



Total Digital Connectivity Solutions

User Manual

***HDMI CAT-X Extender over single cable
UBHD***



HDMI™
HIGH DEFINITION MULTIMEDIA INTERFACE

Cautions:

1. Digital Extender® logo is our own trademark of RTcom USA.,Inc.
2. HDMI is a trademark of hdmi.org
3. Any of the products may be changed without any notice in order to improve the function of the product.
4. The design and specification of the product may be changed without any prior notice.

Unpacking

Each HDMI CAT-X Extender over single cable package includes the following items;

- UBHD TX/RX Unit
- 12V Power Adapter: 2 pcs
- User manual

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Description, General Specification

- Send HDMI signal to long distance using one CAT 5e/6 UTP cable (Unshielded Twisted Pair)
- Owing to its compact size and low power design UBHD connects monitors, HDTV, and projectors at the lowest price
- With existing UTP cable UBHD can easily be used at company, house, and factories. You do not have to install a new cable.

ITEM	DESCRIPTION
Model Name	UBHD
Input Signal	HDMI
Output Signal	HDMI
Resolution	50m (165ft) at 1920*1080p 60m (200ft) at 1280*720p
Receptacle	DC Power Jack HDMI 19 Pin Female RJ-45
HDCP/DDC Support	Compliant/Save EEPROM
Power Consumption	12V Power Adapter(Included) Max 10 W
Dimension	131x106x30 mm
Weight	0.40Kg

1-2 Description , General Specification

Environmental and Reliability Specifications

Recommended environmental conditions for the operation are temperature range of 10°C~40°C, non-condensing humidity levels of 10%-80%, and altitude ceiling of 3,000 meters (9,840 feet).

Environmental limits for transportation are temperature range of -25°C~60°C, non-condensing humidity levels of 5%~95%, and altitude ceiling of 15,000 meters (49,200feet)

Environmental limits for storage are established at temperature range of -20°C~45°C, non-condensing humidity levels of 5%~95%, and altitude ceiling of 3,000 meters (9,840 feet)

The HDMI CAT-X extender is expected to function for more than 50,000 hours of use at a 90% confidence level. The device is tested according to the identical standards for testing LCD monitors.

Main Features

High Quality Picture - No Signal Loss and Digital Noise Free

Our UBHD is built to deliver the highest quality picture preserving the native resolutions of the video sources without any signal loss. At the same time, the digital noises that may affect the picture quality will be eliminated. Due to the nature of the digital signals and passing through multiple stack of connection, it is important to eliminate the digital noises and boost the signal strength to preserve/enhance the video signal quality.

Signal Amplification for signal reliability and long length signal transmission.

UBHD gets internal or external DC 12V power to run an internal chipset, which was designed to transmit high quality visual signal to long distance. It has a specialized chipset on input and out port for long distance application, allowing HDMI cable up to 15m.

Compact and Practical Design

- The UBHD is designed compactly and practically allowing customers more ease and convenience

HDCP (High-bandwidth Digital Content Protection)

- UBHD fully supports HDCP
- Currently every digital visual product sends high resolution signal with HDCP signal. You cannot see the picture if the product is not compatible with HDCP.

Compliance to HDMI Ver 1.3a

- UBHD fully supports the latest HDMI Ver 1.3a

Video Connection

- Step 1: Ensure the digital video/audio source and display is turned off
- Step 2: Connect the digital HDMI cable and UTP cable to UBHD module
- Step 3: Connect power adapter to the transmitter (TX/RX) module of UBHD
- Step 4: Connect power code to the power adapter and plug in to power outlet
- Step 5: Power up the display
- Step 6: Power up the source

EDID data saving

- Step 1: Connect HDMI Input port on UBHD **TX** unit to display such monitor or HDTV
- Step 2: Push EDID S/W for 3~4 seconds
- Step 3: EDID LED is illuminated for about 2 second if EDID was saved correctly

- If EDID was not saved correctly, EDID LED blinks 6 times. The default EDID when it is shipped is full HD 1920x1080p.
- EDID saving is to display the best resolution between the video source and the display
- For the high resolution above 1080p or UXGA, CAT 6E 550MHz by Liberty Wire & Cable is recommended

