# 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.

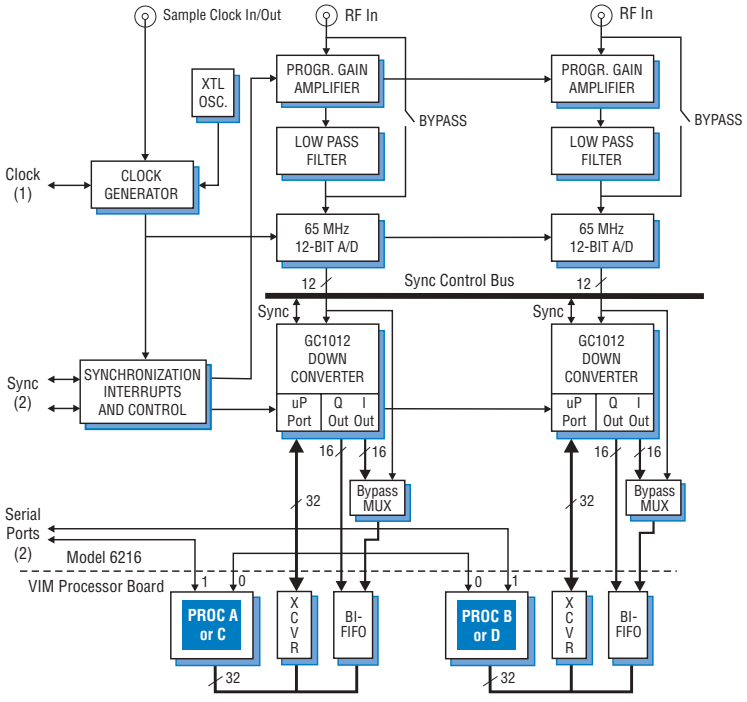
## Digital Downconverters

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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