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Model 6215

8-Channel 16-bit A/D Converter VIM-2 Module



ReadyFlow Board Support Libraries

Features

- VIM-2 module for VIM-compatible processor boards
- Eight sigma delta A/D converters with inherent anti-alias filtering
- 16-bit accuracy
- 4.7 to 234 kHz sample rate
- Independent sampling rates for each pair of A/Ds
- Programmable sample rate clock generator
- Direct data path to McBSP serial ports of C6000 DSPs or BI-FIFOs
- Expands to 16 channels with two 6215's
- Synchronization accross channels and other 6215's

Ordering Information

Model	Description
6215	8-Channel 16-bit A/D Converter VIM-2 module
Options:	
-010	30.72 MHz int. ref. (allows 8 kHz sample rate)
-011	25 MHz int. ref. (allows 195 kHz sample rate)

General Information

Model 6215 is a VIM-2 module which attaches directly to VIM-compatible processor boards.

The eight channels of A/D converters are arranged in two groups of four converters each, with each group assigned to one processor. Within each group, one pair of A/D converters is connected to one of the processor's serial ports and the other pair to the second serial port. Alternately, both pairs may be connected to the processor BI-FIFO. In this mode, output data flow may be user-configured with data from any combination of A/D channels routed to either BI-FIFO.

Two Model 6215's may be attached to VIM-compatible processor boards to form a 16-channel A/D converter which utilizes all processors while occupying only one VMEbus slot. Alternatively, the Model 6215 may be combined with another VIM-2 module to provide additional I/O functions.

A/D Converters

Analog inputs are accepted on multipin front panel connectors with provisions for either single-ended or differential signals. Programmable-gain input amplifiers cover a range of 0 to 20 dB.

The A/D converters utilize sigma-delta technology and include anti-alias filters with a cutoff frequency that tracks at 46% of the sampling rate.

Contact Pentek for custom sampling requirements.

Specifications

Input Amplifiers

Number: eight instrumentation amplifiers

Inputs: differential, ±1 V to ±10 V full scale, 10 kohm input impedance, ±40 V over-voltage protection

Input Gain: Independently programmable in steps of x1, x2, x5 and x10

A/D Converters

Number:	8
Type:	AD7722
Sampling (f_s):	4.7 kHz to 234 kHz
Resolution:	16 bits*
Crosstalk:	< –75 dB*
THD:	< –85 dB below FS*
SFDR:	> 85 dB*

*for f_{IN} = 10 kHz and $f_s \leq$ 195 kHz

Sampling Clocks

Frequency dividers: four, one for each A/D pair; each divides internal or external reference clock by N, where:

Sample Rate (f_s) = Ref clock/[128*(N+1)], N = 0 to 49

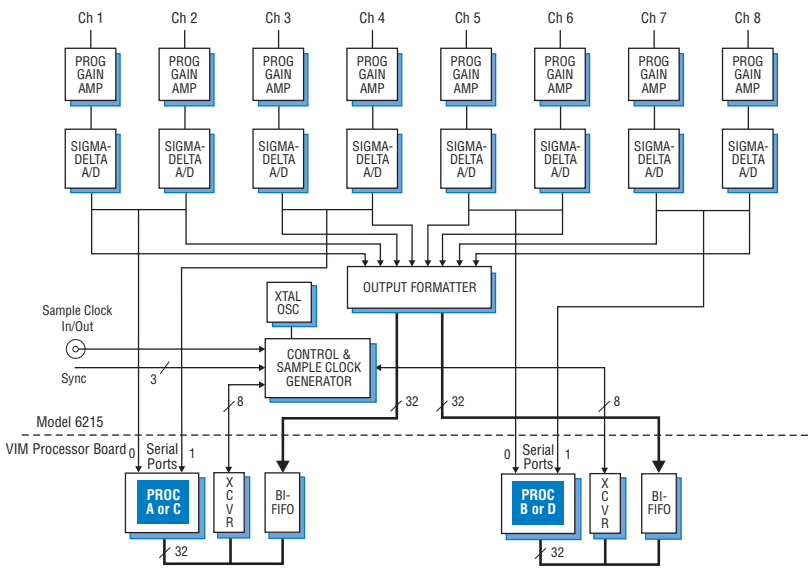
Ref clock - Internal reference: Standard: 30 MHz (±100ppm), 4.7 kHz to 234 kHz sampling rate; Opt. -010: 30.72 MHz (±100ppm), 4.8 kHz to 120 kHz sampling rate; Opt. -011: 25 MHz (±100ppm), 4.8 kHz to 195 kHz sample rate; Other frequencies available.

Ref clock - External reference: 600 kHz min, 30 MHz max, front panel TTL

Control Registers: sample clock divisors, A/D channel enables, gain control, and clock divider input reference select

Power: 2.0 A at +5 V; 0.5 A at ±12 V

Block Diagram, Model 6215



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