



GV Fabric

Compact, High-speed Ethernet Switches for Broadcast IP Routing Systems

Meeting the exacting requirements of modern IP media facilities.

GV Fabric from Grass Valley is a COTS (commercial-off-the-shelf) IP switch enabling format agnostic signal routing for small to enterprise-wide installations. Operation has been rigorously tested with Grass Valley IP edge devices and in typical workflow scenarios, thus ensuring all the main equipment for an “end-to-end” IP solution can now be sourced from a single leading supplier. Its seamless integration with proven and established GV Convergent router control and Orbit configuration and monitoring systems dramatically reduces deployment timelines, system upgrading, fault finding and customizing workflows.

GV Fabric’s scalable technology means it’s equally at home in spine-and-leaf or monolithic type structures both for single or redundant network schemes. It’s non-blocking architecture exhibits zero packet loss at very low latency and is fully compliant with PTPv2 timing protocol for device and network timing offering alternative clock distribution schemes including transparent and boundary clock mechanisms. The delivered units come with all the necessary software pre-installed, while including a “docker container” allowing deployment of future applications that can run independently on top of the operating system. All switches exhibit the best power budget compared with other vendor types at less than 5W per 100 GbE port.

Furthermore, Grass Valley’s adoption of open architecture methods and standards means inclusion of third-party equipment around a GV Fabric framework provides unparalleled choice and flexibility. GV Fabric opens the door to a one-stop-shop approach, eliminating time and costs associated with third-party switch vendor consultation, knowing equipment interoperability has been fully verified and that your investment is protected well into the future.

Two versions of GV Fabric are available: A 1 RU full rack width 32x QSFP28 port switch and a 1 RU half-rack width 16x QSFP28 port switch providing the equivalent of up to 2048x2048 HD (256x256 UHD-1) and 1024x1024 HD (128x128 UHD-1) signal switching capacities, respectively. All ports are fully independent and auto-sensing supporting Ethernet speeds of 1/10/25/40/50 and 100 GbE.

Applications

IP Core Routing for All Facility Types

Whether you’re migrating from SDI to IP or building a completely new facility based around an IP infrastructure, GV Fabric is the perfect solution for implementing the core signal routing function.

As your solution partner, Grass Valley offers an extensive range of high-density modular IP/SDI interface devices — working at all standard network speeds — for seamless integration of GV Fabric to existing SDI networks. For “all IP” facilities, Grass Valley direct-IP enabled devices including cameras, switchers, conversion, processing devices, multiviewers and more combine with GV Fabric in offering the most complete product portfolio for open architecture IP systems.

Studios, Master Control Rooms, OBs, Venues and More

GV Fabric is ideally suited to all broadcast applications including studios, MCRs, OBs, venues and other media installations. It provides all the established benefits that IP brings including greatly extended bandwidth, independence from signal format, size, weight and power savings compared with traditional SDI structures. Resource sharing between OB vehicles, for example, or other LAN sites is far simpler with IP. GV Fabric’s 100 GbE ports maximize signal density while minimizing cabling between the networks. The half rack version of GV Fabric (GVF-516-100G) is a perfect fit for fly packs with the ability to create redundant SMPTE ST 2022-7 based networks in a single rack unit.

KEY FEATURES

IP switches specifically created for broadcast and media applications

- Grass Valley supplied COTS-based hardware
- Software pre-installed with “docker container” for future applications
- Verified operation with Grass Valley edge devices and typical workflow scenarios
- Seamless integration with GV Convergent router control and Orbit configuration and monitoring systems

- Eliminates all potential consultation with third-party switch vendors
- Fully compliant with IGMP internet protocol and PTPv2 for device and network timing
- QSFP28 and QSFP+ fiber modules available with SR (short) and LR (long) range options
- Provides users with a “one stop shop” with Grass Valley for IP-based broadcast solutions

State-of-the-art performance

- Two models:
 - 1 RU full width 32x QSFP28 100 GbE ports
 - 1 RU half width 16x QSFP28 100 GbE ports
- Autosensing port speeds
- Non-blocking, zero packet loss architecture at full data capacity
- Very low through-port latency
- Low power consumption compared with industry-leading vendors

SPECIFICATIONS

Technical

Layer 2 Features: IGMPv3, VLAN 802.1Q (4K), 1/10/25/40/50/100 GbE

Layer 3 Features: PIM-SSM, PIM-SM, IGMPv3

Management: SNMP v1,2,3,10/100/1000 Mb/s Ethernet RJ45 management ports, USB, Console port

Synchronization: IEEE-1588-2008 (PTPv2, SMPTE ST 2059 profile)

Docker Container: Persistent container & shared storage

Standard Compliance

Safety: CB, cTUVus, CE, CU

EMC: CE, FCC, VCCI, ICES, RCM

Temperature:

Operating 0°C to 40°C (32°F to 104°F)

Non-operating -40°C to 70°C (-40°F to 158°F)

Relative Humidity: 5% to 85%

Operating Altitude: 0 to 2000m (0 to 6561 ft.)

