

ENFORCER®

MVE-AH1E1-41NQ

4K HDMI Extender over Single Cat5e/6

Manual



Features:

- Extend HDMI over a single Cat5e/6 cable
- Supports resolutions from 480i to 4K with zero signal loss
- Transmits 4K@30Hz up to 164' (50m) or 1080p@60Hz up to 196' (60m) over Cat6 cable
- Plug and play operation
- Active operation ensures signal strength
- Bi-directional IR for two-way remote control extension
- One (1) 12VDC power supply included – set can be powered at either end

ENFORCER 4K HDMI® Extender over Single Cat5e/6

Introduction:

The ENFORCER 4K HDMI Extender over Single Cat5e/6 extends the range of traditional HDMI cabling methods by using an active transmitter and receiver to send video and audio over a single Cat5e/6. HDMI formats as large as 4K can be transmitted up to 164ft (50m) between the two units with zero signal loss by using integrated circuits in the receiver and transmitter.

Features:

- **Signal Strength** – Active operation ensures that the signal strength will remain strong over the length of the cable.
- **Distance** – The 4K HDMI Extender over Single Cat5e/6 is capable of providing a clear HDMI signal up to 164ft (50m) at 4K resolution or 196ft (60m) at 1080p resolution.
- **Formats Supported** – The 4K HDMI Extender over Single Cat5e/6 supports both progressive and interlaced formats: 4K@30Hz/1080p/1080i/720p/576p/480p/480i.
- **Plug and Play** – The 4K HDMI Extender over Single Cat5e/6 comes as a complete set consisting of a transmitter and receiver, power supply, and IR dongles.
- **Zero Signal Loss** – Integrated circuits in the transmitter and receiver clean, buffer, and amplify the HDMI signal to prevent signal loss and ensure a clear signal regardless of the length of the cable.
- **Bi-directional IR** – Send IR signals from the source to the monitor or from the monitor to the source for discrete operation of devices.

Parts List:

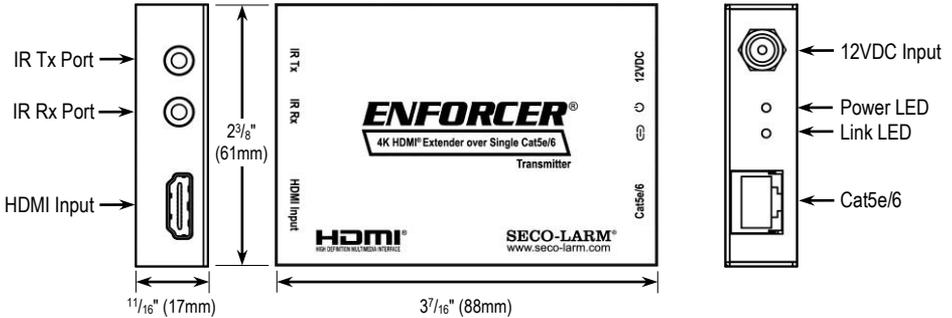
1x Transmitter	2x IR Transmitters (w/ double sided tape)	1x 12VDC power adapter
1x Receiver	2x IR Receivers (w/ double sided tape)	1x Manual

Specifications:

Input video signal		3.3V
Input DDC signal		5Vp-p (TTL)
Maximum single link range		4K@30Hz
Deep color		8bit
Video formats supported		High-speed HDMI, HDCP 2.2
Audio formats supported		LPCM 2/5.1/7.1CH, Dolby Digital, DTS 5.1, Dolby Digital+, DolbyTrueHD, DTS-HD Master Audio, Dolby Atmos, DTS:X
Output video		HDMI
Resolutions supported		4K@30Hz/1080p/1080i/720p/576p/576i/480p/480i
Range	4K@30Hz	Cat6: Up to 164' (50m); Cat5e: Up to 82' (25m)
	1080p	Cat6: Up to 196' (60m); Cat5e: Up to 98' (30m)
Video amplifier bandwidth		10.2Gbps
Video input connector		HDMI Type A 19-pin female
Video output connector		HDMI Type A 19-pin female
Cat5e/6 wiring standard		T-568B
IR Pass-through frequency		30~60 kHz
Operating voltage		12VDC
Power supply		1A@12VDC (1 Adapter) (2.1mm plug)
ESD Protection (human body model)		±8kV (air-gap discharge), ±4kV (contact discharge)
Current draw	Transmitter	85mA@12VDC
	Receiver	125mA@12VDC
Operating temperature		32°~104° F (0°~40° C)
Operating humidity		20~90% RH (no condensation)
Dimensions		37/16"x23/8"x11/16" (88x61x17 mm)
Weight		5.08-oz (144g) (each)