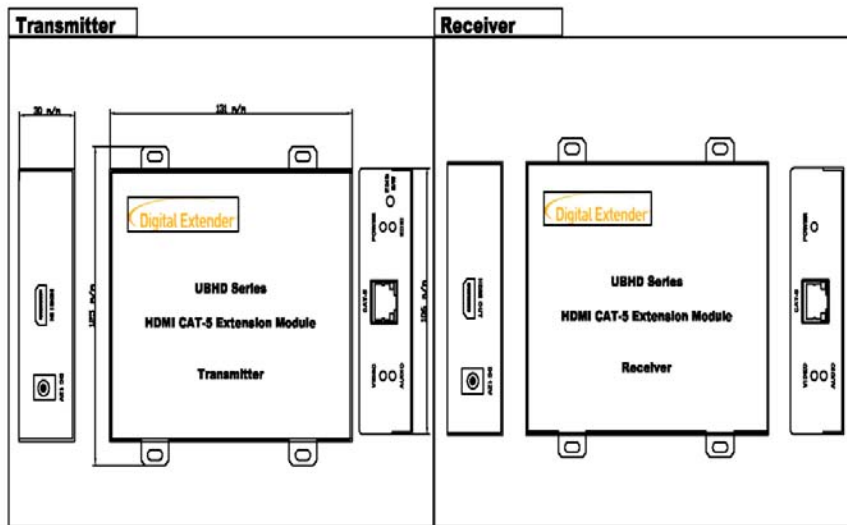
Connection of UTP cable



1-5 Video Connection

Mechanical Specification

Dimension: 131x106x30 mm



Functioning part

HDMI In: HDMI Input port
HDMI Out: HDMI Output port
CAT-X: UTP cable connection port
DC-12V: power input port

Display part

POWER LED: display Power on/off
EDID LED: display the status of EDID appropriate operation
EDID S/W: EDID operation switch
Video LED: display the status of HDMI video transmission
Audio LED: display the status of HDMI audio transmission

1-6 Mechanical Specification

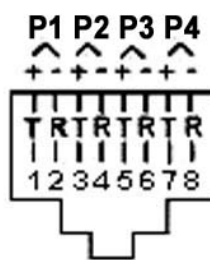
Technical Specification

Data transmission speed: 2.25 Gbps (Single Link)
Digital Video Bandwidth: 25~165 Mhz
Resolution: Up to 1920*1080p
HDMI Version 1.3 Compliance with deep color
Input/output signal standard: HDMI
Maximum length: 1920*1080p -> 50m (165ft)
Compatible UTP cable: CAT-5/5e/6
Input connector type: HDMI Female 19P / RJ-45
Output connector type: HDMI Female 19P / RJ-45
Power consumption: Maximum 10 watt
Power supply: DC 12V, 3A

CAT - TX/RX UTP Cable connections

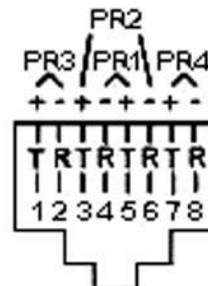
TX(A): 1-----> RX: 1
TX(A): 2-----> RX: 2
TX(B): 3 -----> RX: 3
TX(B): 4 -----> RX: 4
TX(C): 5 -----> RX: 5
TX(C): 6 -----> RX: 6
TX(D): 7-----> RX: 7
TX(D): 8-----> RX: 8

Cat 5e/6 Cable Termination



DDCAT/HDCAT-X

Correct



T568A

Incorrect

Warranty Information

1 (One) Year Warranty

RTcomUSA warrants this HDMI CAT-X Extender over single cable to be free from defects in workmanship and materials, under normal use and service, for a period of one (1) year from the date of purchase from RTcomUSA or its authorized resellers.

If a product does not work as warranted during the applicable warranty period, RTcomUSA shall, at its option and expense, repair the defective product or part, deliver to customer an equivalent product or part to replace the defective item, or refund to customer the purchase price paid for the defective product.

All products that are replaced will become the property of RTcomUSA.
Replacement products may be new or reconditioned.

Any replaced or repaired product or part has a ninety (90) day warranty or the remainder of the initial warranty period, whichever is longer.

RTcomUSA shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to RTcomUSA for repair under warranty or not.

Warranty Limitation and Exclusion

RTcomUSA shall have no further obligation under the foregoing limited warranty if the product has been damaged due to abuse, misuse, neglect, accident, unusual physical or electrical stress, unauthorized modifications, tampering, alterations, or service other than by RTcomUSA or its authorized agents, causes other than from ordinary use or failure to properly use the product in the application for which said product is intended.

Troubleshooting

The HDMI CAT-X Extender over single cable is designed for years of trouble free service, please reference the troubleshooting chart below if experiencing issues with the device.

Problem	Solution
No picture(or signal)	<ol style="list-style-type: none">1. Ensure the power LED is illuminated.2. Check if TX or RX module is properly connected to sources or displays.3. Check if UTP cable is properly connected.4. Reboot source device after the connection of UTP cables.5. Check CAT 5e/6 cable is properly terminated for RGB signals, Refer to the Technical specs.
Poor picture or noise	<ol style="list-style-type: none">1. Restart the system2. Turn off DC power adapter, disconnect UTP cable, reconnect the cables and power on.3. Check electric ground level of power for HDMI Devices4. Make sure that saved EDID is same as that of display
No Sound	<ol style="list-style-type: none">1. Check if the input / output audio is digital2. Ensure the power LED is illuminated.

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