Precision Clock EVB Software Installation Instructions

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This document describes how to install the Precision Clock EVB software and driver. There are also details on how to troubleshoot the EVB installation and connection.

Note: Install the driver before connecting the EVB to the PC.

PC System Requirements

- Microsoft Windows XP, Vista, 7
- 4MB of hard drive space
- Microsoft .NET Framework 4.0
- USB 2.0

Quick Start

1. Install the Precision Clock EVB Software and Driver. (Assumes that Microsoft .NET Framework is already installed. See the next section for more information.) The new driver must be installed.

2. Connect the power supplies to the EVB as described in the datasheet.

3. Turn on the power supplies.

4. Connect a USB cable from the EVB to the PC where the software was installed.

5. Every new Precision Clock EVB connected to a PC will have the "Found New Hardware" wizard run. Use the defaults in the wizard to set up the driver correctly.

6. Launch the Precision Clock EVB Software by clicking on **Start > Programs > Silicon Laboratories > Precision Clock EVB Software X.X** and selecting one of the programs for the Any Rate Precision Clocks.

7. See the online help in any Precision Clock EVB program available in the Help menu option for more information.

Microsoft .NET Framework

The Microsoft .NET Framework 4.0 is required BEFORE installing and running the software. Many versions of Windows come with .NET Framework already installed. Details and installation information about the .NET Framework are available via a shortcut in the NETFramework directory or at this website:

http://www.microsoft.com/download/en/details.aspx?displaylang=en&id=17851

Contact your system administrator for more details.

Precision Clock EVB Software Installation

To install:

1. Navigate to the file "PrecClkEVBSwInstall.exe".

2. Follow the steps in the wizard to install the program including installing the driver after the main wizard exits. The new driver must be installed for the latest version of the software to work.

3. Allow the driver installer to remove the old drivers. The system scanning will take some time.

4. After the installation is complete, click on **Start > Programs > Silicon Laboratories > Precision Clock EVB Software X.X**, where X.X is the version number of the software. Select one of the Precision Clock EVB programs to control the EVB.

5. See the online help available in the Precision Clock EVB programs via the Help menu option.

To uninstall:

Click **Start > Programs > Silicon Laboratories > Precision Clock EVB Software X.X > Uninstall Software** to uninstall the software from the system.
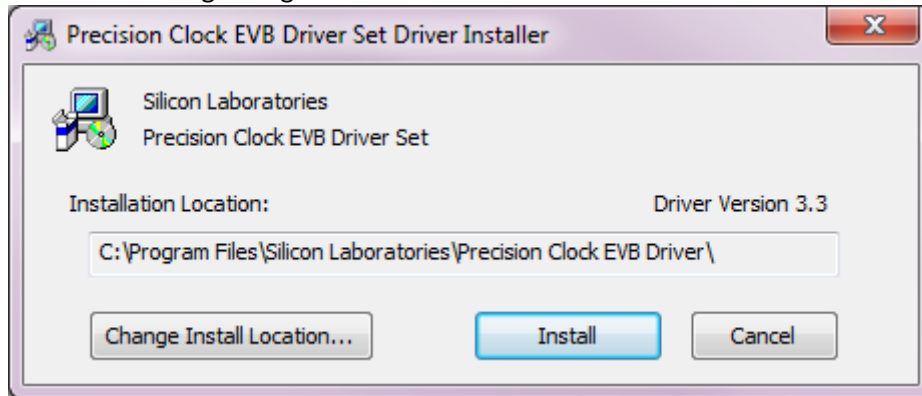
OR

