

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.

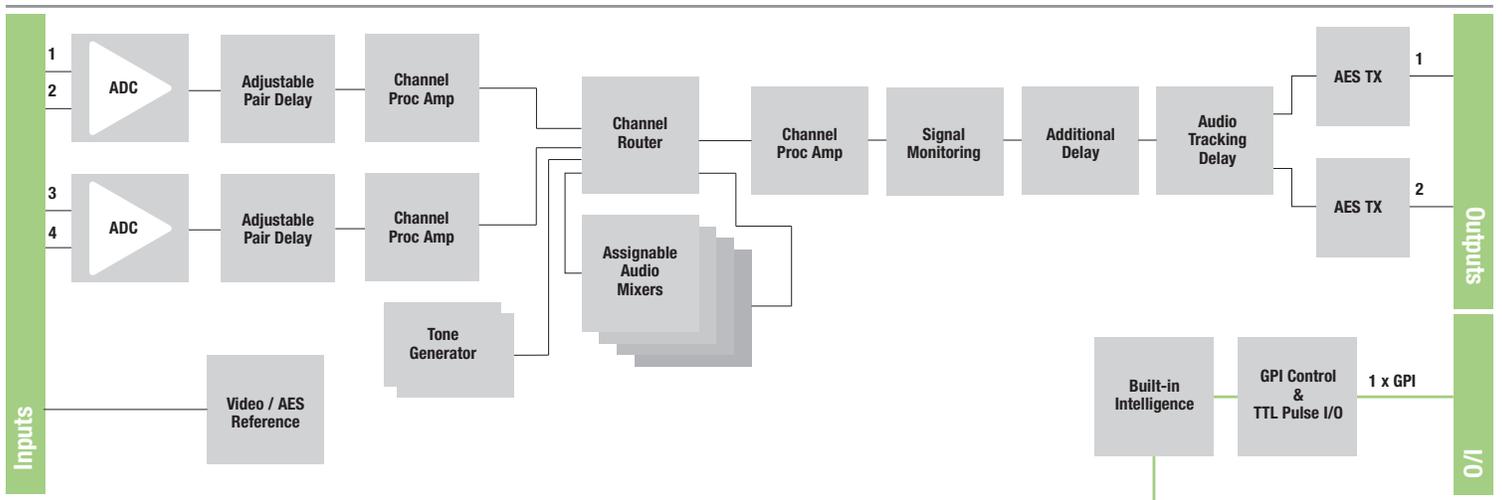
The IQAAD00 from Grass Valley converts two analog stereo pairs, or four analog mono channels into two AES/EBU digital audio streams. Each analog input is sampled at 48 kHz with 24-bit resolution. Sampling can be free-running, locked to a reference video signal or 48 kHz AES/EBU digital audio stream. 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
- Full GV Orbit compatibility provides an all-inclusive remote configuration, control and monitoring solution
- Comprehensive SNMP support allows easy integration with third-party Network Management Systems

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 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)
- GV Orbit 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 Remote Controls

Card Edge Controls

NONE

Card Edge Indicators

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

Remote Control 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

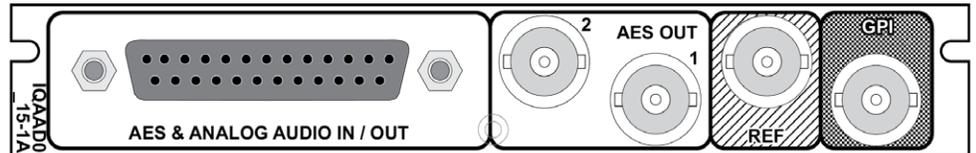
Power Consumption

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.



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