User Manual

4K60-HDBaseT

4K 60 Hz HDBaseT Extender to 110 feet with HDCP 2.3, EDID, Audio & IR

Version: V24.03

Contents

1. Introduction

This 4K 60 Hz HDBaseT Extender to 110 feet with HDCP 2.3, EDID, Audio & IR is AEL version HD extender which is using the advanced HDBaseT technology. It can transmit the HD signal, audio embedded/de-embedded, bi-directional IR and RS232 signal over single STP Cat5e/6/7 cable up to a long distance and only need to power on one side with the POC function. It also can can work with other HDBaseT equipment, such as Sony HDBaseT projector. For the 1080P60Hz resolution, it can transmit to a distance of 70m/220ft(100m/330ft), for 4K60Hz it can up to 35m/110ft(70m/220ft). This extender kit can support the EDID management on the transmitter, compliant with HD2.0, HDCP2.3

It can be popularly used in media conferencing room, school, government, cinema and so on applications.

2. Features

➢ Uses the HDBaseT technology extension over single CAT5e/6/7 cable

➢ Extend 4K/60(4:2:0) video & IR & RS232 Control

➢ Transmission distance up to 70/100m 220/330ft(1080P60) or 35/70m 110/220ft(4K60)

➢ HD2.0 and HDCP2.3

➢ RS232 and IR signal transmission, POC function

➢ EDID management and 3.5mm audio embedded on the transmitter

➢ Support DIP switch scaling and 3.5mm audio de-embedded on the receiver

3. Specification

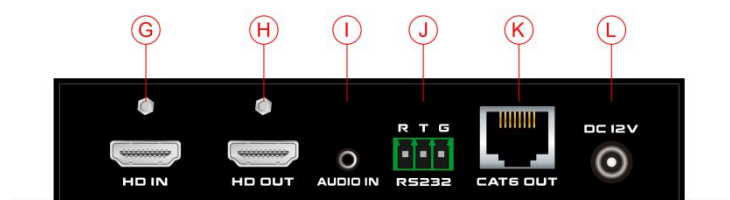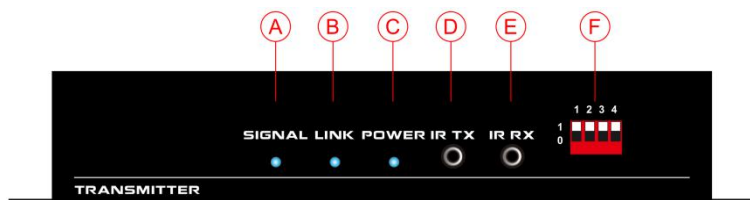| Name	Transmitter	Receiver
Description	HD 70/100m HDBaseT Transmitter	HD 70/100m HDBaseT Receiver
Input Port	1xHD, 1xRS232, 1xR-TX, 1xR-RX	1xHDBaseT
Output Port	1xHDBaseT, 1x Loop out	2xHD, 1xRS232, 1xR-TX, 1xR-RX
Standard Protocol	Support HD2.0 and compatible with HDCP2.3	

Resolution	1920x1200, 1680x1050, 1360x768, 1280x800, 1920x1080, 1600x900, 1366x768, 1280x720, 1024x576, 1920x1200, 1680x1050, 1360x768, 1280x800, 4096x2160@30Hz, 3840x2160@30Hz, 3840x2160@60Hz,
Bandwidth	10.2Gbps
Distance	1080p60 distances to 220/330 feet, 4K60(4:2:0) distances to 110/220 feet
Dimension	5.98x4x1(Inch)(Tx/ Rx)
Weight	0.35lbs
Power	AC: 100-240V 50/60Hz DC: 12V 1.5A
Consumption	≤ 10W
Work Temp	0℃ ~50℃
Storage Temp	- 20℃ ~55℃

4. Packing

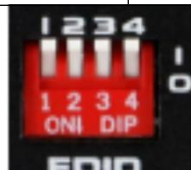| Receiver	1	pcs
Transmitter	1	pcs
Power adapter(DC 12V)	2	pcs
Rack ears	1	pair

5. Panels

Transmitter

A: Signal indicator
B: LINK indicator(For the CAT cable connec
C: Power indicator
D: IR transmitting interface
E: IR receiving interface
F: 4-PIN EDID DIP switch

