User Manual

TL-TP70-HDIR-LT

70m HDBaseT Extender Set for HDMI & IR

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Preface

Read this user manual carefully before using this product. Pictures shown in this manual are for reference only; the actual product may vary.

This manual is only for operation instruction only and not for any maintenance or repair.

Trademarks

Product model and logo are trademarked. 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 A 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.

SAFETY PRECAUTIONS

To insure proper operation, 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 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 adequate ventilation to avoid damage caused by overheating.

- Keep the device 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 device immediately.

- 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.

- If disposing of the unit, do not burn or mix with general household waste. The device must be disposed of per local regulations for electronic recycling.

Contents

1. Introduction

1.1 Introduction to HDBaseT Extender Set

The extender set consists of a transmitter and receiver pair. HDMI signals are input into the transmitter and HDBaseT technology is used to transmit the signals to the receiver up to 70 m via a Cat5e/Cat6 cable. The receiver then outputs the HDMI signal.

Bi-directional IR is also transmitted across the Cat5e/Cat6 cable. The extender set supports PoC, which can be used to power the receiver via the Cat5e/Cat6 cable. This eliminates the need for power at the receiver end.

1.2 Features

- 1080p, 3D, 4K@30 compatible
- 70m max distance for 1080p
- 40m max distance for 4K@30
- Single twisted pair transmission (shielded recommended)
- HDMI 1.4 / HDCP 1.4
- Bi-directional IR
- Diagnostic LEDs
- Single power supply required – powered at the transmitter
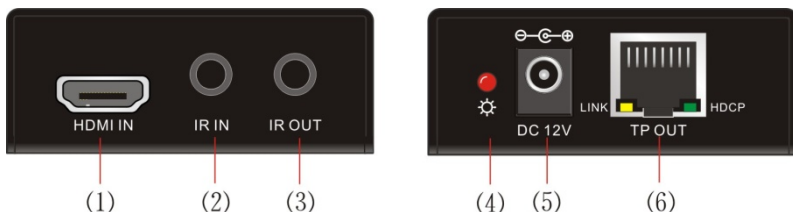- CEC transmission supported
- HDBaseT

Note: Shielded twisted pair cable with shielded connectors are recommended.

1.3 Package List

- ➢ 1 x Transmitter
- ➢ 1 x Receiver
- ➢ 4 x detachable mounting ears
- ➢ 4 x screws
- ➢ 8 x plastic cushions
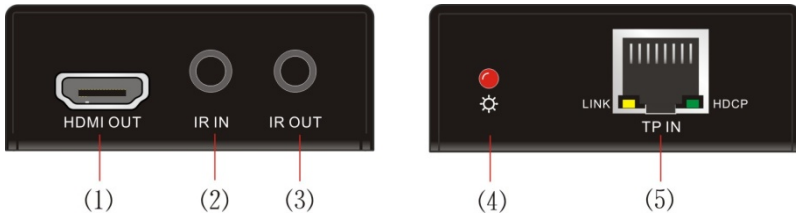- ➢ 1 x power adapter (DC 12V 1A)
- ➢ 1 x user manual

2. Panel Description

2.1 Transmitter

1) HDMI IN: Connect to HDMI source.

2) IR IN: Connect to an IR receiver. Signals from this port are transmitted to the receiver.

3) IR OUT: Connect to an IR emitter. Signals from this port are transmitted from the receiver.

4) Power Indicator: illuminates when properly powered.

5) DC 12V: Connect the included power supply. This port powers both the transmitter and receiver.

6) TP OUT: Connect to the TP IN socket on the receiver via a twisted pair cable.

2.2 4K HDMI Receiver

1) HDMI OUT: Connect to HDMI display.

2) IR IN: Connect to an IR receiver. Signals from this port are transmitted to the transmitter.

3) IR OUT: Connect to an IR emitter. Signals from this port are transmitted from the transmitter.

4) Power Indicator: illuminates when properly powered.

5) TP IN: Connect to the TP OUT socket on the transmitter via a twisted pair cable.

