

# User Manual



## BT70PL HDBaseT Extender



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Version: BT70PL\_2016V1.1

## Preface

Read this user manual carefully before using this product. Pictures shown in this manual is for reference only, different model and specifications are subject to real product.

This manual is only for operation instruction only, not for any maintenance usage. The functions described in this version are updated till December 2016. Any changes of functions and parameters since then will be informed separately. Please refer to the dealers for the latest details.

**All product function is valid till 2016-12-2.**

## Trademarks

Product model and logo are trademarks. Any other trademarks mentioned in this manual are acknowledged as the properties of the trademark owner. No part of this publication may be copied or reproduced without prior written consent.

## FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.



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## **SAFETY PRECAUTIONS**

To insure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

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## 1. Introduction

### 1.1 Introduction to BT70PL

Low-cost BT70PL is a mini-size extender set consists of a Transmitter and a Receiver. HDMI signals are input into the transmitter and HDBaseT technology is used to transmit high-resolution 1080p/ 4k signal to the receiver up to 70/40m via a Cat5e/Cat6A cable. The receiver then outputs the HDMI signal.

Unidirectional IR and PoC power is also transmitted across the Cat5e/Cat6A cable.

### 1.2 Features

- Low-cost & ultrathin design.
- Support HDMI1.4 & HDCP1.4, capable to transmit 4Kx2K@30Hz & 1080p
- Transmit 4Kx2K signal for 8m via HDMI port, 40m via HDBT port.
- Transmit 1080P signal for 15m via HDMI port, 70m via HDBT port.
- The Receiver are powered by the transmitter 12VDC by PoC technology.
- Support unidirectional IR control
- Support HDMI LOOP output
- High Bandwidth: 10.2Gbps.
- Easy installation with rack-mounting design.

### 1.3 Package List

- ✧ 1 x BT70PL(including Transmitter & Receiver)
- ✧ 4 x Mounting Brackets
- ✧ 8 x Screws
- ✧ 8 x Rubber Feet
- ✧ 1 x Power Adapters (DC 12V 2A)
- ✧ 1 x IR Emitter
- ✧ 1 x IR Receiver
- ✧ 1 x User Manual



Please confirm if the product and the accessories are all included, if not, please contact with the dealers.

## 2. Panel Description

### 2.1 Transmitter (TP70LT)

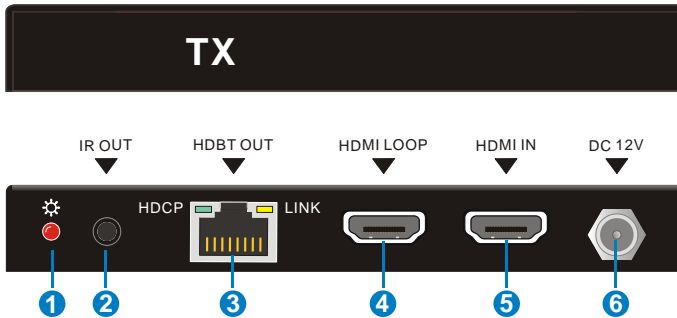


Figure 2- 1 Transmitter

No.	Name	Description
①	Power	Illuminates red when powered on
②	IR OUT	Connect with IR Emitter to send infrared signal, work with the IR IN port of Receiver.
③	HDBT OUT	<p>RJ45 connector with green &amp; yellow indicators. Connect to the HDBT IN socket on the Receiver via CAT5e/ CAT6A cable, support unidirectional PoC.</p> <ul style="list-style-type: none"> <li>➤ HDCP compliant indicator <ul style="list-style-type: none"> <li>✧ OFF: No HDMI traffic (no picture)</li> <li>✧ GREEN: Traffic with HDCP.</li> <li>✧ Blinking GREEN: Traffic without HDCP</li> </ul> </li> <li>➤ HDBT Link status indicator: <ul style="list-style-type: none"> <li>✧ OFF: No Link</li> <li>✧ YELLOW: Link Successful</li> <li>✧ Blinking YELLOW: Link abnormal</li> </ul> </li> </ul>
④	HDMI LOOP	Connect with HDMI display.
⑤	HDMI IN	Connect with HDMI source
⑥	DC 12V	Insert a DC 12V 2A power adapter here.

2.2 Receiver (TP70LR)

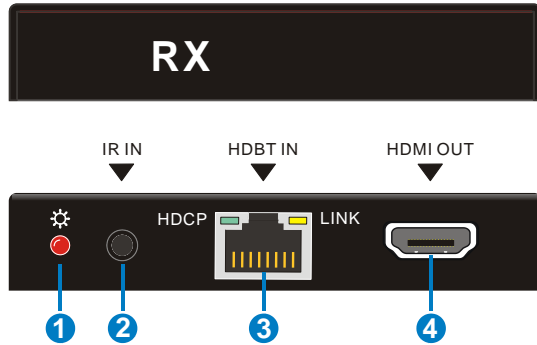



Figure 2- 2 Receiver

No.	Name	Description
①	Power indicator	Illuminates red when powered on
②	IR IN	Connect with IR receiver to collect infrared signal, work with the IR OUT port of Transmitter.
③	HDBT IN	Connect to the HDBT OUT socket on the Transmitter via CAT5e/ CAT6A cable.
④	HDMI OUT	Connect with HDMI display.

