User Manual

TL-TP50-HDIR

50m Extender for HDMI & IR

Version: TL-TP50-HDIR_160929

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.

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 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 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.

Contents

1. Introduction

1.1 Introduction to TL-TP50-HDIR

The TL-TP50-HDIR is a twisted pair extender designed for extending HDMI and IR up to 50 meters (164 ft.) over shielded twisted pair cabling (shielded connectors are also required).

The system transmits IR from the destination (receiver end) to the source (transmitter end), and requires power on both ends. The transmitter features a built-in loop out, allowing a local display to be connected to the system.

1.2 Features

- 1080p, 3D compatible
- Deep color, DTS-HD, Dolby TrueHD compatible
- 50m max distance for 1080p
- Single twisted pair transmission (shielded required)
- HDMI loop output on the transmitter
- HDMI 1.4 / HDCP 1.4
- IR transmission from the display to the source
- Diagnostic LEDs
- Built-in mounting ears
- Two power supplies required
- Built-in EDID copying

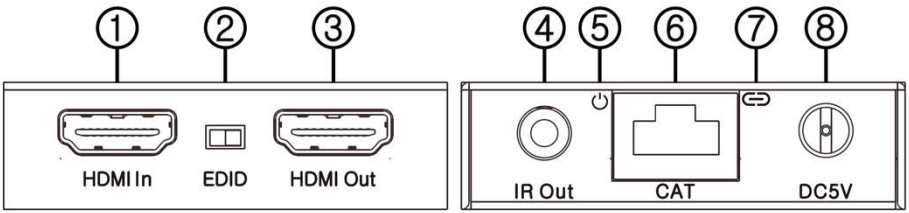
1.3 Package List

- ✧ 1 x TL-TP50-HDIR (including TX and RX)
- ✧ 2 x Power Adapters (5V 1A)
- ✧ 1x IR Emitter (5V)
- ✧ 1 x IR Receiver (5V, with carrier)

🕮 Please confirm if the product and the accessories are all included. If not, please contact your TechLogix reseller.

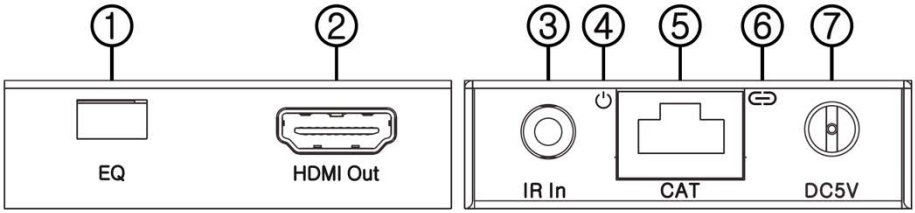
2. Panel Drawings

2.1 Transmitter

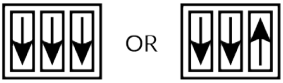
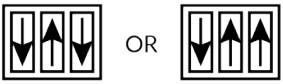
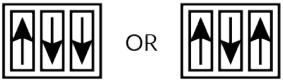
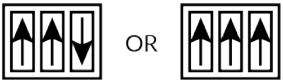


1	HDMI Input	HDMI connection point for the source device
2	EDID Mode Switch	Right toggle: display EDID information copied from HDMI loop out (3) Left toggle: display EDID information copied from RX HDMI output
3	HDMI Output	HDMI loop output for local display
4	IR Output	IR output for controlling the source; IR passed from the RX to the TX
5	Power LED	Illuminates with a solid power connection via twisted pair and/or a local 5V power supply
6	Twisted Pair Output	Connection point to the RX via a shielded twisted pair cable
7	Link LED	Illuminates with a solid HDMI connection
8	Power Input	5V power supply connection for the included AC power supply

2.2 Receiver



1	EQ Switch	Signal equalization switch for twisted pair cable length compensation (see chart below)
2	HDMI Output	HDMI output for the remote display
3	IR Input	IR input for sending control signals from the RX to the TX
4	Power LED	Illuminates with a solid power connection via twisted pair and/or a local 5V power supply
5	Twisted Pair Input	Connection point to the TX via a shielded twisted pair cable
6	Link LED	Illuminates with a solid HDMI connection from the TX
7	Power Input	5V power supply connection for the included AC power supply

