

DENSITÉ 3+ XIP-3901-GB-IP

Dual-channel 4K UHD Gearbox IP Application for XIP-3911 and XIP-3901



Gearbox IP application for the reprogrammable software-defined platforms Densité 3+ XIP-3911 and XIP-3901.

Introducing the XIP-3901-GB-IP application from Grass Valley for the Densité 3+ XIP-3911 and XIP-3901 reprogrammable software-defined platforms. The XIP-3901-GB-IP is a dual-channel 4K UHD gearbox application for conversion between Quad-stream 1080p Two Sample Interleave or Square Division and Single-stream 4K UHD supporting IP with dual 25 GbE I/O. Based on open standards, this IP edge gearbox processing application is compliant to the SMPTE ST 2110 suite of standards and JT-NM TR-1001 technical recommendation for easy integration in a broadcast IP network production environment.

The XIP-3901-GB-IP solves 4K UHD production problems with early IP devices implementing Quad-stream 1080p and SMPTE ST 2110-20 recommendations for Single-stream

2160p, which can be a gap when building a complete end to end 4K UHD solution (see diagram on page 2).

The XIP-3901-GB-IP also supports four streams of SMPTE ST 2110-30/31 audio conforming to Level A and Level C, as well as one stream of SMPTE ST 2110-40 metadata per channel of IP gearbox.

The XIP-3901-GB-IP is configured, controlled and monitored by GV Orbit, taking advantage of its many features and functions specifically crafted to make IP easy. It can also be configured and controlled from iControl systems.

Based on the proven Densité modular framework with over 100 card types, the flexible, space-efficient XIP-3911 agile processing platform can accommodate a gradual adoption of different production elements into

1080p and 4K UHD broadcasting workflows, all while protecting your investment in installed equipment. With flexibility to configure up to 12 XIP-3911 dual-channel processing applications per Densité 3+ FR4 frame, the Densité platform scales to a density of 24 4K UHD processors in a 4 RU frame. This means space and cost-efficient scaling today and tomorrow.

All the processing applications delivered on the XIP-3911 platform allow live productions, either from trucks, venues, stadiums or broadcast facilities to make the most of new UHD and HDR formats. Packing lots of audio/video processing power in a small form factor means considerable savings in terms of space, power and weight.

Densité 3+ FR4



12 XIP-3911 = 24 4K UHD Channels

Densité 3+ FR1



2 XIP-3911 = 4 4K UHD Channels

Key Features

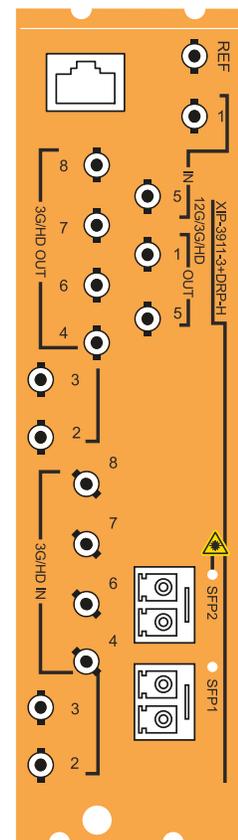
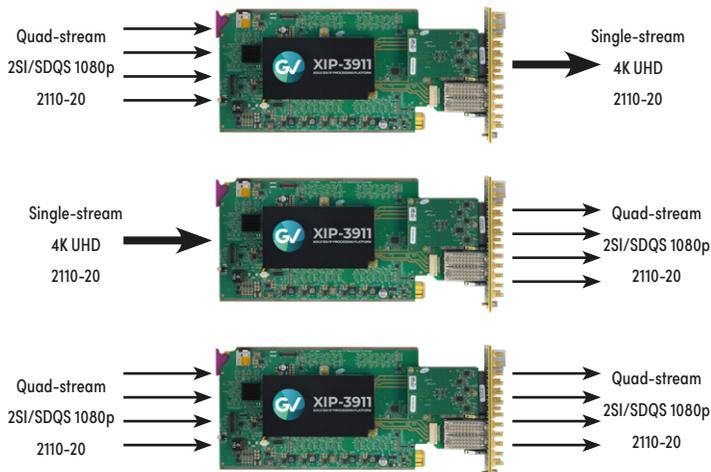
- Independent dual-channel UHD gearbox IP video processor
- SMPTE ST 2110-20 video with UHD over single and quad 1080p stream
- Supports Two Sample Interleave and Square Division
- SMPTE ST 2110-21 Wide/Narrow profile receivers and Narrow senders
- SMPTE ST 2110-30 PCM audio
- SMPTE ST 2110-31 AES3 transparent transport
- SMPTE ST 2110-40 metadata associated with ST 2110-20 video stream
- SMPTE ST 2022-7 Class A & D seamless protection switching of IP streams
- SMPTE ST 2059-1 & -2 precision time protocol with best master clock algorithm
- NMOS IS-04 discovery and registration with group hints tag support
- NMOS IS-05 device connection management
- In-band or out-of-band control of NMOS
- Support of DHCP, LLDP and DNS-SD for easy IP configuration
- Four SMPTE ST 2110-30/31 Level A and C audio stream per processing channels
- Dual SFP28 flexible Ethernet for 25 GbE SFP+ cage:
- SFP-25G-SR for short-range multimode optical connectors
- SFP-25G-LR for long-range single-mode optical connectors
- Active optical cables and optical transceiver
- Both FEC74 (CL74 Fire Code) and FEC108 (Reed Solomon IEEE) Forward Error Correction are supported
- GV Orbit for configuration, control and monitoring
- Individual XIP-3911 and XIP-3901 applications licensed, purchased as needed
- Rapid switching between XIP-3911 applications

