

IQMUX01/11

4/8 Channel AES Multiplexer and Audio Processor

The IQMUX01 and IQMUX11 are 4 x AES/EBU stream multiplexers with advanced embedded audio handling. Ideal as a general digital ingest module where any digital audio source signal can be catered for, even combinations of embedded and external digital audio. All audio manipulation is at the channel-level suiting discreet surround and multi-lingual use. Its audio firewall capability ensures errors or interruptions in the input signal are not passed through to the output. In addition to its tracking audio delay, it also has a bulk audio delay feature. To complete the delay flexibility, it has a built-in video delay that can be used to adjust to match external audio processing delays, such as that from a Dolby E encoder. A dual SDI input allows the unit to take signals from either of two paths. This can be used for handling main and redundant feeds, or it can be used with a composite decoder such as the IQDEC00 to provide analog and digital alternative inputs. The second input also allows split operation, with video taken from one input and embedded audio from the other.

As a further function, this module can be used to provide separate audio and video routing in an embedded SDI environment. In this way, two levels of an SDI router feed separately the video and audio to a single destination. In this case however, the normal mode of operation can be supplemented by a small AES router allowing a few destinations at a time to have a mix capability between multiple audio sources.

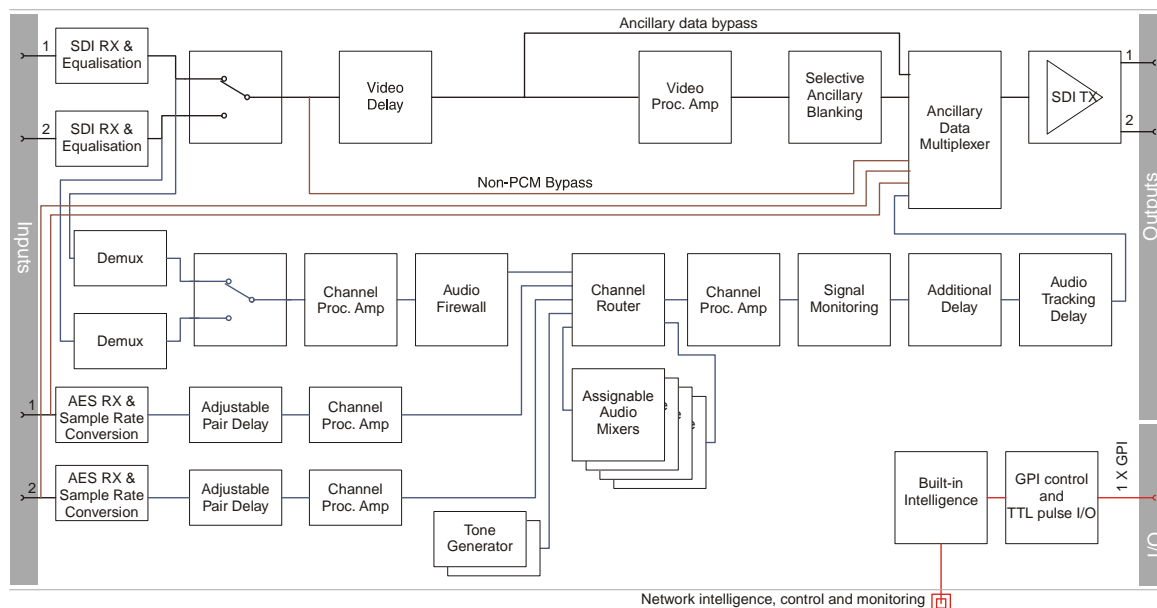
Does this module suit your application?

- Handles 2/4 AES streams or any eight embedded input channels to total eight output channels
- Handles up to 24 bit embedded audio present on the incoming SDI stream or AES inputs, and embeds/de-embeds to 20 bits
- Combine AES and embedded source channels
- 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
- Firewall for processed PCM audio to provide a continuous output
- Variable audio delay of up to 0.5s which seamlessly tracks the video delay or external RollTrack / GPI inputs

- Video proc-amp (gain, saturation, black level)
- Up to 3 frames of video delay
- RollCall control and monitoring compatible

Why should you choose this module?

