



HDMI over HDBaseT Extender

User Manual

Model : HE02N

4K HDMI & IR/RS232/Ethernet/ARC CAT5e Extender 100M



Introduction

HE02N is a 4K HDMI over HDBaseT™ extender that uses a single Ethernet cable to extend uncompressed HDMI with resolution up to 4K@60Hz 4:2:0, and transmission distance up to 100M, along with bi-directional IR and RS232 signals. The extender also supports HDMI ARC (Audio Return Channel) designed to reduce the number of cables between your TV and the amplifier. And a built-in Ethernet port with 10/100 bandwidth on both TX and RX sides allows the HE02N to connect with standard network devices such as 100Base-T routers, TVs, and computers.

Features

- Resolution up to 4K@60Hz 4:2:0.
- Signal extension up to 100M over CAT5e/6 cable.
- Supports 10/100Mbps Ethernet connector for a network device.
- Supports ARC (Audio Return Channel), send digital audio from TV back to the amplifier.
- Supports bi-directional IR, RS232 transmission.
- Supports EDID, and CEC pass through.

Installation view



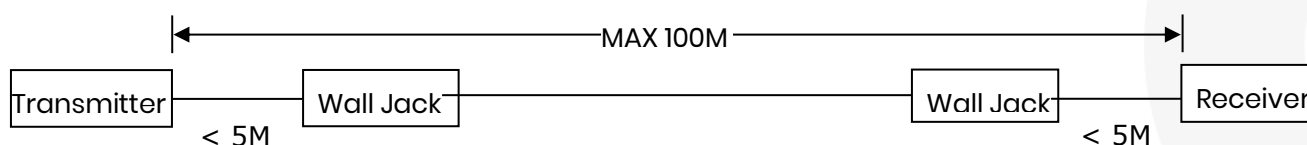
Cable

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	Pixel Clock Rate	Video Data Rate	Supported Video
CAT5e / CAT6	100m	<=225Mhz	<=5.3Gbps (HD Video)	Up to 1080p 60Hz 36 bits
	70m	>225Mhz	>5.3Gbps (Ultra HD Video)	1080p 60Hz 48bits
CAT6a / CAT7	100m			1080p 60Hz 3D, 4K x 2K 30Hz

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.

RJ45 Define

PIN	RJ45 JACK			
	Color	HDBaseT	10/100Mbps Ethernet	
1	W-O	DATA 0 +	RX +	
2	O	DATA 0 -	RX -	
3	W-G	DATA 1 +	TX +	
4	BL	DATA 2 +	N/C	
5	W-BL	DATA 2 -	N/C	
6	G	DATA 1 -	TX -	
7	W-BR	DATA 3 +	N/C	
8	BR	DATA 3 -	N/C	

LED Indication

DC JACK Port:

Color	LED Function	HE02NT	HE02NR
GREEN	Power	On: power on	
BLUE	IR Receive	On: IR received signal	
RED	IR Emitter	On: IR emitting	

HDBaseT Port:

Color	LED Function	HE02NT	HE02NR
GREEN	HDBaseT Linking	On: HDBaseT linking	
BLUE	Digital Audio transmission	On: Receiving ARC or digital audio signal	

RED	HDMI	On: with HDCP, Dark: HDMI Unlink
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10/100 Ethernet Port:

Color	LED Function	HE02NT	HE02NR
GREEN	Ethernet linking	On: Linking, Flash: data transmission	
YELLOW		No function	

Digital Audio Return

This product supports the TV audio sent from HDMI ARC (Audio Return Channel) or Digital optical audio mode, from the receiver back to the transmitter end.

HE02NR: When ARC and optical digital inputs signals simultaneously, it will use optical digital as priority transmission.

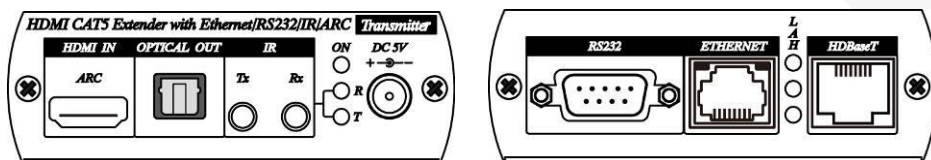
HE02NT: When HE02NT receives digital audio signal, it will be output simultaneously from ARC and optical digital.

Caution

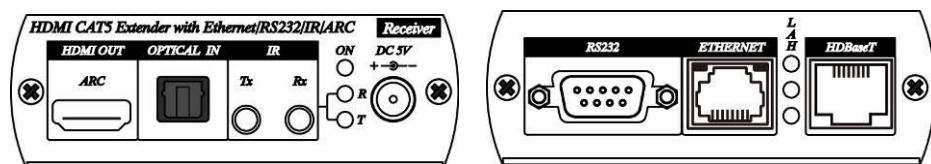
1. The wiring must away from any equipment with electromagnetic wave, i.e.: mobile phone, Microwave, radio equipment, fluorescent lamp, power cable.
2. This device HDBaseT port is not Ethernet signal, do not connect with Network to avoid damage.
3. IR emitter do not put near from receiver to avoid mutual interference.

Panel view:

HE02NT



HE02NR



Package Include

HE02NT Transmitter x1 piece
HE02NR Receiver x1 piece
Power adapter x 2 piece
Mounting screw pack x 2 bags
IR Emitter cable x 2 pieces
IR Receiver cable x 2 pieces

Specification

ITEM NO.	HE02NT	HE02NR
Support		
Compliance	HDMI 1.4, HDCP, DVI	
Max. Video Resolution	4K@30Hz 4:4:4	
Max. Transmission Distance	100M over CAT6 or greater cable	
Video Bandwidth	10.2 Gbps	
Audio Format	7.1 LPCM 192KHz, Dolby TrueHD, DTS-HD MA	
Network Bandwidth	10/ 100Mbps	
IR Support	30-60Khz, ±15°, 5M, Bi-directional	30-60Khz, ±55°, 5M, Bi-directional
RS232 Baud Rate	115200 bps/ Full Duplex	
Ports & Interfaces		
Video Input	1 x HDMI Type A	1 x HDBaseT
Video Output	1 x HDBaseT	2 x HDMI Type A
Digital Audio Input		1 x Optical (TOSLINK)
Digital Audio Output	1 x Optical (TOSLINK)	
Ethernet Interface	1 x RJ45	1 x RJ45
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 5V 2A Regulated	DC 5V 2A Regulated
Power Consumption	800mA	1200mA
Ambient Temperature		
Operation	0 to 55°C	
Storage	-20 to 85°C	
Humidity	up to 90%	
Physical Characteristics		
Dimensions	88 x 120 x 30mm	88 x 120 x 30mm
Weight	260g	280g