1. Open Add/Remove Programs in the Control Panel.

2. Select the "Precision Clock EVB Software" entry and click Remove.

3. Follow the steps in the wizard to complete the removal.

NOTE: Neither of these steps will uninstall the Precision Clock EVB (USBXpress Device) Driver.
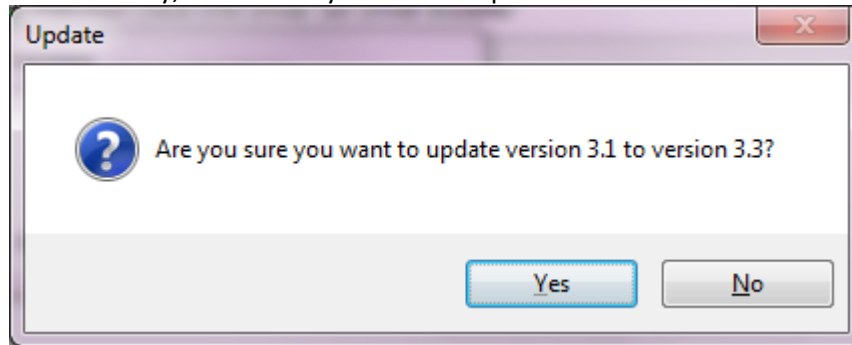
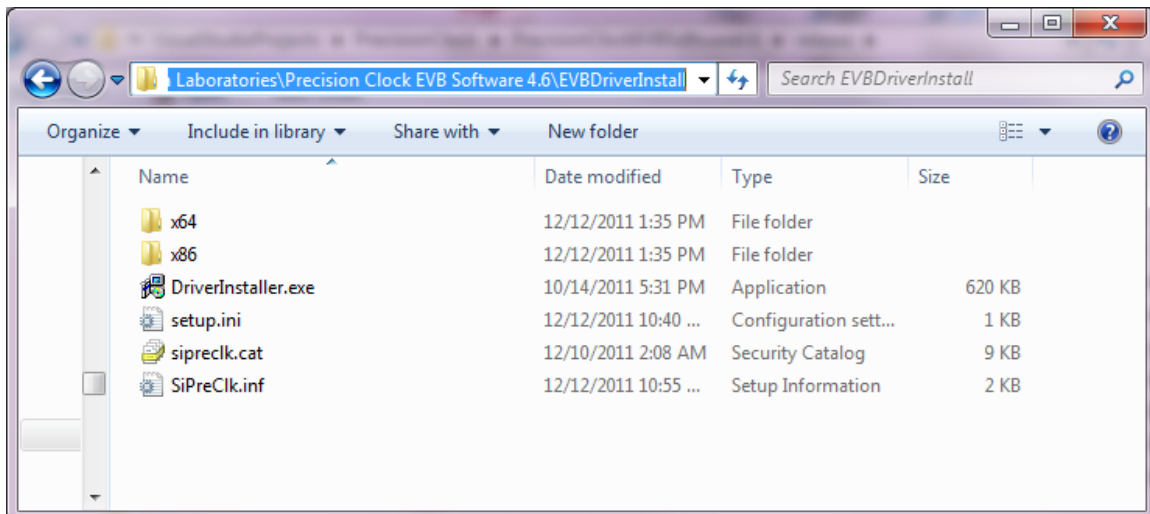# Precision Clock EVB (USBXpress) Driver Details

To install:
1. The installation of the driver should take place after the main software install finishes as seen in the following dialog box.

2. The driver installer may have to scan the system for old driver files. If you have version 3.1 installed already, it will ask if you want to update to the new 3.3 version.

