

iBox TPH-R

INFOBIT HDBaseT receiver, 70m 1080p, 35m 4K, HDMI 1.4, RS232, IR.

Datasheet V1.0



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1. Introduction

The iBox TPH-R is an HDBaseT technology extender, it supports no compression, no losses, no latency HDMI signal transmission. It can work with other HDBaseT equipment, such as Sony HDBaseT projector. All the signals are transmitted by one single CAT5E/ CAT6/ CAT7 cable, for 1080P it can transmit to a distance of 220ft, for 4K30Hz, it can up to 110ft. Compatible with all the HDTV resolutions, HDMI1.4a protocol. It also support bi-directional RS232 and IR transmission and realize the long distance control. Supports power over cable, users only need to power one side; Supports 3.5mm Audio embedded and de-embedded function, it can help users to have more choice whether the internal or external audio input and output; Supports EDID management, it provides users a wider way to work with different displays. So it can be popularly used in media conferencing room, school, government, cinema and so on applications.

2. Features

- ✓ Transmit highest quality audio and video, for 1080p can up to 70m and 4K can up to 35m over single Cat6/6a/7 cable
- ✓ Highest resolutions supported up to 4K2K@30Hz
- ✓ Equipped with EDID management capability
- ✓ Bidirectional IR/Serial control signal transmission
- ✓ Power over Cable (POC) locally powered over Cat5e/6 cable at either end
- ✓ Supports 7.1 DTS Master HD, Dolby True HD,
- ✓ Audio embedded and de-embedded

3. Specification

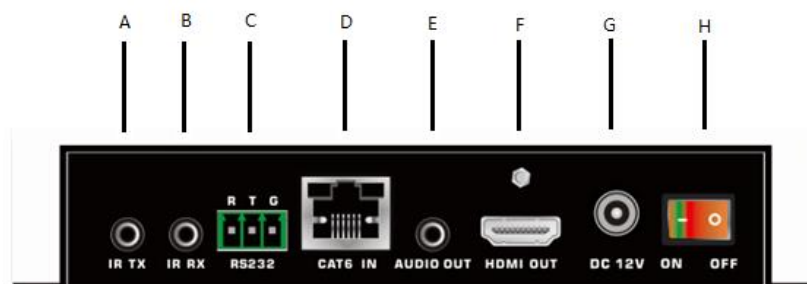
Model	iBox TPH-R
Input	1*HDBaseT
Output	1*HDMI, 1*3.5MM Audio, 1*RS232, 1*IR-TX, 1*IR-RX
Protocol	Support HDMI1.4a and compatible with HDCP, EDID Management
Resolution	480i, 576i, 480p, 576p, 720p, 1080i, 1920 x 1080p up to 60Hz 3840/4096 x 2160 up to 30Hz
Color Space	1080p: 36Bit Deep Color 4K: 24Bit True Color, 4:2:2
Bandwidth	10.2Gbps
Transmission Distance	CAT5e/6 cable: 70m/ 220FT (1080p60Hz); 35m/ 110FT (4K30Hz)

Dimension	152*100*27 (mm)
Weight	200g
Power	AC: 100-240V 50/60Hz 1.5A Max DC: 12V 1500mA
Consumption	≤11W
Working Humidity	10%-90%
Working Temperature	0°C-50°C
Storage Temperature	-20°C-75°C

