

DENSITÉ 3+ ACE-3901-GRID

High-density, Cost-effective SDI Interface for AMPP Applications



ACE-3901-GRID provides a perfect bridge for the hybrid world. Maximize your processing potential, both now and in the future.

The ACE-3901-GRID application from Grass Valley® is a high-density SDI gateway application that dramatically increases the I/O density of on-premises edge compute workflows — all while maintaining a minimal physical footprint. This makes it an ideal solution for AMPP customers seeking to optimize infrastructure efficiency.

ACE-3901-GRID enables up to 64 Grid gateway channels to connect directly to AMPP Grid infrastructures, allowing a single 1 RU server to process up to 128 AMPP Grid signals — a more than tenfold increase in capacity. The Densité 3+ FR4 frame with ACE-3901-GRID supports up to 384 AMPP Grid Gateway channels in a single 4 RU frame.

Grass Valley's innovations with AMPP Grid allow you to extend the processing capabilities of a single COTS server appliance. Traditional COTS servers have been limited by their PCI expansion slots, often restricting SDI inputs/outputs to just 12 or fewer signals. If you wanted to process more signals than a single node could handle, you had to use multiple nodes and manually route streams between nodes using Global Inputs/Outputs.

Now, with AMPP Grid the frame cache is extended across nodes, eliminating the need for global inputs/outputs, significantly reducing latency and greatly expanding the processing capacity in the AMPP ecosystem.

The ACE-3901-GRID is centered around the GV Media Universe, offering seamless integration of modular devices as distributed edge processing units within a larger system. This hybrid approach combines modular hardware, commercial off-the-shelf (COTS) computing, and software to create a highly flexible and agile solution tailored to your needs. It can be configured using the on-board HTML5 web interface and documented REST API. Additionally, it can be configured, controlled, and monitored natively within the AMPP platform or by GV Orbit® from Grass Valley.

