



CH-507TXBD & RXBD

HDMI to CAT5e/6 with LAN/IR/RS-232/
Bidirectional PoE



Operation Manual

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 2012 by Cypress Technology.

All Rights Reserved.

Version 1.0 December 2012

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
RDV1	07/12/12	Preliminary Released



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. IR Cable Pin Assignment.....	5
6.4. D-Sub 9 Pin Definitions	5
7. Connection Diagram	6
8. Specifications	7
9. Acronyms	8





1. INTRODUCTION

The HDMI with RS-232 over Single CAT5e/6 transmitter and receiver set can send uncompressed audio/video over a single run of CAT5e/6 cable up to 100m with PoE feature and the added benefit of control through the built-in RS-232 and IR ports and a bi-directional LAN connection.

2. APPLICATIONS

- Household entertainment sharing and control
- Lecture room display and control
- Showroom display and control
- Meeting room presentation and control
- Classroom display and control

3. PACKAGE CONTENTS

- 1×HDMI to CAT5e/6 (with LAN/IR/RS-232/Bidirectional PoE) Transmitter
- 1×CAT5e/6 to HDMI (with LAN/IR/RS-232/Bidirectional PoE) Receiver
- 1×IR Blaster
- 1×IR Receiver
- 1×24V/1.25A DC Power Adaptor
- Operation Manual

4. SYSTEM REQUIREMENTS

Input HDMI source equipment such as DVD/Blu-ray player and HDMI equipped output display (TV or monitor).

5. FEATURES

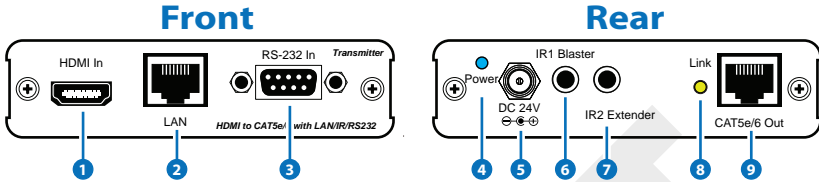
- HDMI 1.4 with 3D, 4k×2k support, HDCP & DVI Compliant
- Supports CEC bypass
- Simultaneous transmission of uncompressed data over a single 100m/328ft CAT5e/6 cable
- Uncompressed video 1080p, 60Hz, 36-bit
- Audio support up to 7.1CH & Dolby TrueHD, DTS-HD
- 5Play™ convergence: HDMI, LAN, Bidirectional PoE & Control (IR & RS-232)
- Installation Friendly

Note:

1. *This system was tested with CAT6/23AWG cables, results may vary with cables of a different specification.*
2. *The PoE function is designed for powering compatible receiver units only—non-PoE receivers will need their own power supply. Receivers of another brand may not be compatible.*

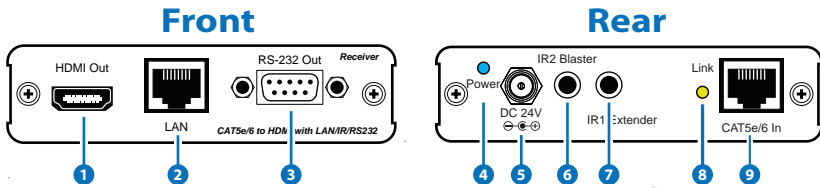
6. OPERATION CONTROLS AND FUNCTIONS

6.1 Transmitter Front and Rear Panels



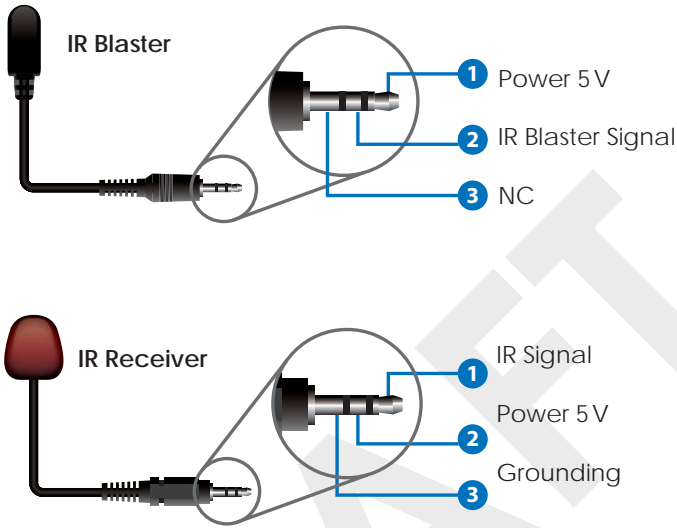
- 1 HDMI In:** Connect to HDMI source equipment such as a DVD or Blu-ray player.
- 2 LAN:** Connect to an internet or network connection.
- 3 RS-232 In:** Connect to a PC or laptop with D-Sub 9 pin male cable for the transmission of RS-232 commands.
- 4 Power LED:** This blue LED will illuminate when the device is connected to a power supply.
- 5 DC 24V:** Plug the 24 V DC power supply into the unit and connect the adaptor to an AC outlet. Only one side of power needs to be connected to activate both transmitter and receiver.
- 6 IR 1 Blaster:** Connect to the supplied IR blaster cable for IR signal transmission. Place the IR blaster in direct line-of-sight of the equipment to be controlled.
- 7 IR 2 Extender:** Connect to the supplied IR receiver cables for IR signal reception. Ensure that remote being used is within the direct line-of-sight of the IR extender.
- 8 Link LED:** The yellow LED will illuminate when both the input and output signals are connected.
- 9 CAT5e/6 Out:** Connect to the receiver unit with a Single CAT5e/6 cable for transmission of all data signals.

