

## HDMI Extenders with KVM

### Installation Manual



MVE-AH1E1-01UQ shown



\*MVE-AH1E1-42UQ only

Model	Resolution	Video support	Audio support
MVE-AH1E1-01UQ	Up to 1080p	High-speed HDMI, HDCP 1.4	PCM, LPCM, DTS-HD, DTS-Audio
MVE-AH1E1-42UQ	Up to 4K@60Hz	High-speed HDMI, HDCP 2.2	LPCM, DTS-HD, DTS-Audio, Dolby Digital 5.1CH

The ENFORCER HDMI Extenders with KVM allow you to transmit HDMI audio and video as well as a USB (2.0) signal up to 230ft (70m) over a single Cat6 cable using an active transmitter and receiver, allowing remote operation of a device such as a computer or NVR/DVR. The extenders also provide HDMI loop-out and KVM.

- Display up to 4K@60Hz (MVE-AH1E1-42UQ only)
- Zero latency transmission up to 230ft (70m) over single Cat6/7
- Supports USB keyboard and mouse (KVM)
- Supports point to point connections
- Transmitter includes HDMI loop-out
- Lightning Protection, surge protection, and ESD protection.
- Receiver has L/R audio outputs (MVE-AH1E1-01UQ only)
- Receiver has an optical S/PDIF out if an AVR or sound bar is fitted in the remote location (MVE-AH1E1-42UQ only)

## Parts List

1x Transmitter	1x Receiver	2x Power supplies*	1x USB Cable
8x Mounting brackets†	18x Mounting screws†	1x Manual	

\*5VDC@1A for MVE-AH1E1-01UQ / 5VDC@2A for MVE-AH1E1-42UQ

†MVE-AH1E1-42UQ only

## Specifications

Model	MVE-AH1E1-01UQ	MVE-AH1E1-42UQ
Input Video signal	3.3V	
Input DDC signal	5Vp-p (TTL)	
Maximum single link range	230ft (70m)	
Video formats supported	High-speed HDMI, HDCP 1.4	High-speed HDMI, HDCP 2.2
Audio formats supported	PCM, LPCM, DTS-HD, DTS-Audio	LPCM, DTS HD, DTS Audio, Dolby Digital 5.1CH
Output video	HDMI	
Resolutions supported	1080p, 1080i, 720p, 576p, 576i, 480p, 480i, 1920x1080, 1680x1050, 1440x900, 1366x768, 1280x960, 1280x720, 1024x768, 800x600	4K@60Hz, 4K@30Hz, 1080p, 1080i, 720p, 576p, 576i, 480p, 480i, 1680x1050, 1680x1050, 1600x900, 1366x768, 1360x768, 1280x960, 1280x800, 1280x720, 1024x768, 800x600
Range (Cat6/6A/7)	Up to 230ft (70m)	
Video input connector	HDMI Type A 19-pin female	
Maximum input cable length	26ft (8m) AWG24	
Video output connector	HDMI Type A 19-pin female	
Maximum output cable length	26ft (8m) AWG24	
Cat6 Wiring standard	T-568B	
Operating voltage	5VDC	5~12 VDC
Power supply	5VDC@1A	5VDC@2A
ESD Protection	±8kV (air-gap discharge), ±4kV (contact discharge)	
Current draw	Transmitter <2.5W Receiver <2.5W	<4W <4W
Operating humidity	0~90%	
Operating temperature	-4°~140° F (-20°~60° C)	
Dimensions	2 <sup>15</sup> / <sub>16</sub> "x3 <sup>3</sup> / <sub>8</sub> "x3 <sup>1</sup> / <sub>4</sub> " (74x85x19 mm)	5 <sup>13</sup> / <sub>16</sub> "x4 <sup>1</sup> / <sub>2</sub> "x1" (148x105x25 mm)
Weight	6.3-oz (180g)	9.2-oz (260g)

## Installation

1. Determine the installation locations for the transmitter and receiver and length of cable needed.
2. Connect the transmitter to the source device HDMI output.
3. Connect the Cat6/7 cable to the receiver and transmitter.
4. If using the HDMI loop out, connect the display to the transmitter HDMI OUT port.
5. Connect the receiver to the HDMI input of the display or other device.
6. Connect a computer to the transmitter USB port using the included USB cable.
7. Connect a USB keyboard and USB mouse to the receiver USB ports.
8. Connect any audio devices as needed.

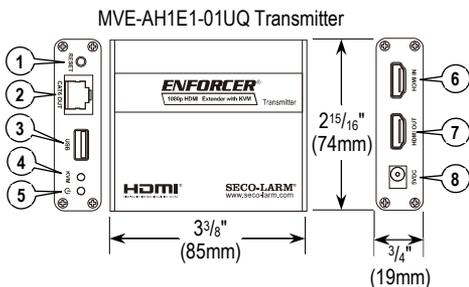
## Installation (Continued)

9. Connect the power adapters to the transmitter and receiver and plug in to the electrical outlet.
10. Switch on the HDMI source and display to verify that the system is functioning properly.

## INSTALLATION NOTES

- Do not place in locations that may be exposed to rain or any other moisture or liquids.
- Disconnect all devices from power before beginning installation to avoid potential damage.
- Do not install near heat sources or confined spaces with inadequate ventilation.
- The use of a single shielded Cat6/7 or better cable is strongly recommended.

