



4K HDBaseT™ 1x4 HDMI Extender Splitter Set, 150 m



Manual
DS-55510

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1. Introduction

The DIGITUS® 4K HDBaseT™ HDMI Extender Splitter Set distributes the input signal on up to four output devices over a distance of up to 120 m (4K/60Hz, 4:4:4) or up to 150 m (Full HD, 1080p/60Hz) using a CAT6/7/8 cable. Supports IR and RS232 signal transmission, audio extraction (digital/analog) and EDID management. Thanks to PoC functionality, only the transmitter needs to be externally supplied with power. Using the HDMI loop-out to the transmitter unit, a local monitor can be connected in order to control the output to the receiver.

2. Main Features

- Supports HDBaseT™ 1.0 via CAT6A/7/8 cable up to 100 m
- Supports 4K2K/60Hz (4:4:4)
- Maximum transmission distance (UHD 4K2K): 120 m
- Maximum transmission distance (Full HD 1080p): 150 m
- EDID management
- HDMI loop-out to the transmitter unit
- PoC (Power over Cable) - Only the transmitter unit requires an external power adapter
- Video bandwidth: 18 Gbps
- HDCP 2.2 / 1.4
- R232 signal transmission

3. Package Contents

- 1x HDBaseT™ extender splitter (transmitter unit)
- 4x HDBaseT™ receiver
- 5x IR transmission cables (1.5 m)
- 5x IR receiver cable (1.5 m)
- 1x Power adapter (DC 24V/2.7A, 1.5 m)
- 5x 3-pin Phoenix connector
- 5x 5-pin Phoenix connector
- 10x Mounting plate
- 1x User manual

4. Specification

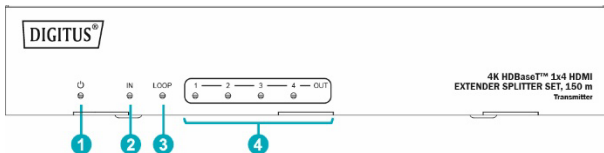
Technical	
ESD Protection	Human body model ±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Connections	
Connections/switches transmitter unit:	• 1x HDMI input (4K/60Hz) – Connection signal source • 4x RJ45 (HDBaseT™) output – Connection CAT transmission cable • 1x HDMI loop-out / output – Connection of local monitor (source device) • 1x IR input to receive remote control signals • 1x IR output for control of the source device • 1x RS232 (3-pin Phoenix) for RS232 command transmission • 1x COAX (Digital) • 1x L/R (Analog) • 1x Power adapter input (DC 24V/2.7A), screw connector – Connection for external power adapter • 1x EDID management (changeover switch) • 1x On/off switch
Receiver unit connections:	• 1x HDMI output (4K/60Hz) – Connection output device

	• 1x RJ45 input (HDBaseT™) – Connection CAT transmission cable • 1x RS232 (3-pin Phoenix) for RS232 command transmission • 1x 3.5 mm stereo audio output • 1x IR input to receive remote control signals • 1x IR output for control of the output display • 1x Power adapter input (DC 24V/1A), screw connector – Connection for external power adapter • 1x Micro USB input – Service/remote maintenance update
Mechanical	
Housing	Metal
Color	Black
Dimensions	Transmitter: 220mm (W) × 130mm (D) × 40mm (H) Receiver: 140mm (W) × 65mm (D) × 18mm (H)
Weight	Transmitter: 853g Receiver: 246g
Power Consumption	approx. 35 W
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Supports	Suitable for wall mounting

