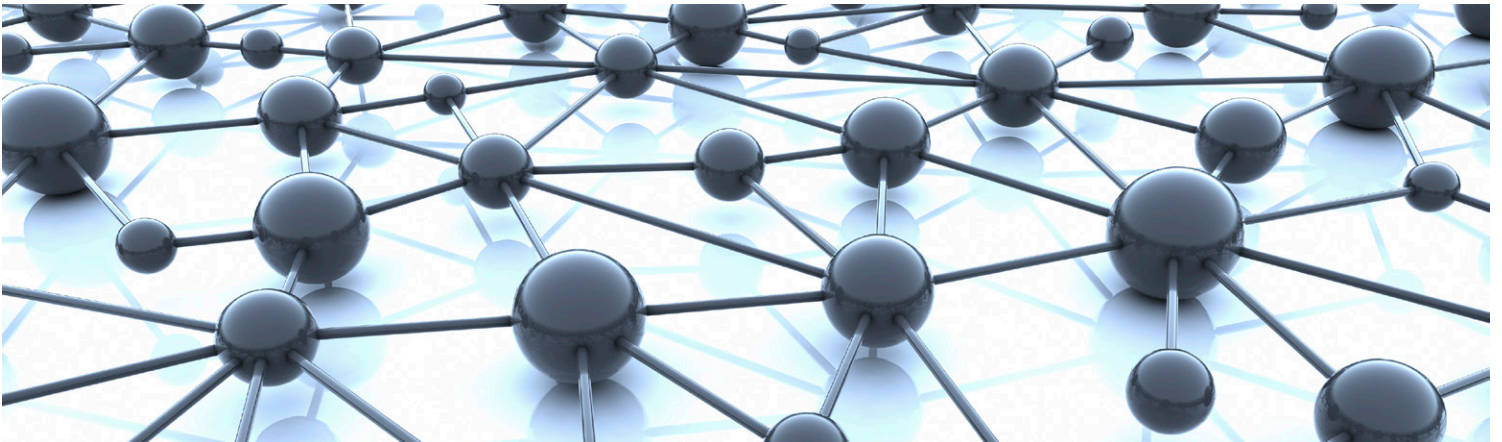


IQMIX10

3G/HD/SD-SDI Multichannel IP Transceiver



For use within low latency and high bandwidth Ethernet IP networks to encode or decode up to 12 SDI signals (6 in and 6 out) and transport them over redundant 10 GbE links.

The IQMIX10 from Grass Valley, a Belden Brand, is an entry-level 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 enables the IQMIX10 to encode or decode up to 12 SDI signals (6 in and 6 out) and transport them over redundant 10 GbE links.

IQMIX10 provides frame-synchronized SDI outputs along with both compressed and uncompressed modes of operation. Using SMPTE ST 2042 (VC2) lightweight compression allows for high-quality signal carriage while optimizing bandwidth requirements, and sending signals uncompressed provides the best quality transport, although at the expense of bandwidth. Encapsulation of signals in an SMPTE ST 2022-6 transport stream provides compatibility with other video-over-IP solutions.

IQMIX10 fully integrates with remote control and monitoring systems to provide easy setup 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?

- 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

IQMIX10 3G/HD/SD-SDI Multichannel IP Transceiver

KEY FEATURES

- Handles up to 12 SDI signals over dual 10 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
- 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
- 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
- Supports unicast as well as IGMPv3 source-specific multicast, allowing point to point operation or transmission in multicast groups
- 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
 - 10G Ethernet to IEEE 802.3
- RollCall control and monitoring compatible with standard logging and reporting features

SDI to IP Configurations

IQMIX10 — 10 GbE	Config 1	Config 2	Config 3	Config 4	Config 5	Config 6
SDI In <> Out	6 <> 6	5 <> 5	5 <> 5	4 > 0	4 > 0	0 > 4
Codec Support	SMPTE ST 2022-6	TR-04	TR-03 (2110)	TR-03 (2110) Frame Sync I/Ps	VC2	VC2

SPECIFICATIONS

Inputs and Outputs

Signal Inputs/Outputs

SDI: 12 x 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: BNC/75Ω panel jack on standard connector panel

Input cable length: TBC

Ethernet Signal

SFP+ Optical: 2 x 10G Ethernet: Conforms to IEEE 802.3ae - 10 Gigabit Ethernet over fiber

SFP+ connected cable: 2 x 10G Ethernet Conforms to IEEE 802.3ak - 10 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

26.5 W Max (A Frames)

26.5 PR Max (B Frames)

ORDERING

IQH Enclosures

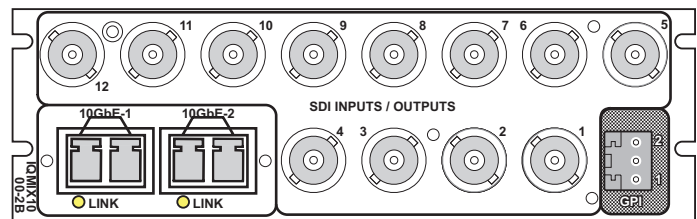
IQMIX1000-2B3 3G/HD/SD-SDI Multi-channel IP Transceiver. 12 SDI I/O, 2 10 GbE I/O on SFP+ connectors.