G: 4K60 HD input
H: 4K60 HD loopout
I: For Audio embedded in
J: For bi-bidrectional RS232
K: HDBaseT out, recommened STP CAT6

Resolution adjustment				Audio	
D1	**D2**	**D3**	**Function**	**D4**	**Function**
1	1	1	4k60	1	3.5MM
1	0	0	1080P2.1	0	internal
1	0	1	HD-1200		
0	1	1	1440*900		
0	0	1	DVI-1080		
0	1	0	DVI-1200		

1	1	0	4k2.1	
0	0	0	External EDID	

*External EDID operation guide: will need to have the display connected to HDMI in on the transmitter to operate. Step 1: Power off transmitter; Step 2: DIP all put to 111 position; Step 3: Have HDMI cable connected; Step 4: Power on Transmitter; Step 5: DIP switch all put to 000; Step 6: wait about 5 seconds(can see the side red indicator flashing).
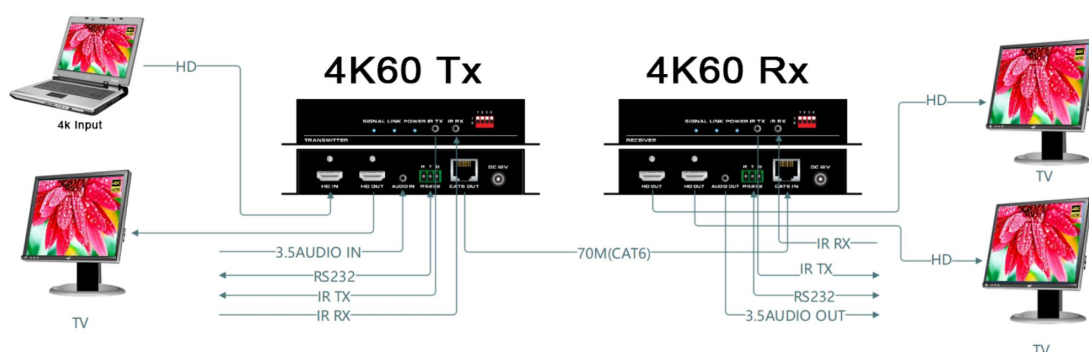
Receiver

A: Signal indicator
B: LINK indicator(For the CAT cable connec
C: Power indicator
D: IR transmitting interface
E: IR receiving interface
F: 4-PIN DIP switch for scaling

G: 4K60 HD output 1
H: 4K60 HD loopout 2
I: For Audio de-embedded out
J: For bi-bidrectional RS232
K: HDBaseT out, recommened STP CAT6

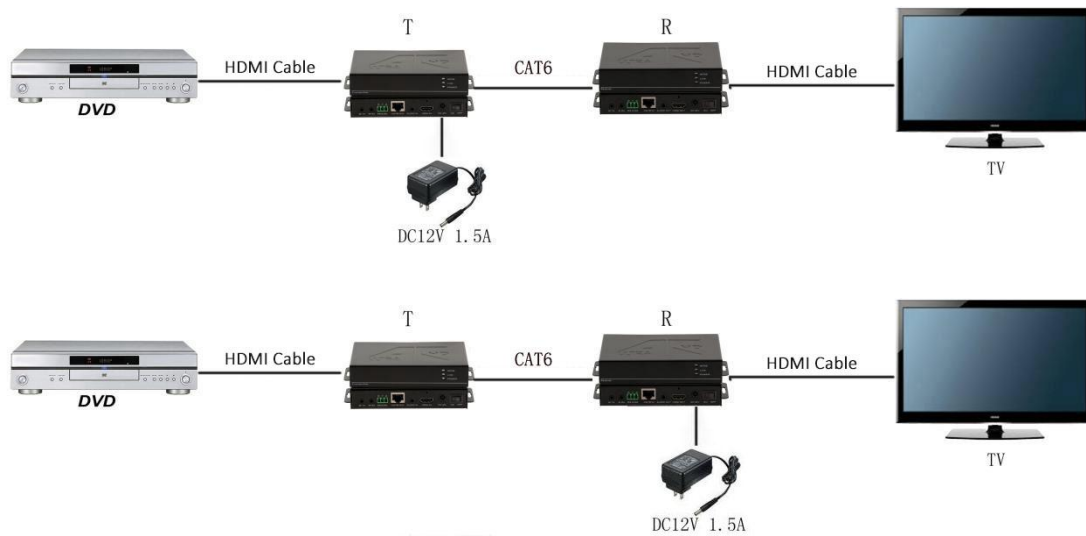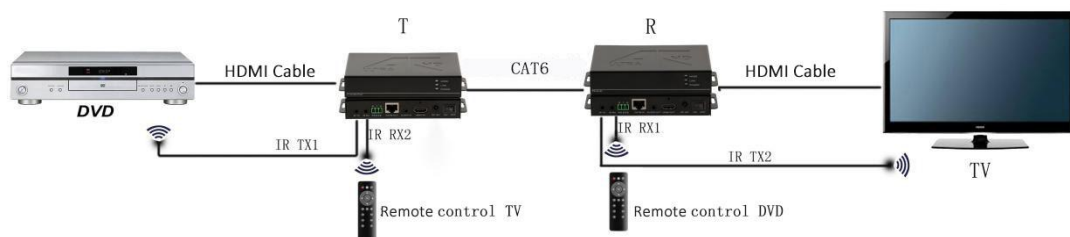| Resolution Scaling			No functions	
D1	**D2**	**Function**	**D3**	**D4**
0	0	Resolution bypass	No functions	
0	1	Force the 4K30/50/60 resolution to 1080P30/50/60		
1	0	Force 4K50/60 420 resolution to 4K50/60 444		
1	1	Resolution bypass		