Densité 3+ FR4

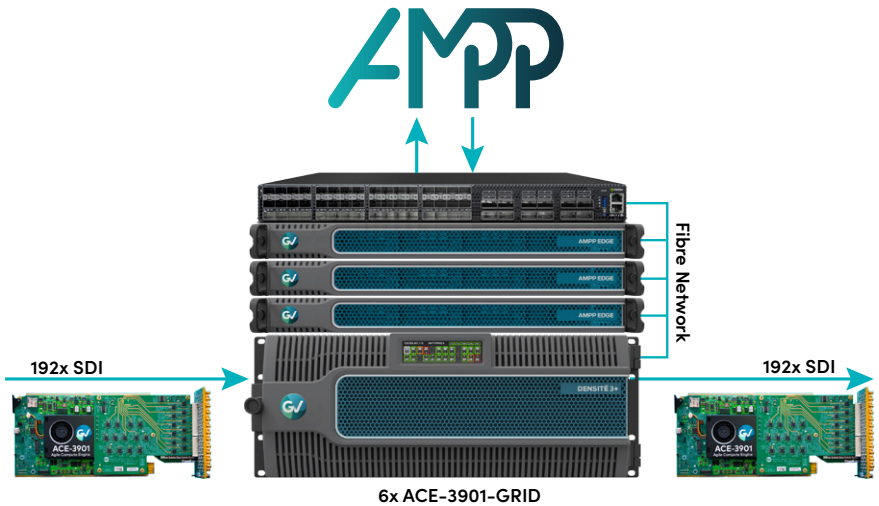


Densité 3+ FR1

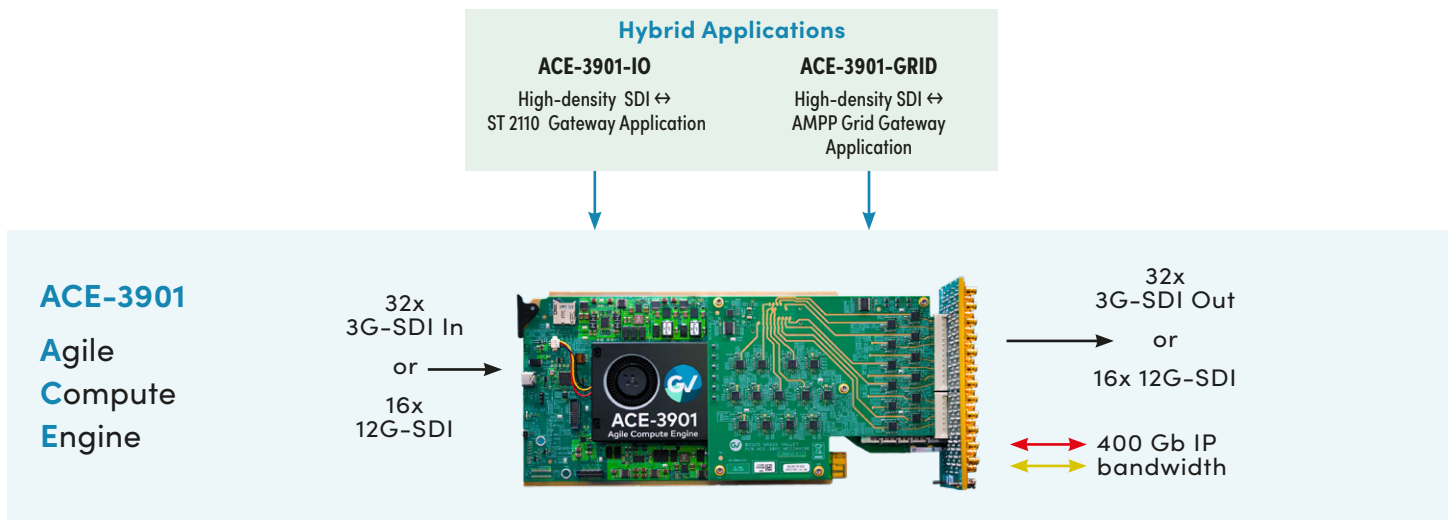


Key Features

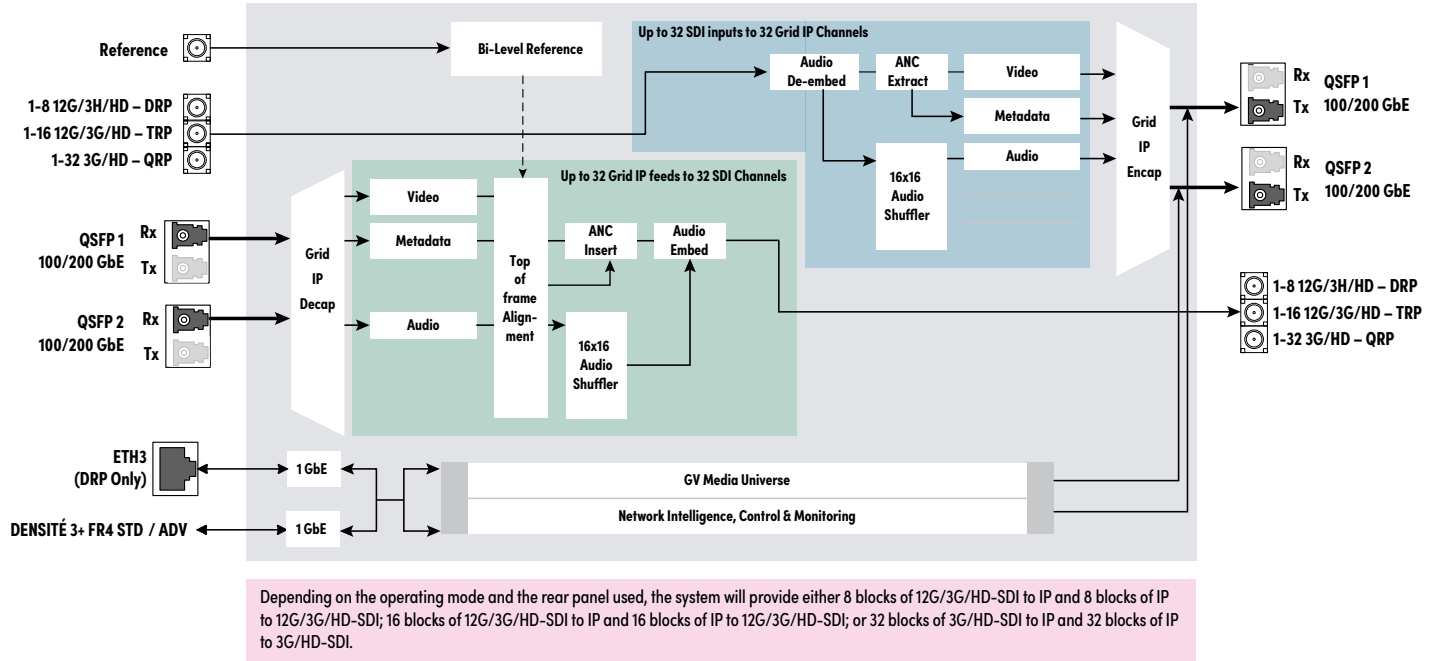
- Combines AMPP Edge nodes to scale your resource capacity
- Very high density with 64 I/O per card
 - 384 3G Gateways per 4 RU Densité Frame
 - 256 12G Gateways per 4 RU Densité Frame
- Supports up to 32 3G/HD SDI inputs and 32 3G/HD SDI outputs and up to 16 12G SDI inputs and 16 12G SDI outputs
- Multiple SDI standards and formats supported, including UHD Single 12G SDI I/O
- Flexible IP connectivity through two distinct QSFP ports for optical or electrical modules:
 - 100/200 GbE Optical QSFP
 - GRID input/output
- Seamless integration with GV Media Universe and GV Orbit Control, Configuration and Monitoring software including logging and reporting
- HTML5 web-based configuration interface
- Open configuration management and monitoring with the REST API
- Individual ACE-3901 applications licensed, purchased as needed
- Rapid switching between ACE-3901 applications



ACE-3901 Application Portfolio



ACE-3901-GRID Block Diagram



Specifications

I/Os described here may not all be used by all applications. Please see datasheets for each application for more information. These specifications apply to ACE-3901 hardware platform capabilities.

