The PowerDAQ is no longer available. Please see the OMB-DAQBOARD-2000 as a possible substitute or consult our data acquisition engineering department.

PowerDAQ II PCI A/D Boards
Processor Based Data Acquisition Boards for the PCI Bus

Basic Unit
$895

- 1.25 MS/s 12-bit Resolution
- 400 kS/s 14-bit Resolution
- 333 kS/s, 50 kS/s 16-bit Resolution
- Programmable Gain 1, 10, 100, 1000 or 1, 2, 4, 8
- 2, 12-bit, 200 kHz D/A’s WaveForm Quality
- 16 Digital Input (8 Can Generate Interrupts) 16 Digital Output
- 3, 16-bit User-Dedicated Counter/Timers
- Simultaneous A/D, D/A, DIO, Counter/Timer Subsystems Operation
- Bus Mastering DMA
- Extensive Clocking and Triggering for A/D and D/A
- No Jumpers or Switches
- Auto Calibration

PowerDAQ II is a multifunction analog and digital input/output board for the PCI bus. The PowerDAQ II boards have been developed with new “clean” 32-bit drivers for Windows 95 and Windows NT, hence no legacy code.

The PowerDAQ II series is designed around a “processor based” 24-bit 66 MHz Motorola 56301 PCI DSP interface. This design allows the user to offload the host CPU data acquisition functions to the onboard DSP thus giving the user the power of two CPUs in one PC.

Each PowerDAQ II multifunction board is comprised of four subsystems, Analog Input, Analog Output, Digital I/O and Counter/Timers. PowerDAQ technology allows all the subsystems to run simultaneously and/or independently with one or multiple boards in the same PC. You can start and stop multiple subsystems as required. The PowerDAQ II based boards all feature extensive hardware and software triggering. Data transfer methods include slave mode and bus mastering operation.

Several different models of the PowerDAQ II boards are available. The models differ in resolution, speed, input range and number of channels.

Third Party Drivers for:
- LabVIEW for Windows
- HP VEE
- TestPoint
- DASYlab
- DIAdem
### To Order (Specify Model Number)

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Price</th>
<th>Speed</th>
<th>Channels (SE/Diff)</th>
<th>Gains</th>
<th>A/D Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD2-MF-16-150/16L</td>
<td>$895</td>
<td>150 kS/s</td>
<td>16/8</td>
<td>1,10,100,1000</td>
<td>16 bits</td>
</tr>
<tr>
<td>PD2-MF-16-150/16H</td>
<td>895</td>
<td>150 kS/s</td>
<td>16/8</td>
<td>1,2,4,8</td>
<td>16 bits</td>
</tr>
<tr>
<td>PD2-MF-16-400/14L</td>
<td>895</td>
<td>400 kS/s</td>
<td>16/8</td>
<td>1,10,100,1000</td>
<td>14 bits</td>
</tr>
<tr>
<td>PD2-MF-16-400/14H</td>
<td>895</td>
<td>400 kS/s</td>
<td>16/8</td>
<td>1,2,4,8</td>
<td>14 bits</td>
</tr>
<tr>
<td>PD2-MF-64-400/14L</td>
<td>1395</td>
<td>400 kS/s</td>
<td>64/32</td>
<td>1,10,100,1000</td>
<td>14 bits</td>
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<tr>
<td>PD2-MF-64-400/14H</td>
<td>1395</td>
<td>400 kS/s</td>
<td>64/32</td>
<td>1,2,4,8</td>
<td>14 bits</td>
</tr>
<tr>
<td>PD2-MF-16-1M/12L</td>
<td>1650</td>
<td>1.25 MS/s</td>
<td>16/8</td>
<td>1,10,100,1000</td>
<td>12 bits</td>
</tr>
<tr>
<td>PD2-MF-16-1M/12H</td>
<td>1650</td>
<td>1.25 MS/s</td>
<td>16/8</td>
<td>1,2,4,8</td>
<td>12 bits</td>
</tr>
<tr>
<td>PD2-MF-64-1M/12L</td>
<td>2495</td>
<td>1.25 MS/s</td>
<td>64/32</td>
<td>1,10,100,1000</td>
<td>12 bits</td>
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<tr>
<td>PD2-MF-64-1M/12H</td>
<td>2495</td>
<td>1.25 MS/s</td>
<td>64/32</td>
<td>1,2,4,8</td>
<td>12 bits</td>
</tr>
<tr>
<td>PD2-MF-16-333/16L</td>
<td>1650</td>
<td>333 kS/s</td>
<td>16/8</td>
<td>1,10,100,1000</td>
<td>16 bits</td>
</tr>
<tr>
<td>PD2-MF-16-333/16H</td>
<td>1650</td>
<td>333 kS/s</td>
<td>16/8</td>
<td>1,2,4,8</td>
<td>16 bits</td>
</tr>
<tr>
<td>PD2-MF-64-333/16L</td>
<td>2395</td>
<td>333 kS/s</td>
<td>64/32</td>
<td>1,10,100,1000</td>
<td>16 bits</td>
</tr>
<tr>
<td>PD2-MF-64-333/16H</td>
<td>2395</td>
<td>333 kS/s</td>
<td>64/32</td>
<td>1,2,4,8</td>
<td>16 bits</td>
</tr>
</tbody>
</table>

