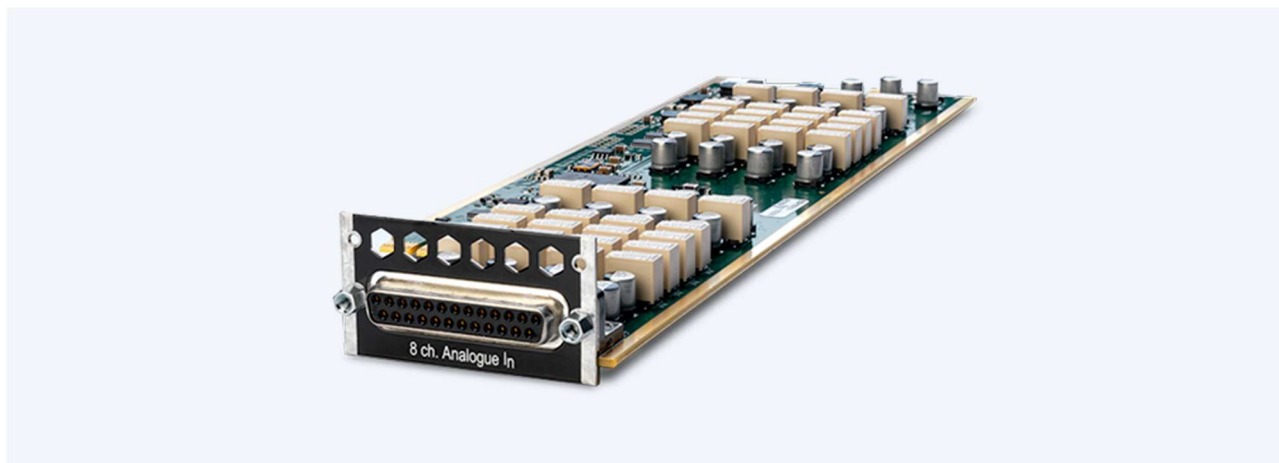




8 channel Pristine AD Mic/Line Card



Introduction.

The CARD-M8 is a Pristine Mic/Line input and AD converter Card that provides combined analogue line level and microphone input for the DAD modular audio interfaces. All inputs are balanced and have pristine audio performance with transparent and non-colouring AD conversion. Each channel can be set to operate in either line level or microphone level mode.

The AD conversion is based on a dual 5-bit delta sigma modulator converter chip with filtering done in a dedicated FPGA with 32bit processing for the PCM formats and supports all sample rates from 44.1 to 384kHz, including DXD and one-bit DSD 64 and DSD 128. The gain staging for the microphone and line gain is done via relays with no electronic gain components, providing ultimate noise and linearity performance.

Features

- 8 input channel pristine AD converter
- Microphone or Line level mode setting for each channel
- Dynamic Range (A): >123dB
- THD+N (A): < -117 dB @ -3 dB FS / 0.00014%
- 32bit processing
- Sample rates: 44.1 to DXD and 384kHz
- DSD formats: 64FS, 128FS
- Sample Resolution: 5-bit sigma/delta @ 5.645 or 6.144MHz, 24-bit PCM
- Compatible with, Penta 720, Penta 721s, AX32, AX64, AX Center
- SKU: CARD-M8

Specifications

General:

Interface:	DB25 female (Tascam pinout)	Frequency response:	10 Hz – 20 kHz +/-0.1dB at all gain settings
Sample Rate (PCM):	44.1, 48, 88.2, 96, 176.4, 192, 352.8, 384kHz	Gain accuracy:	+/-0.1dB all gain settings
Sample Rate (DSD):	2.8224 & 5.6448MHz (64 & 128 fs)	Power Consumption:	11 Watt max



Line input mode:

Max input level: From -9dBu to 30dBu in steps of 0.1dB

Gain setting for 0dBFS: Relay based 3dB gain steps: 9dBu, 12dBu, 15dBu, 18dBu, 21dBu, 24dBu, 27dBu, 30dBu w. digital inter-step adjustment

Input Impedance: > 10k Ohms

CMRR: > 120dB@1kHz

Microphone mode:

Phantom Power: 48V

Input Impedance: 3k Ohms

EIN (A): -131dB, @0 Ohm source

Max input level: +21 dBu@ -3dB signal gain (-18dB DADman gain setting)

Microphone gain: -3dB to 45dB analog gain with relay based 3dB analogue gains steps and additional digital gain up to + 39dB

Gain range: -18 to 72 dB

Microphone gain specification survey:

DADman gain read out	Analog gain	Digital gain	Input overload level	Output noise	Eqv. Input	
(dB)	(dB)	(dB)	(dBu)	(dBFSa)	(dBuA)	
-18	-3	0	21	-123,8	-102,8	Analogue gain
-15	0	0	18	-123,3	-105,3	
-12	3	0	15	-123,2	-108,2	
-9	6	0	12	-123,2	-111,2	
-6	9	0	9	-122,8	-113,8	
-3	12	0	6	-122,8	-116,8	
0	12	0	3	-122,2	-119,2	
3	18	0	0	-122,0	-122,0	
6	21	0	-3	-120,8	-123,8	
9	24	0	-6	-120,3	-126,3	
12	27	0	-9	-118,5	-127,5	
15	30	0	-12	-117,3	-129,3	
18	33	0	-15	-114,8	-129,8	
21	36	0	-18	-113,0	-131,0	
24	39	0	-21	-110,2	-131,2	
27	42	0	-24	-107,8	-131,8	
30	45	0	-27	-104,8	-131,8	Digital gain
33	45	3	-27	-107,8	-131,8	
36	45	6	-27	-110,8	-131,8	
...	45	...	-27		-131,8	
72	45	39	-27	-68,8	-131,8	

Table 1, Noise and dynamic range for the microphone pre-amplifier.

Input overload level is the maximum input level before clipping in the analogue input circuit

Output noise is the A-weighted RMS noise floor of the digital output of the A/D converter. The value is given in dBFS. 0 dBFS is full digital signal. The output noise floor also expresses the absolute dynamic range of the combined microphone pre-amplifier and A/D converter.

Equivalent Input Noise (EIN) is the output noise calculated as an equivalent noise source on the input of the microphone pre-amplifier. The figure is given with a shorted input (source = 0Ω).