

healing HDC6IRL HDMI Extender - 50m (164ft) single CATx UTP HDMI Extender with Transmitter loop through and wideband IR control. User manual VER:1.4I

Thank you for purchasing. For optimum performance and safety please read these instructions carefully before connecting, operating or adjusting this product. Keep this manual for future reference.

1. Introduction

This HDMI Single Cat5e/6 Extender with IR extends High Definition video, audio and IR control to a distance of up to 50metres (or 164ft) over a single Cat5e or Cat6 cable. Features include EDID management, which facilitates source and display 'handshake' for seamless integration. With only one cost effective Cat5e/6 cable, devices with HDMI outputs can be connected to High Definition displays over long distances, without signal processing delays or latency. Deep Colour video, DTS-HD or Dolby TrueHD audio are compatible with the extender. HDC6IRL is also equipped with a wideband Infra Red control extender, which allows the source device to be controlled from the remote display, up to 50m away. One extender set includes Transmitter, Receiver IR Receiver, IR Blaster and Power Supply. The Transmitter processes the HDMI signal, balancing it across the 4 pairs of the single CATx cable. IR commands are simultaneously passed over the same cable from the Receiver to the Transmitter. The Receiver reconstructs the HDMI signal from the CATx cable, equalizes the level for cable length and makes the signal ready for connection by HDMI to the remote display. The extender provides a convenient long distance solution for HDMI extension over a single Cat5e/6 cable, a perfect solution for PayTV or any HDMI signal.

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2. Package Contents

- HDMI Transmitter 1pc,
- HDMI Receiver 1pc,
- IR Tx cable-wideband 1pc,
- IR Rx cable-wideband 1pc,
- 5V1A DC Power Supply 1pc,
- Product User Manual 1pc

3. Features:

Sends HDMI Audio & Video with return wideband IR control signals over a single Cat5e or Cat6 cable. Up to 1080p High Definition resolution. Compact design installs easily. Electronic Display Identification (EDID) is selected for the REMote Receiver display or LOCal Transmitter loop out display. HDMI Loop Out permits simultaneous connection to a display near the Transmitter. Only one 5V Power Supply is required at the Transmitter, thanks to Power Over Cable function. Transmission Range: Extends up to 50m or 164 ft of single Cat5e or Cat6 cable for 1080p resolution. HDCP compliant.

4. Specifications

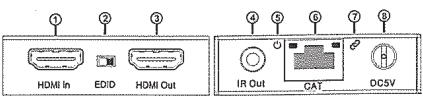
- Video Bandwidth: 4.95Gbps / 165MHz, Single-link
- Video Resolutions: 1080p, 1080i, 720p, 480p, or 480i @50 or 60Hz
- Audio: Surround Sound (up to 7.1 ch) or stereo digital audio
- Transmission Range: distances up to 50metres or 164 ft, HD 1080p 24-bit colour
- Input TMDS Signal: 3.3 volts
- Input DDC Signal: 5.0 volts P-P
- ESD Protection: Human Body model: ±8 kV (air-gap discharge) ±4 kV (contact discharge)
- HDMI connectors: Type A 19 pin female
- RJ-45 connectors: WE/SS 8P8C
- 3.5mm connectors: (Tx) for IR Blaster and (Rx) for IR Receiver

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Mechanical Specifications:
Housings: Precision stamped metal thread screw secured steel enclosures
Power Supply: 1 x 5V DC 1A
Power consumption: 1.5 watts (TX); 1.0 watts (RX)
Operating temperature: 0 to 40°C Storage temperature -20 to 60°C
Relative humidity 20 to 90 % RH (no condensation)

5. Panel descriptions

5.1 Transmitting unit

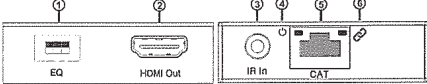


- HDMI In: Here you connect the HDMI output from your source equipment, Set Top Box, BluRay, CCTV NVR etc. HDMI cable excluded.
- EDID: Selects Electronic Display Identification from one of the HDMI outputs. Switch to LOCal or right, to pass HDMI loop out display EDID. Switch to REMote or left position to pass Receiver display EDID to source device.
- HDMI out: Connect to HDMI input of local TV or display, HDMI cable excluded.
- IR out: Connect the IR Blaster or Emitter included in the set for IR signal re-transmission. Place the IR blaster where it has best line-of-sight view the front of the equipment to be controlled.

