



HDMI over HDBaseT Extender

User Manual

Model : VHE02EIP

4K VGA/HDMI Auto-Switching & IR/RS232/POH HDBaseT
Extender 70M



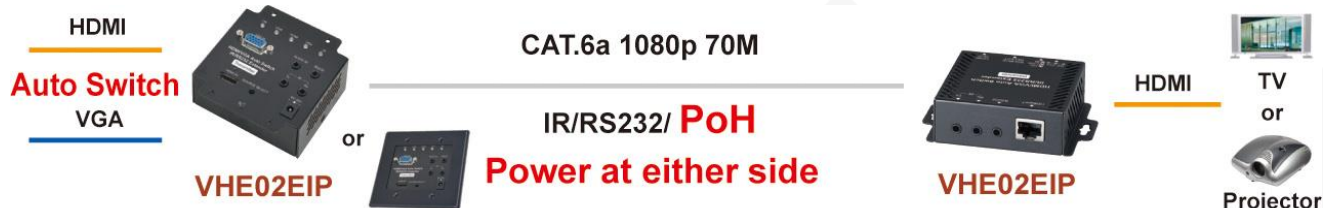
Introduction

VHE02EIP is a HDMI/ VGA extender that can use an Ethernet cable to extend either HDMI or VGA with audio, bi-directional IR and RS232 signals with transmission distance up to 70M and resolution up to 4K@30Hz for HDMI, 1920 x 1200px for VGA. It is an ideal solution to send the signal from PC/laptop to display it on a projector/ monitor. With a metal face plate, the TX unit can perfectly fit on a wall or on a meeting table.

Features

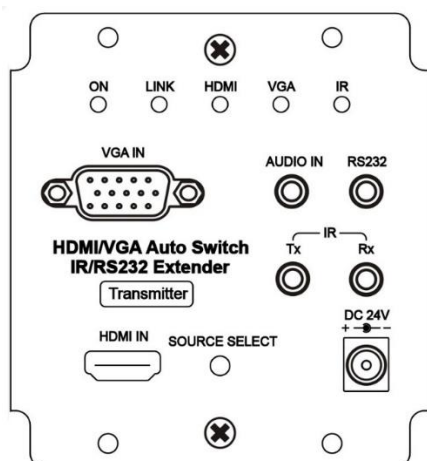
- Resolution up to 1920x1200@60Hz for VGA. 4K@30Hz for HDMI.
- Signal extension up to 70M over CAT5e (or greater) cable.
- Embeddable on a wall or a table.
- Supports PoH (Power over HDBaseT™), power from either TX or RX unit.
- Supports VGA/ HDMI auto or manual input switching.
- Supports bi-directional IR, RS232, and CEC transmission.

