



BZBGEAR
ESPORTS & GAMING



FROM KIDS TO ADULTS, PEOPLE OF ALL AGES ENJOY VIDEO GAMES

But not all gaming is the same. On one hand, there's casual playing for fun, relaxation, or social connection. On the other hand, there's esports. Organized, competitive gaming where players and teams train seriously, face off in tournaments, and sometimes even build professional careers.

ASPECT	CASUAL GAMING	ESPORTS
Purpose	Fun, relaxation, stress relief	Competition, mastery, winning
Commitment	Flexible, play anytime	Intense practice, daily training
Skill Level	Accessible, simple mechanics	High skill, fast reflexes, deep strategies
Community	Friends, family, enjoyment	Teams, leagues, fans, global audience
Stakes	Low (in-game rewards, Fun)	High (prize money, sponsorships, careers)
Structure	Informal, self-directed	Formalized with coaches and tournaments



Regardless of skill level, one technical issue that all gamers dread is latency, often referred to as “lag” or a low frame rate that results in sluggish gameplay. When this happens, actions take longer to appear on screen, causing players to lose their competitive edge, especially during online matches

In Esports, every millisecond counts. The game must run smoothly and display visuals at top speed to give all competitors a fair chance at victory. If one player’s system runs efficiently while another’s operates below standard, the slower system can easily cause that player to lose the match or even an entire tournament.

That’s why most esports athletes invest in high-speed internet connections, powerful processors, large hard drives, ample RAM, and monitors capable of displaying 60, 120, or even higher frame rates. These technologies ensure seamless gameplay and the responsiveness needed to perform at a professional level.

SO WHAT'S THE DIFFERENCE BETWEEN 60 AND 120 FPS?

60 FPS (Frames Per Second)

- **Smoothness:** Decent for casual play, looks fluid compared to 30 FPS.
- **Input Response:** Slightly slower. Actions may feel less "snappy."
- **Visibility:** Motion is smooth enough, but fast-moving objects (like bullets or enemies) can blur.

Use Case: Perfectly fine for casual gaming and single-player experiences, but less ideal in competitive esports.

**GOOD ENOUGH
FOR CASUAL PLAY**

120 FPS (Frames Per Second)

- **Smoothness:** Much smoother motion. Animations look more natural and fluid.
- **Input Response:** Noticeably faster and more responsive. Every click or movement feels immediate.
- **Visibility:** Easier to track fast action with less blur - critical for aiming and reacting quickly in esports.

Use Case: Preferred in competitive esports because it gives players a split-second advantage in reaction time.

**A COMPETITIVE EDGE FOR
ESPORTS TOURNAMENTS**

You might ask — why use 8K equipment if the goal is only 4K resolution? The answer lies in refresh rate capability. Traditional 4K video distribution devices are typically limited to 4K@60Hz, meaning they cannot support the smoother and faster 120Hz (120 frames per second) refresh rate demanded by today's high-performance displays.

To distribute 4K@120Hz signals effectively, 8K-capable products are essential. These advanced technologies provide the necessary bandwidth and performance to handle higher frame rates without sacrificing image quality.

BZBGear's line of 8K video solutions is engineered for this purpose delivering reliable, high-speed 4K@120Hz signal distribution that ensures stunning clarity and ultra-smooth visuals across connected display monitors.

HDMI MATRIX SWITCHERS

Instantly route multiple PCs, game consoles, cameras, and other HDMI sources to a variety of displays, video wall, projectors, and production switchers with zero latency.

The BG-8K-1616MA supports up to 16 video inputs and 16 outputs, giving you total flexibility for complex AV installations. Effortlessly de-embed audio, downscale video signals, and manage your content across multiple destinations with professional precision.

Control the system using BZBGear's free control app or integrate with third-party systems such as Crestron for complete automation.



