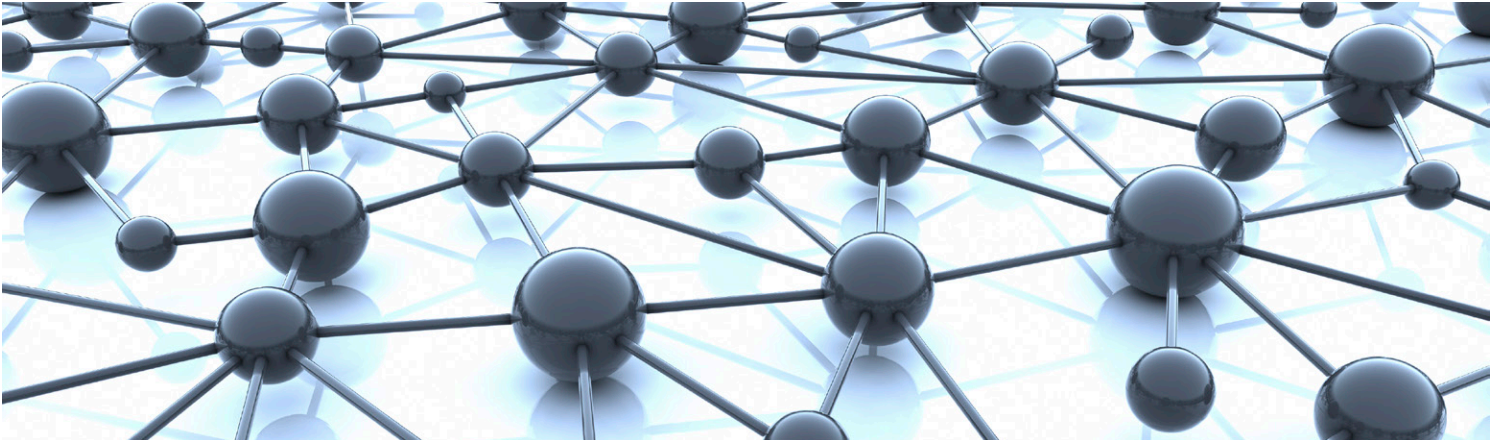


IQMIX25

3G/HD/SD-SDI Multichannel IP Transceiver



Multichannel video-over-IP transceiver developed for use within low-latency and high-bandwidth Ethernet IP networks.

The IQMIX25 from Grass Valley, a Belden Brand, is a multichannel video-over-IP transceiver developed for use within low latency and high bandwidth Ethernet IP networks. Using RTP VSF TR-03 (SMPTE ST 2110), TR-04 and SMPTE ST 2022-6 encoding and encapsulation schemes, along with either clause 74 or clause 108 FEC, enables the IQMIX25 to encode or decode up to 16 SDI signals and transport them over redundant 25 GbE links (SMPTE ST 2022-7).

IQMIX25 provides frame synchronized SDI outputs along with both compressed and uncompressed modes of IP operation. Using SMPTE ST 2042 (VC2) lightweight compression allows for high quality signal carriage whilst optimizing bandwidth requirements, and sending signals uncompressed provides best quality transport although at the expense of bandwidth. Encapsulation of signals in a SMPTE ST 2022-6 transport stream provides compatibility with other video over IP solutions.

IQMIX25 fully integrates with remote control and monitoring systems to provide easy set up and real-time information on signal presence and status for

each channel. It's also fully compatible with Grass Valley's new broadcast-centric IP routing and network management solution designed to migrate broadcasters from a traditional baseband routing and control environment to new hybrid SDI and IP workflows.

Why should you choose this module?

- Using a 25 GbE transport allows many more signals to be sent over a single fiber thereby reducing the required link count and minimizing dark fiber leasing cost
- Generate signal transport efficiency by running multiple SDI signals over a single Ethernet link and provide the link between existing SDI equipment and future IP network architectures
- Using IGMPv3 source specific multicast allows fast configuration of network routes and provides the basis for clean switching at the destination unit
- Full RollCall and SNMP compatibility allows easy integration with Grass Valley's, or third-party, network management systems providing an all-inclusive monitoring and control solution

