grass valley

ADVC G-Series

Multi-Purpose Digital Video Converters

The G-Series of affordable, multi-purpose digital video converters are at the leading edge of technology, and the latest additions to the renowned ADVC® family. Housed in a practical and compact 1/3 RU form factor, these four converters tackle a variety of different AV tasks and are particular well suited to events and staging, corporate AV centers, and broadcast display applications.

www.grassvalley.com

ADVC G1

Any In to SDI Multi-Functional Converter/ Upconverter with Frame Synchronizer

The ADVC G1 is a compact and competitively priced converter, designed to convert and/or upconvert professional/ broadcast signals to HD/SD-SDI supporting the latest 3G technology.

The ADVC G1 will convert and/or upconvert sources from HDMI, DVI, component, composite, S-Video, AES/ EBU, and analog audio to HD/SD-SDI (3G/1.5G support). The ADVC G1 can also be used as an audio embedder. It features a Reference In port which can serve as a frame synchronizer for analog inputs, eliminating the need to purchase separate expensive equipment.

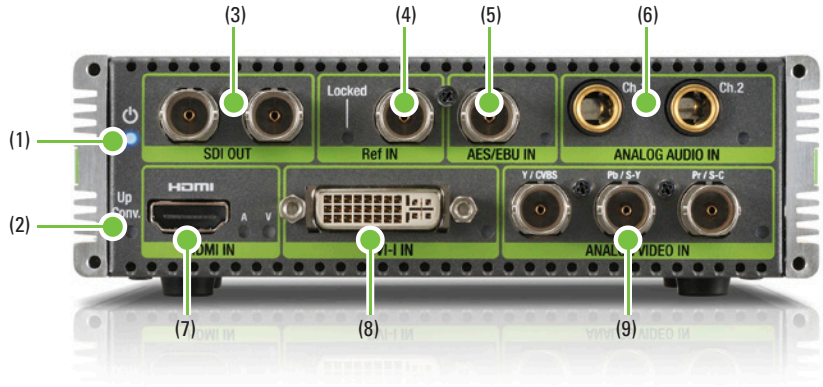
KEY FEATURES

- Any In to (3G) SDI:
  - Converts any type of connection to SDI
  - Incorporates latest 3G technology
- Feature-rich at an affordable price:
  - Latest technology upconverter
  - Integrated frame synchronizer
- Multi-purpose converter:
  - DVI input with PC resolution support
  - Audio inputs for audio embedding

APPLICATIONS

- Conversion from analog to SDI
- Conversion from DVI or HDMI to (3G) HD/SD-SDI
- High-quality upconversion from analog SD to HD or 3G
- Frame synchronization (house sync) of analog signals

Please note that the ADVC G1 does not support frame-rate conversion.



(1) Power LED – Lights when the ADVC G1 is operating.

(2) Up Conv. LED – Lights in upconversion mode.

(3) SDI OUT – 3G/HD/SD-SDI output ports.

(4) Ref IN – Reference signal input port. The LED is lit when REF is selected for reference signal source, and if the reference signal input via Ref IN can be synchronized.

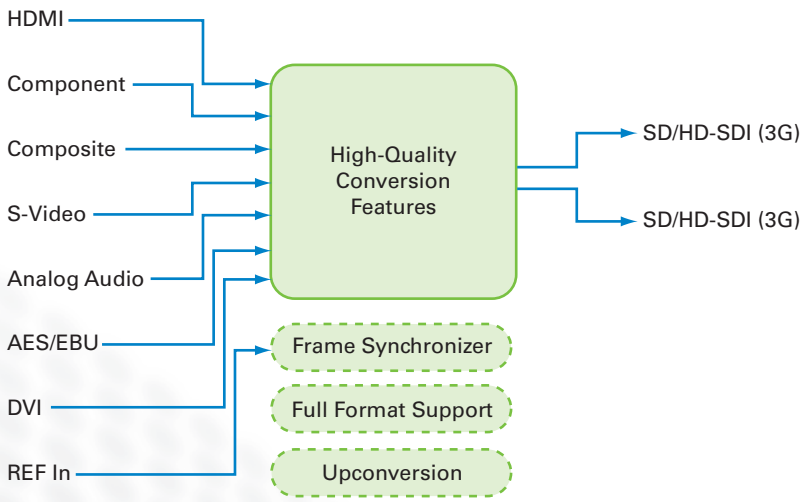
(5) AES/EBU IN – AES/EBU digital audio input port. The LED is lit when AES/EBU digital is selected for audio input.

(6) ANALOG AUDIO IN (1/4" TRS 2ch) – Balanced audio input ports. The LED is lit when balanced analog is selected for audio input.

(7) HDMI IN – HDMI input port. The LED marked with "V" blinks when HDMI is selected for video input, and the LED is lit when a stable signal input is detected. The LED marked with "A" is lit when HDMI embedded is selected for audio input.

(8) DVI-I IN – DVI-I input port. The LED blinks when DVI-D or DVI-A is selected for video input. The LED is lit when a stable signal input is detected.

(9) ANALOG VIDEO IN – Analog video input ports. The LED blinks when component, S-Video or composite is selected for video input. The LED is lit when a stable signal input is detected.



ADVC G1

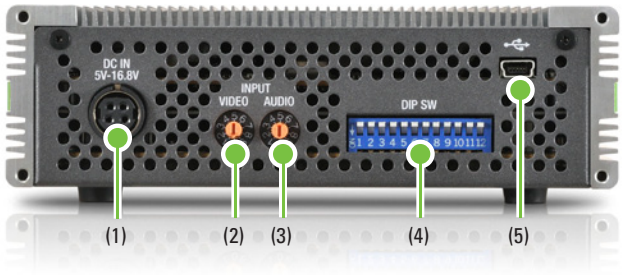
(1) Power connector – Connects to the DC plug of the accompanying AC adapter.

(2) VIDEO INPUT MODE switch – Use the switch to choose the video input.

(3) AUDIO INPUT MODE switch – Use the switch to choose the audio input.

(4) DIP switches – Use the switches to choose input/output settings.

(5) USB port – Used for firmware update.