BG-8K-1616MA

16x16 8K UHD HDMI 2.1 Matrix Switcher with Auto Downscaling/Audio De-Embedding

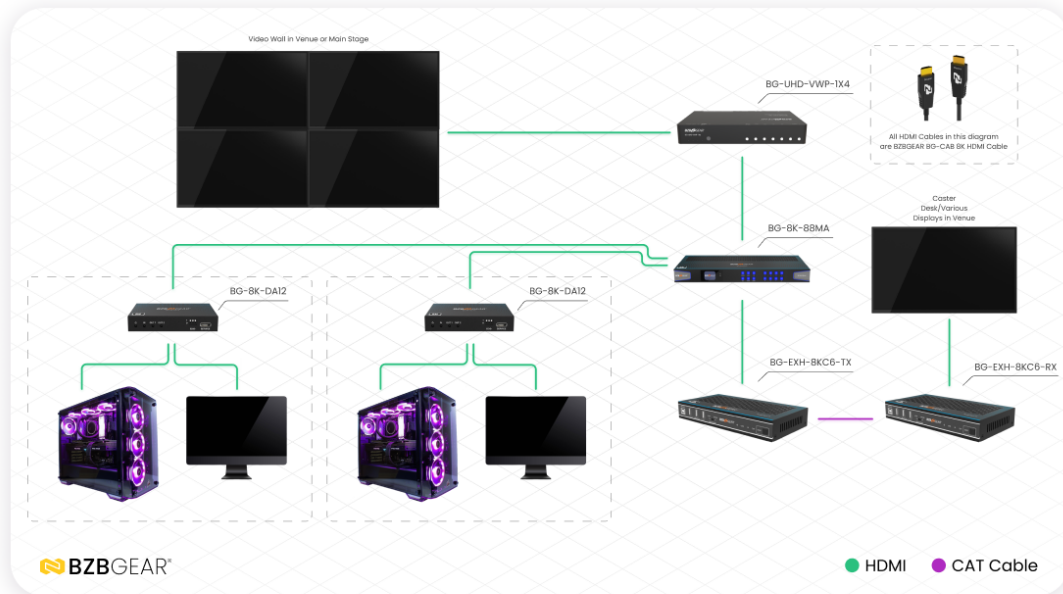


PLAY GAMES AT 4K@120HZ!

HDMI MATRIX SWITCHERS

The example below illustrates a compact AV solution for an esports arena, where player computers connect via HDMI to the **BG-8K-DA12** 8K splitter, sending signals to the player's main monitor and simultaneously to the **BG-8K-88MA** matrix switcher.

This matrix serves as the system's hub, distributing 1080P downscaled video to the **BG-UHD-VWP-1X4** for video walls and the **BG-EXH-8KC6** 8K extender for remote displays like the caster desk, all over CAT cable. With built-in audio de-embedding, the **BG-8K-88MA** also handles audio distribution without requiring a separate de-embedder, streamlining the setup.



BASIC HDMI SWITCHERS

Basic HDMI switchers are perfect for environments where a single display is being used. Effortlessly switch between up to four HDMI sources, including PCs, gaming consoles, streaming devices, cameras and more, with intuitive one-touch control. Enjoy seamless digital and analog audio de-embedding (available on select models), providing flexible, high-quality audio and video performance for any setup.

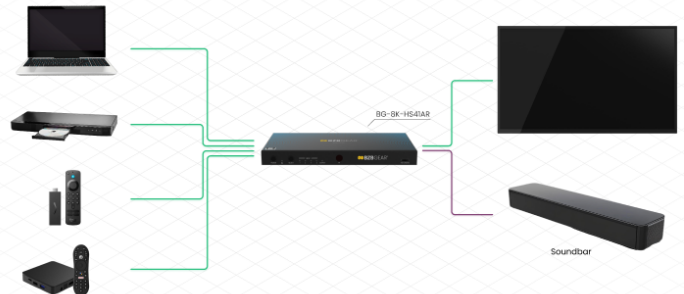
Unlike a matrix switcher, which routes multiple inputs to multiple outputs, a basic switcher allows you to select from multiple inputs for one display, offering simplicity and reliability without unnecessary complexity.



