MultiDyne®
Video & Fiber Optic Systems

OG-5510-5S
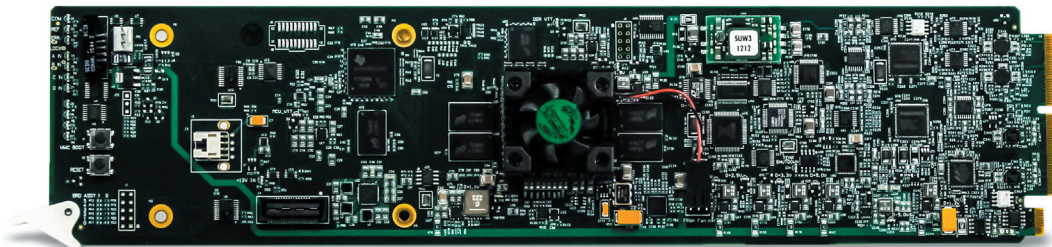## 3G/HD/SD-SDI/CVBS Expandable Multiviewer with Advanced Production Centric Feature Set

FEATURES

▷ Remote control monitoring & mosaic layout via DashBoardTM software

▷ Five Auto-Detect 3G/HD/SD-SDI/Composite Analog Inputs

▷ 3G-SDI & HDMI Outputs

▷ Dynamic Tallies & UMDs

▷ 16 Channel Audio Meters Per Pip

▷ User Text and Graticule Generators

▷ Embedded Audio Router

▷ Low-Latency cascading design

APPLICATIONS

▷ Fly-Packs

▷ Mobile Trucks

▷ ENG / Production

▷ Remote Backhaul Monitoring

Expandable Multiviewer integrates five discrete 3G/HD/SD-SDI or CVBS inputs onto a single 3G/HD/SD-SDI and/or HDMI

The OG-5510-5S 3G/HD/SD-SDI/CVBS Expandable Multiviewer integrates five discrete 3G/HD/SD-SDI or CVBS inputs onto a single 3G/HD/SD-SDI quint-split output, with each image being flexibly inserted into the output image area.

The OG-5510-5S offers unprecedented flexibility, and an unprecedented ease of use. Fully-flexible layouts using 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 OG-5510-5S cards can be cascaded to provide splits greater than the base quint-split. The OG-5510-5S PIP5 input can be used in a cascaded chain of OG-5510-5S cards 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 cards PIPs are arranged to work together in a cascaded aggregate arrangement. Low-latency processing allows multiple OG-5510-5S cards 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 card.
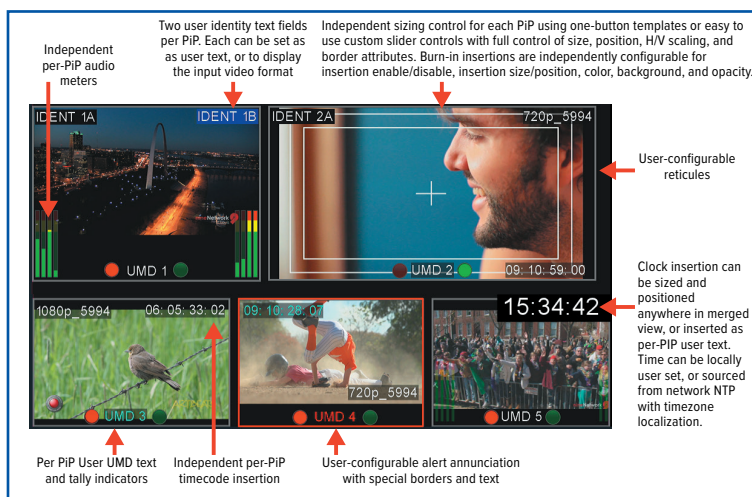
A master output up-down-cross convert scaler provides scale-to HD or 3G SDI formats for the combined multiviewer output, which also includes an HDMI output (with audio embedding) to directly feed a wall monitor. The openGear® card-based form factor of the OG-5510-5S provides scalable, easily integrated multi-image functions for the 20-slot frame form factor with easy to use DashBoard™ remote control. Each PiP input is provided its own independent timing alignment controls with lock to reference, allowing asynchronous inputs to be directly accommodated. Full user DashBoard™ allows full status and control access locally or across a standard Ethernet network. Tally can be communicated by GPI, Ethernet, or serial interfaces.