Installation View

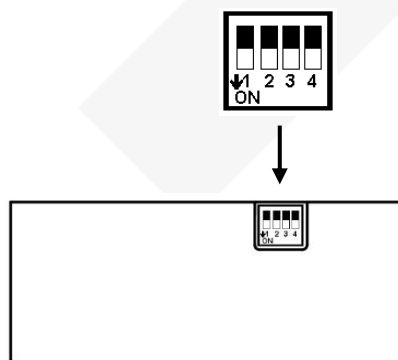


Panel View

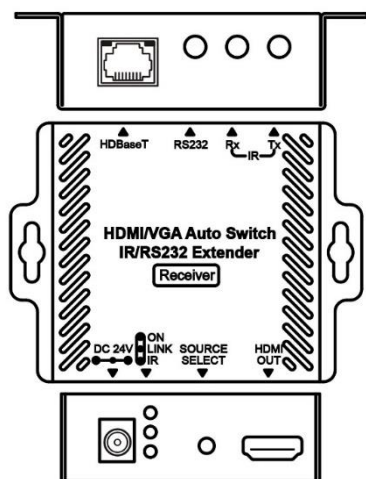
VHE02EIP Front View



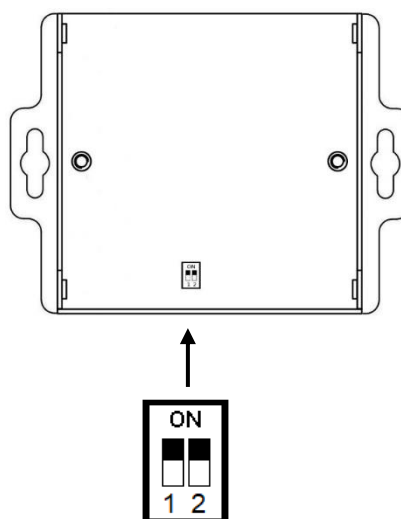
Side View Dip Switch



VHE02EIPR Front View



Rear View Dip Switch



LED Instruction

Status	Color	VHE02EIPT	VHE02EIPR
POWER	GREEN	ON : Power on	ON : Power on
LINK	BLUE	ON : HDBaseT Linking Flash: Power saving mode	ON : HDBaseT Linking Flash: Power saving mode
HDMI	BLUE	ON : Select HDMI Input	
VGA	BLUE	ON : Select VGA Input	
IR	RED	Flash : IR Receiving or Sending	Flash : IR Receiving or Sending

Button Function

FORCE SELECT	Function
Short Press	Manual Switch Mode: HDMI or VGA Input Selection
Long Press over 2 seconds	Auto Switch Mode: Auto Switch HDMI or VGA Input Long Press: HDMI and VGA LED flash at same time that mean the auto switch mode setting completed. Under Auto Switch Mode: HDMI and VGA connect simultaneously, VGA will be the priority.

Dip Switch Setting

VHE02EIPT

Switch	Function			
SW1	ON	Video Firmware update	OFF	RS232 Extender
SW2	ON	Control Firmware update	OFF	
SW3	Reserve			
SW4	Reserve			

VHE02EIPR

Switch	Function			
SW1	ON	Video Firmware update	OFF	RS232 Extender
SW2	Reserve			

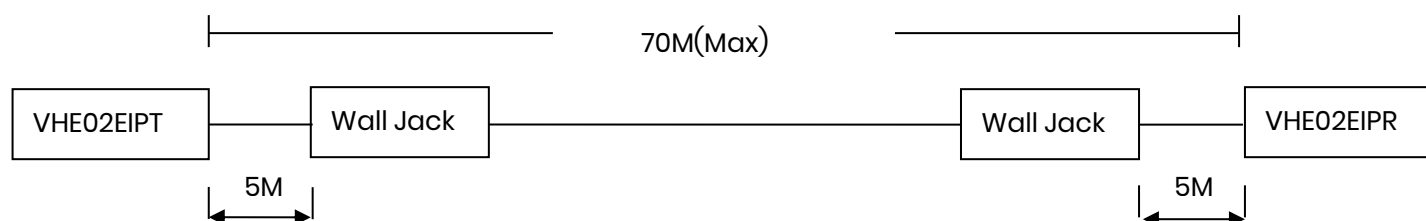
Cable

Link cable recommend use high quality CAT5e 、CAT6 、CAT6a 、CAT7 UTP / STP or FTP cable. Poor quality cable or network connection or improper construction will cause unstable connection, video or sound disruptions, picture noise appears.