BG-8K-HS41AR

4x1 8K UHD HDMI 2.1 Switcher with Digital/Analog Audio De-Embedding/
EDID/RS-232 (8K60/4K120Hz 4:4:4 VRR/ALLM Support)

BG-8K-HS41AR
Connection Diagram



BZBGEAR®

● HDMI ● Phoenix or optical cable

HDMI SPLITTERS/ AMPLIFIERS

Experience unparalleled video distribution with our advanced HDMI Splitters, designed to deliver a single HDMI source signal to 1-4 displays simultaneously with impeccable precision and quality.

Mirror a player's game screen to multiple displays - for audience view, shoutcasters, or referees. Audio de-embedding and video downscaling functions.



BG-8K-DA12A-G2

1x2 8K UHD HDMI 2.1 48Gbps Splitter with Auto Downscaling/Audio De-Embedding (8K60/4K120 and VRR/FVA/ALLM Support)



BG-8K-DA18

1x8 8K UHD HDMI 2.1 48Gbps Splitter with Auto Downscaling/Audio De-Embedding (8K60/4K120 and VRR/ALLM/QMS/QFT/SBTM Support)



AUDIO VIDEO OVER INTERNET PROTOCOL

The **BG-IPGEAR-XTREME-PRO** is the ideal solution for transforming an esports arena into a fully integrated entertainment hub. Independently route content from any station to any display throughout the venue - or even broadcast it live for online streaming.

The Xtreme-Pro supports **8K@30HZ** as well as **4K@120HZ** signals delivering an impressive low latency of **.005 or under 1 frames per second**.

Connect a PC and or Game system capable of distributing Audio, Video, Control and KVM signals including **USB-C** over an AV managed Network switch. Utilize **AvoIP Wall plates** as Transmitters or Receivers for clean aesthetics.

The BZBGEAR BG-IPGEAR-XTREME Series delivers next-generation HDMI 2.1 over IP performance, enabling uncompressed 4K@120Hz 4:4:4 video, multi-channel audio, and KVM functionality over standard Cat.5e/6 cabling up to 100 meters.



BG-IPGEAR-XTREME-PRO

8K UHD AV over IP Multicast Transceiver with Seamless Matrix Switching/Video Wall/MultiView/KVM/USB 3.0/1G POE Support



BG-IPGEAR-XTREME

4K UHD HDMI Over IP Multicast System with Seamless Matrix Switching/ MultiView/KVM/USB 3.1/PoE

WALL PLATES

The **BG-IPGEAR-XTREME-W** HDMI 2.1 Over IP Multicast Wall Plate System is a high-performance AV transmission solution designed to extend **Ultra-HD 4K@120Hz 4:4:4** video and high-fidelity audio over long distances via standard Cat.5e cable.

Supporting distances of up to 100 meters (330 feet) over copper, this system ensures uncompressed, high-quality transmission from HDMI sources such as Apple TV, PlayStation, Xbox, PCs, and other HDMI-enabled devices to remote displays.

With support for **USB-C (Alt Mode DP 1.4)**, **HDMI**, and **DisplayPort** input, the BG-IPGEAR-XTREME-W is ideal for professional AV installations in corporate environments, digital signage, healthcare, gaming, and education sectors. The unit features bi-directional IR pass-through, USB 3.1 for UVC devices, and seamless video switching, making it a robust choice for interactive and multi-display setups.



