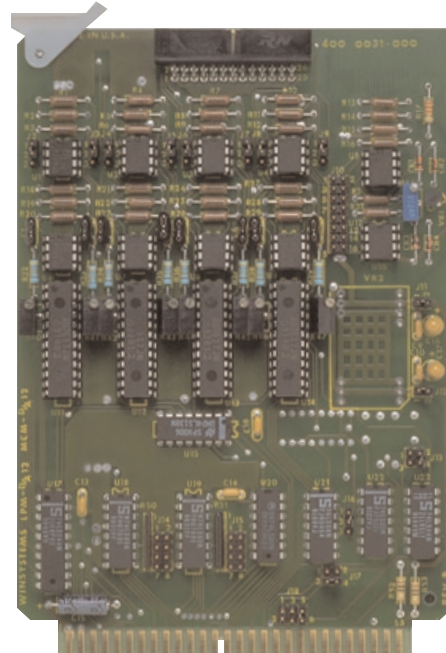


FEATURES

- Eight independent analog voltage output channels
- 12-bit resolution
- Four output voltage ranges: 0 to +5V, 0 to + 10V, $\pm 5V$, $\pm 10V$
- Memory or I/O mapped
- Processor independent including V50, V20, 80C88, HD64180, CMOS Z80, 80C85A, 6502, and NSC-800.
- +5V operation with optional DC/DC converter
- 8 MHz operation
- Replacement for Analog Devices RTI-1282
- MEMEX and IOEXP supported
- Available for CMOS STD Bus: LPM-D/A12

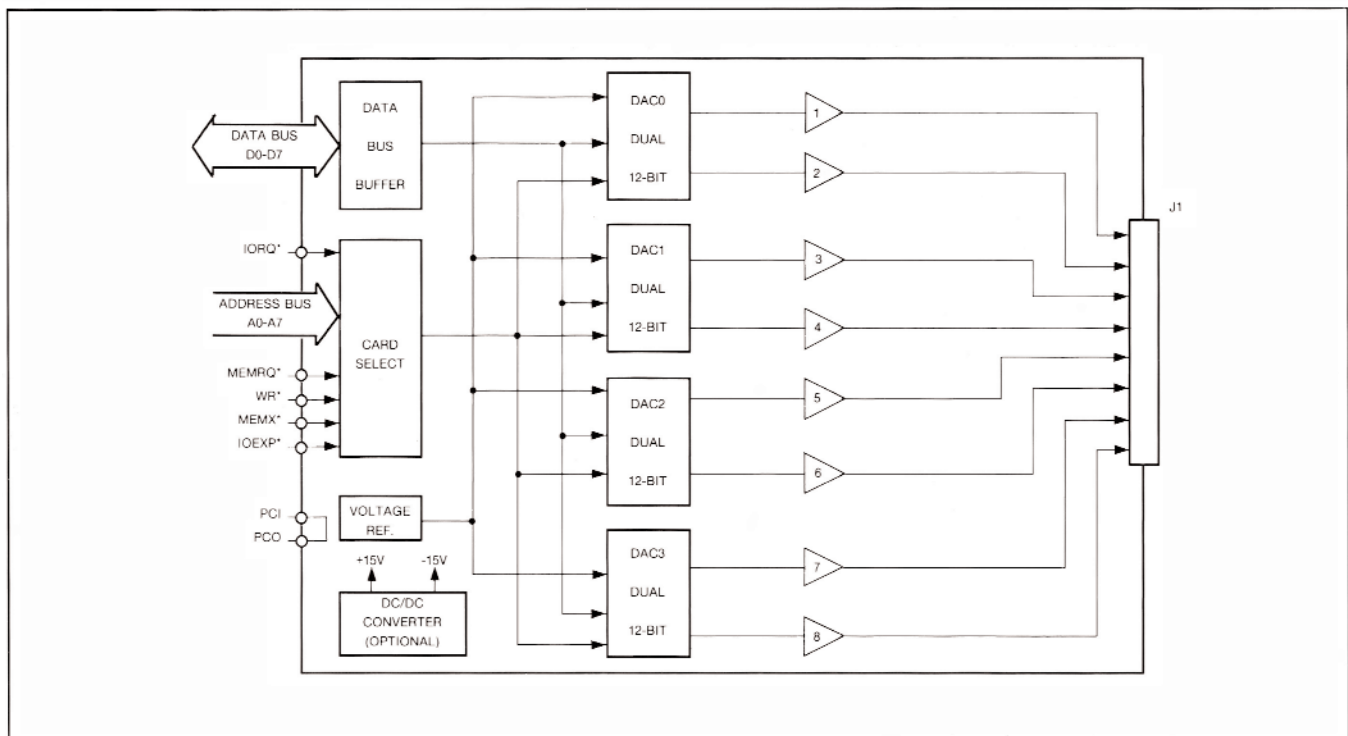
The LPM/MCM-D/A12 card provides up to eight, 12-bit CMOS digital to analog output channels. Each channel can be configured for one of four output voltage ranges. The LPM/MCM-D/A12 can be memory or I/O mapped making it processor independent. Installation of an optional DC/DC converter makes the board require +5 volts only.



