What Is the LabVIEW Real-Time Module?

The LabVIEW Real-Time Module is a LabVIEW add-on you can use to create reliable, stand-alone applications that execute on embedded hardware devices.

Explore the LabVIEW Real-Time Module

The LabVIEW Real-Time Module is a software add-on for LabVIEW that you can use to create and deploy real-time, distributed system applications for test, monitoring, and control. Take advantage of a Real-Time OS to ensure reliability and precise timing in your stand-alone system. Save valuable development time by selecting from hundreds of prewritten LabVIEW libraries and hardware APIs, which enable deterministic data acquisition.

Deploy stand-alone embedded systems

Gain the precise timing and high reliability you need for your application by building robust, deterministic code to deploy to your stand-alone embedded system quickly.

Every purchase of the LabVIEW Real-Time Module Includes both LabVIEW 2020 Real-Time Module and LabVIEW NXG Real-Time Module

Software Benefits

Standard Service Program
Every purchase includes a renewable, one-year membership to the Standard Service Program (SSP) for software, which offers the following:

- Live phone and email technical support from local, degreed engineers
- Automatic version updates to DIAdem
- 24/7 access to selected online training and virtual demonstrations
- Access to historical versions in case you need to share code with your team

How to buy the LabVIEW Real-Time Module

Buy the LabVIEW Real-Time Module for You
A single-seat license of the LabVIEW Real-Time Module can be associated with an individual or a specific computer ID.

Buy the LabVIEW Real-Time Module for Your Team

The Volume License Program is designed for teams that need five or more licenses. It reduces the total cost of ownership by providing streamlined asset management to your organization.

Buy the Embedded Control and Monitoring Software Suite

You can purchase the LabVIEW Real-Time Module as part of the Embedded Control and Monitoring Software Suite, which features LabVIEW and recommended add-ons specifically for building embedded control and monitoring systems.

What Hardware Can I Use With the LabVIEW Real-Time Module?

You can use the LabVIEW 2020 Real-Time Module with the hardware below. See the compare table to see which hardware the LabVIEW NXG Real-Time Module supports.

CompactRIO Systems

CompactRIO systems provide high-performance processing capabilities, sensor-specific conditioned I/O, and a closely integrated software toolchain that make them ideal for Industrial Internet of Things (IIoT), monitoring, and control applications.

PXI Controllers

Embedded PXI Controllers provide a high-performance, deterministic, compact embedded computer solution to run your PXI system without an external PC.

Industrial Controllers

Industrial controllers offer high levels of processing power and connectivity for automated image processing, data acquisition, and control applications in extreme environments.

Related Products

LabVIEW FPGA Module

The LabVIEW FPGA Module helps engineers and scientists develop, debug, and deploy custom FPGA code for NI hardware with user-programmable FPGAs.

Embedded Control and Monitoring Software Suite

The Embedded Control and Monitoring Software Suite is a collection of software and tools for industrial equipment or designing smart machines.

HIL and Real-Time Test Software Suite

The HIL and Real-Time Test Software Suite is a collection of software for validating embedded software and running model-based physical tests.

Compare the LabVIEW 2020 Real-Time Module and the LabVIEW NXG Real-Time Module

	LabVIEW 2020 Real-Time Module	LabVIEW NXG Real-Time Module 5.0
Hardware		
CompactRIO Controllers (902x/903x/906x/907x/908x)	✓	-
CompactRIO Controllers with NI-DAQmx support (904x/905x)	✓	✓
CompactRIO Single-Board Controllers	✓	-
Industrial Controllers	✓	-
Compact Vision Systems	✓	-
myRIO Student Embedded Device	✓	-
PXI Controllers with NI Linux Real-Time	✓	✓
CompactDAQ Controllers with NI Linux Real-Time	✓	-
C Series Modules (NI-DAQmx driver support)	✓	✓
C Series Modules (NI-XNET driver support)	✓	-
C Series Modules (CompactRIO driver support)	✓	Partial
C Series Expansion Chassis (914x/915x)	✓	-
Chassis for SLSC	✓	-
PXI Synchronization Modules	Partial	Partial
PXI Multifunction I/O Modules and Multifunction I/O Devices (601x/602x/603x/604x/605x/607x, E and B Series)	✓	-

	LabVIEW 2020 Real-Time Module	LabVIEW NXG Real-Time Module 5.0
PXI Multifunction I/O Modules and Multi-function I/O Devices (61xx/62xx/63xx/67xx)	✓	-
PXI Analog Input Modules	✓	-
PXI Temperature Input Modules and Temperature Input Device	✓	-
PXI Strain/Bridge Input Modules	✓	-
PXI Sound and Vibration Modules and Sound and Vibration Devices	✓	-
PXI Analog Output Modules and Analog Output Devices	✓	-
PXI Digital I/O Modules and Digital I/O Devices	✓	-
PXI Counter/Timer Modules and Counter/Timer Devices	✓	-
PXI Position Displacement Module	✓	-
NI-USRP support	Partial	Partial
PXI FPGA Module for FlexRIO	✓	Partial
PXI Multifunction Reconfigurable I/O Modules and Multifunction Reconfigurable I/O Devices (R Series)	✓	-
Vehicle Communication Buses—CAN/LIN/FlexRay (PCI/PCI Express/PXI/PXI Express/USB)	✓	-
PXI Frame Grabber Modules (Camera Link and Gigabit Ethernet)	✓	-
Reconfigurable Frame Grabbers (Camera Link and Gigabit Ethernet)	✓	-
Digital Multimeters	✓	-
Waveform Generators	✓	-
Oscilloscopes	✓	-
Power Supplies and Source Measure Units	✓	-
Switches	✓	-
GPIB Hardware	✓	✓
Programming Environment		
Graphical Hardware Representation and Configuration	-	✓
Common Programming Structures	✓	✓
Math and Signal Processing	✓	✓
Object-Oriented Programming	✓	-
Data Communication		
TCP/IP, UDP APIs	✓	✓
Network Streams API	✓	✓
Queues	✓	✓

	LabVIEW 2020 Real-Time Module	LabVIEW NXG Real-Time Module 5.0
Network-Published Shared Variables	✓	-
Single-Process Shared Variables	✓	-
Modbus API	✓	-
EtherNet/IP, OPC UA, IEC 61850, DNP3, IEC 60870-5, Profibus, Profinet Support	✓	-
EtherCAT Support	✓	-
RT FIFO	✓	✓
DMA FIFO	✓	✓
Read/Write Control to FPGA	✓	✓

Part Number Table

Description	Part Number
LabVIEW Real-Time Module, Download	777844-35
LabVIEW Real-Time Japanese Download	777844-3512
LabVIEW Real-Time Module, Japanese, with Media	777844-3512WM
LabVIEW Real-Time Chinese Download	777844-3518
LabVIEW Real-Time Module, Chinese, with Media	777844-3518WM
LabVIEW Real-Time Module, with Media	777844-35WM
LabVIEW Real-Time Debug Deployment	777845-35