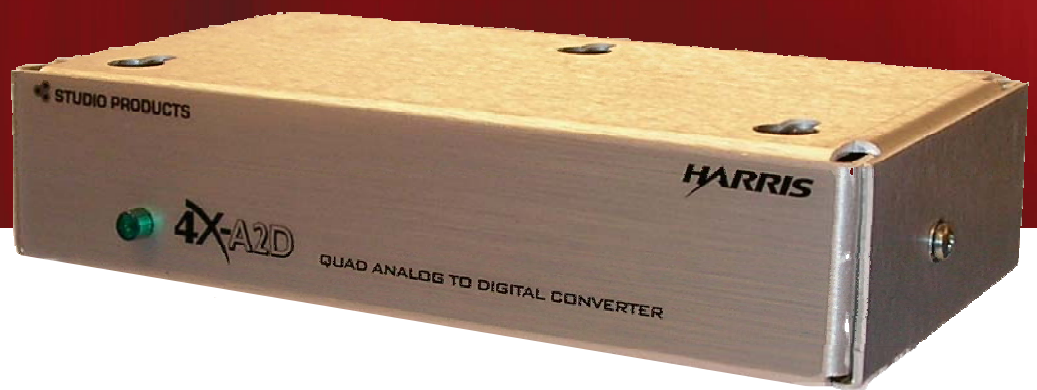


# 4X-A2D

Quad Analog to Digital Converter



# 4X-A2D

## Major Market Analog To Digital performance, with a compact size and price

As the broadcast world evolves to digital we know you need to find a way to connect your existing analog equipment to the digital future. The Harris PR&E design team took the challenge to develop a high quality A to D converter that fits your studio and your budget.

The 4X-A2D converts four stereo balanced (+4dBu) or unbalanced (-10 dBV) analog inputs into four AES/EBU digital outputs. All connections use AMP MOD IV crimp terminals.

The four outputs are compatible with any AES/EBU input, including those used on Harris/PR&E consoles and cardframe Digital I/O cards. Typically, the 4X-A2D is referenced to an internal 44.1 clock for stand alone operation. Alternatively, an external AES sample rate reference can be provided to the AES Sync Input. Sample rates of 32 to 192 kHz are supported.

The 4X-A2D is designed to mount under a countertop or to an internal wall of the studio furniture. Alternately, a PRE90-1431 Rack Mount can hold one, two or three 4X-A2D converters in 1 RU of rack space.

The 4X-A2D and accessories are offered in three packages: PRE99-1430 is the 4X-A2D converter along with its power supply, wood screws and documentation; the PRE76-1430-1 connection kit contains four 3-foot digital output cables to jumper the outputs to any Harris/PR&E studio console, along with housings and crimp terminals to make custom analog input cables; the PRE76-1430-2 cable kit contains nine 20-foot pigtail cables (four terminate in 6-pin MOD IV connectors and five in 3-pin MOD IV connectors) to allow customers to make custom input and output cables.

### Specifications

0 dBu=0.775 volts RMS, regardless of circuit impedance (equal to 0 dBm into 600 ohms). Noise measurements use a 20 kHz bandwidth (add 1.7 dB for a 30 kHz bandwidth). Total Harmonic Distortion (THD+N) is measured with a +18 dBu output using a swept signal and a 20 kHz low pass filter. FSD (Full Scale Digital) = +24 dBu

#### Analog Inputs (x4)

Nominal Input Level: switchable, +4 dBu or -10 dBV, any channel  
Input Impedance: >38k for +4 dBu, >15k for -10 dBV setting  
Input Headroom: 20 dB above nominal (+4 dBu)

#### Digital Outputs (x4)

Reference Level: 20 dB below FSD  
Signal Format: AES-3  
Output Sample Rate: 44.1 kHz (using internal oscillator)  
Processing Resolution: 24-bit fixed word using extended precision accumulators  
A/D Conversion: 24-bit, Delta-Sigma  
Latency: <600µs, any input to output

#### AES Sync Input

Reference Level: 20 dB below FSD  
Signal Format: AES-3 or S/PDIF  
Word Clock Range: 32 to 192 kHz

#### Analog Inputs to Digital Outputs

Frequency Response: +0.3 dB/-0.1 dB, between 20 Hz and 20 kHz  
Dynamic Range: 108 dB referenced to FSD, 110 dB "A" weighted to FSD  
Total Harmonic Distortion + Noise: <0.0009%, 20 Hz to 20 kHz, +18 dBu input, -6 dB FSD output  
Crosstalk Isolation: -85 dB, 20 Hz to 20 kHz  
Output Stereo Separation: >90 dB, 20 Hz to 20 kHz

#### Power Supply

+6 VDC, 400 mA

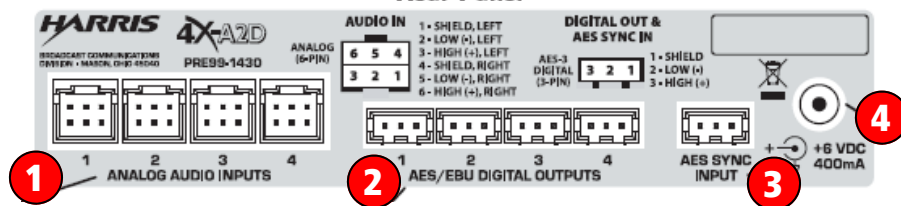
#### ESD Technical Ground Point

Chassis cover screw

#### Dimensions

1.5" x 5.75" x 3.25" (Height, Width, Depth)

### Rear Panel



### 1 Analog Inputs

These four 6-pin AMP MOD IV inputs are for balanced or unbalanced stereo or two channel analog signals. Internal switches DS1 - DS8 individually set the left and right channel levels for a nominal +4 dBu (the default setting for balanced signals) or to -10 dBV to connect prosumer equipment.

### 3 AES Sync Input

This 3-pin AMP MOD IV connector is for a Word Clock or House Master signal. Internal switch DS9 must be set to AES in order to use this input. The AES Sync Input is typically not used with Harris consoles and cardframes since their digital inputs have built-in sample rate conversion.

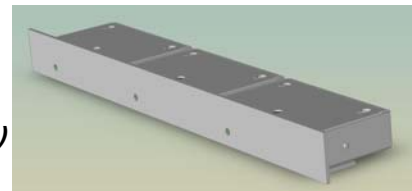
### 2 Digital Outputs

These four 3-pin AMP MOD IV outputs carry 24-bit AES/EBU signals using a nominal sample rate of 44.1 kHz. The nominal output level is -20 dBFS with a maximum level (0 dBFS) or +24 dBu. Although designed to connect directly to Harris/PR&E consoles and cardframes, these signals can connect to any AES/EBU digital input.

### 4 Power Supply

+6 VDC is normally supplied by the 50-29 power supply (supplied with the 4X-A2D). Power can alternately be supplied by any well-regulated +6 VDC source.

**Optional PRE90-1431 rack mount (at right) provides for clean rack installations.**



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