

HDMI (HDBaseT) CAT5 Extender Series

ITEM NO.: HE20E 4K2K 60Hz HDMI (HDBaseT) CAT5e Extender with IR/RS232



HE20E HDMI CAT5 Extender is using only one cost effective CAT5E/6 cable to extend your UHD display up to 100 meters at 4K2K 60Hz. It supports the special long reach mode up to 150M at 1080p 60Hz 8bits. With Bi-directional IR and RS232 functions, these will deliver significant value for entire home and commercial entertainment system.

HE20E 4K2K 60Hz HDMI (HDBaseT) CAT5e Extender with IR/RS232

Features:

- Extends HDMI, RS232 and IR signal over one CAT5e/6 cable.
- HDBaseT 2.0, HDCP 2.2 & DVI Compliant.
- **Uncompressed high definition video up to 4K2K@60hz (YCbCr 4:2:0).**
- Audio supports up to LPCM 7.1 @ 192KHz, Dolby TrueHD, DTS-HD MA
- Transmission range up to 100 meters at 4K2K resolution.
- Support long reach mode distance up to 150M at 1080p@60Hz@8bits.
- Bi-directional IR, support 30-60khz.
- Bi-Directional RS232.

Installation view:



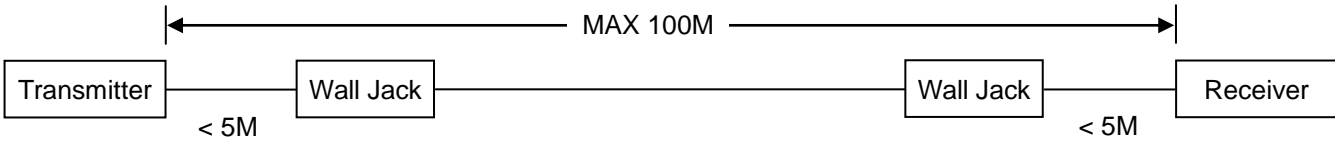
Cable:

Link cable recommend use high quality Cat.5e 、 Cat.6 、 Cat.6a 、 Cat.7 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.

HDBaseT Distance chart by different cable:

Cable Type	Range	Supported Video
CAT5e/CAT6/ CAT6a/CAT7	150M	Long reach mode Up to 1080p 60Hz 8bit
CAT5e	100M	Up to 1080p, 60 Hz, 36 bpp (data rates lower than 5.3 Gbps or below 225 MHz TMDS clock).
	90M	1080p 60 Hz 48 bpp, 1080p 60 Hz 3D, 4K2K/30Hz/4:4:4 and 4K2K/60Hz/4:2:0 video formats
CAT6a/ CAT7	100M	

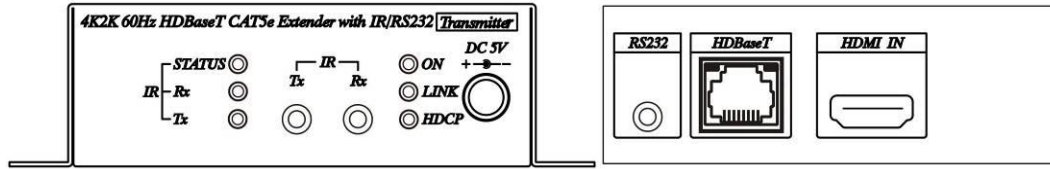
If connection through the wall socket, the cable length must less 5 meters between HDMI extender and wall jack, as below drawing:



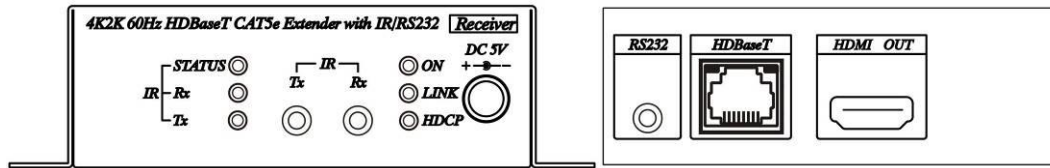
10/100Mbps network connection using general CAT5e cable and working distance up to 100M.