Recommended EQ Settings	
DIP Switch Positions	Cable Length
	Under 15 meters (49.5 feet)
	15-30 meters (49.5-99 feet)
	30-40 meters (99-132 feet)
	40-50 meters (132-164 feet)

3. System Connection

3.1 Usage Precautions

1) System should be installed in a clean environment and has a proper temperature and humidity.
2) All of the power switches, plugs, sockets and power cords should be insulated for safety.
3) All devices should be connected before powering the extenders.
4) Use shielded straight-thru Cat5e/Cat6 cable with TIA/EIA T568B terminations.

3.2 Connection Procedures

Step1. Connect an HDMI source (such as a Blu-ray player) to the **HDMI IN** port of the transmitter with an HDMI cable.

Step2. Optionally connect a local display to the **HDMI OUT** port of the transmitter with an HDMI cable.

Step3. Connect the **CAT** port of the transmitter to **CAT** port of the receiver via a shielded CAT5e/CAT6 cable with shielded connectors.

Step4. Connect an HDMI display (such as an HDTV) to the **HDMI OUT** port of the receiver with an HDMI cable.

Step5. When using the bi-directional IR control, do the following.

a) Connect the included IR receiver to the **IR IN** port at the receiver.

b) Connect the included IR emitter to the **IR OUT** port at the other end.

Step6. Connect the included DC 5V power adaptors to the power ports on the transmitter and receiver.

Step7. Optionally adjust the EQ switch on the receiver to compensate for cable distance (see page 3).

Step8. Optionally adjust the EDID switch on the transmitter to select which display will provide EDID information to the source, the local display (if connected) or the remote display connected to the transmitter (see page 2).

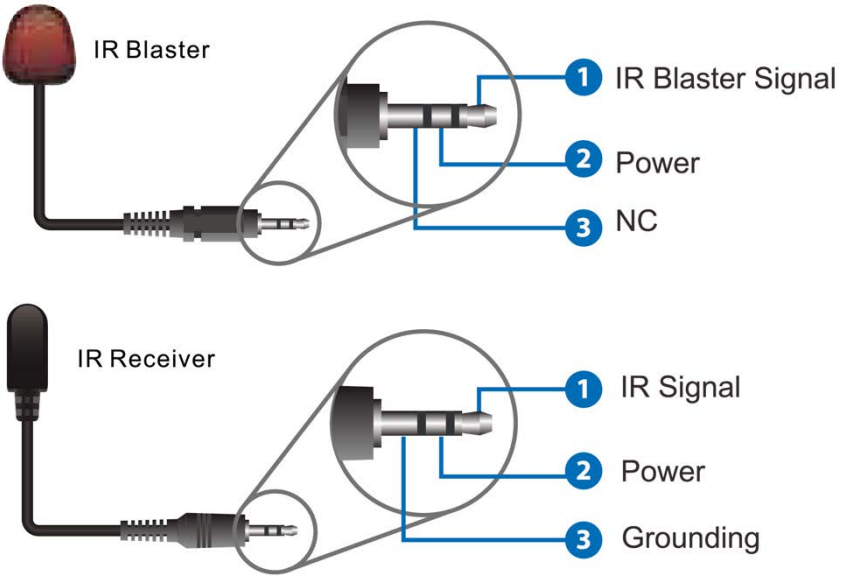
Note: If you are having issues achieving a solid picture on the display, adjust the display's refresh rate (for example a 24Hz refresh rate may work better than a 60Hz refresh rate).