3. If this installation is not successful or the installation needs to occur again:
   a. The installer is available on the EVBDriverInstall folder of the CD or in the zip file. Run the DriverInstaller.exe file to launch it.
   b. The installer is also available in the software installation directory as seen below. Run the DriverInstaller.exe file to launch it.
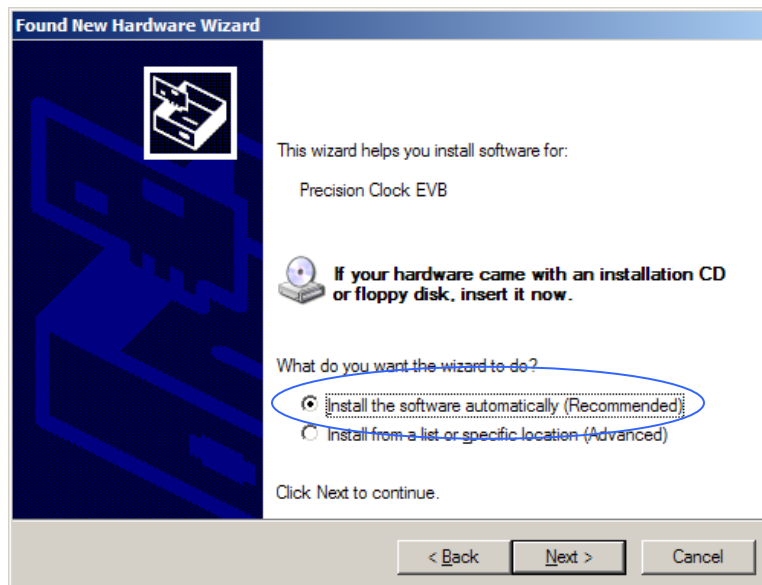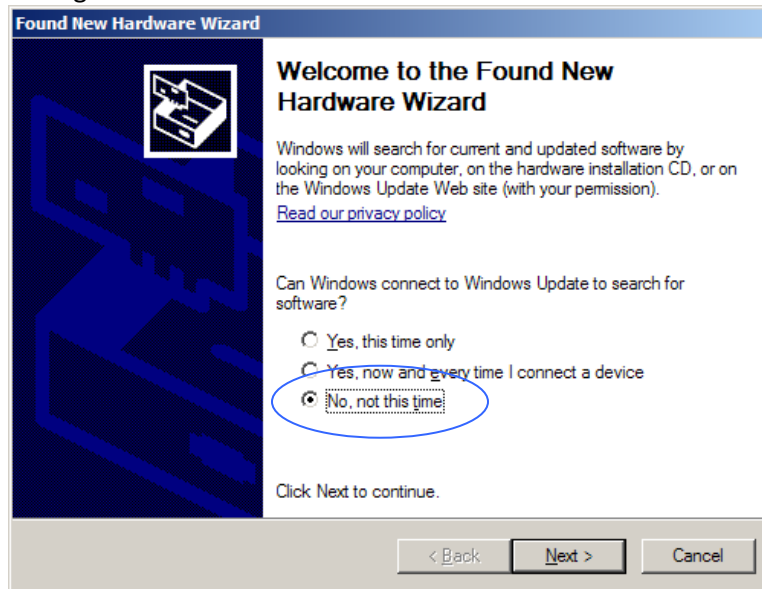
During a new EVB connection:
After the above files are installed, the operating system will be able to identify the EVB's USB connection when the EVB is connected to the PC. The following steps occur when an EVB is connected to the PC for the first time. Picking the defaults provides successful operation.

For Windows Vista and 7, the installation occurs in the background, and the results should be seen in the Device Manager.

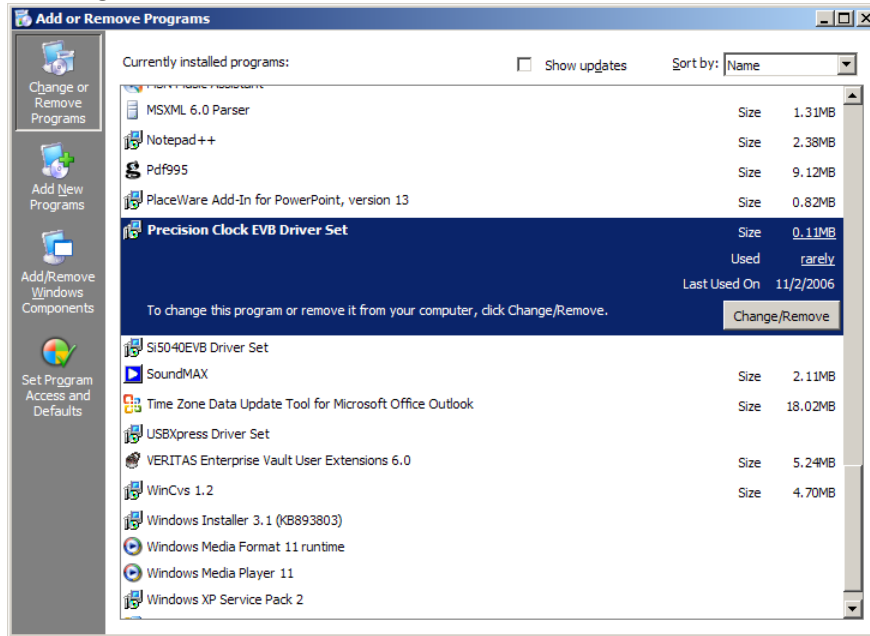The following two screens occur on Windows XP.