Overview:

Transmitter:

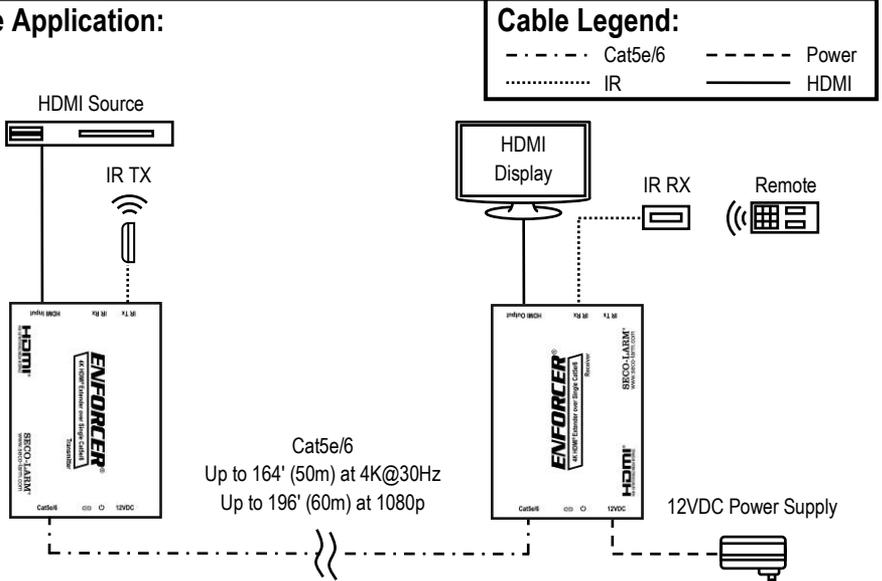


*Transmitter and Receiver unit have the same dimensions

Installation:

1. Determine the location where the MVE-AH1E1-41NQ units will be wired as well as how much Cat5e/6 cable will be necessary.
2. Connect the transmitter to the HDMI output of the source device.
3. Connect the Cat5e/6 cable to both the receiver and transmitter units.
NOTE: For maximum range use a Cat6 cable.
4. Connect the receiver to the HDMI input of the display device.
5. Connect the 12VDC adapter to either the transmitter or receiver depending on where you want to place it.
6. Determine which device, if any, will be controlled by the remote control. Install the IR transmitter to the IR Tx port, pointing the IR transmitter at the device to be controlled. Install the IR receiver to the IR Rx port of the other device, pointing the IR receiver to where the remote control will be. Point the remote control at the IR receiver when in use.
7. Switch on the HDMI source and display to verify that the system is functioning properly.

Sample Application:



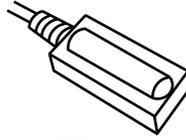
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Bi-directional IR:

The MVE-AH1E1-41NQ supports bi-directional IR pass-through signals. This allows for remote operation of either the source device from the display location, or the display device from the source location. The MVE-AH1E1-41NQ bi-directional IR Transmitter unit and IR Receiver unit support signals from 30-60 kHz.



IR Transmitter



IR Receiver

Troubleshooting:

HDMI device does not function correctly

- Use T-568B wiring standard
- Make sure the extender is powered
- Make sure the source and the display are powered
- Test the Cat5e/6 cable between the receiver and transmitter and make sure it is functional
- Make sure that there are no problems with the HDMI source, HDMI cables, or HDMI display by plugging the source directly into the display using an HDMI cable

Screen flickering or brief image loss

- Use a higher grade of twisted pair category cable (Cat6 is recommended)
- Switch the source device to a lower HDMI output (i.e., 4K@30Hz to 1080p)
- Restart the handshake process by powering everything down then powering up and connecting each device in succession starting with the HDMI source

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