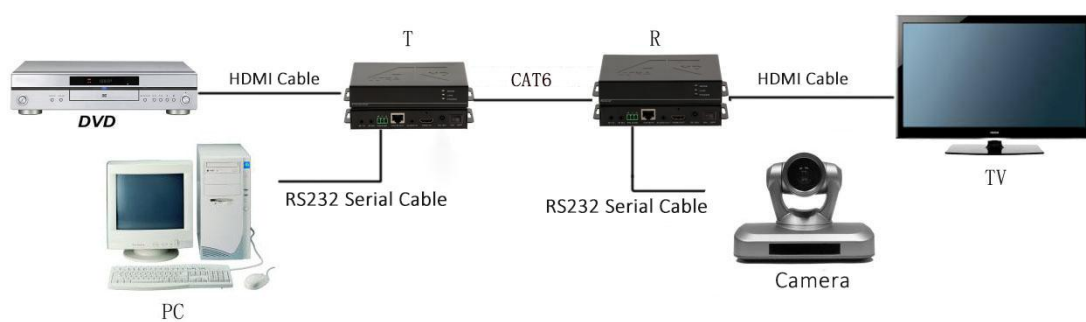# 6. Operation

6.1 Connection Diagram

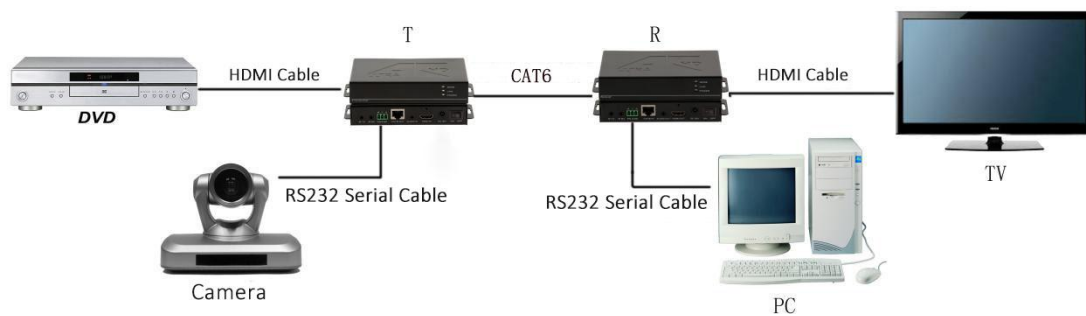**6.2 POC(Power over cable), only need to power on one end.**

6.3 Bi-directional IR signal transmission

6.4 RS232signal transmission

6.5 Indicators

POWER: The indicator will light up when power on

LINK: It will light up when the transmitter and receiver connected successfully, flecking means

connection is not stable, off means the connection is failed.

SIGNAL: It will flick once per second if the system runs good, on the contrary, it will be off

or light up.

