



# User Manual

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CS-HDBTLPOER-70

70m HDBaseT Extender with Bi-directional PoE

Version: V1.0.0



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# Important Safety Instructions

## Warning:

To reduce the risk of fire, electric shock or product damage:



**1.** Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.



**6.** Clean this apparatus only with dry cloth.



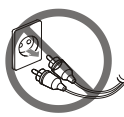
**2.** Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.



**7.** Unplug this apparatus during lightning storms or when unused for long periods of time.



**3.** To prevent risk of electric shock or fire hazard due to overheating, do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.



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



**4.** Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.



**9.** Only use attachments/accessories specified by the



**5.** Do not place sources of naked flames, such as lighted candles, on the unit.



**10.** Refer all servicing to qualified service personnel.

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# Introduction

## Overview

CS-HDBTLPOER-70 is a 70m, 4K HDBaseT Extender with BI-directional PoE, which offers the distribution of uncompressed 4K@60Hz UHD video, HD audio, Power, RS232, Two-way IR up to 70m/230ft over a single Cat(x) cable.

It allows the transmission of uncompressed 4K@60Hz UHD video, HDCP 2.2 compatibility, RS232 and Bi-directional IR pass through.

Its bi-directional PoE requires only one power supply which can be placed at either transmitter or receiver side. The system also features LED indication for visual power supply to units and signal status to show established connection between connected devices.

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## Features

- Cat 6a/7 cables, 4K@60Hz output up to 40m, while 1080P up to 70m
- Cat 5e/6 cables, 4K@60Hz output up to 35m, while 1080P up to 60m
- HDMI 1.4 with 4k@60Hz (Chroma sub-sampling 4:2:0 8-bit only) and HDCP 2.2 compliance
- Bi-directional PoE, only one power adapter is needed at either TX or RX side
- RS232 pass through
- Bi-directional IR pass-through over HDBaseT
- Automatic EDID management
- All connectors in one side for easy cabling

### Note:

The actual signal transmission distance can vary and depends on signal resolution, cable quality, graphics card, and display used in the system.

## Package Contents

- 1 x HDBaseT Transmitter
- 1 x HDBaseT Receiver
- 1 x 18V, 1A DC Power Supply
- 4 x Mounting Ear

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# Specifications

## Transmitter

Technical	
Video	
Input	1 x HDMI
Input Signal Type	HDMI: HDMI1.4 w/ HDCP 2.2 pass through
Input Resolution Support	4096x2160@24/25/30/50/60Hz, 3840x2160@24/25/30/50/60Hz, 1080P, 1080I, 720P, 576p, 576i, 480p, 480i;  NOTE: 4k@50/60Hz are supported under Chroma sub-sampling 4:2:0 8-bit only.
Input Video Level	0.5~1.0 Vp-p
Maximum Pixel Clock	297MHz
Output	1 x HDBaseT
Output Signal Type	HDBaseT
Output Resolution Support	4096x2160@24/25/30/50/60Hz, 3840x2160@24/25/30/50/60Hz,



	1080P, 1080I, 720P, 576p, 576i, 480p, 480i;  NOTE: 4k@50/60Hz are supported under Chroma sub-sampling 4:2:0 8-bit only.
Video Impedance	100Ω
Maximum Transmission Distance	Cat 5e/6: 4K: 35m; 1080P: 60m  Cat 6a/7: 4K: 40m; 1080P: 70m
<b>Audio</b>	
Support Audio Format	Stereo, LPCM 5.1, LPCM 7.1; Dolby True HD, DTS-HD Master Audio
<b>Control</b>	
Control Method	1 x IR TX,  1 x IR RX,  1 x RS232
<b>General</b>	
Operating Temperature	0°C ~ 45°C (32°F ~ 113 °F),  10% to 90%, non-condensing
Storage Temperature	-20°C ~70°C (-4°F to ~ 158 °F),

	10% to 90%, non-condensing
Product Weight	200g
Power Supply	DC 18V 1A
Power Consumption	11W Max (Pair)
Product Dimension (L x W x H)	162mm x 74.2mm x 25mm
ESD Protection	Human-body Model: ±8kV(Air-gap discharge)/ ±4kV(Contact discharge)

