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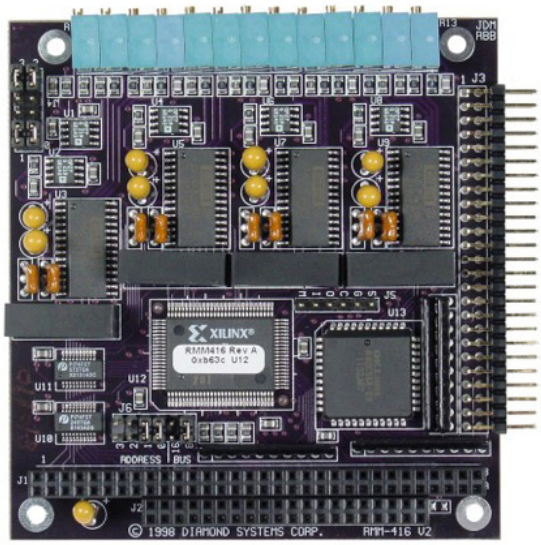
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Find the *Diamond Systems RUBY-MM-416* at our website: *Click HERE*

DIAMOND SYSTEMS CORPORATION

RUBY-MM-416

4 Channel 16-bit Analog Output+24 DIO PC/104 Module



- 4 16-bit analog outputs
- 0-10V, ±5V, and ±10V output ranges
- Independent output range for each channel
- Simultaneous update of all channels
- 24 digital I/O lines using 82C55 chip
- External trigger capability

DESCRIPTION

The new Ruby-MM-416 PC/104 module provides 4 channels of 16-bit resolution analog voltage output. The output range for each channel can be independently selected for 0-10V, ±5V, or ±10V with jumpers. All outputs are updated simultaneously, either with a software command or in response to an external signal. The board includes 24 lines of digital I/O using an 82C55 chip. The I/O connector pinout is compatible with the Ruby-MM-4 12-bit analog output board shown in our catalog on pages 20-21. Other features include +5V-only operation, individual DC/DC converters with filtered outputs for each DAC to supply ±15V for operation, and a six-layer circuit board to bury and shield the analog signals.

ANALOG OUTPUT RANGES

For any output range, the resolution is equal to the maximum possible range of output voltages divided by the maximum number of possible steps. A 16-bit D/A converter has very high resolution, because the maximum number of steps is 216 = 65536 (the actual output codes range from 0 to 65535, which is the full range of possible 16-bit binary numbers). Thus the resolution is equal to 1/65536 times the full-scale range. This is the smallest possible change in the output. It corresponds to a change of 1 in the output code, and therefore it is often referred to as the value of 1 LSB, or 1 least significant bit.

SPECIFICATIONS

Analog outputs	4 16-bit
Output ranges	±5V, ±10V, 0-10V
Output current	±5mA max per channel
Settling time	10µS max to 0.003%
Relative accuracy	±2 LSB
Minimum load	2K Ω
Reset	All DACs reset to mid-scale
Digital I/O lines	24, CMOS / TTL compatible
DIO Input voltage	Logic 0: -0.5V min, 0.8V max Logic 1: 2.0V min, 5.5V max
DIO Output voltage	Logic 0: 0.0V min, 0.4V max Logic 1: 3.0V min, 4.6V max
Output Current	±2.5mA max per line
Dimensions	3.55” x 3.775” (90mm x 96mm)
Input Power	+5VDC±10%
Power Draw (typical)	650mA
Operating temp	-40°C to +85°C
Weight	3.0oz / 85g

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FREE SOFTWARE

This board ships with our free Universal Driver software for C language programming under DOS, Windows 95, and Windows NT. All major functions of the board are supported in the driver, and an example user program is included.

ORDERING INFORMATION

Part No.	Description
RMM-416-XT	4 16-bit D/A, 24 Digital I/O

FOR MORE INFORMATION

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