



CH-514TXLN/RXLN

HDMI to CAT5e/6/7 Extender with IR



Operation Manual

HDMI[®]
HIGH-DEFINITION MULTIMEDIA INTERFACE

The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI licensing Administrator, Inc.



DISCLAIMERS

The information in this manual has been carefully checked and is believed to be accurate. Cypress Technology assumes no responsibility for any infringements of patents or other rights of third parties which may result from its use.

Cypress Technology assumes no responsibility for any inaccuracies that may be contained in this document. Cypress also makes no commitment to update or to keep current the information contained in this document.

Cypress Technology reserves the right to make improvements to this document and/or product at any time and without notice.

COPYRIGHT NOTICE

No part of this document may be reproduced, transmitted, transcribed, stored in a retrieval system, or any of its part translated into any language or computer file, in any form or by any means—electronic, mechanical, magnetic, optical, chemical, manual, or otherwise—without express written permission and consent from Cypress Technology.

© Copyright 2014 by Cypress Technology.

All Rights Reserved.

Version 1.0 February 2014

TRADEMARK ACKNOWLEDGMENTS

All products or service names mentioned in this document may be trademarks of the companies with which they are associated.



SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
VR0	16/06/14	Preliminary Release

CONTENTS

1. Introduction	1
2. Applications	1
3. Package Contents	1
4. System Requirements	1
5. Features	2
6. Operation Controls and Functions	3
6.1 Transmitter Front and Rear Panels.....	3
6.2 Receiver Front and Rear Panels	4
6.3 Transmitter and Receiver Top Panels..	5
6.4 IR Pin Assignment	5
7. Connection Diagram	6
8. Specifications	7
8.1 CAT5e/6/7 Cable Specification	8
9. Acronyms	9



1. INTRODUCTION

The HDMI Extender over single CAT5e/6/7 incorporating IR signal transfer allows for a more efficient system setup and is easy to install.

Uncompressed video and audio can be transmitted to distances of up to 60 meters (1080p) and supports High Definition Audio and 3D signals.

Designed with HDBaseT™ technology for greater flexibility in custom installations with full HDMI and control signal transfer over a single CAT5e/6/7 cable.

2. APPLICATIONS

- Residential entertainment sharing and control
- University lecture hall display and control
- Retail sales display and control
- Meeting room presentation and control
- Commercial advertising display and control

3. PACKAGE CONTENTS

- 1×HDMI to CAT5e/6 with IR Transmitter
- 1×CAT5e/6 to HDMI with IR Receiver
- 1×IR Blaster
- 1×IR Extender
- 2×5V/2.6A DC Power Adaptor
- Operation Manual

4. SYSTEM REQUIREMENTS

HDMI source equipment such as DVD/Blu-ray player/PC and TV/monitor/projector with HDMI input and HDMI to CAT5e/6/7 cables.

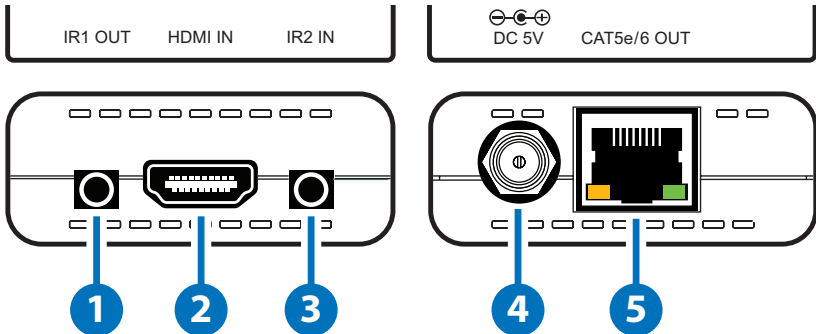
5. FEATURES

- HDMI with 3D, 4K2K support, HDCP and DVI compliant
- Supports HDMI (including HDCP) over a single CAT5e/6/7 up to 60m
- Full HD resolution support (1080p@60Hz/36-bit), 3D, 4K2K@24/25/30& 4K2K YUV420 and PC resolution support (VGA to WUXGA) over CAT5e/6 cable
- HDMI input up to 6m with 8/12-bit resolution or 5m with 4K2K resolution
- HDMI output up to 6m with 8/12-bit resolution or 5m with 4K2K resolution
- Supports HDCP repeater and CEC bypass
- Supports High Definition LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio transmission
- Compact size with stylish design

Note: *Displaying HDMI 3D and 4K2K contents, equivalent source signal and HDMI cable are required in order to secure the quality.*

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Transmitter Front and Rear Panels



1 IR1 OUT/Blaster

Connect to the supplied IR Blaster for IR signal transmission to the source equipment from IR1 IN's IR signal. Place the IR Blaster in direct line-of-sight of the equipment to be controlled.