- Provides a multiplexing solution for 2/4 streams of AES or non-PCM audio
- Allows the use of mixed AES and embedded audio where both must be accommodated or combinations may be required
- A complete AV solution for incoming lines with audio firewall, proc. amp, audio shuffling and delay



IQMUX01/11

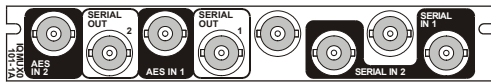
4/8 Channel AES Multiplexer with Audio Processor

Order codes for IQH3A/1A enclosures

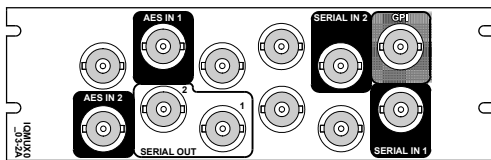


IQMUX0315-1A SDI and 4 channel AES multiplexer with extended video delay. Balanced AES connection. 1 SDI input, 2 AES inputs, 2 SDI outputs

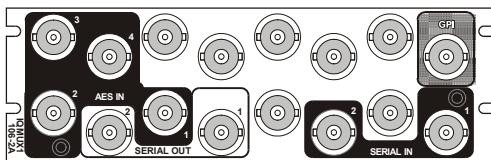
IQMUX1315-1A SDI and 8 channel AES multiplexer with extended video delay. Balanced AES connection. 1 SDI input, 4 AES inputs, 2 SDI outputs



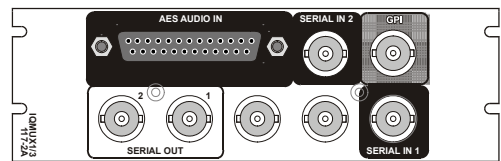
IQMUX0101-1A SDI and 4 channel AES multiplexer with extended video delay. Unbalanced AES connection. 2 SDI inputs, 2 AES inputs, 2 SDI outputs



IQMUX0103-2A SDI and 4 channel AES multiplexer with extended video delay. Unbalanced AES connection. 2 SDI inputs, 2 AES inputs, 2 SDI outputs, 1 GPI

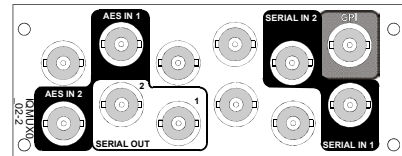


IQMUX1106-2A SDI and 8 channel AES multiplexer with extended video delay. Unbalanced AES connection. 2 SDI inputs, 4 AES inputs, 2 SDI outputs, 1 GPI

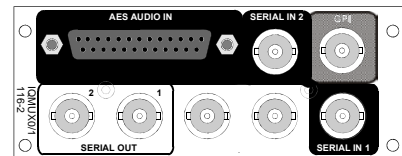


IQMUX0317-2A SDI and 4 channel AES multiplexer with extended video delay. Balanced AES connection. 2 SDI inputs, 2 AES inputs, 2 SDI outputs, 1 GPI

Order codes for other enclosures



IQMUX0102-2 SDI and 4 channel AES multiplexer with extended video delay. Unbalanced AES connection. 2 SDI inputs, 2 AES inputs, 2 SDI outputs, 1 GPI



IQMUX0316-2 SDI and 4 channel AES multiplexer with extended video delay. Balanced AES connection. 2 SDI inputs, 2 AES inputs, 2 SDI outputs, 1 GPI

IQMUX1316-2 SDI and 8 channel AES multiplexer with extended video delay. Balanced AES connection. 2 SDI inputs, 4 AES inputs, 2 SDI 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) (1 x SDI – single width versions)
Unbalanced digital audio	2/4 x AES/EBU, AC3, Dolby E (BNC)
Balanced digital audio	2/4 x AES/EBU, AC3, Dolby E (25 Way 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

Control Interface

GPI.....	1x Closing contact I/O interface (BNC)
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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 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 to 4, 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

Tone frequency, amplitude & Ident
2-channel tone generator. 100 Hz to 10 kHz in 100 Hz steps.

Tone Setup:

Frequency 100 Hz to 10 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

Video Horizontal Delay..... +1 Line in 37 ns steps

Video Vertical Delay +1 Frame in 1 line steps

Video Delay Frames..... 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

GPI 1 Low, High, Inactive

Embedded Audio state..... De-embed 1-8 Lost/Present

External AES Audio state..... 1-2 Lost/present

