

FIRST Robotics Competition Software Release Notes

FRC 2010

The *FIRST* Robotics Competition (FRC) software includes three separate programming environments—LabVIEW™, Wind River® Workbench, and Sun™ SPOT Java™ Development Kit for FRC. Use any environment to develop the robotics program you want to run on the CompactRIO device. Use LabVIEW to program a robot in the LabVIEW graphical programming environment or to develop a desktop application. Use Wind River Workbench to program a robot in C or C++. Use the Sun SPOT JDK to program a robot in Java.

These release notes contain system requirements and installation instructions for the FRC software.

Read the [System Requirements](#) section of this document before you install the FRC software and then follow the instructions in the [Installing the FRC 2010 Software](#) section. Read the [Where to Go from Here](#) section of this document for information about programming resources.

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System Requirements

The FRC software has the following requirements.

LabVIEW

- Windows Vista/XP/2000 (To use this version of LabVIEW with Windows 2000, you must have Windows 2000 Service Pack 3 or later.)
- 2.4 GB of disk space



Note Refer to the *LabVIEW Release Notes*, at ni.com/manuals, for a complete list of system requirements for LabVIEW.

Wind River Workbench

- Windows XP Professional for (32-bit), Service Pack 2
- Windows Vista Business for (32-bit), Service Pack 1

Sun SPOT JDK

- Windows Vista/XP/2000
- 300 MB of disk space

Installing the FRC 2010 Software

Before you install the FRC software, consider that the FRC software includes the LabVIEW 8.6.1 Full Development System. If you install and activate the FRC software over LabVIEW 8.6.0, you must uninstall the FRC software and reinstall LabVIEW 8.6.0 after the FRC license expires. Alternatively, you can upgrade to LabVIEW 8.6.1 and reactivate LabVIEW using the LabVIEW 8.6.1 serial number.

Complete the following steps to install the FRC software. Ensure you have a working Internet connection to complete activation after installation.

1. Log on as an administrator or as a user with administrator privileges.
2. Disable any automatic virus detection programs before you install. Some virus detection programs interfere with installation.
3. Insert the *FIRST* Robotics Competition Software DVD Disc 1.
4. Follow the instructions that appear on the screen. If necessary, insert the *FIRST* Robotics Competition Software DVD Disc 2 when prompted.



Note If the installer does not open automatically, browse to the DVD root directory, double-click `setup.exe` to launch the installer, and then follow the instructions that appear on the screen.

5. In the **Product List**, select the products you want to install.
By default, the FRC Software installs all three programming environments. You must select **Do not install** for the products that you do not want to install.
6. Click the **Next** button.
7. Follow the instructions that appear on the screen.
8. When prompted, enter the serial number printed on the DVD sleeve.



Note The Vision Assistant Hot Fix window is a required step in the installation process. Continue to follow the instructions that appear on the screen to complete installation.

9. **(Wind River Workbench, new users)** Complete the following steps to install Wind River Workbench.
 - a. Follow the instructions that appear on the screen.
 - b. On the **Installer-Choose Activation Type** page, select **Permanent activation** and browse to the `Distributions\Wind River` directory on the NI2010FRC2 DVD.
 - c. Select the `FirstRobotics_2010_install.txt` file and click the **Open** button.



Note The `FirstRobotics_2010_install.txt` file contains the installation keys and licensing necessary to install and activate Wind River Workbench. Wind River renames this file to `install.txt` and installs the file in the `WindRiver` directory.

- d. Click the **Next** button and continue to follow the instructions that appear on the screen.
10. **(Wind River Workbench, returning users)** If the Wind River Workbench software for FRC 2009 exists on the host computer, complete the following steps to install the Wind River Workbench software for FRC 2010.
 - a. Follow the instructions that appear on the screen.
 - a. On the **Installer-Existing Product Activation File** page, select **Enter new activation information**.
 - b. On the **Installer-Choose Activation Type** page, select **Permanent activation**.
 - c. Browse to the `Distributions\Wind River` directory on the NI2010FRC2 DVD and select `FirstRobotics_2010_install.txt`.
 - d. On the **Installer-Choose Installation Filters** page, select **Custom Installation**.

