BBG-1070-QS • 3G/HD/SD-SDI/CVBS Standalone Expandable Multiviewer
with Advanced On-Screen Graphics

The Cobalt® **BBG-1070-QS 3G/HD/SD-SDI/CVBS Standalone Expandable Multiviewer with Advanced On-Screen Graphics** integrates five discrete 3G/HD/SD-SDI or CVBS inputs onto a single 3G/HD/SD-SDI quint-split output, with each input image being flexibly inserted into the output image area.

While the BBG-1070-QS offers unprecedented flexibility, it also offers an unprecedented ease of use. Fully-flexible layouts using any of several one-button template presets or fully customizable layouts using easy to use sizing/positioning custom controls. Custom layouts can be saved to user presets. Any template layout or custom layout changes can be done "on-the-fly" in real time, without tedious setup compiler or layout programs like many other split/multiviewer products.

Multiple BBG-1070-QS units can be cascaded to provide splits greater than the base quint-split. The PIP5 input can be used in a cascaded chain of BBG-1070-QS units that provides multiviewer layouts of up to 8x8 (64:1). The QuickSet grid definer precisely and easily sets up a multiviewer grid where columns and rows of each of the PIPs are arranged to work together in a cascaded aggregate arrangement. Low-latency processing allows multiple BBG-1070-QS units to be cascaded without significant accumulated delays within the chain.

Advanced graphics such as user identify text, PiP input video format, audio meter bars, tally/UMD, reticules, and timecode can be burned into any PiP with full user attributes control. CEA 608 Ch1 text strings can serve as user text overlays, allowing direct closed captioning presence/quality compliance checks for up to 5 simultaneous video streams per unit. User-configurable Quality Check allows subjective criteria such as black/frozen frame or audio silence events to propagate an on-screen alarm/alert to the output image (such as alert text burn-in or border alert highlighting). Each PiP input is provided its own independent timing alignment controls with lock to reference, allowing asynchronous inputs to be directly accommodated. An HDMI output (with audio embedding) allows direct feed to a monitor.

The compact standalone form factor allows desktop usage, as well as the 1/3-rack size of the BBG-1070-QS allowing 3 units to be installed in a 1RU space (an optional mounting tray is available that provides secure mounting of the units to a standard 19" frame).

DashBoard

BBG-1070-QS • 3G/HD/SD-SDI/CVBS Standalone Expandable Multiviewer
with Advanced On-Screen Graphics

FEATURES

Scalable PiP solution. Single unit provides up to 5:1 split, with up to ten 5:1 splits per frame

Allows easy, real-time “on the fly” custom layout changes without needing setup compiler or layout programs

Easy to configure PiP sizing and borders. Advanced graphics include audio meters, character burn, and reticules. PiP sizing/splits using one-button templates or easy-to-use, intuitive DashBoard™ GUI controls. Custom settings can be saved to user presets.

GPI, Ethernet, and serial tally inputs provide dual, per-PiP tally indicators

Closed captioning overlays provide direct closed captioning presence/quality compliance checks for up to 5 simultaneous video streams per unit

Cascading Mode and QuickSet grid definer offers easy to set up scalable multiviewer functions (up to 64:1) using multiple cascaded (daisy-chained) BBG-1070-QS units. Two units can provide an 8:1 multiviewer.

Cascade Config provides access to PiP controls for all PiPs from one DashBoard device view. Controls for all PiPs appear universally on each BBG-1070-QS in the chain. PiP numbers are correlated to your actual PiPs instead of fixed device-based port definers.

DashBoard Output Preview function provides display of regularly-sampled screen captures in the device DashBoard page. Provides remote-access program video content/presence and multiviewer layout confidence monitoring via the device’s DashBoard display without needing collocation with the card or its input or output video signals.

Compact footprint – up to 3 units in a 1RU space. Optional tray provides secure captive-fastener mounting of 3 units in a 1RU tray.

3G/HD/SD-SDI and HDMI outputs with audio embed outputs

Per-PIP audio meter, tally, user text, and timecode overlays

Audio routing directs selected PiP audio to combined-stream outputs. Audio downmixing also provided.

Wall-clock time burn-in on merged output or within PIPs. NTP sync via IP connection with timezone localization.