SPECIFICATIONS

HDMI Input

Input connector: HDMI

Input resolution:

- 1080i 60/59.94/50
- 1080p 60/59.94/50/30/29.97/25/24/23.98
- 720p 60/59.94/50
- 480i/p 60/59.94
- 576i/p 50
- VGA (640x480), SVGA (800x600)
- XGA (1024x768), SXGA (1280x1024)
- FWXGA (1360x768)
- UXGA (1600x1200), WUXGA (1920x1200)

PC resolution framerate: 60 Hz

Input color format: YCbCr (4:2:2/4:4:4), RGB (4:4:4)

Deep color support: not supported

Color format conversion: YCbCr 4:2:2 12 bits

DVI-D Input

Input connector: DVI-I (DVI-D)

Input resolution:

- 1080i 60/59.94/50
- 1080p 60/59.94/50/30/29.97/25/24/23.98
- 720p 60/59.94/50
- 480p 60/59.94
- 576p 50
- VGA (640x480), SVGA (800x600)
- XGA (1024x768), SXGA (1280x1024)
- FWXGA (1360x768)
- UXGA (1600x1200), WUXGA (1920x1200)

PC resolution framerate: 60 Hz

Input color format: RGB (4:4:4)

Color format conversion: YCbCr 4:2:2 12 bits

DVI-A Input

Input connector: DVI-I (DVI-A)

Input resolution:

- VGA (640x480), SVGA (800x600)
- XGA (1024x768), SXGA (1280x1024)
- FWXGA (1360x768)
- UXGA (1600x1200)

Framerate: 60 Hz

Input color format: RGB

Color format conversion: YCbCr 4:2:2 12 bits

Input connector: YPbPr

Component Input

Input connectors: YPbPr

Input resolution:

- 1080i 60/59.94/50
- 1080p 30/29.97/25/24/23.98
- 1080PsF 24/23.98
- 720p 60/59.94/50
- 486i 59.94
- 483p 59.94
- 576i/p 50

Input color format: YPbPr

Color format conversion: YCbCr 4:2:2 10 bits

Component level: SMPTE/EBU N10, Betacam

SD pedestal: 0 IRE, 7.5 IRE

Composite Input

Input connector: CVBS (common with Component-Y)

Standard: NTSC, PAL

Input color format: YPbPr

Color format conversion: YCbCr 4:2:2 10 bits

SD pedestal: 0 IRE, 7.5 IRE

3DYC separation: not supported

S-Video Input

Input connectors: S-Y/S-C (common with Component-Pb,Pr)

Standard: NTSC, PAL

Input color format: YPbPr

Color format conversion: YCbCr 4:2:2 10 bits

SD pedestal: 0 IRE, 7.5 IRE

Audio Input

Input connectors:

- Balanced analog (2ch)
- AES/EBU digital (2ch)
- HDMI embedded (8ch)

(HDMI audio is not available when DVI is chosen for video input.)

HDMI/AES sample rate: 32/44.1/48 kHz

Analog ADC sample rate: 48 kHz

Sample size: 16/20/24 bits

Input level adjust: 0 dBu +4 dBu (available for analog audio)

SDI Output

Output connectors: 3G/HD/SD-SDI (BNCx2) (outputs the same signals)

Output resolution:

- 1080i 60/59.94/50
- 1080p 60/59.94/50/30/29.97/25/24/23.98
- 1080PsF 30/29.97/25/24/23.98
- 720p 60/59.94/50/30/29.97/25/24/23.98
- 487i 59.94
- 576i 50

Output color format: YCbCr 4:2:2 (ITU-R BT.709/601) 10 bits (ITU-R BT.601 is in SD resolution)

3G-SDI mapping format:

- Level A: direct image mapping
- Level B: 2x SMPTE292 HD mapping

Frame freeze function: supported (keeps displaying the final frame when there is no video input signal)

Line 21 closed caption: not supported

Audio Output

Output connectors: SDI embedded (supports outputting with 8ch multi-audio in HDMI input mode. If AES/analog is selected, audio will be embedded to 1/2ch)

Sample rate: 48 kHz

Sample size: 24 bits (3G/HD), 20 bits (SD)

Output level adjust: not supported

Video Resizing

Upconversion: supported

Upconversion mode:
(switchable with DIP SW5, SW6)

- Through
- 720p
- 1080i
- 1080p

Display mode:

- Standard
- Full screen
- Flex view

Framerate conversion: not supported

Internal processing: YCbCr 4:2:2 12 bits

Noise reduction:

- 3DNR
- Stream Clean Processor (quality of the highly compressed video source will be enhanced)
- OFF/Low/High/Auto

Image enhance: Image Enhance Processor can be switched on or off. Detail will be enhanced.

Total delay time:

- Interlace to interlace: 2.5 frame
- Interlace to progressive: 2.0 frame
- Progressive to interlace: 3.0 frame
- Progressive to progressive: 2.0 frame

Video Output Synchronize

REF Sync Video output:

- Reference signal (BB/HDSync)
- Internal

(REF Sync can be enabled/disabled with DIP SW3. When disabled, or when there is no signal input, the ADVC G1 automatically turns into Internal Sync mode.)

USB

Format: USB2.0 compliant

Connector: Mini B

Specifications

Voltage:

- AC adapter:
  - Input: 100V – 240V (50 Hz/60 Hz)
  - Output: DC 12V 3A (max.)
- ADVC G1 unit:
  - Input: DC5 – 16.8V
- Maximum power consumption: 11.4W

Dimensions: 142.5 (W) x 42.5 (H) x 98.5 (D) mm (projecting parts not included)

Weight: 700g (approx.)

