

# BG-UDA-E18

**1X8 4K 18Gbps UHD HDMI HDBaset Splitter/Distribution Amplifier**

## User Manual







## TABLE OF CONTENTS

Statement	4
Safety Precaution	4
Introduction	5
Features	5
Packing List	5
Specifications	6
Operation Controls and Functions	7
EDID Management	9
ASCII Commands	10
Application Example	12
Tech Support	13
Warranty	13
Mission Statement	15
Copyright	16



## Statement

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Please read these instructions carefully before connecting, operating, or configuring this product. Please save this manual for future reference.

## Safety Precaution

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- To prevent damaging this product, avoid heavy pressure, strong vibration, or immersion during transportation, storage, and installation.
- The housing of this product is made of organic materials. Do not expose to any liquid, gas, or solids which may corrode the shell.
- Do not expose the product to rain or moisture.
- Unplug this device during lightning storms
- Clean only with a soft dry microfiber cloth.
- To prevent the risk of electric shock, do not open the case. Installation and maintenance should only be carried out by qualified technicians.
- Do not use the product beyond the specified temperature, humidity, or power supply specifications.
- This product does not contain parts that can be maintained or repaired by users. Damage caused by dismantling the product without authorization from BZBGear is not covered under the warranty policy.
- Installation and use of this product must strictly comply with local electrical safety standards.
- Only use accessories specified by the manufacture
- Product specifications may be subject to technical upgrades without further notice



## Introduction

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The BG-UDA-E18 is an 18Gbps HDMI 1x8 HDBaseT Splitter that can distribute 1 source signal to 8 connected display devices. The HDMI signal transmission distance can be extended up to 120 meters at a resolution of 4K2K@60Hz and 150 meters at 1080P@60Hz via a single CAT6/6a/7 cable. The product supports up to 7.1CH HD audio pass-through. Audio extraction and advanced EDID management are also supported.

## Features

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- HDMI 2.0b, HDCP 2.2 and HDCP 1.x compliant
- 18Gbps video bandwidth
- Video resolution up to 4K2K@60Hz 4:4:4
- HDR, HDR10+, HLG and Dolby vision
- Up to 7.1CH HD audio pass-through
- Digital and analog audio de-embedding
- Transmission distance up to 120 meters at the resolution 4K2K@60Hz, 150 meters at 1080P@60Hz via a single CAT6/6a/7 cable
- 1 HDMI input, 1 HDMI loop output and 8 HDBaseT outputs.
- IR, RS-232 routed to HDBaseT output
- Advanced EDID management
- One-way POC function (only from transmitter to receiver)
- Compact design for easy and flexible installation

## Packing List

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- 1x 18Gbps HDMI 1x8 HDBaseT Splitter
- 8x HDBaseT Receiver
- 9x IR Blaster Cable (1.5 meters)
- 9x 20K~60KHz IR Receiver Cable (1.5 meters)
- 9x 3-pin Phoenix Connector
- 1x 5-pin Phoenix Connector
- 18x Mounting Ear
- 1x 24V/3.75A DC Locking Power Adapter
- 1 × User Manual
- 1 × Quick Start Guide



## Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2/1.x
Video Bandwidth	594 MHz/18Gbps
Video Resolution	Up to 4K2K@60Hz 4:4:4
Color Depth	8-bit, 10-bit, 12-bit (1080p@60Hz) 8-bit (4K2K@60Hz YUV4:4:4) 8-bit, 10-bit, 12-bit (4K2K@60Hz YCbCr 4:2:2/4:2:0)
Color Space	RGB 4:4:4, YCbCr 4:4:4 / 4:2:2 / 4:2:0
HDR	Support HDR, HDR10+, HLG, Dolby vision
HDMI Audio Formats	LPCM 2.0/2.1/5.1/6.1/7.1, Dolby Digital, Dolby TrueHD, Dolby Digital Plus(DD+), DTS-ES, DTS HD Master, DTS HD-HRA, DTS-X
Coaxial Audio Formats	PCM 2.0, Dolby Digital / Plus, DTS 2.0/5.1
Analog Audio Formats	PCM 2.0CH
ESD Protection	Human body model: ±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Connection	
Input	1x HDMI Type A (19-pin female)
Output	1x HDMI Type A (19-pin female) 8x HDBaseT OUT [RJ45] 1x Coaxial Audio OUT [RCA] 1x L/R Audio OUT [5-pin phoenix connector]
Control	1x RS-232 (3-pin phoenix connector) 1x EDID DIP switch [5-pin] 1x IR IN [3.5mm Stereo Mini-jack] 1x IR OUT [3.5mm Stereo Mini-jack]
Mechanical	
Housing	Metal Enclosure
Dimensions	Transmitter: 17.3"(W) x 5.1"(D) x 1.7"(H) [440mm (W) x 130mm (D) x 44mm (H)] Receiver: 5.5"(W) x 2.6"(D) x 0.7"(H) [140mm (W) x 65mm (D) x 18mm (H)]
Weight	Transmitter: 3.57lbs [1.62kg] Receiver: 0.54lbs [246g]
Power Supply	Input: AC100 - 240V 50/60Hz, Output: DC 24V/3.75A (US/EU standards, CE/FCC/UL certified)
Power Consumption	72W
Operation Temperature	32°F ~ 104°F / 0°C ~ 40°C
Storage Temperature	-4°F ~ 140°F / -20°C ~ 60°C
Relative Humidity	20~90% RH (non-condensing)