5. Operating Controls and Functions

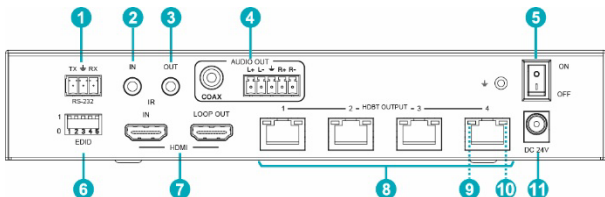
5.1. Transmitter

Front Panel



No.	Name	Function description
1	Power LED	When the device is powered on, the red power LED will be on.
2	IN LED	When the HDMI IN port connects an active source device, the green LED will be on.
3	LOOP LED	When the HDMI LOOP OUT port connects an active display device, the green LED will be on.
4	OUT (1~4) LED	When the HDBT OUTPUT port connects an HDBaseT Receiver, the corresponding green OUT LED will be on

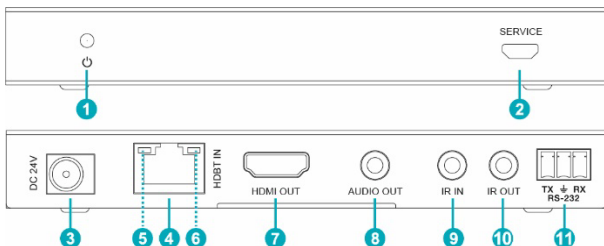
Rear Panel



No.	Name	Function description
1	RS-232	Connect to a PC or control system via a 3-pin phoenix connector cable for three functions: 1. Firmware update; 2. Control the Splitter via RS-232 commands; 3. RS-232 signal pass-through (from transmitter to receiver or from receiver to transmitter)
2	IR IN	Connect to IR receiver cable, the IR receive signal will emit to “IR OUT” port of the HDBaseT Receiver
3	IR OUT	Connect to IR blaster cable, the IR emit signal is from “IR IN” port of the HDBaseT Receiver
4	AUDIO OUT (COAX, L/R)	Coaxial/balanced audio output port, connect to amplifier or speaker
5	POWER switch	Press this switch to power on/off the device
6	EDID DIP switch	Used to set EDID mode. Please refer to Section “6. EDID Mode” for details

7	HDMI port	IN: HDMI input port, connect to HDMI source device such as DVD or set-top box with an HDMI cable
		LOOP OUT: HDMI loop output port, connect to the HDMI display device such as TV or Monitor with an HDMI cable
8	HDBT OUTPUT port (1~4)	Connect to the HDBT IN port of the HDBaseT receiver with a CAT cable
9	Connection Signal Indicator lamp (Green)	• Illuminating: Transmitter and Receiver are in good connection status • Flashing: Transmitter and Receiver are in poor connection status • Dark: Transmitter and Receiver are not connected
10	Data Signal Indicator lamp (Orange)	• Illuminating: HDMI signal with HDCP • Flashing: HDMI signal without HDCP • Dark: No HDMI signal
11	DC 24V	Plug the DC 24V power supply into the unit and connect the adaptor to an AC outlet (Note: The transmitter can power the receiver via a CAT cable)

5.2. HDBaseT Receiver

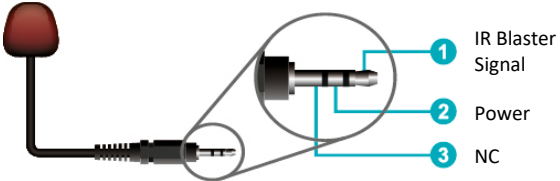
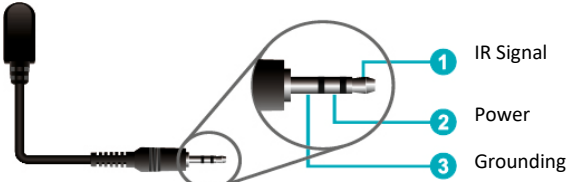


No.	Name	Function description
1	Power Indicator	When the receiver is powered on, the power indicator will be on
2	SERVICE port	Used for firmware update
3	DC 24V	Plug DC 24V/1A power supply into the unit and connect the adapter to an AC outlet. (Note: The HDBaseT receiver also can be powered by the transmitter via a CAT cable)
4	HDBT IN	Connect to the HDBT OUTPUT port on the transmitter with a CAT cable
5	Connection Signal Indicator lamp (Green)	• Illuminating: Transmitter and Receiver are in good connection status • Flashing: Transmitter and Receiver are in poor connection status • Dark: Transmitter and Receiver are not connected
6	Data Signal Indicator lamp	• Illuminating: HDMI signal with HDCP • Flashing: HDMI signal without HDCP

