# USB Cable Installation Guide

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## **Revision History**

The following table shows the revision history for this document.

Date	Version	Revision
02/02/07	1.0	Initial Xilinx release.
03/06/08	2.0	<ul> <li>Added support for Platform Cable USB II (DLC10).</li> <li>Added support for Windows Vista.</li> <li>Added Figure 1-2, page 10 and Figure 1-3, page 11 to address Windows Vista security dialog boxes.</li> <li>Updated "Step 4: Determine Installation Flow," page 12 for Linux operating systems.</li> <li>Simplified "Step 5: Install the Xilinx USB Cable," page 15 for Windows operating systems.</li> <li>Updated download links for Windows and Linux cable driver installers.</li> <li>Updated document template.</li> <li>Numerous minor edits to enhancements clarity.</li> </ul>

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# About This Guide

This guide explains how to install the Xilinx family of USB programming cables, including information related to installing Xilinx USB cables with the Xilinx Integrated Software Environment (ISE $^{\text{TM}}$ ) and Xilinx WebPACK $^{\text{TM}}$  software.

#### **Guide Contents**

This manual contains the following chapters:

- Chapter 1, "Installing Xilinx USB Cables," provides step-by-step installation procedure.
- Chapter 2, "Found New Hardware Wizard," explains installation via this wizard.
- Appendix A, "Known Issues," covers knows issues that can occur during the installation procedure.

#### **Additional Documentation**

1. DS593, Platform Cable USB II Data Sheet

This data sheet provides a complete description of the Platform Cable USB II hardware, including operation and electrical characteristics.

2. DS300, Platform Cable USB Data Sheet

This data sheet provides a complete description of the Platform Cable USB hardware, including operation and electrical characteristics.

3. Platform Cable USB Frequently Asked Questions (FAQ)

This FAQ contains supplemental information for the Platform Cable USB.

4. ISE Software Manual

The ISE software manuals provide software installation instructions, pointers to additional online documentation and listings of known issues. Xilinx maintains a collection of current and older manuals at:

http://www.xilinx.com/support/software\_manuals.htm.

5. WebPACK Frequently Asked Questions (FAQ)

This FAQ contains WebPACK-specific information supplementing the *ISE Software Manual*. This FAQ includes additional software download and installation information, as well as WebPACK device and feature support.

To find additional documentation, see the Xilinx website at:

http://www.xilinx.com/literature.



## **Additional Resources**

For USB cable installation issues not covered in this guide, consult Xilinx's interactive *Configuration Problem Solver* at:

http://www.xilinx.com/support/troubleshoot/psolvers.htm

To search the answer database of silicon, software, and IP questions and answers, or to create a technical support WebCase, see the Xilinx website at:

http://www.xilinx.com/support.

## **Supported Xilinx Software and Operating Systems**

Xilinx Integrated Software Environment (ISE) Foundation™ or Xilinx ISE WebPACK software must be installed on a supported operating system before any Xilinx USB cable can be used. The following table lists operating system and Xilinx software combinations that can be used with Xilinx USB cables.

Table 1-1: Supported Operating Systems and ISE/WebPACK Versions

Operating System	ISE or WebPACK Versions
Windows 2000 Professional SP4	6.3.03i or later
Windows XP Professional 32-bit	6.3.03i or later
Windows XP Professional 64-bit	9.1i or later
Windows Vista 32 and 64-bit	9.2 or later
Red Hat Enterprise Linux WS 3.0 32-bit	7.1i or later
Red Hat Enterprise Linux WS 3.0 64-bit	9.1i or later
Red Hat Enterprise Linux WS 4.0 32-bit	8.2i or later
Red Hat Enterprise Linux WS 4.0 64-bit	9.1i or later
Red Hat Enterprise Linux WS 5.0 32-bit and 64-bit	9.2i or later
SUSE Linux Enterprise 10.0 32 and 64-bit	10.1 or later

#### Notes:

- 1. The operating systems supported by Xilinx USB cables are a sub-set of the operating systems supported by the ISE or WebPACK software.
- 2. WebPACK software is a free application available on the Xilinx ISE CD/DVD or for download at <a href="http://www.xilinx.com/ise/logic\_design\_prod/webpack.htm">http://www.xilinx.com/ise/logic\_design\_prod/webpack.htm</a>.



## **Conventions**

This document uses the following conventions. An example illustrates each convention.

