

GV I/O

Live Ingest & Playout Using COTS Hardware with GV STRATUS



GV I/O is a high-performance, cost-effective, COTS (commercial off the shelf) ingest and playout platform tailored for fast-turn production workflows on a 1 RU server, with SMPTE ST 2110 support and up to four SD or HD channels or three UHD channels.

Simplicity — GV I/O from Grass Valley is designed with a streamlined workflow and seamless integration in mind. Built on a COTS ingest and playout platform with an evolving feature set, GV I/O offers integration with IT-based storage via Grass Valley’s AMS range of storage and can play back and record content over traditional SDI, SMPTE ST 2110 and web streams, all on COTS hardware.

Flexibility — Built for the future with limitless flexibility, GV I/O offers the agility to power your broadcast workflow. With flexibility through licensing, while offering industry leading codec versatility, GV I/O answers the call for today’s workflows, while providing a future proof solution for tomorrow.

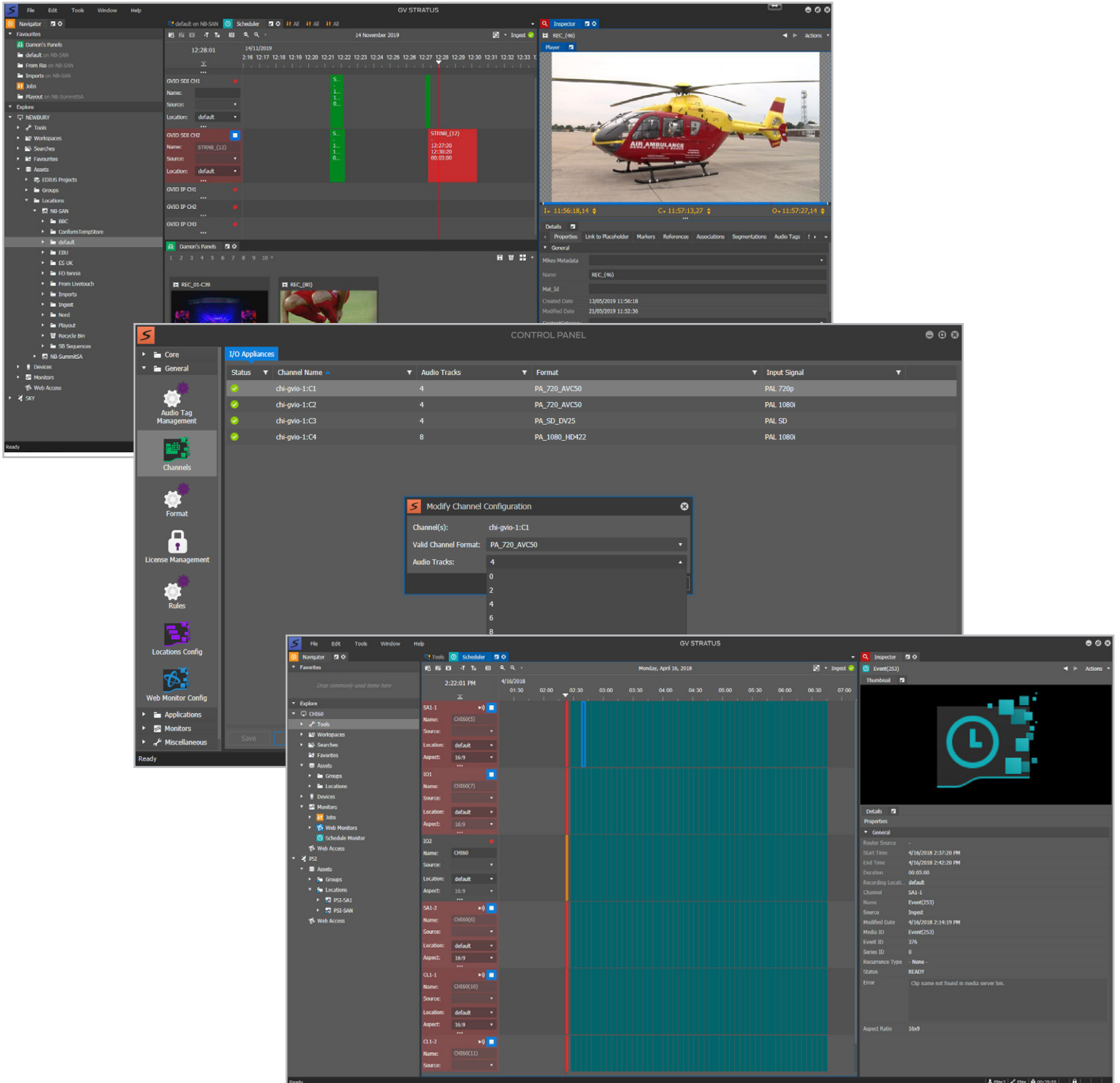
Scalability — GV I/O can scale to meet the workflow demands of newsroom productions regardless of the scope or complexity.

