

HDMI (HDBaseT) CAT5 Extender Series

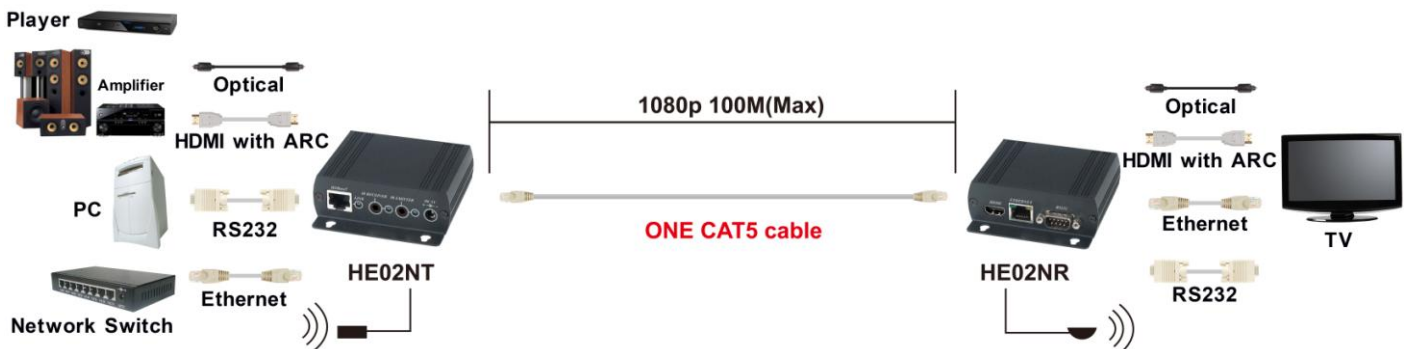
ITEM NO.: HE02N HDMI (HDBaseT) CAT5 Extender with Ethernet/ARC/IR/RS232

Extend high-resolution HDMI and IR up to 100M with this HDMI over single cat5e/cat6 extender. This extender uses HDBaseT technology to extend uncompressed high-definition video/audio with a data transfer rate of 10.2Gbps. This product also meets all HDMI v1.4 standards including full 3D support, HDMI Ethernet Channel, audio return channel and 4Kx2K Resolution. Additional Ethernet ports on both the Sender and Receiver are connected to standard network devices such as 100Base-T routers, hubs and computers. HDMI and Ethernet signal can be transmitted simultaneously without affecting each other. This product offers the ideal solution for extending high-definition video and audio over long distances.

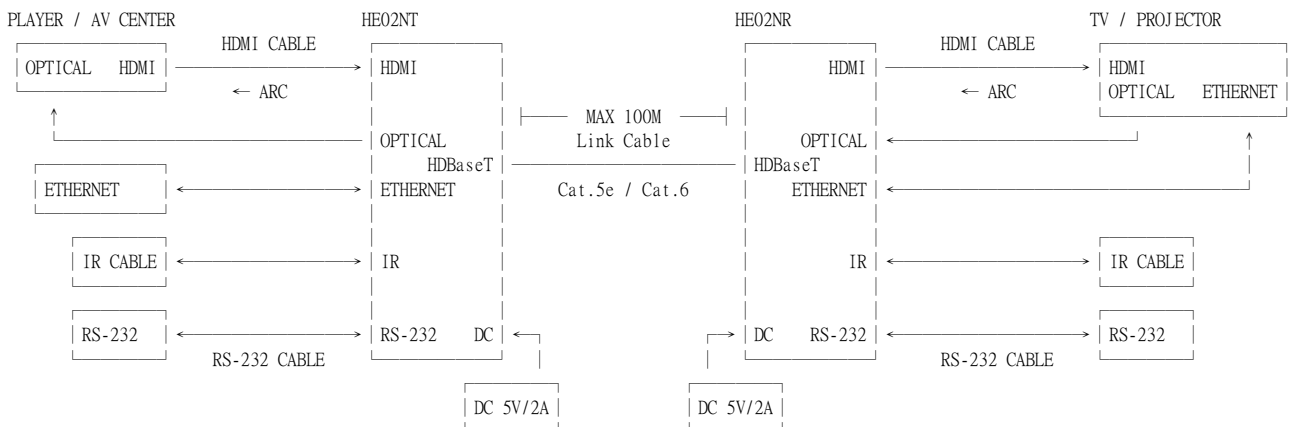
HE02N HDMI (HDBaseT) CAT5 Extender with Ethernet/ARC/RS232/IR

- Extends HDMI, Ethernet, ARC, RS232 and IR signal over one CAT5e/6 cable.
- Uncompressed high definition video up to 1080p@60Hz@48bits.
- HDMI 1.4 with 3D, 4k x 2k support, HDCP & DVI Compliant.
- Max. Data Rate- 10.2Gbps.
- Audio supports up to LPCM 7.1 @ 192KHz · Dolby TrueHD · DTS-HD MA
- Transmission range up to 100 meters at 1080p resolution.
- Support one port 10/100Mbps network, allow to connect the network TV or devices.
- ARC or optical digital audio mode auto selection, send TV digital audio back to the amplifier.
- Bi-directional IR, IR carrier support 30-60khz.
- Bi-Directional RS232 interface – commands and data can flow in both directions via RS232, allowing status requests and control of the destination unit.