Hazardous Substances: RoHS6

General

Switch Model	GVF-1032-100G	GVF-516-100G
Max. 100 GbE ports	32	16
Max. 40 GbE ports	32	16
Max. 25 GbE ports	64	64
Max. 10 GbE ports	64	64
Throughput	6.4 Tb/s	3.2 Tb/s
Packet per Second	4.76 Bp/s	2.38 Bp/s
Latency	<300 ns	<300 ns
CPU	Dual-core x86	ATOM x86
System Memory	8 GB	8 GB
SSD Memory	32 GB	16 GB
Packet Buffer	16 MB	16 MB
100/100 Management Ports	1	1
Serial Ports	1 RJ45	1 RJ45
USB Ports	1	1 Mini USB
Power Supplies	2 (1+1 redundant)	2
Fans	4 (N+1 redundant)	4
Power Supplies	Frequency: 50-60 Hz Input range: 100-264 AC Input current 4.5-2.9A	Frequency: 50-60 Hz Input range: 100-264 AC Input current 4.5-2.9A
Typical Power (ATIS)	150W	94W
Size (H x W x D)	43.9 mm x 427.8 mm x 686 mm (1.72" x 16.84" x 27")	43.9 mm x 200 mm x 508 mm (1.72" x 7.87" x 20")
Weight	11.1 kg (24.5 lbs.)	4.54 kg (10 lbs.)

ORDERING

GVF-1032-100G

GV Fabric 100 GbE 1 RU Ethernet switch, 32 QSFP28 ports with 2 power supplies (AC). Includes rail kit.

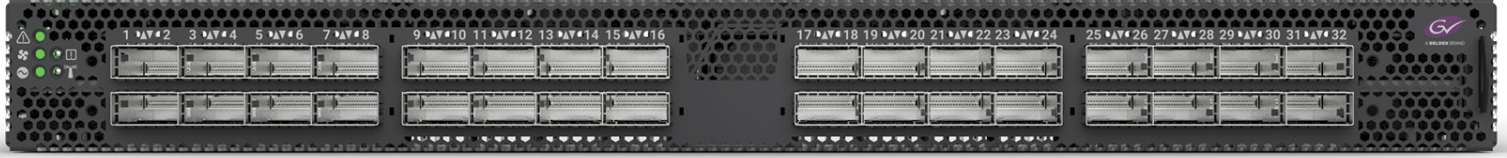
GVF-516-100G

GV Fabric 100 GbE 1 RU half-width Ethernet switch, 16 QSFP28 ports with 2 power supplies (AC). Rail kit must be purchased separately.

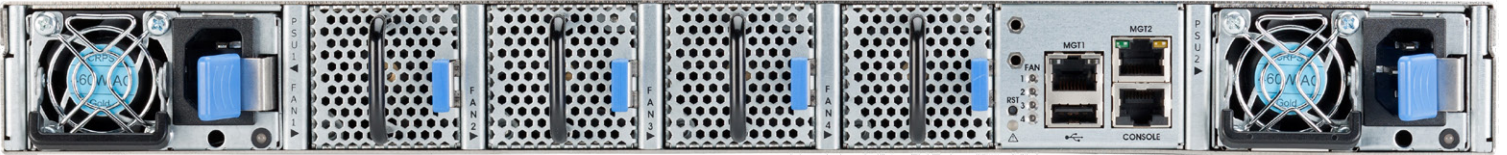
Mounting Option

GVF-5XX-RK2

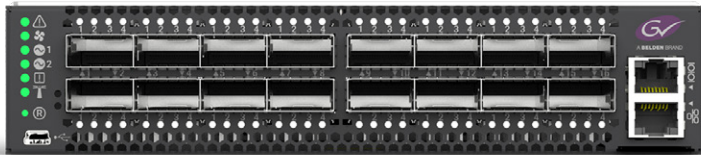
Rack installation kit for GV-516-100G. Allows installation of one or two switches side-by-side in standard depth rack.



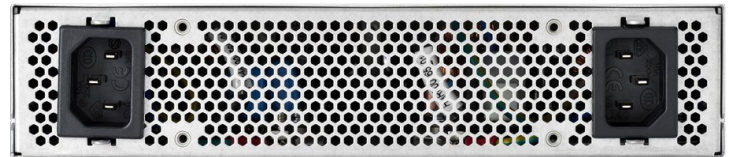
GVF-1032-100G Front View



GVF-1032-100G Rear View



GVF-516-100G Front View



GVF-516-100G Rear View

DS-PUB-2-0808A-EN



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