Environmental Characteristics:

- Operating temperature: 32-104°F (0-40°C)
- Maximum humidity: 8%-80% (no condensation)

ADVC G2

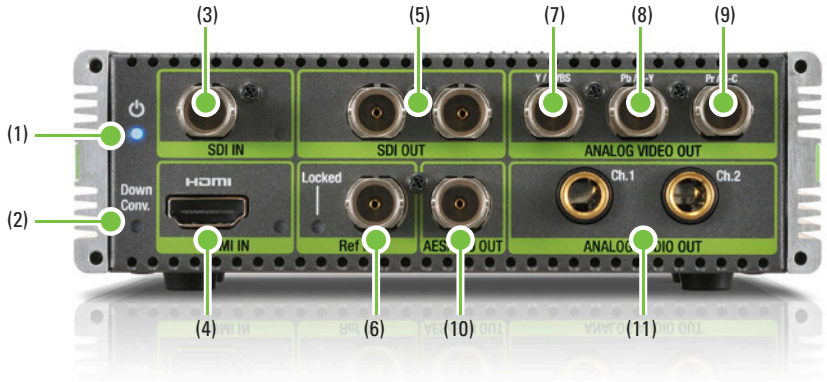
HDMI & SDI to Analog & SDI Multi-Functional Converter/Downconverter with Frame Synchronizer

Like other members of the ADVC G-Series family, the ADVC G2 combines the latest conversion technologies in a compact 1/3 RU form factor.

Featuring HDMI and HD/SD-SDI (3G/1.5G support) inputs and HD/SD-SDI (3G/1.5G support), component, composite, S-Video, AES/EBU, and analog audio outputs, the new ADVC G2 plays the role of many converters for the price of one. The ADVC G2 also features 3G support, downconverting, and a frame synchronizer, which becomes very useful when, for example, connecting the SDI out to a switcher.

The ADVC G2 can be used as a monitoring device for HDMI and HD/SD-SDI sources, but it can also act as an HDMI to HD/SD-SDI (3G/1.5G support) converter.

The AES/EBU and analog audio outputs, used for audio de-embedding, are a welcome feature in most monitoring applications.



(1) Power LED – Lights when the ADVC G2 is operating.

(2) Down Conv. LED – Lights in Downscaling mode.

(3) SDI IN – 3G-SDI input port. The LED blinks when SDI IN is selected for the input video channel. The LED is lit when a stable signal input is detected.

(4) HDMI IN – HDMI input port. The LED blinks when HDMI IN is selected for the input video channel. The LED is lit when a stable signal input is detected.

(5) SDI OUT – 3G-SDI output ports.

(6) Ref IN – Reference signal input port. The LED is lit when REF is selected for reference signal, and if the REF signal input can be synchronized.

(7) Y/CVBS – Outputs composite (BNC) or component (Y) signal based on the setting.

(8) Pb/S-Y – Outputs S-Video (Y) or component (Pb) signal based on the setting.

(9) Pr/S-C – Outputs S-Video (C) or component (Pr) signal based on the setting.

(10) AES/EBU OUT – Digital audio output port.

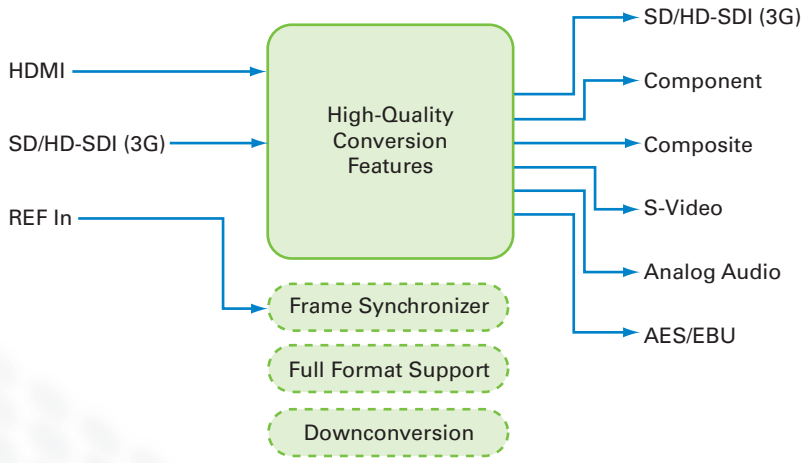
(11) ANALOG AUDIO OUT (Ch.1/2) – Balanced audio output ports. (1/4" TRS)

KEY FEATURES

- Latest technologies all in one box:
  - — Full 3G support (up to 60p)
  - — Integrated HDMI input
- Feature-rich at an affordable price:
  - — Downconverter with manual on/off
  - — Integrated frame synchronizer
- Multi-purpose converter:
  - — HDMI input for latest camcorder connections
  - — Audio outputs for audio de-embedding

APPLICATIONS

- Conversion from SDI to analog
- Conversion from HDMI to HD/SD-SDI or analog
- Downconversion from (3G) HD-SDI to SD-SDI or analog
- Downconversion from HDMI to analog or SD-SDI with audio
- Frame synchronization (house sync) for SDI signals



Please note that the ADVC G2 does not support frame-rate conversion.

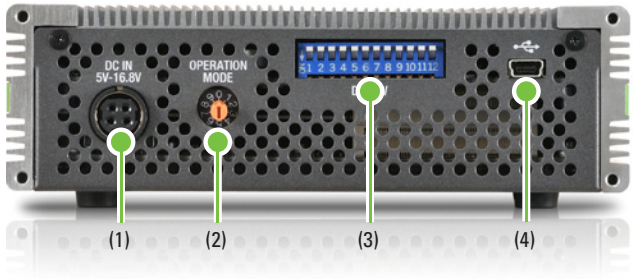
ADVC G2

(1) Power connector – Connects to the DC plug of the accompanying AC adapter.

(2) OPERATION MODE switch – Use the switch to choose the operation mode.

(3) DIP switches – Use the switches to choose input/output settings.

(4) USB port – Used for firmware update.