- e. On the **Installer-Custom Installation** page, place a checkmark next to each product and click the **Install** button.
 - f. After the Overall Installation Progress bar displays (**installed 7 of 7 selected products**), click the **Next** button and continue to follow the instructions that appear on the screen.
11. At the end of installation, choose to **Run License Manager to activate the product(s)** and click the **Next** button to launch the NI Activation Wizard.
 12. Select the **Automatically activate through a secure Internet connection** option and click the **Next** button.
 13. If necessary, enter the serial number printed on the DVD sleeve.
 14. After installation and activation, enable any virus detection programs you disabled.
 15. Navigate to the *FIRST* Web site at www.usfirst.org/frccontrolsystem to download required updates for the programming environment you install.



Note (Wind River) The WPI Library for Wind River does not function until you download the most up-to-date WPI Library at www.usfirst.org/frccontrolsystem.

Activating the FRC Software

If you did not **Run License Manager to activate the product(s)** at the end of installation, you must activate the National Instruments portions of the software.

Complete the following steps to use the NI License Manager to activate the FRC software.

1. Select **Start»All Programs»National Instruments»NI License Manager** to display the NI License Manager.
2. In the **Local Licenses** tree, navigate to **LabVIEW 8.6.1»Development System»FIRST Robotics Competition** and ensure the icon for the **FIRST Robotics Competition** item is a full yellow box. A full yellow box designates an activated or otherwise fully featured, expiring license.
3. If the icon is not a full yellow box, right-click the **FIRST Robotics Competition** item and select **Activate** from the shortcut menu.
4. When the NI Activation Wizard appears, select to **Automatically activate through a secure Internet connection** and enter the serial number printed on the *FIRST* Robotics Competition software DVD sleeve, if necessary.
5. Close the NI License Manager.

Where to Go from Here

Refer to the FRC Community Web site at <http://firstcommunity.usfirst.org/> for official information about FRC, including rules and regulations as well as support information.

If you program a robot in LabVIEW, you can refer to the following documents to get started building an application for FRC:

- *Getting Started with LabVIEW for the FIRST Robotics Competition*—Use this manual to learn about the LabVIEW graphical programming environment and the basic LabVIEW features you can use to build FRC applications. Access this manual by navigating to the National Instruments\LabVIEW 8.6\manuals directory and opening `FRC_Getting_Started.pdf`.
- *LabVIEW Robotics Programming Guide for the FIRST Robotics Competition*—Use this manual to access information about robotics programming concepts, reference information about the *FIRST* Robotics Competition VIs, and guidelines for troubleshooting in LabVIEW. Access this manual by navigating to the National Instruments\LabVIEW 8.6\manuals directory and opening `FRC_Programming_Guide.pdf`.
- *LabVIEW Help*—Use the *LabVIEW Help* to access information about LabVIEW programming concepts, step-by-step instructions, and reference information. The *LabVIEW Help* also contains information about the *FIRST* Robotics Competition VIs and dialog boxes. Access the *LabVIEW Help* by selecting **Help»Search the LabVIEW Help** in LabVIEW.

If you program a robot in Wind River Workbench, you can refer to the following documents to get started building an application for FRC:

- *C/C++ Programming Guide for the FIRST Robotics Competition*—Use this manual to access information about robotics programming concepts, reference information about the WPI Robotics Library, and guidelines for troubleshooting in Wind River Workbench. Access this manual by navigating to the `WindRiver\docs\extensions\FRC` directory and opening `C Programming Guide for FRC.pdf`.
- *Wind River Workbench User's Guide*—Use this guide to access information about building and debugging an application in Wind River Workbench. Access this guide by selecting **Help»Help Contents** in Wind River Workbench and navigating to the **Wind River Documentation»Guides»Host Tools»Wind River Workbench User's Guide 3.0, VxWorks Version** book on the **Contents** tab.

If you program a robot in the Sun SPOT JDK, you can refer to the following documents to get started building an application for FRC:

- *Release Notes for Java Programming*—Use these release notes to access information about installing the WPILib Sun SPOT JDK extensions you can use to program a robot in Java. Access these release notes by navigating to the FRCJava directory and opening `Release notes for Java programming.pdf`.
- *C and Java Programming Guide for FRC*—Use this guide to access information about robotics programming concepts in Java, reference information about the WPI Robotics Library, and guidelines for troubleshooting in Java. Access this guide by navigating to the FRCJava directory and opening `C and Java Programming Guide for FRC.pdf`.

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