



OVERVIEW

The IPM-D/A 16-bit provides a fast and high resolution Digital to Analog (D/A) conversion. Available as an 8MHz single-size Industry Pack (IPack) module, the IPM-D/A 16-bit offers jumper selections to program output ranges providing unipolar or bipolar voltage output. And for more flexibility, the IPM-D/A 16-bit accepts conversion start triggers from software commands or from external sources for synchronization to specific events.

The IPM-D/A 16 bit offers a 16-bit D/A per-channel resolution, supporting 8 analog output voltage channels for several output voltage ranges. The D/A conversion is available in two modes: immediate (transparently programmed to DAC output) and simultaneous (input latches of multiple D/A conversions are loaded with new data before simultaneously updating outputs).

The functionality of the IPM-D/A 16-bit is further enhanced by the power of the MAX Technologies line of intelligent multi-platform (VME, PCI, CPCI, PXI, VXI) carrier boards. All carrier boards feature 32-bit microsecond-resolution scheduling of transmitted messages and time-tagging of received messages. In addition, the carrier boards contain a fast StrongArm RISC processor (200MHz) and 16-32Mb of synchronous DRAM for queuing transmit and receive messages. Furthermore, multiple carrier boards can be time-synchronized resulting in unmatched precision in critical real-time applications.

The MAX Technologies' family of hardware and software products enables seamless integration of multiple protocols into a single application, significantly reducing total system complexity and cost, while increasing flexibility and ease of use. This multiprotocol, multi-platform hardware/software support is unique in the industry.

FEATURES

- Individual 16-bit D/A converters per channel
- 10 μ S settling time (100KHz throughput)
- 8 analog voltage output channels
- Three output ranges: $\pm 5V$, $\pm 10V$, 0 to 10V (jumper-selectable per channel)
- Two trigger modes (software or external trigger)
- Two D/A conversion programming modes: immediate and simultaneous
- Short circuit protection
- Available in extended temperature

BENEFITS

- IPack Module **fully portable** between PCI, CPCI, VME, PXI and VXI platforms
- **Highest throughput** in the industry when used on MAX Technologies' intelligent carrier boards
- **Reduces cost and space** by minimizing the number of avionics boards in your system
- MX-Foundation™ multiprotocol software API available for **various languages and OS platforms**, including Windows, Linux, IRIX, VxWorks and QNX



IPM-D/A 16-bit

16-bit Analog Output IPack Module

SPECIFICATIONS

Output channels

- 8

Output ranges

- $\pm 5V$, $\pm 10V$, 0 to 10V (jumper-selectable)

External trigger input

- Accepts active low 5V logic TTL-compatible, debounced signal referenced to analog common

External trigger output

- Generates active low 5V logic TTL-compatible output

Output impedance

- Output impedance: 0.1 ohms typical

Output at reset

- 0V for bipolar
- 5V for unipolar

D/A resolution

- 16 bits

IPack Bus Clock

- 8 Mhz

Maximum throughput rate

(outputs can be updated simultaneously or individually)

- One channel: 100KHz (10 μ S/conversion)
- Eight channels: 100KHz (10 μ S/8 ch)

Physical Dimensions

- IPack Standard single size
- 3.9" x 1.8" or 9.906cm x 4.572cm

Environmental

- Standard Operating Temperature: 0°C to 70°C
- Extended Operating Temperature: -40°C to 85°C
- Relative Humidity for operation: 5 to 95% (non-condensing)

Electrical

Output current:

- -5 to +5mA (maximum)

INDUSTRY PACK MODULES CARRIER BOARDS

The IPM-D/A 16-bit is a standard Industry Pack (IPack) module that can be used with MAX Technologies' intelligent carrier boards available in **PCI, CPCI, VME, PXI** and **VXI**. The IPM-D/A 16-bit module can also be used on a third party carrier board that offers IPack support.

SOFTWARE

Application Programming Interface (API)	MX-FOUNDATION™ , the multiprotocol API, available in C/C++, Visual Basic and Pascal on Windows, Linux VxWorks, IRIX and QNX operating systems. Support also available for DasyLAB and LabVIEW.
Windows Applications	MAXIM™ , a powerful and flexible multiprotocol tool for databus and I/O simulation, test and measurement.

ORDERING INFORMATION

Part Number	Description
MAX-IP-200131	IPM-D/A 16-bit Analog to Digital IPack Module
MAX-IP-200133	IPM-D/A 16-bit Analog to Digital IPack Module with extended temperature range

Additional IPack channel configurations, extended temperature versions and accessories are available. Please contact us to inquire.

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