 Pictures shown in this manual are only for reference.

### 3. System Connection

#### 3.1 Usage Precautions

- 1) System should be installed in a clean environment and has a prop temperature and humidity.
- 2) All of the power switches, plugs, sockets and power cords should be insulated and safety.
- 3) All devices should be connected before power on.
- 4) Use shielded straight-thru Cat5e/Cat6A cable with TIA/EIA T568B terminations for good transmission effect.

#### 3.2 System Diagram

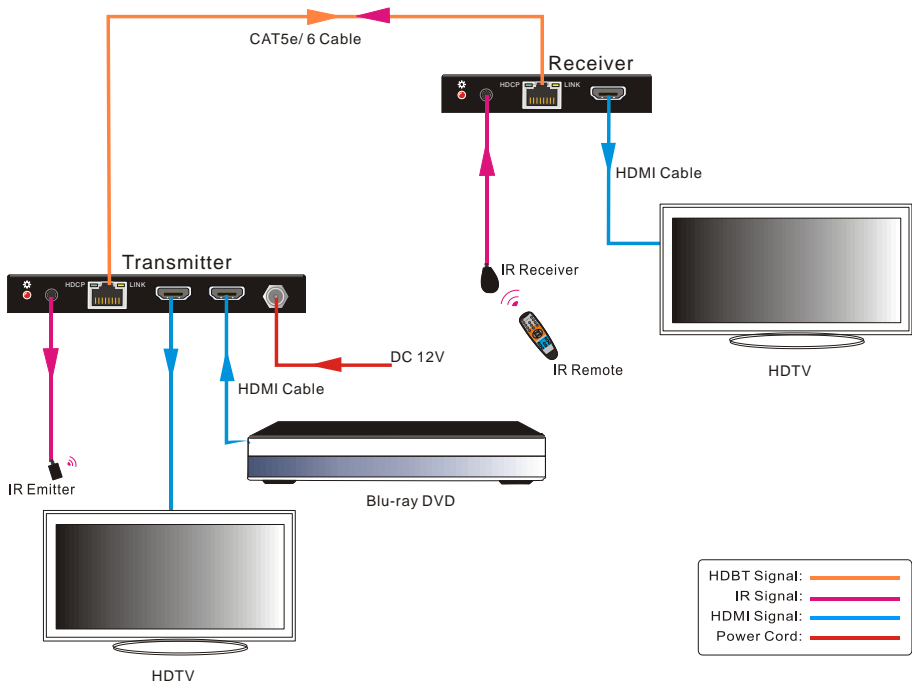


Figure 3- 1 System Connection

#### 3.3 Connection Procedures

- Step1.** Connect HDMI source (such as Blue-ray DVD) to **HDMI IN** port of the Transmitter with an HDMI cable.
- Step2.** Connect **HDBT OUT** port of the Transmitter to **HDBT IN** port of the Receiver through a CAT5e/CAT6A cable.



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**Step3.** Connect a HDMI displays (such as HDTVs) to **HDMI OUT** port of the Transmitter and Receiver with HDMI cables.

**Step4.** When using IR control, do the following.

- a) Connect an IR receiver to the **IR IN** port of Receiver.
- b) Connect an IR Emitter to the **IR OUT** port of Transmitter.

**Step5.** Connect a DC 12V power adaptor to the power port of the transmitter; the receiver will be energized synchronously.

### 3.4 Application

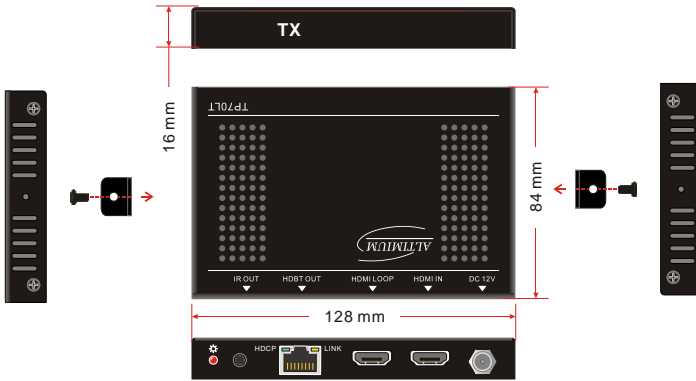
BT70PL has a good application in various occasions, such as computer realm, monitoring, big screen displaying, meeting room, education and bank & securities institution etc.

