

NI PXI-795xR FlexRIO Specifications

This document lists the specifications of the National Instruments FlexRIO (NI PXI-7951R, NI PXI-7952R, NI PXI-7953R, and NI PXI-7954R) devices. Typical values are representative of an average unit operating at room temperature. These specifications are typical at 25 °C unless otherwise noted.

Reconfigurable FPGA

Device	FPGA	LUTs/Flip-Flops	DSP48 Slices (25 × 18 Multiplier)	Embedded Block RAM (kbits)
NI PXI-7951R	Virtex-5 LX30	19,200	32	1,152
NI PXI-7952R	Virtex-5 LX50	28,800	48	1,728
NI PXI-7953R	Virtex-5 LX85	51,840	48	3,456
NI PXI-7954R	Virtex-5 LX110	69,120	64	4,608

Default timebase	40 MHz	Compatibility	Configured via FPGA, 1.5 V to 3.3 V I/O standards (refer to www.xilinx.com)
Timebase reference sources	PXI 10MHz	Protection	Refer to www.xilinx.com
Timebase accuracy, onboard clock	±100 ppm, 250 ps peak-to-peak jitter	Current	Refer to www.xilinx.com
Data transfers	DMA, Interrupts, Programmed I/O	Maximum I/O data rates	
		Single-ended	400 Mb/s for LVDCI25
		Differential	1 Gb/s for LVDS
		Global clock inputs	1 LVTTTL, 1 LVDS
		PXI connection resources	PXI triggers, CLK10, and PXI star trigger

FPGA Digital Input/Output

Number of general-purpose channels	132, configurable as 132 single-ended, 66 differential, or a combination of both ¹
Channels per bank	
Bank 0/Bank 2	32 single-ended per bank
Bank 1/Bank 3	34 single-ended per bank

¹ The 132 channels span across four FPGA banks. Refer to the [Device Signals](#) section for more information.

Device Signals

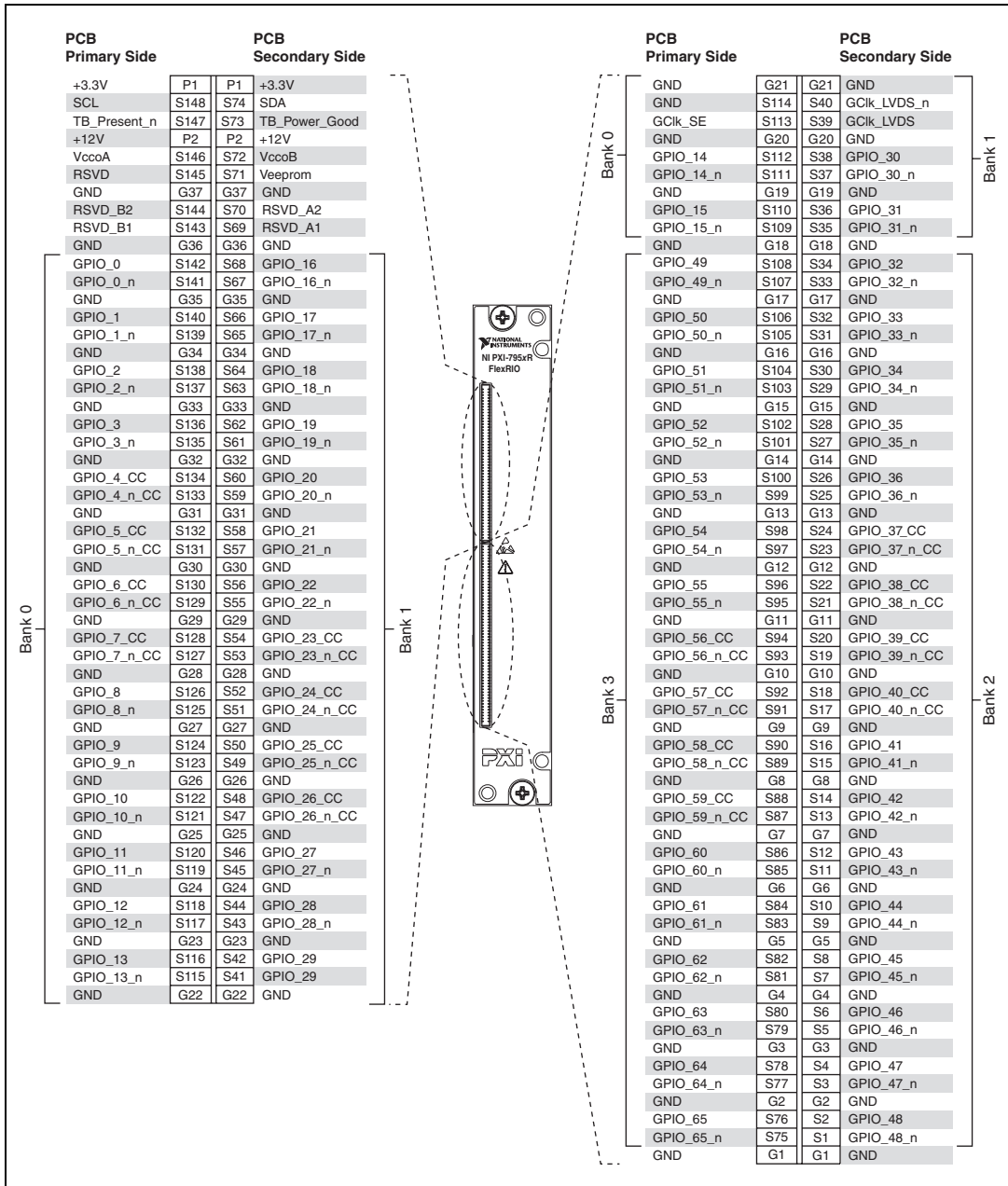


Figure 1. NI PXI-795xR Front Connector Pin Assignments and Locations

Onboard DRAM (NI PXI-7952R/7953R/7954R Only)

