



HDMI™ EXTENDER

ELE8087

INSTALLATION MANUAL





SAFETY AND NOTICE

The **ELE8087 HDMI™ EXTENDER** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the **ELE8087** should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.



INTRODUCTION

The **ELE8087 HDMI™ EXTENDER** boosts up your HDMI™ transmission range up to 120m (394ft) in HDTV 1080p format through single coaxial cable. ELE8087 is easy to install and works perfectly with Belden 1694A coaxial cables. Other coaxial cables can also work with ELE8087 and the transmission distance depends upon the quality and bandwidth of coaxial cables. In addition, ELE8087 is also equipped with bi-directional IR pass-through path. This bonus feature allows users to rely on the same coax cable to have IR control on IR equipped devices, such as TV and BD players, and ELE8087 makes IR control possible through only single coax cable along with high quality HDMI™ A/V signals.

The ELE8087 includes two units: transmitting and receiving units. The transmitting unit is used to capture the HDMI™ and HDCP input signals and carry the signals through only coaxial cable. The receiving unit is responsible for auto equalizing the transmitted HDMI™ multimedia data. The transmission range between the sending and receiving units can be up to 120m (394ft) under Full HD (1080p) with 7.1 channel audio.

► Features

- » Support HDMI™ Deep Color
- » HDCP compliant
- » Single coaxial cable
- » 7.1-channel audio supported
- » Extends the transmission range up to 120m (394ft) from the HDMI™ sources under Full HD resolution (1080p60 24-bit color depth) through Belden 1694A coaxial cable.
- » Video resolutions support 480i, 576i, 720p, 1080i, and 1080p
- » Bi-directional IR path
- » Wall mounting housing design for easy and robust installation



The length depends on the characteristics and quality of the coax cables. Higher resolutions and longer transmission distances require low skew cables for best performance. Solid and shielded coax cable such as Belden 1694A with metal 75ΩBNC connectors is recommended.

► Package Contents

- » ELE8087 x1 (TX unit & RX unit)
- » IR receiver x1
- » Installation manual x1
- » IR blaster x1
- » DC 5V 2A wall wart x2