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## Receiver

Technical Specifications	
Video	
Input	1 x HDBaseT
Input Signal Type	HDBaseT
Input Resolution Support	4096 x 2160@24/25/30/50/60Hz, 3840 x 2160@24/25/30/50/60Hz, 1080P, 1080I, 720P, 576p, 576i, 480p, 480i;  NOTE: 4k@50/60Hz are supported under Chroma sub-sampling 4:2:0 8-bit only.
Input Video Level	0.5~1.0 Vp-p
Maximum Pixel Clock	297MHz
Output	1 x HDMI
Output Signal Type	HDMI: HDMI1.4 w/ HDCP 2.2 pass through
Output Resolution Support	4096 x 2160@24/25/30/50/60Hz, 3840 x 2160@24/25/30/50/60Hz,

	1080P, 1080I, 720P, 576p, 576i, 480p, 480i;  NOTE: 4k@50/60Hz are supported under Chroma sub-sampling 4:2:0 8-bit only.
Video Impedance	100Ω
Maximum Transmission Distance	Cat 5e/6: 4K: 35m; 1080P: 60m  Cat 6a/7: 4K: 40m; 1080P: 70m
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# Panel

## Transmitter

### Front Panel

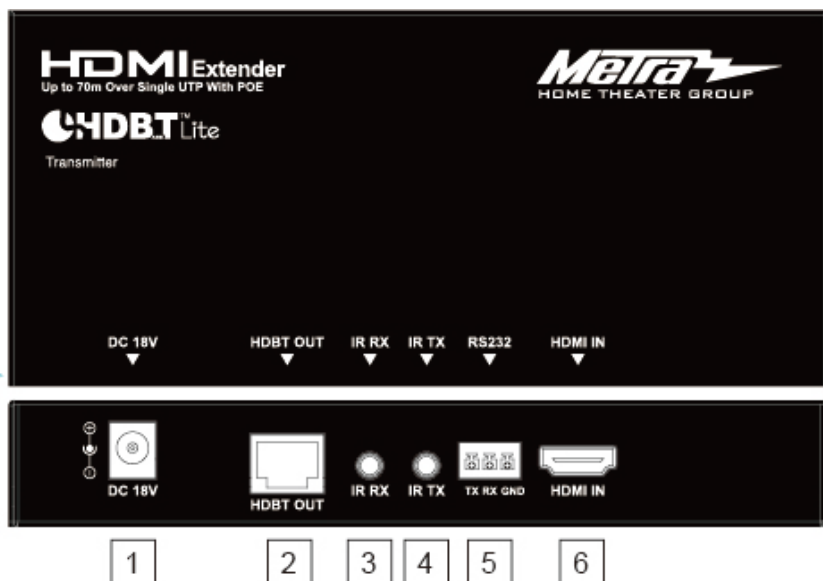


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ID	Name	Description
1	Power LED	<b>ON:</b> Transmitter is powered on. <b>OFF:</b> Transmitter is powered off.
2	Link LED	<b>ON:</b> Transmitter and Receiver are linked. <b>Blinking:</b> Connection exception. <b>OFF:</b> No link.

## Rear Panel



ID	Name	Description
1	Power	Connects to a power supply. If Transmitter is connected to a power supply, Receiver is adapter free.
2	HDBT OUT	Connects to the Receiver via a Cat(x) cable.
3	IR RX	Connects to the supplied IR receiver (30KHz-50KHz).
4	IR TX	Connects to the supplied IR emitter.

ID	Name	Description
5	RS232	RS232 pass through
5	HDMI IN	Connects to HDMI source device.