Supported input/output video formats:

XIP-3901-GB-IP Video formats supported		Output Format					
		Single-stream 2160p50	Single-stream 2160p59.94	Quad-stream 1080p50 2SI	Quad-stream 1080p59.94 2SI	Quad-stream 1080p50 Square Division	Quad-stream 1080p59.94 Square Division
Input Format							
	Single-stream 2160p50	●	●	●	●	●	●
	Single-stream 2160p59.94	●	●	●	●	●	●
	Quad-stream 1080p50 2SI	●	●	●	●	●	●
	Quad-stream 1080p59.94 2SI	●	●	●	●	●	●
	Quad-stream 1080p50 Square Division	●	●	●	●	●	●
	Quad-stream 1080p59.94 Square Division	●	●	●	●	●	●

XIP-3901-GB-IP – Dual-channel Gearbox IP Application

Converts between Quad-stream 1080p 2SI/SDQS & Single-stream UHD



XIP-3911-3+DRP-H

Specifications

SDI (Inputs/Outputs)

Not used by this application

Reference Input

Not used by this application

Ethernet Port for Media

Physical: Two SFP28 sockets for active optical cable, short- and long-reach fiber

Standard: IEEE 802.3-2008 25 GbE

Performance: Up to 25 Gb of streaming per direction

Ethernet Port for Control

Physical: One electrical RJ45 port

Standard: IEEE 802.3 1000 Mb/s

Video Processing Performance

Signal path: 10 bits

Electrical

Power: 50W maximum

Ordering

Application Software

XIP-3901-GB-IP

Dual-channel 4K UHD Gearbox IP application

Densité 3+ Frame

