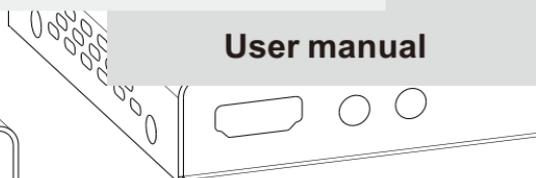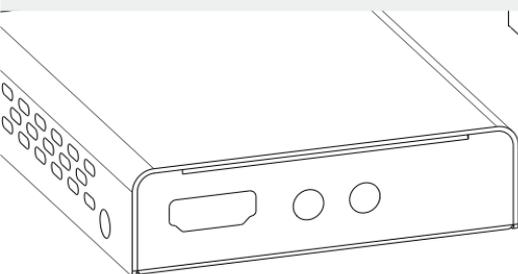# HDMI Extender 50M with POE and IR

User manual

V1.0

Product summary

The HDMI Extender with Bi-directional IR, auto EDID/EQ, and PoE function extends high definition video and audio signals, IR, and power at a distance of up to 164ft/50m over a single Cat5e/6 cable. Power over Ethernet (PoE) Technology transmits power over Cat5e/6, allowing either the Transmitter or Receiver to be powered without the use of a power supply. No EDID or EQ adjustments are necessary as the units automatically adjust for compatibility and gain. This extender set also features a newly redesigned slim and compact chassis for easy and flexible installations. This product fully supports DTS-HD and Dolby TrueHD audio formats, and is HDCP compliant. In addition, bidirectional IR pass-through allows for source or display control. For extending HDMI over a single Cat5e/6 with IR at a long distance, with Power over Ethernet, the HDMI extender is a great plug and play solution! It includes two units: transmitting unit and receiving unit. The transmitting unit is used to capture the HDMI input with IR signals and carries the signals via one cost effective Cat5e/6 cable. The receiving unit is responsible for equalizing the transmitted HDMI signal and reconstructing IR signals. It offers the most convenient solution for HDMI extension over a single Cat5e/6 with Power over Ethernet, and is the perfect solution for any application.

The HDMI Extender over Single Cat5e/6 with Bi-directional IR, been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment, the HDMI extender should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit.
- Always unplug the power to the device before cleaning.

■ Features

- ☐ Allows HDMI audio/video signals to be transmitted using a single Cat5e or Cat6 Cable.

- ☐ Features Power over Ethernet (PoE) Technology which transmits power over Cat5e/Cat6, allowing the transmitter and receiver to be powered off over a single power supply

- ☐ Slim and compact design.

- ☐ Wide band Bi-directional IR system allowing for control of source or display (IR accessories included)

- ☐ Wideband IR signal from 20KHz to 60KHz.

- ☐ Transmission Range: Extends HDMI transmission up to 50m (164ft) from the HDMI source at Full HD.

- ☐ 1080p 24-bit color and 3D.

- ☐ Features Auto EDID and EQ Management for plug and play installation.

- ☐ Works with HDMI and HDCP compliant devices.

- ☐ HDCP 1.4 compliant.

- ☐ Pure uncompressed 7.1ch digital audio.

- ☐ Supports DTS-HD and Dolby TrueHD high bit rate audio.

- ☐ Allows cascading to create a larger distribution system.

- ☐ Dimensions: 2.7" (68.58mm) W x .7" (17.78mm) H x 3.25" (82.55mm) D.

Specifications ■

|	
HDMI Compliance	HDMI Deep Color 24bit color depth, Full 3D
HDCP Compliance	HDCP 1.4
Video Bandwidth and Support	480i/480p/720p/1080i/1080p @60
HDMI over UTP	[1080P]-50m [165ft]
Audio Support	Surround Sound (up to 7.1 ch) or stereo digital audio
ESD protection	Human body model +/- 4kV(contact discharge) +/-8KV(air-gap discharge)
IR pass-thru	Full-duplex bi-directional. Controllable via IR pass-through from RX to TX and from TX to RX with IR extenders or via CEC integrated
LED indicators	Video lock yellow, Power, green
Power supply	12V1A
Power consumption	3.5 Watts TX, 2.5 Watts RX

Panel descriptions

Transmitter
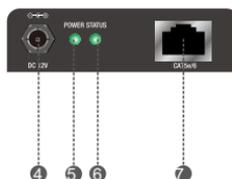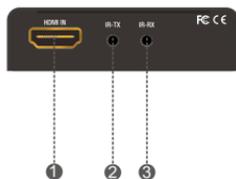
Receiver
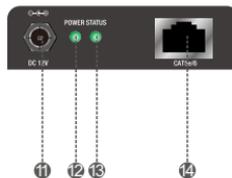
(1) HDMI IN - Connects to a HDMI source with a HDMI male-male cable

(2) IR Blaster - Infrared 3.5mm socket for plugging in the extension cable of IR blaster

(3) IR Receiver - Infrared 3.5mm socket for plugging in the extension cable of IR receiver