IQMIX25 3G/HD/SD-SDI Multichannel IP Transceiver

KEY FEATURES

- Handles up to 16 SDI signals over dual 25 GbE IP links (dependent on SDI signal format and compressed or uncompressed transport mode)
- Supports configuration of Ethernet links for maximum signal transport using both SFPs or for dual link mode to provide link redundancy as per SMPTE ST 2022-7, and when operating as a receiver will dynamically adapt to any stream presented to it
- Multiple transport types available for each SDI input including:
 - Compressed IP transport using SMPTE ST 2042 (VC2) low latency high-quality encoding profile
 - Uncompressed video transport using either VSF TR-03 (SMPTE ST 2110) and TR-04 RTP, or SMPTE ST 2022-6 encapsulation
 - PCM audio using TR-03 & AES67
 - SMPTE ST 2110-40 metadata support via IETF standard “RTP Payload for Ancillary Data”
- Supports frame synchronized SDI inputs and outputs referenced to either IEEE-1588v2 (PTP) network timing (compliant with SMPTE ST 2059-2) or via the IQH3B or IQH4B frame’s analog reference bus for blackburst/tri-level syncs
- Includes 4K UHD quad link mode for 3G SQD or 2SI signal transport
- Supports unicast as well as IGMPv3 source specific multicast, allowing point-to-point operation or transmission in multicast groups, and forward error correction with either clause 74 (Base-R) or clause 108 (RS) FEC
- Low delay mode and Independent H & V offset available for each channel along with up to 2 frames of video delay, and up to 255 ms of audio delay
- Standards supported:
 - 3G-SDI to SMPTE ST 424/SMPTE ST 425 level A compatible
 - HD-SDI to SMPTE ST 292/SMPTE ST 274/SMPTE ST 296
 - SD-SDI to SMPTE ST 259-C
 - 25G Ethernet to IEEE 802.3
- RollCall control and monitoring compatible with standard logging and reporting features

SPECIFICATIONS

Inputs and Outputs

Signal Inputs/Outputs

SDI: 16x bidirectional, see configuration table

Electrical:

- 3 Gb/s SDI, SMPTE ST 424
- 1.5 Gb/s HD-SDI, SMPTE ST 292
- 270 Mb/s SDI, SMPTE ST 259-C

Connector/format: HD-BNC/75Ω panel jack on standard connector panel

Input cable length: TBC

Ethernet Signal

SFP+ Optical: 2x 25G Ethernet

Conforms to IEEE 802.3by — 25 Gigabit Ethernet over fiber

SFP+ connected cable: 2x 25G Ethernet

Conforms to IEEE 802.3 — 25 Gigabit Ethernet over twinaxial cables

Note: SFP type must be ordered in addition to the module.

Controls

Indicators

Power: OK (Green)

CPU: OK (Flashing)

Content Status

Summary:

OK (Green)

Warning (Yellow)

Error (Red)

Functions

Electrical

Standards supported

Module Power Consumption: 34.5 PR (B Frames)

SDI to IP Configurations

IQMIX25 — 25 GbE	Config 1	Config 2	Config 3	Config 4	Config 5
SDI In <> Out	16 > 0	0 > 16	12 > 4	4 > 12	8 <> 8
Codec Support	SMPTE ST 2022-6 TR-03 (2110) TR-04	SMPTE ST 2022-6 TR-03 (2110) TR-04	SMPTE ST 2022-6 TR-03 (2110) TR-04	SMPTE ST 2022-6 TR-03 (2110) TR-04	SMPTE ST 2022-6 TR-03 (2110) TR-04

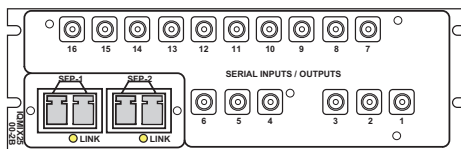
IQMIX25 — 25 GbE	Config 6	Config 7	Config 8	Config 9
SDI In <> Out	4 > 4	8 > 0	0 > 8	8 > 0
Codec Support	VC2	VC2	VC2	SMPTE ST 2022-6 TR-03 (2110) TR-04 Frame Sync I/Ps

ORDERING

IQH Enclosures

IQMIX2500-2B3

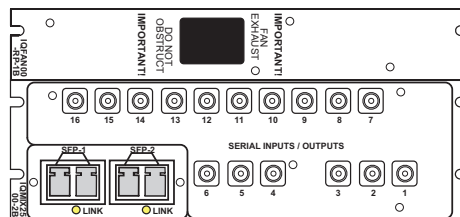
3G/HD/SD-SDI Multichannel IP Transceiver. 16 SDI I/O, 2 25 GbE I/O on SFP+ connectors. Suitable for IQH1A and IQH4B frames



IQMIX2501-3B3

3G/HD/SD-SDI Multichannel IP Transceiver. 16 SDI I/O, 2 25 GbE I/O on SFP+ connectors. Includes IQFAN rear panel for additional cooling in IQH3B frame.

