R Series Expansion Chassis for C Series I/O

NI 9151

- High-performance industrial I/O for any R Series device
- Converts FPGA digital port into multifunction I/O port with plug-in modules for ±80 mV to 250 V_{rms}
- Provides additional I/O hardware for desktop, PXI/CompactPCI, and industrial PC systems
- Combine with plug-in data acquisition, motion control, vision, or CAN devices to complete your application
- Add multiple 4-slot expansion chassis to a single R Series device
- Automatically synthesize an optimized high-performance electrical circuit implementation of your application using the NI LabVIEW FPGA Module

- Reconfigurable I/O (RIO) FPGA core executes LabVIEW control logic at rates up to 40 MS/s using single-cycle timed loops
- Create any timing, triggering, and synchronization scheme with 25 ns resolution

Overview

The NI 9151 R Series expansion chassis for NI C Series I/O modules connects directly to any R Series intelligent data acquisition (DAQ) device such as an NI 781xR, NI 783xR, NI 784xR, and NI 785xR. In this configuration, the field-programmable gate array (FPGA) resides on the R Series device, and the C Series I/O modules supply industrial I/O, isolation, and signal conditioning. You can use a Windows host CPU or real-time controller to provide high-performance processing for analog control, analysis, or hardware-in-the-loop (HIL) simulations. An R Series intelligent DAQ device combined with the R Series expansion chassis for C Series I/O offers high-speed signal-conditioned input, output, communication, and control capabilities with unprecedented flexibility and optimization.

With multifunction R Series devices (NI 783xR, NI 784xR, NI 785xR), you can connect up to two R Series expansion chassis for a maximum of eight I/O modules per R Series device. With digital R Series devices (NI 781xR), you can connect up to four R Series expansion chassis for a maximum of 16 I/O modules per R Series device.

C Series Compatibility

All C Series I/O modules are compatible with the NI 9151 R Series expansion chassis. Modules that have delta-sigma analog-to-digital converters (NI 9233, NI 9234, NI 9237, NI 9229, NI 9239, NI 9225, NI 9235, NI 9236) cannot share timebases between modules when used in the expansion chassis. Additionally, some modules may have speed limitations when used in the expansion chassis. Check the individual module user manual for specific details.

Visit **ni.com/fpga** for up-to-date information on FPGA hardware targets, example programs, application notes, and other developer tools.

Ordering Information

- NI 9151 779008-01
- SHC68-68-RDIO 191667-01

Note: Use only the SHC68-68-RDIO digital cable with the NI 9151 chassis.

BUY NOW!

For complete product specifications, pricing, and accessory information, call 800 813 3693 (U.S.) or go to **ni.com/rseries**.

NATIONAL INSTRUMENTS™

NI Services and Support

NI has the services and support to meet your needs around the globe and through the application life cycle – from planning and development through deployment and ongoing maintenance. We offer services and service levels to meet customer requirements in research, design, validation, and manufacturing. Visit **ni.com/services**.

Training and Certification

NI training is the fastest, most certain route to productivity with our products. NI training can shorten your learning curve, save development time, and reduce maintenance costs over the application life cycle. We schedule instructor-led courses in cities worldwide, or we can hold a course at your facility. We also offer a professional certification program that identifies individuals who have high levels of skill and knowledge on using NI products. Visit **ni.com/training**.

Professional Services

Our NI Professional Services team is composed of NI applications and systems engineers and a worldwide National Instruments Alliance Partner program of more than 600 independent consultants and integrators. Services range from start-up assistance to turnkey system integration. Visit **ni.com/alliance**.

NATIONAL INSTRUMENTS
Certified Alliance Partner

OEM Support

We offer design-in consulting and product integration assistance if you want to use our products for OEM applications. For information about special pricing and services for OEM customers, visit **ni.com/oem**.

Local Sales and Technical Support

In offices worldwide, our staff is local to the country, giving you access to engineers who speak your language. NI delivers industry-leading technical support through online knowledge bases, our applications engineers, and access to 14,000 measurement and automation professionals within NI Developer Exchange forums. Find immediate answers to your questions at **ni.com/support**.

We also offer service programs that provide automatic upgrades to your application development environment and higher levels of technical support. Visit **ni.com/ssp**.

Hardware Services

System Assurance Programs

NI system assurance programs are designed to make it even easier for you to own an NI system. These programs include configuration and deployment services for your NI PXI, CompactRIO, or Compact FieldPoint system. The NI Basic System Assurance Program provides a simple integration test and ensures that your system is delivered completely assembled in one box. When you configure your system with the NI Standard System Assurance Program, you can select from available NI system driver sets and application development environments to create customized, reorderable software configurations. Your system arrives fully assembled and tested in one box with your software preinstalled. When you order your system with the standard program, you also receive system-specific documentation including a bill of materials, an integration test report, a recommended maintenance plan, and frequently asked question documents. Finally, the standard program reduces the total cost of owning an NI system by providing three years of warranty coverage and calibration service. Use the online product advisors at **ni.com/advisor** to find a system assurance program to meet your needs.

Calibration Services

NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. We provide manual calibration procedures, services to recalibrate your products, and automated calibration software specifically designed for use by metrology laboratories. Visit **ni.com/calibration**.

Repair and Extended Warranty

NI provides complete repair services for our products. Express repair and advance replacement services are also available. We offer extended warranties to help you meet project life-cycle requirements. Visit **ni.com/services**.

NATIONAL INSTRUMENTS