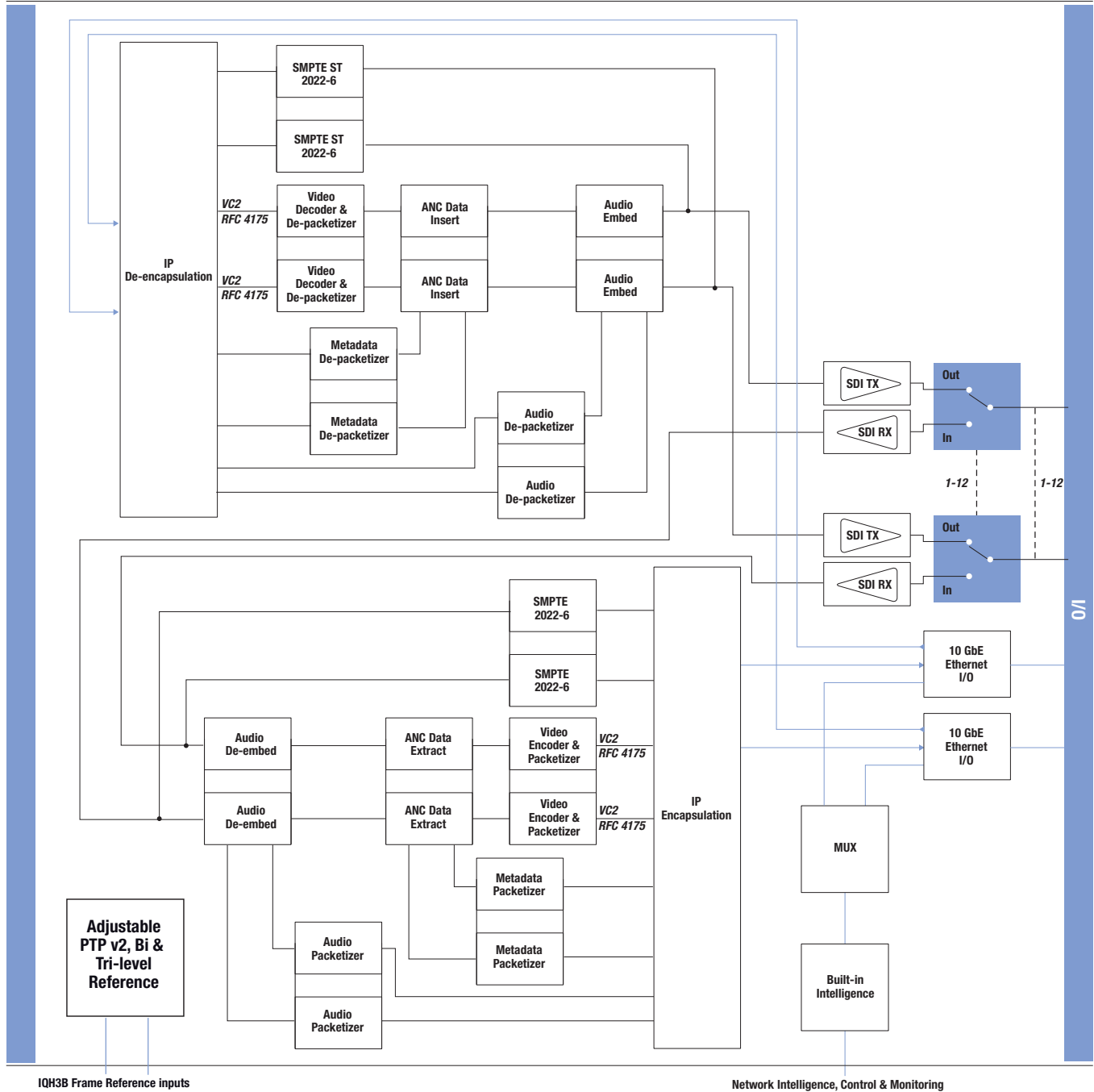
For more details on enclosure types please refer to datasheet IQH3B.

SFP Options

- FCS-10GE-SR** 10GBASE-SR short range SFP for MMF
- FCS-10GE-LR** 10GBASE-LR long range SFP for SMF
- FCS-10GE-ER** 10GBASE-ER extended range SFP for SMF

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





Block Diagram for IQMIX10.