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## NI PXI-7833R

### R Series Multifunction RIO with Virtex-II 3M Gate FPGA

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#### Not recommended for new designs

8 analog inputs, independent sampling rates up to 200 kHz, 16-bit resolution,  $\pm 10$  V

8 analog outputs, independent update rates up to 1 MHz, 16-bit resolution,  $\pm 10$  V

96 digital lines configurable as inputs, outputs, counters, or custom logic at rates up to 40 MHz

Virtex-II 3M gate FPGA programmable with the LabVIEW FPGA Module

Connectivity to the NI 9151 for I/O expansion and low-cost signal conditioning

[Configure Complete PXI System](#)

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The NI PXI-7833R multifunction RIO module features a user-programmable FPGA chip for onboard processing and flexible I/O operation. You configure all analog and digital functionality using NI LabVIEW graphical block diagrams and the LabVIEW FPGA Module. Your block diagram executes in the hardware, giving you direct, immediate control over all I/O signals to deliver high-performance capabilities such as the following:

- Complete control over the synchronization and timing of all signals and operations
- Custom onboard decision making that executes with hardware-timed speed and reliability
- Digital lines individually configurable as inputs, outputs, counter/timers, pulse-width modulation, flexible encoder inputs, or specialized communication protocols

NI R Series multifunction RIO devices feature a dedicated analog-to-digital converter (ADC) per channel for independent timing and triggering. This offers specialized functionality such as multirate sampling and individual channel triggering, which are outside the capabilities of typical data acquisition hardware. Common examples include custom discrete and analog control, sensor simulation, rapid prototyping, hardware-in-the-loop (HIL) test, digital protocol emulation, and other applications that require precise timing and control.

#### Recommended Accessories

The NI SHC68-68-RMIO cable is designed and shielded specifically for the multifunction I/O connector (connector 0) of R Series devices. The NI SHC68-68-RDIO cable is designed and shielded specifically for the digital I/O connectors (connectors 1 and 2) on R Series devices to reduce crosstalk for improved signal integrity and noise rejection.

#### Low-Cost, High-Performance Signal Conditioning

The NI 9151 R Series expansion chassis connects directly to any digital connector on R Series devices and houses up to four NI C Series I/O modules for low-cost signal conditioning, I/O channel expansion, and direct connectivity.

[View Data Sheet](#) | [View Pricing and Purchasing Information](#) »



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