SPECIFICATIONS

SDI Input

Connector: SDI (SD/HD/3G) – BNC

Input rasters:
- 1920 x 1080
- 1920 x 1035
- 1280 x 720
- 720 x 486
- 720 x 576

Framerate: 60, 59.94, 50, 30, 29.97, 25, 24, 23.98 Hz

Color format: YCbCr

Sampling structure: 4:2:2

Sampling depth: 10 bits

Input frame buffer: None

Line 21 closed caption: supported only in SD input (THROUGH)

3G-SDI mapping: both Level A and B supported

HDMI Input

Connector: HDMI

Input rasters:
- 1920 x 1080
- 1280 x 720
- 720 x 480
- 720 x 576
- 640 x 480

Framerate: 60, 59.94, 50, 30, 29.97, 25, 24, 23.98 Hz

Color format: YCbCr/RGB

Sampling structure: 4:2:2 / 4:4:4

Sampling depth: 8 bits (up to 10 bits is available for YCbCr 4:2:2)

RGB → YCbCr conversion: supported

Input frame buffer: none

Audio Input

Connectors: SDI embedded/HDMI embedded
- Supports only LPCM
- Ch3/4 is switched in HDMI (complies with DCI standard)

Sample rate:
- 48 kHz (SDI)
- 48/44.1/32 kHz (HDMI) (converted to 48 kHz before output)

Sampling depth: up to 20/24 bits (up to 20 bits for SD-SDI)

Embedded audio: 8ch, 24 bits

Video Output

Available to output in the same resolution as the input signal. Note that 3G can not be output as an analog signal

Connectors:
- 3G-SDI – BNC x2
- Component – BNC x3
- Composite – BNC (common with component Y)
- S-Video – BNC x2 (common with component Pb Pr)

Output rasters:
- 1920 x 1080
- 1920 x 1035
- 1280 x 720
- 720 x 486
- 720 x 576

Framerate: 60, 59.94, 50, 30, 29.97 25, 24, 23.98

Color format: YCbCr

Sampling structure: 4:2:2

Sampling depth: 10 bits

Frame buffer: 1 frame

SDI ANC data: not supported (outputs VITC through in SDI input mode)

3G-SDI mapping: both Level A and B supported

Downconverter

Input rasters:
- 1920 x 1080
- 1280 x 720 (black bars will be added to 1920 x 1035 video when input)

Output format:
- 720 x 486i59.94
- 720 x 576i50

Color format: YCbCr

Sampling structure: 4:2:2

Sampling depth: 10 bits

Framerate conversion: not supported

Frame buffer: none

Audio Output

Audio output connectors:
- Digital – AES/EBU – BNC
- Analog – balanced – 1/4" TRS
- SDI embedded

AES/EBU audio coding: LPCM

Analog audio level: 0/+4 dBu

Sample rate: 48 kHz (32, 44.1 kHz are not supported)

Sample size: 24 bits

Level adjust: not supported

Analog / AES/EBU channel select: can be selected with DIP switches

Embedded audio: 8ch, 20/24 bits (20 bits for SD-SDI)

USB

Format: USB2.0 compliant

Connector: Mini B

Specifications

Voltage:
- AC adapter:
  - Input: 100V – 240V (50 Hz/60 Hz)
  - Output: DC 12V 3A (max.)
- ADVC G2 unit:
  - Input: DC5 – 16.8V
- Maximum power consumption: 12.5W

Dimensions: 142.5 (W) x 42.5 (H) x 98.5 (D) mm (projecting parts not included)

Weight: 700g (approx.)

Environmental characteristics:
- Operating temperature: 32-104°F (0-40°C)
- Maximum humidity: 8%-80% (no condensation)

ADVC G3

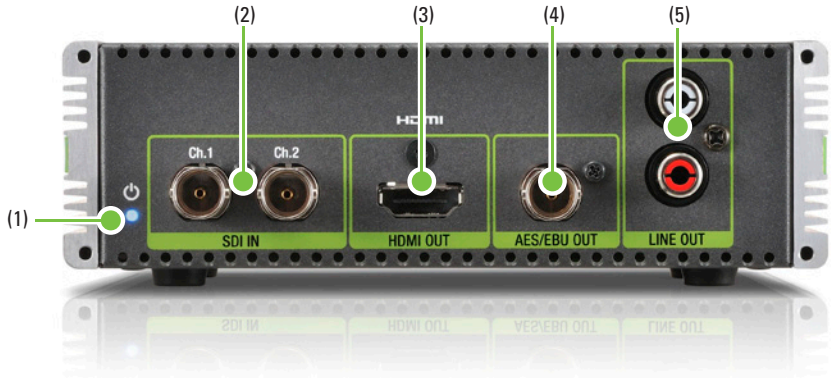
2X SDI to HDMI Converter/Multiplexer with 3D Support

The ADVC G3 is a full-featured HD/SD-SDI to HDMI converter with 3G technology and the latest HDMI connection support, designed to fulfill the demands of 3D monitoring and multiplexing.

The ADVC G3 can be used as a standard HD/SD-SDI to HDMI converter, but also features a second SDI input which can be used for left-eye/right-eye inputs. The ADVC G3 will, in real time, multiplex the two left-eye/right-eye signals for a 3D output through HDMI.

The analog audio and AES/EBU outputs, used for audio de-embedding, are a welcome feature in monitoring situations, for both 2D and 3D content.

The ADVC G3 features 3D multiplexing technology supported by HDMI (Side-by-Side, Top-and-Bottom, and Frame Packing—sequential), which can be turned on and off manually.



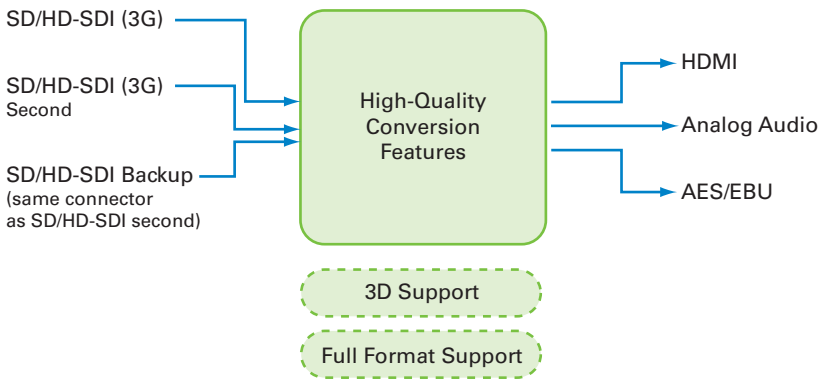
(1) Power LED – Lights when the ADVC G3 is operating.

(2) SDI IN (Ch.1/2) – 3G-SDI input ports.

(3) HDMI OUT – HDMI output port.

(4) AES/EBU OUT – Digital audio output port.

(5) LINE OUT – Analog audio (L/R, 2ch) output ports.



