

BG-SDITPG-G2

4K/1080P 12G-SDI Video Test Pattern Generator

User Manual







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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.
- 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.



Introduction

The BG-SDITPG-G2 12G/6G/3G/HD/SD-SDI Pattern Generator is a state-of-the-art tool for SDI pattern generation, featuring multi-format support for 12G/6G/3G/HD/SD and multi-pattern functionality. In addition to still and moving video test patterns, this generator also provides audio support (SMPTE-291M), including up to 8 channels of AES compliant audio at a 48KHz sample rate.

The BG-SDITPG-G2 is designed for ease of use, with intuitive controls that include four buttons, a rotary switch, and an LCD screen. This device offers a cost-effective solution for calibrating and testing SDI-enabled video devices and displays, making it an essential tool for professionals in broadcasting, post-production, and other industries where precise signal testing is crucial.

With the BG-SDITPG-G2, you can enjoy a comprehensive range of test patterns and audio features, along with easy-to-use controls and reliable performance. This generator is the ideal choice for anyone who needs a versatile and dependable tool for SDI pattern generation and testing.

Features

- Output Resolutions: NTSC 525@60, PAL 625@50, 720p@23.98, 720p@50, 720p@59.94, 720p@60, 1080i@50, 1080i@59.94, 1080i@60, 1080p@23.97, 1080p@24, 1080p@25, 1080p@29.97, 1080p@30, 1080p@50, 1080p@59.94, 1080p@60, 4K2K@23.97, 4K2K@24, 4K2K@25, 4K2K@29.97, 4K2K@30, 4K2K@50, 4K2K@59.94, 4K2K@60
Bit Rate: 2.97 Gbps, 2.967 Gbps, 1.485 Gbps, 1.4835 Gbps, 5.94Gbps, 5.934Gbps, 11.88Gbps, 11.868Gbps, 270 Mbps
- Color Space: 10bit
- Video Patterns: 100% Color Bars, Borderline, Random Noise, Check Field, Black, Vertical Lines, Black / White alternate fields, Full Grey / Full White, Black to White Gradient, Random Generator for all still patterns, moving squares White noise, Inverse effect with still pattern, Scrolling Title (see Appendix for illustrations)
- Save Settings to Memory
- Control via LCM, panel buttons & rotary switch
- SDI output (SDI, HD-SDI, 3G-SDI, 6G-SDI, 12G-SDI)
- Supports Preset Modes

Packing List

- 1x BG-SDITPG-G2
- 1x 12V power supply unit
- 1x User Manual



Specifications

Model Name		BG-SDITPG-G2
Technical Specifications		
Role of Usage		Pattern generator
SDI Standards		12G/6G/3G/HD/SD-SDI
Auto SDI Rate Detection		Yes
Supported Protocols		SMPTE 259M (270Mbps / 360Mbps) SMPTE 292M / HDTV (1.485 & 1.485/1.001Gbps) SMPTE 424/425M (2.97 & 2.97/1.001Gbps) SMPTE ST-2081 (5.94&5.94/1.001Gbps) SMPTE ST-2082 (11.88&11.88/1.001Gbps)
Video Bandwidth		11.88Gpbs
Data Rates		270 / 1483 / 1485 / 2967 / 2970 / 5934 / 5940 / 11868 / 11880 Mbps
Video Support		[12G] 4K2K@50/59.94/60 [6G] 4K2K@23.97/24, 25, 30 [3G] 1080p@50/59.94/60 (4:2:2) [HD] 720p50/59.94/60, 1080p24/30, 1035i50/59.94/60, 1080i50/59.94/60 [SD] NTSC@59.94Hz, PAL@50Hz
SDI Signal Type		SMPTE-292M / 259M / 424M / ST-2081 / ST-2082
Output Impedance		75W
Cable (Belden 1694A) Equalization / Transmission		[12G-SDI] up to 50m (165ft) / [6G-SDI] up to 100m (330ft) / [3G-SDI] up to 200m (660ft)
Audio Support		Yes
PCB Stack-up		6-layer board [impedance control — differential 100W; single 75W]
Output		4x BNC [SDI]
BNC Connector		75W interlocking socket
[HD] Eye Pattern Characteristics		Amplitude: Within 800mV <10%Long time jitter <1.0 UI Rise overshoot: Less than 2% Timing jitter <1.0 UI Fall overshoot: Less than 2% Alignment jitter <0.2 UI
Mechanical		
Housing		Metal Enclosure
Dimensions [L x W x H]	Model	167 x 112 x 24mm [6.5" x 4.4" x 0.9"]
	Package	325 x 196 x 92mm [12.7" x 7.7" x 3.6"]
	Carton	490 x 426 x 352mm [1'6" x 1'4" x 1'2"]
Weight	Model	0.6 lbs [303g]
	Package	1.1 lbs [533g]
Power Supply		12VDC
Power Consumption		5 Watts [max]
Operation Temperature		32~104°F / 0~40°C
Storage Temperature		-4~140°F / -20~60°C
Relative Humidity		20~90% RH [no condensation]



