

Innovative Integration AD16

High Precision 16-Channel A/D Module



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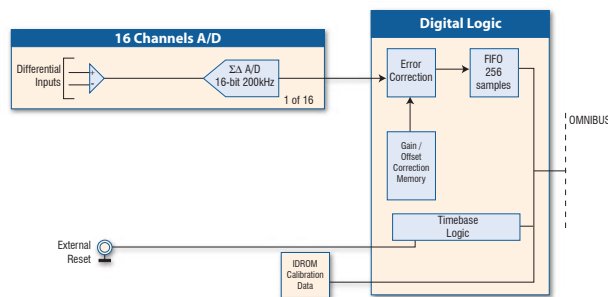
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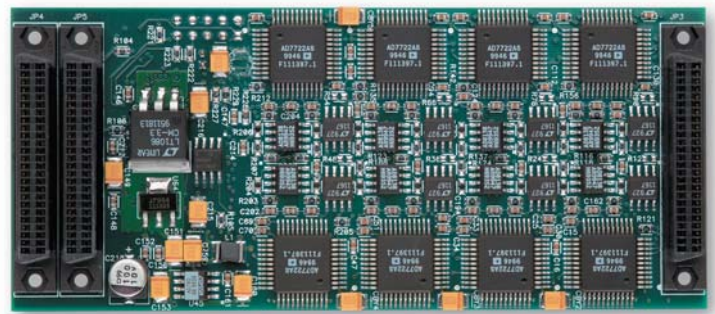
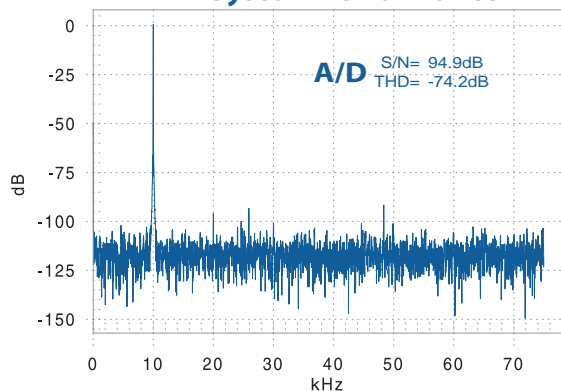
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Interface	Compatible with all OMNIBUS host products Consumes one interrupt to host.
Power Requirements	5V@2.0A, +15V@25mA, +5V@25mA Forced air cooling may be required in certain conditions
Physicals	OMNIBUS mezzanine card; 2.000" X 4.600"
A/D Converters	Sixteen AD7722 Sigma Delta converters
Resolution	16-bit
Sample Rate	5 - 195 kHz
Oversampling	64x
Step Response Settling	
Time	425 μ sec (@ 195kHz)
Group Delay	216 μ sec (@ 195kHz)
Analog Input Range	± 10 V differential
S/N Ratio	90 dB
SINAD	81 dB
ENOB	13-bit
SFDR	88dB
THD	0.002%
Dynamic Range	96 dB
Gain Error	Trimable ± 3 mV
Offset Error	Trimable $<0.01\%$ FS
Input Type	Differential
Input Impedance	1 MOhm
Digital Filter	
Characteristics	
Passband	.496x Sample Rate
Passband Ripple	$\pm .005$ dB
Conversion Trigger	
Sources	OMNIBUS DDS Timer only
Interface to DSP	Memory-mapped 32-bit result returned for each pair



In System Performance



AD16 - High Precision 16 Channel A/D Module

The AD16 OMNIBUS module provides 16 simultaneous 16-bit channels of A/D conversion. There are actually 16 Analog Devices AD7722 converters, capable of 5-195kHz sampling. This high-channel density, high-accuracy, DC accurate analog front end is simply unprecedented in the industry.

Each channel employs a sigma-delta converter eliminating the need for expensive, bulky analog anti-alias filters. Each channel is a high impedance ± 10 v differential input with an independent high accuracy instrumentation amplifier. Additional features on each channel include software programmable digital offset and gain corrections, allowing software-controlled calibration (external references required). This module has 256 sample FIFOs.

The AD16 module is well suited for a variety of measurement, instrumentation, and multichannel data acquisition applications where high dynamic range, DC accuracy, and simultaneous channel sampling are required. Some typical applications may include vibration measurements, acoustic monitoring, SONAR, and audio, to name a few.

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

Ordering Information

AD16

80020-20

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