FUNCTIONAL CAPABILITY

STD Bus Interface - The LPM-D/A12 is the CMOS STD Bus versions and the MCM-D/A12 is the STD Bus versions of these cards. The LPM/MCM prefix indicates the card has the same features and function-

ality. The differences between the two products are the various power requirements, bus interface levels, and operation temperature ranges.



Digital to Analog Converter - The LPM/MCM-D/A12 contains either two or four Analog Devices' AD7537 dual DAC's. The digital to analog conversion is accurate to 12-bits. Each D/A channel can be independently selected and configured for unipolar or bipolar output ranges of 0 to +5 VDC, 0 to +10 VDC, jumper ± 5 VDC, and ± 10 VDC. The four output ranges are jumper selectable on a per channel basis. Each channel has its own gain adjustment for calibration.

The analog output card comes in versions: a 4 channel (LPM/MCM-D/A12-4) and 8 channel (LPM/MCM-D/A12-8). Each can optionally be populated with a DC/DC converter.

Two bytes of data are assigned to each channel's D/A converter. Data is output by simply first writing the 8 least significant bits then the 4 most significant bits of D/A data. The converter is double buffered so that both bytes of data are automatically loaded when the high byte is written, thus ensuring a one step update of the D/A output.

Output Configuration - Each output channel is wired to a 26-pin right angle male connector, J1. Flat ribbon cables or discreet wires can be connected to it. The connector pin-out is compatible with Analog Devices' AC1585-2 screw termination panel or the 3-B signal conditioning backplane.

The LPM/MCM-D/A12 is a replacement for the Analog Devices RTI-1282 except that it does not support the optional 20mA current outputs. Four optional D/A channels were added instead of the current output option.

DC/DC Power Supply - The LPM/MCM-D/A12 is offered with an optional DC/DC power supply installed and designated as the LPM/MCM-D/A12-DC. This allows the board to operate directly on the microcomputer's +5 volt supply. The DC/DC supply outputs ± 15 for the analog circuitry. If the analog supply voltages are present in the system, then the extra cost of the optional DC/DC supply is not required.

SPECIFICATIONS

Electrical

Number of Output Channels: 4 or 8
D/A Resolution: 12-bits (4096 Counts)
A/D Output Code: Binary, offset binary
Output Voltage Range: 0V to +5V, 0V to +10, ± 10 V,
and ± 10 V at 5mA
(jumper selectable)

Differential Nonlinearity: ± 1 LSB

Relative Accuracy: ± 1 LSB

Output Settling Time: 5 μ s

Power Requirements:

Without DC to DC Converter

LPM-D/A12: +5VDC $\pm 5\%$ at 5mA typ.
+15VDC $\pm 5\%$ at 50mA typ.
-15VDC $\pm 5\%$ at 30mA typ.

MCM-D/A12: +5VDC $\pm 5\%$ at 155mA typ.
+15VDC $\pm 5\%$ at 50mA typ.
-12/15VDC $\pm 5\%$ at 30mA typ.

With DC to DC Converter

LPM-D/A12: +5VDC $\pm 5\%$ at 250mA typ.
MCM-D/A12: +5VDC $\pm 5\%$ at 400mA typ.

Mechanical

Meets STD Bus mechanical specifications

Connectors

STD Bus: 56-pin dual 0.125 inch centers
Analog Output: 26-pin dual 0.100 inch grid
Jumpers: 0.025" square posts

Environmental

Operating Temperature:

LPM-D/A12 -25°C to +85°C

MCM-D/A12 0°C to +65°C

Non-condensing relative humidity: 5% to 95%

ORDERING INFORMATION

LPM-D/A12-4	CMOS STD Bus 4 Channel, D/A
LPM-D/A12-4-DC	LPM-D/A12-4 with DC/DC
LPM-D/A12-8	CMOS STD Bus 8 Channel, D/A
LPM-D/A12-8-DC	LPM-D/A12-8 with DC/DC
MCM-D/A12-4	STD Bus 4 Channel, D/A
MCM-D/A12-4-DC	MCM-D/A12-4 with DC/DC
MCM-D/A12-8	STD Bus 8 Channel, D/A
MCM-D/A12-8-DC	MCM-D/A12-8 with DC/DC

