



The IQDMX01 and IQDMX11 are 2/4 x AES/EBU stream demultiplexers with advanced embedded audio handling. All audio manipulation is at the channel-level suiting discreet surround and multi-lingual use. 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. Its audio firewall capability ensures continuous audio output even when the embedded audio signal fails. A dual SDI input allows this module to take signals from either of two paths thus allowing split operation, with video taken from one input and embedded audio from the other.

The IQDMX01 and IQDMX11 can also be used as embedded audio processors. Their ability to re-multiplex the audio internally after channel manipulation and processing means that they can be used in this role with the AES outputs used for monitoring feeds.

IQDMX01/11

4/8 Channel AES Demultiplexer and Audio Processor

Does this module suit your application?

- 4/8 channel AES/EBU demultiplexer
- Can de-embed AES/EBU and AC3 digital audio data
- Handles up to 24 bit embedded audio present on the incoming SDI stream, and de-embeds/embeds to 20 bits
- Flexible audio delay including common fixed delay and tracking delay
- A further audio delay of up to 0.5s which seamlessly tracks the video delay or external RollTrack / GPI inputs
- Firewall for processed PCM audio to provide a continuous output
- Transparent to non-PCM audio
- Eight channel audio processor with channel level manipulation
- Channel level (Sub-frame) routing
- 4 off 4 channel audio mixers
- Video proc. amp (gain, saturation, black level)
- Video test pattern generator, 2 channel audio tone generator
- Up to 3 frames of video delay
- RollCall control and monitoring compatible

Why should you choose this module?

- Superb for a lines input role, with proc. amps on both audio and video signals
- Ideal as a general demultiplexer for audio monitoring
- Video delay feature allows this module to be used where a Dolby E decoder, for example, is to be placed downstream of the AES outputs

Order codes for IQH3A/1A enclosures

IQDMX0315-1A

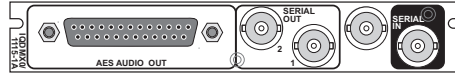
SDI and 4 channel AES demultiplexer with extended video delay. Balanced AES connection. 1 SDI input, 2 AES outputs, 2 SDI outputs.

IQDMX1315-1A

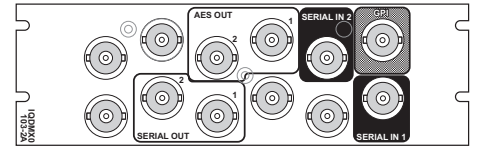
SDI and 8 channel AES demultiplexer with extended video delay. Balanced AES connection. 1 SDI input, 4 AES outputs, 2 SDI outputs.

IQDMX0101-1A

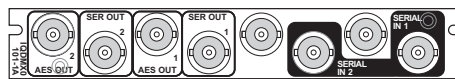
SDI and 4 channel AES demultiplexer with extended video delay. Unbalanced AES connection. 2 SDI inputs, 2 AES outputs, 2 SDI outputs.



