



CHDBT-1H3CL

1×4 HDMI over HDMI and CAT5e/6/7 Splitter



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 2011 by Cypress Technology.

All Rights Reserved.

Version 1.0 September 2011

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	27/02/13	Preliminary Release
RDV2	13/06/13	Package Contents
RDV3	17/06/13	Dimension
RDV4	20/06/13	Add IR Cable Pin Define
RDV5	01/07/13	IR Power
VS1	23/12/13	Updated Text & Diagrams



CONTENTS

1. Introduction	1
2. Applications	1
3. Package Contents	1
4. System Requirements	1
5. Features	2
6.1 Front Panel.....	3
6.2 Rear Panel	4
6.3 IR Cable Pin Assignment	5
7. Connection Diagram	6
8. Specifications	7
8.1 Technical Specifications	7
8.2 CAT5e/6/7 Cable Specification	8
9. Acronyms	8





1. INTRODUCTION

The HDMI over HDMI and CAT5e/6/7 Splitter can split and distribute a single HDMI input and 2-way IR control to up to three CAT5e/6/7 outputs and includes a simultaneous HDMI bypass output. It supports resolutions up to 1080p Full HD, 4K×2K timing, 3D and multi-channel digital audio formats (such as LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD). The HDMI bypass output can be connected to an HDMI display or cascaded to another splitter. The three CAT5e/6/7 outputs can be connected to CAT5e/6/7 to HDMI receivers to extend the operating distance up to 60 meters.

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

- 1×4 HDMI over HDMI and CAT5e/6/7
- 1×IR Receiver
- 1×IR Blaster
- 24V DC Power Adaptor
- Power Cord
- Operation Manual

4. SYSTEM REQUIREMENTS

- HDMI equipped source devices, connect with HDMI cables
- HDMI equipped displays (TVs or monitors) or HDMI equipped AV receivers, connect with HDMI cables
- Certified CAT5e/6/7 cables
- HDBase™ Lite Receivers (e.g. CH-506RXL or CH-514RXL)

5. FEATURES

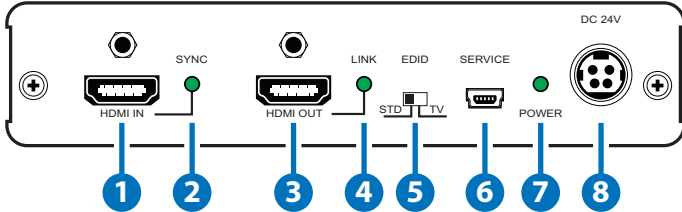
- HDMI with 4K×2K resolution and 3D support, HDCP and DVI compliant
- Simultaneous HDMI and CAT5e/6/7 outputs
- Supports data rate from 300Mbps up to 3Gbps
- Supports a wide range of PC resolutions from VGA to WUXGA (RB) and HDTV resolutions up to 4K×2K (3840×2160@30 Hz and 4096×2160@24 Hz)
- Supports transmission of High Definition audio: LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio (32 kHz~192 kHz sample rate)
- Supports distances up to 60 meters over CAT5e/6/7 cables
- Supports selection of Standard or TV EDID settings
- Supports control of devices via 2-way IR
- 3D signal display is dependent on the TV/Display's EDID settings

Note:

1. *This system was tested with CAT6/23AWG cables, results may vary with cables of a different specification.*
2. *For playback of 4K×2K HDMI source signals, a 4K×2K capable display and High Speed HDMI cables are required.*