1. When the EVB is connected to the PC, the Found New Hardware wizard will appear.
Use the default settings that will tell the PC to look for the driver.

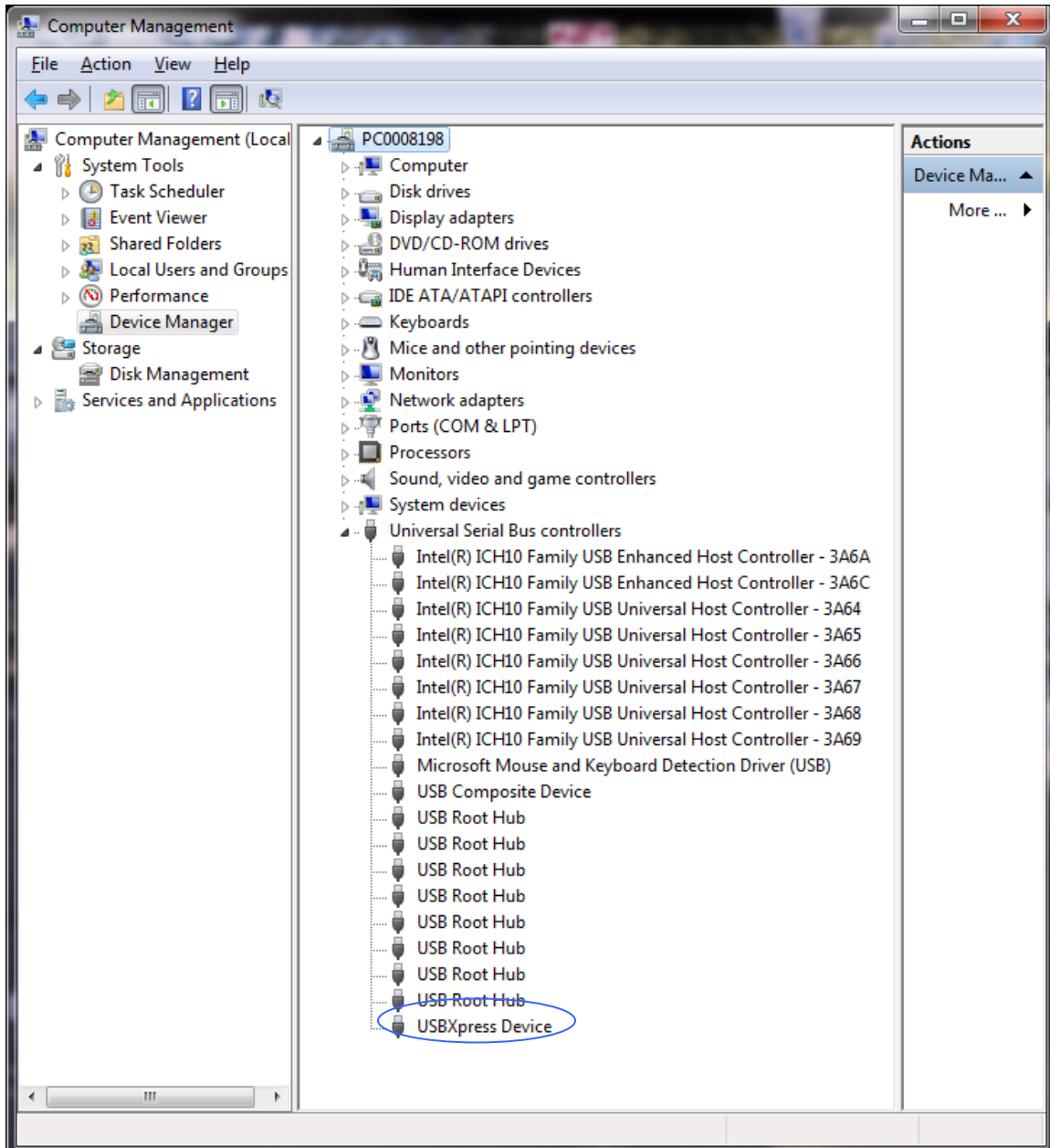2. Click Finish to complete the install.