4. Packing

iBox TPH-R (Receiver)	1	pcs
Power adapter(DC 12V)	1	pcs

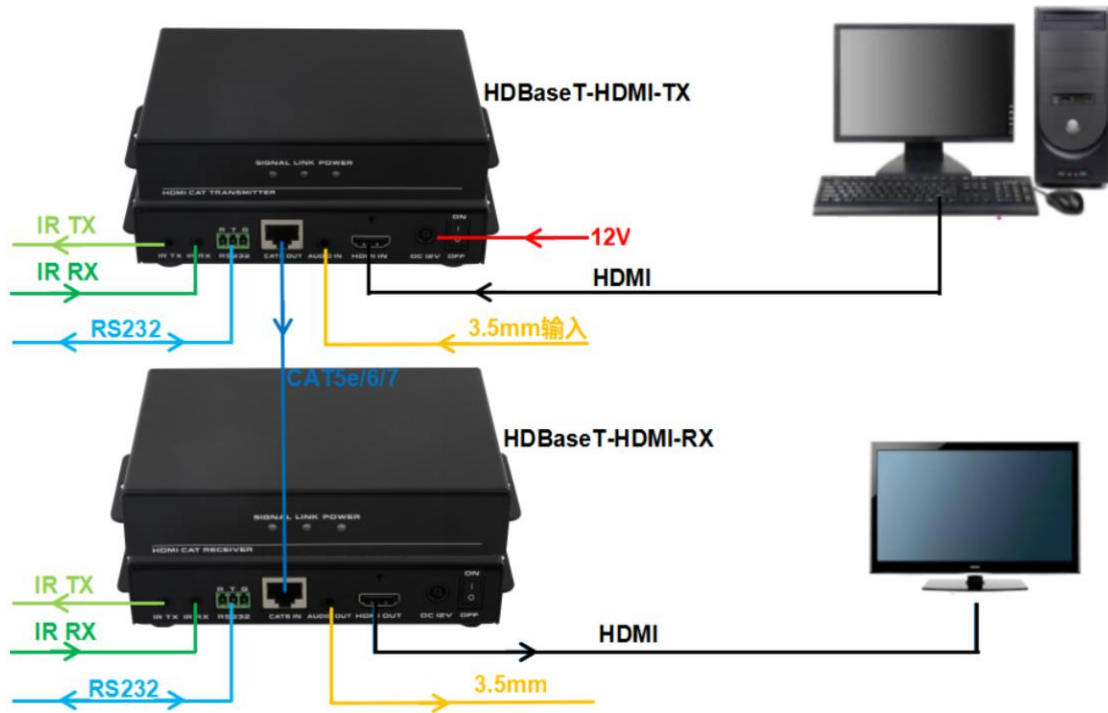
5. Panels



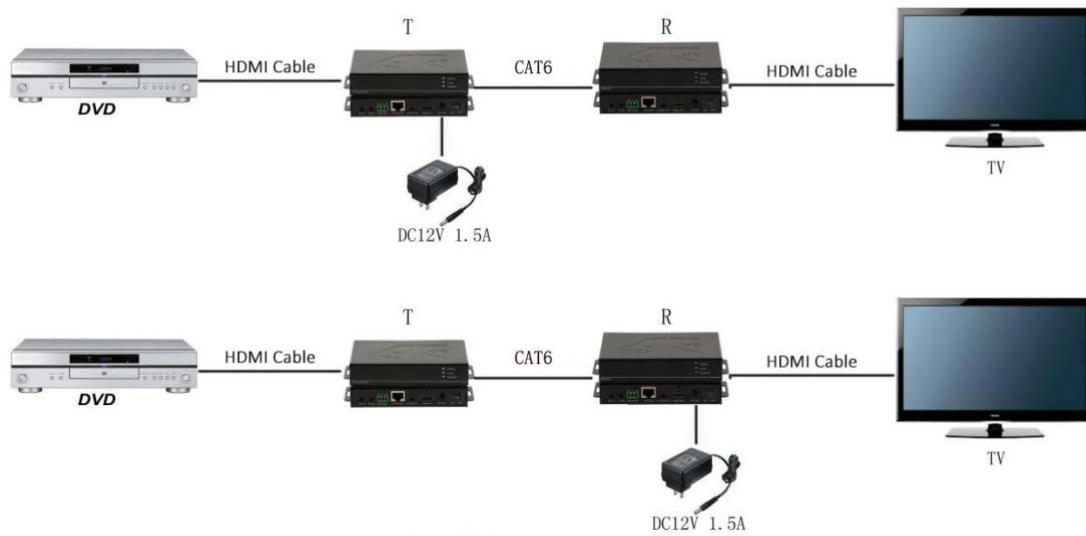
- A: IR transmitter port
- B: IR receiver port
- C: 3-pin RS232 port
- D: RJ45 input port
- E: Audio output port
- F: HDMI output port
- G: DC 12V input port
- H: OFF/ON switch

