

ENFORCER®

HDMI® Extender over Single Cat5e/6

MVE-AH1E1-01NQ

Installation Manual



The ENFORCER 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 cable. HDMI® formats as large as 1080p can be transmitted up to 164ft (50m) between the two units with zero signal loss by using integrated circuits in the receiver and transmitter. The extender also supports HDMI loop output, EDID management settings, and one-way IR control for remotely controlling HDMI sources and displays.

- **Signal Strength** – Active operation ensures that the signal strength will remain strong over the length of the cable
- **Distance** – Capable of providing a clear HDMI signal up to 164ft (50m)
- **Formats Supported** – Supports both progressive and interlaced formats:
1080p/1080i/720p/576p/576i/480p/480i
- **Plug and Play** – Comes as a complete set consisting of a transmitter and receiver, power supplies, 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
- **IR Pass-Through** – Send IR signals from the monitor to the source for discrete operation of devices
- **EDID Management** – Use Extended Display Identification Data (EDID) management settings to match the display settings to the source device

Parts List

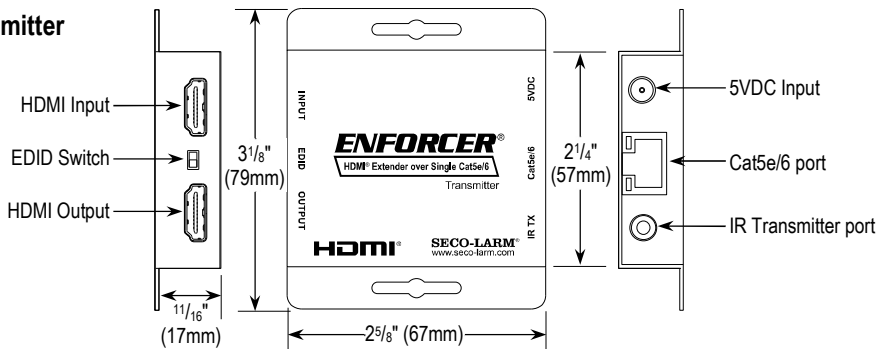
1x Transmitter (MVE-AH1E1-01NTQ) 1x IR Transmitter (w/ double-sided tape) 2x 5VDC Power adapters
 1x Receiver (MVE-AH1E1-01NRQ) 1x IR Receiver (w/ double-sided tape) 1x Manual

Specifications

Operating voltage	5VDC
Power supply	1A@5VDC (2 Adapters) (2.1mm plug)
Current draw	300mA@5VDC
Transmitter	
Receiver	200mA@5VDC
Input Video signal	3.3V
Input DDC signal	5Vp-p (TTL)
Maximum single link range	1080p
Deep color	24bit
Video formats supported	High-speed HDMI, HDCP 1.2
Audio formats supported	LPCM, Dolby-AC3, DTS7.1, DSD
Output video	HDMI®
Resolutions supported	1080p/1080i/720p/576p/576i/480p/480i
Range – 1080p	Up to 164' (50m)
Video amplifier bandwidth	4.95Gbps
Video input connector	HDMI Type A 19-pin female
Maximum input cable length	24AWG (15m), 26AWG (10m), 28AWG (5m)
Video output connector	HDMI Type A 19-pin female
Maximum output cable length	24AWG (15m), 26AWG (10m), 28AWG (5m)
Cat5e/6 Wiring standard	T-568B
IR Pass-through frequency	30~60 kHz
ESD Protection (human body model)	±8kV (Air-gap discharge), ±4kV (contact discharge)
Operating humidity	20~90% RH (Non-condensing)
Operating temperature	32°~104° F (0°~40° C)
Dimensions (each)	3 1/8" x 1 1/16" x 2 5/8" (79x17x67 mm)
Weight (each)	5.3-oz (150g)

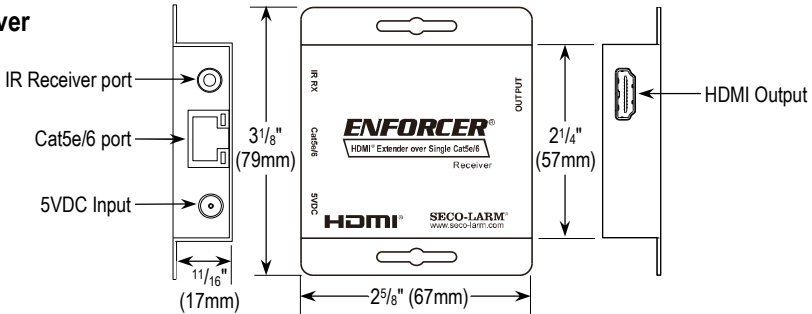
Overview

Transmitter



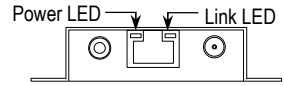
Overview (Continued)