To uninstall:

In the Control Panel, select Add or Remove Programs. Then select "Precision Clock EVB Driver Set" and click Change/Remove.
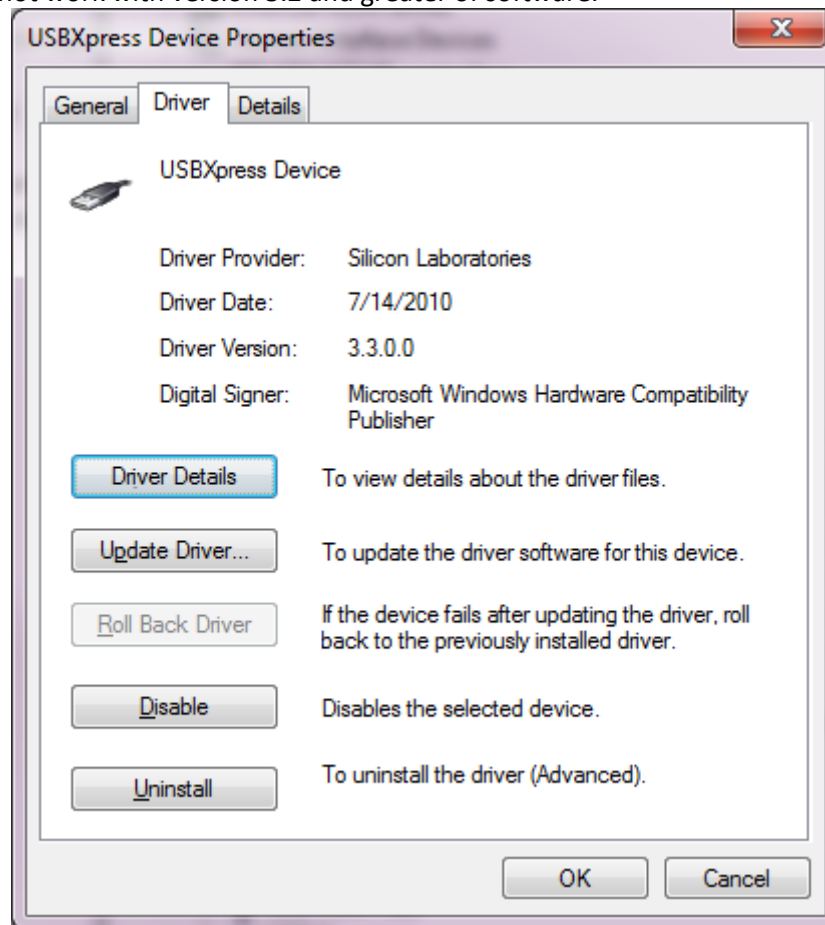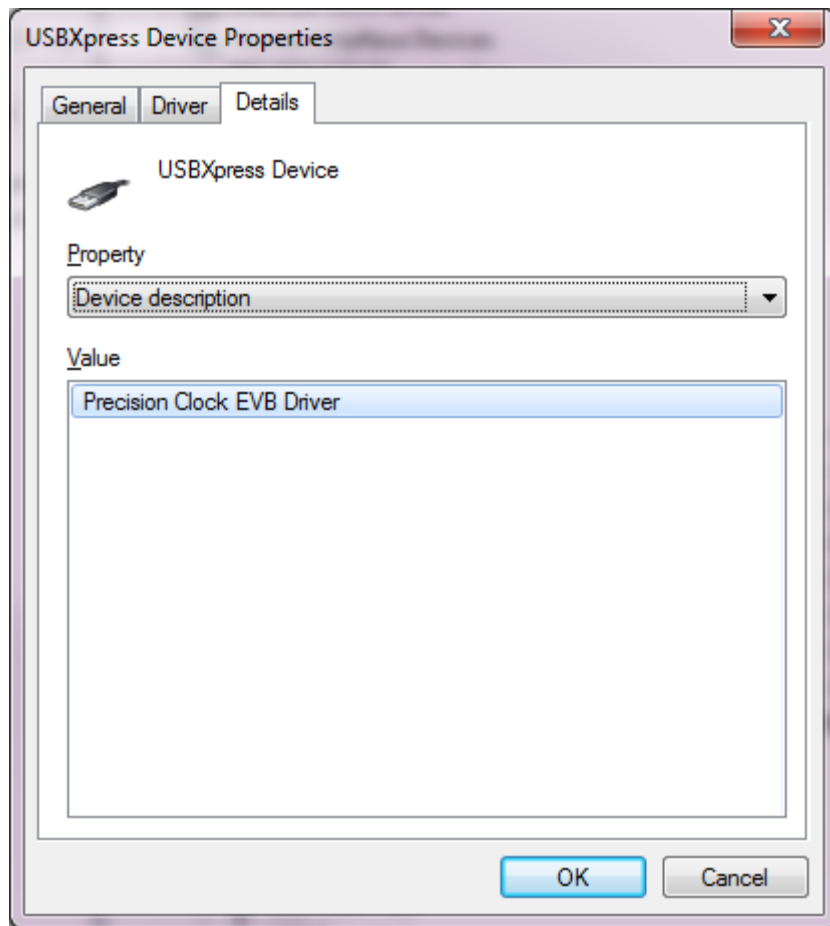
EVB Driver Comments