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



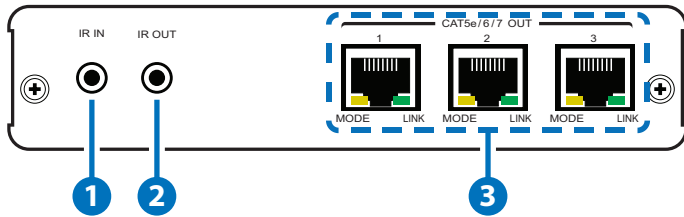
- 1 HDMI IN:** Connect to HDMI equipped source equipment such as a DVD/Blu-ray player or games console.
- 2 SYNC LED:** This LED will illuminate when the HDMI input is connected to a HDMI source and receiving a signal.
- 3 HDMI OUT:** Connect to a HDMI display for local monitoring of the HDMI signal or cascade to another Splitter.
- 4 HDMI LINK LED:** This LED will illuminate when HDMI output is connected to TV or display monitor and receiving a signal.
- 5 EDID STD/TV:** The default setting is TV, when in this mode, the unit will detect the EDID settings of the display device connected to the CAT 5e/6/7 Output 1. If it detects a 4K×2K capable EDID setting it will transmit the signal in that format to the output port. If no 4K×2K capable EDID is detected then the unit will detect the EDID settings and send out the signal that all outputs can accept.

This device has a last memory function and will retain the EDID settings of the last device connected via the CAT5e/6/7 output port when it is not connected to a display after power cycling.

Switch to the STD setting to use the unit's built-in EDID if there are display problems. In this mode, the video output will be set to 1080p@60Hz and the audio at LPCM 2CH Stereo.

- 6 SERVICE:** Reserved for manufacture use only.
- 7 POWER LED:** The LED will illuminate when connected to an active power supply.
- 8 DC 24V:** Connect the 24V DC power supply to the unit and plug the adaptor into an AC outlet.

6.2 Rear Panel

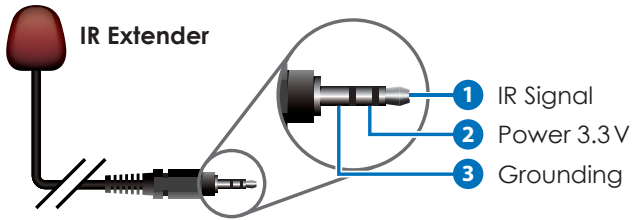
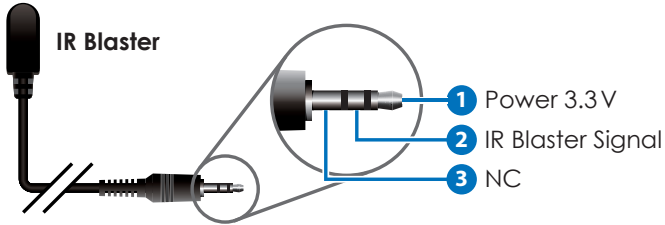


- ❶ **IR IN:** Connect the supplied IR Receiver cable for IR signal reception. Ensure that remote being used is within the direct line-of-sight of the IR Extender.
- ❷ **IR OUT:** Connect the supplied IR Blaster cable for IR signal transmission. Place the IR Blaster in direct line-of-sight of the equipment to be controlled.
- ❸ **CAT5e/6/7 OUT 1~3:** Connect to CAT5e/6/7 to HDMI Receivers with a single CAT5e/6/7 cable each to extend the HDMI signal up to 100m.