BG-IPGEAR-XTREME-W-T

4K UHD HDMI Over IP Multicast Wall Plate Encoder/Decoder with Seamless Matrix Switching/MultiView/KVM/USB 3.0/1G POE Support (Transmitter)

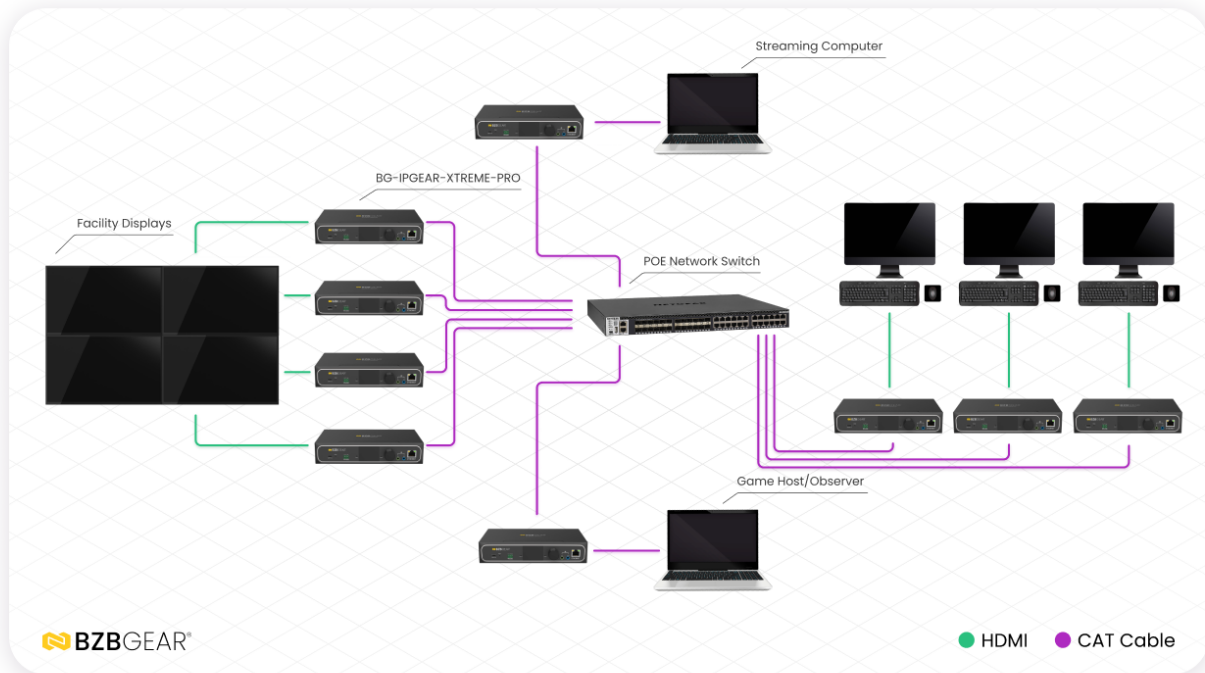


BG-IPGEAR-XTREME-W-R

4K UHD HDMI Over IP Multicast Wall Plate Encoder/Decoder with Seamless Matrix Switching/MultiView/KVM/USB 3.0/1G POE Support (Receiver)

