



**Features**

- 100 kHz 12-bit conversion each channel
- Low distortion and crosstalk
- Active output channels and sample rate are software programmable
- 1–16 ksample FIFO for efficient MIX bus block transfers

**Ordering Information**

Model	Description
4253	32-Ch 12-bit D/A MIX module
<b>Option:</b>	
-007	16 ksample FIFO

**General Information**

Model 4253 produces as many as 32 separate analog outputs from digital data. These analog signals, available at front panel connectors, may be used to test crosstalk in multichannel telecommunications systems, or to excite a structure at multiple locations for modal analysis. Multiple acoustic signals may be produced to test sonar hydrophones, or a variety of signals to drive process control servos.

**Multiple Arbitrary Functions**

Often these D/A converters serve as the outputs of a multichannel arbitrary function generation system. The data fed to the module over the MIX bus may have been processed in the MIX subsystem and generated from stored digital data blocks.

**32 Channels at 100 kHz**

32 simultaneous analog output signals can be produced by stacking a 4253 module on a processor baseboard. When added to a Model 4284 C40 MIX Baseboard, these channels can serve as the analog outputs for any source on the VMEbus. Sample rates to 100 kHz on each channel can be utilized, even when all channels are active.

**Signal Purity Preserved**

D/A conversion is to 12-bit resolution. Harmonic, spurious and crosstalk distortion specifications are all under 55 dB below full scale. The output amplifiers are capable of driving low impedance loads.

**Specifications**

- Channels:** 1 to 32 single-ended; software programming activates channels selectively
- D/A conversion:** 12-bits at 100 kHz on all channels simultaneously, 1  $\mu$ sec settling time
- Analog outputs:**  $\pm 1.0$  V full scale with 50 ohms output impedance (other voltages and impedances are available)
- Signal purity:** harmonic, spurious components and crosstalk are 55 dB below full-scale
- FIFO:** 1 ksample, expandable to 16 ksample; interrupts at empty, half-full and full; two 16-bit words transferred in a single MIX bus cycle in 32-bit packed mode
- Sampling rate:** programmable divide-by-N from 10 MHz internal crystal clock or external TTL clock into front panel BNC; N = integer from 1 to 65,535
- MIX interface:** memory mapped; FIFO data input; status/control and interrupt mask registers; sample clock divisor; interrupts on FIFO full, half-full and empty.
- Power:** 1.0 A at +5 V; 0.5 A at +12 V; 0.3 A at -12 V from the MIX bus

**Block Diagram, Model 4253**