## Typographical

The following typographical conventions are used in this document:

Convention	Meaning or Use	Example
Courier font	Messages, prompts, and program files that the system displays	speed grade: - 100
Courier bold	Literal commands that you enter in a syntactical statement	ngdbuild design_name
Helvetica bold	Commands that you select from a menu	File → Open
	Keyboard shortcuts	Ctrl+C
	Variables in a syntax statement for which you must supply values	ngdbuild design_name
Italic font	References to other manuals	See the <i>Development System Reference Guide</i> for more information.
	Emphasis in text	If a wire is drawn so that it overlaps the pin of a symbol, the two nets are <i>not</i> connected.
Square brackets []	An optional entry or parameter. However, in bus specifications, such as <b>bus</b> [7:0], they are required.	ngdbuild [option_name] design_name
Braces { }	A list of items from which you must choose one or more	lowpwr ={on off}
Vertical bar	Separates items in a list of choices	lowpwr ={on off}
Vertical ellipsis	Repetitive material that has been omitted	IOB #1: Name = QOUT' IOB #2: Name = CLKIN' .
Horizontal ellipsis	Repetitive material that has been omitted	allow block block_name loc1 loc2 locn;



## **Online Document**

The following conventions are used in this document:

Convention	Meaning or Use	Example
Blue text	Cross-reference link to a location in the current document	See the section "Additional Resources" for details.  Refer to "Title Formats" in
Red text	Cross-reference link to a location in another document	Chapter 1 for details.  See Figure 2-5 in the Virtex-II Platform FPGA User Guide.
Blue, underlined text	Hyperlink to a website (URL)	Go to <a href="http://www.xilinx.com">http://www.xilinx.com</a> for the latest speed files.



# Installing Xilinx USB Cables

Proprietary device drivers must be installed to allow Xilinx Integrated Software Environment (ISE<sup>TM</sup>) and Xilinx WebPACK<sup>TM</sup> software (for example, iMPACT) to communicate with Xilinx USB cables. Installation flows can differ depending on:

- USB cable model
- ISE or WebPACK software version
- PC operating system

In general, a complete USB cable installation is performed automatically when the latest ISE or WebPACK software is installed. However, additional actions may be necessary if, for example, the cable is to be installed on a Linux operating system. Another example is if Platform Cable USB II (Model DLC10) is to be used with ISE or WebPACK software versions prior to 10.1.

This chapter is organized to provide the user with a step-by-step and system-specific procedure for installing Xilinx USB cables. There are five steps required for installation:

Step 1: Install ISE or WebPACK Software and USB Cable Drivers

Step 2: Find the Cable Model

Step 3: Find the ISE or WebPACK Software Version

Step 4: Determine Installation Flow

Step 5: Install the Xilinx USB Cable

It is highly recommended that the user start with Step 1: Install ISE or WebPACK Software and USB Cable Drivers and follow the procedure in order.

## Step 1: Install ISE or WebPACK Software and USB Cable Drivers

- 1. Install the ISE or WebPACK software. Refer to the appropriate ISE installation guide or WebPACK software FAQ (refer to "Additional Documentation" in "About This Guide").
- During Xilinx ISE or WebPACK software installation, confirm that the cable drivers are selected (Figure 1-1) to insure that the drivers are copied from the installation media to the target system.

**Note:** Cable drivers are not selected by default for Linux versions of ISE and WebPACK software. The window shown in Figure 1-1 does not appear when installing **WebPACK - Lab Install (Programming Tools Only)**. The cable drivers are installed automatically with this application.

Note: The window shown in Figure 1-1 can vary for different ISE releases.



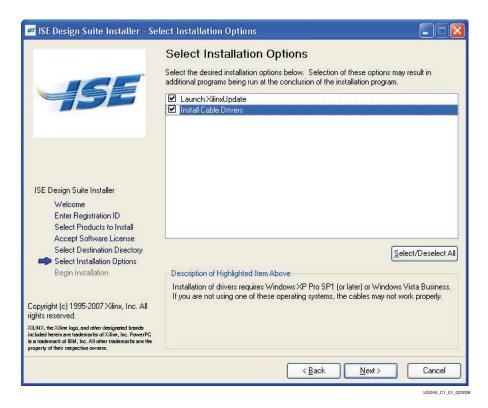


Figure 1-1: ISE 10.1 Design Suite Installer

 (Windows Vista only) During installation, two Windows Security dialog boxes may appear: one for the Jungo driver (Figure 1-2) and one for Xilinx cable driver (Figure 1-3). In both instances, check the box next to Always trust software from "XXXX" and then click Install.