Operation Controls and Functions

Front and Rear Panel



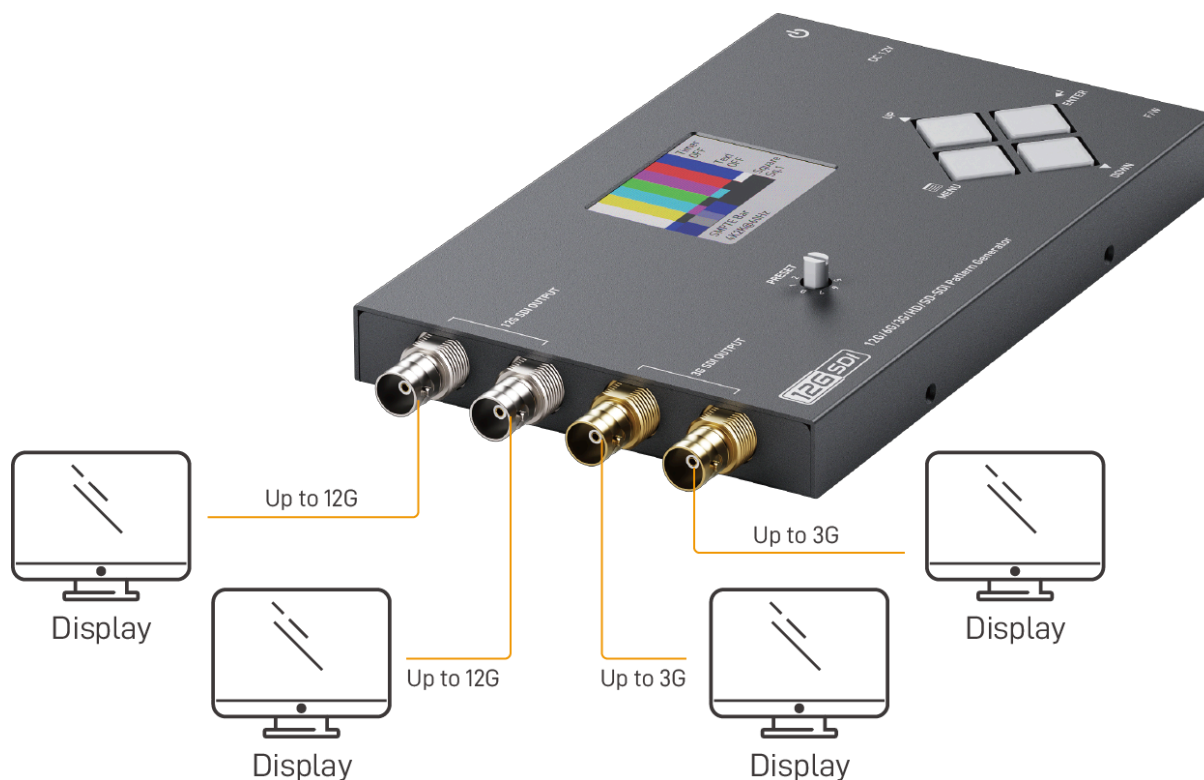
1. **SDI OUT1:** 12G/6G/3G/HD/SD-SDI output
2. **SDI OUT2:** 12G/6G/3G/HD/SD-SDI output
3. **SDI OUT3:** 3G/HD/SD-SDI output
4. **SDI OUT4:** 3G/HD/SD-SDI output
5. **Rotary Switch:** for 0-7 preset mode
6. **LCD:** 2.0" LCD monitor
7. **PUSH BUTTONS:**

Button	Function
Menu	Trigger the menu operation
Enter	Enter the menu item
Up	Choose the last menu item
Down	Choose the next menu item

8. **Micro USB:** Micro-USB port for F/W update
9. **+12V DC:** 12V DC power jack
10. **Power Switch:** Power ON/OFF



Connection Diagram



NOTICE

1. Due to the high frequency bandwidth and low jitter requirement of SDI signals, it is strongly recommended to use just one SDI OUTPUT with one 75 ohm.
2. The features including new timings and patterns may increase without notice after the firmware is updated! This may affect the menu items, but will keep the same framework for users!