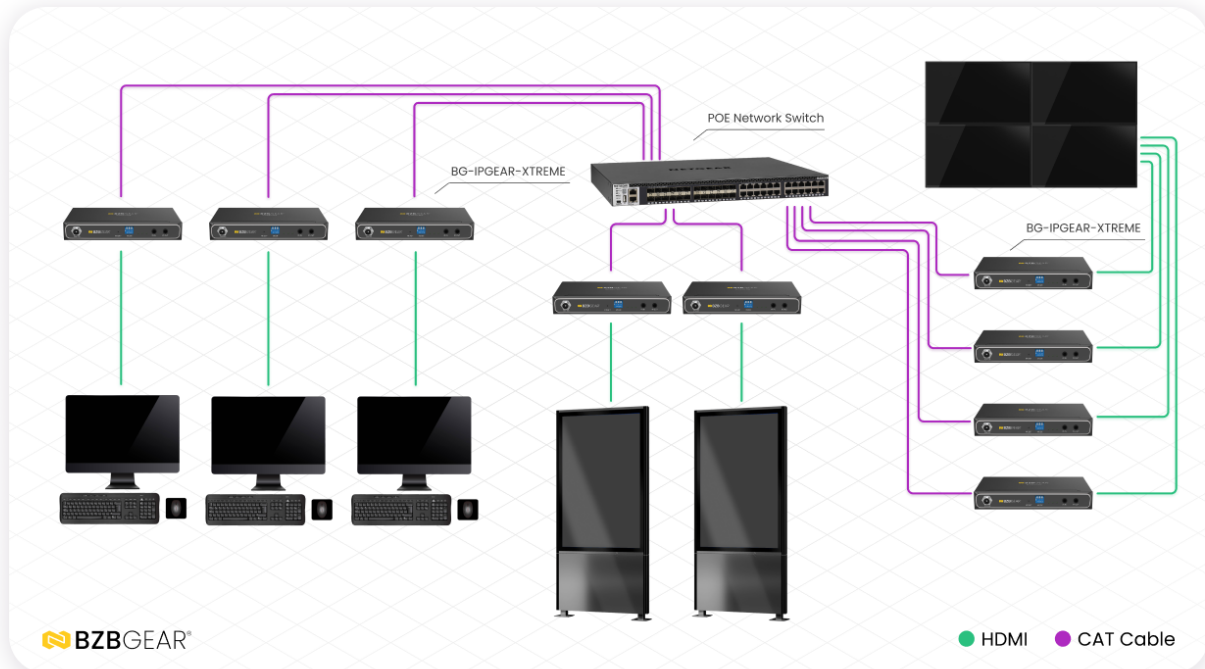
BG-IPGEAR-XTREME-PRO SOLUTIONS

The **BG-IPGEAR-XTREME-PRO** is the ideal solution for transforming an esports arena into a fully integrated entertainment hub. As illustrated in the diagram, this powerful device allows every gaming PC in the arena to become a selectable video source. The **XTREME-PRO** can independently route content from any station to any display throughout the venue - or even broadcast it live for online streaming. It's the ultimate tool for dynamic content distribution and engaging spectator experiences.



BG-IPGEAR-XTREME SOLUTIONS

Pictured below is an example of how you could utilize some computers in tandem with our **BG-IPGEAR-XTREME** to a video wall as well as running two vertical displays which could be utilized as interactive catalogs or game schedules.



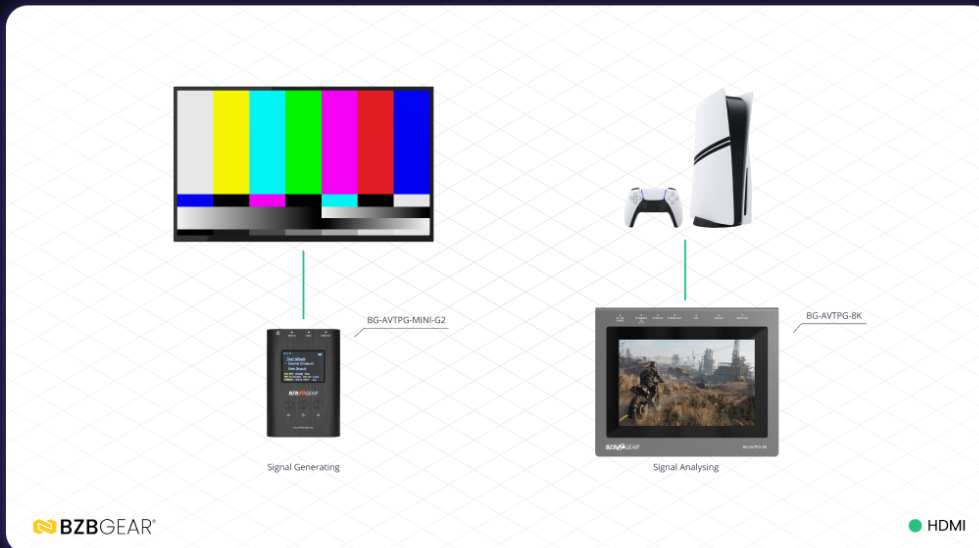
8K HDMI GENERATOR/ ANALYZER

Ensure that your system is passing the HDMI signal required by the environment with BZBGear's BG-AVTPG-MINI-G2 Generator/Analyzer. This compact and user-friendly tool with colored LED supports video signals Up to 8K60 4:2:0 10bit, 8K30 4:4:4, & 4K2K@120Hz.



