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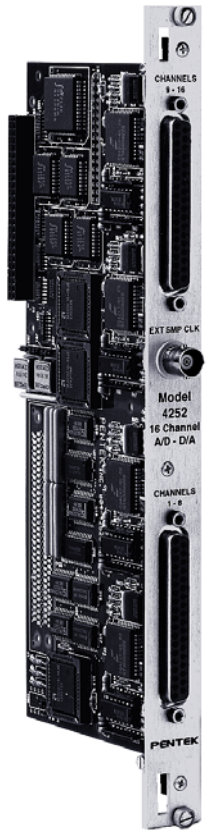
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Find the *Pentek 4283* at our website: ***Click HERE***

Model 4252

16-Channel 16-bit A/D and D/A Converter MIX Module



Features

- Simultaneous sampling
- 16-bit 80 dB dynamic range
- Input anti-aliasing and output smoothing filters
- Software programmable attenuation, gain, compression and sampling rate
- Ideal for digital audio

General Information

Although effective in a variety of applications, Model 4252 is specifically designed for digital audio use, providing sixteen individual analog inputs and outputs with 16-bit resolution.

Preset Standard Sampling Rates

Preset sampling rates can be chosen under program control for the common digital audio applications, including 44.1 kHz for CD, 48 kHz for DAT and 8 kHz for digital telecommunications.

Any other sampling rate from 4 kHz to 50 kHz can be derived from the internal clock or provided externally. Due to the sigma-delta conversion technique employed, all channels are sampled simultaneously with virtually zero phase delay between channels. Provisions are included for synchronizing the sampling clocks of multiple modules.

Precision Data Conversion

The data converters provide greater than 80 dB dynamic range at both input and output. For telecommunications applications built-in μ-law and A-law companding can be selected at input and output.

Signal Conditioning Built in

The sigma-delta converters include digital low pass filtering of all A/D inputs to prevent aliasing. These linear-phase filters track the sampling rate and exhibit extremely sharp rolloffs and flat passband response. Matching filters are provided at each D/A output to remove sampling components. Input gain and output attenuation are included. Gain and attenuation changes are timed at zero crossings to prevent switching noise.

Specifications

Input: single-ended, ±2.8 V full scale, 100 kohm impedance, ±0.5 dB frequency response; optional differential input adapter available, Model 9101

Input gain: programmable from 0.0 dB to +22.5 dB in 1.5 dB steps

Output: ±2.8 V full scale, 50 ohm impedance, ±0.5 dB frequency response; optional differential output adapter available, Model 9101

Output attenuation: programmable from 0.0 to 94.5 dB in 1.5 dB steps

Input and output filters: digital, track at 45% of sampling rate; –74 dB stopband at ≥55% of sampling rate; ±0.1 dB ripple, 0 μs group delay variance

A/D and D/A conversion: 16 bits, 80 dB dynamic range; ±0.9 LSB differential non-linearity; 74 dB SINAD

Compression/decompression: software programmable 8-bit A-law or μ-law

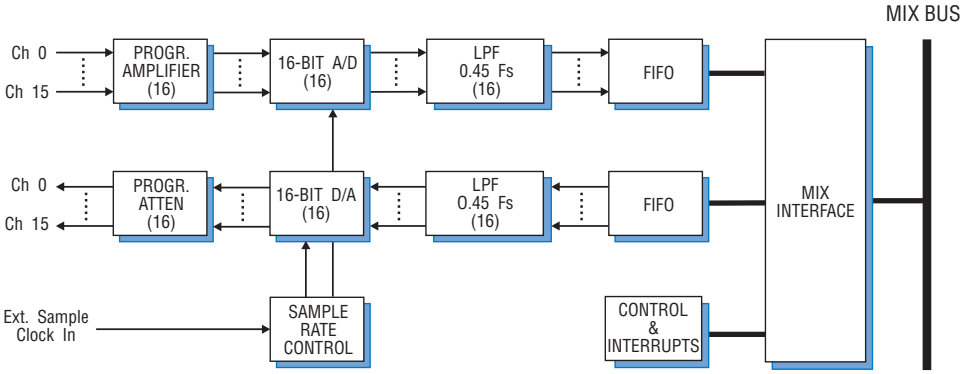
FIFO: 1 ksample expandable to 16 ksample between A/D and MIX bus; 1 ksample expandable to 16 ksample between the MIX bus and D/A

Sampling rates: 4 kHz to 50 kHz from internal or ext. clock; preset rates of 8, 16, 24, 32, 44.1, 48 kHz and others

MIX interface: memory mapped; FIFO data input; FIFO data output; gain/attenuation registers; status/control and interrupt mask registers; sample clock control; interrupts on FIFO full, half-full, empty

Power: 1.0 A at +5 V; 0.2 A at +12 V, 0.2 A at –12 V from the MIX bus

Block Diagram, Model 4252



Ordering Information

Model	Description
4252	16-Ch 16-bit A/D & D/A MIX module
Option:	
-003	16 ksample FIFO

PENTEK

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