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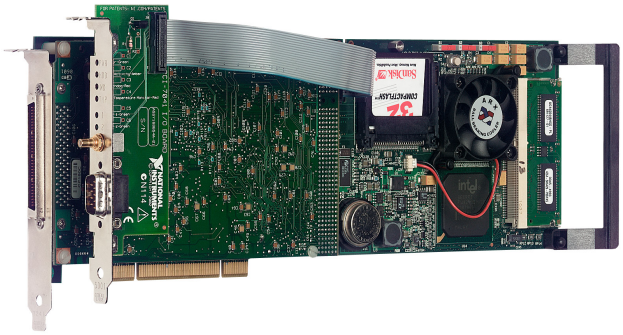
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Find the *National Instruments PCI-7041* at our website: *Click HERE*

NI PCI-7041/6040E

- High-performance Pentium III processor with up to 26 kHz single PID loop rates
- High-speed deterministic communication with the host PC at up to 2MB/sec
- Reliable stand-alone performance with non-volatile CompactFlash memory
- Expanded connectivity with built-in serial port and external watchdog connector



Overview
The National Instruments PCI-7041/6040E is a high-performance RT Series plug-in board that adds real-time measurement and control applications to an existing desktop system. This board has a dedicated processor running a real-time operating system, independent of the Windows operating system. With LabVIEW Real-Time, you create a custom application for measurement and control, then embed it into the processor on the plug-in board to create a small real-time system within your Windows desktop. The dedicated processor ensures that the embedded LabVIEW application runs deterministically and reliably.

With the LabVIEW 7 Real-Time Module, you can assemble graphical function blocks called Virtual Instruments (VIs) to represent a real-time control routine, complex control algorithm, or signal processing application. You can save development time with the variety of built-in blocks for PID control, fuzzy logic, linear and discrete modeling. In addition, there are built-in function blocks for interfacing to the I/O of the 6040E daughter board.

The PCI-7041/6040E consists of the 7041 target processor board and the 6040E I/O daughter board and uses up 1 PCI slot in the desktop. The processor board includes a 700 MHz Pentium III processor, 32 MB of SDRAM, 32 MB of CompactFlash, and high-speed dual port memory for communicating to the host. The I/O daughter board includes 16 channels of analog input, 2 channels of analog output, 8 DIO lines, and 2 general purpose counter/timer channels.

In addition, there is a peripheral I/O plug-in board that includes a serial port, external connector to the Watchdog/timer, and 2 user defined LEDs. The extra I/O peripheral board allows you to connect existing systems to the PCI-7041/6040E to create a complete real-time control system. With the additional I/O peripheral board, the PCI-7041 requires the equivalent space of 2 PCI slots.

High-performance
The new RT Series plug-in boards includes a Pentium III processor which can run single PID loop at up to 26kHz which is over 10 times better performance than the previous RT Series plug-in boards. With the higher performance processor, you can download higher-fidelity dynamic models, more complex control routines, or higher-order signal processing algorithms and still run them in real time.

Faster Data Streaming to Host
The PCI-7041 includes hardware to help stream data back to the host at much faster rates that before. With the new hardware, you can create a real-time application and still share data with the host Windows desktop at rates up to 2 MB/sec.

With this extra bandwidth, you can modify or monitor variables in the real-time application without interfering with the performance.

Reliable Stand-alone Applications
The PCI-7041 includes features for stand-alone operation. The 32MB of CompactFlash on the board are for storing the embedded software, user application, and data logging purposes. With the LabVIEW Real-Time development environment, you can create a custom application, download it to the PCI-7041/6040E board, and configure it to startup the custom application when the board is powered on. You can then take the board and port it to another PCI desktop machine or even a passive PCI backplane.

The 32 MB of CompactFlash can also be used to store data. You can add file I/O to the custom LabVIEW application to store acquired data on the non-volatile memory of CompactFlash. If power to the PCI-7041 is interrupted, the data stored on the CompactFlash can be read back to understand what faults occurred.

The optional peripheral I/O board of the PCI-7041 also includes a built-in serial port and user-defined LEDs. With the serial ports, you can communicate to existing devices used for your real-time application. The serial-port can also be connected to dot-matrix displays to create user displays with richer information.

Ordering Information
PCI-7041/6040E.....778254-01

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