DIGITUS®

HDMI HDBaseT™ 3.0 Extender Set, 100 m

Manual

DS-55523

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Thank you for purchasing this product

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes , surges , electric shock , lighting strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment

1. Introduction

The DIGITUS® HDMI HDBaseT™ 3.0 Extender Set enables uncompressed AV signal transmission in 4K/60Hz, 4:4:4 at 18 GB/s over a distance of 100 m via CAT 6A (or higher) cables. Both on the transmitter and on the receiver, there are two USB-A "Device" ports as well as a USB-B "Host" connection. This allows USB signals, e.g. for KVM, USB data carriers etc., to be integrated on both ends and connected to the processing PC on the respective opposite end. Both devices can be switched between "Host" and "Device" mode using a DIP switch. The system enables bidirectional transmission of PoC (Power over Cable) and IR. Via RS232, both devices can be controlled separately. Analog stereo audio decoupling is also available. Another impressive feature is versatile eARC/ARC compatibility, which enables the connection to new and older audio devices such as AVRs (Audio Video Receiver). Two modes (ARC, S/PDIF) are available here, which can also be toggled very easily using a changeover switch.

2. Main Features

1. HDBaseT™ 3.0 technology
2. HDMI 2.0b, HDCP 2.2
3. Uncompressed signal transmission in 4K/60Hz, 4:4:4 at 18 GB/s
4. Transmission distance of up to 100 m via CAT 6A (or higher) cables
5. 2x USB-A 2.0 connection on each unit for KVM function (keyboard, mouse, webcam), connection of USB data storage media, etc.
6. eARC/ARC function
7. PoC (Power over Cable) – Only the unit requires an external power adapter
8. R232 signal transmission
9. 1x RJ45 (Gigabit Ethernet) network connection on each unit
10. 1x HDMI loop-out to the transmitter unit

3. Package Contents

- 1x Transmitter unit
- 1x Receiver unit
- 1x IR transmission cable (1.5 m)
- 1x IR receiver cable (1.5 m)
- 1x Power adapter (DC 24V/1A, 1.5 m)
- 2x 3-pin Phoenix connector
- 1x Mounting accessories
- 1x User manual

4. Product Specification

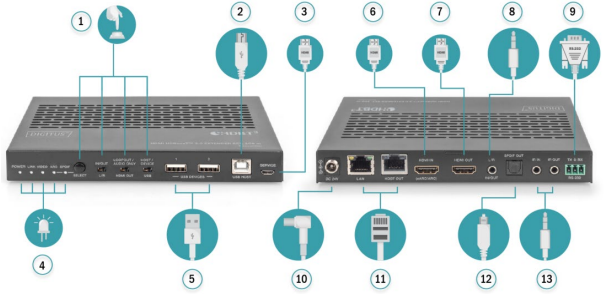
1. HDBaseT™ 3.0 technology
2. Supports eARC/ARC function (the sound is returned to the HDMI IN connection, HDMI OUT connection (only audio) and SPDIF OUT connection of the transmitter)
3. Bi-directional IR transmission
4. Bi-directional PoC (Power over Cable) transmission (24V) – Only the unit requires an external power adapter
5. Transmitter unit connections:
   - 1x HDMI input (4K/60Hz) with eARC/ARC – Connection for signal source, 1x HDMI output (loop out) – AV output for local TV or only audio output
   - 2x USB-A 2.0 for KVM function (keyboard, mouse, webcam), connection of USB data storage media, etc.
   - 1x USB-B input – Connection host PC for use of KVM functionality
   - 1x RJ45 output (HDBaseT™ 3.0) – Connection CAT transmission cable
   - 1x RJ45 (Gigabit Ethernet) network connection
   - 1x RS232 (3-pin Phoenix) for RS232 command transmission
   - 1x Toslink™ (S/PDIF) output
   - 1x 3.5 mm audio (L/R, input/output)
   - 1x IR input, 1x IR output
   - 1x Power adapter input (DC 24V/1A), screw connector – Connection for external power adapter
   - 1x Micro USB input – Service/remote maintenance update
   - 3x Changeover switch, 1x selection key
   - 5x Status LED
6. Receiver unit connections:
   - 1x HDMI output (eARC, ARC) – AV output for local TV with eARC, ARC