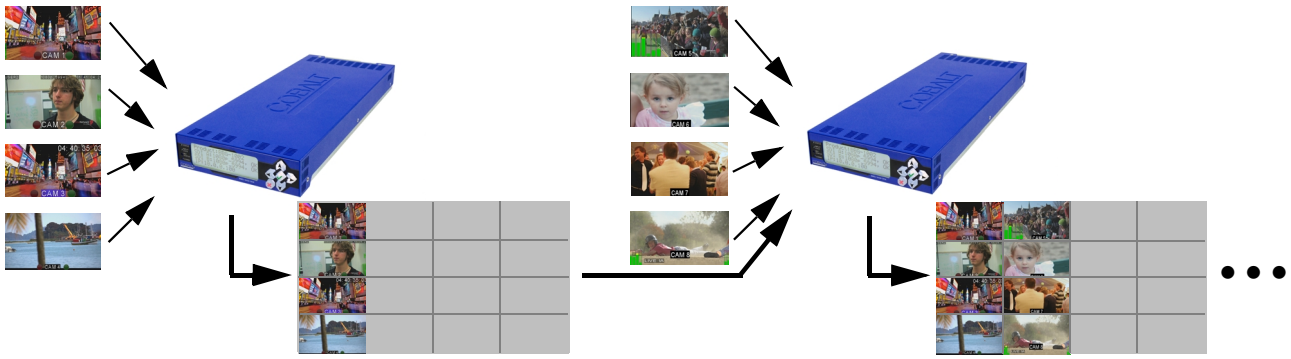
Fully flexible input compatibility – mixed formats on inputs can be automatically sized and outputted in a combined output scaled to desired broadcast SD/HD/3G output format. Each input automatically detects and sets up for SDI or CVBS input. Supports asynchronous inputs using per-PiP ref lock. Per-PiP independent ARC settings and controls.

User quality criteria (such as frozen/black frame) alert/alarms can be propagated to output image with alarm text and border highlighting

Redundant power supply option

Five year warranty

Multiple BBG-1070-QS units can operate in a **cascading** mode, where four PiP inputs serve as program video inputs, and the PiP 5 input receives the cascading combined layout of a preceding BBG-1070-QS unit in a daisy-chain arrangement.



The cascade output (consisting of the four PiP images and a full-size underlay) can be sent to another BBG-1070-QS as a **cascade** input, serving as an underlay which can accept more PiP insertions.

A Quickset grid definer precisely sets up a multiviewer grid where columns and rows of each of the cards PIPs are arranged to work together in a cascaded aggregate arrangement. Simply set for the number of rows and columns desired – the Quickset definer does the rest!

More downstream BBG-1070-QS units can be added and have its PiPs added next to those furnished from the upstream card cascade. Here, PiP insertions are arranged in columns, although almost any desired grid and arrangement scheme is possible.

Even more units and PiPs can be added using open adjacent cells in the grid. Grids of up to 8x8 are supported.

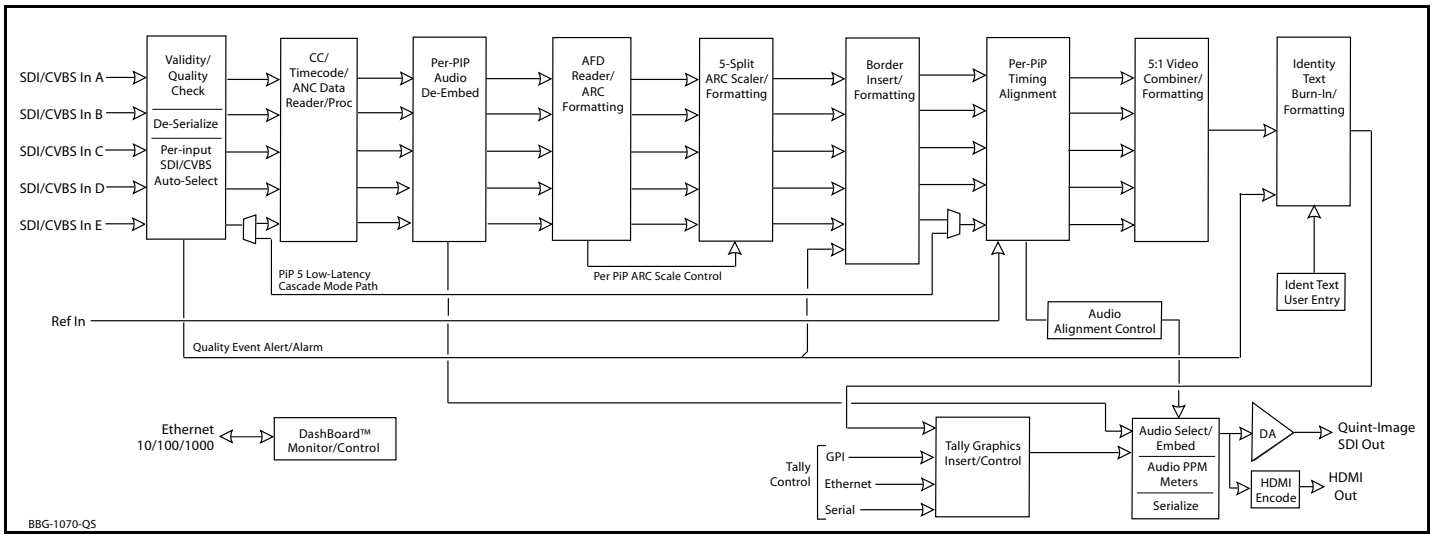
Pressing the Identify PIP button instantly correlates each image to its PIP channel.

The identities are clearly shown for a few seconds, after which the identity overlays automatically cancel.

