

The V270 Digital-to-Analog Converter provides an interface between VXIbus and devices requiring analog inputs, allowing a computer to control such devices as gages, indicators, and displays.

A single-width, C-size, register-based, VXIbus module, it contains six digital-to-analog channels, each with its own 16-bit converter.

APPLICATIONS

Hardware-in-the-loop flight simulation
Industrial control
Automatic Test Equipment (ATE)

V270 6-channel, 16-bit DAC



High speed, high resolution digital-to-analog conversion

FEATURES

- 6 independent analog outputs
- ± 10 V output
- 16-bit resolution (one part in 65,536)
- One converter per channel for high speed
- Low drift
- Settles to $\pm 0.003\%$ FSR in less than 10 μ s (full scale step)
- Independent or simultaneous conversion
- Outputs reset to 0 V at power-on

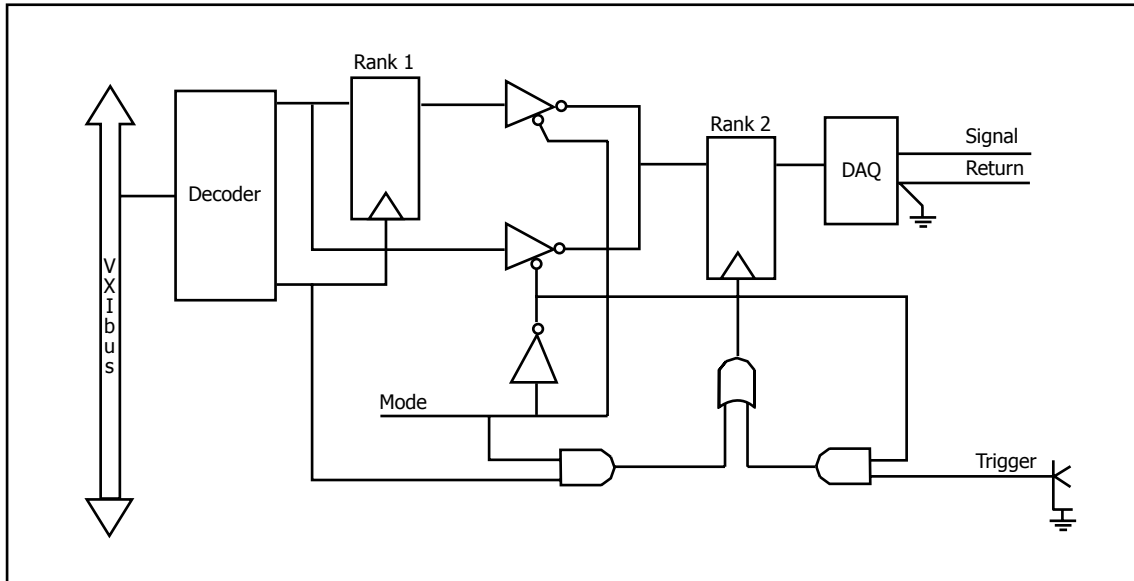
GENERAL DESCRIPTION

The V270 Digital-to-Analog Converter provides an interface between VXIbus and devices requiring analog inputs, allowing a computer to control such devices as gages, indicators, and displays. A single-width, C-size, register-based, VXIbus module, it contains six digital-to-analog channels, each with its own 16-bit converter. The DAC outputs are connected to a 50-contact connector on the module's front panel.

The V270 accepts binary data into a Rank 1 register (see block diagram) in two's complement format. Setting the module's Mode Control register determines whether this data is passed directly to the selected DAC channel or is held for subsequent, simultaneous conversion. For simultaneous conversion, all six channels of data can be copied into the Rank 2 registers by a signal applied to the front-panel LEMO connector. Data can also be transferred to the Rank 2 registers by a software command, regardless of the mode setting.

The V270 supports both static and dynamic configuration. Access to the dual-ported memory is via memory locations pointed to by the Offset Register within the VXIbus Configuration Register set, using A24/A16, D16 data transfers. All six channels are accessed through the same VXIbus address.

V270 Block Diagram





ITEM	SPECIFICATION
Number of Channels	6
Full-scale Output	±10V
Resolution	16 bits (one part in 65,536)
Linearity Error	±0.003% of FSR
Monotonicity	Monotonic to 14 bits, 15°C to +35°C
Output Impedance	50 mΩ, typical
Output Current	±5 mA, minimum
Output Protection	Can withstand short circuit to ground
Settling Time	10 μs, maximum to within ±0.003% of FSR for a 20 V step
Output Connector Type	50S "D"
Mating Connector	KineticSystems Model 5935-Z1A
Power Requirements +5 V +24 V -24 V	2.0 A, typical 150 mA, typical 150 mA, typical
Environmental and Mechanical Temperature range Operational Storage Relative humidity Cooling requirements Dimensions Front-panel potential	0°C to +50°C -25°C to +75°C 0 to 85%, non-condensing to 40°C 10 CFM 340 mm x 233.35 mm x 30.48 mm (C-sized VXIbus) Chassis ground

RELATED PRODUCTS

- Model 5851-Axyz Cable—50P "D" to Unterminated
- Model 5851-Cxyz Cable—50P "D" to 50P "D"
- Model 5851-Exyz Cable—50P "D" to 50S "D"
- Model 5857-Axyz Cable—1-contact LEMO to Unterminated
- Model 5857-Bxyz Cable—1-contact LEMO to 1-contact LEMO
- Model 5857-Hxyz Cable—1-contact LEMO to BNC shielded
- Model 5910-Z1A Connector—50S "D"
- Model 5935-Z1A Connector—50P "D"

ORDERING INFORMATION

MODEL	DESCRIPTION
Model V270-EA11	6-channel, 16-bit D/A Converter

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