- Do not try to connect the EVB first and then install the drivers. This can confuse the driver selection and operating system. Run the driver installer first and then connect the EVB.
- You can verify the installation by going to the Device Manager. For every EVB connected, there should be a USBXpress Device (Precision Clock EVB) entry in the Universal Serial Bus section.

Successful Driver Installation

- The new version of the driver only works with version 3.2 and greater of the EVB software. The new driver version is 3.3 with date 7/14/2010. The version dated with 2004 is too old and will not work with version 3.2 and greater of software.

- If the driver is not working as seen in the image below, try:
    - Reconnecting the EVB to the PC and letting the Hardware Wizard run again.
    - Uninstalling the driver and reinstalling it via the Add or Remove Programs. Make sure to disconnect the EVB while doing this.

EVB Connection Issues

- The EVB functionality has been verified in the factory; however, the MCU on the EVB can break. In this case, even though the EVB is powered on and outputting signals, the MCU will not connect via USB. The PC will not recognize the EVB. There will be no Precision Clock EVB entries in the Device Manager. The LEDs may not be on. The MCU will have to be replaced and reprogrammed at the factory.
- If the Find New Hardware Wizard does not run when a new EVB is connected to the PC for the first time, then disconnect and reconnect it. Also try to reboot the PC. However the Find New Hardware Wizard will not run if the EVB has already been successfully connected to the PC before.
- If the software seems to be reading all zeros or all ones from the MCU-controlled clock device's register map, then the SPI connection between the MCU and the device is not working.
  - Power-cycle the EVB to ensure the CMODE, RESET, and other pins are configured correctly based on the EEPROM settings.
  - Probe the SPI lines to determine if there is any response from the device.
  - Ensure the devices including the clock chip, CPLD, and MCU are soldered properly.
  - Determine if the EVB is missing any other support devices like regulators or resistors.
  - Make sure the EVB and clock device are powered correctly.