SDI (Inputs/Outputs)

Physical: Up to 64 HD-BNC connectors configured as 32 inputs and 32 outputs

SDI Standards:

- SMPTE ST 292 (1.485, 1.485/1.001 Gb/s)
- SMPTE ST 424 (2.970, 2.970/1.001 Gb/s)
- SMPTE ST 2082-1:2015

Supported input/output formats:

- HD: SMPTE ST 274: 1080i59.94, 1080i50
- HD: SMPTE ST 296: 720p59.94, 720p50
- 3G: SMPTE ST 425 level A (mapping 1)
- 12G: SMPTE ST 2082-10: 2160p59.94, 2160p50

Cable length (Belden 1694A):

- HD: 165m (540 ft.) at 1.485 Gb/s
- 3G: 120m (390 ft.) at 2.970 Gb/s

Cable length (Belden 4794):

- 12G: 60m (195 ft.) at 11.88 Gb/s

Ethernet Ports for Media

Physical: Two QSFP sockets for active optical cable, short- and long-reach fiber

Standard: IEEE 802.3

Performance: Up to 200 Gb of streaming per direction with 16x16 (TRP) rear panel

Ethernet Port for Control (ACE-3901-3+DRP-H Rear Only)

Physical: One electrical RJ45 port

Standard: IEEE 802.3 1000 Mb/s

Reference Input

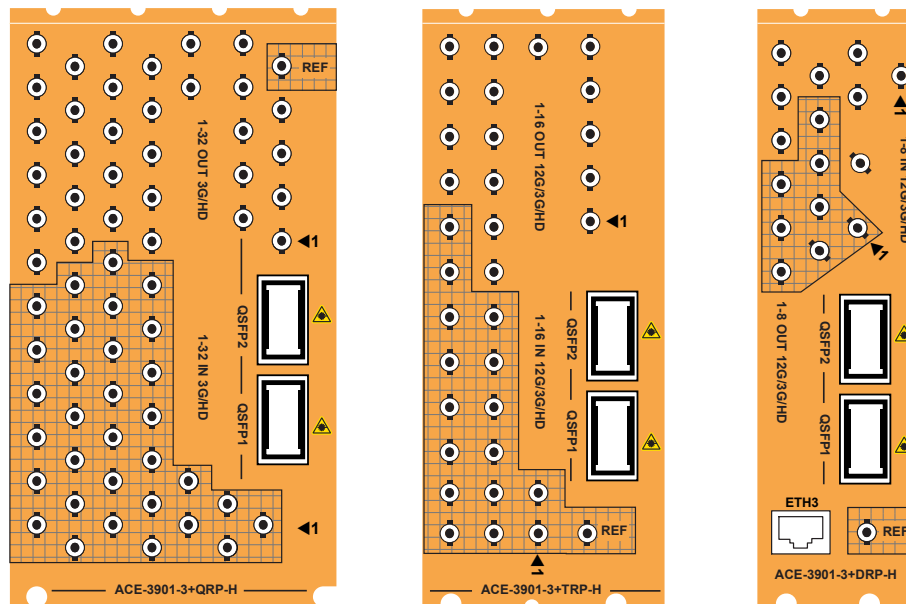
Physical: HD-BNC/75Ω connector

Standard: SMPTE ST 170/SMPTE ST 318/ITU 624-4 blackburst

Electrical

Power: 60W maximum

ACE-3901 Rear Panel Options



Ordering

Densité 3+ Frame

ACE-3901

Agile Compute Engine for SDI/IP processing

ACE-3901-3+QRP-H

Quad rear panel for Densité 3+ with 32x32 HD-BNC (3G/HD) and 2x 100 Gb QSFPs

ACE-3901-3+TRP-H

Triple rear panel for Densité 3+ with 16x16 HD-BNC (12G/3G/HD) and 2x 200Gb QSFPs

ACE-3901-3+DRP-H

Double rear panel for Densité 3+ with 8x8 HD-BNC (12G/3G/HD) and 2x 100Gb QSFPs

Application Software

ACE-3901-GRID

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ACE-3901-GRID-OPT-FS

SDI inputs frame synchronization option for GRID application

QSFP+ Options (one or two QSFP are needed to run this application)

GVTR-100G-SR4-G

QSFP28 100GBASE SR4 optical transceiver MMF

GVTR-100G-LR4-G

QSFP28 100GBASE LR4 optical transceiver SMF

GVTR-200G-SR4-G

QSFP56 200GBASE SR4 optical transceiver MMF

GVTR-200G-LR4-G

QSFP56 200GBASE LR4 optical transceiver SMF

Remote Control

GV Orbit, HTML5 web-based configuration interface

This product may be protected by one or more patents. For further information, please visit: www.grassvalley.com/patents

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