XIP-3911

Agile SDI/IP processing platform

XIP-3911-3+DRP-H

Double rear panel for Densité 3+ with HD-BNC

SFP+ Options

One or two SFP+ are needed to run this application

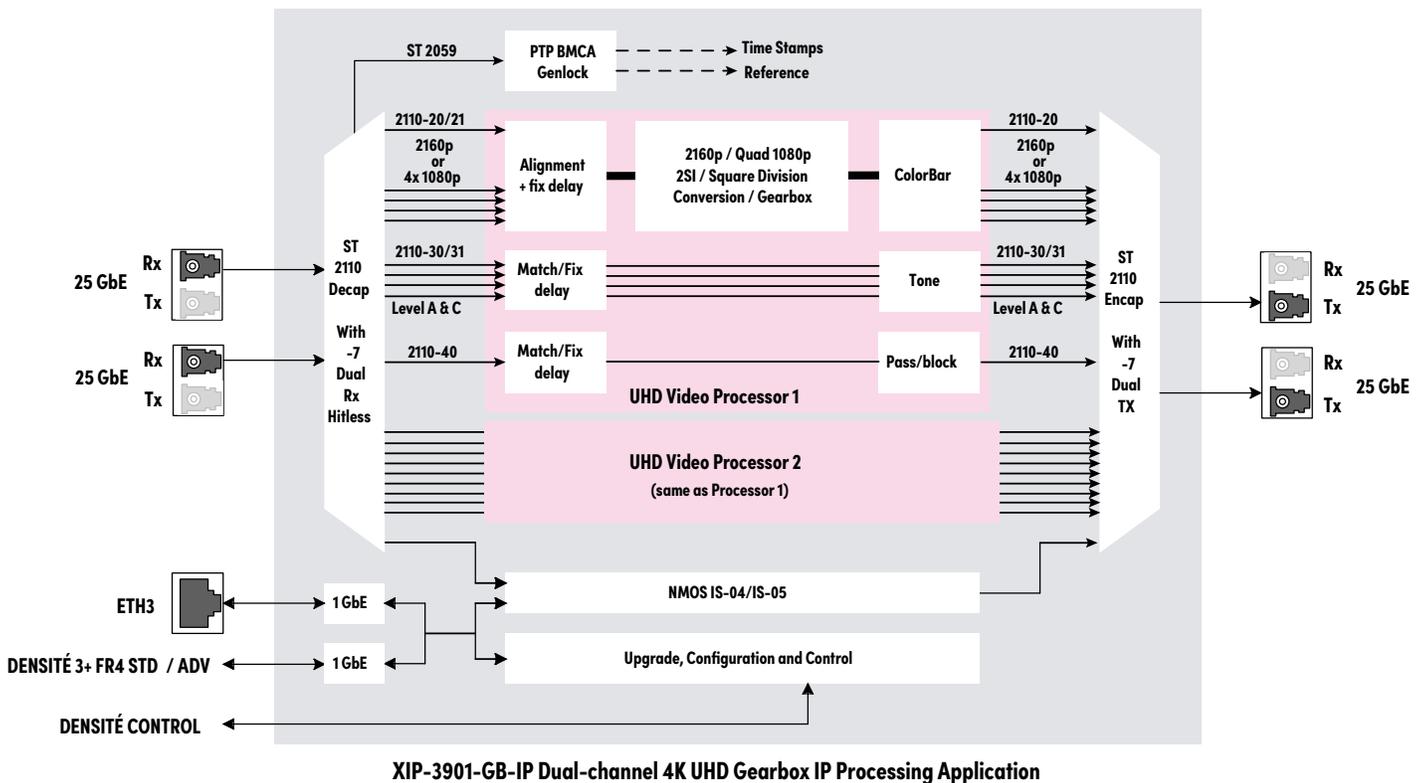
SFP-25G-SR

SFP28 25GBASE optical transceiver MMF

SFP-25G-LR

SFP28 25GBASE optical transceiver SMF

XIP-3901-GB-IP Application Functional Diagram

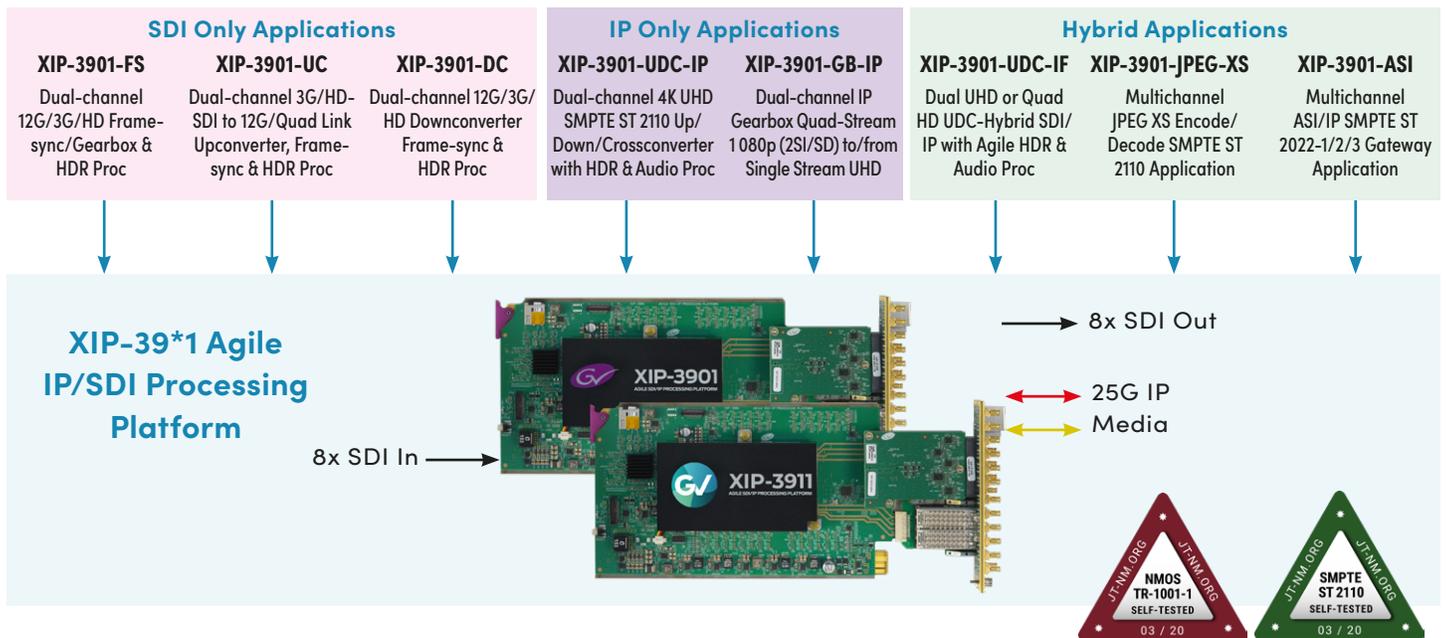


XIP Application Portfolio

All the processing applications delivered on the XIP-3911 and XIP-3901 platforms allow live productions, either from trucks, venues, stadiums or broadcast facilities to make the most of new UHD and HDR formats. Packing lots of audio/video processing power in a small form factor results in savings in terms of space, power and weight.

The XIP-3911 Agile Processing Platform also provides long-term value by protecting a customer's CAPEX investment in current HD and UHD SDI and now IP infrastructure. The application-based licensing model adapts the XIP-3911 to new workflows with different software applications resulting in a truly virtualized hardware environment.

XIP Application Agility Evolution



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

DS-PUB-3-0949A-EN

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