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Data Sheet

August 15, 2026

DIAMOND SYSTEMS

Diamond Systems Ruby-MM-812-XT 12-Bit Analog Output PC/104 Module

The Diamond Systems Ruby-MM-812-XT is a PC/104 analog output module delivering 8 channels of 12-bit D/A conversion paired with 24 CMOS/TTL-compatible digital I/O lines. Built for embedded and industrial systems operating in demanding temperature environments, this compact board generates precise analog signals across multiple voltage ranges while providing flexible digital control in a single 90mm × 96mm form factor. Single 50-pin connector for user I/O with standard 0.1" ribbon cable compatibility Aumictech offers NIST-traceable calibration and repair for the Diamond Systems Ruby-MM-812-XT. All calibrations are performed to NIST-traceable standards and ship with a certificate. Turnaround is typically 1–3 business days after receipt. This Diamond Systems Ruby-MM-812-XT is listed at . Calibration is available separately from . Contact us for volume pricing or if you need multip



MODEL

**Diamond Systems
Ruby-MM-812-XT**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

Ruby-MM-812-XT

LISTING

<https://aumictechlabs.com/products/ruby-mm-812-xt-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

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compact board generates precise analog signals across multiple voltage ranges while providing flexible digital control in a single 90mm × 96mm form factor. Technical Specifications Analog Output 8 channels, 12-bit resolution (1 part in 4096) DAC8412 quad converter architecture Output ranges: 0–2.5V, 0–5V, 0–10V (unipolar); ±2.5V, ±5V, ±10V (bipolar) 5 mA sourcing/sinking per channel simultaneously 6 μS maximum settling time to 0.01% ±1 LSB relative accuracy 2 kΩ minimum load impedance Simultaneous update via software or external trigger Power-on reset to mid-scale (0V for bipolar; half full-scale for unipolar) User-adjustable preset range: 1V to 2.5V full-scale All 8 outputs share single jumper-configured range Digital I/O 24 lines via 82C55 controller Logic 0 input: –0.5V to 0.8V Logic 1 input: 2.0V to 5.5V Logic 0 output: 0.0V to 0.4V Logic 1 output: 3.0V to 4.6V ±2.5 mA per line output current 10 kΩ pull-up resistors on all I/O lines Electrical +5 VDC ±10% from PC/104 bus 290 mA typical power draw On-board ±15V supply generation from +5VDC input Key Features Single 50-pin connector for user I/O with standard 0.1" ribbon cable compatibility PC/104 8-bit bus interface; 16-bit connector not utilized Operating temperature: –40°C to +85°C Weight: 76 g; dimensions 90mm × 96mm Compatibility & Integration Fully compatible with Diamond Systems Universal Driver. Example software provided. Integrates directly into PC/104 embedded systems requiring simultaneous multi-channel analog generation with digital synchronization.

RUBYMM812XT Characteristics / Specifications

PARAMETER	VALUE
Model	Ruby-MM-812-XT
Also Known As	RMM-812-XT
Instrument Type	PC/104 analog output module
Analog Outputs	8 voltage outputs
Resolution	12-bit (1 part in 4096)
Dac Device	DAC8412 quad 12-bit D/A
Unipolar Ranges	0 to 2.5 V, 0 to 5 V, 0 to 10 V
Bipolar Ranges	plus or minus 2.5 V, plus or minus 5 V, plus or minus 10 V
Output Current	source or sink up to 5 mA simultaneously on all analog outputs
Power Up Analog	mid-scale reset: 0 V bipolar or half full-scale unipolar
Digital Io	24 lines (82C55)
Io Map	8 consecutive 8-bit I/O locations
Four Channel Sibling	Ruby-MM-412 / RMM-412-XT four analog outputs
Sixteen Channel Sibling	Ruby-MM-1612 / RMM-1612-XT sixteen analog outputs
Mechanical Package	PC/104 module
Bus Header	PC/104 8-bit bus header used; 16-bit header not used on 1612 class
Manufacturer	Diamond Systems Corporation
Family	Ruby-MM-412/812/1612
Temperature Class	XT extended temperature operation
Reference	onboard precision voltage reference plus external reference provision
Update Architecture	byte-wide LSB/MSB writes with separate simultaneous update
Application Class	analog process control on PC/104
Product Category	12-bit analog output mezzanine
Digital Asic	82C55 programmable peripheral

RUBYMM812XT Specifications

PARAMETER	VALUE
Applications	Process-control analog stimulus and digital I/O on PC/104 industrial stacks.
Key Features	Eight 12-bit analog voltage outputs
Unipolar and bipolar ranges to 10 V	24 digital I/O on 82C55
Technical Specifications	Model: Ruby-MM-812-XT

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Notes	
From Diamond Systems Ruby-MM-412/812/1612 product literature and 1612 user-manual specification summary. 812	

is the eight-channel XT population. Confirm analog-range jumpers and 82C55 digital mapping.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

788 S 500 E, Pleasant Grove, UT 84062
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NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.