Note: the extender set features two indicators on the RJ45 port that show real-time operation information:
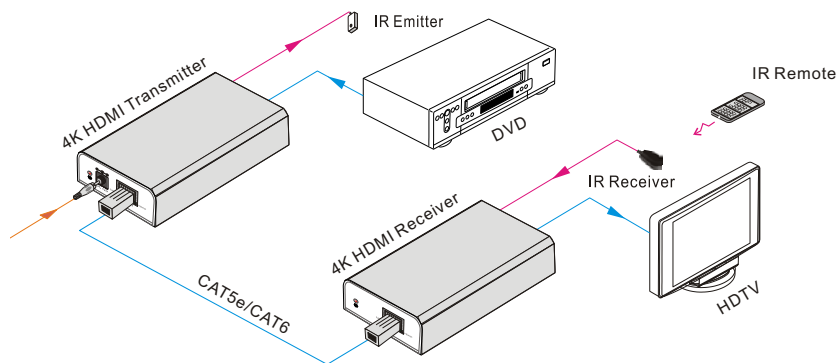
Indicator	Function	Details
Green (HDCP)	Show input signal connection	**When Connected**: HDCP Compliant: *Illuminate* Not HDCP Compliant: *Blink* **When Disconnected**: *No signal*
Yellow (LINK)	Indicates linking status of the transmitter and receiver	**When Connected**: *Illuminate* **When Disconnected**: *No signal*

3. System Connection

3.1 Usage Precautions

1) System should be installed in a clean environment that has a proper temperature and humidity.
2) All of the power switches, plugs, sockets and power cords should be installed properly.
3) All devices should be connected before powering on the devices.
4) The twisted pair terminations for the devices should be a straight-thru conforming to the TIA/EIA T568B standard.
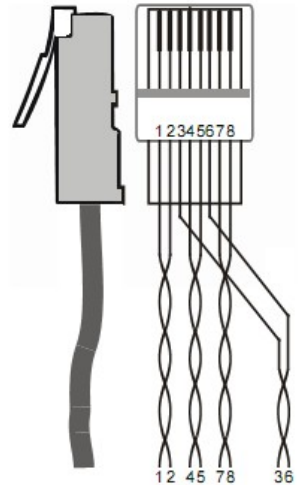
3.2 System Diagram

3.3 Connection Procedure

Step1. Connect an HDMI source (such as a set top box) to the **HDMI IN** port of the transmitter with an HDMI cable.
Step2. Connect **TP OUT** port of the transmitter to **TP IN** port of the receiver using a twisted pair cable.
Step3. Connect an HDMI display to **HDMI OUT** port of the receiver with an HDMI cable.
Step4. If IR control is required, perform the following:
    a) Connect the IR emitter to the **IR OUT** port on either the transmitter or receiver.
    b) Connect the IR receiver to the **IR IN** port on either the transmitter or receiver.
Step5. Connect the DC 12V power adaptor to the power port of the transmitter. The receiver is powered via the twisted pair connection and does not require a separate power supply.

3.4 Twisted Pair Cable Connection

The Cat5e/Cat6 terminations for HDBaseT devices should be a straight thru connection conforming to the TIA/EIAT568B standard. The TIA/EIA T568A standard is NOT recommended.

TIA/EIA T568A		TIA/EIA T568B	
Pin	Cable color	Pin	Cable color
1	green white	1	orange white
2	green	2	orange
3	orange white	3	green white
4	blue	4	blue
5	blue white	5	blue white
6	orange	6	green
7	brown white	7	brown white
8	brown	8	brown
1st Ground	4--5	1st Ground	4--5
2nd Ground	3--6	2nd Ground	1--2
3rd Group	1--2	3rd Group	3--6
4th Group	7--8	4th Group	7--8

