

*COMPACT CONVERSION.
PEAK PERFORMANCE.*

COBALT®

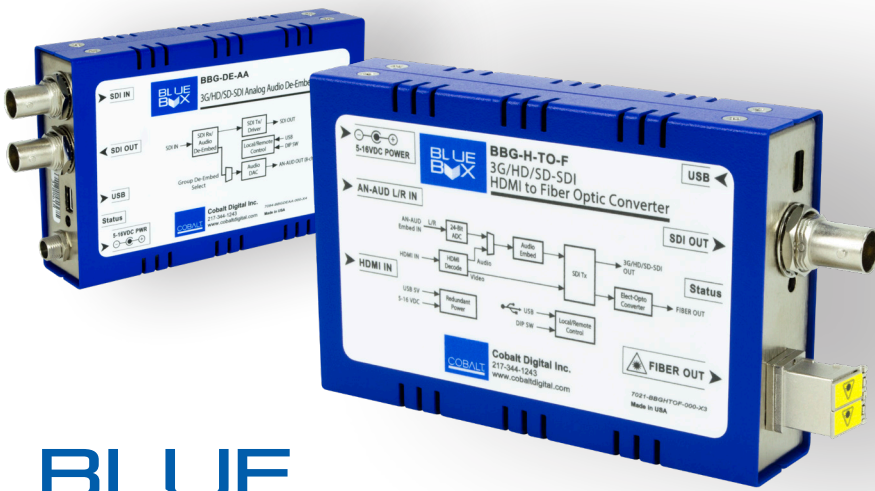
COBALTDIGITAL.COM

THROW- DOWN WITH BLUE BOX

COMPACT CONVERSION. PEAK PERFORMANCE.

Delivering excellent performance and a small footprint, Blue Box low-cost boxes provide 12G/6G/3G/HD/SD-SDI, HDMI, and analog conversions with audio embed/de-embed, as well as models offering coax/fiber conversions. Designed to attach securely to associated equipment, the Blue Box Group™ provides for a neater, more physically secure and dependable installation than other interface boxes. Blue Box Group™ modular, throwdown units provide quality, economical solutions in a small package.

COBALT



Founded in 1997, Cobalt Digital offered some of the initial bricks for the production truck industry. The Blue Box Group™ (BBG) is a continuation of this concept providing first-class quality, economical solutions to meet today's TV broadcast needs for studio, production truck and all industry needs.

Cobalt's Blue Box Group™ family of products is continually growing and includes Fiber Transmission/Conversion, HDMI/DVI Conversion, A to D and D to A's, Analog Audio as well as AES Audio Embedding/De-Embedding solutions.

BLUE BOX GROUP™

Low-cost boxes; excellent performance

3G (1080p59.94/50) support for HDMI models

Full support of 5Mbps thru 3Gbps transport conversions on Fiber models, with seamless auto-mode reclocking

Compatible with SMPTE 424M, 292M, 259M, 310M, M2S, DVB-ASI and MADI audio on Fiber models

Analog Audio Embed/De-Embed


Power from mini USB and/or external power source for redundant power (not all models)

Backed by five-year warranty

Small footprint

BLUE BOX MODELS INCLUDE:

- **BBG-F-TO-H**
3G/HD/SD-SDI Fiber Optic-To-HDMI Converter
- **BBG-H-TO-F**
3G/HD/SD-SDI HDMI-To-Fiber Optic Converter
- **BBG-E00E-12G**
12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Transceiver
- **BBG-EM-AA**
3G/HD/SD-SDI 8-Channel Analog Audio Embedder
- **BBG-DE-AA**
3G/HD/SD-SDI 8-Channel Analog Audio De-Embedder
- **BBG-EMDE-AES110**
3G/HD/SD-SDI 16-Channel AES Audio Embedder/De-Embedder
- **BBG-EMDE-AES75**
3G/HD/SD-SDI 16-Channel AES Audio Embedder/De-Embedder
- **BBG-OE-12G**
12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Receiver
- **BBG-20E-12G**
12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Dual Transport Receiver
- **BBG-E0-12G**
12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Transmitter
- **BBG-2E0-12G**
12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Dual Transport Transmitter
- **BBG-DA-12G-1x6**
12G/3G/HD/SD/ASI Reclocking Distribution Amplifier
- **BBG-S-TO-H**
3G/HD/SD-SDI to HDMI with De-Embedder
- **BBG-H-TO-S**
SDI - HDMI to 3G/HD/SD-SDI with Embedder
- **BBG-S-TO-A**
HD/SD-SDI to HD/SD Analog Component/Composite with Audio De-Embedder
- **BBG-A-TO-S**
Analog Component/Composite with Audio Embedder

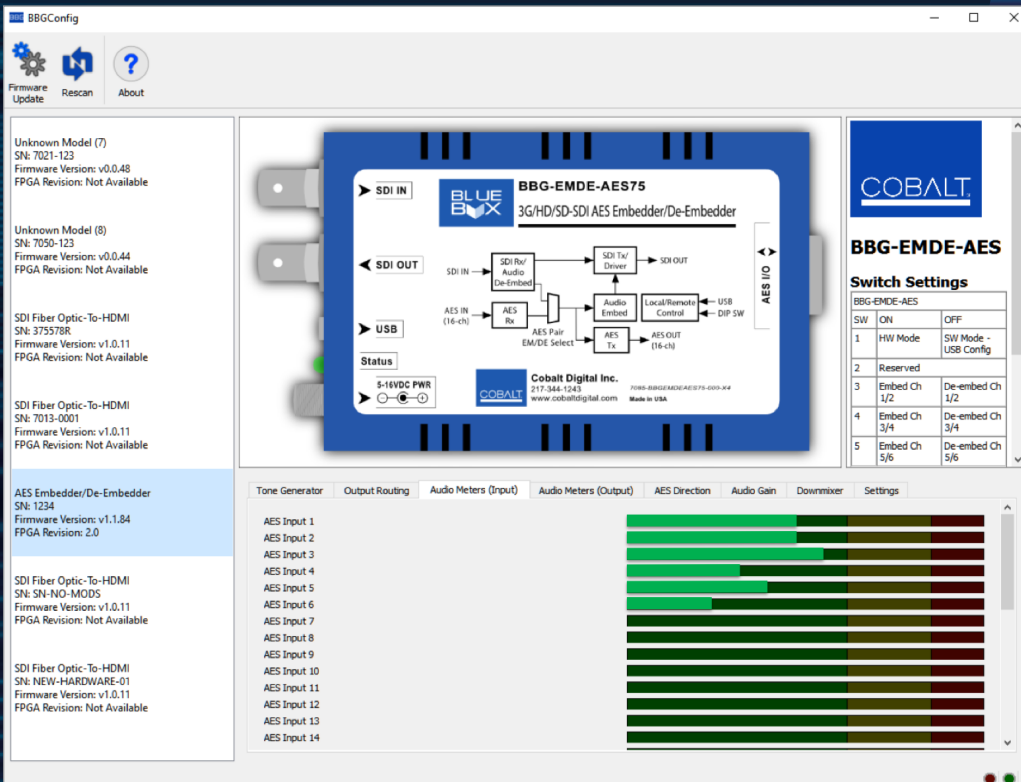
 For details on our GSA Certified dealers please visit cobaltdigital.com

- Supports the BBG-Config GUI

BBG-CONFIG

USB SETUP AND MONITORING SOFTWARE

BBG-CONFIG software provides an intuitive GUI for setup and monitoring of the latest series of BlueBoxGroup throwdown converters.



The feature set of these products is ever increasing in sophistication and this calls for an easy to use tool for monitoring and to provide access to controls that aren't feasible using the external dip switches.

The BBG-CONFIG communicates with the supported BBG via the integrated Mini-USB port which can also be used for Redundant Power input.

SOME BENEFITS OF USING BBG-CONFIG ARE:

Monitors

- A/V Presence and Status
- I/O Audio Levels
- Optical Tx and Rx Power

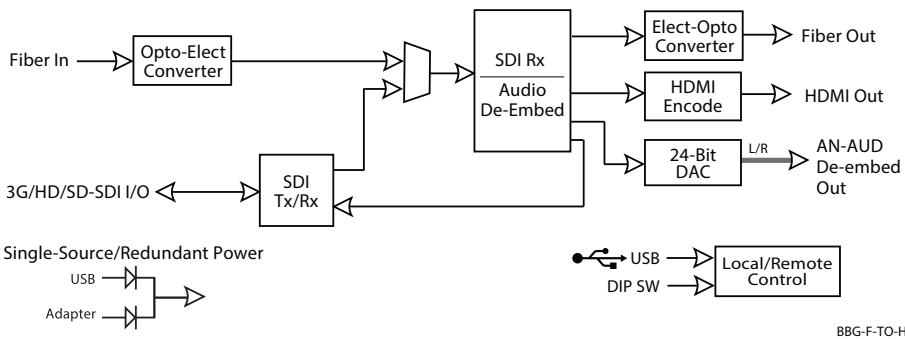
Controls

- A/V Signal Routing
- Audio Mixing and Gain
- Reclocking Modes

The new Blue Box Fiber-To-HDMI (BBG F-To-H) throw-down converter unit is a new part of the Blue Box Group™ of compact, rugged, and portable converter boxes. BBG F-To-H offers a compact throwdown unit that provides direct fiber-To-HDMI conversion and much more.

The flexible built-in crosspoint and flexible I/O allows BBG-F-To-H to also act as a fiber regen while providing an HDMI output. The HDMI output can be set to instead provide a DVI-D output directly compatible with computer monitors. The BBG-F-To-H also can receive a coax SDI input (SMPTE 259M, 292M, and 424M) and in turn provide an HDMI and a fiber output. BBG F-To-H can also provide a coax SDI output while converting fiber to HDMI. A convenient stereo analog audio de-embed output is also provided.