- 1x RJ45 input (HDBaseT™ 3.0) – Connection CAT transmission cable
- 2x USB-A 2.0 for KVM function (keyboard, mouse, webcam), connection of USB data storage media, etc.
- 1x USB-B input – Connection host PC for use of KVM functionality
- 1x RJ45 (Gigabit Ethernet) network connection
- 1x RS232 (3-pin Phoenix) for RS232 command transmission
- 1x Toslink™ (SPDIF) input
- 1x 3.5 mm audio (L/R, output)
- 1x IR input, 1x IR output
- 1x Micro USB input – Service/remote maintenance update
- 1x Power adapter input (DC 24V/1A), screw connector – Connection for external power adapter
- 1x Changeover switch, 1x Selection key
- 5x Status LED

7. ESD protection
8. Suitable for wall mounting
9. Operating temperature: 0-40°C
10. Housing: Metal
11. Dimensions (1 unit): L 17 x W 10.2 x H 2.2 cm
12. Weight: Transmitter 425 g, receiver 437 g
13. Color: Black

5. Product Overview

5.1 Transmitter Unit

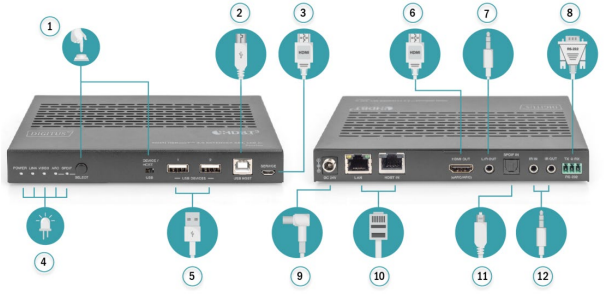


No	Name	Description
1	SELECT button	Used for switching the ARC mode and SPDIF mode
	L/R IN/OUT switch	Switch to left, the L/R IN/OUT port is the audio embedding port. Switch to right, the L/R IN/OUT port is the audio de-embedding port.
	LOOP OUT /AUDIO ONLY switch	Switch to left (LOOP OUT), the HDMI OUT port is the loopout port for the HDMI IN port Switch to right (AUDIO ONLY), the HDMI OUT port outputs 720P black screen image, and the audio is from ARC or SPDIF
	HOST/DEVICE USB switch	Switch to left(HOST), the USB HOST mode is enabled Switch to right(DEVICE), the USB DEVICE mode is enabled

2	USB 2.0 Type B	USB extension host port connected to PC
3	SERVICE	Firmware update port
4	Status indicator	Power LED, LINK LED, VIDEO LED, ARC LED, SPDIF LED
5	USB 2.0 Type A	Two USB device ports, connected to U disk, mouse or keyboard
6	HDMI IN	HDMI signal input port, connected to signal source device ,supporting EARC/ARC amplifier
7	HDMI OUT	HDMI signal loopout port It can choose to be a LOOP OUT or AUDIO ONLY port through the LOOP OUT/AUDIO ONLY switch
8	L/R IN/OUT	Audio embedding/de-embedding port. It can be used for audio embedding/ de-embedding through the L/R IN/OUT switch
9	RS-232	RS-232 serial port, used for serial port command transmission
10	Power supply	DC 24V/1A power supply input port. *Note that the extender supports POC function, it means that either transmitter or receiver is powered on by 24V/1A power adapter, the other one doesn't need power supply*
11	LAN	1G Network port
	HDBT OUT	10G Network port, connected to the HDBT IN port of Receiver with a CAT 6A/7 cable. It is used for various signals pass-through
12	SPDIF OUT	Optical output port

13	IR IN	IR signal input port, connected to IR Receiver cable
	IR OUT	IR signal output port, connected to IR Blaster cable

5.2 Receiver Unit



No	Name	Description
1	SELECT button	Used for switching the ARC mode and SPDIF mode
	HOST/DEVICE USB switch	Switch to left(HOST), the USB HOST mode is enabled Switch to right(DEVICE), the USB DEVICE mode is enabled
2	USB 2.0 Type B	USB extension host port connected to PC
3	SERVICE	Firmware update port
4	Status indicator	Power LED, LINK LED, VIDEO LED, ARC LED, SPDIF LED