Note: For best operation, the twisted pair cable should be shielded and the cable connectors should be metallic. The shielded layer of cable MUST be connected to the connector's metal shell.
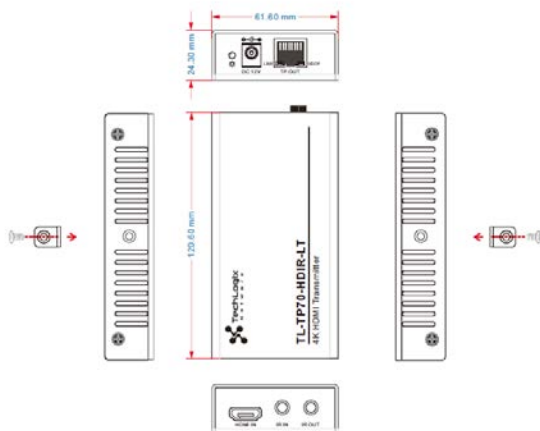
4. Specification

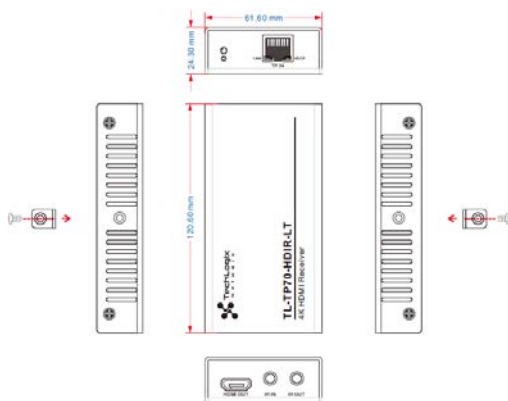|	Transmitter	Receiver
Input		
Input Signals	1 HDMI, 1 IR	1 IR, 1 RJ45
Input Connectors	HDMI female 3.5 mm mini jack	RJ45 3.5mm mini jack
Output		
Output Signals	1 HDMI, 1 IR	1 IR, 1 RJ45
Output Connectors	HDMI female 3.5 mm mini jack	RJ45 3.5mm mini jack
General		
Video Compliance	HDMI 1.4, HDCP 1.4, HDCP 2.2	
Supported Audio	Up to 7.1 surround (8 channel)	
Resolution Range	800x600@60Hz~4K@30	
Transmission Distance	1080p: 220 ft. (70m) 4K@30: 130 ft. (40m)	
SNR	>70dB@ 100MHz-100M	
Bandwidth	10.2Gbps	
THD	<0.005%@1KHz	
Impedance	75Ω	
Temperature	0 ~ 50°C	
Reference Humidity	10% ~ 90%	
Power Supply	DC 12V, 1A	
Power Consumption	9.6W	
Dimension (W*H*D)	61.6 x 24.3x 120.6 mm	
Weight	0.28Kg	
Included Accessories	Power Supply, IR Emitter, IR Receiver, Mounting Brackets with Screws	

4.1 Supported Resolutions

Format	Resolution
HDMI	480I, 480P, 576I, 576P, 720P, 1080I, 1080P, 4Kx2K, 1080P 3D
DVI	640x480@60Hz, 640x480@72Hz, 640x480@75Hz, 800x600@60Hz, 800x600@72Hz, 800x600@75Hz, 1024x768@60Hz, 1024x768@70Hz, 1024x768@75Hz, 1280x720@60 Hz, 1280x1024@60Hz, 1280x1024@75Hz, 1600x1200@60Hz, 1920x1080@60Hz, 1920x1200@60Hz

5. Panel Drawing

Transmitter

Receiver

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 twisted pair cable has not been damaged and that it has been terminated correctly with T568B on both ends. A temporary length of twisted pair cable 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 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, please contact your authorized reseller or TechLogix technical support.

7. After-sales Service

1) **Product Limited Warranty:** We warrant that our products will be free from defects in materials and workmanship for **three years.**

2) **Warranty coverage may be voided when:**
   - The warranty period has expired
   - The factory applied serial number has been altered or removed from the product
   - There is damage, deterioration or malfunction caused by:
     - Atypical wear and tear
     - Use of supplies or parts not meeting the specifications
     - No certificate or invoice as the proof of warranty
     - Damage caused by force majeure
     - Non-authorized service

3) **Technical Support:** When contacting TechLogix support, please have the following information available:
   - Product part number
   - Installation and sale date
   - Detailed failure information