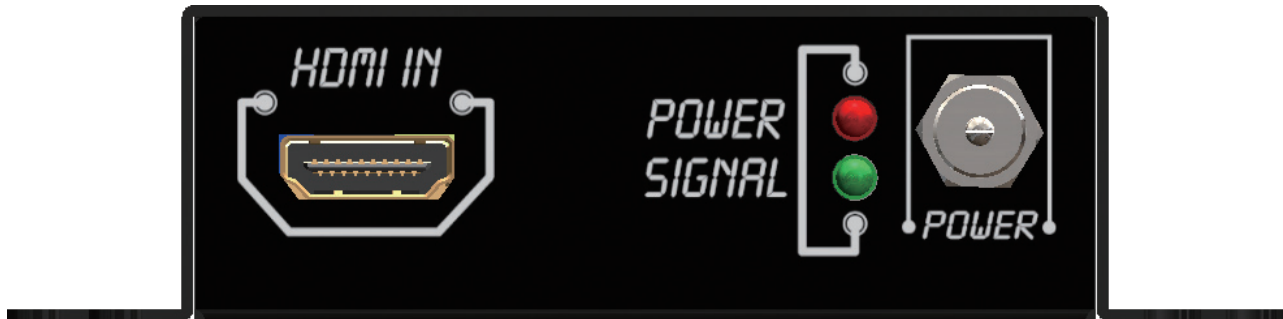
➤ Specifications

Model Name		Transmitter	Receiver
Technical			
HDMI™ compliance		HDMI™ Deep Color	
HDCP compliance		Yes	
Video bandwidth		Single-link 225MHz [6.75Gbps]	
Video support		480i / 720p / 1080i / 1080p60 (Does NOT support 480p)	
Audio support		Surround sound (up to 7.1ch) or stereo digital audio	
HDMI™ over Coax transmission range		Full HD [1080p 24-bit color] – up to 120m [394ft]	
HDMI™ Equalization		Auto	
Input TMDS signal		1.2 Volts [peak-to-peak]	
Input DDC signal		5 Volts [peak-to-peak, TTL]	
ESD protection		[1] Human body — ±19kV [air-gap discharge] & ±12kV [contact discharge] [2] Core chipset — ±4kV	
PCB stack-up		6-layer board [impedance control — differential 100Ω; single 50Ω]	
Input		1x HDMI™ + 1x IR socket	1x BNC + 1x IR socket
Output		1x BNC + 1x IR socket	1x HDMI™ + 1x IR socket
IR remote control		Electro-optical characteristics: $\pi = 25^\circ$ / Carrier frequency: 20-60kHz	
HDMI™ connector		Type A [19-pin female]	
BNC connector		75Ω interlocking socket	
3.5mm connector		3.5mm earphone jack for IR blaster to control HDMI™ source device	
Mechanical			
Housing		Metal enclosure	
Dimensions [L x W x H]	Model	3.1" x 3.3" x 1.1" (80 x 85 x 29mm)	
	Package	6.9" x 10.4" x 3.1" (175 x 270 x 80mm)	
	Carton	1.3" x 1.6" x 1" (370 x 450 x 300mm)	
Weight	Model	11oz (311g)	
	Package	1.37 lbs (622g)	
Fixedness		Interlocking power supply	
Power supply		5V 4A DC	
Power consumption		6 Watt (max)	
Operation temperature		32~104°F (0~40°C)	
Storage temperature		-4~140°F (-20~60°C)	
Relative humidity		20~90% RH (no condensation)	

INPUT/OUTPUT PANELS

► Transmitting unit (TX)

INPUT PANEL



HDMI IN: Connects to a HDMI™ source device with a HDMI™ male-to-male cable here

POWER/SIGNAL LED: Red light - POWER; Green light - SIGNAL ACTIVE

POWER: Connects to 5V DC power supply.

OUTPUT PANEL



SYNC-OUT: Connects to a high standard coaxial cable here

IR-OUT: Infrared 3.5mm socket for plugging in the extension cable of IR blaster

IR-IN: Infrared 3.5mm socket for plugging in the extension cable of IR receiver

MODE: Please see table below for detail information

Pin #1	Pin #2	EDID feature
OFF (↑)	OFF (↑)	3G/HD/SD-SDI with multi-channel audio except DTS-HD Master & Dolby TrueHD
OFF (↑)	ON (↓)	3G/HD/SD-SDI With stereo PCM audio
ON (↓)	OFF (↑)	HD/SD-SDI With stereo PCM audio
ON (↓)	ON (↓)	EDID Learning Mode

Factory default: OFF-OFF [↑-↑]

► Receiving unit (RX)