BG-AVTPG-MINI-G2

8K/4K/1080P HDMI 2.1 48Gbps Portable Signal Test Generator and Analyzer



HDMI SIGNAL EXTENDERS

TRANSPORT SIGNALS LONG DISTANCE

8K extenders are essential for surpassing the distance limitations of standard HDMI 2.1 cables. Since HDMI signals often degrade around 50 feet, these extenders convert HDMI signals into Ethernet or fiber optic signals, allowing for significantly longer transmission distances without signal loss.

To ensure users receive the best signal quality, our extender kits are equipped with EDID dip switches. This enables users to set specific resolution and audio format settings for compatibility with all equipment involved.

Transport 4K@120HZ signals over HDBaseT (CAT6A/7) up to 90M/295ft using the BG-EXH-8KC6 with KVM functions or select the BG-EXH-8KF Fiber Optic Extender supporting an HDMI signal transfer distance of up to 300M.



BG-EXH-8KF

8K UHD HDMI 2.1 Over Fiber Extender - 8K60/4K120Hz with IR/
RS-232/EDID Management & Audio Embedding/De-Embedding



PREMIUM 8K HDMI CABLES

UNMATCHED PROFESSIONAL QUALITY

BZBGear's 8K HDMI standard and Active Optical cable series establishes an unparalleled benchmark for professional excellence. This 8K cable flawlessly transmits 8K@60Hz signals and supports high-refresh 4K resolutions, reaching up to 4K@120Hz. Enhanced by HDR video, seamless 48Gbps bandwidth, and compatibility with various audio formats, this cable provides users with a comprehensive toolkit that caters to the demands of any project.

Additionally, the cable's HDCP 2.3 compliance enhances security through advanced media encryption, ensuring an extra layer of protection.

ELEVATED GAMING

Introducing groundbreaking features such as automatic low latency mode, rapid media switching, frame transport, and variable refresh rate, individuals can fully engage in elevated gaming and entertainment experiences that push the boundaries of enjoyment.



4K VS 8K TEST PATTERN GENERATORS

Feature	4K Test Pattern Generators	8K Test Pattern Generators
Max Resolution Output	Up to 4K@60Hz	Up to 8K@60Hz, 4K@120Hz
Color Depth & Chroma	4:4:4 8-bit / 4:2:0 16-bit HDR	4:2:0 8/10-bit, 4:4:4 8/10-bit HDR
HDMI Version	HDMI 2.0	HDMI 2.1
Ideal For	4K displays, matrix setups, AV installations	Gaming lounges, 8K TVs, broadcast studios
HDR Support	Yes	Yes (more advanced)
Control Options	Device buttons, USB mouse, Ethernet	USB mouse, Ethernet, touch panel
HDCP Support	1.4, 2.2	1.4, 2.2, 2.3

BZBGear Broadcasting Products

BZBGear provides complete solutions for streaming and recording live events. Start with our **BG-ADAMO** camera series, available in 1080p and 4K resolutions, and connect them to the **BG-Quadfusion** production switch to control scenes and overlay third-layer graphics effortlessly. Take full control of pan, tilt, and zoom functions with our BG-Commander joystick controllers, available in compact or robust models to suit any setup.

Need to convert NDI, SDI, or HDMI signals for audio, video, or control? BZBGear has you covered with a wide range of reliable signal conversion and accessory solutions, making professional live production simpler than ever.