6.6 DIP Switch

Transmitter:

Resolution adjustment				Audio	
D1	D2	D3	Function	D4	Function
1	1	1	4k60	1	3.5MM
1	0	0	1080P2.1	0	internal
1	0	1	HD-1200		
0	1	1	1440*900		
0	0	1	DVI-1080		
0	1	0	DVI-1200		
1	1	0	4k2.1		
0	0	0	External EDID		

Receiver:

Resolution Scaling			No functions	
D1	D2	Function	D3	D4
0	0	Resolution bypass		
0	1	Force the 4K30/50/60 resolution to 1080P30/50/60	No functions	
1	0	Force 4K50/60 420 resolution to 4K50/60 444		
1	1	Resolution bypass		

POC(power over cable):

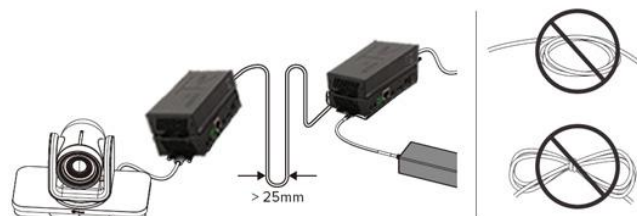|		
	ON	POC function ON, only need to power supply either the receiver or transmitter
	OFF	POC function OFF, will need to power supply both of the receiver and transmitter

6.7 RJ-45 connector

Suggest to use twisted shield pair 24AWG cable, the bandwidth at least 400MHz, and crystal connector.
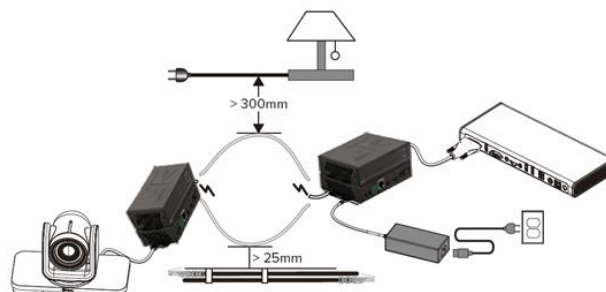

TIA/EIA-T568B	
Pin	**Wire Color**
1	White-orange
2	Orange
3	White-green
4	Blue
5	White-blue
6	Green
7	White-brown
8	Brown

6.8 RJ-45 cable using requests

The gap between cables should above25mm, don't circle it knot

RJ-45 cable should away from high voltage cable, at least above 300mm; Also should be away from line tube at least 25mm

7. Common problem and notice

7.1 Common problem shooting

Please check below parts when the display showing no signal, audio, flicking, blue or black screen:

(1) Check the connection of the RJ-45 cable, HD cable

(2) Check the crystal connector and the RJ-45 cable is CAT5E/CAT6/CAT7

(3) Check the source input are correct

(4) Be aware of the status of the indicators and find out the problems

7.2 Notice

(1) All the RJ-45 cable, power cord should have the protection cover when assembling,

better cover the cable to avoid out pressure to damage the cables

(2) Please don't hang up stuff over the cables, don't step on the cables to avoid

short circuit and damage.

(3) Please pay attention to using the properly plugging in ways to avoid cable and port damage.

(4) Please avoid the liquid getting into the equipment to damage the product and short circuit.

8. After-Sales

8.1 Warranty Information

The Company warrants that the process and materials of the product are not defective under normal use and service for 2 (2) years following the date of purchase from the Company or its authorized distributors.

If the product does not work within the guaranteed warranty period, the company will choose and pay for the repair of the defective product or component, the delivery of the equivalent product or component to the user for replacement of the defective item, or refund the payment which users have made.

The replaced product will become the property of the Company.

The replacement product could be new or repaired.

Whichever is longer, any replacement or repaired of the product or component is for a period of ninety (30) days or the remaining period of the initial warranty. The Company shall not be responsible for any software, firmware, information, or memory data contained in, stored in, or integrated with the product repaired by the customer's return, whether or not during the

warranty period.

8.2 Warranty limitations and exceptions

Except above limited warranty, if the product is damaged by over usage, incorrectly use, ignore, accident, unusual physical pressure or voltage, unauthorized modification, alteration or services rendered by someone other than the Company or its authorized agent, the company will not have to bear additional obligations. Except using the product properly in the proper application or normal usage.