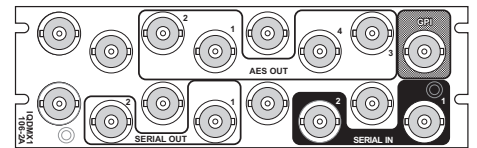
IQDMX0315-1A



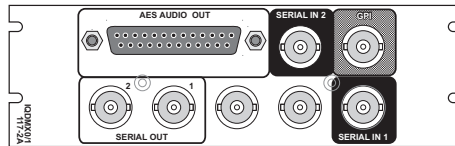
IQDMX0103-2A



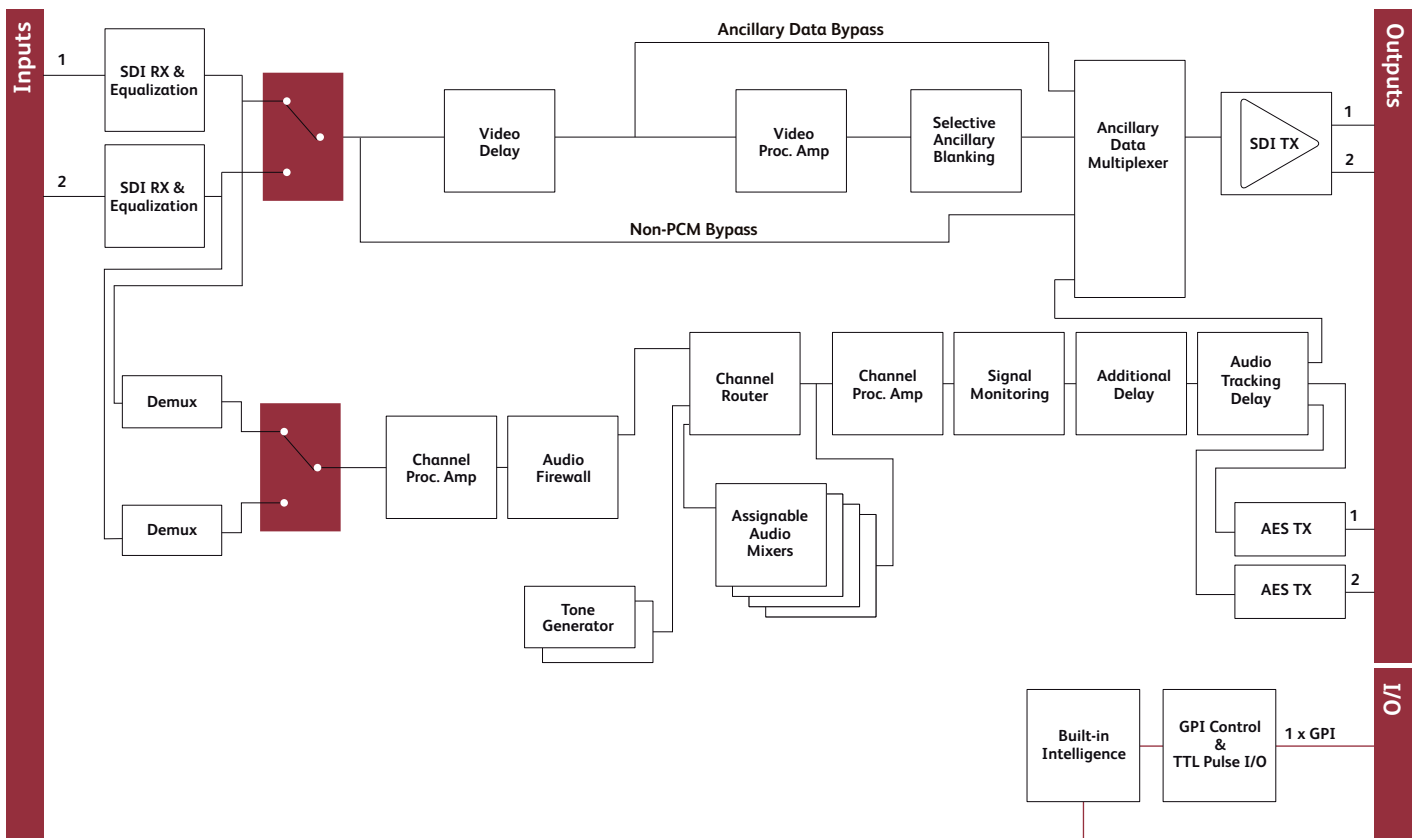
IQDMX0101-1A



IQDMX1106-2A



IQDMX0317-2A





Technical Specification

Inputs and Outputs

Signal Inputs

Digital video	2 x SDI (BNC) (1 x SDI – single width versions)
Standards	SMPTE 259M-C-1997, SMPTE 272M-A-1994

Signal Outputs

Digital video	SDI x 2
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

Control Interface

GPI	1 x Closing contact I/O interface (BNC)
-----	---

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
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
Input side control proc. - audio gain and polarity	Independent Gain, Mute, Polarity control over de-embedded audio +18 dB to -18 dB in 0.1 dB steps
Channel routing	Output channels routed from test tone, silence or SDI 8 embedded channels from any group
Output side control proc. - gain and polarity	Independent Gain, Mute, and Polarity control over embedded and AES output channels. +18 dB to -18 dB in 0.1 dB steps
Global delay offset	Up to +1.5s in 1 ms steps, common to all processed audio
Variable audio delay control source	Up to 0.5s from RollTrack + GPI
Tone frequency, amplitude and 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	0.5s 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

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 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
-------	--

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

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 ±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 µs
Delay (delay mode)	6 µs - 3 Frames + 5.5 µs
THD+N	<-117 dB @ 700 Hz (24 bits) AES to AES

Digital Audio Output (Balanced)

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

IQDMX0317-2A

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

IQDMX1317-2A

SDI and 8 channel AES demultiplexer with extended video delay. Balanced AES connection. 2 SDI inputs, 4 AES outputs, 2 SDI outputs, 1 GPI.

IQDMX0103-2A

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

IQDMX1106-2A

SDI and 8 channel AES demultiplexer with extended video delay. Unbalanced AES connection. 2 SDI inputs, 4 AES outputs, 2 SDI outputs, 1 GPI.

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



Technical Specification cont...

Digital Audio Output (Unbalanced)

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

Power Consumption

Module power consumption	7.5 W max
--------------------------	-----------

Company policy is one of continuous product improvement. Specifications are therefore provisional and subject to change without notice. All other trademarks mentioned herein are duly acknowledged.