6. Operation

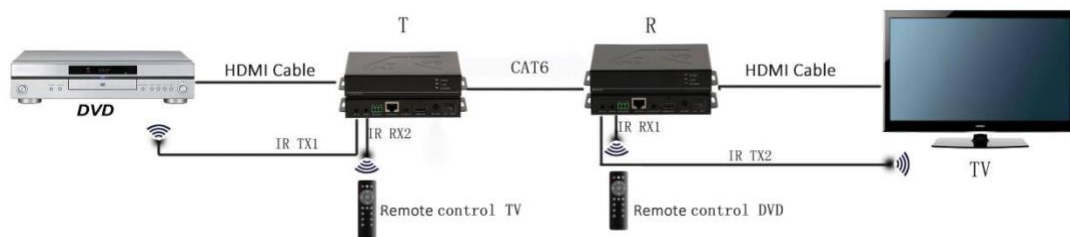
6.1 Connection Diagram



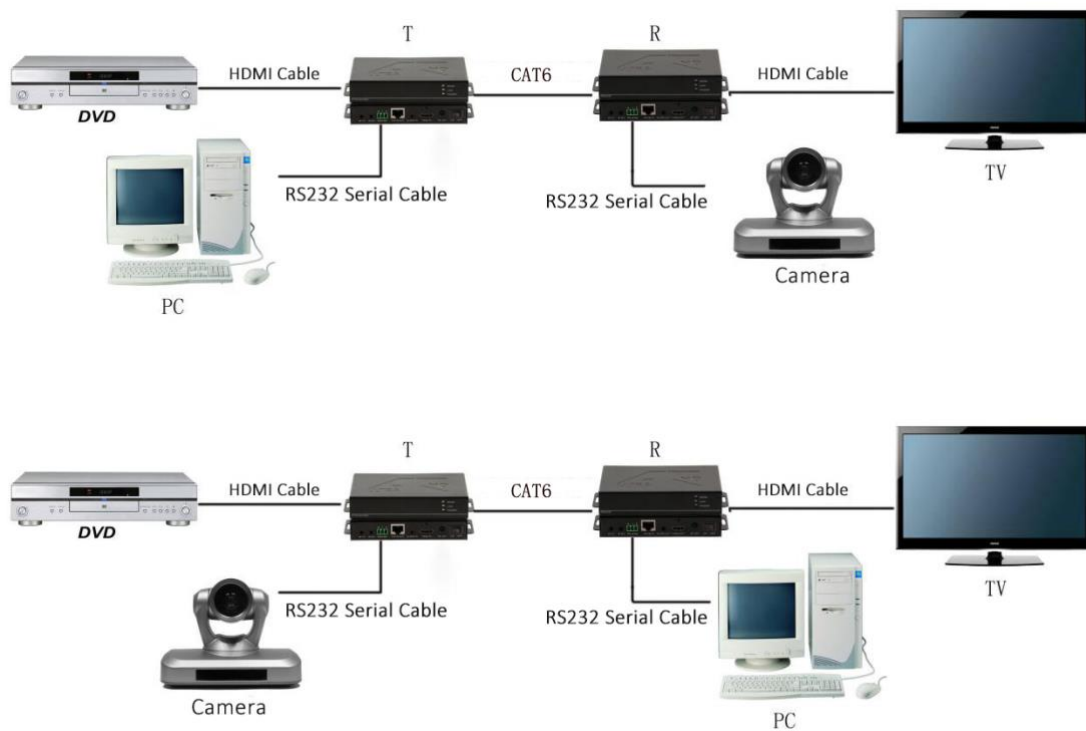
6.2 POC(Power over cable), only need to power on one end.