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FEATURES

- Scalable openGear® PiP solution. Card-based form factor provides high density, space-saving economical integration.
- 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 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 card
- Cascading Mode and QuickSet grid definer offers easy to set up scalable multiviewer functions (up to 64:1) using multiple cascaded (daisy-chained) OG-5510-5S cards. Two cards can provide an 8:1 multiviewer, with up to 16 cards providing a 64:1 multiviewer. Single card provides up to 5:1 split, with up to ten 5:1 splits per frame.
- Cascade Config provides access to PiP controls for all PiPs from one card. Controls for all PiPs appear universally on each card in the chain. PiP numbers are correlated to your actual PiPs instead of fixed card-based port definers. Cascade Config consolidated control can span card chains within a frame or across multiple frames.
- DashBoard Output Preview function provides display of regularly-sampled screen captures in the card DashBoard page. Provides remote-access program video content/ presence and multiviewer layout confidence monitoring via the card's DashBoard display without needing collocation with the card or its input or output video signals.
- Audio routing directs selected PiP audio to combined-stream outputs. Audio downmixing also provided.

- 3G/HD/SD-SDI 2x DA and HDMI with audio embed outputs
- Wall-clock time burn-in on merged output or within PIPs. NTP sync via IP connection with timezone localization.
- Per-PIP audio meter, tally, user text, and timecode overlays
- Fully flexible input compatibility – mixed formats on inputs can be automatically sized and output 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
- Low-power/high-density design – less than 18 Watts per card
- DashBoard™ remote control status monitoring and setup/control

Independent per-PiP audio meters

Two user identity text fields per PiP. Each can be set as as user text, or to display the input video format

Independent sizing control for each PiP using one-button templates or easy to use custom slider controls with full control of size, position, H/V scaling, and border attributes. Burn-in insertions are independently configurable for insertion enable/disable, insertion size/position, color, background, and opacity.

User-configurable reticules

Clock insertion can be sized and positioned anywhere in merged view, or inserted as per-PIP user text. Time can be locally user set, or sourced from network NTP with timezone localization.

Per PiP User UMD text and tally indicators

Independent per-PiP timecode insertion

User-configurable alert annunciation with special borders and text

Pressing the Identify PIP button in DashBoard™ instantly correlates each image to its PIP card channel. The identities are clearly shown for a few seconds, after which the identity overlays automatically cancel.

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 inpterprets CEA 608 data for text formattting (roll-up, line breaks, etc.). Caption overlay can accept CEA 608 formatting or CEA 608 packaged into CEA 708.
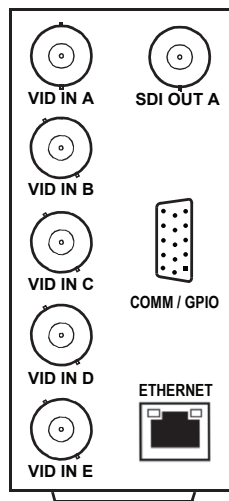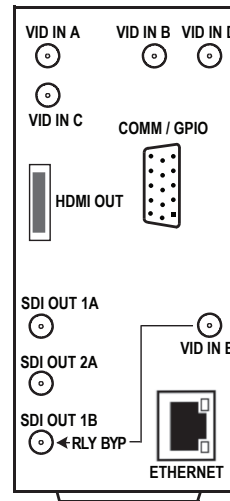
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REAR MODELS MODULES
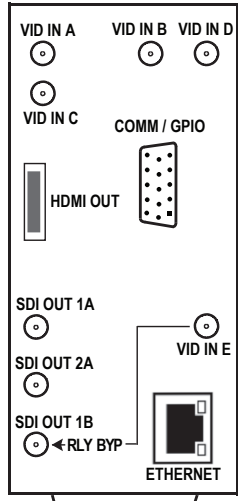
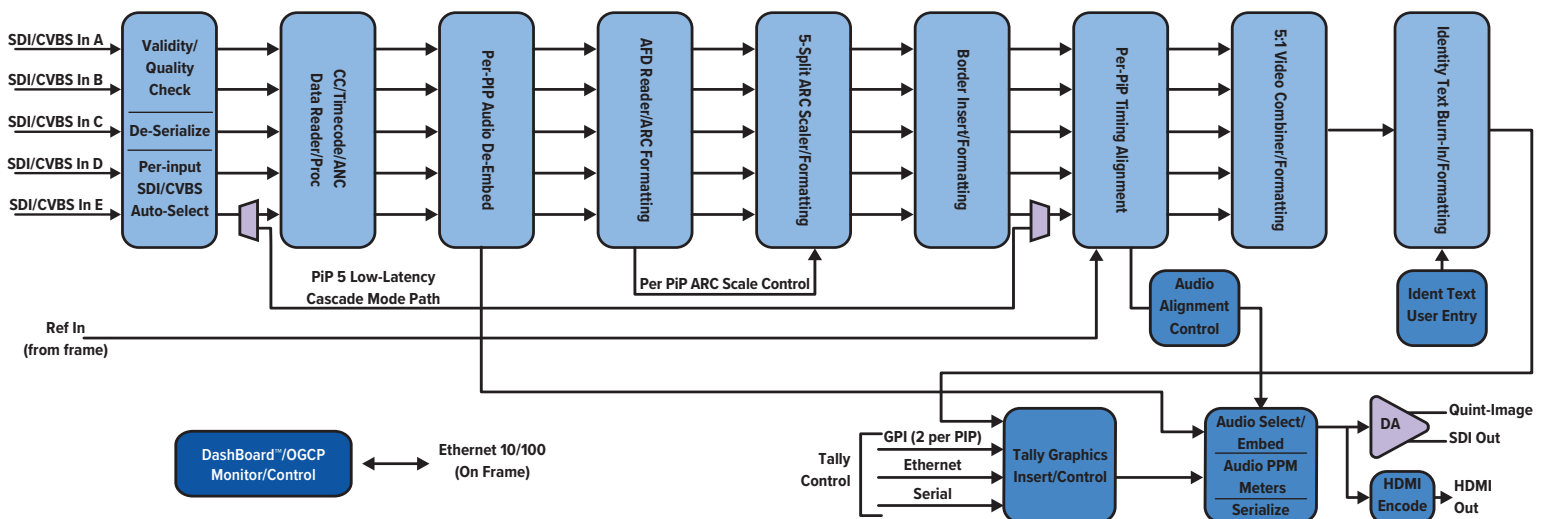**R2-5510-A**
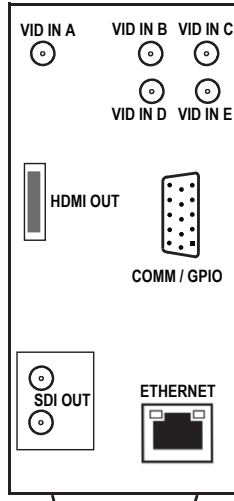
R2-5510-B
R2-5510-C

