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Model 9842

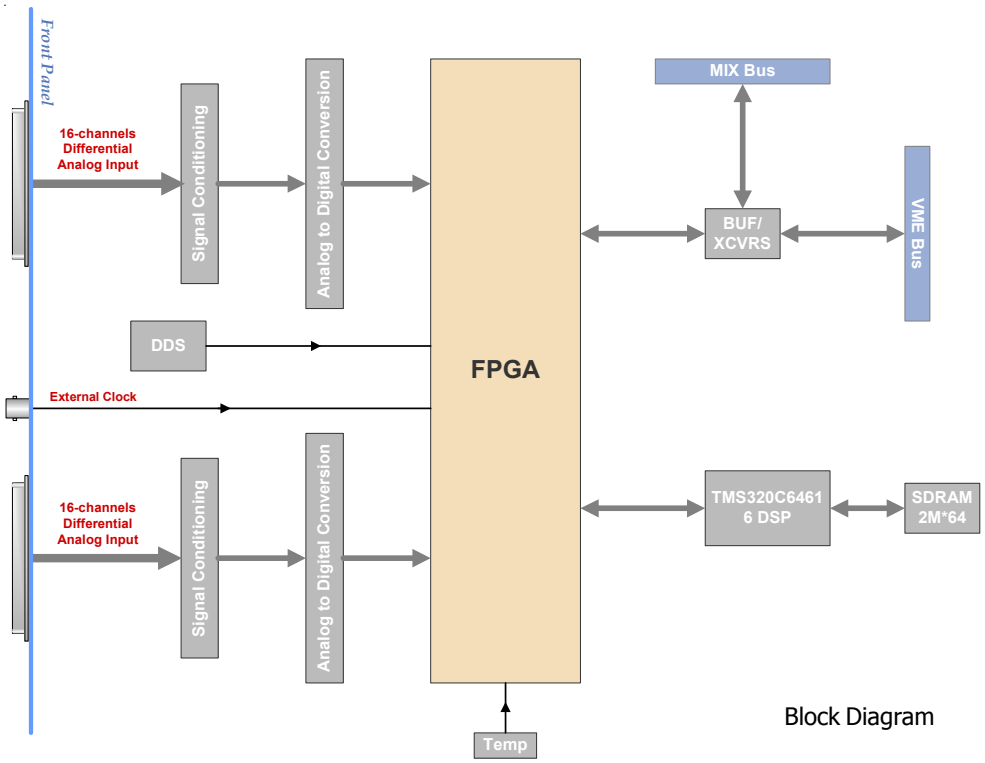
Revision 1.0

32-channel, 16-bit, 200kHz A/D Converter
Low Cost-per-channel, High-performance Data Acquisition



The Model 9842 VME board is a Sigma/Delta (SD) A/D Converter that offers sampling rates to 200kHz, built-in signal conditioning; and a built-in, optional, user-programmable, TMS320C6416, 2400 MMAC DSP (digital signal processor) for real-time decimation and filtering. The 9842's Xilinx XC2V1000 has 40 built-in, single-cycle, 18-bit multipliers. The board also has a Direct Digital synthesizer for sample rate generation that allows ultra-fine (.001Hz) adjustment capability.

This versatile converter can be used in a variety of applications, including high-frequency sonar, beam forming, speech processing, engine test, and acoustic/vibration analysis. The Model 9842 allows users to upgrade current systems to a higher bandwidth, while keeping the same system configuration.



Block Diagram

Features

- Up to 200kHz Sampling Rate — Simultaneous on all Channels
- External Clock Connector
- 16-bit Resolution with 90dB Signal-to-noise Performance
- Integral Linear-phase, Anti-aliasing filters
- Differential Inputs
- Built-in Temperature Sensor
- Direct Digital Synthesizer for Internal Sample Clock

Ordering Information

Model 9842 (+ option #)

Options

–001
MIXbus

–002
VMEbus

–003
TMS329C6416 option

–004
Programmable gain option 1,10, 1000

–005
Direct digital synthesizer (DDS) (Internal Clock)

–006
Temperature sensor

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Model 9842

Versatile, Economical, User-programmable

Specifications

SNR
>94dB

SFDR
>98dB

SINAD
>92dB

Inter-channel Skew
Better than 100ns

Max Sample Rate
200 Ksamples/second/channel

Input Slew Rate
15V/uSec

Frequency Response
± 0.25dB, DC to 9kHz

Input Range
Differential inputs ±10v @ gain of 1

Input Impedance
100 kOhms

Input Anti-aliasing Filter
2-pole Butterworth—Fc at 320kHz
Sigma/Delta—Fc at 0.4535 Fs

Input Channels
1 to 32; software programmable

Input Connectors
2 DB-37s; 1 BNC for external clock

Coupling
Supports AC and DC Coupling

Adjacent Cross Talk @ 50 Ohm Input Impedance
–110dBC @ 1K
–95dBC @ 10K
(For channels more than 2 apart,
Cross Talk is better than -130dBc)

External Clock Input
3.3V to %V TTL, 26 MHz max

FIFO
32 Ksample

Power Consumption
3 amps at +5V; .8 amps at ±12V

Programmable Gain
1, 10, 100

Operating Temperature
0–60°C

A/D Conversion
AKM5394A Sigma/Delta

A/D Output Coding
16-bit 2's complement

Sampling Rates
1k–200k in .001Hz increments

MIX Interface
32-bit transfers

VME Interface
A16D16 for control
A32D64 for data FIFO

Analog Input
± 10V at gain 1

BNC Output
3.3V TTL, 55MHz max

Phase Match
1 degree @ 90kHz sampling

CMMR
100dB Typical

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Artisan Technology Group is an independent supplier of quality pre-owned equipment

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Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

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