# Operation Controls and Functions

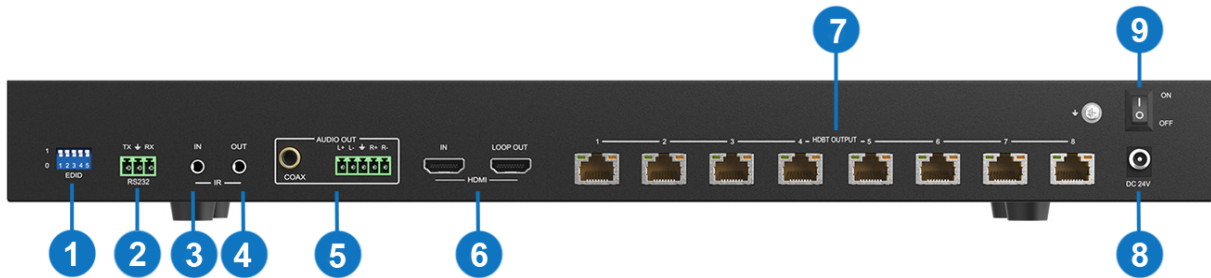
## Transmitter

### 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(1~8) LED	When the HDBT OUTPUT port connects an HDBaseT Receiver, the corresponding green OUT LED will be on.