4. Specifications

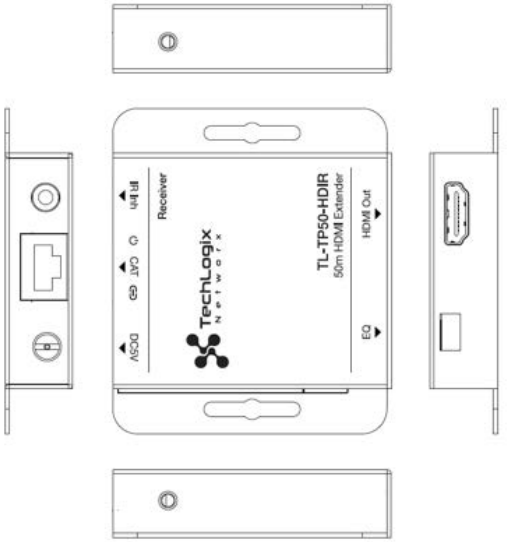
I/O Connections (Transmitter)	
HDMI In	1 HDMI type A connector
HDMI Out	1 HDMI type A connector
TP Out	1 RJ45 connector
IR out	1 3.5mm mono jack
Power	1 DC 5V connector
EDID	1 Two position sliding switch
I/O Connections (Receiver)	
HDMI Out	1 HDMI type A connector
TP In	1 RJ45 connector
IR In	1 3.5mm stereo jack
Power	1 DC 5V connector
EQ	3 Two position sliding switch
Supported Audio and Video	
Maximum Video Compatibility	1080p60
Video Compliance	HDMI 1.4, HDCP 1.4
3D Support	Yes
IR Carrier Frequency Range	Wideband 33-60kHz at 5 volts
Input Video Signal	0.5-1.0 Vpp
Impedance	75 ohms
Signal to Noise Ratio	>70dB @ 100MHz
THD	<0.005% @ 1kHz
Input DDC Signal	5.0 volts/P-P
Extension Signal Characteristics	
Maximum Distance	720p/1080p: 50m
Cable Requirements	Solid core shielded Category 5e, Category 6 or greater with TIA/EIA-568B crimp pattern
Input TMDS Signal	3.3 volts

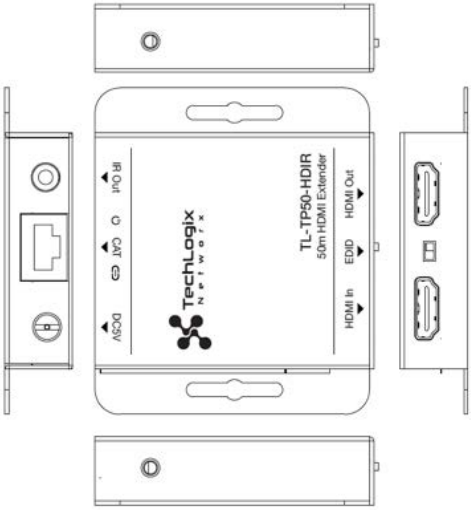
Bandwidth	4.95 Gbps
Chassis and Environmental	
Enclosure	Painted steel
Dimensions	80*68*18 mm
Shipping Weight	0.55kg / 1.1lbs
Operating Temperature (Environment)	0~50℃
Operating Humidity (Environment)	10%-90%
Power and Regulatory	
Maximum Power Consumption	1.5W per end
Power Supply	DC 5V 1A
ESD Protection	15kV
Regulatory	CE, FCC, RoHS
Other	
Standard Warranty	3 Years
Diagnostic Indicators	Power, Link
Included Items	Transmitter, Receiver, [2] Power Supplies, IR Receiver, IR Emitter

4.1 IR Pinout


IR Blaster
1
IR Blaster Signal
2
Power
3
NC
IR Receiver
1
IR Signal
2
Power
3
Grounding

5. Panel Drawing





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/Cat6 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.
  - Ensure shielded cable with shielded connectors is being used.
- **Color loss 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.
- **Unsteady image**
  - Ensure that the Cat5e/Cat6 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.
  - Adjust the EQ switch to compensate for cable distance.

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

7. After-sales Service

If some problems occur when using the device, please check the troubleshooting section referenced in this user manual.

1) **Product Limited Warranty:** We warrant that our products will be free from defects in materials and workmanship for **three years.** Please see warranty page posted on www.tlnetworx.com for more info.
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.
     - Non-authorized service
     - 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:** For additional support please email or call our after-sales department. When contacting us, please prepare the following information about your installation.
   - Product version and name.
   - Detailed failure situations.
   - Date and place of purchase.