BBG-F-To-H can be configured using the device DIP switches or by using an intuitive GUI application that communicates with BBG-F-To-H over a PC's USB port. The GUI app allows dynamic configuration control, status display, and other advanced control functions not commonly found on "throwdown" packages. When configured using the GUI app, the USB connection can be removed with all settings held in non-volatile device memory.



SPECIFICATIONS

Inputs/Outputs

- (1) Fiber input. FC, ST, or LC connectors per ordered configuration (see Ordering Info).
 - (1) Fiber regen output. FC, ST, or LC connectors per ordered configuration (see Ordering Info).
 - (1) SDI I/O (mode user selectable)
 - (1) HDMI output (HDMI 1.4a compliant). HDMI output can be set as DVI-D (limited to SMPTE HD formats).
- Stereo analog audio out (L/R unbalanced pair via 3.5mm TRS jack)

Standards Supported

SMPTE 259M, 292M, 424M

Audio Conversion Format

48 kHz sampling, 24-bit
8-Ch HDMI to SDI groups 1 and 2

Power Source

Power sourced directly from host equipment USB port. Converter can also be powered using corded AC adapter (included)

Power

5-16 VDC, 2.4 W
DC Power Connectors
USB Mini and coaxial locking connector (for use with supplied Cobalt power adapter)

Dimensions (WxHxD)

5.5" x 3" x 1" (including connector projections)
(139 x 77 x 26 mm)

ORDERING INFORMATION

BBG-F-TO-H-FC 3G/HD/SD-SDI Fiber Optic-to-HDMI Converter (Type FC fiber connector)

BBG-F-TO-H-ST 3G/HD/SD-SDI Fiber Optic-to-HDMI Converter (Type ST fiber connector)

BBG-F-TO-H-LC 3G/HD/SD-SDI Fiber Optic-to-HDMI Converter (Type LC fiber connector)

FEATURES

Flexible crosspoint and multiple inputs/outputs provide fiber-To-HDMI, SDI-To-fiber, and fiber regen conversions. HDMI output can be set as DVI-D for direct connection to computer monitors.

Direct conversion to HDMI from SMPTE 259M, 292M and 424M SDI

Powers directly from host equipment USB or standard corded power adapter. USB power and corded adapter can be simultaneously used to provide redundant power sourcing.

Configurable using device DIP switches or USB GUI remote control offering dynamic configuration control, status display, and other advanced control functions not commonly found on "throwdown" packages

Compact size and low weight design easily affixes directly to camera or host device chassis

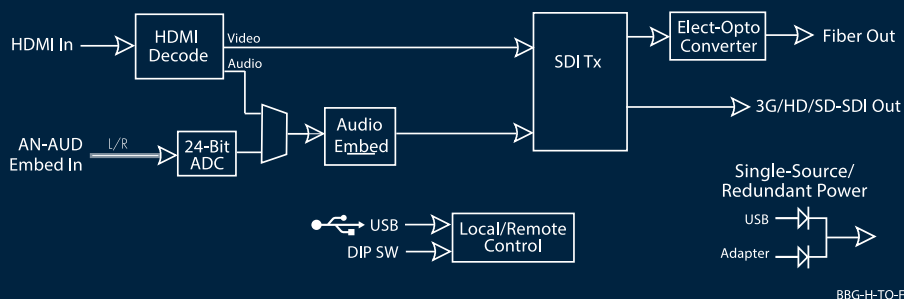
Singlemode fiber link distance >10 km (3Gbps), >20 km (1.5Gbps), and >35 km (270Mbps). Multimode typically >200 m.

Rugged construction backed with a five-year warranty

The Blue Box HDMI-to-Fiber (BBG-H-To-F) throw-down converter unit is a new part of the Blue Box Group™ of compact, rugged, and portable converter boxes. BBG-H-to-F offers a compact throwdown unit that provides direct HDMI-to-fiber conversion and much more.

BBG-H-To-F also provides a 3G/HD/SD-SDI output, and a stereo analog audio embed input. The HDMI input can also receive and convert DVI-D sources (limited to SMPTE HD formats). Along with the analog audio embedding offered by BBG-H-To-F, this allows a fiber and coax SDI output with embedded audio from DVI-D video sources.

BBG-H-To-F can be configured using the device DIP switches or by using an intuitive GUI application that communicates with BBG-H-To-F over a PC's USB port. The GUI app allows dynamic configuration control, status display, and other advanced control functions not commonly found on "throwdown" packages. When configured using the GUI app, the USB connection can be removed with all settings held in non-volatile device memory.



SPECIFICATIONS

Standards Supported
SMPTE 259M, 292M, 424M

Inputs/Outputs
HDMI input (HDMI 1.4a compliant). DVI-D compliant input (limited to SMPTE HD formats).
 · (1) Fiber output. FC, ST, or LC connectors per ordered configuration (see Ordering Info).
 · (1) Stereo analog audio pair in (L/R unbalanced pair via 3.5mm TRS jack)
 · (1) SDI output

Audio Conversion Format
48 kHz sampling, 24-bit
8-Ch HDMI to SDI groups 1 and 2

Power Source
Power sourced directly from host equipment USB port. Converter can also be powered using corded AC adapter (included)

Power
5-16 VDC, 2.4 W
DC Power Connectors
USB Mini and coaxial locking connector (for use with supplied Cobalt power adapter)

USB Port
Mini-USB (used for power source, USB remote control connection, and firmware upgrade upload to device)

Dimensions (WxHxD)
5.5" x 3" x 1" (including connector projections)
(139 x 77 x 26 mm)

ORDERING INFORMATION

BBG-H-TO-F-FC 3G/HD/SD HDMI-To-Fiber Optic Converter (Type FC fiber connector)

BBG-H-TO-F-ST 3G/HD/SD HDMI-To-Fiber Optic Converter (Type ST fiber connector)

BBG-H-TO-F-LC 3G/HD/SD HDMI-To-Fiber Optic Converter (Type LC fiber connector)

NOTE: The USB GUI application available for BBG H-to-F is a free download (Windows Security Certified) that can be downloaded from our Support web page. Instructions for downloading and using the app are included in product documentation. The application is not required for device usage where only DIP switch configuration is desired.

Currently, this application is available for only the following operating systems: Windows Vista, Windows 7, Windows 8, and Windows 8.1

FEATURES

Provides simultaneous HDMI-to-fiber and HDMI-to-coax SDI conversions. Accepts DVI-D input sources with SDI format conversions to coax and fiber SDI.

Direct conversion from HDMI to SMPTE 259M, 292M and 424M SDI

Powers directly from host equipment USB or standard corded power adapter. USB power and corded adapter can be simultaneously used to provide redundant power sourcing.

Configurable using device DIP switches or USB GUI remote control offering dynamic configuration control, status display, and other advanced control functions not commonly found on "throwdown" packages

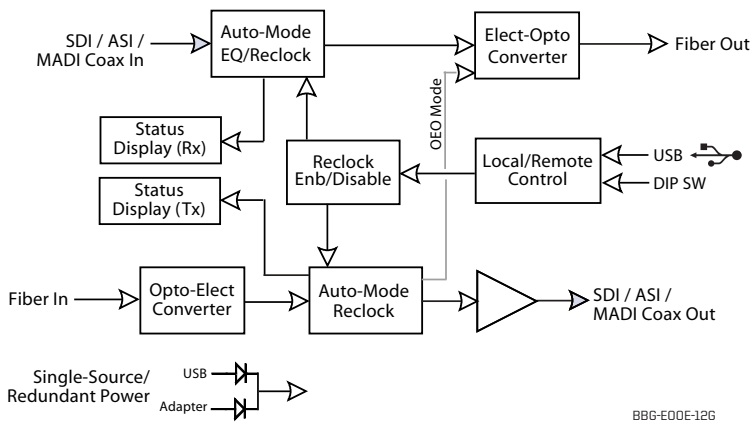
Compact size and low weight design easily affixes directly to camera or host device chassis

Singlemode fiber link distance >10 km (3Gbps), >20 km (1.5Gbps), and >35 km (270Mbps). Multimode typically >200 m.

Rugged construction backed with a five-year warranty

The Blue Box BBG-E00E-12G Coax/Fiber Transceiver throw-down converter unit is a new part of the BlueBox™ group of compact, rugged, and portable converter boxes. Super-easy to use, BBG-E00E-12G supports SMPTE ST2082, ST2081, 424M, 292M, and 259M as well as ASI and MADI audio on independent fiber-coax and coax-fiber paths. Auto-mode EQ/reclocking automatically sets to the signal type being received while allowing unrecognized formats to be safely passed without reclocking (auto-reclock can also be manually disabled for either path as desired). Its wide operating range (from 5Mbps to 12Gbps) flexibly supports most professional digital serial communications. Fully error-free pathological pattern operation is fully compatible with other professional fiber video interfaces. SFP-based EO and OE converters provide state-of-the-art fiber performance, power consumption, and compactness.

BBG-E00E-12G receives its operating power via a USB connection or using an AC adapter connection. These power sources can be simultaneously used to provide redundant power sourcing.



FEATURES

Independent companion fiber Rx and Tx paths – all in one easy to use throw-down box. 4-mode crosspoint provides for numerous coax/fiber conversions and routing schemes.

Full support of 5Mbps thru 12Gbps transport conversions, with seamless auto-mode EQ/reclocking. No switches to set for different payloads.

Available with ST, LC, or FC fiber termination

Compatible with SMPTE ST2082, ST2081, 424M, 292M, 259M, 310M, M2S, DVB-ASI, and MADI audio

Dual-channel input lock status indicators. Optical Tx and Rx power status fields allow optical Tx/Rx confidence assessment.

Error-free pathological support. Full compatibility with other BlueBox™ Coax/Fiber units and Cobalt 9400-series openGear® frame-installed fiber cards.

Compact size and low weight design easily affixes directly to camera or host device chassis. Optional BBG-MB mounting bracket provides rigid, secure mounting to mounting surfaces.

USB remote control/status in addition to device indicator and switches. USB BBGConfig app (free download) offers device alternate OEO mode.