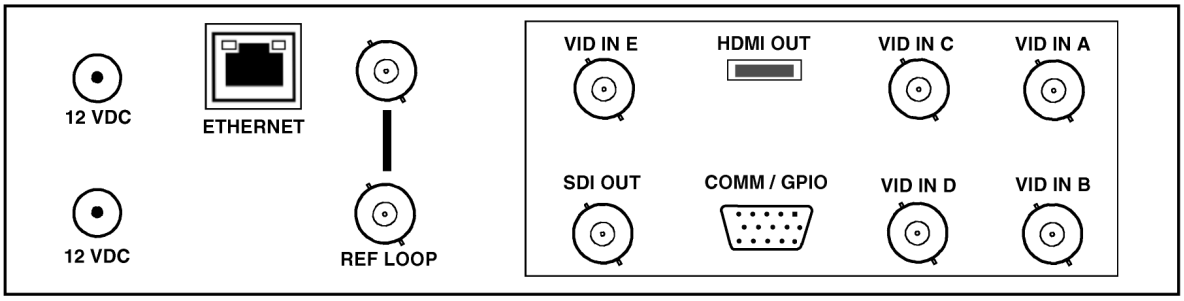
BBG-1070-QS • 3G/HD/SD-SDI/CVBS Standalone Expandable Multiviewer
with Advanced On-Screen Graphics

Each of the up to five multi-image displays offer per-PiP independent, real-time closed captioning text overlays

Any or all of the five PiP images can insert closed captioning overlays, providing an easy to use, intuitive, and very practical source for closed captioning presence and quality check. The CC overlay function interprets CEA 608 data for text formatting (roll-up, line breaks, etc). Caption overlay can accept CEA 608 formatting or CEA 608 packaged into CEA 708.



BBG-1070-QS Rear Panel



COMM / GPIO

1 - *COM A_RX2 / 422(+)
2 - *COM A_TX2 / 422(+)
3 - COM B_RX2 / 422(+)
4 - GPO OUT1
5 - GND
6 - *COM A_RX1 / 422(-)
7 - *COM A_TX1 / 422(-)
8 - COM B_RX1 / 422(-)
9 - GPI IN5
10 - GPI IN4
11 - GPI IN1
12 - GPI IN2
13 - GPI IN3
14 - NC
15 - NC

* Port can be GUI-configured as two RS-232 ports (Tx and Rx), or as a full-duplex RS-422 port.

BBG-1070-QS • 3G/HD/SD-SDI/CVBS Standalone Expandable Multiviewer
with Advanced On-Screen Graphics

SPECIFICATIONS

Power

< 18 Watts. Power supplied by 12VDC AC adapter, universal input (supplied).

Video Input/Outputs

Video Inputs: (5) 75Ω BNC; auto-detect/setup for 3G/HD/SD-SDI or CVBS
SDI Outputs: (1) 75Ω BNC; user-selectable as 720p, 1080i, or 1080p (3G)
HDMI Output: (1) HDMI output with audio embedding
Formats Supported: SMPTE 259M, SMPTE 292M, SMPTE 424M
I/O Latency: Basic PiP Input/Output < 1.5 frames (max). Cascade latency consists of basic PiP I/O latency plus < 2 line added delay.
Receive Cable Length: 3G/HD/SD: 120/180/320 m (Belden 1694A)
Return Loss: >15 dB up to 1.485 GHz; >10 dB up to 2.970 GHz
Alignment Jitter: 3G/HD/SD: < 0.3/0.2/0.2 UI

Timecode Burn-In

Independent per-PIP burn-in via user controls from input video SMPTE embedded timecode. Burn-in enable/disable user controls. Configurable for burn-in string of seconds, seconds:frames, seconds:frames:field. User controls for text size, color, and H/V position.

Text Burn-In

Per-PiP UMD and two user identity text strings (as alternate, automatic PiP input video format can be inserted). Independent insertions controls for enable/disable. User controls for text size, color, and H/V position.

Audio Output

16-ch embedded. Per-PIP select allows routing of PIP input 16-ch embedded audio to combined SDI output. HDMI output tracks with group 1/2 audio as selected for SDI embedded audio output.

Tally Indicators/Inputs

Per-PiP dual tally indicators. GPI, Ethernet, serial per-PiP tally control. Per-PiP tally lamp position and sizing controls.

Control/Monitor Interface

Front panel network setup. DashBoard remote control via 10/100/1000 Ethernet port.

Frame Reference Input

Looping reference input. SMPTE 170M/318M “Black Burst”, SMPTE 274M/296M “Tri-Level”.

ORDERING INFORMATION

BBG-1070-QS 3G/HD/SD-SDI/CVBS Standalone Expandable Multiviewer with Advanced On-Screen Graphics (includes one BBG-1000-PS Power Supply)

BBG-1000-PS Redundant Power Supply Module

BBG-1000-TRAY 1RU Mounting Tray (supports 3 units)