



The IQMUX60/61 is a flexible 4-channel analog and AES audio multiplexer with advanced embedded audio handling. When used with a composite decoder such as the IQDEC00 it provides a powerful analog video and audio ingest solution. The built in audio firewall capability ensures errors or interruptions in the input signal are not passed through to the output. A dual SDI input allows the unit to take signals from either of two paths. The second input also allows split operation, with video taken from one input and embedded audio from the other.

IQMUX60/61

Universal Audio Multiplexer

Does this module suit your application?

- Combine external analog, AES and embedded audio source channels
- Handles 4 analog audio channels, 4 AES audio channels, or any eight embedded input channels to total eight output channels
- Handles up to 24 bit embedded audio present on the incoming SDI stream, and embeds/de-embeds to 20 bits
- Firewall for processed PCM audio to provide a continuous output
- Channel-level (Sub-frame) routing
- 4 off 4 channel assignable audio mixers
- Flexible audio delay including per pair fixed delay, common fixed delay and tracking delay
- Variable audio delay of up to 0.5s which seamlessly tracks the video delay or external RollTrack / GPI inputs
- Up to 3 frames of video delay
- Video proc. amp (gain, saturation, black level)
- RollCall control and monitoring compatible

Why should you choose this module?

- Allows the use of mixed analog, AES and embedded audio where all must be accommodated or combinations may be required
- When used with the IQDEC00 decoder provides a complete analog AV solution for incoming lines with firewall, proc. amp, audio shuffling and delay

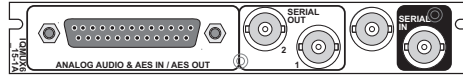
Order codes for IQH3A/1A enclosures

IQMUX6115-1A

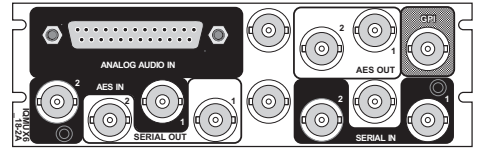
Universal audio multiplexer. Balanced audio connection. 1 SDI input, 4 analog audio inputs, 2 AES/EBU inputs, 2 SDI outputs, 2 AES/EBU outputs.

IQMUX6117-2A

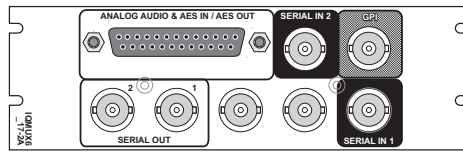
Universal audio multiplexer. Balanced audio connection. 2 SDI inputs, 4 analog audio inputs, 2 AES/EBU inputs, 2 SDI outputs, 2 AES/EBU outputs, 1 GPI.