	(Orange)	• Dark: No HDMI signal
7	HDMI OUT	HDMI output port, connect to HDMI display device such as TV or Projector with an HDMI cable
8	AUDIO OUT	Audio output port, connect to amplifier or speaker
9	IR IN	Connect to the IR Receiver cable. The IR signal will send to the IR OUT port of the transmitter
10	IR OUT	Connect to the IR blaster cable, the IR signal is from IR IN port of the transmitter
11	RS-232	3-pin Phoenix connector for RS-232 command transmission. The RS-232 command will pass-through from transmitter to receiver or from receiver to transmitter

5.3. IR Pin Definition

IR Receiver and Blaster pin's definition is as below:

	
IR RECEIVER	IR BLASTER
IR Blaster 	
IR Receiver 	

Note:

When the angle between the IR receiver and the remote control is $\pm 45^\circ$, the transmission distance is 0-5 meters; when the angle between the IR receiver and the remote control is $\pm 90^\circ$, the transmission distance is 0-8 meters.

6. EDID Mode

The defined EDID setting list of the product is shown as below:

EDID Mode	EDID Description
11111	1080P, Stereo Audio 2.0
11110	1080P, Dolby/DTS 5.1
11101	1080P, HD Audio 7.1
11100	1080I, Stereo Audio 2.0
11011	1080I, Dolby/DTS 5.1
11010	1080I, HD Audio 7.1
11001	1080P 3D, Stereo Audio 2.0
11000	1080P 3D, Dolby/DTS 5.1
10111	1080P 3D, HD Audio 7.1
10110	4K2K30Hz_444, Stereo Audio 2.0
10101	4K2K30Hz_444, Dolby/DTS 5.1
10100	4K2K30Hz_444, HD Audio 7.1
10011	4K2K60Hz_420, Stereo Audio 2.0
10010	4K2K60Hz_420, Dolby/DTS 5.1
10001	4K2K60Hz_420, HD Audio 7.1
10000	4K2K60Hz_444, Stereo Audio 2.0
01111	4K2K60Hz_444, Dolby/DTS 5.1
01110	4K2K60Hz_444, HD Audio 7.1
01101	4K2K60Hz_444, Stereo Audio 2.0 HDR
01100	4K2K60Hz_444, Dolby/DTS 5.1 HDR
01011	4K2K60Hz_444, HD Audio 7.1HDR
01010	COPY_FROM_LOOP OUT
01001	COPY_FROM_HDBT OUT1
01000	COPY_FROM_HDBT OUT2
00111	COPY_FROM_HDBT OUT3
00110	COPY_FROM_HDBT OUT4
00101	1080P, Stereo Audio 2.0

00100	1080P, Stereo Audio 2.0
00011	1080P, Stereo Audio 2.0
00010	1080P, Stereo Audio 2.0
00001	1080P, Stereo Audio 2.0
00000	PC control mode

7. ASCII Commands

The product also supports ASCII command control. Connect the RS-232 port of the product to a PC with a 3-pin phoenix connector cable. Then, open a Serial Command tool on PC to send ASCII commands to control the product. The ASCII command list about the product is shown as below.