Memory size 2 banks; 64 MB per bank
Maximum theoretical data rate 800 MB/s per bank

Bus Interface

PXI Master, slave

Maximum Power Requirement¹

+5 VDC ($\pm 5\%$) 2 A
+3.3 VDC ($\pm 5\%$) 2 A
+12 V 0.5 A
-12 V 0 A

Physical

Dimensions
(not including connectors) 18.8 cm by 12.9 cm
(7.4 in. by 5.1 in.)

Weight 190 g

I/O connector High-density card edge

Maximum Working Voltage²

Maximum working voltage refers to the signal voltage plus the common-mode voltage.

Channel-to-earth 0 V to 3.3 V,
Measurement Category I

Channel-to-channel 0 V to 3.3 V,
Measurement Category I



Caution Do *not* use the NI PXI-795xR for connection to signals in Measurement Categories II, III, or IV.

Environmental

The NI PXI-795xR is intended for indoor use only.

Operating environment 0 °C to 55 °C,
Tested in accordance with
IEC-60068-2-1 and
IEC-60068-2-2.

Relative humidity range 10% to 90%,
noncondensing,
Tested in accordance with
IEC-60068-2-56.

Altitude 2,000 m at 25 °C ambient
temperature

Storage environment

Ambient temperature range -20 °C to 70 °C
Tested in accordance with
IEC-60068-2-1 and
IEC-60068-2-2.

Relative humidity range 5% to 95%,
noncondensing,
Tested in accordance with
IEC-60068-2-56.



Note Clean the device with a soft, non-metallic brush. Make sure that the device is completely dry and free from contaminants before returning it to service.

Shock and Vibration

Operational shock 30 g peak, half-sine,
11 ms pulse
Tested in accordance with
IEC-60068-2-27. Test
profile developed in
accordance with
MIL-PRF-28800F.

Random vibration

Operating 5 Hz to 500 Hz, 0.3 g_{rms}
Nonoperating 5 Hz to 500 Hz, 2.4 g_{rms}
Tested in accordance with
IEC-60068-2-64.
Nonoperating test profile
exceeds the requirements
of MIL-PRF-28800F,
Class 3.

¹ Power requirements are dependent on the adapter module and contents of the LabVIEW FPGA VI used in your application.

² Voltage ranges are dependent on the I/O standards available for your application. For more information on available I/O standards, refer to Xilinx documentation, available at www.xilinx.com.

Safety

This product meets the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1



Note For UL and other safety certifications, refer to the product label or the *Online Product Certification* section.

Electromagnetic Compatibility

This product meets the requirements of the following EMC standards for electrical equipment for measurement, control, and laboratory use:

- EN 61326 (IEC 61326): Class A emissions; Basic immunity
- EN 55011 (CISPR 11): Group 1, Class A emissions
- AS/NZS CISPR 11: Group 1, Class A emissions
- FCC 47 CFR Part 15B: Class A emissions
- ICES-001: Class A emissions



Note For the standards applied to assess the EMC of this product, refer to the *Online Product Certification* section.



Note For EMC compliance, operate this product according to the documentation.

CE Compliance

This product meets the essential requirements of applicable European Directives as follows:

- 2006/95/EC; Low-Voltage Directive (safety)
- 2004/108/EC; Electromagnetic Compatibility Directive (EMC)

Online Product Certification

Refer to the product Declaration of Conformity (DoC) for additional regulatory compliance information. To obtain product certifications and the DoC for this product, visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

Environmental Management

National Instruments is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial not only to the environment but also to NI customers.

For additional environmental information, refer to the *NI and the Environment* Web page at ni.com/environment. This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

Waste Electrical and Electronic Equipment (WEEE)



EU Customers At the end of their life cycle, all products *must* be sent to a WEEE recycling center. For more information about WEEE recycling centers and National Instruments WEEE initiatives, visit ni.com/environment/weee.htm.

电子信息产品污染控制管理办法（中国 RoHS）



中国客户 National Instruments 符合中国电子信息产品中限制使用某些有害物质指令 (RoHS)。关于 National Instruments 中国 RoHS 合规性信息, 请登录 ni.com/environment/rohs_china。(For information about China RoHS compliance, go to ni.com/environment/rohs_china.)

National Instruments, NI, ni.com, and LabVIEW are trademarks of National Instruments Corporation. Refer to the *Terms of Use* section on ni.com/legal for more information about National Instruments trademarks. Other product and company names mentioned herein are trademarks or trade names of their respective companies. For patents covering National Instruments products/technology, refer to the appropriate location: **Help»Patents** in your software, the `patents.txt` file on your media, or the *National Instruments Patent Notice* at ni.com/patents.