BZB GEAR®
Solutions to Amplify Your World™

BG-UDA-E14

1X4 4K 18Gbps UHD HDMI HDBaset Splitter/Distribution Amplifier

User Manual

TABLE OF CONTENTS

Statement

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

Safety Precaution

- 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

The BG-UDA-E14 18Gbps HDMI 1x4 HDBaseT Splitter can distribute 1 source signal to any of the 4 connected outputs. 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

- 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 4 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

- 1× 18Gbps HDMI 1×4 HDBaseT Splitter
- 4× HDBaseT Receiver
- 5× IR Blaster Cable (1.5 meters)
- 5× 20K~60KHz IR Receiver Cable (1.5 meters)
- 5× 3-pin Phoenix Connector
- 1× 5-pin Phoenix Connector
- 10× Mounting Ear
- 1× 24V/2.7A DC Locking Power Adapter
- 1× User Manual
- 1× Quick Start Guide

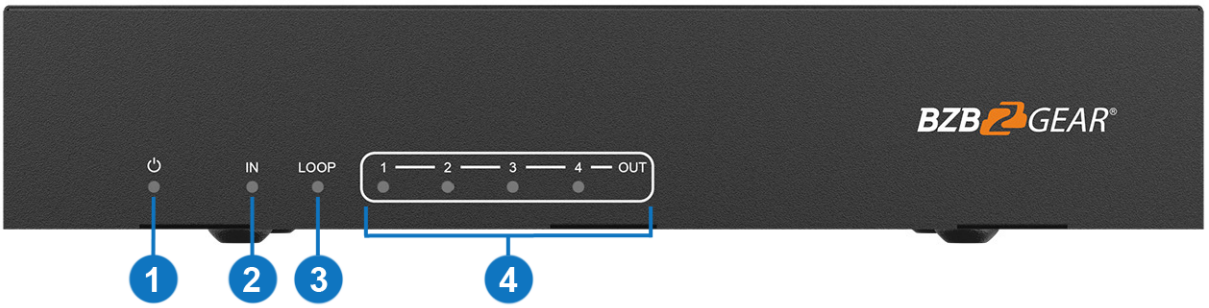
Specifications

Technical	
HDMI	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) 4x 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: 8.7"(W) x 5.1”(D) x 1.6(H) [220mm (W) x 130mm (D) x 40mm (H)] Receiver: 5.5”(W) x2.6”(D) x 0.7”(H) [140mm (W) x 65mm (D) x 18mm (H)]
Weight	Transmitter: 1.9lbs [853g] Receiver: 0.54lbs [246g]
Power Supply	Input: AC100 - 240V 50/60Hz, Output: DC 24V/2.7A (US/EU standards, CE/FCC/UL certified)
Power Consumption	35W
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

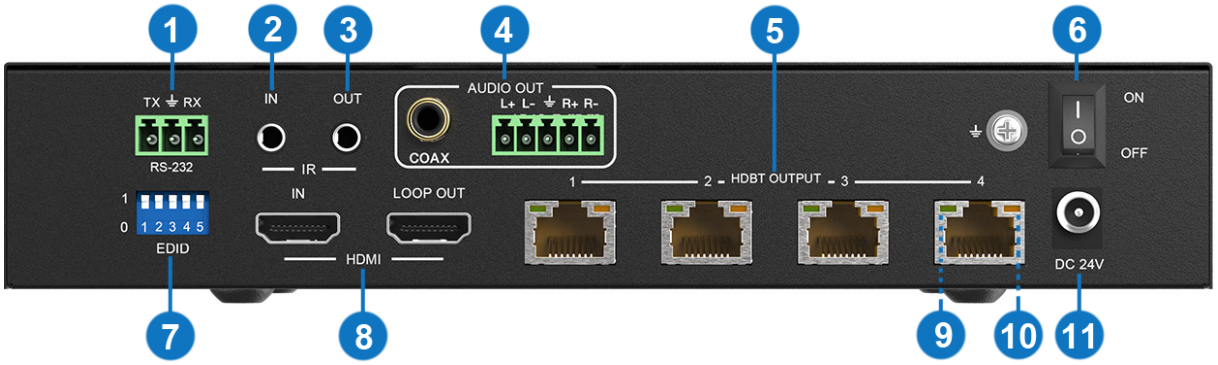
Transmitter

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(1~4) LED	When the HDBT OUTPUT port connects an HDBaseT Receiver, the corresponding green OUT LED will be on.