All PowerDAQ II boards include a complete user’s manual, Quick Start application and driver software. Ordering Example: PD2-MF-16-150/16L PowerDAQ II board, PD-STP-9616-KIT accessory kit and OMEGACARE™ 1 year extended warranty for PowerDAQ II board (adds 1 year to standard 1 year warranty), $895 + 275 + 89 = $1259.

### Accessory Racks

The PowerDAQ II boards can connect to a variety of stand-alone or 19" rack-mount accessory panels. A complete range of cables and options are available.

### Isolated Thermocouple Input Rack

The PD-TCR-16-x is a 16 channel isolated thermocouple rack which can be connected to any PowerDAQ II board. The thermocouple rack supports measurement from J or K thermocouples.

For 16 channels of measurement, the PowerDAQ II boards may be connected directly to the PD-TCR-16-x via a PD-CBL-96 (96-way pinless 1 m cable). For more than 16 channels, the PD-5BCONN interface panel should be used (see diagram).

### Signal Conditioning Connection Panels

The PD-5BCONN and PD-7BCONN signal conditioning interface panels provide easy connection to up to four signal conditioning racks. The PD-5BCONN connects to OMEGA’s OM5 signal conditioning racks and the PD-TCR-16-x isolated thermocouple input rack. The PD-7BCONN connects to OMEGA’s OM7 signal conditioning racks.

### Screw Terminal Panels

Two screw terminal boards are available, the PD-STP-9616 connects to 16 channel PowerDAQ II boards and the PD-STP-96 connects to boards with 64 channels. Use the PD-CBL-96 one meter cable to connect from the PowerDAQ II J1 analog connector to the PD-STP J1 connector. Use the PD-CBL-37 ribbon cable set to PD-STP J2 connector.

### BNC Analog Connection Panel

The PD-BNC-16 offers all analog input connections using BNC type connectors for the 16 channel boards. The PD-BNC-16 supports single ended or differential input (via jumper selection). Silk screened component open locations for building RC filters and voltage dividers are also supplied. The PD-BNC-16 panel connects to the 16 channel PowerDAQ II boards using the PD-CBL-96 cable. The PD-BNC can be rack mounted using the PD-19RACK option.

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**LabVIEW and Thermocouple Rack screen shown**
Specifications