## Receiver

### Front Panel



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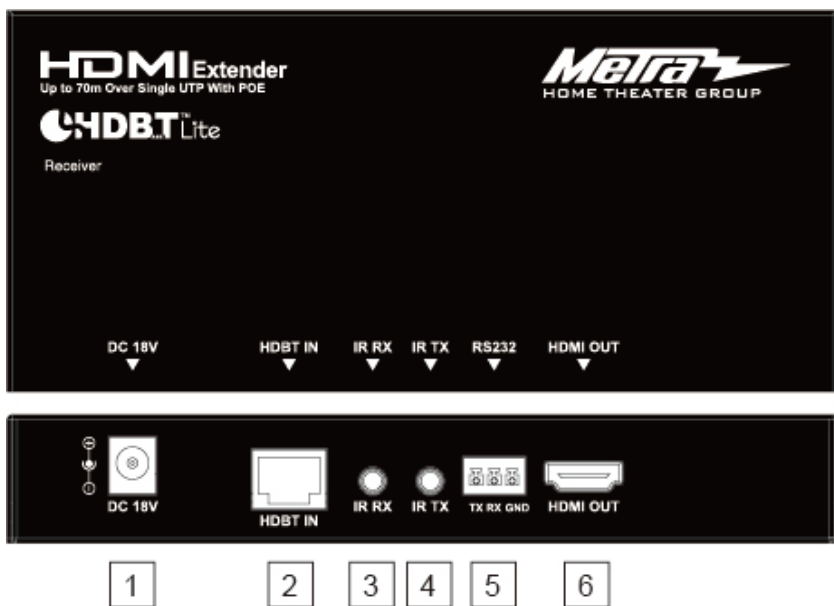
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ID	Name	Description
1	Power LED	<b>ON:</b> Receiver is powered on. <b>OFF:</b> Receiver is powered off.
2	Link LED	<b>ON:</b> Transmitter and Receiver are linked to each other. <b>Blinking:</b> Connection exception. <b>OFF:</b> No link.





## Rear Panel



ID	Name	Description
1	Power	Connects to a power supply. If Receiver is connected to a power supply, Transmitter is adapter free.
2	HDBT IN	Connects to the Transmitter via a Cat(x) cable.
3	IR RX	Connects to the supplied IR receiver (30KHz-50KHz).

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<b>ID</b>	<b>Name</b>	<b>Description</b>
4	IR TX	Connects to the supplied IR emitter.
5	RS232	RS232 pass through
6	HDMI OUT	Connects to HDMI display device.

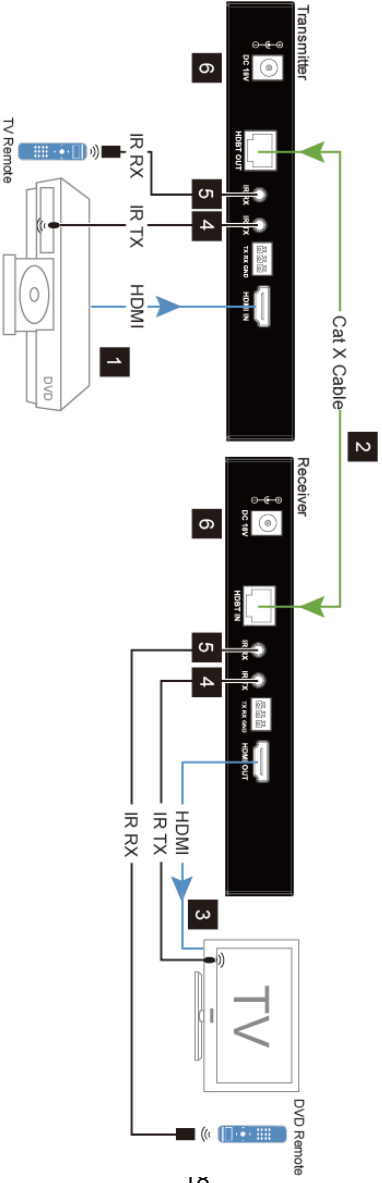
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# Hardware Installation

1. Connect an HDMI source (such as a Blu-Ray, games console, media server etc.) to Transmitter using quality HDMI cables.
2. Connect a good quality, well terminated Cat5e/6 cable of no more than 70m/230ft in length between the HDBaseT output of the Transmitter and HDBaseT input of Receiver.

**Note:** 70m/230ft is the maximum recommended transmission distance for this model and denotes perfect transmission conditions – including straight cable runs with no electrical interference. If any of the above is a factor in your installation, transmission range maybe affected.

3. Connect the HDMI display (LED/LCD display or projector) to the HDMI output of the Receiver
4. Connect IR emitters from the TX ports of Transmitter and Receiver and firmly attach the IR emitter eye directly over the infrared receiving sensors of the source and display device to be controlled. Location of the emitter eye on each device may need to be adjusted later to achieve best IR performance.
5. Insert IR receivers into IR RX ports of Transmitter and Receiver. Position of the IR receiver eye on or near the display or source device, ensuring a clear line of sight to remote handset used to control it.
6. Connect the power supply to the Transmitter or Receiver and power on all devices.



