

# IQAAD00

## 4 Channel Audio Analog to Digital Converter

The IQAAD00 converts two analog stereo pairs, or four analog mono channels into two AES/EBU digital audio streams. Each analog input is sampled at 48 kHz with 24-bit resolution. Sampling can be free-running, locked to a reference video signal or 48kHz AES/EBU digital audio stream. Video standard is automatically determined. The IQAAD00 also provides proc. amp control, channel routing and mixing, up to 0.5s of tracking audio delay and additional fixed delay of up to 3s adjustable in 1 ms steps.

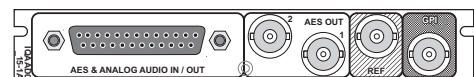
### Features

- Converts four analog audio channels into two AES/EBU digital audio streams
- 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 an external video delay via RollTrack / GPI inputs
- Audio proc. amp (gain, mute, polarity)
- RollCall control and monitoring compatible

### Why should you choose this module?

- Converts four analog audio channels into two AES/EBU digital audio streams, useful in multi-lingual systems
- Will lock to video and AES/EBU digital audio references
- Balanced or unbalanced output configurations enables use in all environments
- A comprehensive audio conversion solution with firewall, proc. amp, audio shuffling and delay

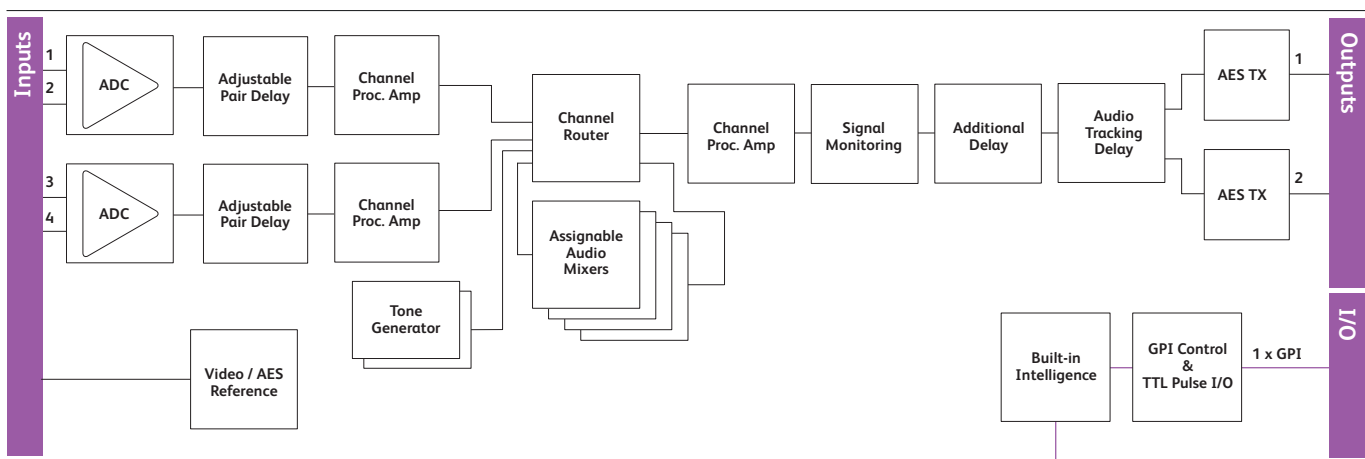
### Order codes



#### IQAAD0015-1A

Analog Audio ADC. 4 balanced analog audio inputs, 2 balanced and unbalanced AES/EBU outputs, 1 GPI.

For more details on enclosure types please refer to Frames and Hardware section.



Block Diagram for IQAAD0015-1A

Network Intelligence, Control & Monitoring

### Technical Specification

#### Inputs and Outputs

##### Signal Inputs

Analog audio	4 Channels (2 Stereo Pairs)
Video / AES reference	Composite video / AES/EBU (BNC)

##### Signal Outputs

Unbalanced digital audio	2 x AES/EBU (BNC)
Balanced digital audio Standards	2 x AES/EBU (25 Way D-Type) AES3 - 1992

##### Control Interface

GPI	1 x Closing contact I/O interface (BNC)
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#### Card Edge and RollCall Controls

##### Card Edge Controls

NONE

##### Card Edge Indicators

Reference Present	
CPU running / Power	One green LED, flashing = OK

##### RollCall Functions

##### Audio Controls

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/Low levels, silence, overload, time delay
Audio input delay	Up to 1.5s additional delay in 1 ms steps
Input side control proc. - audio gain and polarity	Independent Gain, Mute, Polarity control over input channels. +18 dB to -18 dB in 0.1 dB steps
Channel routing	Output channels routed from analog pairs 1 and 2, test tone and silence
Output side control proc. - gain and polarity	Independent Gain, Mute, and Polarity control over 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 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	0.5 s interruption every 2 s

#### Other Controls

Preset unit	Returns settings to factory defaults
User memories	Name, clear, save and read 8 user memories
GPI/O set-up	May be attached to any memory function/polarity
Reference select	Free Run, AES/EBU or Video PAL/NTSC

#### Reporting (\* also Logged)

Audio silence, high level, low level, overflow	For processed audio channels only
No reference	*No reference present
Reference error	AES reference sample rate not 48 kHz

#### RollTrack Input

Delay	RollTrack + fixed
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#### RollTrack Output

Delay	Current audio delay
Reference state	Ref Lost, Ref Present, Ref error [error: AES reference sample rate not 48 kHz]
GPI	High, Low, Inactive

#### Specifications

##### 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 -95 dB, 1kHz@ -1 dBFS
Dynamic range	>106 dB
Max input level	+24 dBu

##### 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

#### Reference

Reference return loss	Better than -35 dB to 5.8 MHz
Reference input level	1 V p-p $\pm 3$ dB
Analog reference input Standard	48 kHz AES/EBU, 625/525 line

#### Power Consumption

Module power consumption	6.5 W max (A Frames) 5 PR (B Frames)
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