## 4. Specification

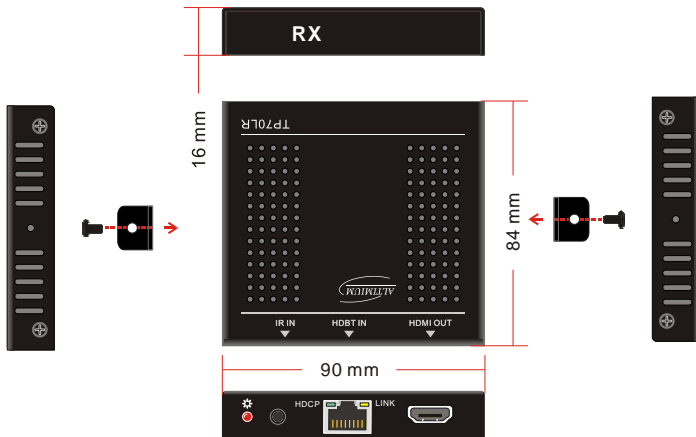
Model	Transmitter (TP70LT)		Receiver (TP70LR)	
Spec				
<b>Input</b>				
Signal	1 x HDMI IN		1 x IR IN, 1 x HDBT IN	
Connector	1 x 19-pin Type-A female HDMI		1 x 3.5mm mini jack 1 x RJ-45	
<b>Output</b>				
Output	1 x HDMI OUT; 1 x IR OUT; 1 x HDBT OUT		1 x HDMI OUT	
Connector	1 x 19-pin Type-A female HDMI 1 x 3.5mm mini jack; 1 x RJ-45		1 x 19-pin Type-A female HDMI	
<b>General</b>				
Resolution Range	Up to 4K×2K@30Hz			
Transmission Mode	HDBaseT			
Transmission Distance	1080P@60Hz ≤70m 4Kx2K@30Hz ≤40m			
Bandwidth	10.2Gbps			
HDMI Standard	HDMI1.4 and HDCP1.4			
Temperature	0~ 50°C			
Reference Humidity	10% ~ 90%			
Power Supply	DC 12V, 2A			
Power Consumption	11W(Max)			
Dimension (W*H*D)	128 x 16x 84 mm		90 x 16x 84 mm	
Weight	157g		116g	

All nominal levels are at ±10%.

# 5. Panel Drawing



**5-1 Transmitter (TP70LT)**



**5-2 Receiver (TP70LR)**

## 6. Troubleshooting & Maintenance

- **No image on display:**

- Ensure that the display device has been set to the correct input.
- Ensure that the HDMI cables used for both the Source/Transmitter and the Receiver/Display are properly connected and are working. Test the HDMI cables directly from a source to display and ensure their operation.
- Ensure that the Cat5e/Cat6a cable has not been damaged and that it has been terminated correctly with T568B on both ends. A temporary length of Cat5e/Cat6 can be used for testing to ensure that the devices are all compatible and working properly.
- Ensure proper grounding of the power supply.
- Known issues with HDMI 1.2 source devices:  
Older compatibility (HDMI 1.2) may result in HDBaseT transmission issues.  
Please contact our Technical Support for a solution to these issues.

- **Color lose or poor picture quality:**

- Ensure that the HDMI cables used for both the source and Transmitter and the Receiver and display are properly connected and are of good quality. Test the HDMI cables directly from a source to display and ensure their picture quality.
- Ensure proper grounding of the power supply.
- If the static becomes stronger or picture quality becomes worse when connecting the video connectors, this may be due to improper grounding.
- Check the grounding and make sure all the components are properly grounded to a common ground. Improper grounding may cause damage to the Receiver.

If your problem persists after following the above troubleshooting steps, seek further help from authorized dealer or our technical support.

## 7. After-sales Service

If there appear some problems when running the device, please check and deal with the problems reference to this user manual. Any transport costs are borne by the users during the warranty.

- 1) **Product Limited Warranty:** We warrants that its products will be free from defects in materials and workmanship for **three years**, which starts from the first day the product leaves warehouse (check the SN mark on the product). Proof of purchase in the form of a bill of sale or receipted invoice must be presented to obtain warranty service.
- 2) **What the warranty does not cover:**
  - Warranty expiration.
  - Factory applied serial number has been altered or removed from the product.
  - Damage, deterioration or malfunction caused by:
    - Normal wear and tear
    - Use of supplies or parts not meeting our specifications
    - No certificate or invoice as the proof of warranty.
    - The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
    - Damage caused by force majeure.
    - Servicing not authorized
    - Any other causes which does not relate to a product defect
  - Delivery, installation or labor charges for installation or setup of the product
- 3) **Technical Support:** Email to our after-sales department or make a call, please inform us the following information about your cases.
  - Product version and name.
  - Detailed failure situations.
  - The formation of the cases.

**Remarks:** For any questions or problems, please try to get help from your local distributor.







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