Figure 1-2: Windows Security Dialog Box for the Jungo Driver (Windows Vista Only)





Figure 1-3: Windows Security Dialog Box for the Xilinx Cable Driver (Windows Vista Only)

## **Step 2: Find the Cable Model**

1. Find and record the model number of the USB cable. The model number is printed on the label attached to the cable's case (Figure 1-4). Table 1-1 shows a complete list of Xilinx USB cable models.

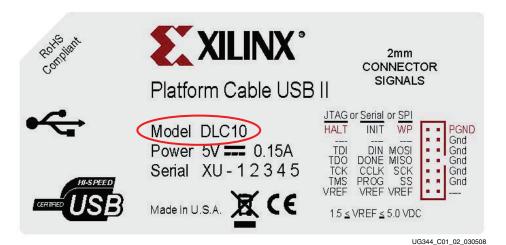


Figure 1-4: Model Number on a USB Cable

Table 1-1: Xilinx USB Cables

Name	Model
Platform Cable USB II	DLC10
Platform Cable USB	DLC9G
Platform Cable USB	DLC9LP
Platform Cable USB	DLC9

2. Proceed to "Step 3: Find the ISE or WebPACK Software Version."



## Step 3: Find the ISE or WebPACK Software Version

Find and record the ISE or WebPACK software version installed on the host system. Version information can be found using the Project Navigator or iMPACT GUI:

- 1. Launch the Xilinx ISE Project Navigator or iMPACT.
- 2. From the pull down menus near the top of the GUI, select **Help.**
- 3. Select About...
- 4. A dialog box similar to Figure 1-5 appears. Record the release version.
- 5. Proceed to "Step 4: Determine Installation Flow."



Figure 1-5: Finding the ISE Version

## **Step 4: Determine Installation Flow**

After determining the cable's model number and ISE or WebPACK software version, select the installation flow based on the host PC's operating system.

#### For Windows XP Professional or 2000 Professional

#### For model DLC10

For ISE or WebPACK software version:

• 10.1 or later:

Cable installation was completed during ISE or WebPACK software installation. No further actions are required.

• 6.3.03i through 9.2.04i:

Proceed to "Step 5: Install the Xilinx USB Cable."

**Note:** Xilinx recommends updating to the latest ISE or WebPACK software version to obtain current USB cable enhancements and fixes.

• 6.3.02i or earlier:

Xilinx USB cables are not supported. Upgrade to a supported ISE or WebPACK software version and then return to this step.



#### For model DLC9LP or DLC9G

For ISE or WebPACK software version:

• 8.2i or later:

Cable installation was completed during ISE or WebPACK software installation. No further actions are required.

• 6.3.03i through 8.1.03i:

Proceed to "Step 5: Install the Xilinx USB Cable."

**Note:** Xilinx recommends updating to the latest ISE or WebPACK software version to obtain current USB cable enhancements and fixes.

• 6.3.02i or earlier:

Xilinx USB cables are not supported. Upgrade to a supported ISE or WebPACK software version and then return to this step.

#### For Model DLC9

For ISE or WebPACK software version:

• 7.1i or later:

Cable installation was completed during ISE or WebPACK software installation. No further actions are required.

• 6.3.03i (only):

Proceed to "Step 5: Install the Xilinx USB Cable."

**Note:** Xilinx recommends updating to the latest ISE or WebPACK software version to obtain current USB cable enhancements and fixes.

6.3.02i or earlier:

Xilinx USB cables are not supported. Upgrade to a supported ISE or WebPACK software version and then return to this step.

#### For Windows Vista

#### For model DLC10

For ISE or WebPACK software version:

• 10.1 or later:

Cable installation was completed during ISE or WebPACK software installation. No further actions are required.

• 9.2i through 9.2.04i:

Proceed to "Step 5: Install the Xilinx USB Cable."

**Note:** Xilinx recommends updating to the latest ISE or WebPACK software version to obtain current USB cable enhancements and fixes.

• 9.1.03i or earlier:

ISE and WebPACK software versions prior to 9.2i are not supported on Windows Vista. Upgrade to a supported ISE or WebPACK software version and then return to this step.



#### For model DLC9LP, DLC9G or DLC9

For ISE or WebPACK software version:

• 9.2i or later:

Cable installation was completed during ISE or WebPACK software installation. No further actions are required.