ASCII Commands				
Serial port protocol.				
Baud rate: 115200, Data bits: 8bit, Stop bits:1, Check bit: 0				
x - Parameter 1				
y - Parameter 2				
! - Delimiter				
Command Code	Function Description	Example	Feedback	Default Setting
s power z!	Power on/off the device, z=0~1 (z=0 power off, z=1 power on)	s power 1!	Power on System Initializing... Initialization Finished! FW version x.xx.xx	power on
r power!	Get current power state	r power!	power on/power off	
s reboot!	Reboot the device	s reboot!	Reboot... System Initializing... Initialization Finished! FW version x.xx.xx	

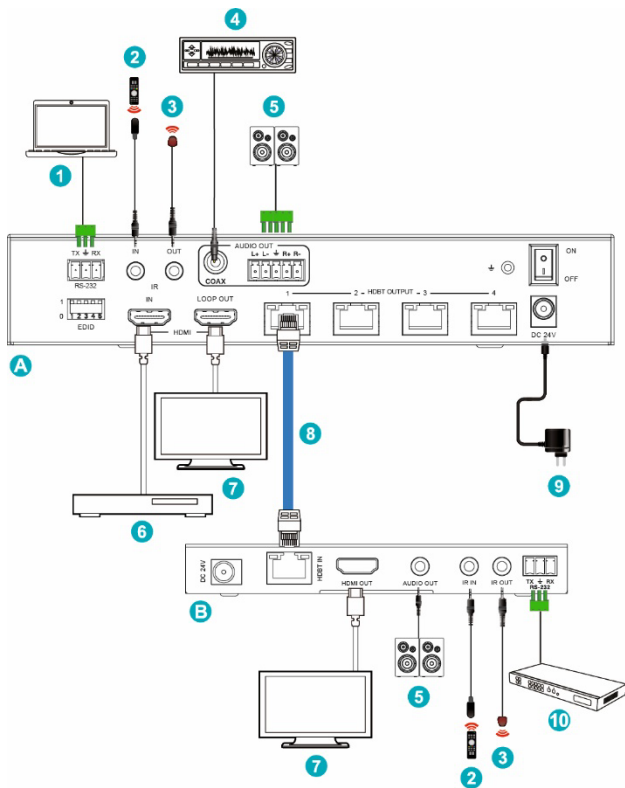
System Setup				
help!	List all commands	help!		
r type!	Get device model	r type!	HDC- SPB14H150	
r status!	Get device current status	r status!	Get the unit all status: power, in/out connection, edid mode	
r fw version!	Get Firmware version	r fw version!	MCU BOOT: Vx.xx.xx MCU APP: Vx.xx.xx	
r link in!	Get the connection status of the input port	r link in!	HDMI IN: connect	
r link out y!	Get the connection status of the y output port, y=0~5 (0=all, 1~4=HDBT 1~4, 5 = loop out)	r link out 1!	hdmi loop out: connect hdbt output 1: connect	
s reset!	Reset to factory defaults	s reset!	Reset to factory defaults System Initializing... Initialization Finished! FW version x.xx.xx	
Output Setting				
s hdmi stream z!	Set hdmi loop output stream on/off z=0~1 (0:disable,1:enable)	s hdmi stream 1 !	Enable hdmi loop out stream Disable hdmi loop out stream	enable
s hdmi hdcp z!	Set hdmi loop output hdcp on/off z=0~1 (0:disable,1:enable)	s hdmi hdcp 1!	Enable hdmi loop out hdcp Disable hdmi loop out hdcp	enable

