



Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

*InstraView*SM REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at www.instraview.com ↗

WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. www.artisanng.com/WeBuyEquipment ↗

LOOKING FOR MORE INFORMATION?

Visit us on the web at www.artisanng.com ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

Contact us: (888) 88-SOURCE | sales@artisanng.com | www.artisanng.com



General Information

Model 4271 is a general purpose digital receiver/tunable bandpass filter MIX module for VMEbus workstations and embedded systems. It accepts 12-bit data at sampling rates up to 70 MHz on 1 to 4 channels. Narrowband data is extracted from the wideband input by digital down conversion to a lowpass band. The low pass signal is then filtered and decimated.

Operating Principle

Each data channel of the module uses a highly integrated digital receiver chip, containing a tunable local oscillator, a mixer and a tunable low pass filter. The local oscillator frequency and the filter cutoff frequency are independently programmable for each channel over the MIX interface. As a result, each channel can be separately configured for its own input data with the appropriate sampling rate. The same digital data may be fed into all four channels, in order to simultaneously extract up to four different frequency bands.

Applications

These MIX modules provide an effective way to create powerful digital signal processing and analysis systems for selected frequency bands. For example, a 4-channel 150 MFLOP signal processing receiver can be assembled to perform band-selectable FFT analysis, by utilizing a Model 4271, a Model 6472 70 MHz A/D Converter, a Model 4284 'C40 Processor Baseboard, and a Model 4257 Dual 'C40 Coprocessor.

Specifications

- Digital input format:** 12-bit words, 2's complement (Graychip GC1011A); one sample clock line
- Input level:** TTL single-ended; optionally TTL differential RS-422, ECL differential
- Sampling rate:** DC to 70 MHz max
- Local oscillator:** direct digital synthesizer; frequency = $F \cdot f_s / 2^{28}$, where F is a 28-bit binary integer and f_s is the input sample rate
- Tuning range:** DC to $f_s/2$ (35 MHz for $f_s = 70$ MHz)
- Tuning resolution:** $f_s/2^{28}$ (~0.26 Hz for $f_s = 70$ MHz)
- Low pass filter:** decimating FIR programmed by 14-bit integer D, from 16 to 16,384; nominal output Nyquist bandwidth $f_N = f_s/4D$; output sampling rate is $f_s/4D$ for complex outputs and $f_s/2D$ for real outputs
- Filter response:** programmable 70 dB or 50 dB stopband attenuation at $1.2f_N$ where f_N is Nyquist frequency

	70 dB	50 dB
-3 dB bandwidth	$0.8f_N$	$0.9f_N$
± 0.2 dB ripple BW	$0.7f_N$	-
± 0.4 dB ripple BW	-	$0.8f_N$
- Real mode:** 16-bit real output samples at sampling rate $f_s/2D$
- Complex mode:** 16-bit complex (I and Q) output samples at sampling rate $f_s/4D$
- Control registers:** 16, 8 bits/register; memory-mapped over the MIX bus - Frequency (4 registers, 28 bits), Sync Mode, Output Mode, Filter Mode, Gain, Output Status, Decimation Frequency D (2 registers, 16 bits)
- FIFO:** 1k x 16 expandable to 16k x 16 bits per channel; interrupts at full, half-empty and empty
- Power:** 3.0 A at +5 V from the MIX bus

Features

- ❑ Sampling rates to 70 MHz
- ❑ One to four channels
- ❑ 70 dB dynamic range
- ❑ 0.26 Hz tuning resolution
- ❑ Compatible A/D's available, Series 64xx

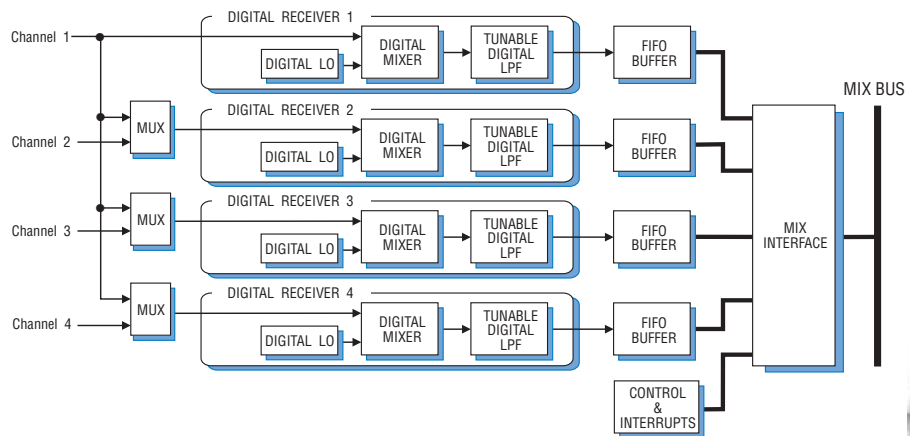
Ordering Information

Model	Description
4271	4-Channel 4-Input Digital Receiver MIX module

Options:

- 010 TTL diff. inputs, RS-422
- 012 ECL diff. inputs (full-depth module, see p. 118)
- 013 4261 TTL inputs
- 020 8 ksamples FIFO
- 021 16 ksamples FIFO

Block Diagram, Model 4271





Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

*InstraView*SM REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at www.instraview.com ↗

WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. www.artisanng.com/WeBuyEquipment ↗

LOOKING FOR MORE INFORMATION?

Visit us on the web at www.artisanng.com ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

Contact us: (888) 88-SOURCE | sales@artisanng.com | www.artisanng.com