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Model 6216

Dual Wideband Receiver and A/D VIM-2 Module



Two VIM-2 modules may be attached to VIM-compatible processor boards.

ReadyFlow Board Support Libraries

Features

- VIM-2 module for VIM-compatible processor boards
- Two identical channels include amplifier, A/D and digital receiver
- Up to 65 MHz A/D sampling with 12-bit accuracy
- Programmable-gain amplifiers and anti-aliasing filters
- Decimation range from 2 to 64 for output bandwidths up to 25 MHz
- Serial port interprocessor communication bus
- Synchronization across channels and other 6216's

Ordering Information

Model	Description
6216	Dual Wideband Receiver and A/D VIM-2 module

General Information

Model 6216 is a VIM-2 module which attaches directly to VIM-compatible processor boards. It features two complete channels of signal processing, ideal for HF software radio applications.

Two Model 6216's may be attached to a VIM-compatible processor board to form a 4-channel software radio which utilizes all four processors while occupying only one VMEbus slot. Alternatively, the Model 6216 may be combined with another VIM-2 module to provide additional I/O functions.

Input Section

Each channel includes a wideband input amplifier followed by a programmable gain amplifier for HF analog inputs with bandwidths up to 30 MHz. Analog inputs are accepted through front panel SMA connectors.

An anti-aliasing filter removes out-of-band frequency components and can be tailored for specific signal types. The standard filter has a cutoff frequency of 25 MHz.

The programmable-gain amplifier and filter may be bypassed to support undersampling applications.

A/D Converters

Each channel employs a 12-bit A/D converter capable of operating at up to 65 MHz sampling. The A/D sample clock is derived either from an external reference supplied to a front panel SMA connector or an internal 64 MHz crystal oscillator. The converters are Analog Devices type AD6640.

Both A/D converters operate synchronously from the same sampling clock to support multichannel applications, such as in direction finding, where phase between channels must be maintained.

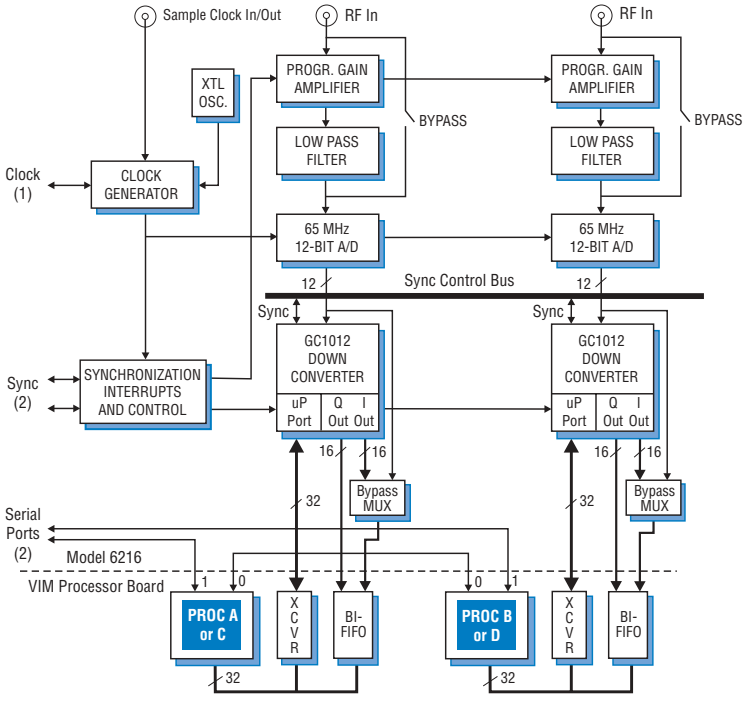
Digital Downconverters

The digitized output of each A/D converter feeds the Graychip GC1012 programmable downconverter. This device is designed for wideband output operation with decimation values ranging from 2 to 64 for output bandwidths as high as 25 MHz.

The output section delivers direct I and Q complex outputs to the mezzanine FIFO of the processor board. A bypass MUX provides a direct path from the A/D converter output directly into the FIFO buffer for direct capture of input data at rates up to 65 MHz.

A front panel ribbon cable bus allows multiple 6216's to share a common sample clock and synchronize the phase of digital receivers across modules.

Block Diagram, Model 6216



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