SFP-based EO/OE converters provide state-of-the-art fiber performance, power consumption, and compactness

Powers directly from host equipment USB or standard corded power adapter. USB power and corded adapter can be simultaneously used to provide redundant power sourcing.

Rugged construction backed with a five-year warranty

SPECIFICATIONS

Standards/Data Rates Supported

SMPTE ST2082, ST2081, 424M, 292M, 259M, 344M, 305M, DVB-ASI
5Mbps to 12Gbps pathological pattern operation (does not support AES-3id audio or other standards using data rates < 5Mbps)

Input (Fiber-to-Coax Path; Fiber Receive)

- (1) Fiber input. FC, ST, or LC connectors per ordered configuration (see Ordering Info)
Wavelength: 1260 to 1620 nm
Sensitivity/Input Usable Range:
-18 dBm min; -1 dBm max

Output (Fiber-to-Coax Path; Fiber Receive)

- (1) 75Ω BNC. Reclocking automatically engaged for recognized signal standards; bypassed for unrecognized standards.
Return Loss: >18 dBm up to 270 MHz

Input (Coax-to-Fiber Path; Fiber Transmit)

- (1) 75Ω BNC
Return Loss: >18 dBm up to 270 MHz

Output (Coax-to-Fiber Path; Fiber Transmit)

- (1) Fiber output. FC, ST, or LC connectors per ordered configuration (see Ordering Info). Reclocking automatically engaged for recognized signal standards; bypassed for unrecognized standards.
Wavelength: 1310 nm
Power: -5.0 dBm (min)

Power

5-16 VDC, 2.4 W
DC Power Connectors, USB Mini and coaxial locking connector (for use with supplied Cobalt power adapter)

Dimensions (WxHxD)

5.5" x 3" x 1" (including connector projections)
(139 x 77 x 26 mm)

Operating Temperature Range

32°F to 122°F (0°C to 50°C)

ORDERING INFORMATION

BBG-E00E-12G-FC 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Transceiver (Type FC fiber connectors)

BBG-E00E-12G-ST 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Transceiver (Type ST fiber connectors)

BBG-E00E-12G-LC 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Transceiver (Type LC fiber connectors)

NOTE: The USB GUI application available for BBG-E00E-12G is a free download (Windows Security Certified) that can be downloaded from our Support web page. Instructions for downloading and using the app are included in product documentation. The application is not required for device usage where only DIP switch configuration is desired.

BBG-S-TO-H »

3G/HD/SD-SDI to HDMI with De-Embedder

Powers directly from host equipment USB jack and/or AC adapter, with simultaneous use providing power redundancy

Full 5.1 channel audio conversion to HDMI audio with selectable C/LFE line-up control. Audio de-embeds of selected group 1/2 pair to analog audio output pair.

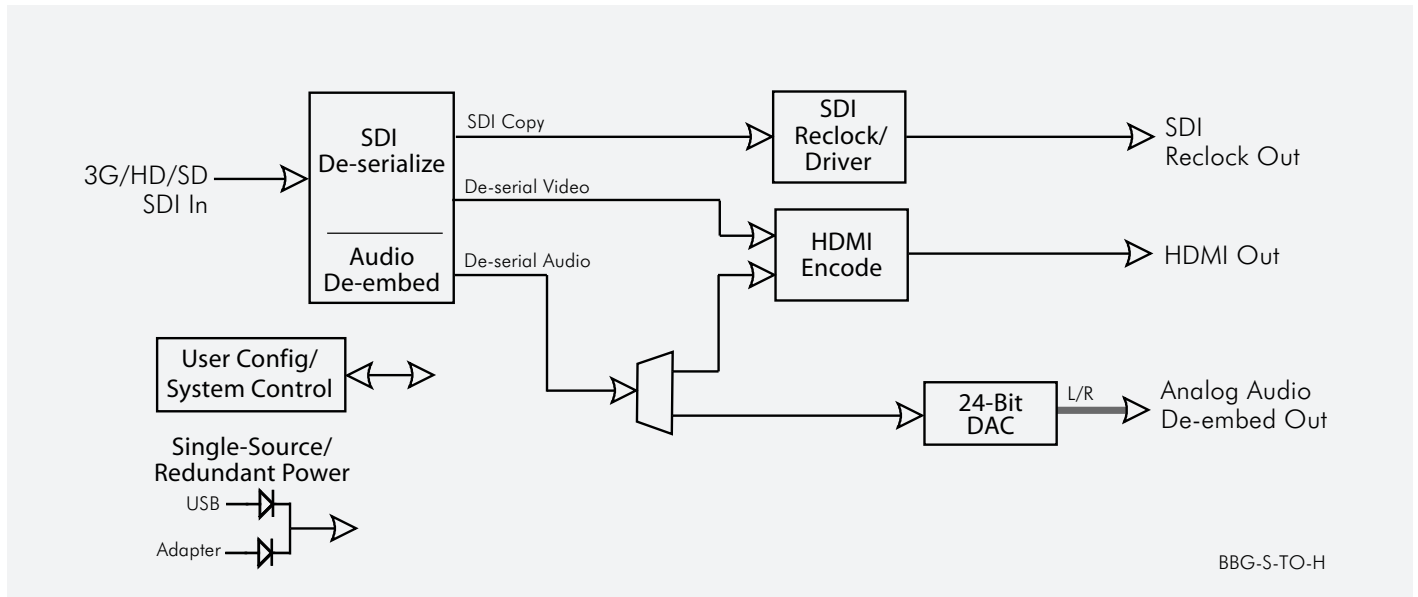
Selectable YPbPr or RGB colorspace and HDMI/DVI output modes

Small rugged portable standalone package ideal for portable installations. Compact size and low weight design easily affixes directly to camera or host device chassis.

SDI input copy output allows converter to provide SDI pass-thru

Rugged construction backed with a five-year warranty

Ordering information on page 19.



BBG-H-TO-S »

SDI - HDMI to 3G/HD/SD-SDI with Embedder

Powers directly from host equipment USB jack and/or AC adapter, with simultaneous use providing power redundancy

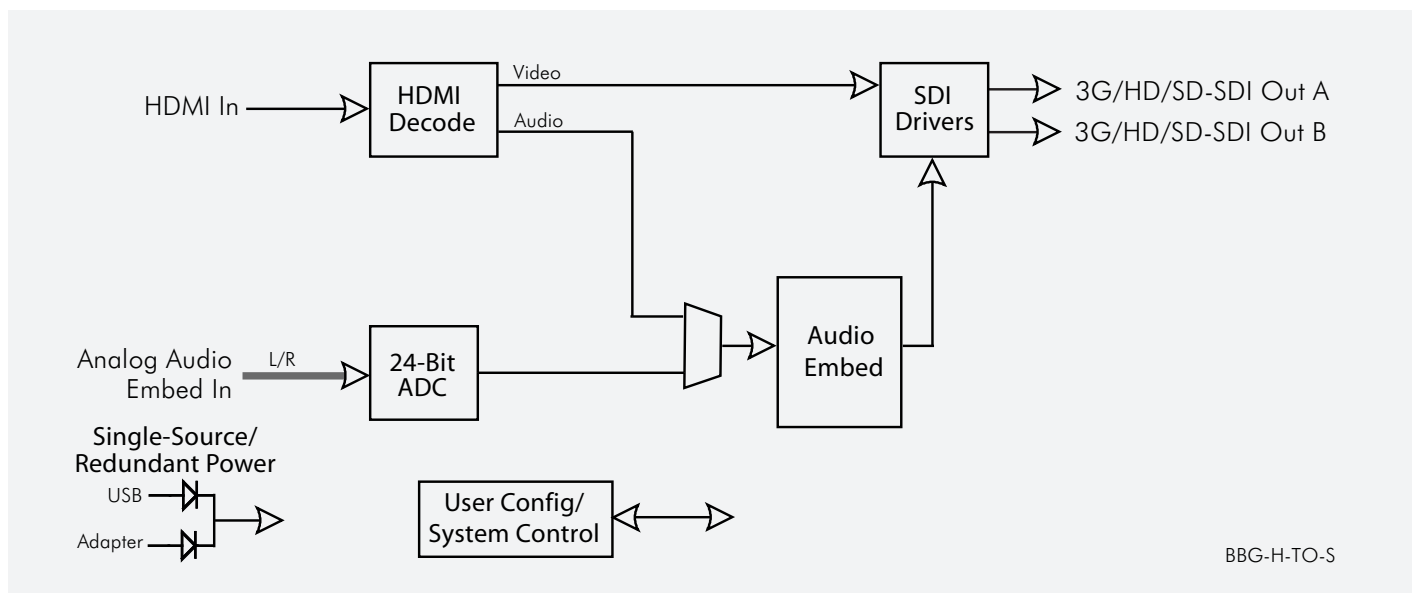
Small rugged portable standalone package ideal for portable installations. Compact size and low weight design easily affixes directly to camera or host device chassis.

5.1-channel embedding from HDMI audio. Stereo embedding from stereo analog audio input pair. Direct conversion from HDMI to SMPTE 259M, 292M and 424M SDI. Accepts DVI-D input sources with conversion to coax SDI.

2x SDI DA output

Rugged construction backed with a five-year warranty

Ordering information on page 19.



