

ENFORCER®

MVE-AH1E1-01NQ

HDMI Extender over Single Cat5e/6

Manual



HDMI®
HIGH-DEFINITION MULTIMEDIA INTERFACE



Features:

- Extend HDMI over a single Cat5e/6 cable
- Supports resolutions from 480i to 1080p with zero signal loss
- Transmits up to 164ft (50m) at 1080p over Cat5e/6 cable
- HDMI Loop output for local HDMI display
- Plug and play operation – comes as a complete set
- IR Pass-through for remote control extension and operation
- EDID Management switch
- Two (2) 5VDC power supplies included

ENFORCER HDMI Extender over Single Cat5e/6

Introduction:

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.

Table of Contents:

Introduction	2
Table of Contents	2
Features.....	2
Parts List.....	3
Specifications.....	3
Overview	4
Status LEDs.....	4
HDMI Loop Output.....	5
EDID Settings	5
Equalizer DIP Switch Settings	5
IR Pass-through.....	6
Installation.....	6
Sample Application.....	7
Troubleshooting.....	8
Also Available from SECO-LARM.....	8
Warranty	8

Features:

Signal Strength – Active operation ensures that the signal strength will remain strong over the length of the cable.

Distance – The HDMI Extender over Single Cat5e/6 is capable of providing a clear HDMI signal up to 164ft (50m).

Formats Supported – The HDMI Extender over Single Cat5e/6 supports both progressive and interlaced formats: 1080p/1080i/720p/576p/576i/480p/480i.

Plug and Play – The HDMI Extender over Single Cat5e/6 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 (with double-sided tape)
1x Receiver (MVE-AH1E1-01NRQ)	1x IR Receiver (with double-sided tape)
2x 5VDC Power adapters	1x Manual

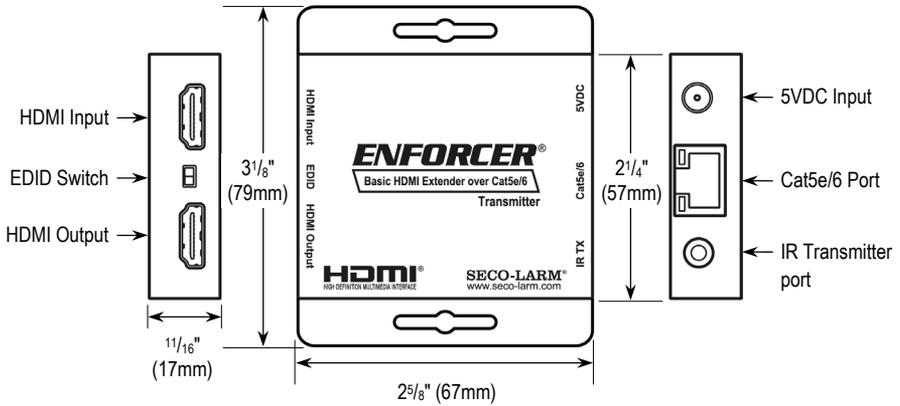
Specifications:

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	
Operating voltage	5VDC	
Power supply	1A@5VDC (2 Adapters) (2.1mm plug)	
ESD Protection (human body model)	±8kV (Air-gap discharge), ±4kV (contact discharge)	
Current draw	Transmitter	300mA@5VDC
	Receiver	200mA@5VDC
Operating temperature	32°~104° F (0°~40° C)	
Operating humidity	20~90% RH (No condensation)	
Dimensions	3 1/8"x1 1/16"x2 5/8" (79x17x67 mm)	
Weight	5.3-oz (150g) (Each)	