KEY FEATURES

- The best tool for 3D!
  - Selectable muxing patterns: top-and-bottom, side-by-side, and frame-packing
- Incorporates the latest technology:
  - Full 3G support (up to 60p)
  - HDMI support
- Multi-purpose converter:
  - 3D multiplexer
  - (3G) SDI to HDMI converter

APPLICATIONS

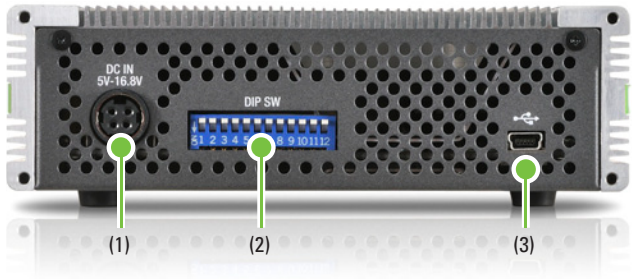
- Conversion from HD/SD-SDI (3G/1.5G support) to HDMI (with audio)
- Multiplexing right-eye/left-eye
- SDI signals to HDMI 3D
- De-embedding audio

ADVC G3

(1) Power connector – Connects to the DC plug of the accompanying AC adapter.

(2) DIP switches – Use the switches to choose input/output settings.

(3) USB port – Used for firmware update.



SPECIFICATIONS

Video Input

Input connectors: SDI (SD/HD/3G) – BNC x2 (supports both level A/B of 3G-SDI)

Input rasters:
- 1920 x 1080
- 1920 x 1035
- 1280 x 720
- 720 x 486
- 720 x 576

Input video resizing: not supported

Framerate: 60, 59.94, 50, 30, 29.97, 25, 24, 23.98 Hz

Color format: YCbCr

Sampling structure: 4:2:2

Sampling depth: 10 bits

Input frame buffer: none

Input video flywheel: not supported

Line 21 closed caption: not supported

SDI VANC: not supported

Widescreen: not supported

Audio Input

Input connectors: SDI embedded

Sample rate: 48 kHz (32/44.1 kHz are not supported)

Sample size: 20/24 bits (20 bits for SD-SDI)

Embedded audio: 8ch, 24 bits

Video Output

Output connector: HDMI

Output rasters: resolution of the output signal is determined based on that of the input signal. 1920 x 1035 → 1920 x 1080, 720 x 486 → 720 x 480
- 1920 x 1080
- 1280 x 720
- 720 x 480
- 720 x 576

Color format: YCbCr/RGB

Sampling structure: 4:4:4

Sampling depth: 8 bits

3D structures:
- Frame Packing (does not support 1080p60/59/50)
- Side-by-Side (half)
- Top-and-Bottom

I → P conversion: supported (available only for SD)

Widescreen display setting: supported (setting can be configured with DIP switches)

Output frame buffer: none

Output skew: 0-2 frame

Y Cb Cr → RGB colorspace conversion: supported

Line 21 closed caption: not supported

Plug-and-play monitor with DVI: not supported

Audio Output

Output connectors:
- Digital – AES/EBU
- Analog – RCA 2ch
- HDMI embedded

S/PDIF audio coding: LPCM

Analog audio level: 2V RMS (+6 dBV)

Sample rate: 48 kHz (32/44.1 kHz are not supported)

Sample size: 20/24 bits (20 bits for SD-SDI input signal)

Level adjust: not supported

Embedded audio: 2/8ch, 24 bits

Channel swap: swaps Ch.3 and Ch.4 when outputting with 8 channels

3D Composer

Input connectors: SD/HD/3G-SDI x2

Input rasters:
- 1920 x 1080
- 1920 x 1035
- 1280 x 720
- 720 x 486
- 720 x 576

Output rasters: resolution of the output signal is determined based on that of the input signal. 1920 x 1035 → 1920 x 1080, 720 x 486 → 720 x 480
- 1920 x 1080
- 1280 x 720
- 720 x 480
- 720 x 576

Color format: YCbCr

Sampling structure: 4:2:2

Sampling depth: 10 bits

3D structures:
- Frame Packing
- Side-by-Side (half)
- Top-and-Bottom

Flywheel: not supported

Frame buffer: 1 frame

Output timing: uses recovered clock from the input channel

Redundant

Input connectors: SD/HD/3G-SDI x2

Input rasters: resolution of the output signal is determined based on that of the input signal. 1920 x 1035 → 1920 x 1080, 720 x 486 → 720 x 480
- 1920 x 1080
- 1920 x 1035
- 1280 x 720
- 720 x 486
- 720 x 576

Output rasters: resolution of the output signal is determined based on that of the input signal
- 1920 x 1080
- 1280 x 720
- 720 x 480
- 720 x 576

Color format: YCbCr

Sampling structure: 4:2:2

Sampling depth: 10 bits

Error checker: supported (detects errors when the format is converted even between the available formats)

Selector: selects primary channel except error frame

Flywheel: supported (pauses at the last frame. Audio is muted)

Frame buffer: 0-2 frame

Output timing: uses recovered clock from the input channel

USB

Format: USB2.0 compliant

Connector: Mini B

Specifications

Voltage:
- AC adapter:
  - Input: 100V – 240V (50 Hz/60 Hz)
  - Output: DC 12V 3A (max.)
- ADVC G3 unit:
  - Input: DC5 – 16.8V
- Maximum power consumption: 6W

Dimensions: 142.5 (W) x 42.5 (H) x 98.5 (D) mm (projecting parts not included)

Weight: 650g (approx.)

Environmental characteristics:
- Operating temperature: 32-104°F (0-40°C)
- Maximum humidity: 8%-80% (no condensation)

ADVC G4

Sync Generator with Reference In

The ADVC G4 is more than just a compact and robust sync generator.

While most competitive products have only six outputs and restrictions on SD and HD signals, the ADVC G4 has nine outputs that can be individually controlled in groups of three.

For example, three outputs can be SD, the other six can be HD, or vice versa.

The ADVC G4 also includes a 48 kHz wordclock as well as a reference input, which allows it to be used as an extender when more than nine outputs are needed, or when an extension from the main system is necessary.