BBG-S-TO-A » HD/SD-SDI to HD/SD Analog Component/Composite with Audio De-Embedder

Powers directly from host equipment USB jack and/ or AC adapter, with simultaneous use providing power redundancy

Audio de-embed to analog pair from SDI input

High-quality 12-bit D/A conversion of NTSC/PAL SMPTE 259M or SMPTE 292M to YPbPr / RGB component or CVBS / S-Video composite video

Small rugged portable standalone package ideal for portable installations

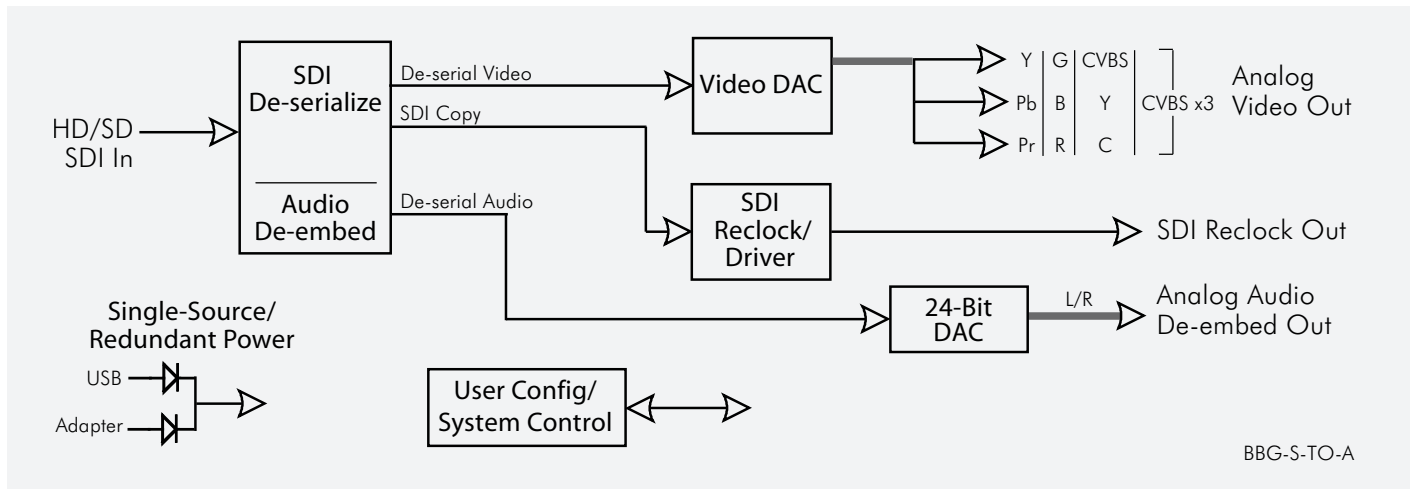
Passes line 21 closed-captioning for SD-SDI to analog conversions

De-embedding from selectable embedded air-to-stereo analog audio outputs

SDI input copy output allows converter to provide SDI pass-thru

Rugged construction backed with a five-year warranty

Ordering information on page 19.



BBG-A-TO-S » Analog Component/Composite with Audio Embedder

Powers directly from host equipment USB jack and/ or AC adapter, with simultaneous use providing power redundancy

High-quality 12-bit A/D conversion of NTSC/PAL YPbPr / RGB component or S-Video / CVBS composite video to SMPTE 259M or SMPTE 292M

2-channel audio embedding

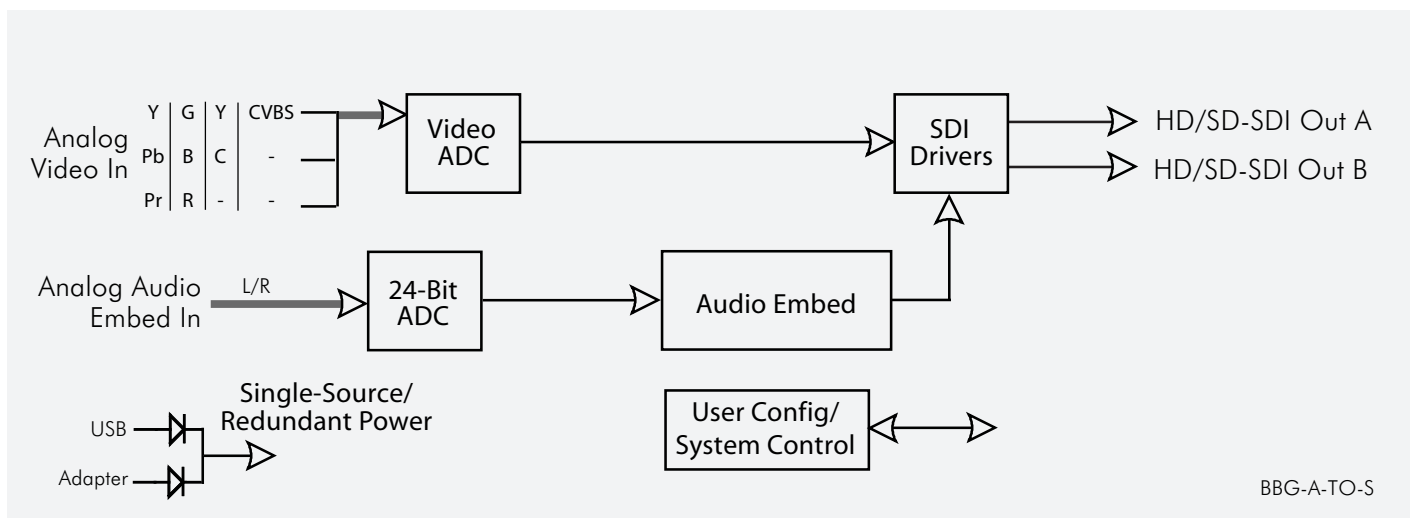
2x SDI DA output

Small rugged portable standalone package ideal for portable installations

Passes line 21 closed-captioning for analog-to-SD-SDI conversions

Rugged construction backed with a five-year warranty

Ordering information on page 19.



BBG-EM-AA »

3G/HD/SD-SDI 8-Channel Analog Audio Embedder

Eight balanced analog audio inputs with user-selectable direct embedding to groups 1 thru 4. DB-25 connector with XLR breakout provides a compact footprint. Balanced analog audio inputs can utilize direct connection from standard DB-25 connectors.

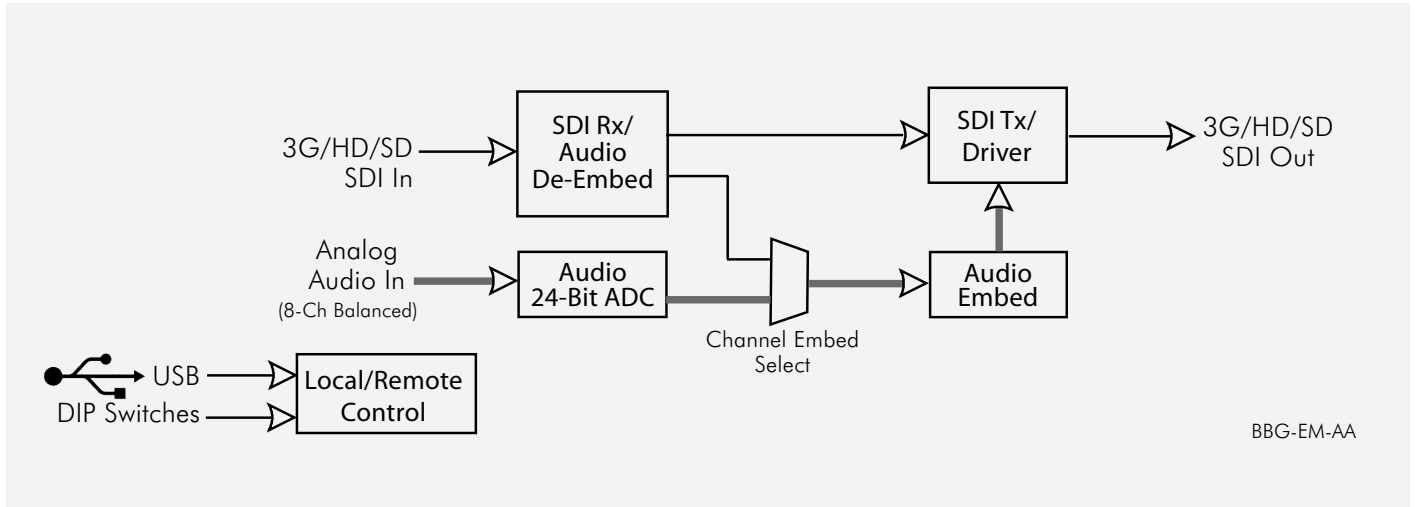
Balanced audio embed with full 24 dBu-to-0 dBFS 24-bit conversion

Configurable using device DIP switches or USB GUI remote control offering dynamic configuration control, status display, audio meters, tone generators, and other advanced control functions not commonly found on throwdown packages

Small rugged portable standalone package ideal for portable installations. Compact size and low weight design easily affixes directly to host device chassis.

Rugged construction backed with a five-year warranty

Ordering information on page 19.



BBG-EM-AA

BBG-DE-AA »

3G/HD/SD-SDI 8-Channel Analog Audio De-Embedder

Eight balanced analog audio outputs with user-selectable direct de-embedding of groups 1 thru 4. DB-25 connector with XLR breakout provides a compact footprint. Balanced analog audio outputs can utilize direct connection from standard DB-25 connectors.