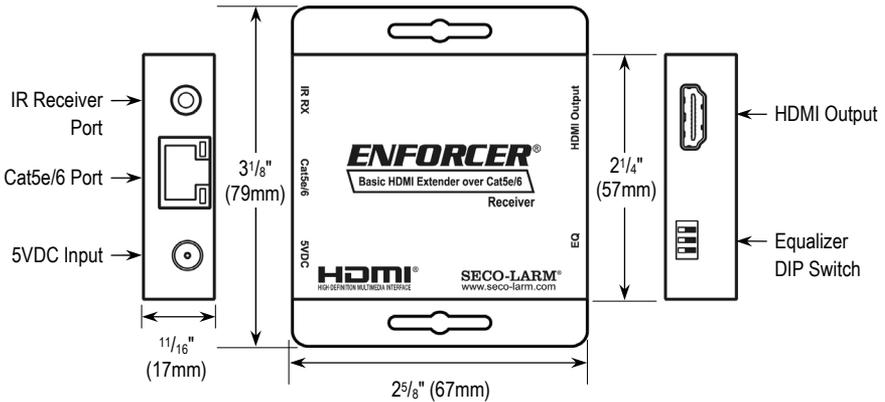
ENFORCER HDMI Extender over Single Cat5e/6

Overview:

Transmitter MVE-AH1E1-01NTQ:

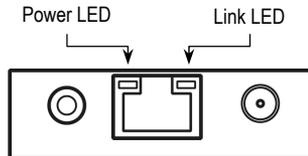


Receiver MVE-AH1E1-01NRQ:



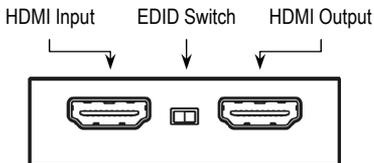
Status LEDs:

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



HDMI Loop Output:

The MVE-AH1E1-01NQ includes a secondary HDMI output on the transmitter unit. This HDMI output can be used for local displays that are in the same location as the HDMI source.



EDID Settings:

The MVE-AH1E1-01NQ includes an Extended Display Identification Data (EDID) management switch to match the display settings to the source device. This setting is used when the display is not properly displaying an image from the source device.

When in position 1 (default: position 1), the extender will copy the transmitter HDMI loop display to the source.

When in position 2, the extender will copy the receiver HDMI display EDID to the source.



Equalizer DIP Switch Settings:

The equalizer DIP switch settings allow for control of signal strength based on cable length and reduction of digital noise. See chart below for DIP switch configurations.

DIP Switch Configuration	Cable Length	DIP Switch Configuration	Cable Length
	0~24ft (0~7m)		100~115ft (30m~35m)
	25~49ft (7m~15m)		116~131ft (35m~40m)
	50~74ft (15m~23m)		132~147ft (40m~45m)
	75~99ft (23m~30m)		148~164ft (45m~50m)

ENFORCER HDMI Extender over Single Cat5e/6

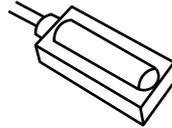
IR Pass-Through:

The MVE-AH1E1-01NQ supports IR pass-through signals to allow for remote operation of the source device from the display location. The IR transmitter and receiver support a frequency range between 30~60 kHz.

IR Transmitter



IR Receiver



Installation:

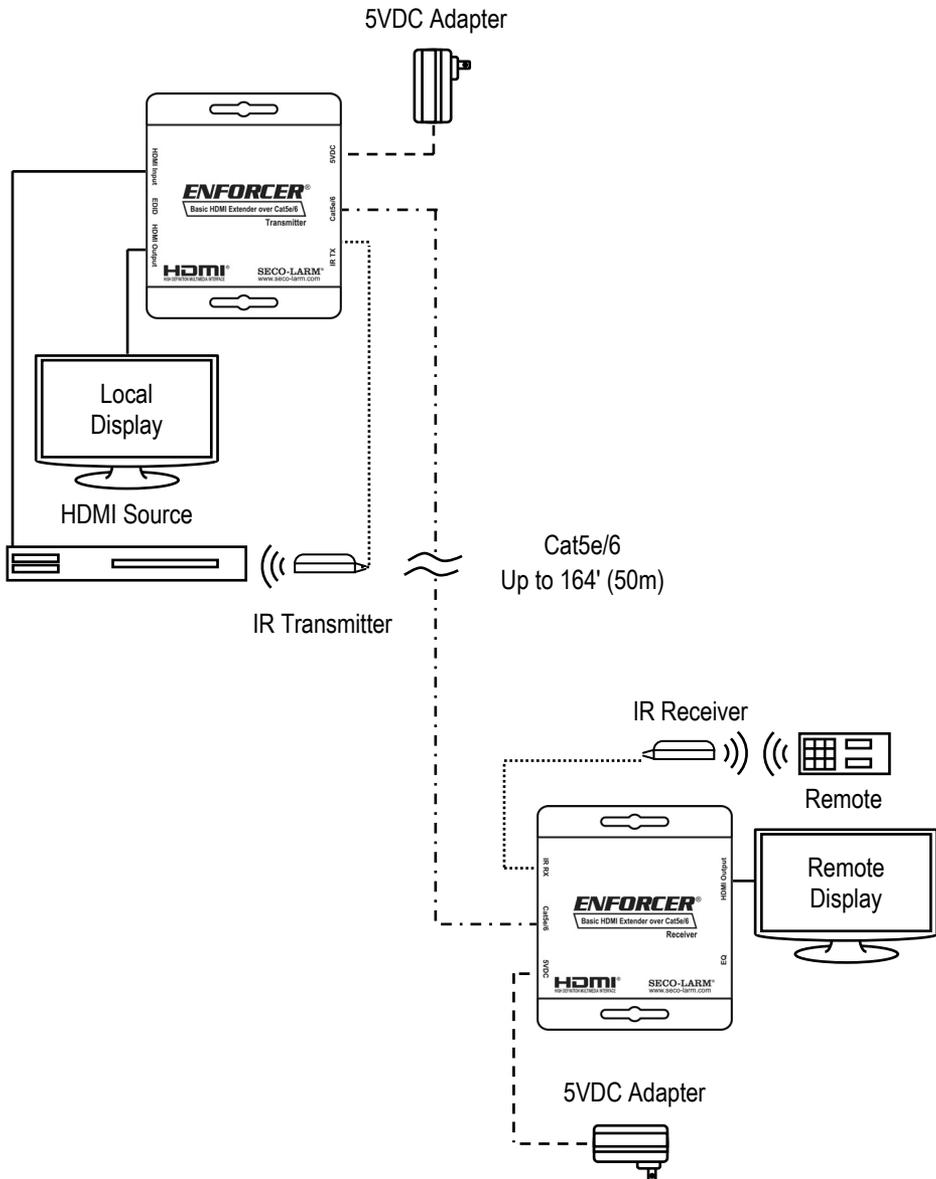
1. Determine the locations where the MVE-AH1E1-01NQ units will be wired as well as length of Cat5e/6 cable necessary.
2. Connect the transmitter to the HDMI output of the source device.
3. Connect the Cat5e/6 cable to both the receiver and transmitter units.
4. Connect the receiver to the HDMI input 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 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. Use the included double-sided tape to securely fasten the IR transmitter and IR receiver in the correct positions.
7. Switch on the HDMI source and display to verify that the system is functioning properly.
NOTE: It may be necessary to move the EDID Switch to a different position if the system is not displaying a correct image.
8. If the display shows image flickering, blinking, or distortion, use the Equalizer DIP switch to configure your installation to the correct cable length range.

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Sample Application:

Cable Legend:

—————	HDMI	-----	Power
- - - - -	Cat5e/6	IR



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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 the receiver and the transmitter to make sure 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 then move the EDID switch to the opposite position and re-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

Also Available from SECO-LARM®:

HDMI Extender over Single Cat5e/6



MVE-AH030Q

HDMI Extender over Dual Cat5e/6



MVE-AH010Q

High-Speed HDMI Cables



MC-1130-xxFQ

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