PCI Bus 14-Bit 16/8/4 Channel Analog Output Boards

OME-PIO-DA16U/ OME-PIO-DA8U/ OME-PIO-DA4U

- PCI Bus
- 16/8/4 Channels, 14-Bits Analog Output
- Unipolar or Bipolar Outputs Available
- Output Type (Unipolar or Bipolar) and Output Range (0-5 V, ±5 V, 0-10 V, ±10 V) are Software Programmable
- 4 to 20 mA or 0 to 20 mA Current Sink to Ground for Each Channel
- Two Pacer Timer Interrupt Sources
- Double-Buffered D/A Latches
- Software Calibration
- 16 Digital Inputs
- 16 Digital Outputs
- One 37-Pin D-Sub Connector for Analog Outputs
- Two 20-Pin Flat Cable Connectors for Digital I/O
- Connects Directly to OME-DB-16P, OME-DB-16R, OME-DB-24C, OME-DB-24PR and OME-DB-24POR
- Automatically Detected by Windows XP/VISTA/7
- No base Address or IRQ Jumper to Set

The OME-PIO-DA16U, OME-PIO-DA8U and OME-PIO-DA4U are multi-channel D/A boards for the PCI bus for IBM or compatible PC. The OME-PIO-DA16U/8U/4U offer 16/8/4 channels of double-buffered analog output. The outputs may be configured in different ranges: ±10 V, ±5 V, 0 to 10 V, 0 to 5 V voltage output or 4 to 20 mA, 0 to 20 mA current loop sink. The innovative design improves several drawbacks of conventional D/A boards.

For example: 1. No jumper or trim-pots on the board. 2. The calibration is performed under software control eliminating manual trim-pot adjustments. The calibration data is stored in EEPROM. 3. Each channel can be selected as voltage or current output. 4. High channel count output can be implemented in a half size card.

Note: This card needs ±12 V power supply. This can be found in regular or Industrial PC’s.

Software Development Kit
All boards are supplied with a standard software development kit for Windows XP/VISTA/7 (32-bit). The software development kit includes dll files for programming in C, C++ or other high level languages and OCX files for Visual Basic or Active X programming. LabView drivers are also included.

Specifications
PCI BUS TYPE
3.3 V/5V universal
DIGITAL INPUTS/OUTPUTS (TTL COMPATIBLE)
Logic High Voltage VIH:
2.4 V (min)
Logic Low Voltage VIL:
0.8 V (max)
Sink Current IOL:
8 mA max
Source Current IOH:
0.4 mA max
ANALOG OUTPUTS
D/A Converter:
Quad 14 bits MDAC
Channels:
16/8/4 independent
Resolution:
14-bits
Type:
Double-buffered, multiplying
Integral Linearity:
0.006% FSR (typical)
Differential Linearity:
0.006% FSR (typical)
Each OME-PIO-DA16U/8U/4U analog output board includes complete operator’s manual and software development kit on CD ROM.

Ordering Example: OME-PIO-DA16U, 16-channel PCI bus D/A board and OMEGACARESM 1 year extended warranty for OME-PIO-DA16U (adds 1 year to standard 1 year warranty).

**VOLTAGE OUTPUT RANGE**
- **Unipolar:** 0 to 5 V or 0 to 10 V
- **Bipolar:** ±10 V or ±5 V
- **Current Drive:** ±5 mA
- **Absolute Accuracy:** 0.01% FSR (typical)
- **Current Output Range:** 0 to 20 mA or 4 to 20 mA
- **Absolute Accuracy:** 0.1% FSR (typical)
- **Excitation Voltage Range:** +7 V to +40 V

**ENVIRONMENTAL**
- **Operating Temperature:** 0 to 60°C (32 to 140°F)
- **Storage Temperature:** -20 to 80°C (-4 to 176°F)
- **Humidity:** 0 to 90% RH non-condensing
- **Dimensions:** 115 H x 180 mm W (4.5 x 7.1")
- **Connector:** Analog outputs, 37-pin D-Sub; digital I/O, two 20-pin headers

**POWER CONSUMPTION**
- **OME-PIO-DA4U:** +5 Vdc @ 600 mA
- **OME-PIO-DA8U:** +5 Vdc @ 800 mA
- **OME-PIO-DA16U:** +5 Vdc @ 1400 mA

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**To Order**

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<tr>
<th>Model No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>OME-PIO-DA16U</td>
<td>16-channel PCI bus (3.3V/5V) D/A board with 16 digital inputs and 16 digital outputs</td>
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<tr>
<td>OME-PIO-DA8U</td>
<td>8-channel PCI bus (3.3V/5V) D/A board with 16 digital inputs and 16 digital outputs</td>
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<td>OME-PIO-DA4U</td>
<td>4-channel PCI bus (3.3V/5V) D/A board with 16 digital inputs and 16 digital outputs</td>
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<td>OME-PIO-DA16U/S</td>
<td>OME-PIO-DA16U 16-channel PCI board plus OME-DN-37 terminal panel</td>
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<tr>
<td>OME-PIO-DA8U/S</td>
<td>OME-PIO-DA8U 8-channel PCI board plus OME-DN-37 terminal panel</td>
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<tr>
<td>OME-PIO-DA4U/S</td>
<td>OME-PIO-DA4U 4-channel PCI board plus OME-DN-37 terminal panel</td>
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**Accessories**

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<tr>
<td>OME-DN-37</td>
<td>DIN-rail mount I/O connector block with 37-pin D-sub connector, includes 1 m (3') cable (OME-CA-3710)</td>
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<tr>
<td>OME-DB-37</td>
<td>Direct connect 37-pin terminal board</td>
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<td>OME-DB-16P</td>
<td>16-channel isolated digital input board, includes 1 m (3') cable (OME-CA-2010)</td>
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<tr>
<td>OME-DB-16R</td>
<td>16-channel SPDT relay board, includes 1 m (3') cable (OME-CA-2010)</td>
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<td>OME-DB-24PR/12</td>
<td>24-channel power relay board, 12 V (only 16-channels used), includes 1.5 m (5') 50-pin cable (OME-CA-5015)</td>
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<tr>
<td>OME-DB-24POR</td>
<td>24-channel Photo Mos relay output board, includes 1.5 m (5') 50-pin flat cable (only 16-channels used) (OME-CA-5015)</td>
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<tr>
<td>OME-DB-24C</td>
<td>24-channel open-collector output board, includes 1.5 m (5') 50-pin flat cable (only 16-channels used) (OME-CA-5015)</td>
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<tr>
<td>OME-ADP-20/PCI</td>
<td>20-pin extender (extends the dual 20-pin digital I/O flat cable connectors on the board to the PC slot window, includes two 20-pin cables (OME-CA-2002))</td>
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OMEGACARE℠ extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE℠ covers parts, labor and equivalent loaners.