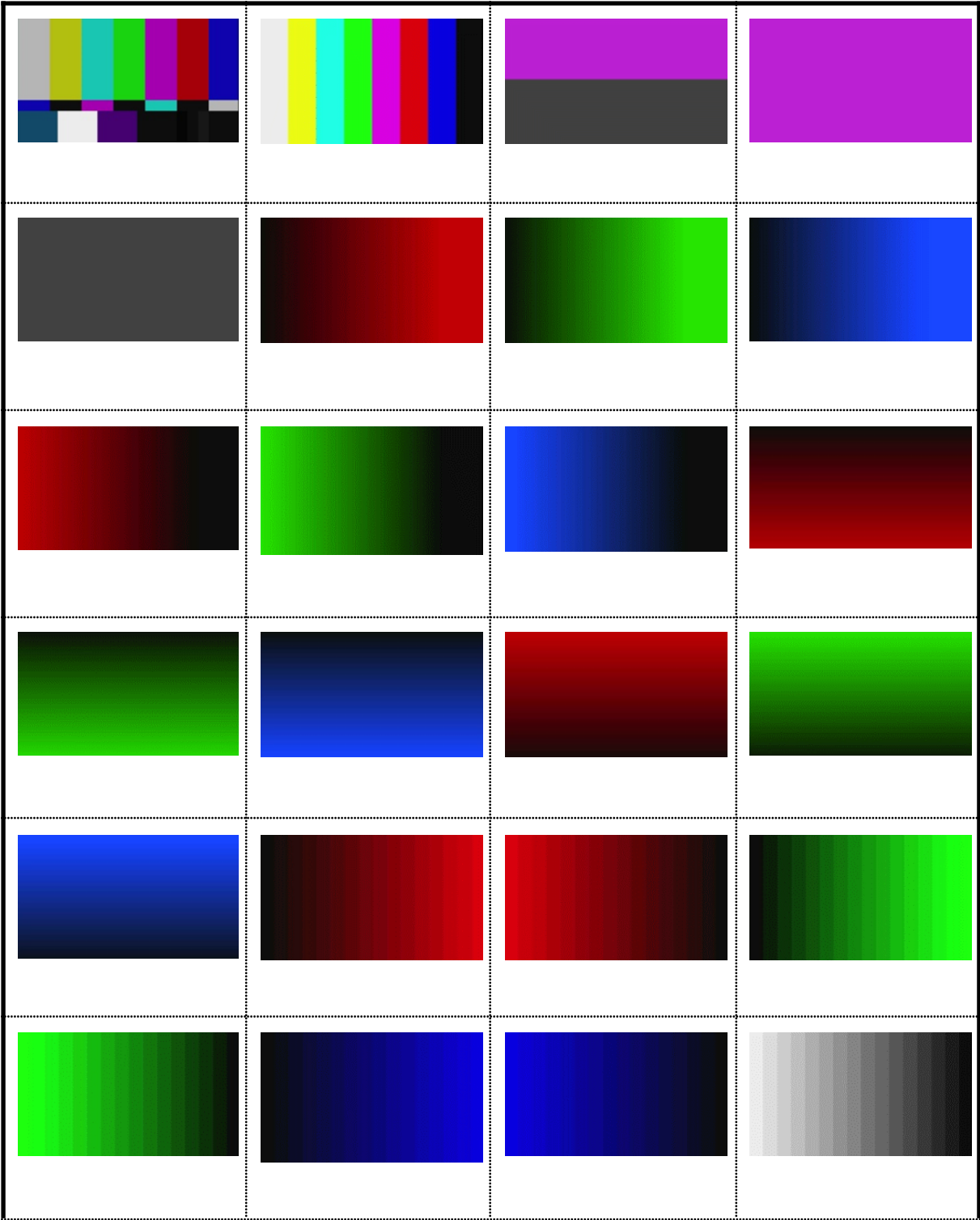
OSD MENU

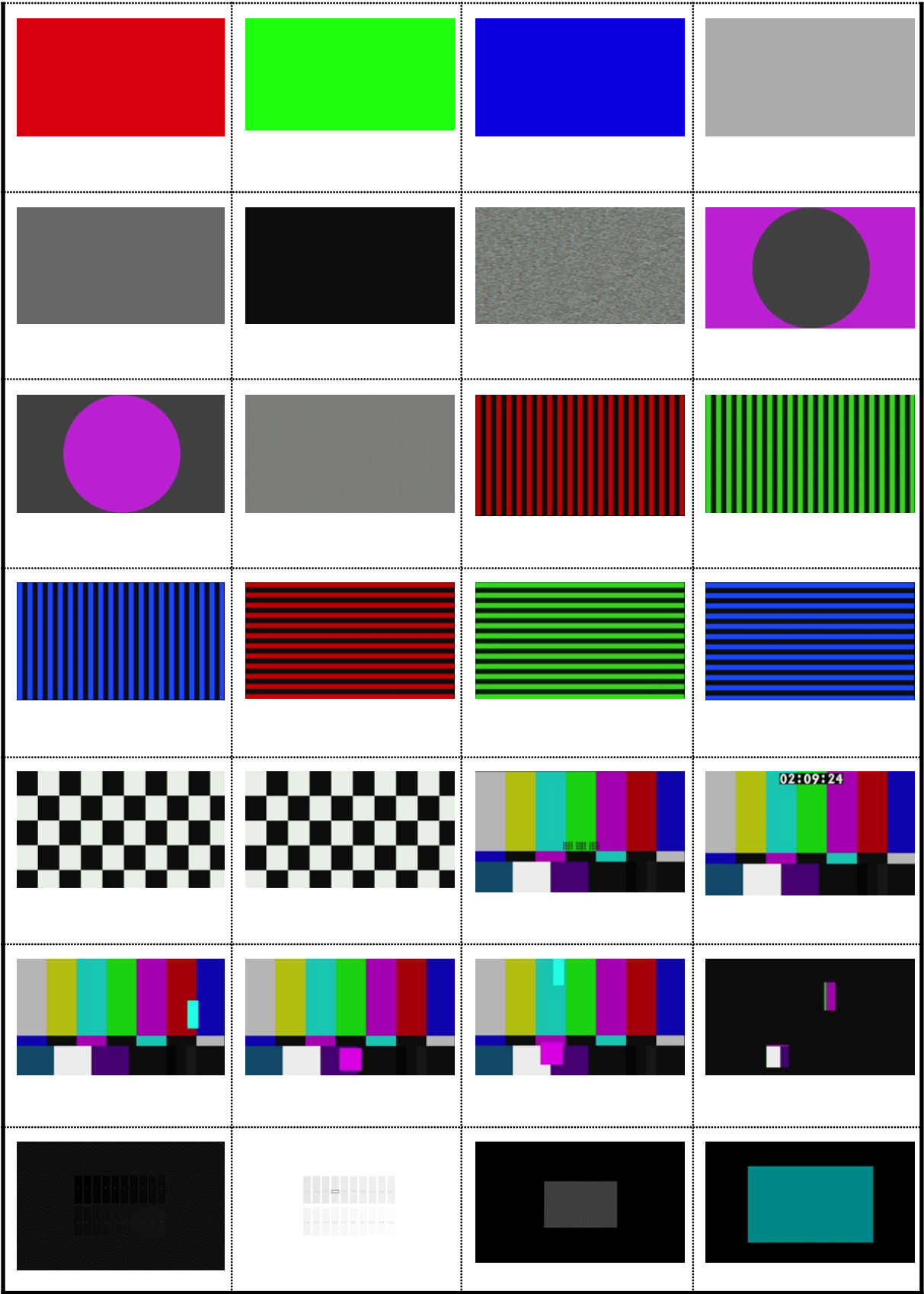
Menu	Item	Remark
Output	Resolution	NTSC, PAL, 720p, 1080i, 1080p, 4K2K
	Frequency	23.98, 24, 25, 29.97, 30, 50, 59.94, 60
	Data Filter	ON, OFF
Video	Pattern	SMPTE Bar, 100 Color Bar, 75 Color Bar, Check Field, EQ, PLL, H Ramp B→R, H Ramp B→G, H Ramp B→B, H Ramp R→B, H Ramp G→B, H Ramp B→B, V Ramp B→R, V Ramp B→G, V Ramp B→B, V Ramp R→B, V Ramp G→B, V Ramp B→B, H Stair B→R, H Stair B→G, H Stair B→B, H Stair R→B, H Stair G→B, H Stair B→B, H Stair B→W, H Stair W→B, 100 Red, 100 Green, 100 Blue, 100 White, 70 Gray, 40 Gray, Black, Noise, Circle 1, Circle 2, Moire, H Stripe R, H Stripe G, H Stripe B, V Stripe R, V Stripe G, V Stripe B, Chess 1, Chess 2, Black Level, White Level, Multi-Burst, CZP Prog. Only
	Text	White, Black, Gray, OFF
	Timer	W/B, B/W, OFF
Audio	Mute	Mute, Unmute
	Group	1+2, 3+4
	Level	Random, Silence, -42dB, -36dB, -30dB, -24dB, -18dB, -12dB, -6dB, 0dB
	Mask	OFF, CH1, CH2, CH3, CH4, CH1+2, CH3+4, CH1+2+3+4
Motion	Square	OFF, Square 1, Square 2, 2 Squares, Inverse
	Speed	1-8
System	Preset	Save to 1-7
	Factory Reset	No, Yes
	Version	Core & SW Version information



APPENDIX

Built-in Video Patterns







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

Limited Product Warranty Terms

Pro Line: 5-year warranty from the date of purchase for AV/Broadcasting products bought on or after August 1, 2024.

Essential Line: 3-year warranty from the date of purchase for AV/Broadcasting products bought on or after August 1, 2024.

Cables: Lifetime Limited Product Warranty.

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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