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

Model 4242: 1-Ch.
Model 4243: 2-Ch.

1- or 2-Ch. 18-bit 200 kHz A/D & D/A Converter MIX Module



Features

- 18-bit resolution for both A/D and D/A
- Conversion rates programmable from 153 Hz to 200 kHz
- Input low pass anti-aliasing filters and output smoothing filters programmable from 1 kHz to 20 kHz
- 2–16 ksample input and output FIFO

Ordering Information

Model	Description
4242	1-Ch 18-bit A/D & D/A MIX module
4243	2-Ch 18-bit A/D & D/A MIX module
Option:	
-003	16 ksample FIFO either model

General Information

Model 4242 is a single-channel, 18-bit A/D and D/A converter MIX module with input and output low pass filters. Model 4243 is a dual-channel version. These modules provide a complete interface between the analog world and digital signal processing.

High Resolution Preserves Signals

The 18-bit resolution is ideal for even the most demanding speech and audio applications. Since up to 3 modules can be stacked on a MIX baseboard, unusually compact and economical MIX subsystems with as many as 6 independent input and output channels can be created.

Bandwidth to Suit the Application

The parameters that effect frequency range are variable through software programming to insure optimum sampling resolution over the desired bandwidth. Sampling rates of the A/D converters can be varied over a range from 153 Hz to 200 kHz, and the associated low pass anti-aliasing filter cutoffs set from 1 kHz to 20 kHz. At the output, the rate of D/A conversion and the bandpass of the associated low pass smoothing filters can both be varied over corresponding ranges. For further flexibility the input and output sampling rates and filter cutoffs can be set independently, and the filters may be bypassed.

Buffers for Continuous Sampling

To maintain constant sample rate while allowing block transfers over the MIX bus, one 2 ksample FIFO (optionally 16 ksample) is provided for the input A/D and another for the output D/A. Interrupts are provided for full, half-full and empty FIFO conditions in order to simplify service routines and DMA transfers to the MIX baseboard.

Specifications

Input: differential or single ended via front panel BNC connectors, 100 kohms; selectable 10.0 Vp-p or 1.0 Vp-p input; 70 kHz full power bandwidth at 10.0 Vp-p

Input/output filters: switched-capacitor, 7th-order elliptic low pass, f_c software-programmable from 1 kHz to 20 kHz; ±0.5 dB passband ripple; > 72 dB attenuation at $2f_c$; may be bypassed

A/D converter: 18 bits (Burr-Brown PCM1750) with sample-and-hold; software-programmable sampling rates from 153 Hz to 200 kHz; ±0.003% typ. integral linearity; ±0.002% typ. differential linearity

Input/output FIFO: 2 ksample, expandable to 16 ksample

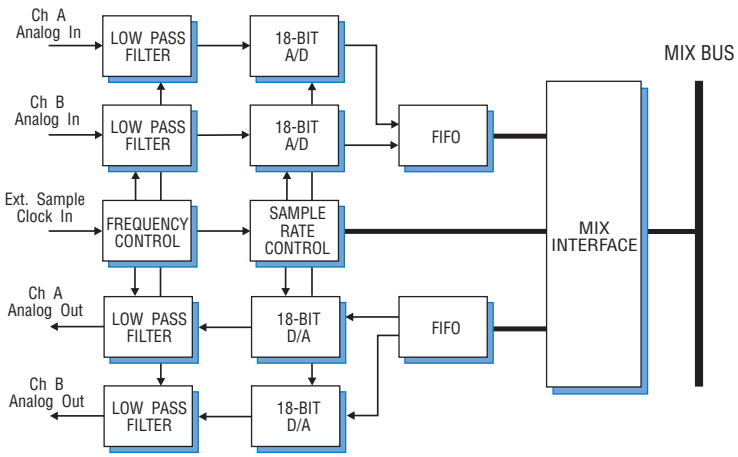
Control: integer binary divisions from 10 MHz clock independently programmable for A/D, D/A and filter bandwidth; external clock input via front panel BNC

D/A converter: 18 bits (Burr-Brown PCM1700); software-programmable sampling rates from 153 Hz to 200 kHz; ±1 LSB differential linearity at 16 bits

Output: single ended via front panel BNC; 50 ohms, 10.0 Vp-p; 70 kHz full power bandwidth at 10.0 Vp-p

Power: 1.2 A at +5 V; 0.25 A at +12 V, 0.6 A at –12 V from the MIX bus

Block Diagram, Model 4243



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