2 HDMI IN

Connect to the HDMI input source devices such as a DVD player or a Set-top Box with HDMI cable or DVI to HDMI cable.

3 IR2 IN/Extender

Connect to the supplied IR Extender cable for IR signal reception and transmission to IR2 OUT. Ensure that remote being used is within the direct line-of-sight of the IR Extender.

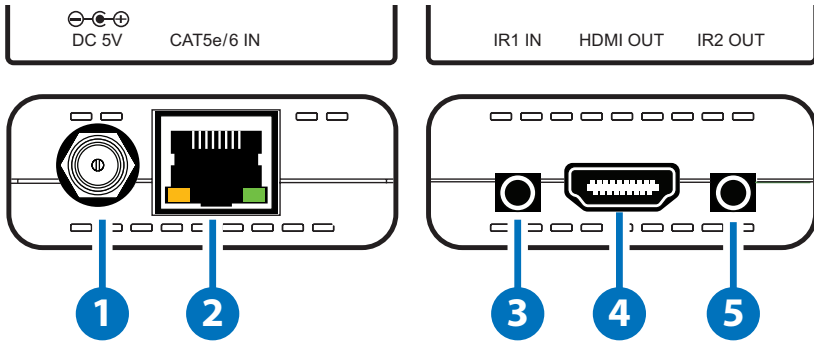
4 DC 5V

Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet.

5 CAT5e/6 OUT

Connect to the Receiver unit with a single CAT5e/6/7 cable for transmission of all data signals. The yellow LED will illuminate when both Transmitter and Receiver are connected together with power supply. The green LED will illuminate when the power supply is connected to the device.

6.2 Receiver Front and Rear Panels



1 DC 5V

Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet.

2 CAT5e/6 IN

Connect to the Transmitter unit with a single CAT5e/6/7 cable for transmission of all data signals. The yellow LED will illuminate when both Transmitter and Receiver are connected together with power supply. The green LED will illuminate when the power supply is connected to the device.

3 IR1 IN/Extender

Connect to the supplied IR Extender cable for IR signal reception and transmission to IR1 OUT. Ensure that remote being used is within the direct line-of-sight of the IR Extender.

4 HDMI OUT

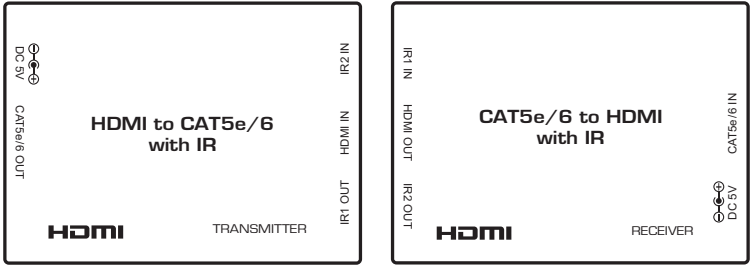
Connect to a HDMI equipped TV/monitor for display of the HDMI input source signal.

Note: If the connected TV/monitor support only 8bits but the input source signal contain 10/12bits it may cause no signal display.

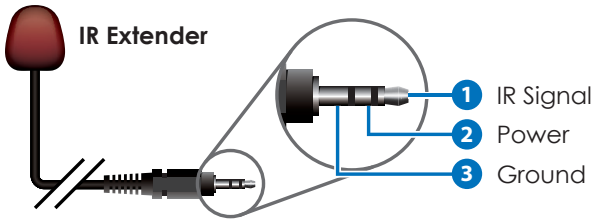
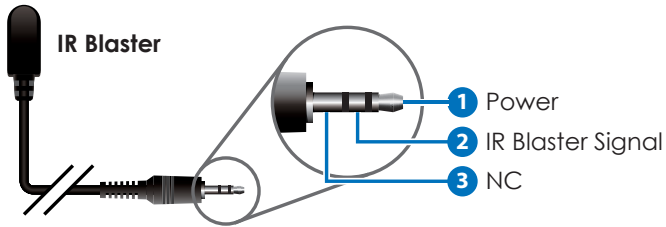
5 IR2 OUT/Blaster

Connect to the supplied IR Blaster for IR signal transmission to the display side from IR2 IN's IR signal. Place the IR Blaster in direct line-of-sight of the equipment to be controlled.