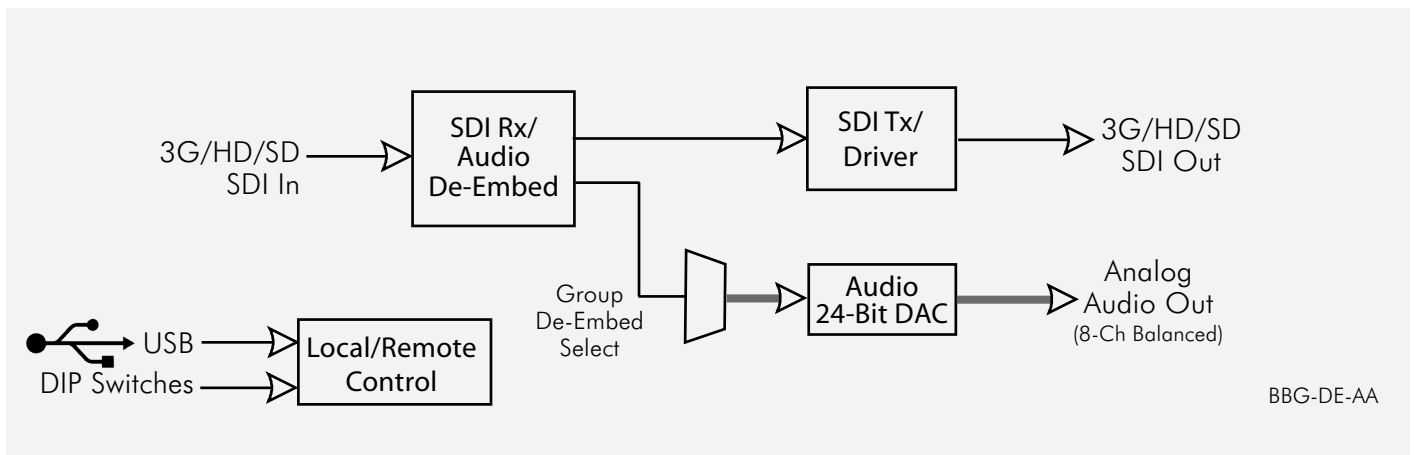
Balanced audio de-embed with full 0 dBFS to 24 dBu 24-bit conversion

Configurable using device DIP switches or USB GUI remote control offering dynamic configuration control, status display, audio meters, tone generators, and other advanced control functions not commonly found on throwdown packages

Small rugged portable standalone package ideal for portable installations. Compact size and low weight design easily affixes directly to host device chassis.

Rugged construction backed with a five-year warranty

Ordering information on page 19.



BBG-DE-AA

BBG-EMDE-AES110 »

3G/HD/SD-SDI 16-Channel AES Audio Embedder/De-Embedder

8-pair (16-channel) AES support. Individual per-pair embedding or de-embedding. DB-15 connector with AES breakout provides compact footprint (models available with AES-3id BNC or AES/EBU balanced XLR connections). AES I/O can utilize direct connection from standard DB-15 connectors.

Settings configurable via unit switches or USB

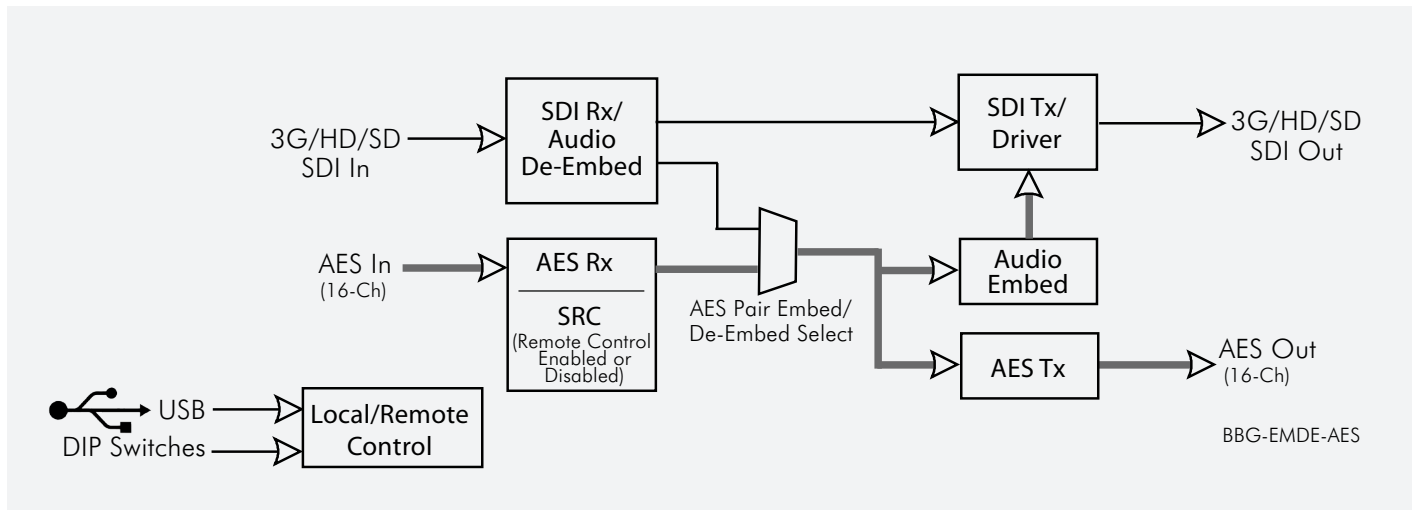
Configurable using device DIP switches or USB GUI remote control offering dynamic configuration control, status display, audio meters, tone generators, and other advanced control functions not commonly found on throwdown packages

Small rugged portable standalone package ideal for portable installations. Compact size and low weight design easily affixes directly to host device chassis.

Audio embed adaptive SRC allows asynchronous 48 kHz AES audio to automatically sync with device 48 kHz timing for glitch-free embedding. SRC can be user enabled or disabled and is automatically bypassed for Dolby® embedding.

Rugged construction backed with a five-year warranty

Ordering information on page 19.



BBG-EMDE-AES75 »

3G/HD/SD-SDI 16-Channel AES Audio Embedder/De-Embedder

8-pair (16-channel) AES support. Individual per-pair embedding or de-embedding. DB-15 connector with AES breakout provides compact footprint (models available with AES-3id BNC or AES/EBU balanced XLR connections). AES I/O can utilize direct connection from standard DB-15 connectors.

Settings configurable via unit switches or USB

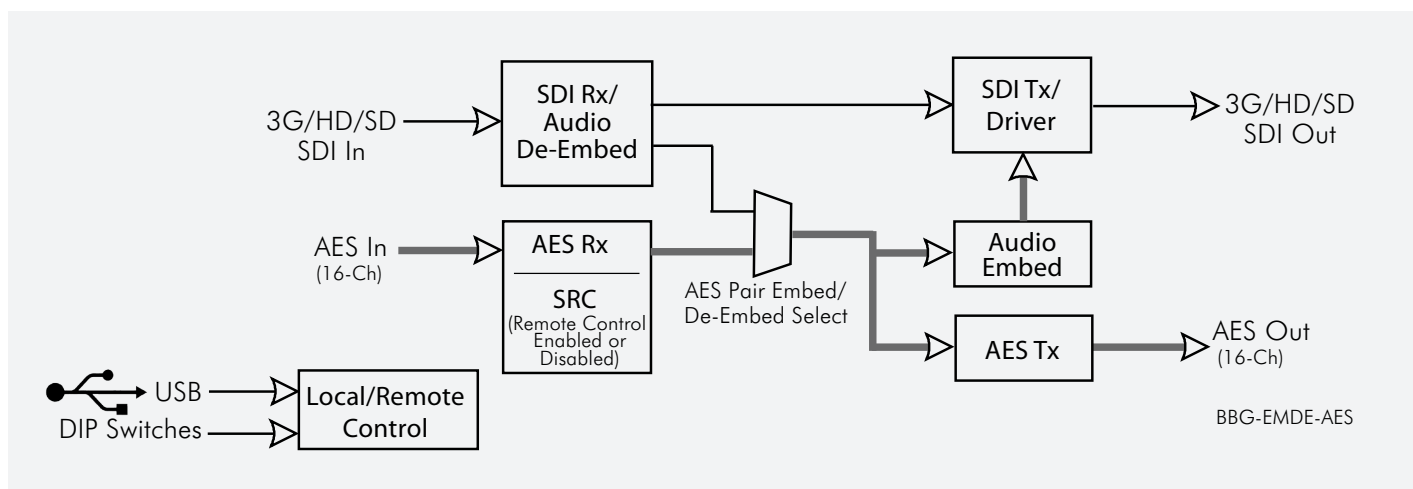
Configurable using device DIP switches or USB GUI remote control offering dynamic configuration control, status display, audio meters, tone generators, and other advanced control functions not commonly found on throwdown packages

Small rugged portable standalone package ideal for portable installations. Compact size and low weight design easily affixes directly to host device chassis.

Audio embed adaptive SRC allows asynchronous 48 kHz AES audio to automatically sync with device 48 kHz timing for glitch-free embedding. SRC can be user enabled or disabled and is automatically bypassed for Dolby® embedding.

Rugged construction backed with a five-year warranty

Ordering information on page 19.



BBG-OE-12G »

12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Receiver

Full support of 5Mbps thru 12Gbps transport conversions, with seamless auto-mode EQ/ reclocking. No switches to set for different payloads.

Compatible with SMPTE ST2082, ST2081, 424M, 292M, 259M, 310M, M2S, DVB-ASI, and MADI audio

Input lock status indicator. Optical Rx power meter field allows optical Rx confidence assessment.

Error-free pathological support. Full compatibility with other BlueBox™ Coax/Fiber units and Cobalt 9400-series openGear® frame-installed fiber cards.

Compact size and low weight design easily affixes directly to camera or host device chassis. Optional BBG-MB mounting bracket provides rigid, secure mounting to mounting surfaces.

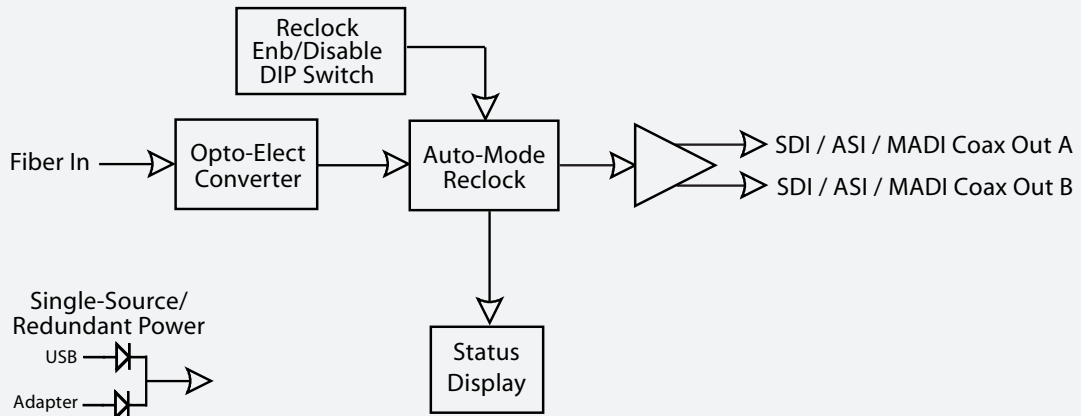
SFP-based OE converter provides state-of-the-art fiber performance, power consumption, and compactness

Available with ST, LC, or FC fiber termination

Dual buffered/reclocked coax BNC outputs

Powers directly from host equipment USB or standard corded power adapter. USB power and corded adapter can be simultaneously used to provide redundant power sourcing.