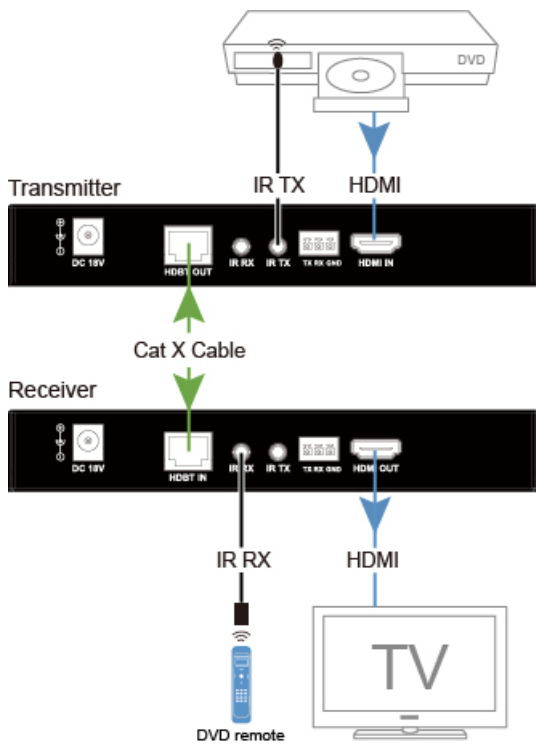
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# IR Control

IR pass-through function allows you to control the source from the display's location or control the display from source's location.

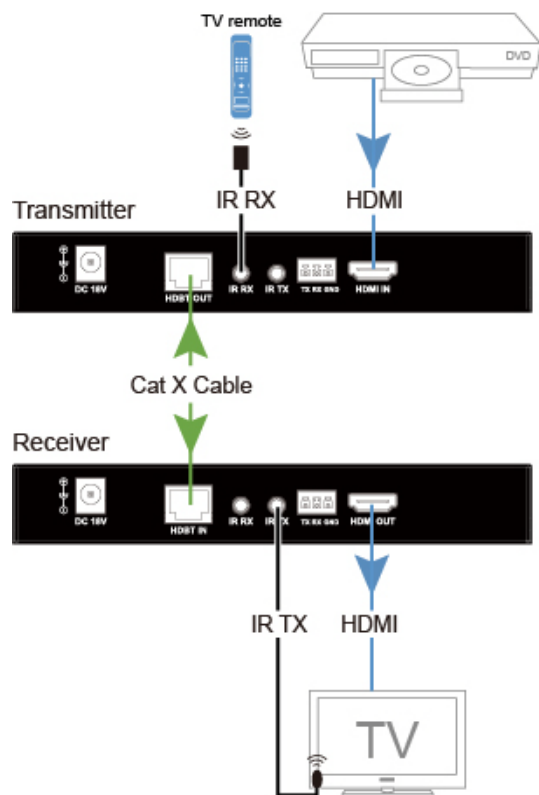
## Scenario 1

Controlling the Source from the display side.



## Scenario 2

Controlling the Display from the Source side.





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# Troubleshooting

## 1: Why the Power indicator is off?

- Check that all the devices are powered on.
- Check that all the cables are qualified and connected properly.

## 2: Why the Link indicator is off or blinking?

- Check that all the devices are powered on.
- Check that all the cables are qualified and connected properly.
- Check that the length of Ethernet Cable is appropriate. For more information, see cable specifications in Specifications.
- Check that Transmitter and Receiver work properly.

## 3: Why the display connected to the Receiver shows no picture?

- Check that power supplies of all the devices are powered on.
- Check that all the cables are qualified and connected properly.
- Check that the display works properly, and that source devices have normal signals output.
- Check that no compatibility issues exist between Receiver and display. If so, replace the display with other models.

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# Glossary

Acronym	Complete Term
DC	Direct Current
DVD	Digital Video Disc
ESD	Electro-static Discharge
HD	High Definition
HDBT	HDBaseT
HDCP	High-bandwidth Digital Content Protection
HDMI	High Definition Multimedia Interface
IR	Infra-red
LCD	Liquid Crystal Display
LED	Light Emitting Diode
PoE	Power over Ethernet





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