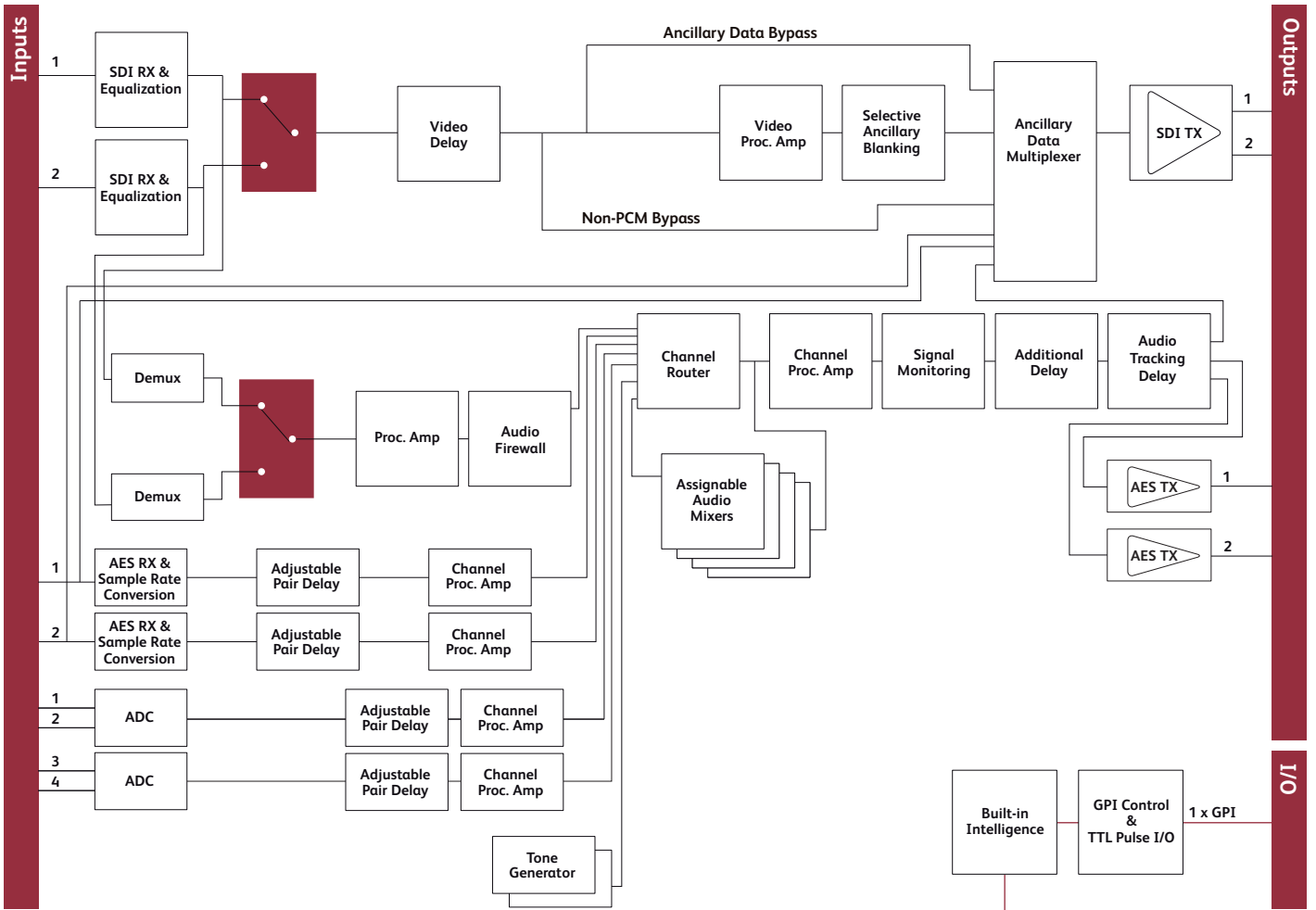
IQMUX6115-1A



IQMUX6018-2A



IQMUX6117-2A





Technical Specification

Inputs and Outputs

Video Signal Inputs

Digital video	2 x SDI (BNC)
Analog audio	4 Channels (2 Stereo Pairs) (25 Way D-Type)

Unbalanced digital audio	2 x AES/EBU (BNC)
Balanced digital audio Standards	2 x AES/EBU (25 Way D-Type) SMPTE 259M-C-1997, SMPTE 272M-A-1994, AES3 - 1992

Signal Outputs

Digital video Standards	SDI x 2 SMPTE 259M-C-1997, SMPTE 272M-A-1994
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Unbalanced digital audio	2 x AES/EBU, AC3, Dolby E (BNC)
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Balanced digital audio	2 x AES/EBU, AC3, Dolby E (25 Way D-Type)
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Control Interface

GPI	1 x Closing contact I/O interface (BNC, Double Width only)
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Card Edge and RollCall Controls

Card Edge Controls

NONE

Card Edge Indicators

SDI input loss	Loss = Off, Good = Green
SDI input error	Yellow = Unused input not at current operating standard
AES input present	1 x LED per pair
CPU running / power	One green LED, flashing = OK

RollCall Functions

Audio Controls

Audio extraction select	SDI input 1/2/Follow Video Control
Set line up level	+20 to -20 dBu in 1 dB steps
Set headroom	4 to 24 dB in 1 dB steps
Set audio detector thresholds	High and low levels, time delay

External input audio delay	Up to 1.5s additional delay in 1 ms steps
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Input side control proc. - audio gain and polarity	Independent Gain, Mute, Polarity control over de-embedded and input channels. +18 dB to -18 dB in 0.1 dB steps
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Channel routing	Output channels routed from AES pairs 1 and 2, analog pairs 1 and 2, test tone and silence, SDI 8 embedded channels from any group
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Output side control proc. - gain and polarity	Independent Gain, Mute, and Polarity control over embedded output channels. +18 dB to -18 dB in 0.1 dB steps
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Global delay offset	Up to +1.5s in 1 ms steps, common to all processed audio
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Variable audio delay control source	Up to 0.5s from RollTrack + GPI + video synchronizer
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Tone frequency, amplitude and ident	2-channel tone generator. 100 Hz to 15 kHz in 100 Hz steps
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Tone Setup