## Overview

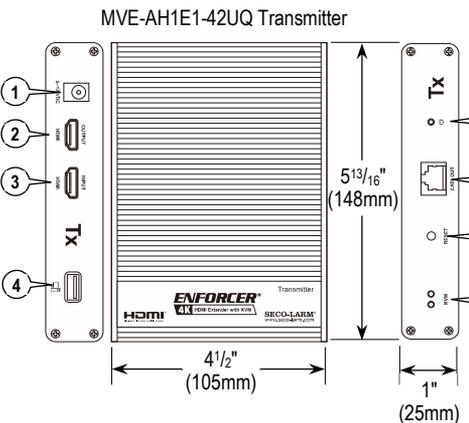


- |                     |                       |
|---------------------|-----------------------|
| 1 Reset button      | 5 Power LED indicator |
| 2 Cat6 Out          | 6 HDMI In             |
| 3 USB Port          | 7 HDMI Out            |
| 4 KVM LED indicator | 8 Power 5VDC          |

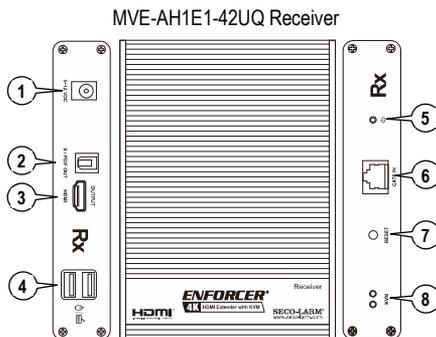


The receiver and transmitter are the same size.

- |                     |                       |
|---------------------|-----------------------|
| 1 Reset button      | 5 Power LED indicator |
| 2 Cat6 In           | 6 HDMI Out            |
| 3 USB Ports (x2)    | 7 Speaker Out         |
| 4 KVM LED indicator | 8 Power 5VDC          |



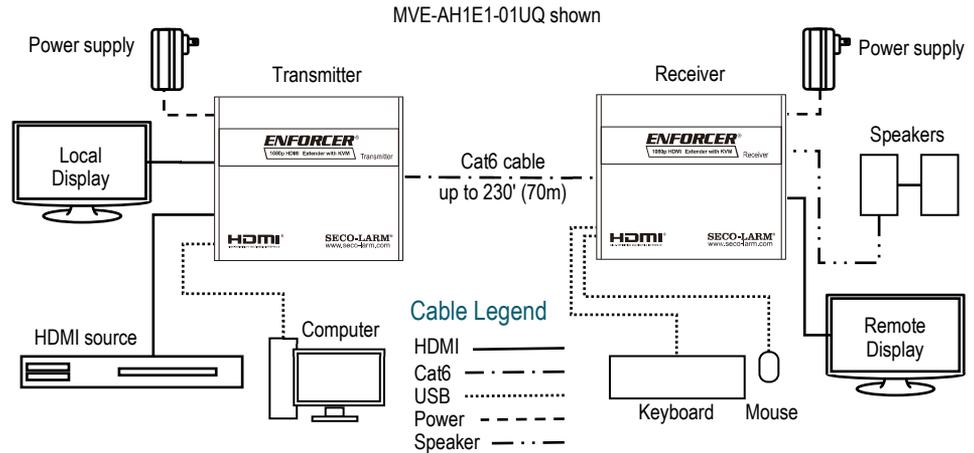
- |              |                           |
|--------------|---------------------------|
| 1 Power 5VDC | 5 Power LED indicator     |
| 2 HDMI Out   | 6 Cat6 Out                |
| 3 HDMI In    | 7 Reset button            |
| 4 USB Port   | 8 KVM LED indicators (x2) |



The receiver and transmitter are the same size.

- |                  |                           |
|------------------|---------------------------|
| 1 Power 5VDC     | 5 Power LED indicator     |
| 2 S / PDIF Out   | 6 Cat6 In                 |
| 3 HDMI Out       | 7 Reset button            |
| 4 USB Ports (x2) | 8 KVM LED indicators (x2) |

## Sample Application



## 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 cable between the receiver and 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 (Cat6/7 is recommended)
- Switch the source device to a lower HDMI output (e.g., 1080p to 1080i)
- Restart the handshake process by powering everything down then powering up and connecting each device in succession starting with the HDMI source

**IMPORTANT:** Users and installers of this product are responsible for ensuring this product complies with all national, state, and local laws and statutes related to monitoring and recording audio and video signals. SECO-LARM will not be held responsible for the use of this product in violation of any current laws or statutes.

**California Proposition 65 Warning:** These products may contain chemicals which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**WARRANTY:** This SECO-LARM product is warranted against defects in material and workmanship while used in normal service for two (2) years from the date of sale to the original customer. SECO-LARM's obligation is limited to the repair or replacement of any defective part if the unit is returned, transportation prepaid, to SECO-LARM. This Warranty is void if damage is caused by or attributed to acts of God, physical or electrical misuse or abuse, neglect, repair or alteration, improper or abnormal usage, or faulty installation, or if for any other reason SECO-LARM determines that such equipment is not operating properly as a result of causes other than defects in material and workmanship. The sole obligation of SECO-LARM and the purchaser's exclusive remedy, shall be limited to the replacement or repair only, at SECO-LARM's option. In no event shall SECO-LARM be liable for any special, collateral, incidental, or consequential personal or property damage of any kind to the purchaser or anyone else.

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