### Rear Panel

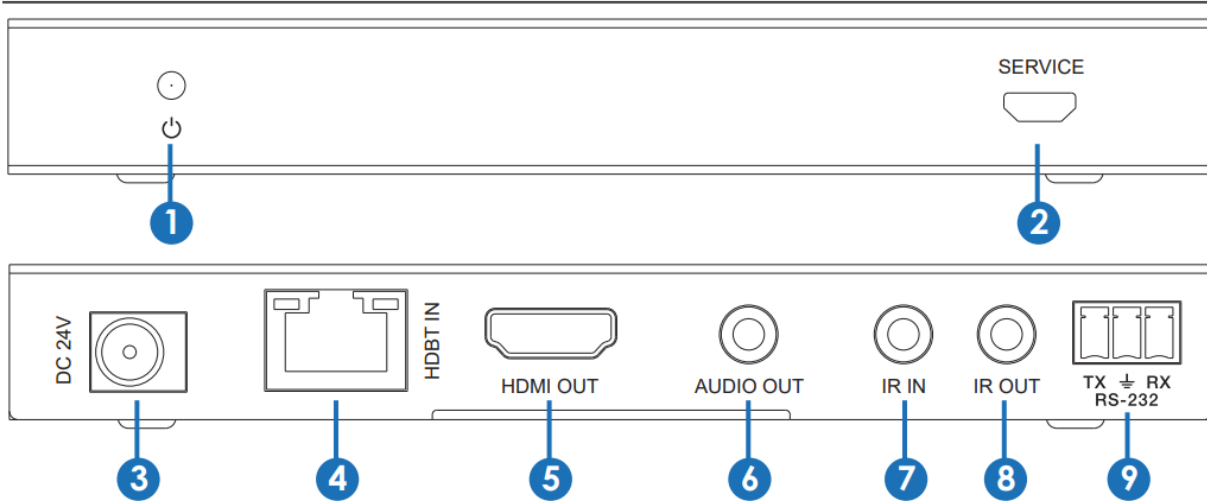


No.	Name	Function Description
1	EDID DIP switch	Used to set EDID mode. Please refer to Section “6. EDID Mode” for details.
2	RS-232	Connect to a PC or control system via a 3-pin phoenix connector cable for three functions: 1. Firmware update; 2. Control the Splitter via RS-232 commands; 3. RS-232 signal pass-through (from transmitter to receiver or from receiver to transmitter).
3	IR IN	Connect to the IR receiver cable, the IR receive signal will emit to the “IR OUT” port of the HDBaseT Receiver.
4	IR OUT	Connect to the IR blaster cable, the IR emit signal is from the “IR IN” port of the HDBaseT Receiver.
5	AUDIO OUT (COAX, L/R)	Coaxial/balanced audio output port, connect to amplifier or speaker.
6	HDMI port	<ul style="list-style-type: none"> <li>• <b>IN:</b> Connect to an HDMI source device such as Bluray player or set-top box with an HDMI cable.</li> <li>• <b>LOOP OUT:</b> Connect the loop out port to an HDMI display device such as a TV or Monitor with an HDMI cable</li> </ul>
7	HDBT OUTPUT port (1-8)	Connect to the HDBT IN port of the HDBaseT receiver with a CAT cable.
8	DC 24V	Plug the DC 24V power supply into the unit and connect the adaptor to an AC outlet. <b>(Note:</b> The transmitter can power the receiver via a CAT cable.)
9	POWER switch	Press this switch to power on/off the device.



- Solid: HDMI signal with HDCP.
- Flashing: HDMI signal without HDCP.
- Dark: No HDMI signal.
- Video (OUT)
- Solid: Matrix and HDBaseT Receiver are in good connection status.
- Flashing: Matrix and HDBaseT Receiver are in poor connection status.
- Dark: Matrix and HDBaseT Receiver are not connected.

### HDBaseT Receiver Panel

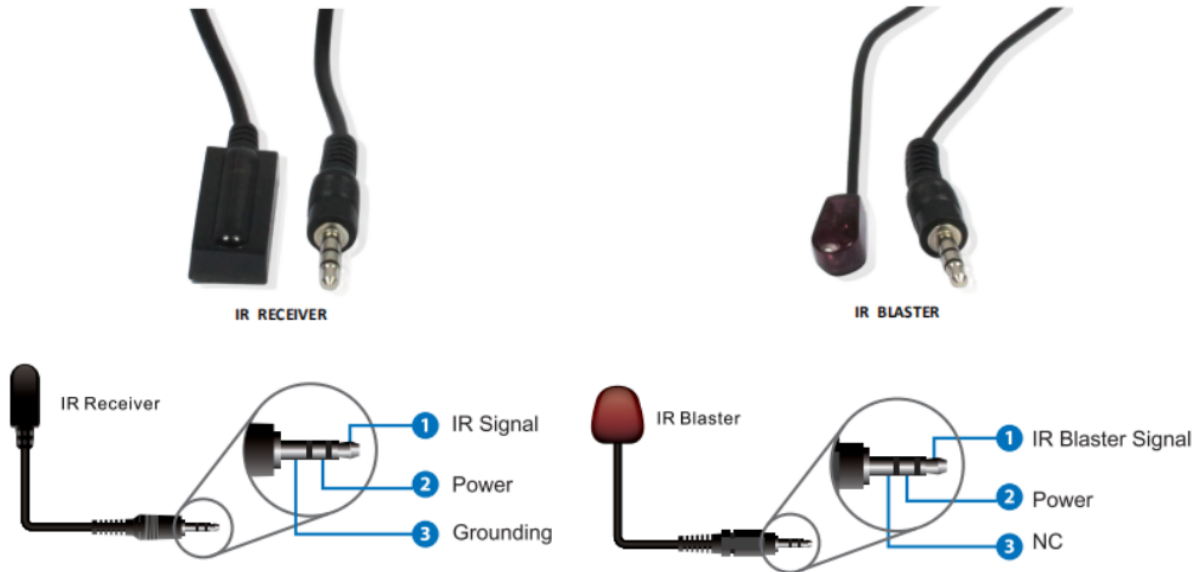


No.	Name	Function Description
1	Power LED	When the receiver is powered on, the power indicator will be on.
2	SERVICE port	Used for firmware update.
3	DC 24V	Plug DC 24V/1A power supply into the unit and connect the adapter to an AC outlet. <b>(Note: The HDBaseT receiver also can be powered by the transmitter via a CAT cable.)</b>
4	HDBT IN	Connect to the HDBT OUTPUT port on the transmitter with a CAT cable.
5	HDMI OUT	HDMI output port, connect to an HDMI display device such as a TV or Projector with an HDMI cable.
6	AUDIO OUT	Audio output port, connect to amplifier or speaker
7	IR IN	Connect to the IR Receiver cable. The IR signal will send to the IR OUT port of the transmitter
8	IR OUT	Connect to the IR blaster cable, the IR signal is from the IR IN port of the transmitter.
9	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