• 9.1.03i or earlier:

ISE and WebPACK software versions prior to 9.2i are not supported on Windows Vista. Upgrade to a supported ISE or WebPACK software version and then return to this step.

#### For Red Hat Enterprise Linux WS or SUSE Linux Enterprise

#### For Model DLC10

For ISE or WebPACK software version:

• 10.1 or later:

Use Table 1-1, page 11 to verify that the Linux operating system installed on the host supports Xilinx USB cables. If USB cables are supported, then cable installation was completed during the ISE or WebPACK software installation and no further actions are required. Otherwise, upgrade to a supported Linux operating system and re-install the Xilinx design tool to complete the installation.

• 7.1i through 9.2.04i:

Use Table 1-1 to verify that the Linux operating system installed on the host supports Xilinx USB cables. If USB cables are supported, then proceed to "Step 5: Install the Xilinx USB Cable." Otherwise, upgrade to a supported Linux operating system, reinstall the Xilinx design tool, and then return to this step.

**Note:** Xilinx recommends updating to the latest ISE or WebPACK software version to obtain current USB cable enhancements and fixes.

• 6.3.03i or earlier:

Xilinx USB cables are not supported. Upgrade to a supported ISE or WebPACK software version and then return to this step.

#### For Model DLC9LP, DLC9G or DLC9

For ISE or WebPACK software version:

• 9.2i or later:

Use Table 1-1 to verify that the Linux operating system installed on the host supports Xilinx USB cables. If USB cables are supported, then cable installation was completed during the ISE or WebPACK software installation and no further actions are required. Otherwise, upgrade to a supported Linux operating system and re-install the Xilinx design tool to complete the installation.

• 7.1i through 9.1.03i:

Use Table 1-1 to verify that the Linux operating system installed on the host supports Xilinx USB cables. If USB cables are supported, then proceed to "Step 5: Install the Xilinx USB Cable." Otherwise, upgrade to a supported Linux operating system, reinstall the Xilinx design tool and then return to this step.

**Note:** Xilinx recommends updating to the latest ISE or WebPACK software version to obtain current USB cable enhancements and fixes.



6.3.03i or earlier:

Xilinx USB cables are not supported. Upgrade to a supported ISE or WebPACK software version and then return to this step.

## **Step 5: Install the Xilinx USB Cable**

#### On All Windows Operating Systems

This section provides a step-by-step procedure for installing Xilinx USB cables on all Windows hosts.

Note: Administrator privileges are required to perform some of the steps described in this section.

- 1. Disconnect all Xilinx USB cables from the host computer.
- Download ug344\_windows.zip from the following Xilinx website: https://secure.xilinx.com/webreg/clickthrough.do?cid=100840

status messages. Warning messages can be safely ignored.

3. Extract the contents of the archive. The extraction creates a folder named install\_xusb. Open this folder and double-click on install\_xusb.bat to start the installation. While the installer is running, a DOS terminal window opens and displays installation

Caution! Do not attempt to close this terminal window while the installer is running.

- 4. (Windows Vista only) While the installer is running, a Windows Security dialog box may appear (Figure 1-3, page 11). In this case, check the box next to **Always trust software from "Xilinx"** and then click **Install**.
- When the installation is complete, connect the Xilinx USB cable to the desired USB port. (Windows XP Professional) Follow the Found New Hardware wizard when it appears (see Chapter 2, "Found New Hardware Wizard").

(Windows Vista or Windows Professional 2000) Installation is complete and no other actions are required.

If the STATUS indicator on the cable illuminates, then the driver installation completed successfully.

## On All Linux Operating Systems

This section provides a step-by-step procedure for installing the Xilinx USB cable on all supported Linux hosts (Table 1-1, page 11).

**Note:** Root permission is required to perform the steps described in this section.

- 1. Disconnect all Xilinx USB cables from the host computer.
- 2. Open a shell or terminal console.
- 3. Download install\_drivers.tar.gz from the following Xilinx website: https://secure.xilinx.com/webreg/clickthrough.do?cid=103670
- 4. Extract the driver script and its support files by typing:

```
tar xzvf install_drivers.tar.gz
```

The extraction creates a directory named install\_drivers in the current directory.

5. Navigate to the install\_drivers directory by typing:

cd install drivers



- 6. Run the script by typing:
  - ./install\_drivers
- 7. When the installation is complete, connect the Xilinx USB cable to the desired USB port.

If the STATUS indicator on the cable illuminates, then the driver installation completed successfully.