Reliable and Cost-Efficient — With redundant power supplies, hot-swappable drives, flash-based storage and RAID-5, GV I/O is designed for on-demand reliability. CPU utilization is roughly 50% of other servers in the market, giving you valuable cost-efficiency in an easy to deploy solution.

Functionality	K2 Summit 3G	GV I/O
Supported on COTS hardware	✗	✓
Codecs offered as standard option	✗	✓
Up/down/crossconversion	✓	✓
16 channels of audio	✓	✓
Real-time proxy generation	✓	✓
Direct read/write to/from SAN	✓	✓
Growing file support	✓	✓
2x real-time jog/shuttle	✓	✓
3G 1080p	✓	✓
SMPTE ST 2110 UHD single raster support	✗	✓
IP with SMPTE ST 2110	✗	✓
Recording of web streams	✗	✓
Supports AMP control	✓	✓

KEY FEATURES

- Highest density UHD COTS platform in a 1 RU footprint:
 - SMPTE ST 2110 single raster UHD
 - MMOS support
 - AVC Class 300 support
- Access media immediately:
 - Fast turnaround editing
 - Full high-resolution quality and proxy workflow availability
 - Deliver media while recording to break stories faster
- Web-based management configuration tool:
 - Configure multiple systems from a single UI
 - Codec selection
 - Select proxy quality
- Four-channel configurations:
 - SD: DV and D10 (IMX)
 - HD: XDCAM, XDCAM HD, XDCAM EX, XDCAM 422, DVCPRO HD, AVC-Intra, DNxHD
 - UHD: XAVC-I Class 300, UHD, 2160p59.94 and 2160p50
 - Channels: 2 in and 1 out
- Network resiliency through low-bandwidth
- Import/export all formats as MXF OP1a, SMPTE ST 360 (GXF) or QuickTime
- Preservation of ANC data
- Full multichannel audio support — 16 audio tracks per video channel



SPECIFICATIONS

Video I/Os

4 SD/HD/3G-SDI channels record channels DIN 1.0/2.3 connectors

SD-SDI: SMPTE ST 259, ITU R601, 525/625 line, 10-bit

HD-SDI: SMPTE ST 292, 10-bit

3G-SDI:

SMPTE ST 424, 10-bit

SMPTE ST 2110-20 Uncompressed Video over IP

SMPTE 2110-30 PCM Audio over IP

SMPTE ST 2110-40 Ancillary Data over IP

Formats

(SD) 525i59.94

(SD) 625i50

(HD) 720p50/59.94

(HD) 1080i50/59.94

(3G Level A) 1080p50/59.94

(UHD) 2160p59.94 and 2160p50

Compression Types

SD:

DVCAM, DVCPRO25, DVCPRO50

D10 (IMX) 30/40/50 Mb/s

HD:

XDCAM HD (18, 25, 35 Mb/s)