BG-ADAMO-4K

4K UHD Auto Tracking HDMI 2.0/12G-SDI/USB 2.0/USB 3.0
Live Streaming PTZ Camera with Tally Lights



BG-QUADFUSION-4K

4-Channel 4K UHD Live Streaming HDMI/DP Switcher Mixer with PIP
and USB 3.0 Capture Card



BG-STREAM-DE

1 Channel SDI/HDMI Encoder/Decoder/Recorder
with Audio/USB 3.0 for Storage

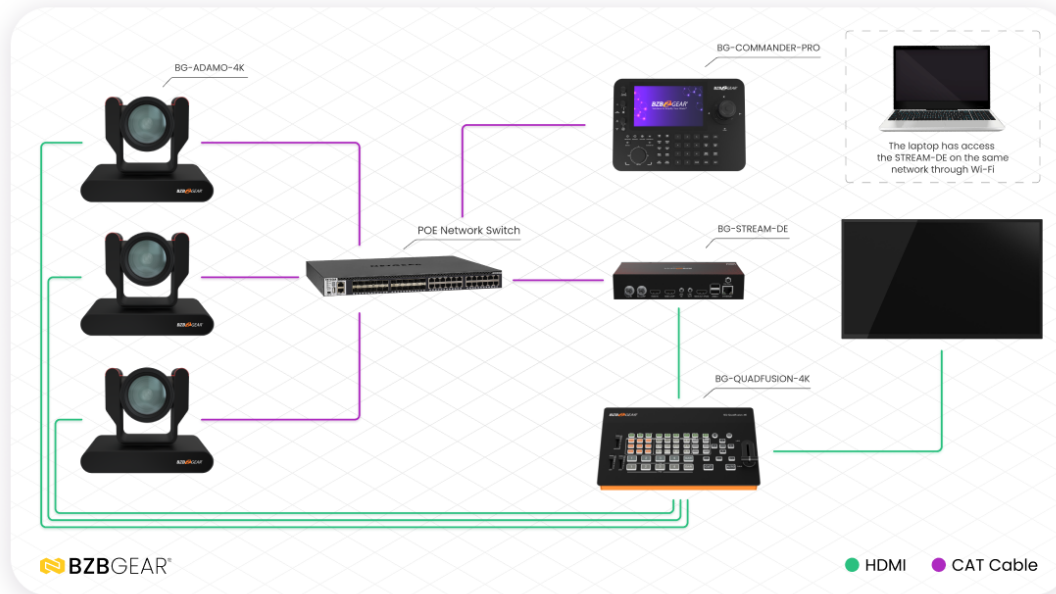


BG-COMMANDER-PRO

Professional Serial and IP PTZ Joystick Controller with Touchscreen
and POE (IP/RS-232/422/485)

HOW IT WORKS:

Below is an example of a multi-camera production. In this case we are using 3 **BG-ADAMO-4K** cameras but the **BG-QUADFUSION-4K** could support up to 4 sources. These cameras are being powered through CAT cable from the network switch. The cameras are going HDMI out into the **BG-QUADFUSION-4K** which is then sending the program feed out to the **BG-STREAM-DE** which is a stream encoder/decoder/recorder which is being used to stream the feed but you could also use it to record the event to a harddrive. The multiview is being sent from the **BG-QUADFUSION-4K** to a TV by HDMI and camera control is being handled by the **BG-COMMANDER-PRO**. The laptop in this image can control the stream through the web interface of the BG-STREAM-DE.

