

BG-4KBHS

12G/6G/3G/HD-SDI & HDMI 2.0 BI-DIRECTIONAL CONVERTER WITH AUDIO EMBEDDING AND EXTRACTION

The BG-4KBHS is a professional-grade 12G/6G/3G/HD-SDI and HDMI 2.0 bi-directional converter featuring integrated audio embedding and extraction. Designed for uncompromising signal quality and reliability, this converter enables seamless real-time conversion between HDMI and SDI formats without latency or signal loss. Supporting full digital conversion, it maintains uncompressed, lossless video and audio for pristine broadcast performance.

With support for up to 8 audio channels, including 7.1 and 5.1 surround sound, and a high-quality analog stereo embedder and extractor, the BG-4KBHS bridges professional SDI systems with consumer HDMI devices in a single, versatile solution. Its low-jitter SDI output, automatic signal detection, and broad video format support up to 4K@60Hz make it a reliable tool for broadcast studios, post-production, and AV integration environments demanding flexible and high-fidelity signal management.



FEATURES



SUPPORTS HD & UHD FORMATS

720p@50/59.94/60Hz, 1080i@50/59.94/60Hz, 1080p@23.97/24/25/29.97/30/50/59.94/60Hz, 4K2K@23.98/24/25/29.97/30/50/59.94/60Hz



HIGH BIT RATE SUPPORT

Handles SDI bit rates of 270 Mbps up to 11.88 Gbps, including fractional rates for broadcast compatibility



AUDIO CHANNEL SUPPORT

Supports up to 8 audio channels, including 7.1 and 5.1 surround sound



ANALOG STEREO EMBEDDER & EXTRACTOR

Provides high-quality analog audio embedding and extraction for flexible audio routing



REAL-TIME BI-DIRECTIONAL CONVERSION

Converts HDMI to SDI and SDI to HDMI without latency or quality loss



AUTO SDI DETECTION

Automatically detects and switches between 12G, 6G, 3G, and HD-SDI signals



TECH SPECIFICATIONS

Technical

SDI Standards	12G / 6G / 3G / HD-SDI
HDMI Standards	HDMI 2.0
Auto SDI Detection	12G / 6G / 3G / HD-SDI (Auto)
Video Bandwidth	SDI: 11.88 Gbps, 11.88/1.001 Gbps HDMI: Up to 18 Gbps
Video Support	12G-SDI: 4K2K @50/59.94/60Hz 6G-SDI: 4K2K @23.98/24, 25, 29.97, 30Hz 3G-SDI: 1080p @50/59.94/60Hz HD-SDI: 720p @50/59.94/60Hz, 1080i @50/59.94/60Hz, 1080p @23.98/24/25/29.97/30Hz HDMI: Up to 4K2K @60Hz
Input Signal	1x SDI, 1x HDMI, 1x Audio
Output Signal	2x HDMI, 1x SDI, 1x Audio
Output Impedance (SDI)	75Ω
Synchronization Mode	Internal or External
Eye Pattern Characteristics	12G-SDI: Timing jitter: 0.29 UI, Alignment jitter: 0.13 UI 6G-SDI: Timing jitter: 0.18 UI, Alignment jitter: 0.06 UI 3G-SDI: Timing jitter: 0.09 UI, Alignment jitter: 0.03 UI
Cable Equalization	12G-SDI: up to 70m 6G-SDI: up to 100m 3G-SDI: up to 190m HD-SDI: up to 300m
Audio Support	Analog Audio: 2-channel HDMI: Surround Sound (up to 7.1ch)
PCB Stack-up	6-layer board (Impedance control: differential 100Ω; single 50Ω)

Connection

Input	1x HDMI 1x BNC (SDI) 1x TOSLINK
Output	2x HDMI 3x BNC (SDI out/loop-out) 1x TOSLINK
BNC Connector	75Ω inter-locked socket
HDMI Connector	Type A (19-pin female)
USB Connector	Micro USB

Mechanical

Housing	Metal Enclosure
Power Supply	+12V DC
Operating Temperature	32 ~ 104°F / 0 ~ 40°C
Storage Temperature	-4 ~ 140°F / -20 ~ 60°C
Relative Humidity	20 ~ 90% RH (no condensation)

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.

Pro Line Products
5-YEAR WARRANTY
Essential Line Products
3-YEAR WARRANTY
Cables Products
LIFETIME WARRANTY