Panel view:

HE20ET



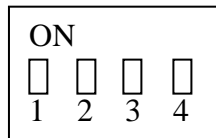
HE20ER



LED Instruction:

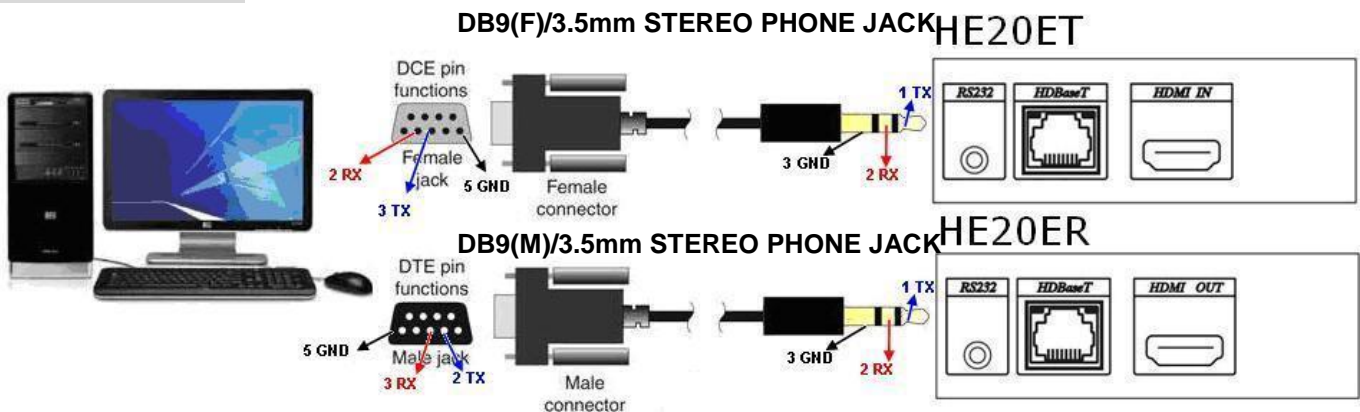
Color	Status	HE20ET	HE20ER
GREEN	ON	ON: Power on	
BLUE	LINK	ON: HDBaseT Linking	
RED	HDCP	OFF: HDMI unlink, ON: HDCP enable , Flash: HDCP disable	
Color	Status	HE20ET	HE20ER
GREEN	STATUS	ON: IR Polarity Reverse (third party IR system)	
BLUE	IR RX	ON: Receiving IR signal	
RED	IR TX	ON: Sending IR signal	

Switch Function:



- | | | |
|---------------|-----------------------|-----------------|
| 1. RS232 | ON : Firmware Update | , OFF : Normal |
| 2. LINK MODE | ON : Long Reach mode | , OFF : 4K |
| 3. IR MODE | ON : Polarity Reverse | , OFF : Normal |
| 4. IR RX TYPE | ON : OEM | , OFF : Reserve |

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

RJ45 Define:**Video Link (TIA/EIA-568-B)**

- | | |
|------------------------|----------------|
| 1. Orange-white | DATA0 + |
| 2. Orange | DATA0 - |
| 3. Green-white | DATA1 + |
| 4. Blue | DATA2 + |
| 5. Blue-white | DATA2 - |
| 6. Green | DATA1 - |
| 7. Brown-white | DATA3 + |
| 8. Brown | DATA3 - |

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.

Package Include:

HE20ET HDM Transmitter x 1 pcs
 HE20ER HDMI Receiver x 1 pcs
 IR Blaster Cable x 1 pcs
 IR Receiver Cable x 1 pcs
 DB9(M)/3.5mm STEREO PHONE JACK x 1
 DB9(F)/3.5mm STEREO PHONE JACK x 1
 Mounting Screw pack x 2 bags
 DC5V 2Amp Power Adapter x 2 pcs

Specification:

ITEM NO.	HE20ET	HE20ER
HDMI Connector	HDMI Type A x 1	
HDMI Video Support	1080p @ 60Hz @ 48bits · 3D · 4K x 2K(YCbCr 4:2:0)	
HDMI Audio Support	Up to 7.1 LPCM 192KHz / Dolby TrueHD / DTS-HD MA	
HDBaseT Connector	RJ45 x 1	
HDBaseT Distace	100M/150M (Long Reach mode)	
RS-232 Connector	DB9(F)/3.5mm STEREO PHONE JACK	DB9(M)/3.5mm STEREO PHONE JACK
RS-232 Baud Rate	115200 bps / full duplex	
IR Input/Output	3.5mm Phone Jack x 2	
IR Carrier Frequencny/Angle/Distance	30~60KHz / T : ± 10° / R : ± 55° / 5M /Bi-directional	
Audio Connector	Optical (TOSLINK) TX	Optical (TOSLINK) RX
Power Consumption	800mA	1200mA
Power Adapter	DC 5V 2A	
Temperature	Operation: 0 to 55°C, Storage: -20 TO 85°C, Humidity: up to 95%	
Dimensions mm	109.6 x 109.5 x 30	
Weight g	270	