Installation view:



Connection Diagram:



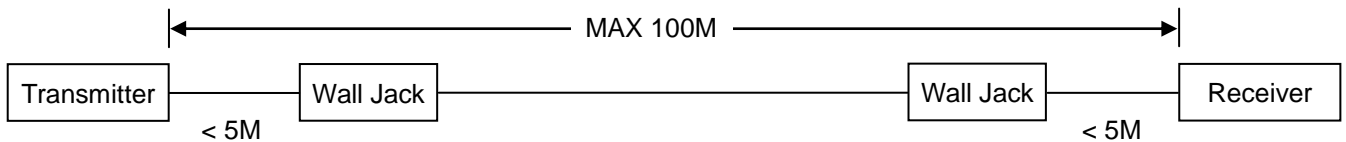
Cable:

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 bpp
	70m	>225Mhz	>5.3Gbps (Ultra HD Video)	1080p 60Hz 48bpp, 1080p 60Hz 3D, 4K x 2K 30Hz
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.

RJ45 Define:

PIN	Color	RJ45 JACK	
		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, Flash: Low power mode	
BLUE	Digital Audio transmission	On: Receiving digital audio	On: optical, Flash:ARC
RED	HDMI	On: with HDCP, Dark: HDMI Unlink, Flash: Without HDCP	

10/100 Ethernet Port:

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

Low-power Mode:

If there is no any HDMI video input, the product will enter a low-power mode to save power. Under low power mode, it still provides Ethernet, RS-232, IR, CEC, the digital optical audio transmission.

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.

H02NR: When ARC and optical digital inputs signals simultaneously, it will use optical digital as priority transmission.

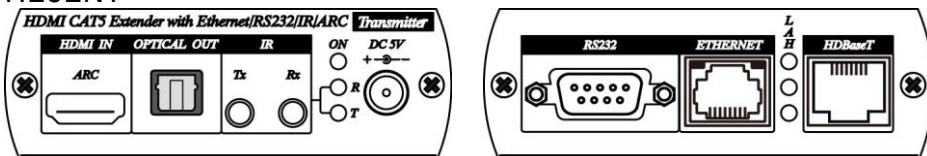
HE02NT: When HE02NT receives digital audio signal, it will be output simultaneously from ARC and optical digital.

Caution:

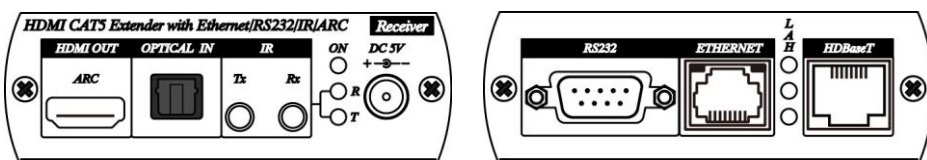
1. The wiring must away from any equipment with electromagnetic wave, i.e.: mobile phone, microwave, radio equipment, fluorescent lamp, power cable.
2. This device HDBaseT port is not Ethernet signal, do not connect with Network to avoid damage.
3. IR emitter do not put near from receiver to avoid mutual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

Panel view:

HE02NT



HE02NR



Package Include:

Transmitter x 1 piece
 Receiver x 1 piece
 Power adapter x 1 piece
 IR Emitter cable x 2 pieces
 IR Receiver cable x 2 pieces

Specification:

ITEM NO.	HE02NT	HE02NR
HDMI Connector	HDMI Type A x 1	
HDMI Video Support	Up to 1080p@60Hz@48bits · 3D · 4K x 2K	
HDMI Audio Support	Up to LPCM 7.1 192KHz · Dolby TrueHD · DTS-HD MA	
HDBaseT Connector	RJ45 x 1	
HDBaseT Distance	100M (Max)	
Ethernet Connector	RJ45 x 1 (with 2 LED)	
Ethernet Data Rate	10 / 100Mbps	
Ethernet Distance	100M (Max)	
RS-232 Connector	DB9 Female	DB9 Male
RS-232 Baud Rate	Up to 115200 bps / Full Duplex	
IR Connector	3.5mm Phone Jack x 2	
IR Carrier	30-60KHz / T : ± 10° / R : ± 55° / 5M / 2 Way	
Digital Audio Connector	Optical (TOSLINK) TX	Optical (TOSLINK) RX
Power Supply	Regulated 5V 2A	
Power Consumption	800mA (Max)	1200mA (Max)
Dimensions mm	88 x 120 x 30	
Weight g	260	280



Rev. A