

IQMUX60/61

Universal Audio Multiplexer

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.

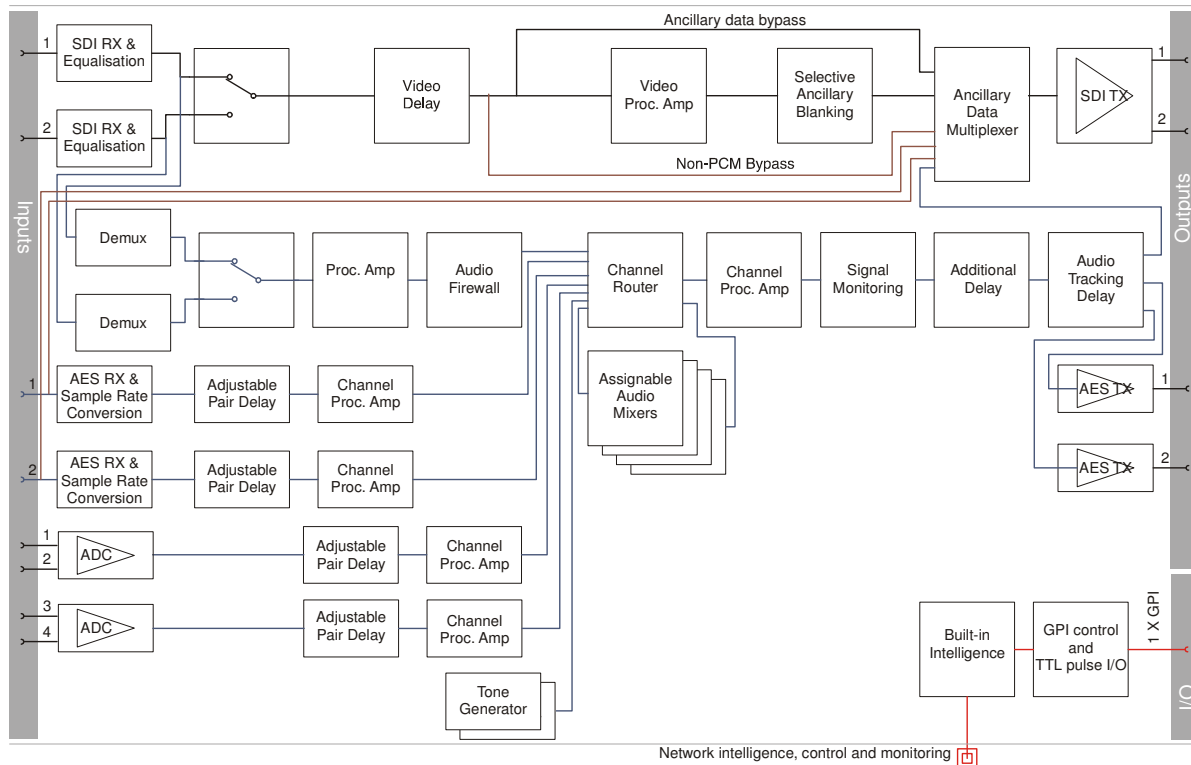
Does this module suit your application?

- 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?

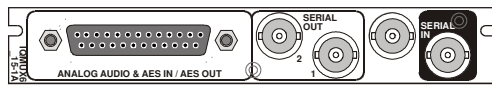
- Allows the use of mixed analog, AES and embedded audio where all must be accommodated or combinations may be required
- When used with the IQDEC00 decoder provides a complete analog AV solution for incoming lines with firewall, proc. amp, audio shuffling and delay



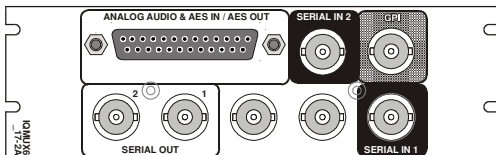
IQMUX60/61

Universal Audio Multiplexer and ADC

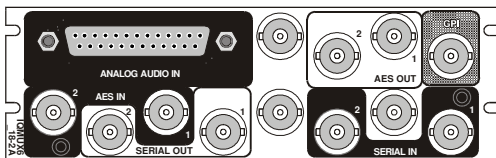
Order codes for IQH3A enclosures



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

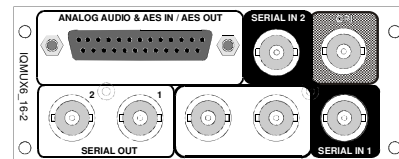


IQMUX6117-2A Universal audio multiplexer. Balanced audio connection. 2 SDI inputs, 4 analog audio inputs, 2 AES/EBU inputs, 2 SDI outputs, 2 AES/EBU outputs, 1 GPI



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

Order codes for other enclosures



IQMUX6116-2 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

For more details on enclosure types please refer to the Frames/Enclosures section

Inputs & Outputs

Signal Inputs

Digital Video.....	2 x SDI (BNC)
Analog Audio	4 Channels (2 Stereo Pairs) (25Way D-Type)
Unbalanced digital audio	2 x AES/EBU (BNC)
Balanced digital audio	2 x AES/EBU (25Way D-Type)
Standards.....	SMPTE 259M-C-1997, SMPTE 272M-A-1994, AES3 - 1992

Signal Outputs

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

Control Interface

GPI.....	1x Closing contact I/O interface (BNC, Double Width only)
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IQMUX60/61

Universal Audio Multiplexer and ADC

Card Edge & 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 1.5 s additional delay in 1 ms steps

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.

Channel routing Output channels routed from AES pairs 1 & 2, analog pairs 1 & 2, test tone and silence, SDI 8 embedded channels from any group

Output side control proc. - gain and polarity
Independent Gain, Mute, & Polarity control over embedded output channels. +18 dB to -18 dB in 0.1 dB steps.

Global delay offset up to +1.5 s in 1 ms steps, common to all processed audio.

Variable audio delay control source
Up to 0.5 s from RollTrack + GPI + video synchronizer

Tone frequency, amplitude & Ident
2-channel tone generator. 100 Hz to 15 kHz in 100 Hz steps.

Tone Setup:

Frequency 100 Hz to 15 kHz in 100 Hz steps

Channel Ident 0.5 s interruption every 2 s

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 μ s in 74 ns steps

Genlock V Phase $\pm 262/312$ 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 & 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

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

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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