Receiver



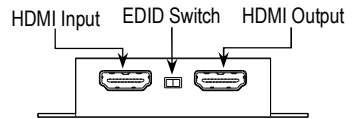
Status LEDs

Located above either Cat5e/6 port are two LEDs indicating Power and Link status.



HDMI Loop Output

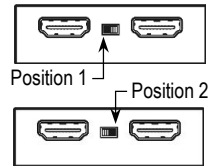
The transmitter includes a secondary HDMI output. This output can be used for displays near the HDMI source.



EDID Settings

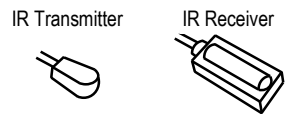
The Extended Display Identification Data (EDID) switch matches the display settings to the source device. This is used when the source device image fails to display correctly.

In position 1 (default), the extender copies the transmitter HDMI loop display to the source. In position 2, the extender copies the receiver HDMI display EDID to the source.



IR Pass-Through

The extenders support IR pass-through signals to allow remote operation of the source device from the display location. The IR transmitter and receiver support frequencies between 30~60 kHz.



Installation

1. Determine the installation locations for the two units and the length of Cat5e/6 cable 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.
4. Connect the receiver to the HDMI input of the display or other device.
5. Connect one 5VDC adapter to the transmitter and another to the receiver.
6. Determine which device, if any, will be remotely controlled. Plug the IR transmitter to the IR-TX port, pointing it at the device to be controlled. Plug the IR receiver to the other extender's IR-RX port, pointing it to where the remote control will be. Fasten both IR devices with the included double-sided tape in the correct positions. To use, point the remote control at the IR receiver.
7. Switch on the HDMI source and display to verify that the system is functioning properly

NOTE: If the system fails to display a correct image, try moving the EDID switch position.

Troubleshooting

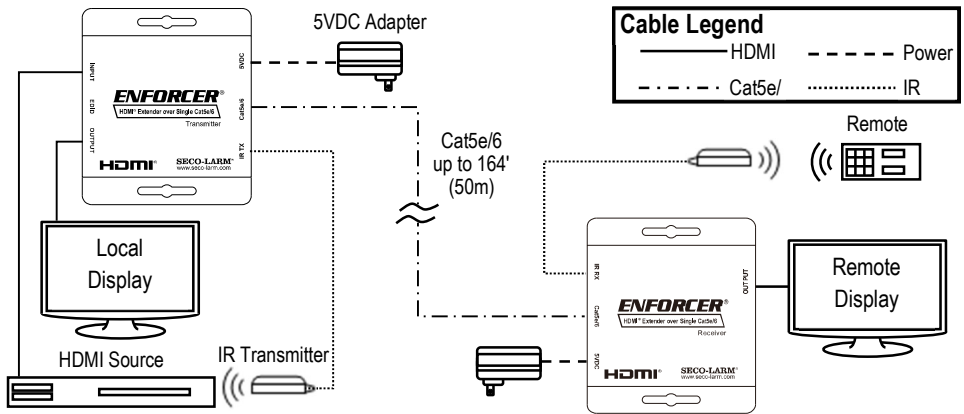
HDMI device does not function correctly

- Use T568-B wiring standard
- Make sure the extender is powered on both sides
- Make sure the source and display are powered
- Test the Cat5e/6 cable between receiver and transmitter to ensure it is functional
- Make sure 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., 1080p to 1080i)
- Power down the unit change the position of the EDID switch and power the unit
- Restart the handshake process by powering everything down then powering up and connecting each device in succession starting with the HDMI source

Sample Application



Accessories

High Speed HDMI Cables



MC-1130-xxFQ*

*Where xx represents the length in feet (3, 6, 10, 16, 25, 35, 50) using two digits with 0 as an initial placeholder for numbers less than 10, and where 18 represents the length in inches.

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