XDCAM HD 4:2:2 (50 Mb/s)

XDCAM EX

DVCPRO HD

AVC-Intra 50/100

AVC-Intra Class 100 1080p50/60 Level A (optional)

DNxHD 115, 120, 145, 175, 185, 220 Mb/s

UHD:

XAVC-I Class 300

Audio

Up to 16 tracks per channel

Input: 48 kHz, 16- or 24-bit digital audio=PCM

Reference Genlock

Blackburst analog and tri-level sync

Single DIN 1.0/2.3 connector

Media Exchange

MXF OP1a and GXF (SMPTE ST 360)

Power Requirements

Dual 750W power supplies

Notes: GV I/O UHD support will require GV ION AMS Pro (Isilon) storage or the available internal SSD storage. GV ION AMS Express (when released) will also be supported.

UHD support is not validated for existing GV ION AMS Elite (K2 SAN) storage.

ORDERING

Base Servers

GVIO-HW-SV-01-HD

GV I/O Turnkey server for HD workflows. Includes NVIDIA P2000 card for proxy generation. Supports up to 4 channels

GVIO-HW-SV-02-UHD

GV I/O Turnkey server for UHD workflows. Supports 2 channels in and 1 channel out. (2 in/1 out). Includes Matrox M264 for proxy generation. Requires GVIO-HW-CX5 Mellanox card and 25G SFP

Options

GVIO-HW-CORVID88

AJA Corvid 88 video card (PCI Express). Provides x4 SDI in/out

GVIO-HW-CX5

ConnectX-5 NIC – Dual 25G/10G Mellanox IP interface card. Required for all GV I/O SMPTE ST 2110 IP servers. Requires GV I/O-SW and 10G or 25G SFP modules. Must use 25G SFP for UHD. Includes Rivermax license and silver 1 year support

GVIO-HW-CX5-FK

ConnectX-5 NIC – Dual 25G/10G Mellanox IP interface card. Required for upgrading from a GV I/O SDI to IP server (replaces AJA card). Includes Rivermax license and silver 1 year support

GVIO-HW-M264-FK

Matrox M.264 3 codec card upgrade for UHD support. Replaces NVIDIA P2000 card

GVIO-HW-SFP-10G

x2 10 GbE SFP modules required for Mellanox card

GVIO-HW-SFP-25G

x2 25 GbE SFP modules required for Mellanox card

GVIO-HW-SSD-5-960R5

Internal SSD storage (960 GB drives). Provides ~4 TB RAID-5 (~79 hours @ 100 Mb)

GVIO-HW-SSD-5-1920R5

Internal SSD storage (1.92 TB drives). Provides ~7.6 TB RAID-5 (~157 hours @ 100 Mb)

GVIO-SW-ISCSI

Connection required to add GV I/O to an older K2 SAN using Qlogic TOE card. SNFS 6 systems only. K2 Summit 10.1.2 or later software

GVIO-SW-SN-LAN

SNFS connection required to add GV I/O to a new K2 SAN (no TOE card). K2 Summit 10.1.2 or later software. Server 2016/SNFS 6 only

GVIO-SW-IP-CH

GV I/O per channel IP license – for HD only (maximum 4 per server)

GVIO-SW-UHD-CH

GV I/O per channel UHD license (maximum 3 per server, maximum 2 in)

GVIO-SW-SDI-CH

GV I/O per channel SDI license (maximum 4 per server)

GVIO-SW-1080P-CH

GV I/O per channel 1080p license (maximum 2 per server). GVIO-SDI-CH or GVIO-IP-CH are a prerequisite

Note: When using 1080p channels, a maximum of 2 channels is recommended.

GVIO-SW-WEB-CH

GV I/O per channel web license (ingest only, maximum 4 per server)

GVIO-SW-HD

GV I/O software. Required for GVIO-HW-SV-01-HD

GVIO-SW-UHD

GV I/O software. Required for GVIO-HW-SV-02-UHD