ANALOG INPUT
Number of Channels: 16 or 64 single-ended, 8 or 32 differential
Resolution:
- PD2-MF-xx-400/14x: 14 bits
- PD2-MF-xx-1M/12x: 12 bits
- PD2-MF-xx-150/16x: 16 bits
- PD2-MF-xx-333/16x: 16 bits
Max Sample Rate:
- PD2-MF-xx-400/14x: 400 kS/s
- PD2-MF-xx-1M/12x: 1.25 MS/s
- PD2-MF-xx-150/16x: 150 kS/s
- PD2-MF-xx-333/16x: 333 kS/s
Onboard FIFO: 1K FIFO, upgradeable to 16K or 32K
Input Ranges: 0-10 V, ±10 V, 0-5 V, ±5 V (software selectable)
Programmable Gains:
- L Versions = 1, 10, 100, 1000;
- H Versions = 1, 2, 4, 8 (software selectable)
Max Working Voltage (signal plus common mode):
- All Models: -10 V to 10 V
Input Overvoltage: -35 V to +55V continuous, powered or unpowered
Nonlinearity:
- PD2-MF-xx-400/14x: ±0.5 LSB
- PD2-MF-xx-1M/12x: ±0.5 LSB
- PD2-MF-xx-150/16x: ±1 LSB
- PD2-MF-xx-333/16x: ±1 LSB
System Noise:
- PD2-MF-xx-400/14x: ±0.2 LSB
- PD2-MF-xx-1M/12x: ±0.8 LSB
- PD2-MF-xx-150/16x: ±1.2 LSB
- PD2-MF-xx-333/16x: ±1.3 LSB
Input Impedance: 10 MΩ in parallel with 22 pF
Input Bias Current: ±20 nA typical
Input Offset Current: ±100 pA typical
Triggering Modes: Normal, Post, Pre and About Trigger

ANALOG OUTPUT
Number of Channels: 2
Resolution: 12 bit
Max Update Rate: 200 kS/s
Range: ±10V fixed
Data Transfer: DMA

DIGITAL I/O
Input/Output Bits: 16
Input High: V_H = 2.0V

Input Low: V_L = 0.8V
Input Current: I_I = -20 mA,
Output Low: V_O = 0.5V
Output High: V_O = 3.0V

COUNTER/TIMER
Number of Counters: 3 available to user
**Resolution:** 16 bits  
**Input Low:** $V_{IL} = 0.8V$ max;  
$I_{IL} = -20 \mu A$ max  
**Input High:** $V_{IH} = 2.0V$ max;  
$I_{IH} = 20 \mu A$ max  