Rugged construction backed with a five-year warranty



BBG-OE-12G

BBG-20E-12G »

12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Dual Transport Receiver

Dual independent fiber-to-coax paths – all in one easy to use throw-down box

Full support of 5Mbps thru 3Gbps transport conversions, with seamless auto-mode reclocking. No switches to set for different payloads.

Available with ST, LC, or FC fiber termination

Dual-channel input lock status indicators. Optical Rx power meter fields allow optical Rx confidence assessment.

Error-free pathological support. Full compatibility with other BlueBox™ Coax/Fiber units and Cobalt 9400-series openGear® frame-installed fiber cards.

Compatible with SMPTE ST2082, ST2081, 424M, 292M, 259M, 310M, M2S, DVB-ASI, and MADI audio

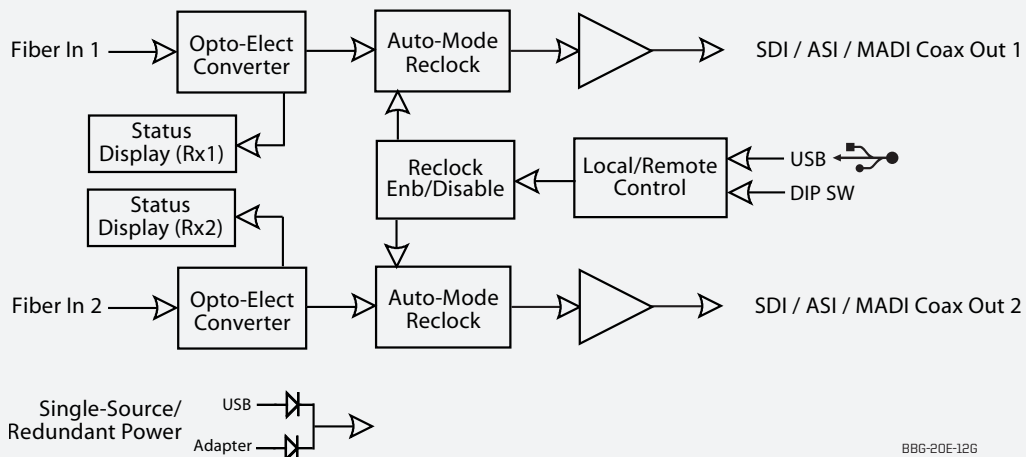
Compact size and low weight design easily affixes directly to camera or host device chassis. Optional BBG-MB mounting bracket provides rigid, secure mounting to mounting surfaces.

USB remote control/status in addition to device indicator and switches

SFP-based OE converters provide state-of-the-art fiber performance, power consumption, and compactness

Powers directly from host equipment USB or standard corded power adapter. USB power and corded adapter can be simultaneously used to provide redundant power sourcing.

Rugged construction backed with a five-year warranty



BBG-20E-12G

BBG-EO-12G »

12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Transmitter

Full support of 5Mbps thru 12Gbps transport conversions, with seamless auto-mode EQ/ reclocking. No switches to set for different payloads.

Compatible with SMPTE ST2082, ST2081, 424M, 292M, 259M, 310M, M2S, DVB-ASI, and MADI audio

Input lock status indicator. Optical Tx power meter field allows optical Tx confidence assessment.

Error-free pathological support. Full compatibility with other BlueBox™ Coax/Fiber units and Cobalt 9400-series openGear® frame-installed fiber cards.

Compact size and low weight design easily affixes directly to camera or host device chassis. Optional BBG-MB mounting bracket provides rigid, secure mounting to mounting surfaces.

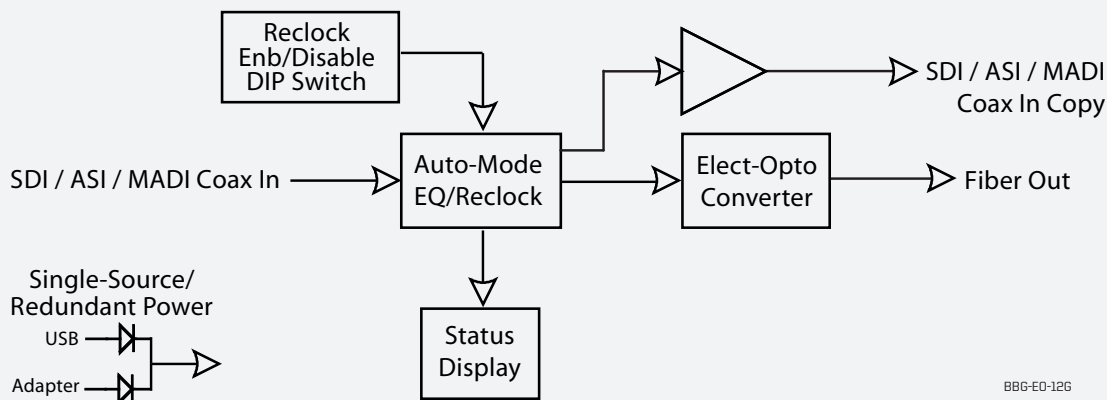
SFP-based EO converter provides state-of-the-art fiber performance, power consumption, and compactness.

Available with ST, LC, or FC fiber termination

Auxiliary reclocked coax BNC input copy output

Powers directly from host equipment USB or standard corded power adapter. USB power and corded adapter can be simultaneously used to provide redundant power sourcing.

Rugged construction backed with a five-year warranty



BBG-2EO-12G »

12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Dual Transport Transmitter

Dual independent fiber-to-coax paths - all in one easy to use throw-down box

Full support of 5Mbps thru 12Gbps transport conversions, with seamless auto-mode EQ/reclocking. No switches to set for different payloads.

Dual-channel input lock status indicators. Optical Tx power meter fields allow optical Tx confidence assessment.

Compatible with SMPTE ST2082, ST2081, 424M, 292M, 259M, 310M, M2S, DVB-ASI, and MADI audio

Error-free pathological support. Full compatibility with other BlueBox™ Coax/Fiber units and Cobalt 9400-series openGear® frame-installed fiber cards.

Available with ST, LC, or FC fiber termination

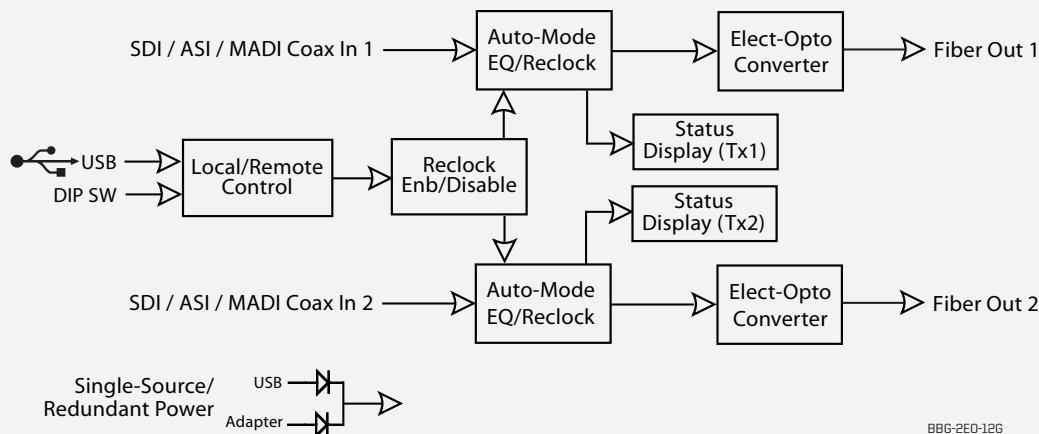
Compact size and low weight design easily affixes directly to camera or host device chassis. Optional BBG-MB mounting bracket provides rigid, secure mounting to mounting surfaces.

USB remote control/status in addition to device indicator and switches

SFP-based EO converters provide state-of-the-art fiber performance, power consumption, and compactness

Powers directly from host equipment USB or standard corded power adapter. USB power and corded adapter can be simultaneously used to provide redundant power sourcing.

