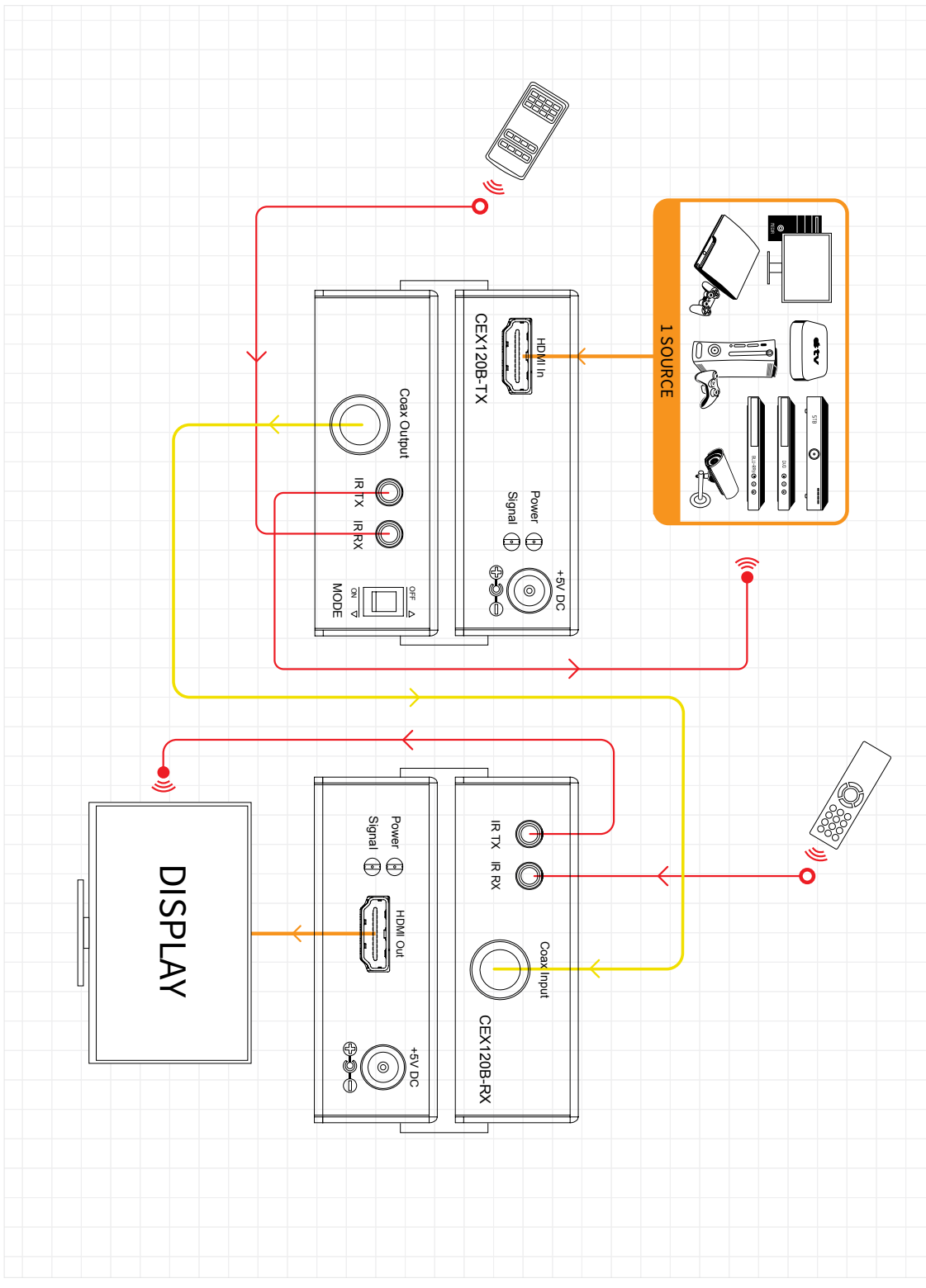
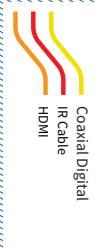
Compatible with 12V IR third party products.

Note: Cable is directional as indicated



BLUSTREAM

Example Schematic
CEX120B-KIT



Specifications:

CEX120B-TX

Video Input Connectors: 1x HDMI Type A

Video Output Connectors: 1x BNC connector

IR Input ports: 1x 3.5mm stereo jack

IR Output ports: 1x 3.5mm mono jack

Dimensions (Casing - W x D x H): 79mm x 84mm x 28mm

Unit Weight: 0.25Kg

Shipping Weight: 1.1Kg

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: 1x 5V DC/1.2A

Supported Video Resolutions: 480i 30Hz, 576i 25Hz, 720p 50Hz, 720p 60Hz, 1080i 25Hz, 1080i 30Hz, 1080p 24Hz, 1080p 30Hz, 1080p 60Hz

Note: 4K, 3D and 480i/p Video is not supported

Supported Audio Resolutions: Dolby Digital (up to 7.1CH), DTS ES (up to 7.1CH), 2CH PCM

Note: Audio formats must be 48 KHz

Product does not support Dolby HD, Dolby TRU HD, DTS-HD, Dolby Atmos or any other 192 KHz audio format

Specifications are subject to change without notice.

CEX120B-RX

Video Input Connectors: 1x BNC connector

Video Output Connectors: 1x HDMI Type A

IR Input ports: 1x 3.5mm stereo jack

IR Output ports: 1x 3.5mm mono jack

Dimensions (Casing - W x D x H): 79mm x 84mm x 28mm

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: 1x 5V DC/1.2A

Package Contents:

- 1 x CEX120B-TX
- 1 x CEX120B-RX
- 2 x Mounting kits
- 2 x 5V/1.2A power supply
- 1 x IRR Blustream 5V IR receiver
- 1 x IR1 Blustream 5V IR emitter
- 2 x F-type to BNC adaptor
- 1 x User manual

Maintenance

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



www.blustream.co.uk
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