**Connector 1:** 96-way high-density “pinless” connector  

**Connector 2:**  
36-pin header connector (male)  

**Connector 4:**  
36-pin header connector (male)  

**Connector 6:**  
8-pin header connector (male)  

**Operating Environment:**  
0 to 70°C

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## Accessories

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Price</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD-TCR16-J</td>
<td>$995</td>
<td>16 Channel Isolated Thermocouple Input Rack Type J</td>
</tr>
<tr>
<td>PD-TCR16-K</td>
<td>995</td>
<td>16 Channel Isolated Thermocouple Input Rack Type K</td>
</tr>
<tr>
<td>PD-STP-96</td>
<td>225</td>
<td>Screw terminal panel with 96-pin and 37 pin connector for 64 channel boards</td>
</tr>
<tr>
<td>PD-STP-96-KIT</td>
<td>349</td>
<td>Complete Kit: Includes PD-STP-96, PD-CBL-96 and PD-CBL-37 for 64 channel boards</td>
</tr>
<tr>
<td>PD-STP-9616</td>
<td>155</td>
<td>Screw Terminal Panel with 96-pin and 37-pin connector for 16 channel boards</td>
</tr>
<tr>
<td>PD-STP-9616-KIT</td>
<td>275</td>
<td>Complete Kit: Includes PD-STP-9616, PD-CBL-96 and PD-CBL-37 for 16 channel boards</td>
</tr>
<tr>
<td>PD-BNC-16</td>
<td>350</td>
<td>16 Channel BNC panel</td>
</tr>
<tr>
<td>PD-BNC-64</td>
<td>550</td>
<td>64 Channel BNC panel</td>
</tr>
<tr>
<td>PD-BNC-64-KIT</td>
<td>619</td>
<td>Complete Kit: Includes PD-BNC-64, PD-CBL-96, PD-CBL-37</td>
</tr>
<tr>
<td>PD-5BCONN</td>
<td>95</td>
<td>Connects 16 or 64 channel PowerDAQ II board to 1 to 4, 5B-xx racks (Cables required: PD-CBL-96 and one to four PD-CBL-5B)</td>
</tr>
<tr>
<td>PD-7BCONN</td>
<td>95</td>
<td>Connects 16 or 64 channel PowerDAQ II board to 1 to 4, 7B-xx racks (Cables required: PD-CBL-96 and one to four PD-CBL-7B)</td>
</tr>
<tr>
<td>PD-100HDR</td>
<td>95</td>
<td>Connects 16 or 64 channel PowerDAQ II board to two 50way IDC headers</td>
</tr>
<tr>
<td>PD-CBL-96</td>
<td>99</td>
<td>96-way pinless; 1 m length, round, shielded cable with metal cover plates</td>
</tr>
<tr>
<td>PD-CBL-96-6FT</td>
<td>210</td>
<td>96-way pinless; 6 ft, round, shielded cable with metal cover plates</td>
</tr>
<tr>
<td>PD-CBL-96-9FT</td>
<td>250</td>
<td>96-way pinless; 9 ft, round, shielded cable with metal cover plates</td>
</tr>
<tr>
<td>PD-CBL-37</td>
<td>55</td>
<td>DIO Cable set: 37-way D-sub cable, Internal cable w/mounting bracket; 1 m length</td>
</tr>
<tr>
<td>PD-CBL-37-BRKT</td>
<td>40</td>
<td>DIO Cable: Internal cable w/mounting bracket; 1 m length</td>
</tr>
<tr>
<td>PD-CBL-37-TP</td>
<td>85</td>
<td>DIO Twisted Pair Cable set: 37-way D-sub cable, Internal cable w/mounting bracket; 1 m length</td>
</tr>
<tr>
<td>PD-CBL-5B</td>
<td>25</td>
<td>18&quot; ribbon cables that connect from the PD-5BCONN to 5B-xx racks</td>
</tr>
<tr>
<td>PD-CBL-7B</td>
<td>35</td>
<td>18&quot; ribbon cables that connect from the PD-7BCONN to 7B-xx racks</td>
</tr>
<tr>
<td>PD-CBL-9626</td>
<td>149</td>
<td>18&quot; round shielded cable that connects from the PD-5BCONN to PD-STP-16 or PD-BNC-16</td>
</tr>
<tr>
<td>PD-CBL-SYNC4</td>
<td>75</td>
<td>Internal cable to synchronize up to 4 PowerDAQ II series boards</td>
</tr>
<tr>
<td>PD-CONN</td>
<td>40</td>
<td>PowerDAQ mating connector with metal cover (Includes Fujitsu connector: FCN-230C096-C/E and metal cover: FCN-247J096-G/E)</td>
</tr>
<tr>
<td>PD-CONN-CBL</td>
<td>75</td>
<td>96-way pin-less; 0.5 m length, round, shielded cable with metal cover plate</td>
</tr>
<tr>
<td>PD-CONN-PCB</td>
<td>75</td>
<td>PowerDAQ mating connector with PCB attached</td>
</tr>
<tr>
<td>PD-19RACK</td>
<td>55</td>
<td>19&quot; rack</td>
</tr>
<tr>
<td>PD-19RACKW</td>
<td>150</td>
<td>19&quot; rack (wide version for PD-TCR-16X or PD-BNC-64)</td>
</tr>
<tr>
<td>PD-16KFIFO</td>
<td>300</td>
<td>Upgrade 1K FIFO to 16K FIFO</td>
</tr>
<tr>
<td>PD-32KFIFO</td>
<td>500</td>
<td>Upgrade 1K FIFO to 32K FIFO</td>
</tr>
<tr>
<td>PD-PSU-5/15</td>
<td>225</td>
<td>Power Supply 110V/220V AC Input, +5V DC, +/-15V DC Output for use with PD-TCR</td>
</tr>
</tbody>
</table>

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More than 100,000 Products Available!

- **Temperature**

- **Flow and Level**
  Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

- **pH and Conductivity**
  Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

- **Data Acquisition**

- **Pressure, Strain and Force**
  Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Strain Gages, Torque Transducers, Valves

- **Heaters**

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