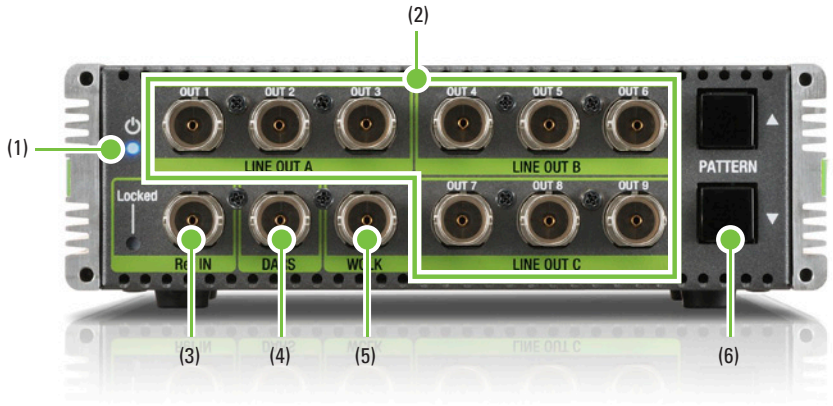
The ADVC G4 features the highest signal quality, best functionality, and the most comprehensive format support in the compact sync generator market.

KEY FEATURES

- Compact sync generator:
  - — High-quality signals
  - — Full format support
- Customizable output:
  - — Select SD or HD in groups of 3
  - — Simultaneous SD and HD outputs
- Feature-rich at an affordable price:
  - — Reference in for extension
  - — 48 kHz wordclock, DARS audio

APPLICATIONS

- Provide reference signal for fly-cases or control rooms
- Add reference signal when the current reference distribution does not have enough outputs
- Synchronize a secondary local technical room to a primary room, with advanced timing
- Generating SD and HD reference with different timings to mix in a switcher
- Generating reference signals for ADVC G1 and G2 models when used in frame synchronizer mode



(1) Power LED – Lights when the ADVC G4 is operating.

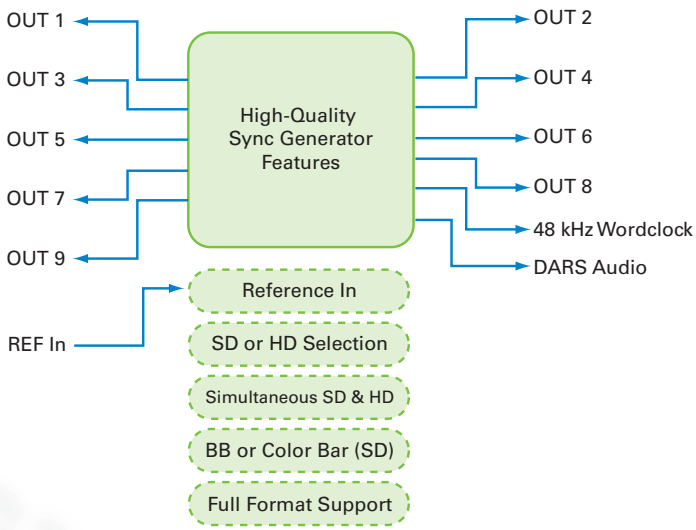
(2) OUT 1-9 – SYNC output ports. SD/HD setting can be individually specified in three groups: LINE OUT A, LINE OUT B and LINE OUT C. (The setting can be configured with DIP SW6, SW7, SW8.)

(3) Ref IN – Reference signal input port. The LED is lit when REF is selected for reference signal, and if the REF signal input can be synchronized.

(4) DARS – DARS (Digital Audio Reference Signal) output port.

(5) WCLK – Wordclock output port.

(6) PATTERN switches – Selects test pattern.



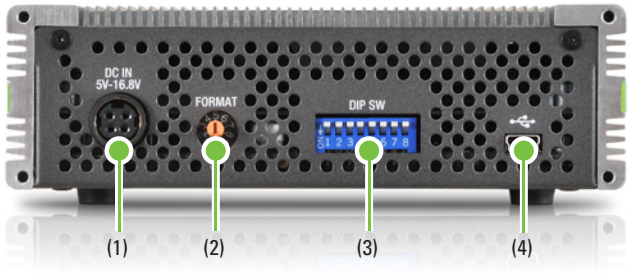
ADVC G4

(1) Power connector – Connects to the DC plug of the accompanying AC adapter.

(2) Format switch – Use the switch to choose the output format.

(3) DIP switches – Use the switches to choose input/output settings.

(4) USB port – Used for firmware update.



SPECIFICATIONS

Video Reference Signal Output

Output connectors: BNC x 9 (SD/HD setting can be specified per LINE group)

- OUT1-3 (LineA)
- OUT4-6 (LineB)
- OUT7-9 (LineC)

Format:

- 1920 x 1080 p/PsF 23.98/24/25/29.97/30
- 1920 x 1080 i 50/59.94/60
- 1280 x 720 p 23.98/24/25/29.97/30/50/59.94/60
- 720 x 480 i 59.94
- 720 x 576 i 50

HD-Sync: Tri-level

SD-Sync: Black burst

- Can be switched to test pattern
- Compliant to SMPTE318M-B in NTSC format

Video/audio clock accuracy: +-4.0 ppm (for all operation temperatures)

VSYNC output delay between HD and SD output: none (for both REF sync and internal sync)

Reference Input

Reference input connector: BNC x 1 (for both SD/HD)

VSYNC output delay from locked reference input: none

Delay adjustment: not supported

Burst clock lock: not supported

SMPTE318M lock: not supported

Audio Reference Signal Output

Output connectors: BNC x 2

- DARS
- Wordclock

Sample rate: 48 kHz

DARS: AES-11, 48 kHz, grade-2 (can be switched between silent and 1 kHz tone)

Wordclock: 75Ω, 5 Vp-p

Test Pattern

NTSC:

- 75-75 full color-bar
- 100-75 full color-bar
- 100-100 full color-bar
- EIA color-bar
- ARIB color-bar
- RED field
- BLUE field
- GREEN field
- 100% white field
- 50% gray field
- Multi-burst
- 100% ramp
- Staircase
- Modulated ramp
- Modulated staircase
- Shallow ramp
- NTC7
- Composite
- Dot
- Crosshatch
- Window

PAL:

- 75-75 full color-bar
- RED field
- BLUE field
- GREEN field
- 100% white field
- 50% gray field
- Multi-burst (line 18)
- 100% ramp
- Staircase
- Modulated ramp
- Modulated staircase
- Shallow ramp
- Line 17
- Dot
- Crosshatch
- Window

USB

Format: USB2.0 compliant

Connector: Mini B

Specifications

Voltage:

- AC adapter
  - Input: 100V – 240V(50 Hz/60 Hz)
  - Output: DC 12V 3A (max.)
- ADVC G4 unit:
  - Input: DC5 – 16.8V
- Maximum power consumption: 4.9W

Dimensions: 142.5 (W) x 42.5 (H) x 98.5 (D) mm (projecting parts not included)

Weight: 650g (approx.)