## IR Cable Pin Assignment



## EDID Management

EDID Mode	EDID Description
11111	1080P, Stereo Audio 2.0
11110	1080P, Dolby/DTS 5.1
11101	1080P, HD Audio 7.1
11100	10801, Stereo Audio 2.0
11011	10801, Dolby/DTS 5.1
11010	10801, 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

EDID Mode	EDID Description
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 7.1 HDR
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



## 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 Command				
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
<b>Power</b>				
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	
<b>System Setup</b>				
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=0~9(0=all, 1~8=HDBT 1~8, 9=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	
<b>Output Setting</b>				
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 htcp z!	Set hdmi loop output htcp on/ off z=0~1(0:disable,1:enable)	s hdmi htcp 1 !	Enable hdmi loop out htcp Disable hdmi loop out htcp	enable
s hdbt y htcp z!	Set hdbt output y htcp on/off, y=0~8(0=all) z=0~1 (0:disable, 1:enable)	s hdbt 1 htcp 1 ! s hdbt 0 htcp 1 !	Enable hdbt output 1 htcp Disable hdbt output 1 htcp Enable hdbt all outputs htcp Disable hdbt all outputs htcp	enable



Command Code	Function Description	Example	Feedback	Default Setting
s hdbt y stream z!	Set hdbt output y stream on/ off, y=0~8(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 htcp!	Get hdmi loop out htcp status	r hdmi htcp!	Enable hdmi output htcp	
r hdbt y htcp!	Get hdbt output y htcp status, y=0~8(0=all)	r hdbt 1 htcp!	Enable hdbt output 1 htcp	
r hdbt stream!	Get hdbt output y stream status, y=0~8(0=all)	r hdbt 1 stream!	Enable hdbt output 1 stream	
<b>EDID Setting</b>				
s edid in from z!	Set input EDID from default EDID z, z=1~32 1.1080p,Stereo Audio 2.0 2.1080p,Dolby/DTS 5.1 3.1080p,HD Audio 7.1 4.1080i,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 in from 1!	input EDID:1080p, Stereo Audio 2.0  Please toggle EDID dip switch to 00000!	1080p, Stereo Audio 2.0
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 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!	input EDID: 4K2K60_444,Stereo Audio 2.0	
r edid in data!	Get the EDID data of the hdmi input	r edid in data!	EDID data : 00 FF FF FF FF FF FF FF 00.....	
<b>RS-232 BYPASS Setting</b>				
s rs232 bypass hdbt y!	Set RS-232 port connect to HDBT out1 Receiver RS-232 port. y=0~9(0=all, 1~8= hdbt out 1~8 5=NC)	s rs232 bypass 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	





## Tech Support

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Have technical questions? We may have answered them already!

Please visit BZBGear's support page ([bzbgear.com/support](http://bzbgear.com/support)) for helpful information and tips regarding our products. Here you will find our Knowledge Base ([bzbgear.com/knowledge-base](http://bzbgear.com/knowledge-base)) with detailed tutorials, quick start guides, and step-by-step troubleshooting instructions. Or explore our YouTube channel, BZB TV ([youtube.com/c/BZBTVchannel](http://youtube.com/c/BZBTVchannel)), for help setting up, configuring, and other helpful how-to videos about our gear.

Need more in-depth support? Connect with one of our technical specialists directly:

**Phone**

1.888.499.9906

**Email**

support@bzbgear.com

**Live Chat**

bzbgear.com

## Warranty

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BZBGear Pro AV products and cameras come with a three-year warranty. An extended two-year warranty is available for our cameras upon registration for a total of five years.



For complete warranty information, please visit [bzbgear.com/warranty](https://www.bzbgear.com/warranty).

For questions, please call 1.888.499.9906 or email [support@bzbgear.com](mailto:support@bzbgear.com).



## Mission Statement

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BZBGear is a breakthrough manufacturer of high-quality, innovative audiovisual equipment ranging from AVoIP, professional broadcasting, conferencing, home theater, to live streaming solutions. We pride ourselves on unparalleled customer support and services. Our team offers system design consultation, and highly reviewed technical support for all the products in our catalog. BZBGear delivers quality products designed with users in mind.



## Copyright

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