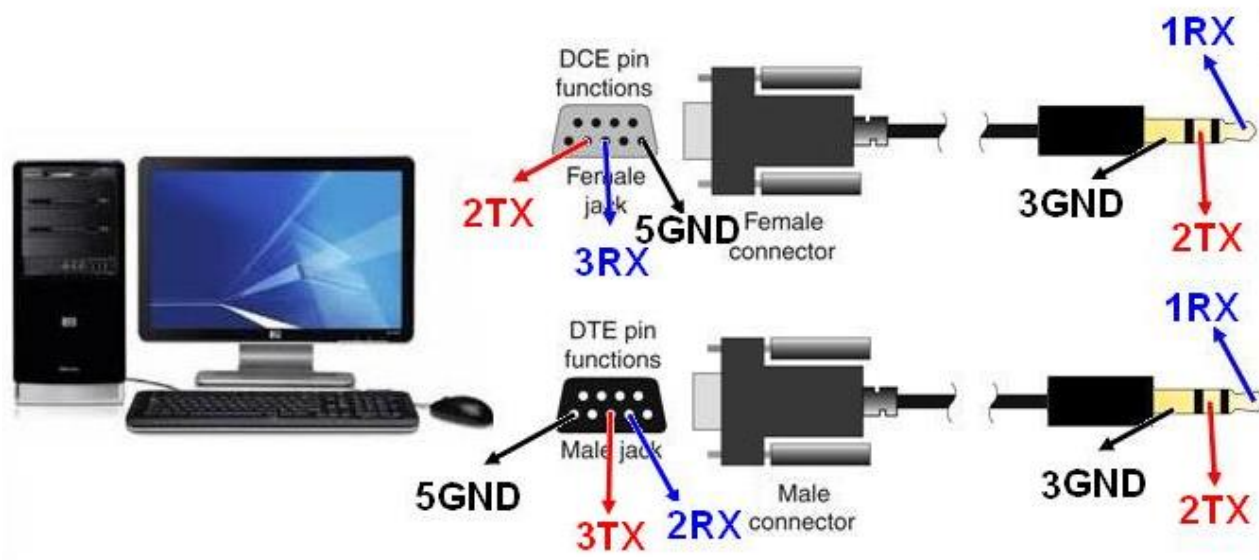
Distance chart by different cable

Cable Type	Range	Supported Video
CAT5e / CAT6	60M	1080p 60Hz 12bit
CAT6a / CAT7	70M	
CAT5e / CAT6	35M	1080p 60Hz 16bit Up to 4096x2160@30Hz 4:4:4(9Gbps)
CAT6a / CAT7	40M	

If connection through the wall socket, the cable length must less 5 meters between HDMI extender and wall jack, as below drawing:



RS232 Define



DB9(F)/3.5mm STEREO PHONE JACK

RS232		3.5 mm Phone Jack	
Footprint	Define	Footprint	Define
Pin 2	RX	Pin 1	TX
Pin 3	TX	Pin 2	RX
Pin 5	GND	Pin 3	GND

DB9(M)/3.5mm STEREO PHONE JACK

RS232		3.5 mm Phone Jack	
Footprint	Define	Footprint	Define
Pin 2	TX	Pin 1	TX
Pin 3	RX	Pin 2	RX
Pin 5	GND	Pin 3	GND

Power Saving Mode

When there is no HDMI video signal input or TV is not connected or power off, this product will enter a power saving mode to save power consumption; under a power saving mode still provides, RS-232 (Less 9600bps), IR, and CEC signal transmission.

Caution

1. The wiring must away from any equipment with electromagnetic wave, i.e.: mobile phone, microwave, radio equipment, fluorescent lamp, high voltage power lines.
2. The cable must pull in straight to avoid any crosstalk interference and the transmission Stability.
3. This device HDBaseT port is not general Ethernet signal; do not connect with Network devices to avoid damage.
4. IR transmitter do not put near from receiver to avoid mutual interference.

VHE02EIP Package Include

VHE02EIPT Transmitter x 1 pcs
VHE02EIPR Receiver x 1 pcs
DC24V/1.25Amp Power Adapter x 1 pcs
IR Emitter Cable x 1 pcs
IR Receiver Cable x 1 pcs
DB9(M)/3.5mm STEREO PHONE JACK x 1 pcs
DB9(F)/3.5mm STEREO PHONE JACK x 1 pcs
Metal Wall Plate x 1 pcs
Mounting Screw pack x 2 bags

Specification

ITEM NO.	VHE0EIPT	VHE0EIPR
Support		
Compliance	HDMI 1.4, HDCP	
Max. Video Resolution	HDMI: 4096 x 2160@30Hz, VGA: 1920 x 1200@60Hz@24bits	
Max. Transmission Distance	70M over CAT5e or greater cable	
Video Bandwidth	9 Gbps	
Audio Format	7.1 LPCM 192KHz, Dolby TrueHD, DTS-HD MA	
IR Support	30-60Khz, $\pm 10^\circ$, 5M, Bi-directional	30-60Khz, $\pm 55^\circ$, 5M, Bi-directional
RS232 Baud Rate	115200 bps/ Full Duplex	
Ports & Interfaces		
Video Input	1 x HDMI Type A, 1 x VGA 15-Pin D-Sub	1 x HDBaseT
Video Output	1 x HDBaseT	1 x HDMI Type A
Analog Audio Interface	1 x 3.5mm Terminal	
RS232 Interface	1 x DB9 Female	1 x DB9 Male
IR Interface	1 x 3.5mm Phone Jack	1 x 3.5mm Phone Jack
Power		
Power Supply	DC 24V 1.25A	DC 24V 1.25A
Power Consumption	11.4W (Max), 1.8W (Low Power)	11.4W (Max), 1.8W (Low Power)
Ambient Temperature		
Operation	0 to 55°C	
Storage	-20 to 85°C	
Humidity	up to 95%	
Physical Characteristics		
Dimensions	86 x 93.5 x 42.8mm	86 x 69.5 x 25mm
Weight	300g	185g