Environmental characteristics:

- Operating temperature: 32-104°F (0-40°C)
- Maximum humidity: 8%-80% (no condensation)

ADVC G1 FAQ

1 **What happens if there is no reference input signal?**

When no reference signal is present, the ADVC G1 will generate its own internal reference signal.

2 **What is the delay IN → OUT for ADVC-G1**

- Interlace to interlace: 2.5 frames
- Interlace to progressive: 2.0 frames
- Progressive to interlace: 3.0 frames
- Progressive to progressive: 2.0 frames

3 **ADVC G1 has DVI-IN, what is the refresh rate for PC output?**

ADVC G1 supports 60 Hz for PC output.

4 **What is the setup level for analog video input?**

The setup level is set to 7.5 IRE by default. This can be switched to 0 IRE via a dip switch on the rear panel.

5 **Can the analog audio input level be adjusted?**

Precise levels cannot be adjusted. Reference level can be switched via a dip switch on the rear panel to 0 dBu or +4 dBu.

6 **ADVC G1 has an upconvert function, but does it have a frame-rate conversion function?**

ADVC G1 does not have any frame-rate conversion capability.

The upconvert function is used to convert SD inputs like S-Video, component video, and composite video to 720p, 1080i, 1080p (selectable in setup) over SDI.

7 **Does ADVC G1 have a downconvert function?**

ADVC G1 does not support downconversion.

8 **What happens when a 4:3 image is output as a 16:9 image?**

Display mode can be changed via a dip switch on the rear panel, for the following outputs:

- Standard (letterboxed with black borders on right and left side of the screen)
- Full Screen (image stretched across the complete screen to fill the screen)
- Flex view (image stretched more across the sides of the screen (and less towards the center of the screen) to fill the screen)

9 **When you outputting a 4:3 video to 16:9, is there no mode to cut the top and bottom of the screen?**

The ADVC-G1 does not support this mode.

10 **Can you embed all eight channels of HDMI audio to an SDI output?**

Yes, it is possible. Can you then choose which audio you would like to embed into the SDI? Yes. However, when a DVI video signal has been chosen as the video input, you cannot choose HDMI audio.

11 **What is the USB connector on the back of the unit for?**

This connector will be used in the future for firmware updates as well as external control, and status monitoring.

12 **In the ADVC G1, is image enhancement applied in "through mode"?**

Yes, it is applied to "through mode" video, when image enhance mode has been turned on.

ADVC G2 FAQ

1 **Can ADVC G2 output 3G-SDI as DualLink-SDI?**

No, this functionality is not supported.

2 **What is the delay between input and output of the ADVC G2 when downconverting?**

One frame.

3 **When using a 3G-SDI 1080/60p input, is it possible to have an analog output?**

60p input will be downconverted to PAL, and 59.94p will be downconverted to NTSC. However, direct analog output is not possible.

4 **Does ADVC G2 support Dolby audio?**

No, it is not supported. HDMI supports 48/44.1/32 kHz and SDI supports linear PCM at 48 kHz.

5 **Does ADVC G2 support HDCP?**

ADVC G2 does not support HDCP. ADVC G2 cannot be used with output devices supporting HDCP.

6 **When the audio is eight channels, does the analog audio output get mixed?**

No. Two channels are chosen to be output: channel 1/2, channel 3/4, channel 5/6, or channel 7/8.

7 **How is 16:9 video input shown in a 4:3 output?**

The following 5 methods can be selected: Letterbox 16:9, Letterbox 14:9, Letterbox 13:9, Squeeze, Edge Crop

8 **Can audio delay be corrected in ADVC G2?**

There is no delay between the audio and video with the ADVC G2.

9 **Can you add a synchronous signal to the SDI throughput?**

It is possible to synchronize the input video to the REF signal, and output it as SDI.

10 **When output is set to downconvert, is it possible to automatically recognize SD-SDI and directly output it as SD?**

Yes, it is possible.

11 **What is the USB connector on the back of the unit for?**

This connector will be used in the future for firmware updates as well as external control, and status monitoring.

ADVC G3 FAQ

1 **Is it possible to input two identical SDI signals and use one as a backup signal? Is there any problem with black screens or noise when switching?**

No, there should be a seamless transition when switching HDMI output.

2 **What formats are supported in the HDMI 3D output?**

Frame Packing, Side-by-Side, and Top-and-Bottom. However, Frame Packing is not supported in 1920x1080p60/59.94/50 or SD (720x486/720x576).

3 **What is the delay between input and output for ADVC G3?**

0-2 frames delay, when using 3D multiplexing.

4 **How is the 8-channel audio mapped in SDI embedded audio and HDMI embedded audio?**

Channels are mapped according to HDMI and SDI (Digital Cinema) standards—channels 3 and 4 are swapped.

Channel #	SDI IN	HDMI OUT
1	L/Left	L/Left
2	R/Right	R/Right
3	C/Center	LFE/Screen
4	LFE/Screen	C/Center
5	Ls/Left Surround	Ls/Left Surround
6	Rs/Right Surround	Rs/Right Surround
7	Lc/Left Center	Lc/Left Center
8	Rc/Right Center	Rc/Right Center

5 **ADVC G3 supports 1920x1035 with SDI input format, but what happens when the video is output via HDMI?**

1920 x 1035 is converted to 1920 x 1080.

6 **What happens to the output when the input signal is suddenly removed?**

ADVC G3 will display the last full frame, and audio will be muted.

7 **When an 8-channel audio input is output as 2-channel analog audio, which channel is used?**

The following output channels can be chosen, but not mixed: channel 1/2, channel 3/4, channel 5/6, or channel 7/8.