5	USB 2.0 Type A	Two USB device ports, connected to U disk, mouse or keyboard
6	HDMI OUT	HDMI signal loopout port It can choose to be a LOOP OUT or AUDIO ONLY port through the LOOP OUT/AUDIO ONLY switch
7	L/R IN/OUT	Audio embedding/de-embedding port. It can be used for audio embedding/ de-embedding through the L/R IN/OUT switch
8	RS-232	RS-232 serial port, used for serial port command transmission
9	Power supply	DC 24V/1A power supply input port. *Note that the extender supports POC function, it means that either transmitter or receiver is powered on by 24V/1A power adapter, the other one doesn't need power supply*
10	LAN	1G Network port
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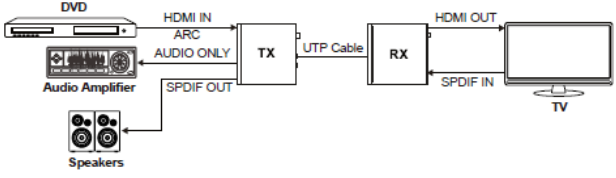
11	SPDIF OUT	Optical output port
12	IR IN	IR signal input port, connected to IR Receiver cable
	IR OUT	IR signal output port, connected to IR Blaster cable

6. Input & Output Switching

The Extender can switch to ARC/SPDIF mode by pressing the SELECT button on the front panel of both transmitter and receiver. The HDMI OUT port of the transmitter can turn to LOOP OUT or AUDIO ONLY through the LOOP OUT/AUDIO ONLY Switch. The input and output routing are different for different sceneries. As shown in the diagrams below:

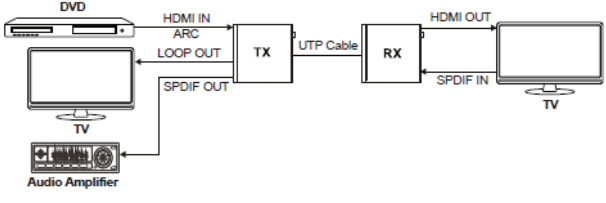
Scene 1: Set the Extender to SPDIF Mode.

Then switch the LOOP OUT/AUDIO ONLY switch to right, the HDMI OUT port of the transmitter is set to AUDIO ONLY

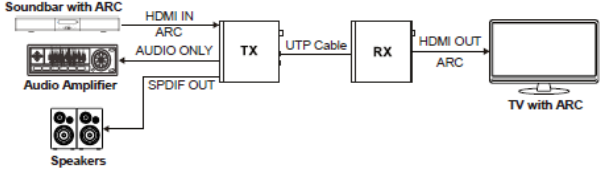


Scene 2: Set the Extender to SPDIF Mode.

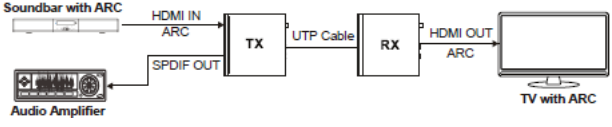
Then switch the LOOP OUT /AUDIO ONLY switch to left, the HDMI OUT port of the transmitter is set to LOOP OUT.



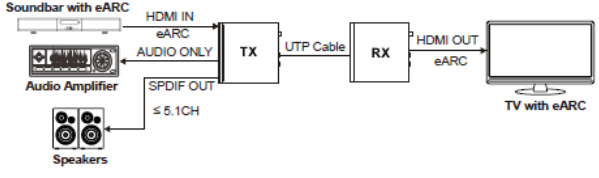
Scene 3: Set the Extender to ARC Mode.
Then switch the LOOP OUT/AUDIO ONLY switch to right, the HDMI OUT port of the transmitter is set to AUDIO ONLY



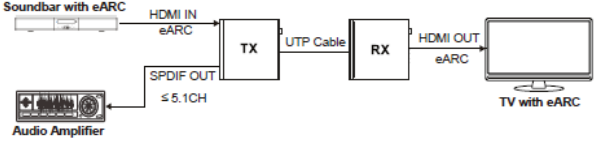
Scene 4: Set the Extender to ARC Mode.
Then switch the LOOP OUT/AUDIO ONLY switch to left, the HDMI OUT port of the transmitter is set to LOOP OUT