Rugged construction backed with a five-year warranty



BBG-DA-12G-1x6 »

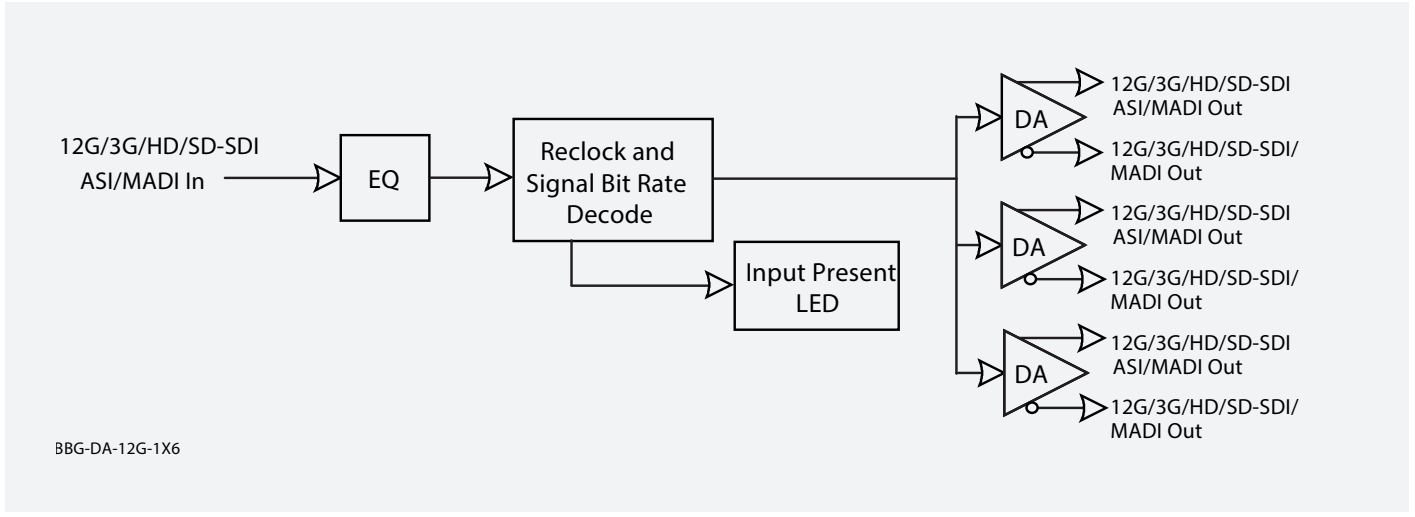
12G/6G/3G/HD/SD/ASI Reclocking Distribution Amplifier

Six 12G/3G/HD/SD equalized and reclocked outputs
 1x4 ASI distribution capability
 Input present LED indicator

Auto-standard detect and configuration SMPTE
 2082-1/424M/292M/259M

Rugged construction backed with a five-year warranty
 Ordering information on page 19.

Small rugged portable standalone package ideal for portable installations. Optional BBG-MB mounting bracket provides rigid, secure mounting-to-mounting surfaces.

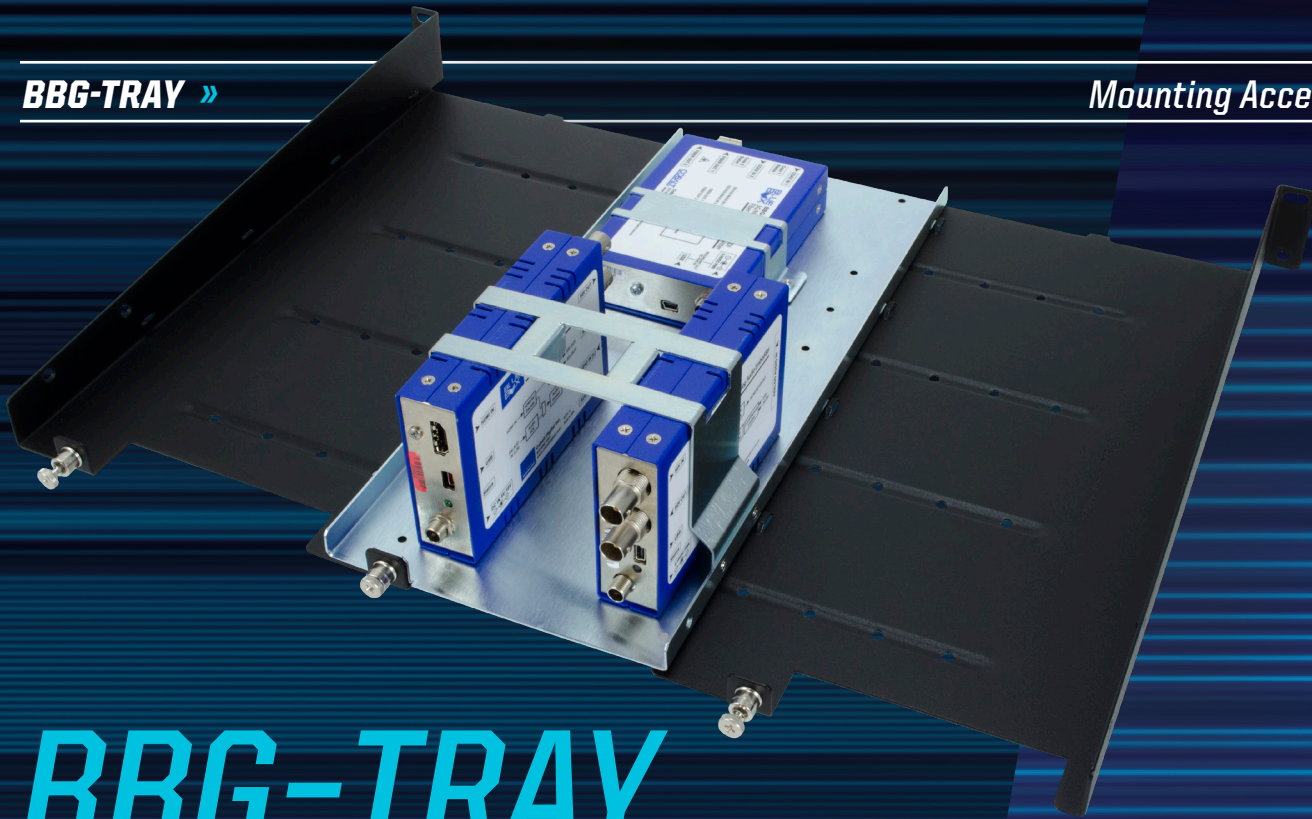


Compact Fiber Transport Units

	BBG-0E-MK2 BLUE BOX FIBER-TO-COAX RECEIVER	BBG-20E-MK2 BLUE BOX DUAL FIBER-TO-COAX RECEIVER	BBG-E0-MK2 BLUE BOX COAX-TO-FIBER RECEIVER	BBG-2E0-MK2 BLUE BOX DUAL COAX-TO-FIBER TRANSMITTER	BBG-E00E-MK2 BLUE BOX COAX/FIBER TRANSCIVER
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Specifications

Standards/Data:	SMPTE 424M, 292M, 259M, 344M, 305M, DVB-ASI				
Rates Supported:	5Mbps to 3Gbps pathological pattern operation. (All models do not support AES-3id audio or other standards using data rates < 5Mbps.)				
Inputs:	(1) Fiber FC, ST, or LC	(2) Fiber FC, ST, or LC	(1) 75Ω BNC	(2) 75Ω BNC	(1) 75Ω BNC (1) Fiber FC, ST, or LC
Outputs:	(2) 75Ω BNC	(2) 75Ω BNC	(1) Fiber FC, ST, or LC (1) 75Ω BNC reclock copy	(2) Fiber FC, ST, or LC	(1) 75Ω BNC (1) Fiber FC, ST, or LC
Power:	5 VDC – 16 VDC, <5 W (Includes Cobalt PS-4 AC Adapter)				
Dimensions (WxHxD):	5.0" x 2.9" x 1.1" (including connector projections) (127 x 74 x 28 mm)				



BBG-TRAY

SECURE MOUNTING SYSTEMS FOR YOUR BBG UNITS

The BBG-MB Mounting kit provides rigid, secure mounting of most BBG™ throwdown compact units. BBG units are securely fastened to the BBG-Tray with vertical or horizontal mounting brackets. The tray is constructed of heavy-gauge steel with a reinforced mounting flange and several mounting holes, providing clean, physically secure mounting for even the most demanding mobile applications. The BBG-1000-Tray provides a rack mounting surface for BBG-Tray.

BBG-1000-TRAY provides a rack mounting surface for BBG units and attaching hardware.

BBG-TRAY provides a 1/3-rack sled for attaching BBG units to the BBG-1000-TRAY

BBG-TRAY-MOUNT-V and BBG-TRAY-MOUNT-H mounting brackets secure BBG units to the sleds in either a “lay-down” 1RU-height or an “on-end” 2RU-height configuration

ORDERING INFORMATION

BBG-1000 TRAY Rack Mounting Surface

BBG-TRAY 1/3 Rack Sled

BBG-TRAY-MOUNT-V Vertical Sled Mount

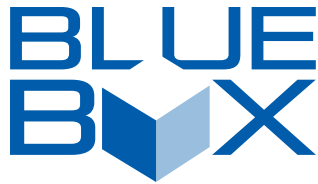
BBG-TRAY-MOUNT-H Horizontal Sled Mount



BBG-TRAY



BBG-1000-TRAY



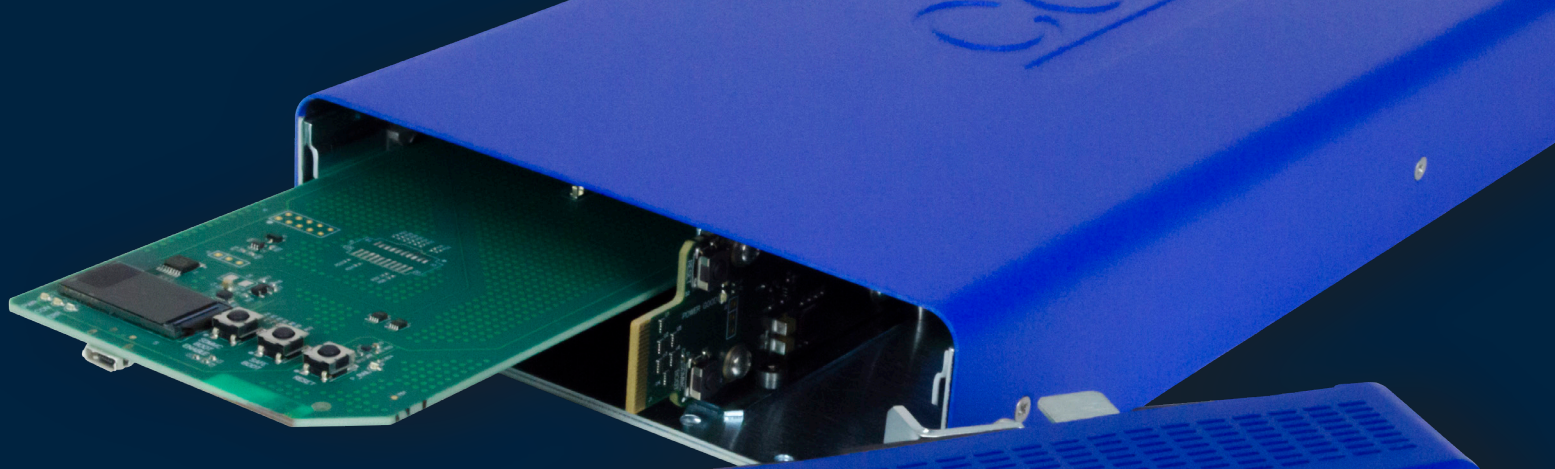
The Cobalt BBG-1300-FR is a 1/3 rack width 1RU openGear® compatible frame capable of housing two cards in a split width or 1 card in a standard width rear IO module. A built in network card allows any openGear® capable card to show up and be controlled or monitored in DashBoard™. Looping reference on the unit provides black burst or tri-level timing to both cards slots within the chassis.