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- The Blaster's adhesive pad may assist fixing in a convenient position. As the adhesive is single use, you may wish to test first.
- Power LED: Illuminates when the device is connected to 5V DC power.
- CATx: Connect the Transmitter output to the Receiver input with CAT5E/6 cable. Better quality cable may permit you to reach 60m distance.
- Link LED: Illuminates when the Transmitter is connected to HDMI a source.
- DC 5V: Connect power supply included to Transmitter. Connect to mains after Receiver and monitor(s) are connected. Under no circumstances should voltage higher than 5V be connected.

5.2 Receiver unit







- EQ switch: CATx cable length equalizer, set according to point 5.3 (below).
- HDMI out: Connects to remote display or TV HDMI input, HDMI cable excluded.
- IR In: Connect the (larger) IR Receiver. Ensure remote control and receiver in direct line-of-sight.
- Power LED: glows when the receiver connected to the transmitter's Power Over Cable supply.
- CATx: Connect the Receiver input to the Transmitter output with CAT5E/6 cable.
- Lock LED: Illuminates when the HDMI signal from the transmitter is stable.

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6 RX Equalizer adjustment for CATx distance

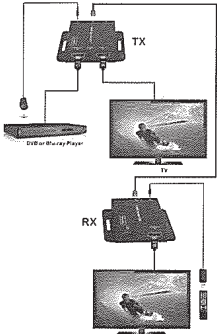
Flickering or blinking images on the remote display usually means the EQ cable skew switch needs to be set. 7 is for the longest possible CATx transmission cable length (HDMI signal level is the strongest), whilst 0 is for the shortest CATx transmission cable length (HDMI signal level is the weakest). Adjust equalization from 0 through 7 until reliable video quality can be seen on the far monitor. Recommended EQ settings

Recommended EQ setting		Cable Length
Position		
		0 = 0-7m, 1 = 7-15m
0	1	
		2 = 15-23m, 3 = 23-30m
2	3	
		4 = 30-35m, 5 = 35-40m
4	5	
		6 = 40-45m, 7 = 45-50m.
6	7	

Equalization for cable length can be an imprecise science as the quality and the sharpness of bends in the data cable employed can effect the perceived cable length.

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7. Connection diagram:

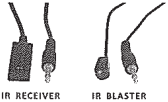


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8. HDMI Extension Connection and Operation

- Plug your chosen HDMI source such as a Set Top Box, Blu-Ray Player, game console, A/V Receiver etc. to the HDMI input on the Transmitting unit - via a HDMI cable (excluded).
 - Connect the TV, HD display or Projector to the HDMI output on the Receiving unit - also via a HDMI cable (excluded).
 - Plug a single Cat6 etc. cable (up to 50m or 164ft long) to the CATx output of the Transmitting unit, and the other end to the CATx input of the Receiver.
 - To power, connect the 5V DC supply to the Transmitter. Receiver's Powered Over Cable.
 - At this point the display connected to the Receiver should show the source signal connected to the Transmitter.
- Should the video be unstable, check the Equalization setting point 6 meets your CATx cable length. Try some close but different settings. If one display is having difficulty resolving, try changing the EDID switch (you may need to power cycle for this to take effect) or adjust the display's resolution by it's menu from lowest to highest until picture displays. A 24Hz vertical refresh rate may work better than 60Hz or higher.

9. Infra Red Command Repeater Connection and Operation



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Wideband IR (30KHz-60KHz) introduction

IR BLASTER (IR Out)
Insert IR Blaster 3.5mm plug into the IR Out port of Transmitter unit. Press the 3.5mm plug firmly home to ensure it is fully inserted. Place the IR Blaster in front of the source device's IR receiver, usually in the front panel.

IR RECEIVER (IR In)
Insert IR Receiver 3.5mm plug into the IR In port of Receiver unit. Press the 3.5mm plug firmly home to ensure it is fully inserted. Place IR Receiver at or near the remote display, so the front has the clearest line of sight view of the area from which the remote control might be used.

See the power or direction of the IR commands using the camera in your smart phone. These cameras show IR emissions invisible to the naked eye clearly as little light flashes.

As ambient light from windows or lighting can affect IR function, it may be necessary to position IR Receiver & IR Blaster accordingly.

WARNING:
• Connecting a power supply voltage higher than 5V DC risks permanent HDMI Extender damage!
Connect only the default 5V DC supply shipped with the set.

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