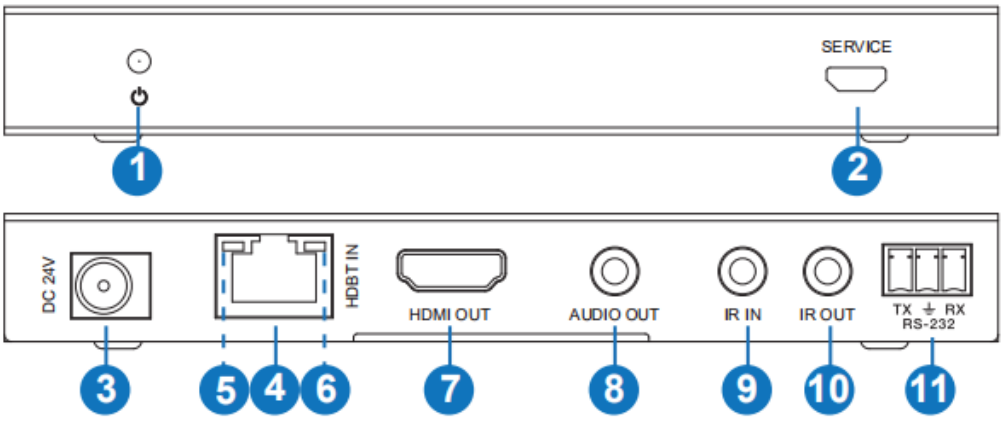
Rear Panel



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 the IR receiver cable, the IR receive signal will emit to the “IR OUT" port of the HDBaseT Receiver.
3	IR OUT	Connect to the IR blaster cable, the IR emit signal is from the “IR IN” port of the HDBaseT Receiver.
4	AUDIO OUT (COAX, L/R)	Coaxial/balanced audio output port, connect to an amplifier or speaker.
5	HDBT OUTPUT port (1-4)	Connect to the HDBT IN port of the HDBaseT receiver with a CAT cable.
6	POWER switch	Press this switch to power on/off the device.
7	EDID DIP switch	Used to set EDID mode. Please refer to Section “6. EDID Mode” for details.

No.	Name	Function Description
8	HDMI port	• **IN**: HDMI input port, connect to HDMI source device such as Bluray player or set-top box with an HDMI cable. • **LOOP OUT**: Connect the loop out port to an HDMI display device such as a TV or Monitor with an HDMI cable
9	Link Signal Indicator lamp (Green)	• Illuminated: Transmitter and receiver are connected. • Dark: Transmitter and receiver are not connected.
10	Data Signal Indicator lamp (Orange)	• Illuminated: There is signal transmission between the transmitter and the receiver. • Dark: No signal transmission.
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.)

HDBaseT Receiver Panel

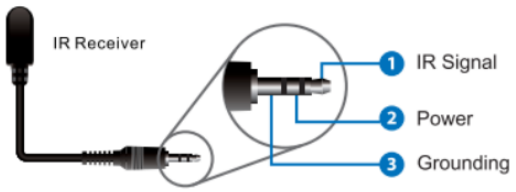


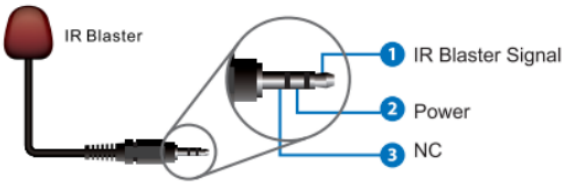
No	Name	Function Description
1	Power LED	When the receiver is powered on, the power indicator will be on.
2	SERVICE port	Used for firmware update.
3	DC 24V	Plug DC 24V/1A power supply into the unit and connect the adapter to an AC outlet. (**Note**: The HDBaseT receiver also can be powered by the transmitter 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	▪ Solid: Matrix and Receiver are in good connection status. ▪ Flashing: Matrix and Receiver are in poor connection status. ▪ Dark: Matrix and Receiver are not connected.
6	Data Signal Indicator	▪ Solid: HDMI signal with HDCP. ▪ Flashing: HDMI signal without HDCP. ▪ Dark: No HDMI signal.
7	HDMI OUT	Connect to an HDMI display device such as a TV or Projector with an HDMI cable.
8	AUDIO OUT	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 the 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