Scene 5: Set the Extender to eARC Mode.
Then switch the LOOP OUT/AUDIO ONLY switch to right, the HDMI OUT port of the transmitter is set to AUDIO ONLY



Scene 6: Set the Extender to eARC Mode
Then switch the LOOP OUT/AUDIO ONLY switch to left, the HDMI OUT port of the transmitter is set to LOOP OUT



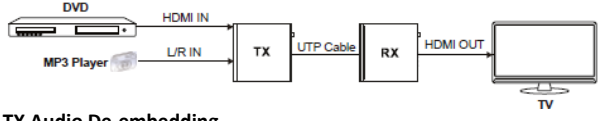
Note: In eARC mode, the SPDIF OUT port can only output the audio up to 5.1CH

6.1 Audio Embedding and De-embedding

The Transmitter supports audio embedding and de-embedding. The L/R IN/OUT port can be used for audio embedding or de-embedding through the L/R IN/OUT switch

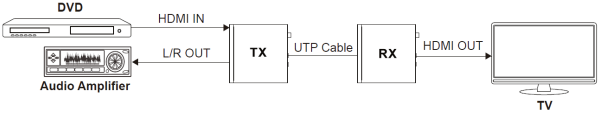
TX Audio Embedding

When the L/R IN/OUT switch is switched to left. The audio from external audio device will be embedded to the L/R IN/OUT port



TX Audio De-embedding

When the L/R IN/OUT switch is switched to right. The L/R IN/OUT port will output the audio de-embedded from the HDMI IN port

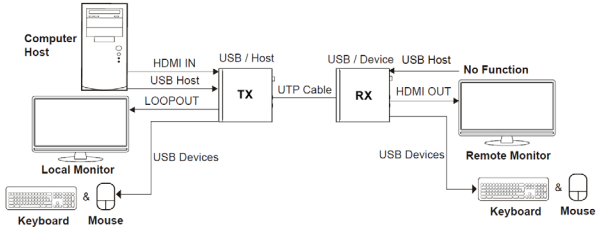


6.2 USB Mode Applications

The Extender supports USB2.0 transmission, and Host/Device is configurable

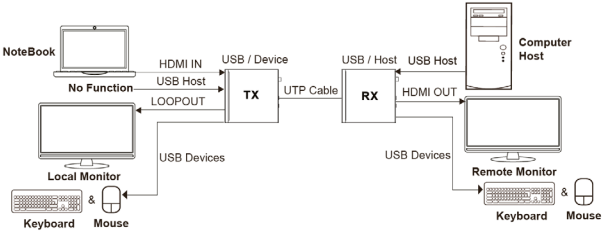
Mode1: USB forward from TX to RX

Switch the HOST/DEVICE USB switch to left, then power off and reboot the transmitter to set to USB Host mode. Meanwhile switch the DEVCE/HOST USB switch to left, then power off and reboot the receiver to set to USB Device mode



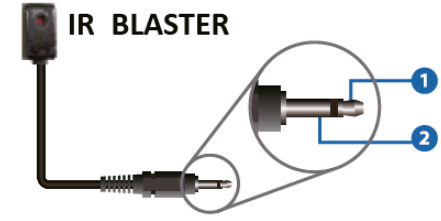
Mode 2: USB reverse from RX to TX

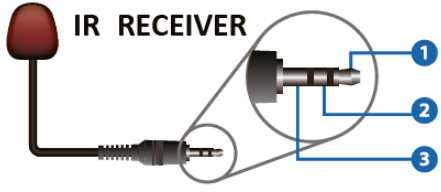
Switch the HOST/DEVICE USB switch to right, then power off and reboot the transmitter to set to USB Device mode. Meanwhile switch the DEVCE/HOST USB switch to right, then power off and reboot the receiver to set to USB Host mode



6.3 IR Pin Definition

IR Receiver and Blaster pins definition as below





IR Blaster	1	+
	2	–
IR Receiver	1	IR Signal
	2	Grounding
	3	Power 12V

Note: When the angle between the IR receiver and the remote control is ±45°C, the transmission distance is 0-5 meters, when the angle between the IR receiver and the remote control is ±90°C, the transmission distance is 0-8 meters.

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