INPUT PANEL



IR-OUT: Infrared 3.5mm socket for plugging in the extension cable of IR blaster

IR-IN: Infrared 3.5mm socket for plugging in the extension cable of IR receiver

SYNC-IN: Connect to a high standard coaxial cable here

OUTPUT PANEL



POWER/SIGNAL LED: Red light - POWER; Green light - SIGNAL ACTIVE

HDMI OUT: Connects to a HDMI™ display with a HDMI™ male-male cable here

POWER: Connects to a 5V DC power supply unit

IR PASS-THROUGH

➤ IR Extenders



➤ IR Sockets

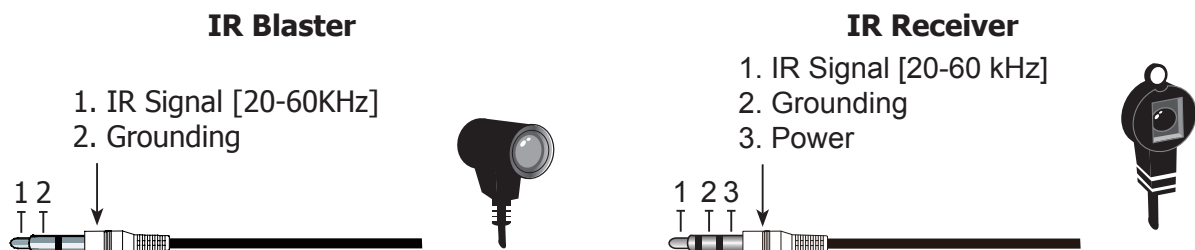
IR-OUT: plug in the IR blaster to emit all IR command signals received from the IR receiver from the other end to control the devices corresponding to the IR signals.

IR-IN: plug in the IR receiver to receive all IR command signals from the IR remote controls of the corresponding devices.

CAUTION!

Incorrect placement of IR Blaster and Receiver may result in the failure of the IR extenders. Please check carefully before plugging in the IR extender to the respective IR sockets. Warranty will not cover the damage.

➤ Definition of IR Earphone Jack



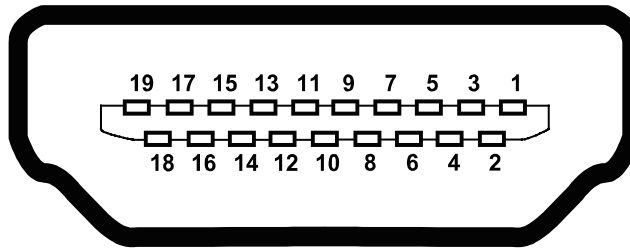
EYE PATTERN



EDID LEARNING

1. Please make sure the Pin #1 - Pin #2 of DIP switch is at On-On [⬇-⬇].
2. Connect the HDMI™ display to the HDMI™ port of transmitting unit.
3. Power on transmitting unit.
4. The green LED in the transmitting module will light up indicating the EDID learning procedure is complete.
5. Please DO NOT change the DIP switch, otherwise the built-in EDID Learning information will be lost.

HDMI™ PIN DEFINITION



Type A (Receptacle) HDMI™

Pin 1 — TMDS Data2+	Pin 8 — TMDS Data0 Shield	Pin 15 — SCL
Pin 2 — TMDS Data2 Shield	Pin 9 — TMDS Data0-	Pin 16 — SDA
Pin 3 — TMDS Data2-	Pin 10 — TMDS Clock+	Pin 17 — DDC/CEC Ground
Pin 4 — TMDS Data1+	Pin 11 — TMDS Clock Shield	Pin 18 — +5V Power
Pin 5 — TMDS Data1 Shield	Pin 12 — TMDS Clock-	Pin 19 — Hot Plug Detect
Pin 6 — TMDS Data1-	Pin 13 — CEC	
Pin 7 — TMDS Data0+	Pin 14 — Reserved (N.C. on device)	

NOTICE

Since ELE8087 is sensitive to the HDMI™ source's input jitters, the input HDMI™ signals with larger jitters will shorten the transmission distance hugely, especially for full HD 1080p@60!

1. The lab testing result shows that Belden 1694A coaxial cables can transmit HDMI™ signals up to 120m (394ft).
2. If your HDMI™ display has multiple HDMI™ inputs, it is found that the first HDMI™ input [HDMI™ input #1] generally can produce better transmission performance among all HDMI™ inputs.
3. Please noticed that audio must be 48KHz and 480p is not supported.



Designed & Manufactured by



Headquarters: 9390 Veterans Memorial Parkway, O'Fallon, MO 63366

 (800) 844 – 9555 / (636) 272 – 8025

 (636) 272 – 8214

 retailsupport@skywalker.com

Branch Office: 4168 North Pecos Rd, Ste 103, Las Vegas, NV 89115

 (888) 319 – 3554 / (702) 632 – 3413

 (702) 643 – 2379

Branch Office: 2445 South 179th St, New Berlin, WI 53146

 (800) 444 – 9320 / (262) 786 – 5887

 (262) 786 – 9031

www.skywalker.com