



General Information

Model 4475 is a 32-channel A/D converter VXI module. It features 32 individual delta-sigma A/D converters with 16-bit resolution, sampling rates to 100 kHz and built-in signal conditioning.

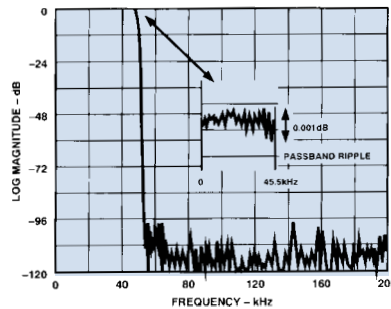
Input Signal Connections

Each of the 32 inputs is buffered by an amplifier stage providing ± 5.0 V full scale input voltage range. Front panel DB 37 connectors provide a convenient method for attaching signal inputs via flat ribbon cable or discrete wiring harnesses.

Signal Conditioning Built in

Following the amplifier section are 32 A/D converters, one for each input signal. These converters utilize delta-sigma technology incorporating both the sample-and-hold function and a powerful digital filtering scheme.

The digital filtering section performs the anti-aliasing functions, thereby eliminating the need for separate, external low pass filters in most applications. Another major benefit is the linear phase response of these filters, very useful for processing multisensor array signals such as those



Delta-sigma converters offer passband flatness and fast rolloff rate

Features

- Up to 100 kHz sampling with all 32 channels active
- 16-bit resolution with 90 dB signal-to-noise performance
- Integral linear-phase, anti-aliasing filters
- Available with differential inputs
- Includes platform-independent VI driver for National Instruments LabVIEW
- VXIplug&play compliant

Ordering Information

| Model | Description |
|----------------|----------------------------------|
| 4475 | 32-Channel 16-bit A/D VXI module |
| Option: | |
| -007 | Differential inputs |

found in sonar applications, or on-line machine monitoring.

Signal-to-noise performance of these converters is 90 dB with peak spurious components better than 90 dB below full scale for signal bandwidths up to 45 kHz.

Specifications

- Input:** ± 5.0 V full scale, 10 kohm impedance, ± 0.5 dB frequency response
Option -007: differential inputs
- Input channels:** software programmable from one to 32
- Input connectors:** two 37-pin (DB 37) female, compatible with standard DB 37 male connectors
- Input filters:** digital, track at 45.5% of sampling rate; -96 dB stopband at $\geq 50\%$ of sampling rate; ± 0.001 dB ripple, 0 μ s group delay variance
- A/D conversion:** 16 bits, 88 dB min. dynamic range; spurious components 92 dB below full scale
- A/D output coding:** 16-bit, 2's complement
- Sampling rates:** 13 selectable frequencies from 8.25 kHz to 100 kHz from internal or external sample clock
- VXI interface:** A16/A24/D16/D32 device; memory-mapped registers for status and control; all data transfers in and out of the module are buffered in the 2 MB local SRAM which is mapped to the VXIbus
- Power:** 6.0 A at +5 V; 0.2 A at +12 V; 0.2 A at -12 V; 0.5 A at -5 V from the VXIbus
- Size:** standard C-size VXI module

Block Diagram, Model 4475