For more details on enclosure types please refer to the IQ Modular Enclosures datasheet.



SFP Options

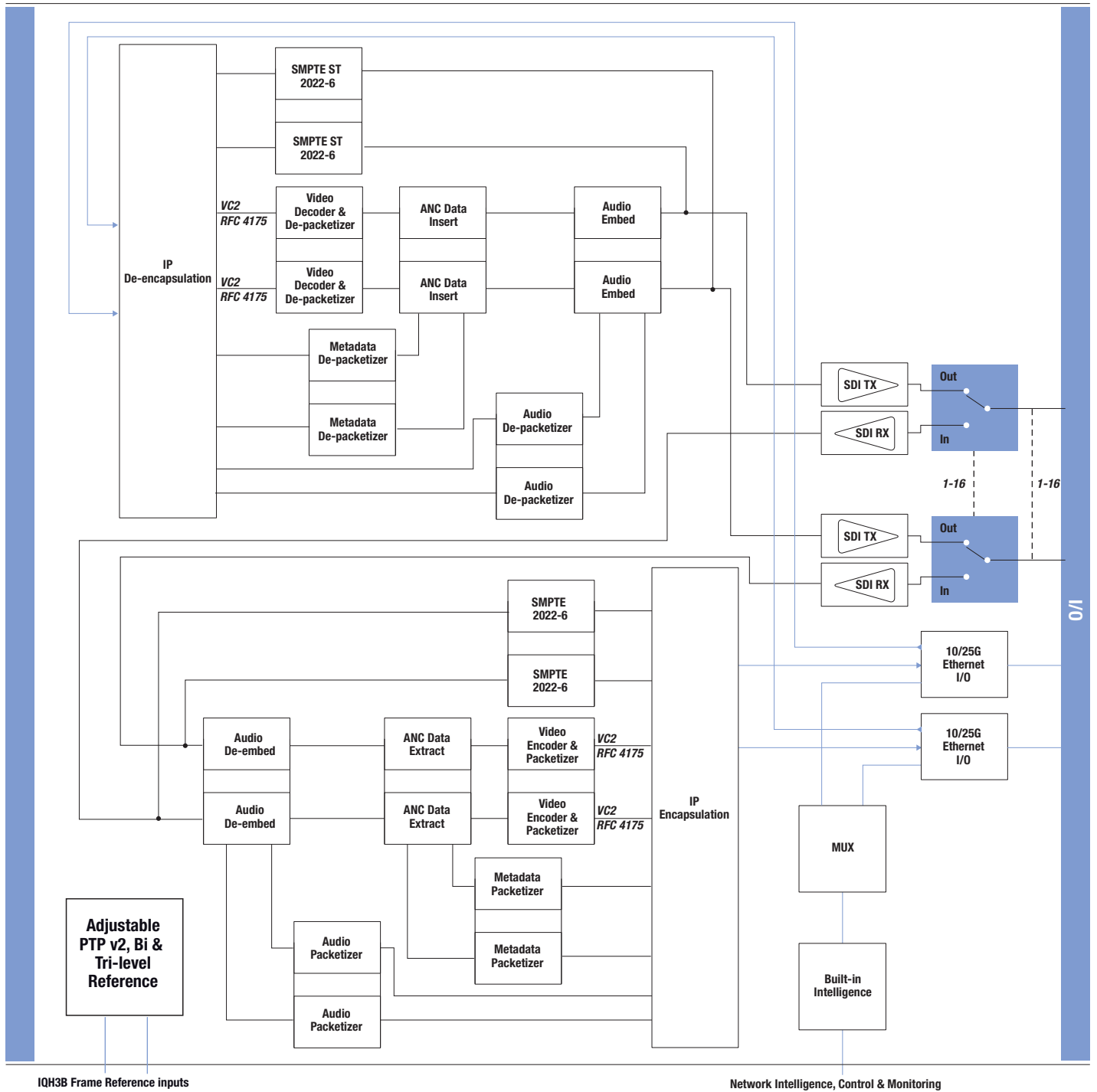
FCS-25GE-SR

25GBASE-SR short range SFP for MMF

FCS-25GE-LR

25GBASE-LR long range SFP for SMF

Note: Fiber SFP type must be ordered in addition to the module.



Block Diagram for IQMIX25

