

IQMUX34

3G/HD/SD-SDI Embedder for 8 Analog Audio Channels

The IQMUX34 provides 8 channel analog audio embedding for 3Gbps SDI, HD-SDI 1.5 Gbit/s or SD-SDI 270 Mbit/s signals. Audio processing features include audio delay, gain, invert and channel level routing, whilst video delay and a video proc. amp are also included in the feature set. Ideal as a general analog audio ingest module for incorporating local audio feeds.

Features

- 8 channel 3G/HD/SD-SDI embedder for analog audio inputs
- Standards supported:
 - 3G-SDI to SMPTE 424M/425M level A & B compatible
 - HD-SDI to SMPTE292M/274M/296M
 - SD-SDI to SMPTE259M-C
- Handles up to 16 channels of embedded audio present on the incoming SDI stream
- Features include independent gain, invert, mute controls, channel level (Sub-frame) routing, and adjustable delay for selected audio channels
- Embedding continues on loss of SDI input (silence)
- Any group of embedded audio may be passed unchanged, processed or blanked
- Embedded Dolby E support – pair routing and delay
- Up to 9 frames of video delay and 2 seconds of audio delay
- Video controls including video gain, offset, HANC and VANC blanking control
- Input loss detection – default output of black/pattern
- Transparent to all ancillary data inc. VANC metadata
- In-built test pattern generator and audio tone generator
- 16 x user memories, save/recall/rename
- Rollcall control and monitoring compatible

Why should you choose this module?

- Ideal as a general embedder for analog audio applications
- Full RollCall and SNMP compatibility allows easy integration with SAM, or third party, network management systems providing an all-inclusive monitoring and control solution

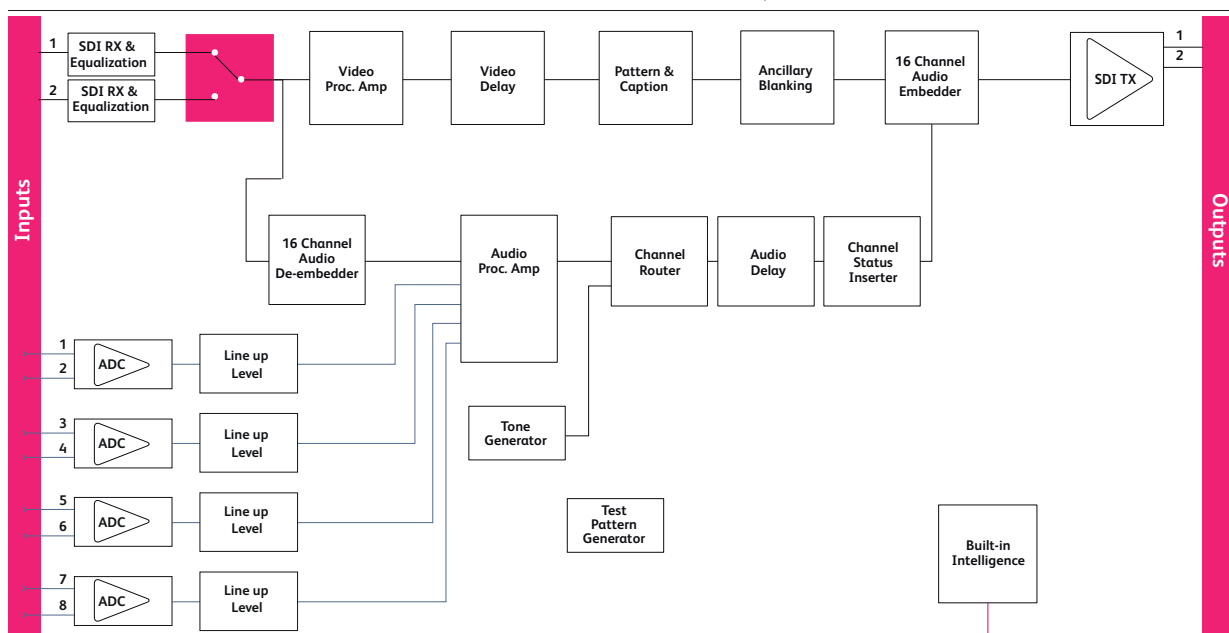
Order codes



IQMUX3449-1A3, IQMUX3449-1B3

3G/HD/SD-SDI 8 channel Analog Audio Embedder. 2 SDI outputs, 8 Balanced analog audio inputs

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



Block Diagram for IQMUX3449-1A3

Technical Specification

Inputs and Outputs

Signal Inputs

SDI Inputs	2x
Input 1 Cable Length	Up to 70m Belden 1694A @ 3 Gbit/s Up to 160m Belden 1694A @ 1.5 Gbit/s >350m Belden 1694A @ 270 Mbit/s
Input 2 Cable Length	Up to 60m Belden 1694A @ 3 Gbit/s Up to 100m Belden 1694A @ 1.5 Gbit/s Up to 100m Belden 1694A @ 270 Mbit/s

Audio Signal Inputs

Balanced analog audio inputs	8 channels (25 Way D-Type)
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Signal Outputs