(4) 12 V DC - Connect to 12 V DC power supply

(5) Power Indicator Light

(6) Status Indicator Light

(7) RJ45 (HDMI Signal out) - Plug in a Cat-5/5e/6 cable that needs to be linked to the receiving unit

(8) HDMI OUT - Connect to a HDMI display with a HDMI male-male cable

(9) IR Blaster - Infrared 3.5mm socket for plugging in the extension cable of IR blaster

(10) IR Receiver - Infrared 3.5mm socket for plugging in the extension cable of IR receiver

(11) 12V DC - Connect to 12V DC power supply

(12) Power Indicator Light

(13) Status Indicator Light

(14) RJ45 (HDMI Signal In) - Plug in the Cat-5/5e/6 cable that is linked to the transmitting unit
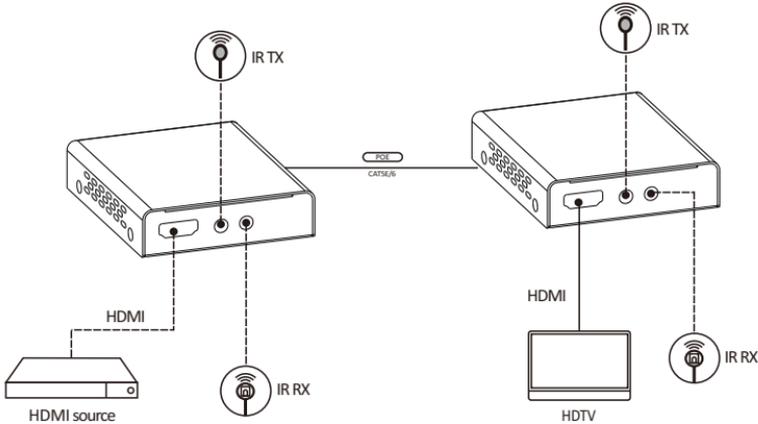
■ Connect and operate

(1) Connect a source such as a Blu-Ray Player, game console, A/V Receiver, Cable or Satellite Receiver, etc.to the HDMI input on the Transmitting unit.

(2) Connect a display such as an HDTV or HD Projector to the HDMI output on the Receiving unit.

(3) Connect a single Category 5e/6/7 up to 164ft/50m to the UTP output of the Transmitting unit, and the other end to the UTP input of the Receiving unit.

(4) For power, plug in either the Transmitting unit or receiving unit with the included power supply, opposite unit will not have to be plugged in as it features Power over Ethernet (PoE).

(5) Power on each device in the same sequence (receiver and transmitter will already be powered when either unit is plugged in).

Installation & Operation

At this point the display connected should display the source signal connected to the extender set. If no signal is being displayed, connect a shorter Cat5e/6 cable (jumper or patch cable). If a display is having difficulty receiving a signal, access the display's menu and adjust the resolution (lowest to highest until signal is displayed). A 24 Hz vertical refresh rate may work better than 60 Hz or higher. Use the source remote at the receiver emitter to test IR functionality. If the IR remote function is not responding, check the emitters to ensure they are placed correctly and are plugged into the correct IR jacks on the Extender set receiving and transmitting units.

■ IR

IR PASS-THROUGH

The bi-directional IR system allows you to control the source that is connected to the extender unit, from the display; or the display from the source, not simultaneously. There are two important things to note when setting up the IR system:

1. The IR Receiver (IR RX) is always what you point your remote at to send an IR signal. This pigtail is placed at the display for controlling the source; or at the source for controlling the display.

2. The IR Blaster (IR TX) is what sends the IR signal to what you are intending to control, whether it's the source or the display. This pigtail is placed at the source; either pointed at the source, or placed on the front panel of the source, see below for placement tips. Or placed at the display to control the display from the source.
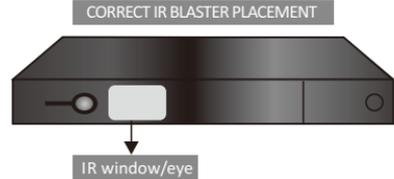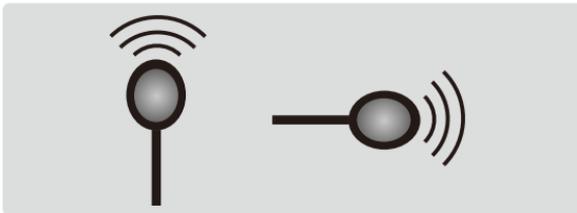
IR RECEIVER

IR BLASTER

IR BLASTER (TX)

To control the source: Plug IR Blaster into IR TX port of transmitter unit; place blaster in front of the IR eye of

the source. To control the display: Plug IR Blaster into IR TX port of receiver unit; place blaster in front of the

IR eye of the display.

Note: Placement of the IR Blaster is important and can result in the IR system not working if improperly placed.