s hdbt y hdcpl	Set hdbt output y hdcpl on/off, y=0~4(0=all) z=0~1(0:disable, 1:enable)	s hdbt 1 hdcpl ! s hdbt 0 hdcpl 1 !	Enable hdbt output 1 hdcpl Disable hdbt output 1 hdcpl Enable hdbt all outputs hdcpl Disable hdbt all outputs hdcpl	enable
s hdbt y stream z!	Set hdbt output y stream on/off, y=0~4(0=all) z=0~1 (0:disable,1:enable)	s hdbt 1 stream 1 ! s hdbt 0 stream 1 !	Enable hdbt output 1 stream Disable hdbt output 1 stream Enable hdbt all outputs stream Disable hdbt all outputs stream	enable
r hdmi stream!	Get hdmi loop out stream status	r hdmi stream!	Enable hdmi output stream	
r hdmi hdcpl	Get hdmi loop out hdcpl status	r hdmi hdcpl!	Enable hdmi output hdcpl	
r hdbt y hdcpl	Get hdbt output y hdcpl status, y=0~4(0=all)	r hdbt 1 hdcpl!	Enable hdbt output 1 stream	
r hdbt stream!	Get hdbt output y stream status, y=0~4(0=all)	r hdbt 1 stream!	Enable hdbt output 1 stream	
EDID Setting				
s edid in from z!	Set input EDID from default EDID z, z=1~27 1. 1080p, Stereo Audio 2.0 2. 1080p, Dolby/DTS 5.1 3. 1080p, HD Audio 7.1 4. 1080i, Stereo Audio 2.0	s edid in from 1!	input EDID:1080p, Stereo Audio 2.0 Please toggle EDID dip switch to 00000!	1080p, Stereo, Audio 2.0

5. 1080i, Dolby/DTS 5.1			
6. 1080i ,HD Audio 7.1			
7. 3D, Stereo Audio 2.0			
8. 3D, Dolby/DTS 5.1			
9. 3D, HD Audio 7.1			
10. 4K2K30_444, Stereo Audio 2.0			
11. 4K2K30_444, Dolby/DTS 5.1			
12. 4K2K30_444, HD Audio 7.1			
13. 4K2K60_420, Stereo Audio 2.0			
14. 4K2K60_420, Dolby/DTS 5.1			
15. 4K2K60_420, HD Audio 7.1			
16. 4K2K60_444, Stereo Audio 2.0			
17. 4K2K60_444, Dolby/DTS 5.1			
18. 4K2K60_444, HD Audio 7.1			
19. 4K2K60_444, Stereo Audio 2.0 HDR			
20. 4K2K60_444, Dolby/DTS 5.1 HDR			
21. 4K2K60_444, HD Audio 7.1 HDR			
22. copy from hdmi loop out			
23. copy from hdbt output 1			
24. copy from hdbt output 2			
25. copy from hdbt output 3			
26. copy from hdbt output 4			
27. use user1 EDID			

s edid user1 00 FF FF FF FF ...!	Set user1 EDID data	s edid user1 00 ff ff ff ff !	user1 EDID data: 00 FF FF	
r edid user1!	Get user1 EDID data	r edid user1!	user1 EDID data: 00 FF FF FF FF FF FF 00	
r edid in!	Get EDID status of the input	r edid in!		
r edid in data!	Get the EDID data of the hdmi input	r edid in data!		
RS-232 BYPASS Setting				
s rs232 bypass hdbt y!	Set RS-232 port connect to HDBT out1 Receiver RS- 232 port, y=0~5(0=all, 1~4= hdbt out 1~4 5=NC)	s rs232 bypass y=0 hdbt 1!	RS-232 connect to HDBT OUT1 RS-232 not connect to HDBT OUT	y=0
r rs232 bypass!	Get RS-232 port connect to HDBT out receiver RS- 232 port	r rs232 bypass!	RS-232 connect to HDBT OUT1 RS-232 connect to all HDBT OUT RS-232 not connect to HDBT OUT	
s device baud w size x stop y parity z!	Set receiver control device COM port setting, w=2400, 4800,9600,19200,38400, 57600,115200, x=7,8 y=1,2, z=none, even,odd	s device baud 57600 size 8 stop 1 parity none!	receiver device COM port setting baudrate: 57600 data size :8, stop:1 parity: none	
s rs232 time x!	set send RS232 command wait time x=200~5000ms	s rs232 time 200!	send RS-232 command wait time 200ms	200ms

8. Application Example



A	Transmitter	5	2.0 Speaker
B	Receiver	6	DVD or Blu-ray Player
1	PC	7	UHDTV
2	IR Receiver	8	Cat 6/6a/7
3	IR Blaster	9	Power Supply
4	Amplifier	10	HDMI Matrix with RS-232 function

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