SDI Outputs	x 2
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Controls

Video Controls

Input Standard	1125(1080)/50P (A & B), 1125(1080)/59P (A & B), 1125(1080)/29i, 1125(1080)/25i, 750(720)/59P, 750(720)/50P, 525(480)/29i, 625(576)/25i
Default Video Output Type	Pattern, Freeze, Black
Default Video Output Standard	Last Known Good, 1125(1080)/50P (A & B), 1125(1080)/59P (A & B), 1125(1080)/29i, 1125(1080)/25i, 750(720)/59P, 750(720)/50P, 525(480)/29i, 625(576)/25i
Video Select	Input 1, Input 2
Audio Select	Video Input 1, Video Input 2, Follow Video
Manual Freeze	On/Off
Freeze	Field/Frame
Video Delay Frames	0 - 9 F
VANC Data	Blank VANC
SD VANC Data	Line blanking (6 controls)
ProcAmp Enable	On/Off
Black Level	±100 mV in steps of 0.8 mV
Hue Adjust	±180° in steps of 1°
Master Video Gain	±6 dB in steps of 0.1 dB
Y-Gain	±6 dB in steps of 0.1 dB
Cb/Cr Gain	±6 dB in steps of 0.1 dB
Y/C Timing	±8 pixels in 2 pixel steps (SD) ±16 pixels in 2 pixel steps (HD/3G)
Picture Position	±8 pixels in 2 pixel steps (SD) ±16 pixels in 2 pixel steps (HD/3G)
Pattern On	On/Off
Pattern Select	75% Color Bars, Black
Caption On	On/Off
Edit Caption	19 characters available

Audio Controls

Embedder Assignment

Group 1 to 4 Enable	On/Off
Pair 1 to 8 Source L	Dis-embed 1_1 to 8_2, Analog 1 to 8, Tone, Silence
Pair 1 to 8 Source R	Dis-embed 1_1 to 8_2, Analog 1 to 8, Tone, Silence
Pair 1 to 8 Stereo	Link channel pairs
Pair 1 to 8 Polarity L/R	On/Off
Pair 1 to 8 Gain L/R	+12 dB to -72 dB in 0.1 dB steps
Pair 1 to 8 Non-PCM	On/Off

Processed Audio Delay Control

Course Manual Delay	Up to 1.75s in 5ms steps
Fine Manual Delay	+/- 0.25s in 0.5ms steps

Tone

Frequency L/R	100Hz to 10kHz in 100Hz steps
Channel Ident	On/Off
HANC Data	Blank HANC (Removes all HANC data. Note audio removed when embedders disabled)

Audio Monitoring

Silence Detect	0 to -80dB in steps of 1dB
Signal Overload Detect	0 to -80dB in steps of 1dB
Warning Timer	1 to 20 seconds in steps of 1 second

Audio Setup Controls

Analog Headroom Level	+12 dBu to +24dBu
Note:	Headroom level specified at 0 dBFS line up level

Other Controls

User Memories	16 x Save, Recall, Rename
Memory Naming	User configurable naming of memories 1 – 16
RollTrack Sources	Unused, Video Delay, Input Present, Input1 Select, Input2 Select, Input Loss, Output525, Output 625, Output 720p, Output 1080i, Output 1080p, Output Freeze, Output Unfreeze, Output Pattern on, Output pattern off, Output Caption on, Output Caption off, Disemb (Pairs 1-8) PCM, Disemb (Pairs 1-8) Data, Disemb (Pairs 1-8) DolbyE, Disemb (Pairs 1-8) V bit, Disemb (Pairs 1-8) Loss
Information Window	Video Input Status, Audio Input Status
Factory Default	Resets all module settings to factory specified default values and clears memories
Default Settings	Resets all module settings to factory specified defaults but does not clear memories
Restart	Software restart of the module
Module Information	"Reports following module information: Software version, Serial number, Build number, KOS version, Firmware version, PCB version

Technical Specification cont...

Specifications

Electrical	3Gbit/s SDI, SMPTE 424M 1.5Gbit/s HD-SDI, SMPTE 292M 270 Mbit/s SDI, SMPTE 259M-C /DVB-ASI
Connector / Format	BNC/ 75ohm panel jack on standard IQ connector panel
Return loss	>-15dB (270Mbit/s, 1.5Gbit/s) >-10dB (3Gbit/s)
Output Jitter	SD-SDI 0.2 UI (10Hz) / 0.2 UI (1KHz) 3G/HD-SDI 1.0 UI (10Hz) / 0.2 UI (100KHz)
Video Standards	1125(1080)/50p (A & B), 1125(1080)/59p (A & B) 750(720)/50p, 750(720)/59p, 1125(1080)/25i, 1125(1080)/29i 625(576)/25i, 525(480)/29i
Typical Video Delay	SD: 70us HD: 38us 3G-A: 19us 3G-B: 40us
Embedded audio handling	HD - 24-bit synchronous 48 kHz to SMPTE 299M SD - 20-bit synchronous 48 kHz to SMPTE 272M-A
Embedded Audio Delay	Minimum (PCM) 2 ms Maximum (non-PCM) SD: 67us HD: 28us 3G-A: 15us 3G-B: 25us

Analog Audio Input (Balanced)

Analog Input Impedance	40 k ohms
Distortion (THD+N)	-100dB @ +24dBu 800Hz
Frequency Response	20Hz-20KHz +0.05dB
Dynamic range	114 dB typical

Power Consumption

Module Power Consumption	9 W (A Frames) 9 PR (B Frames)
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