6.2 Receiver Front and Rear Panels



- 1 **HDMI Out:** Connect to a HDMI equipped TV/monitor for display of the HDMI input source signal.
- 2 **LAN:** Connect to a PC or Laptop to the Internet or network connection.
- 3 **RS-232 Out:** Connect to the device that is to be controlled (via D-Sub 9 pin female cable) by RS-232 commands.
- 4 **Power LED:** This blue LED will illuminate when the device is connected to a power supply.
- 5 **DC 24V:** Plug the 24 V DC power supply into the unit and connect the adaptor to an AC outlet. Only one side of power needs to be connected to activate both transmitter and receiver.
- 6 **IR 2 Blaster:** Connect to the supplied IR blaster cable for IR signal transmission. Place the IR blaster in direct line of sight of the equipment to be controlled.
- 7 **IR 1 Extender:** Connect to the supplied IR receiver cables for IR signal reception. Ensure that remote being used is within the direct line-of-sight of the IR extender.
- 8 **Link LED:** The yellow LED will illuminate when both the input and output signals are connected.
- 9 **CAT5e/6 In:** Connect to the transmitter unit with a Single CAT5e/6 cable for transmission of all data signals.

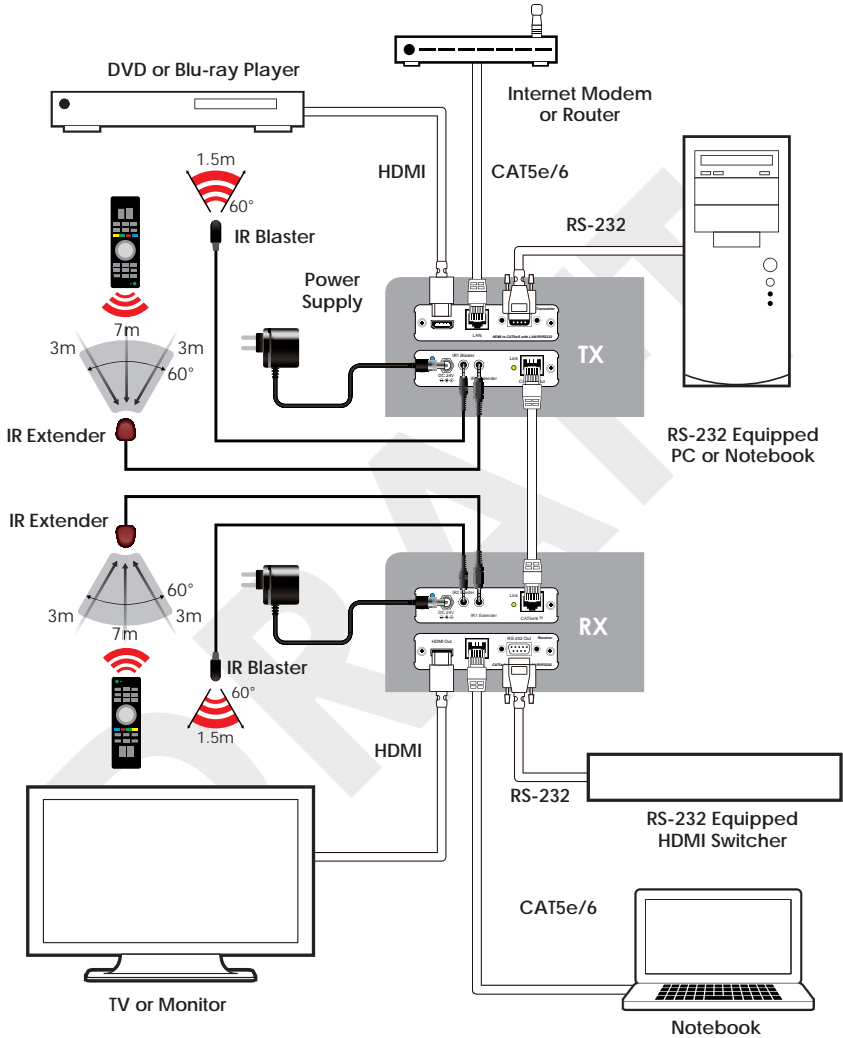
6.3. IR Cable Pin Assignment



6.4. D-Sub 9 Pin Definitions

Pin	Define TX / RX
1	N/C
2	TxD / RxD
3	RxD / TxD
4	N/C
5	GND
6	N/C
7	N/C
8	N/C
9	N/C

7. CONNECTION DIAGRAM



Note: Only one side of power needs to be connected to activate both transmitter and receiver.



8. SPECIFICATIONS

Video Bandwidth	300MHz / 9Gbps
Ethernet Speed	100 Mbps
Transmitter	
Input	1×HDMI, 1×IR Extender, 1×RS-232, 1×LAN
Output	1×CAT5e/6, 1×IR Blaster
Receiver	
Input	1×CAT5e/6, 1×IR Extender
Output	1×HDMI, 1×RS-232, 1× IR Blaster, 1× LAN
HDMI In/Out Cable Distance	Up to 10 Meters
CAT6 In/Out Cable Distance	Up to 100 Meters
HDMI In/Out Supports Resolution	480i~1080p@50/60, 1080p@24, VGA~WUXGA
IR Frequency	30~50kHz
ESD Protection	Human Body Model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Power Supply	24V/1.25A DC (US/EU Standards, CE/FCC/UL certified)
Dimensions	102 mm (W)×113 mm (D)×25 mm (H)/each
Weight	252g (TX), 256g (RX)
Chassis Material	Aluminum
Silkscreen Color	Silver
Power Consumption	13W
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)

9. ACRONYMS

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

DRAFT

DRAFT



CYPRESS TECHNOLOGY CO., LTD
Home page: <http://www.cypress.com.tw>