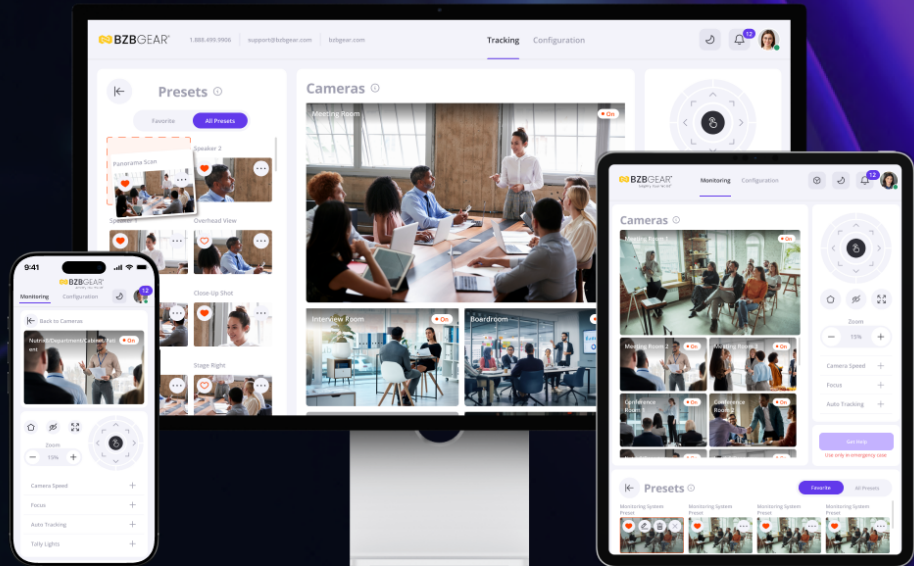


BZBGear Pro PTZ Camera Control Software

BZBGear Pro PTZ Camera Control is a software application specifically designed to control, monitor, and manage selected BZBGear PTZ cameras.

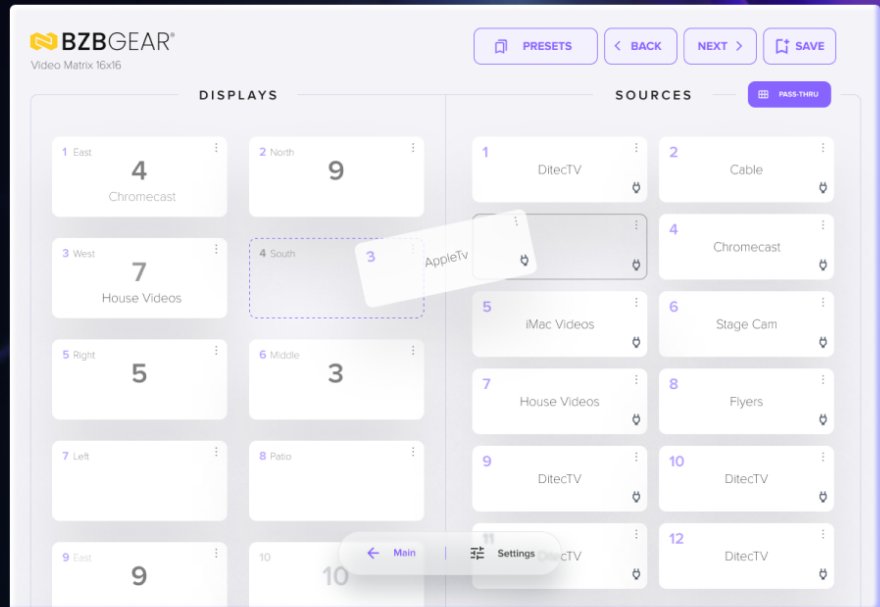
<https://bzbgear.com/products/cameras/>

AVAILABLE ON



BZBGear PRO VIDEO SWITCHING CONTROL SOFTWARE

Effortlessly control and manage your video system
with our user-friendly app!



AVAILABLE ON



COMPLIMENTARY DESIGN SERVICES AND SALES ENGINEERING SUPPORT

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.

Pro Line Products
5-YEAR WARRANTY

Essential Line Products
3-YEAR WARRANTY

Cables Products
LIFETIME WARRANTY



BZBGear SUPPORT

Receive professional technical sales support and advice encompassing specifications, product features, and system design solutions. Our team is dedicated to assisting you in making informed decisions tailored to your needs.

Benefit from our always free design services and sales engineering support, ensuring seamless integration and optimal performance of your systems.

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