First, locate the IR eye or window on the source

If placing the IR blaster right on the front panel of the source, do not stick right on top of the IR eye or

IR window. The IR signal cannot travel through the double-sided tape on the Blaster. Instead place the blaster

on either side, or on the top or bottom of the IR eye or window, with the tip of the blaster facing the IR eye or

window. See below for illustration of where IR signal shoots from on IR Blaster:

INCORRECT IR BLASTER PLACEMENT

CORRECT IR BLASTER PLACEMENT

IR window/eye

IR window/eye

IR RECEIVER (RX)

▫ To control the source: Plug IR Receiver into IR RX port of receiver unit; place receiver at or near display.

▫ To control the display: Plug IR Receiver into IR RX port of transmitter unit; place receiver in position where it
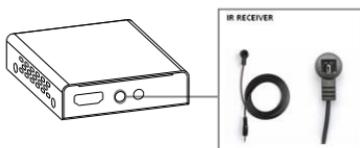
is able to receive remote signals.

Installation & Operation

To Control the Source:

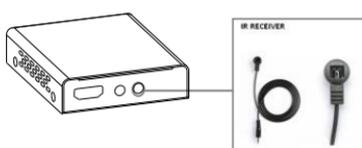1. Plug the IR Blaster into the IR TX Port on the Transmitter
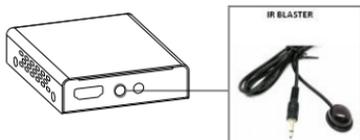
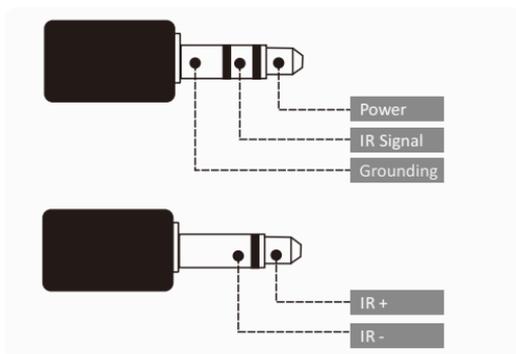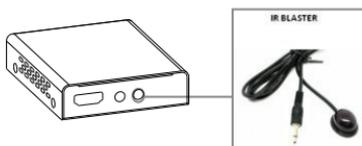2. Plug the IR Receiver into the IR RX Port on the Receiver

To Control the Display:

1. Plug the IR Receiver into the IR RX Port on the Transmitter

2. Plug the IR Blaster into the IR TX Port on the Receiver

Power

IR Signal

Grounding

IR +

IR -

■ EDID Management

The HDMI extender is equipped with EDID management; however there is no need to adjust any dip switches or dials, the unit automatically reads the EDID from the display and save it internally. This feature was created for the installer in mind, for a plug and play installation.

Maintenance

1. Do not expose this unit to water, moisture, or excessive humidity.

2. Do not install or place this unit in a built-in cabinet or other confined space without adequate ventilation.

3. To prevent risk of electrical shock or fire hazard, due to overheating do not obstruct unit's ventilation openings.

4. Do not install near any source of heat, including other units that may produce heat.

5. Do not place unit near flames.

6. Only clean unit with a dry cloth.

7. Unplug unit during lightning storms or when not used for an extended period of time. A surge protector is
   strongly recommended.

8. Protect the power cord from being walked on or pinched, particularly at the plugs.

9. Use unit only with accessories specified by the manufacturer.

10. Refer all servicing to qualified personnel.

1. Best results are usually achieved when the source and display resolutions are the same. If resolutions differ, the extenders will try to adjust the signal to match the resolution of the HDTV with the lowest resolution. This will result in a picture with a lower resolution on the other HDTV sets.

2. If you do not get audio and video, access the "setup" menu on the TV to adjust the audio and video settings. If the HDMI control circuit cannot establish a handshake, then there usually will be no audio or video in addition to a blue or black screen with a statement similar to "this protocol not supported" or "weak signal".

3. If the above mentioned messages display, reset the receiver by disconnecting the power supply. You can also disconnect all of the HDMI and power cables, wait 15 minutes for any voltages to decay and then reconnect all of the cables.

4. If you are still encountering issues, attempt the "hot-plug concept. With all of the HDMI cables disconne-cted, turn on the source and plug in the HDMI cable into its output, then power up the unit and plug the HDMI cable into its input, finally turn on the display and plug the HDMI cable from the receiver into it. This activates all of the devices in corresponding order and results in a signal being plugged into a device that is on and will attempt to connect the signal.

5. Most of the major source and display manufacturers employ a proprietary control channel to communicate between devices from the same manufacturer. Sometimes this can interfere with the HDMI control circuit or the authentication of the signal. Call the manufacturer if you experience this issue. Sometimes a player, an audio/video receiver, or a cable/satellite box may not have the latest software update, usually this can be downloaded from the manufacturer's website.

6. If you have problems with the IR control circuit, make sure that the IR RX pigtail is plugged into extender receiver and pointed at the display, and the IR TX pigtail is attached to the extender sender and pointed at the source.

Package contents

- HDMI extender (TX & RX)
- (2) IR Blasters (TX)
- (2) IR Receivers (RX)
- (1) DC 12V in line power supply
- Product Manual

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