The BBG-1300-FR 1RU Enclosure Holds up to Two openGear® Cards with Standard Size Rear IO Modules, a Built In Network Card and 60 W of Available Power.

Any card within the Cobalt Product lineup (or any third-party openGear card) with a compatible I/O panel can be housed in the BBG-1300-FR, with a total available power of 60 W. Three BBG-1300-FR units can fit onto a single 1 RU tray for maximum density when a 2RU frame is not feasible. The unit can also be employed in remote locations where a full size 2RU 22 slot openGear® frame is not required.

A front control panel makes status monitoring and network connectivity straightforward with an LCD display screen. The front rotary knob makes navigation simple and easy to use. SNMP control available.



FEATURES

High power for 4K and IP solutions

Full openGear® compatibility supporting openGear-compatible cards as well as latest and legacy openGear® rear modules

One looping reference internally routed to all user card slots

Two power supplies for power redundancy

Network Controller Card enables DashBoard™ for seamless remote setup, monitoring, and control.

Front display with rotary knob and buttons for simple and quick control

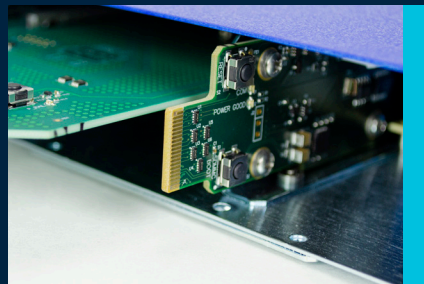
Pull-away front door panel allows quick, easy card insertion

Optional Frame Support Bracket kit provides frame rear support for mobile applications

Remote control/monitoring via DashBoard™ or SNMP

Built-in Gigabit Ethernet backplane

Five year warranty



A built in network card, along with an LCD screen and front control panel that includes a rotary knob, makes navigation, status monitoring and network connectivity simple and easy to use.

SNMP control available.

ACCESSORIES FOR THE BBG-1300-FR



BBG-1300 Tray

Rack Mounting Surface for Mounting three BBG-1300-FR units



BBG-TRAY-RSB

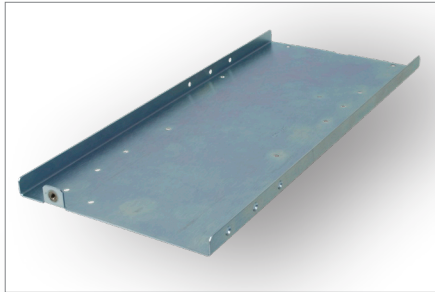
Rear Support Bars and Brackets



In our 23 years of pioneering small form-factor converters, Cobalt has seen these units in a wide range of deployments and environments. In response, multiple mounting and power options have been developed to assist with ease of use and installation.



BBG-1000 Tray
Rack Mounting Surface



BBG-Tray
1/3 Rack Sled securely fastens
to BBG-1000 Tray



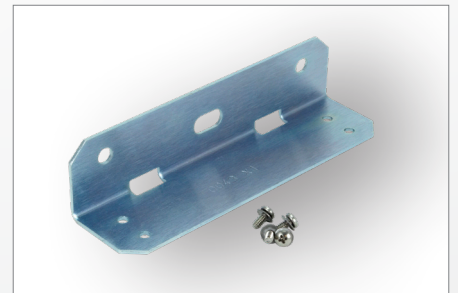
BBG-Tray-Mount V
Vertical Sled Mount



BBG-Tray-Mount H
Horizontal Sled Mount



BBG-PS4
BBG Power Supply



BBG-MB
Mounting Bracket

Silent and reliable, the BBG line of products are used everyday in mission critical applications ranging from production studios and mobile trucks to military aircraft and submarines.

Ordering Information

BBG-S-TO-H

3G/HD/SD-SDI to HDMI with De-Embedder
HD/SD-SDI-to-HDMI with Audio De-Embedder Converter Unit

BBG-H-TO-S

SDI - HDMI to 3G/HD/SD-SDI with Embedder
HDMI-to-HD/SD-SDI with Audio Embedder Converter Unit

BBG-S-TO-A

HD/SD-SDI to HD/SD Analog Component/Composite with Audio De-Embedder
HD/SD-SDI-to-HD/SD Analog Component/Composite with Audio De-Embedder Converter Unit

BBG-A-TO-S

Analog Component/Composite with Audio Embedder
Analog-to-SDI HD/SD Analog Component/Composite-to-HD/SD-SDI with Audio Embedder Converter Unit

BBG-EM-AA

3G/HD/SD-SDI 8-Channel Analog Audio Embedder
3G/HD/SD Analog Audio Embedder
(includes PS4 Power Supply AC adapter)

BBG-CA-110-XLRF DB-25 Male-to-8 XLR Female Connector Breakout Cable

BBG-DE-AA

3G/HD/SD-SDI 8-Channel Analog Audio De-Embedder
3G/HD/SD AES Analog Audio De-Embedder
(includes PS4 Power Supply AC adapter)

BBG-CA-110-XLRM DB-25 Male-to-8 XLR Male Connector Breakout Cable

BBG-EMDE-AES110

3G/HD/SD-SDI 16-Channel AES Audio Embedder/De-Embedder

BBG-EMDE-AES110 3G/HD/SD AES Audio Embedder/De-Embedder;
AES/EBU 110Ω (XLR) AES I/O
(includes PS4 Power Supply AC adapter)

BBG-CA-110-XLRF DB-25 Male-to-8 XLR Female Connector Breakout Cable
(for use with model BBG-EMDE-AES110)

BBG-EMDE-AES75

3G/HD/SD-SDI 16-Channel AES Audio Embedder/De-Embedder

BBG-EMDE-AES75 3G/HD/SD AES Audio Embedder/De-Embedder; AES-3id
75Ω (BNC) AES I/O (includes PS4 Power Supply AC adapter)

BBG-CA-75-BNCM HD-15 Male-to-8 BNC Male Connector Breakout Cable
(for use with model BBG-EMDE-AES75)

BBG-0E-12G

12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Receiver

BBG-0E-12G-FC 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Receiver (Type FC fiber connector)

BBG-0E-12G-ST 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Receiver (Type ST fiber connector)

BBG-0E-12G-LC 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Receiver (Type LC fiber connector)

BBG-20E-12G

12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Dual Transport Receiver

BBG-20E-12G-FC 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Dual Transport Receiver (Type FC fiber connectors)

BBG-20E-12G-ST 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Dual Transport Receiver (Type ST fiber connectors)

BBG-20E-12G-LC 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Dual Transport Receiver (Type LC fiber connectors)

BBG-E0-12G

12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Transmitter

BBG-E0-12G-FC 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Transmitter (Type FC fiber connector)

BBG-E0-12G-ST 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Transmitter (Type ST fiber connector)

BBG-E0-12G-LC 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Transport Transmitter (Type LC fiber connector)

BBG-2E0-12G

12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Dual Transport Transmitter

BBG-2E0-12G-FC 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Dual Transport Transmitter (Type FC fiber connectors)

BBG-2E0-12G-ST 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Dual Transport Transmitter (Type ST fiber connectors)

BBG-2E0-12G-LC 12G/6G/3G/HD/SD-SDI / ASI / MADI Fiber Optic Dual Transport Transmitter (Type LC fiber connectors)

BBG-DA-12G

12G/6G/3G/HD/SD/ASI Reclocking Distribution Amplifier

BBG-DA-12G-1x6 12G/6G/3G/HD/SD Reclocking Distribution Amplifier with Bit-Rate Status

Cobalt Digital Inc. designs and manufactures award-winning IP and 12G/6G/3G/HD/SD conversion, throwdown, and multiviewer technology for the production and broadcast television environment. As a founding member in the openGear® initiative, Cobalt offers a full range of openGear-compliant solutions as well as video and audio processing products for closed caption compliance, production trucks, master control, HD news, signal transport, audio loudness processing, and color correction. Cobalt's Blue Box Group™ line of interface converter throwdown boxes streamlines and simplifies a wide range of IP and 12G/6G/3G/HD/SD conversion and processing tasks. In addition, the company's multi-image display processors enable multiviewer capabilities in the most demanding studio and remote production/broadcasting environments. Cobalt Digital products are distributed through a worldwide network of dealers, system integrators, and other partnerships.

Suzana.Brady @ cobaltdigital.com

Senior Vice President of Worldwide Sales and Marketing

Anthony.Tan @ cobaltdigital.com

Director of Sales Engineering for

Asia Pacific and Southeast Asia Sales

Berend.Blokzijl @ cobaltdigital.com

Director of Sales for Europe, Middle East and Africa

Cris.Garcia @ cobaltdigital.com

Director of Sales Engineering and

Western USA and Latin America Sales

Kurt.Caruthers @ cobaltdigital.com

Manager of Sales for Central USA

Anthony.Klick @ cobaltdigital.com

Manager of Sales for Eastern USA

Toll Free **800 669 1691** (US Only)
Direct **+1 217 344 1243**
Email **sales@cobaltdigital.com**
Web **www.cobaltdigital.com**

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