

# IQAAD00

## Four-channel Audio Analog to Digital Converter

Comprehensive audio conversion of four analog audio channels into two AES/EBU digital audio streams with balanced and unbalanced configurations.

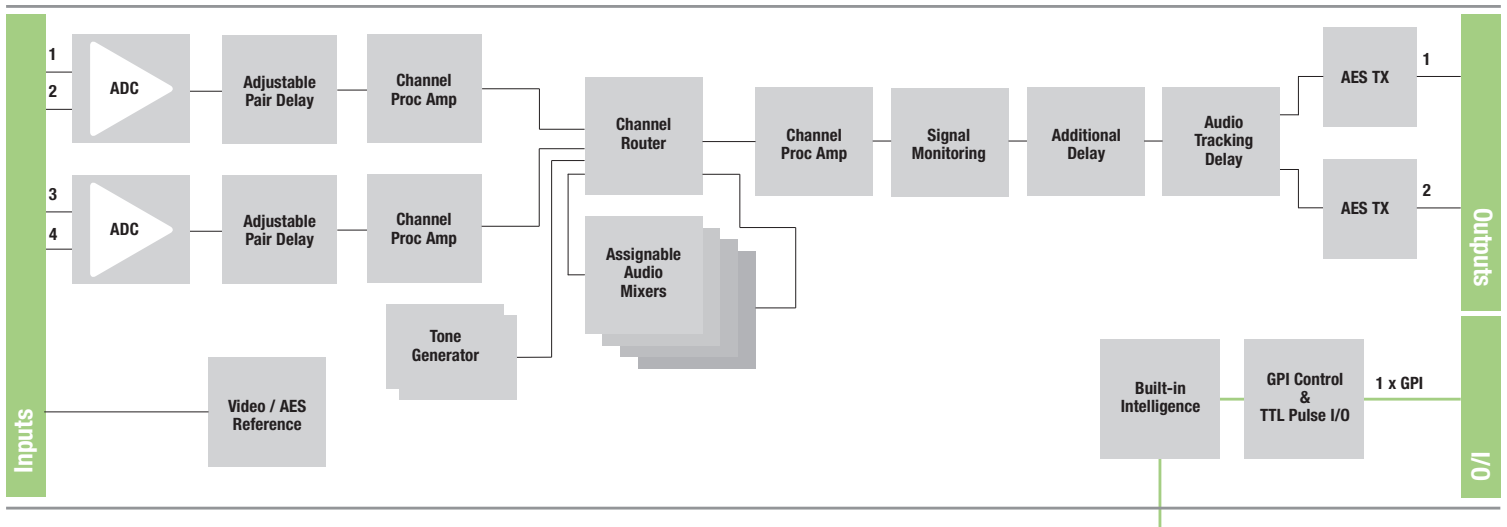
The IQAAD00 from Grass Valley converts two analog stereo pairs, or four analog mono channels into two AES/EBU digital audio streams. Each analog input is sampled at 48 kHz with 24-bit resolution. Sampling can be free-running, locked to a reference video signal or 48 kHz AES/EBU digital audio stream. 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.

### Why should you choose this module?

- Converts four analog audio channels into two AES/EBU digital audio streams, useful in multilingual 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

### KEY 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 of 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



Block Diagram for IQAAD0015-1A

Network Intelligence, Control & Monitoring

**SPECIFICATIONS**

**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: 2x AES/EBU (BNC)  
Balanced digital audio: 2x AES/EBU (25-way D-type)  
Standards: AES3 - 1992

**Control Interface**

GPI: 1x closing contact I/O interface (BNC)

**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: 0.5s interruption every 2s

**Other Controls**

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

**Logging**

Reference State: Std (525, 625, AES)/WARN (Loss, 525, 625, AES), Error AES, None  
Processed Audio Channels State (BUS\_L/R): OK/WARN (Silent, Quite, High, Overload)  
RollTrack Message Status: Send and Received OK/ Message Not Acknowledged

**RollTrack Input**

Delay: RollTrack + fixed

**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

**General Specifications**

**Analog Audio Input (Balanced)**

Analog input impedance: 10 kΩ  
Frequency response: 20 Hz to 20 kHz (±0.1 dB)  
Distortion (THD+N): Better than -95 dB, 1 kHz@ -1 dBFS  
Dynamic range: >106 dB  
Max input level: +24 dBu

**Digital Audio Output (Balanced)**

Connector/format: 25-way D-type  
Level: 3 Vp-p typical into 110Ω

**Digital Audio Output (Unbalanced)**

Connector/format: BNC  
Level: 1 Vp-p typical into 75Ω

**Reference**

Reference return loss: Better than -35 dB to 5.8 MHz  
Reference input level: 1 Vp-p ± 3 dB  
Analog reference input standard: 48 kHz AES/EBU, 625/525 line

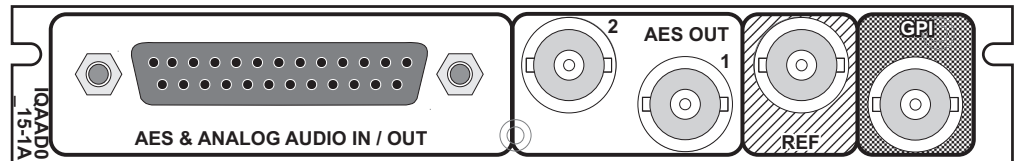
**Power Consumption**

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

**ORDERING**

**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 the IQ Modular Enclosures datasheet.



GVB-2-0814A-EN-DS



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