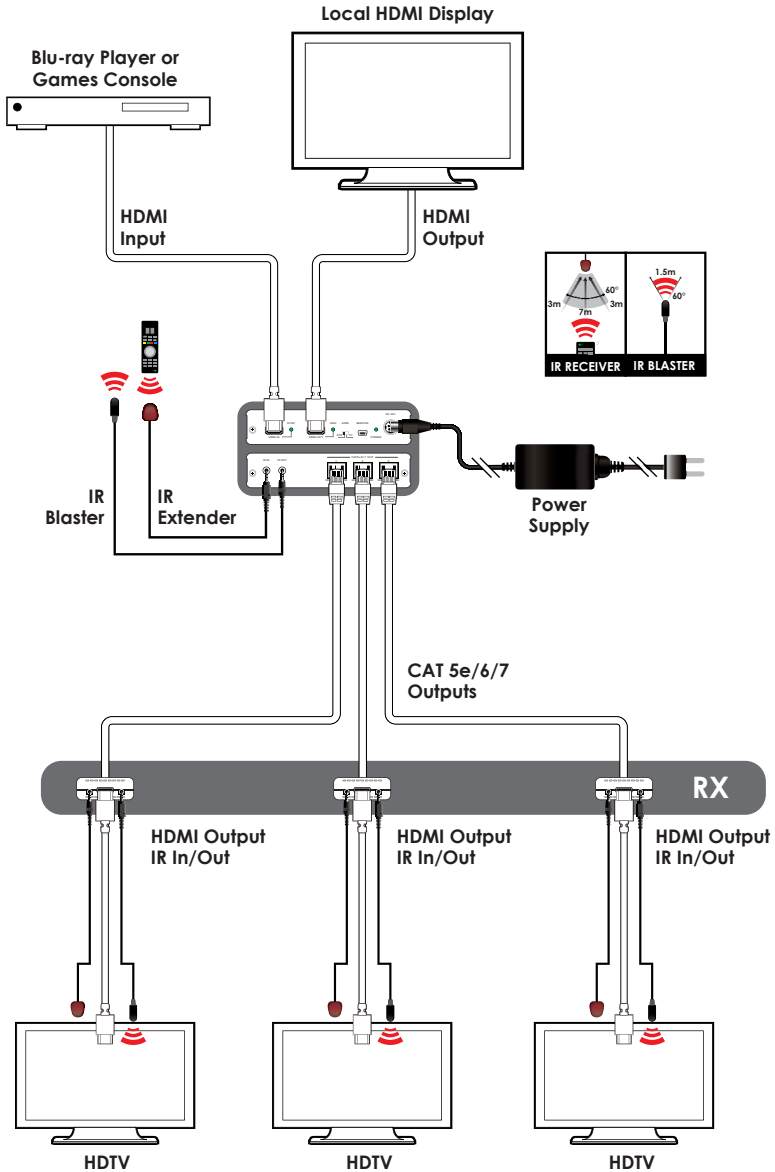
MODE LED: This LED will illuminate when the power is connected.

LINK LED: This LED will illuminate when connected to a Receiver unit that is connected with a TV/monitor that is displaying the signal.

6.3 IR Cable Pin Assignment



7. CONNECTION DIAGRAM





8. SPECIFICATIONS

8.1 Technical Specifications

Video Bandwidth	340Mbps/10.2Gbps
Input Ports	1×HDMI, 1×IR IN, 1×USB (Service only)
Output Ports	1×HDMI, 3×CAT5e/6/7, 1×IR OUT
HDMI Supported Resolutions	480i~1080p@50/60Hz, 1080p@24Hz, 4K×2K (3840×2160@30Hz/4096×2160@24/25Hz) &VGA~WUXGA (RB)
HDMI Input Cable Distance	10m (1080p@8/12-bit), 5m (4K×2K)
HDMI Output Cable Distance	15m (1080P@8-bit), 10m (1080p@12-bit), 10m (4K×2K)
IR Frequency	30~50kHz
Power Supply	24V/2.7A DC (US/EU standards, CE/FCC/UL certified)
Dimensions	145 mm(W)×199 mm(D)×30 mm(H)
Weight	584g
Chassis Material	Metal
Color	Black
ESD Protection	Human body model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Operating Temperature	0 °C ~ 40 °C
Storage Temperature	-20 °C ~ 60 °C /-4 °F ~ 140 °F
Relative Humidity	20 ~ 90 % RH (non-condensing)
Power Consumption	33W

8.2 CAT5e/6/7 Cable Specification

CABLE TYPE	RANGE	PIXEL CLOCK RATE	VIDEO DATA RATE	SUPPORTED VIDEO
CAT5e/6/7	60 m	≤225 MHz	≤5.3 Gbps (HD Video)	Up to 1080p, 60 Hz, 36 bits, 3D (data rates lower than 5.3 Gbps or below 225MHz TMDs clock)
	40 m	>225 MHz	> 5.3 Gbps (Ultra HD Video)	4Kx2K, 30Hz video formats

9. ACRONYMS

ACRONYM	COMPLETE TERM
4Kx2K	Ultra High Definition (3840×2160/4096×2160)
DTS	Digital Theater System
EDID	Extended Display Identification Data
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDTV	High-Definition Television



CYPRESS TECHNOLOGY CO., LTD

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

20130531MPM-CHDBT-1H3CL