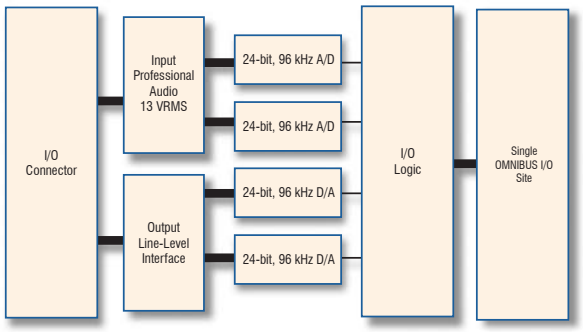
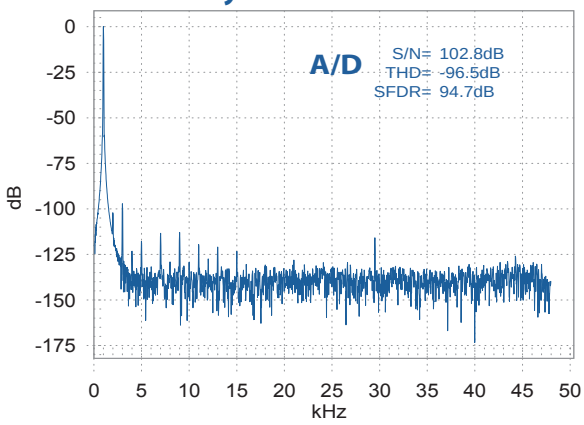
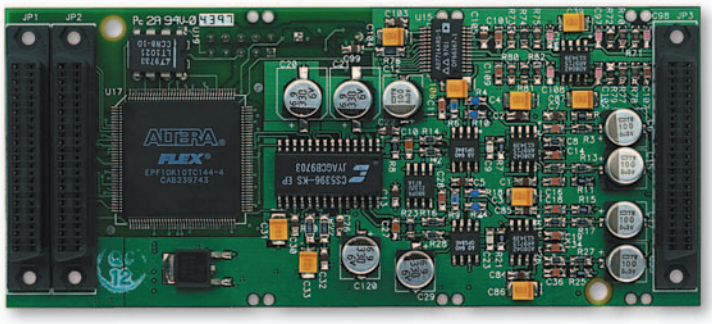
Interface	Compatible with all OMNIBUS host products Consumes one interrupt to host
Power Requirements	5 V @ 60mA; +15 V @ 80mA; -15 V @ 80mA Forced air cooling required (30CFM)
Physicals	OMNIBUS mezzanine card; 2.000 x 4.600 inches
A/D Converters	2 stereo Crystal Semiconductor CS5396 SD converters
Resolution	24-bit
Sample Rate (Fs)	2-96 kHz
Over sampling	256 X
Analog Input Range	Professional audio, 13 V RMS, AC coupled
S/N Ratio	100 dB
THD	-95 dB
Dynamic Range	100 dB
DC Gain Error	5%
Input Type	Balanced or unbalanced (differential or single-ended)
Input Impedance	7 kOhm
Digital Filter Characteristics	Passband=.4604 x sample rate Fs; Passband ripple=.005 dB Stopband=.5442 x Fs min; 63.42 x Fs max
Group Delay	34/Fs seconds
Conversion	
Trigger Sources	24-bit host DDS
Interface to DSP	Memory-mapped interface
D/A Converters	2 stereo output AKM AK4324 SD converters
Resolution	24-bit
Oversampling	128 X or 256 X speed dependent
Output Range	Line levels ± 2 V unbalanced (single ended)
Output Analog Filter	2 pole, 50 kHz
Update Rate	30-96 kHz, programmable via host DDS
Dynamic Range	105 dB
S/N Ratio	100 dB
THD + Noise	92 dB
Output Control	Digital de-emphasis and attenuation control
Conversion	
Trigger Sources	24-bit host DDS
Interface to DSP	Memory-mapped interface



In System Performance





SD - Ultra-Performance Audio I/O Module

The SD module provides four channels of 24-bit, 96 kHz sigma-delta A/D and D/A conversion for state-of-the-art audio and SONAR applications. Each channel operates with extremely low noise, delivering better than 100 dB of S/N performance for ultra-clean signal acquisition and playback. The sigma-delta architecture provides highly effective digital anti-alias filtering removing all out-of-band signals.

The SD module has balanced (differential) input capability for maximum noise rejection at the front end. Careful attention was paid to op-amp selection to minimize noise and distortion, providing a clean front-end to the A/D converter.

The SD module control logic conveniently maps the A/D and D/A communication as a 24-bit memory-mapped parallel interface, seamlessly accessed by the host card.

Please note, the SD module requires forced air cooling. The board is designed for use in industrial computers providing air flow of around 30CFM and directed on both faces of the board. Insufficient cooling may cause erratic operation, data corruption or fatal hardware failure. Contact our sales office for assistance.

Software examples demonstrating module operation and communication are included in the Zuma/Armada Toolsets. A full calibration report ships with every module.

Ordering Information

SD	80020-7