# Found New Hardware Wizard

## Running the New Hardware Wizard (Windows XP Professional Only)

The Windows operating system recognizes a USB device through the unique combination of the device's USB vendor ID (VID) and the device's product ID (PID). Xilinx USB devices have a Xilinx-assigned VID. Similarly, the Xilinx USB cable firmware loader has an associated PID. The Xilinx USB cable firmware, however, has a PID distinct from the USB cable firmware loader. Each specific combination of a device USB VID and PID requires a corresponding device driver to be registered with the physical USB port for proper operation under the Windows operating system.

The first time a cable is attached after software installation, Windows XP Professional invokes the **Found New Hardware Wizard** and registers the device drivers:

- Once for the Xilinx USB cable firmware loader (Figure 2-1 and Figure 2-2)
- Again for the Xilinx USB cable itself (Figure 2-3 and Figure 2-4)

In addition, Windows XP Professional invokes the wizard each time a Xilinx USB cable is plugged into a different physical USB port for the first time, or if a different Xilinx USB cable model is plugged into a previously configured port.

**Note:** The Found New Hardware Wizard does not appear in Windows Vista and Windows 2000 Professional.

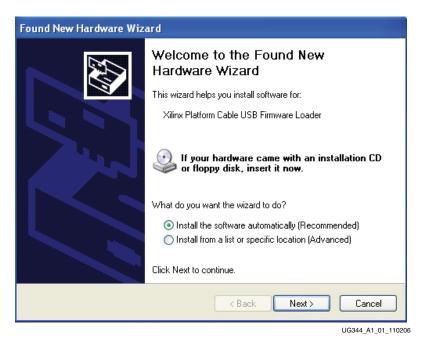


Figure 2-1: Firmware Loader PID Detected





UG344\_A1\_02\_110206

Figure 2-2: Firmware Loader Driver Registered



UG344\_A1\_03\_110206

Figure 2-3: Application PID Detected





UG344\_A1\_04\_110206

Figure 2-4: Application PID Registered





# Known Issues

## **Windows Found New Hardware Messages**

#### 'Wizard Cannot Install this Hardware'

After following the **Found New Hardware** wizard, the dialog box shown in Figure A-1 can appear after installing a newer version of  $ISE^{TM}$  or  $WebPACK^{TM}$  software, or if the directory where ISE or WebPACK is installed is renamed.



Figure A-1: Cannot Install this Hardware

To resolve this issue, follow this procedure:

- 1. From the window shown in Figure A-1, click < Back.
- 2. When the window switches to the one shown in Figure A-2, select the **Install from a list or specific location (Advanced)** radio button and then click **Next** >.





Figure A-2: Install Software from a Specific Location

When the window switches to the one shown in Figure A-3, click on the check box next to Include this location in the search and enter the path to the ISE or WebPACK installation directory. Then click Next >.

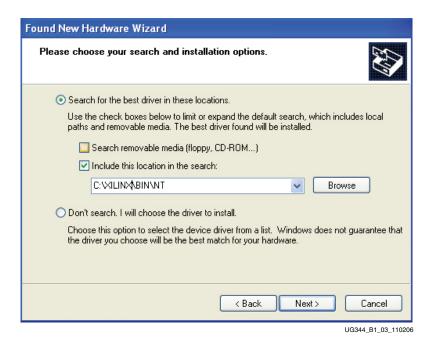


Figure A-3: Pointing the Wizard to the ISE or WebPACK Installation Directory

**Note:** The directory c:\xilinx\bin\nt is the default installation path. If an environment variable is used to establish a different installation location using the %XILINX% alias, point the wizard to the location defined by %XILINX%\bin\nt.



4. After a short file transfer, the wizard should indicate successful installation of the Xilinx Platform Cable USB Firmware Loader (Figure A-4. The "Xilinx Platform Cable USB" text can differ depending on USB cable type.

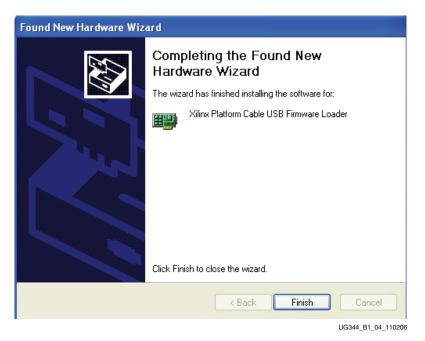


Figure A-4: Found New Hardware Wizard Completes

5. Proceed to the next iteration of the **Found New Hardware** wizard and then complete the installation.