R2-5510-D

R2-5510-E
R2-5510-F

COMM / GPIO PINOUT

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 / GPO OUT 2
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.

BLOCK DIAGRAM

![MultiDyne logo] **MultiDyne**

10 Newton Place
Hauppauge, NY 11788
(877)-685-8439 / (516)-671-7278
sales@multidyne.com
www.multidyne.com

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ORDERING INFORMATION

PART #	Description
OG-5510-5S	Expandable Multiviewer with Advanced On-Screen Graphics
R2-5510-A	20-Slot Frame Rear I/O Module (Standard-Width) (4) 3G/HD-SD-SDI/CVBS Input BNCs, (2) 3G/HD/SD-SDI Output BNCs (2xDA), COMM/GPIO Port, Ethernet Port
R2-5510-B	20-Slot Frame Rear I/O Module (Standard-Width) (5) 3G/HD-SD-SDI/CVBS Inputs, (2) 3G/HD/SD-SDI DA Outputs, COMM/GPIO Port (Combined D-connector), HDMI Output, Ethernet Port (all coaxial connectors DIN 1.0/2.3)
R2-5510-C	20-Slot Frame Rear I/O Module (Standard-Width) (5) 3G/HD-SD-SDI/CVBS Inputs, (2) 3G/HD/SD-SDI DA Outputs, COMM/GPIO Port (Combined D-connector), HDMI Output, Ethernet Port (all coaxial connectors HD-BNC)
R2-5510-D	20-Slot Frame Rear I/O Module (Standard-Width) (5) 3G/HD-SD-SDI/CVBS Input BNCs, (1) 3G/HD/SD-SDI Output BNC, COMM/GPIO Port (Combined D-connector), Ethernet Port
R2-5510-E	DIN 20-Slot Frame Rear I/O Module (Standard-Width) (5) 3G/HD-SD-SDI/CVBS Inputs, (2) SDI x2 Outputs (1 with relay bypass protect), COMM/GPIO Port (Combined HD-15 connector), HDMI Output, Ethernet Port (all coaxial connectors DIN 1.0/2.3)
R2-5510-F	20-Slot Frame Rear I/O Module (Standard-Width) (5) 3G/HD-SD-SDI/CVBS Inputs, (2) SDI x2 Outputs (1 with relay bypass protect), COMM/GPIO Port (Combined HD-15 connector), HDMI Output, Ethernet Port (all coaxial connectors HD-BNC)

TECHNICAL SPECIFICATIONS

Electrical

Power	< 18 Watts

Video Input/Outputs

Video Inputs	(5) 75Ω BNC; auto-detect/setup for 3G/HD/SD-SDI or CVBS
SDI Outputs	(2) 75Ω BNC (2x DA); 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 control. Per-PiP tally lamp position and sizing controls.

Frame Reference Input

(2) reference from frame bus. SMPTE 170M/318M "Black Burst", SMPTE 274M/296M "Tri-Level".

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