Frequency	100 Hz to 15 kHz in 100 Hz steps
Channel ident	0.5s interruption every 2s

Video Controls

Select primary input	1/2
Black level	±100 mV in 0.8 mV steps
Y/C timing	±592 ns in 148 ns steps
Picture position	±592 ns in 148 ns steps
Luminance gain	±6 dB
Chrominance gain	±6 dB
Genlock H phase	±32 µs in 74 ns steps
Genlock V phase	±262/312 lines in 1 line steps
Video delay	+0 to +2 frames

Other Controls

Pass vertical data	On/Off (lines selectable 7/11 to 23/21 and 320/274 to 335/283)
Preset unit	Returns all settings to default
Pattern select	100%/75% Bars, Multiburst, Black, Animated Bars
User memories	Name, clear, save and read 8 user memories
Default video output	Pattern / freeze / run through
Default audio output	Silence
Caption output	On/Off (default and pattern output only)
Caption generator	Programmable up to 19 characters
GPI/O set-up	May be attached to any memory function/polarity

Reporting (* also Logged)

EDH (for selected input)	*Presence, *Error-Time, *Error-Seconds
No SDI	*No input present
Input ancillary error	ANC error, ANC error-seconds
Input error	Unused input not at current operating standard
Report embedded audio data	Report audio data pairs on input and output SDI
Audio silence, high level, low level, overflow	For processed audio channels only

RollTrack Input

Delay	Audio delay – Fixed, RollTrack + fixed
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RollTrack Output

Delay	Current video/audio delay
Input state	Selected Input: Input Present, Input Missing, Standard 525, Standard 625 Input 1: Input Present, Input Missing, Standard 525, Standard 625 Input 2: Input Present, Input Missing, Standard 525, Standard 625
Embedded audio state	Pair present
External audio state	Pair present

Order codes for IQH3A/1A enclosures cont...

IQMUX6018-2A

Universal audio multiplexer. 2 SDI inputs, 4 balanced analog audio inputs, 2 unbalanced AES/EBU inputs, 2 SDI outputs, 2 unbalanced AES/EBU outputs, 1 GPI.

For more details on enclosure types please refer to datasheet IQH3A.

Technical Specification cont...

Specifications

Video internal processing	4:2:2 with 10 bit data paths
Serial input return loss	Better than 15 dB to 270 MHz
Maximum input cable length	>200 m (PSF1/2 or equiv. cable)
Serial output level	800 mV \pm 5%
Output overshoot	<70 mV
Output return loss	Better than 15 dB to 270 MHz
Output jitter	<0.2 UI (with 10 Hz High pass filter selected on 601 monitor)
Minimum delay	6 μ s
Delay	6 μ s - 3 Frames + 5.5 μ s

Analog Audio Input (Balanced)

Analog input impedance	10 k ohms
Frequency response	20 Hz to 20 kHz (\pm 0.1 dB)
Distortion (THD+N)	Better than -90 dB, 1kHz@ -1 dBFS
Dynamic range	>106 dB
Audio delay	Equal to video delay + adjustable offset

Digital Audio Input (Balanced)

Connector / format	25 W D
Sample frequency	25 – 96 kHz (48 kHz for Reference)
Input cable length	>150 m of AES3 cable
Impedance	110 Ohms

Digital Audio Input (Unbalanced)

Connector / format	BNC
Sample frequency	25 – 96 kHz (48 kHz for Reference)
Input cable length	>500 m of RG59 cable
Impedance	75 Ohms
Output sampling	48 kHz frame locked to 48 kHz AES/EBU Reference in AES lock mode

Digital Audio Output (Balanced)

Connector / format	25 W D
Level	3 V p-p typical into 110 Ohms

Digital Audio Output (Unbalanced)

Connector / format	BNC
Level	1 V p-p typical into 75 Ohms

Power Consumption

Module power consumption	9 W max
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