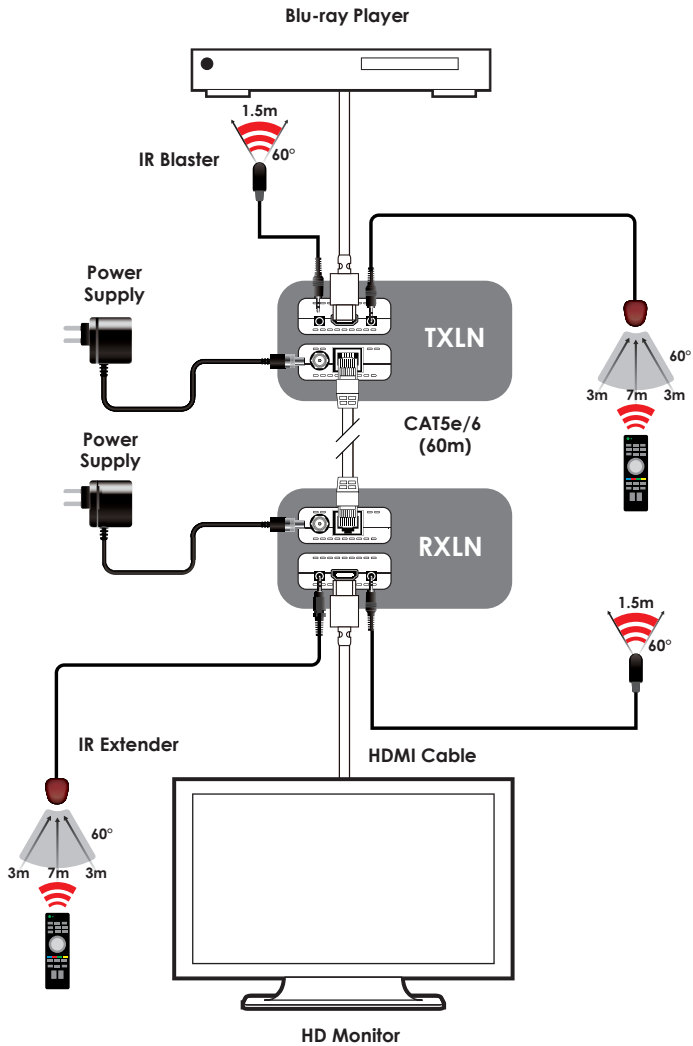
6.3 Transmitter and Receiver Top Panels



6.4 IR Pin Assignment



7. CONNECTION DIAGRAM





8. SPECIFICATIONS

Video Bandwidth	340 MHz/10.2 Gbps
Transmitter	
Inputs	1×HDMI, 1×IR Extender
Outputs	1×RJ45, 1×IR Blaster
Receiver	
Inputs	1×RJ45, 1×IR Extender
Outputs	1×HDMI, 1×IR Blaster
ESD Protection	Human Body Model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Power Supply	2×5 V/2.6 A DC (US/EU standards, CE/ FCC/UL certified)
Dimensions	55 mm (W)×75.5 mm(D)×22.5 mm (H)/ Jacks Excluded 55 mm (W)×82.2 mm(D)×22.5 mm (H)/ Jacks Included
Weight	60 g (TX), 66 g (RX)
Chassis Material	Plastic
Silkscreen Color	White
Operating Temperature	0 °C~40 °C/ 32 °F~104 °F
Storage Temperature	-20 °C~60 °C/-4 °F~140 °F
Relative Humidity	20~90% RH (non-condensing)
Power Consumption	2.8 W (TX), 5.4 W (RX)

8.1 CAT5e/6/7 Cable Specification

Cable Type	Range	Pixel clock rate	Video Data Rate	Supported Video
CAT5e/CAT6	60 m	≤ 225 MHz	≤ 5.3 Gbps (HD Video)	Up to 1080p, 60 Hz, 36-bit, 3D (data rates lower than 5.3 Gbps or below 225 MHz TMDS clock).
	35 m	> 225 MHz	> 5.3 Gbps (Ultra HD Video)	4K2K, 30Hz video formats
CAT6A/7	40 m	> 225 MHz	> 5.3 Gbps (Ultra HD Video)	4K2K, 30Hz video formats



9. ACRONYMS

ACRONYM	COMPLETE TERM
CAT5e	Category 5 Cable
CAT6	Category 6 Cable
CAT7	Category 7 Cable
CEC	Consumer Electronics Control
DVI	Digital Visual Interface
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition multimedia Interface
IR	Infrared



CYPRESS TECHNOLOGY CO., LTD

Home page: <http://www.cypress.com.tw>