8 **What is the USB connector on the back of the unit for?**

This connector will be used in the future for firmware updates as well as external control, and status monitoring.

ADVC G4 FAQ

1 **What is the Ref-In used for?**

The Ref-In is used for duplicating an existing signal, or, for example stacking multiple ADVC G4s together for more than nine outputs.

2 **What is the sampling rate of the ADVC G4 Audio Reference?**

Audio Reference only supports 48 kHz; it does not support 32/44.1 kHz.

3 **What are the detailed specifications for DARS?**

AES-11, 48 kHz, grade-2. Can be switched between silent and 1 kHz tone.

4 **How accurate is the ADVC G4 clock?**

+-4.0 parts per million (ppm).

5 **Can ADVC G4 output HD test patterns?**

No, test patterns are only available in SD (NTSC/PAL).

6 **What is the USB connector on the back of the unit for?**

This connector will be used in the future for firmware updates as well as external control, and status monitoring.

ADVC G-Series I/O and Format Comparison Guide

	Model	ADVC G1	ADVC G2	ADVC G3	ADVC G4
	Description	**Any In, SDI Out**	**SDI & HDMI In to Analog & SDI**	**2 x SDI to HDMI 1.4 with 3D support**	**Sync Generator with Reference In**
Input	HD-SDI / SD-SDI	No	Yes	Yes (x2)	No
	HDMI	Yes	Yes	No	No
	DVI	Yes	No	No	No
	Analog RGB	Yes	No	No	No
	Component	Yes	No	No	No
	S-Video	Yes	No	No	No
	Composite	Yes	No	No	No
	Analog Audio	Yes	No	No	No
	AES/EBU	Yes	No	No	No
	Ref In (frame synchronizer)	Yes	Yes	No	Yes
Output	Upconversion	Yes	No	No	No
	Downconversion	No	Yes	No	No
	HD-SDI / SD-SDI	Yes (x2)	Yes (x2)	No	No
	HDMI	No	No	Yes	No
	3D Muxing	No	No	Yes	No
	DVI	No	No	No	No
	Analog RGB	No	No	No	No
	Component	No	Yes	No	No
	S-Video	No	Yes	No	No
	Composite	No	Yes	No	No
	AES/EBU	No	Yes	Yes	No
	Analog Audio	No	Yes	Yes	No
	Ref Out	No	No	No	Yes (x9)
Format Support	PAL / NTSC	Yes	Yes	Yes	Yes
	PC Resolution	Up to 1920 x 1200	No	No	No
	1080i50	Yes	Yes	Yes	Yes
	1080i59.94	Yes	Yes	Yes	Yes
	1080i60	Yes	Yes	Yes	Yes
	1080p23.98	Yes	Yes	Yes	Yes
	1080p24	Yes	Yes	Yes	Yes
	1080p25	Yes	Yes	Yes	Yes
	1080p29.97	Yes	Yes	Yes	Yes
	1080p30	Yes	Yes	Yes	Yes
	1080p50	Yes	Yes	Yes	No
	1080p59.94	Yes	Yes	Yes	No
	1080p60	Yes	Yes	Yes	No

ADVC G-Series I/O and Format Comparison Guide

	Model	ADVC G1	ADVC G2	ADVC G3	ADVC G4
	Description	**Any In, SDI Out**	**SDI & HDMI In to Analog & SDI**	**2 x SDI to HDMI 1.4 with 3D support**	**Sync Generator with Reference In**
Format Support (cont.)	720p23.98	Yes	Yes	Yes	Yes
	720p24	Yes	Yes	Yes	Yes
	720p25	Yes	Yes	Yes	Yes
	720p29.97	Yes	Yes	Yes	Yes
	720p30	Yes	Yes	Yes	Yes
	720p50	Yes	Yes	Yes	Yes
	720p59.94	Yes	Yes	Yes	Yes
	720p60	Yes	Yes	Yes	Yes
	1080psf23.98	Yes	Yes	Yes	Yes
	1080psf24	Yes	Yes	Yes	Yes
	1080psf25	Yes	Yes	Yes	Yes
	1080psf29.97	Yes	Yes	Yes	Yes
	1080psf30	Yes	Yes	Yes	Yes
	1035i59.94	No	Yes	Yes	No
	1035i60	No	Yes	Yes	No
Input Signals	SMPTE 259M	No	Yes	Yes	No
	SMPTE 292M	No	Yes	Yes	No
	SMPTE-424	No	Yes	Yes	No
	YPbPr (SD)	Yes	No	No	No
	EBU-N10 (SD)	Yes	No	No	No
	Betacam (SD)	Yes	No	No	No
	YC (SD)	Yes	No	No	No
	YPbPr (HD)	Yes	No	No	No
	HDMI	Yes	Yes	No	No
Output Signals	SMPTE 259M	Yes	Yes	No	No
	SMPTE 292M	Yes	Yes	No	No
	SMPTE-424	Yes	Yes	No	No
	YPbPr (SD)	No	Yes	No	No
	EBU-N10 (SD)	No	Yes	No	No
	Betacam (SD)	No	Yes	No	No
	YC (SD)	No	Yes	No	No
	YPbPr (HD)	No	Yes	No	No
	HDMI	No	No	Yes	No

ABOUT GRASS VALLEY – THE PREMIER VIDEO TECHNOLOGY SOLUTIONS COMPANY

With a rich history serving the broadcast and professional video industries, the Grass Valley name is synonymous with innovation, leadership, and performance. With a full range of products and services supporting many of the world's most high-profile live events, Grass Valley offers the most comprehensive portfolio of software, services and IT infrastructure. Customers deploying Grass Valley solutions include most of the world's leading broadcast and teleproduction IT facilities, independent video professionals, as well as emerging content creators and distributors providers of broadband, telecommunications, and transmission services. When you're watching news, sports, or entertainment programming, whether on a TV, the web, or a mobile phone, you're watching Grass Valley at work in the connected world.

For information about Grass Valley products, please visit **www.grassvalley.com.**

Join the Conversation at **GrassValleyLive** on Facebook, Twitter, and YouTube.

grass valley

PRV-4093M-4