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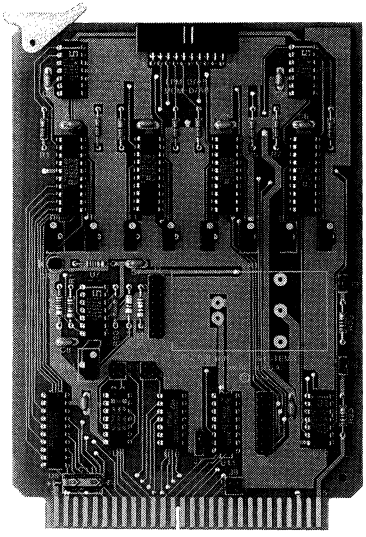
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FEATURES

- Eight independent analog voltage output channels
- 8-bit resolution
- Four output voltage ranges: 0 to +lV, 0 to +2.5V, 0 to +5V, and 0 to +10V
- Memory or I/O mapped
- Processor independent including V50, V40, 80C88, NSC-800, HD64180, CMOS Z80, 80C85A, and 6502
- +5V operation with optional DC/DC converter
- 8 MHz operation
- Available for CMOS STD Bus: LPM-D/A8



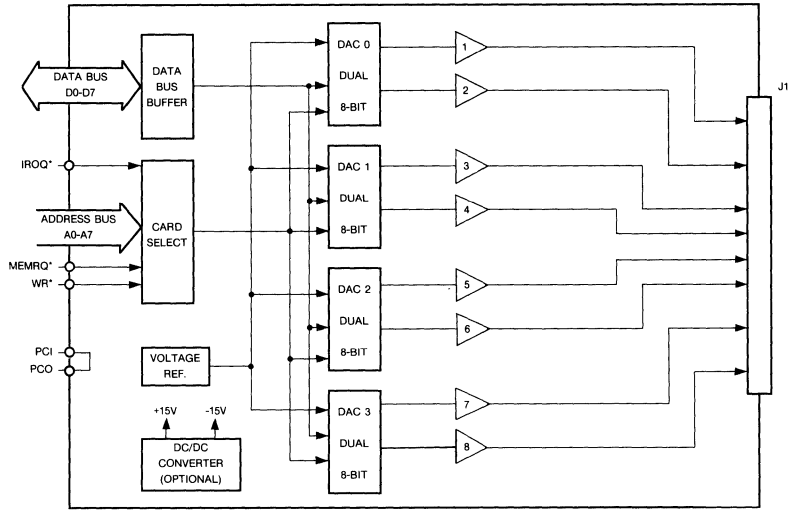
The LPM/MCM-D/A8 is an 8-bit, eight channel digital to analog output board. Each channel can be configured for one of four output voltage ranges. The LPM/MCM-D/A8 can be memory or I/O mapped making it processor independent. Installation of an optional DC/DC converter makes the board require +5 volts only.

FUNCTIONAL CAPABILITY

STD Bus Interface - The LPM-D/A8 is the CMOS STD Bus versions and the MCM-D/A8 is the STD Bus versions of these cards. The LPM/MCM prefix indicates the card has the same features and functionality. The differences between the two products are the various power requirements, bus interface levels, and operation temperature ranges.

Addressing - The LPM/MCM-D/A8 is configured for two modes of addressing: 8-bit I/O or 16-bit memory addressing. Any random output channel can be selected by simply writing data to its corresponding

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address. A total of 8 contiguous addresses are incremented from the base address. The address selection is jumper selectable.

Digital to Analog Converter - The LPM/MCM-D/A8 contains four Analog Devices' 7528 dual DAC's. The digital to analog conversion is accurate to 8-bits. The 8-bit resolution provides least significant bit values of 39mV on the 0 to +10 volt range. Each D/A channel is independently selected. Four output ranges are jumper selectable on a per channel basis. These ranges are: 0 to +1 VDC, 0 to +2.5 VDC, 0 to +5 VDC, and 0 to +10 VDC. Each channel has its own gain adjustment for calibration.

Output Configuration - Each output channel is wired to a 20-pin right angle male connector, Jl. Flat ribbon cables or discreet wires can be connected to it. Alternating ground lines, paired with each output channel's signal line, improves noise immunity and reduces cross-talk.

J1 - Analog Output Connector

Pin	Description	Pin	Description
1	Channel 0	2	Ground
3	Channel 1	4	Ground
5	Channel 2	6	Ground
7	Channel 3	8	Ground
9	Channel 4	10	Ground
11	Channel 5	12	Ground
13	Channel 6	14	Ground
15	Channel 7	16	Ground
17	Ground	18	Ground
19	Ground	20	Ground

DC/DC Power Supply - The LPM/MCM-D/A8 is offered with an optional DC/DC power supply installed and designated as the LPM/MCM-D/A8-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: 8
D/A Resolution: 8-bits (256 Counts)
A/D Output Code: Binary
Output Voltage Range: 0V to +IV, 0V to +2.5V, 0V to +5V, 0V to +10V at 5mA (jumper selectable)
Differential Nonlinearity: ± 1 LSB
Relative Accuracy: ± 1 LSB
Output Settling Time: 15 uS
Power Requirements:
Without DC to DC Converter:
LPM-D/A8: +5VDC ± 10% at 50mA typ.
± 15VDC ± 5% at 50mA typ.
MCM-D/A8: +5VDC ± 5% at 200mA typ.
± 12VDC ± 10 at 5mA typ.
With DC to DC Converter:
LPM-D/A8: +5VDC ± 10% at 250mA typ.
MCM-D/A8: +5VDC ± 5% at 400mA typ.

Mechanical

Meets STD Bus mechanical specifications

Connectors

STD Bus: 56-pin dual 0.125 inch centers
Analog Output: 20-pin dual 0.100 inch grid

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/A8	CMOS STD Bus 8 Channel, 8-bit analog output board with manual
LPM-D/A8-DC	LPM-D/A8 with DC/DC converter
MCM-D/A8	STD Bus 8 Channel, 8-bit analog output board with manual
MCM-D/A8-DC	MCM-D/A8 with DC/DC converter

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