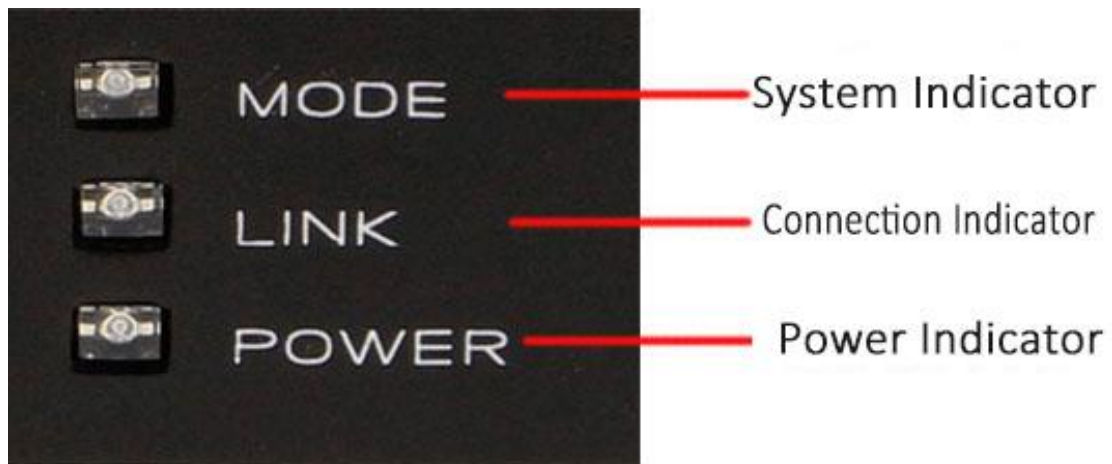
6.3 Bi-directional IR signal transmission



6.4 RS232 signal 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, flicking means connection is not stable, off means the connection is failed.

MODE: It will flick once per second if the system runs good, on the contrary, it will be off or light up.

6.6 EDID Management DIP Switch

The EDID management map is on the bottom panel of the transmitter, and the DIP switch is just right with the map. Specific functions, please check as below:

Eg: Users want to use the internal 1080P2.0 EDID,

Pull the DIP switch D1, D 2, D3 to 010.

Want to use the Display EDID,

Pull the DIP switch D1, D 2, D3 to 000.

Want to use the External audio(3.5mm),

Pull the DIP switch D4 to 1

D1	D2	D3	EDID	D4 (AUDIO)
0	0	0	DISPLAY EDID	HDMI
1	0	0	4K2K/2.0	3.5MM
0	1	0	1080P/2.0	
1	1	0	3D/2.0	
0	0	1	4K2K/7.1	
1	0	1	1024X768/DVI	
0	1	1	1920X1080/DVI	
1	1	1	1920X1200/DVI	



Note: If need to use the internal 3.5mm audio, the video formats must be HDMI.

6.7 RJ-45 connector

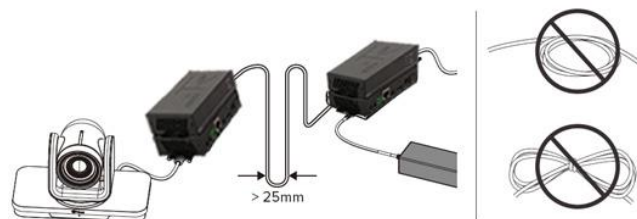
Suggest to use twisted shield pair 24AWG cable, the bandwidth at least 400MHz, and crystal connector.



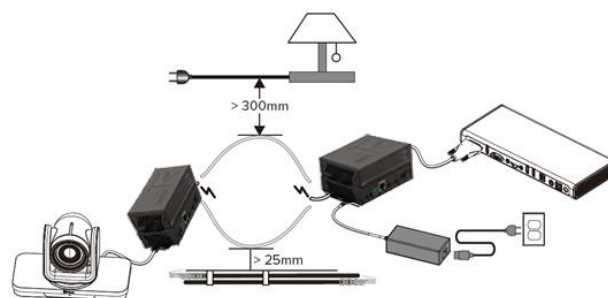
Insert Twisted Pair Wires
RJ-45 Connector

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 above 25mm, 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, HDMI 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.