IR Cable Pin Assignment

IR RECEIVER

IR BLASTER





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

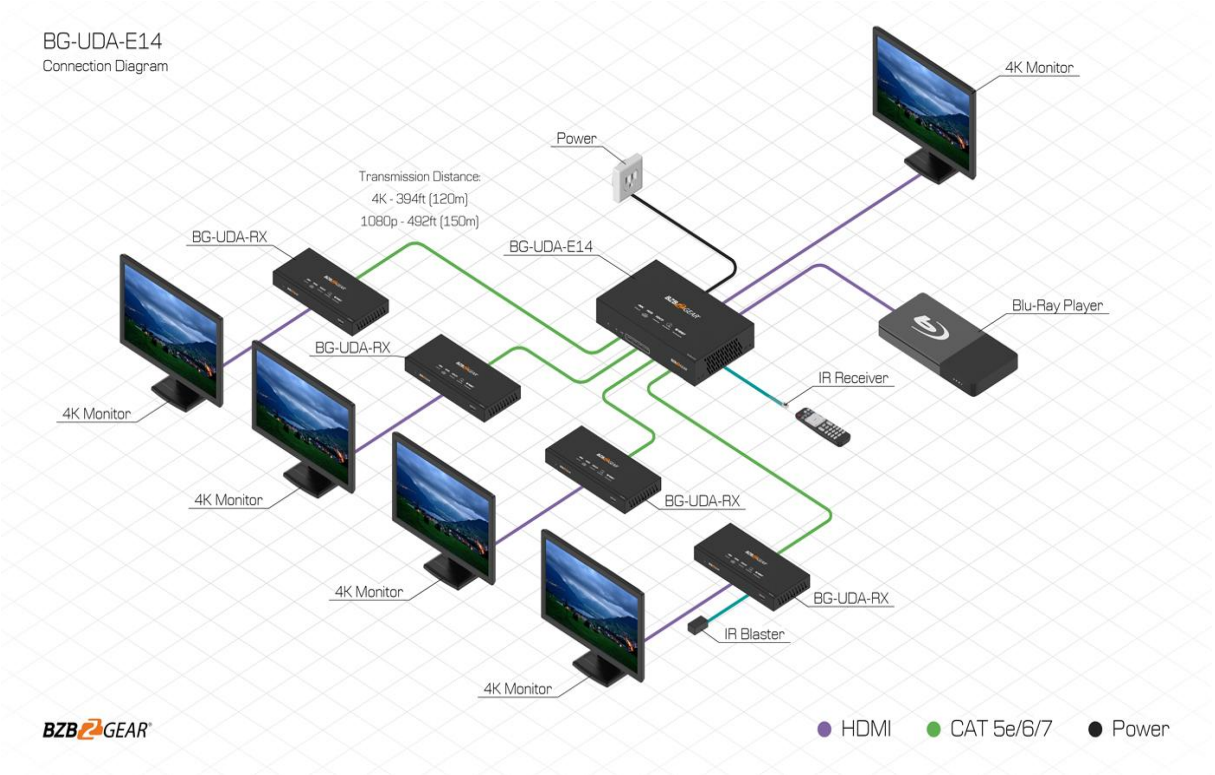
The product also supports ASCII command control. Connect the RS-232 port of the product to a PC with a 3-pin phoenix connector cable. Then, open a Serial Command tool such as Access Port or DockLite on the PC to send ASCII commands to control the product. The ASCII command list is shown below.

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
Power				
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 hdcp z!	Set hdbt output y hdcp on/off, y=0~4(0=all) z=0~1 (0:disable, 1:enable)	s hdbt 1 hdcp 1 ! s hdbt 0 hdcp 1 !	Enable hdbt output 1 hdcp Disable hdbt output 1 hdcp Enable hdbt all outputs hdcp Disable hdbt all outputs hdcp	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 hdcp!	Get hdmi loop out hdcp status	r hdmi hdcp!	Enable hdmi output hdcp	
r hdbt y hdcp!	Get hdbt output y hdcp status, y=0~4(0=all)	r hdbt 1 hdcp!	Enable hdbt output 1 hdcp	
r hdbt stream!	Get hdbt output y stream status, y=0~4(0=all)	r hdbt 1 stream!	Enable hdbt output 1 stream	

Command Code	Function Description	Example	Feedback	Default Setting
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 5.10801, Dolby/DTS 5.1 6.10801, 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	
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 00.....	
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 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

Application Example



Tech Support

Have technical questions? We may have answered them already!

Please visit BZBGEAR's support page (bzbgear.com/support) for helpful information and tips regarding our products. Here you will find our Knowledge Base (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), 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	**Email**	**Live Chat**
1.888.499.9906	support@bzbgear.com	bzbgear.com

Warranty

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.

For questions, please call 1.888.499.9906 or email support@bzbgear.com.

Mission Statement

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.

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