



# Cypress USB-Serial Windows Driver Installation Guide

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# 1. Introduction



The Cypress USB-Serial device can be configured as UART, SPI, I2C, or JTAG. These following drivers are required for the functioning of the USB-Serial devices.

- 1.) Virtual COM port driver. (CDC UART)
- 2.) Vendor peripheral device driver. (SPI, PHDC SPI, I2C, Vendor UART, PHDC UART, JTAG, GPIO, User Flash Access, and so on.)

The Virtual COM port driver works seamlessly with the Windows serial communication API. Any serial terminal application, such as Tera Term, HTerm, or Microsoft® Hyper Terminal, will work with this driver. You have the option to use Windows Serial Communication APIs to communicate with the device UART port.

This user guide describes the steps to install the Cypress drivers for USB-Serial devices in Windows. For instructions on driver installation on Linux, MAC, and Android refer to the readme.txt in the respective SDK installation. The following table describes the drivers shipped with USB-Serial.

Table 1: Cypress Drivers

#	Driver Name	Description
1	CypressUsbConsoleWindowsDriver.sys	Cypress UART CDC class driver for x86 platform
2.	CypressUsbConsoleWindowsDriver64.sys	Cypress UART CDC class driver for x64 platform
3	cyusb3.sys	Cypress generic USB 3.0 driver for vendor interfaces(x86 & x64)

## 1.1 Operating Systems

The following operating systems support the Cypress driver installation.

#	Operating system	Architecture
1	Windows XP	x86 and x64
2	Windows Vista	x86 and x64
3.	Windows 7	x86 and x64
4.	Windows 8	x86 and x64

## 2. Cypress CDC Driver Installation



The Cypress CDC driver installation has two parts, 1) The Cypress USB bus enumerator driver installation and 2) The Cypress USB serial port driver installation. The CDC driver installation starts with the installation of the Cypress USB bus enumerator driver. The Cypress bus enumerator is responsible for enumerating all the Cypress USB serial ports connected to the host. The Cypress USB bus enumerator driver remains installed even after all serial ports are removed from the host. After the bus enumerator driver is installed, the installation proceeds with the installation of the Cypress serial ports. The driver installation creates two device nodes for a Cypress USB serial port – one under USB Bus Enumerator and another under Ports, in the Device Manager.

You can install the Cypress CDC driver using three methods:

1. Windows Update
2. Driver Installer Setup
3. Manual Installation

The following sections explain each of these three methods of installation.

### 2.1 Windows Update

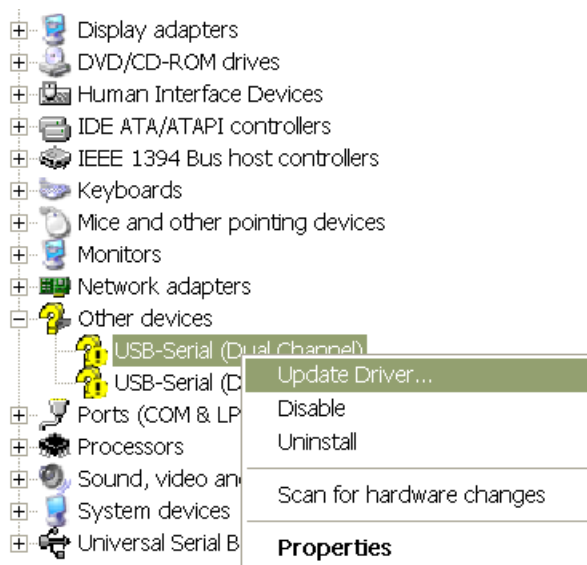
If the machine is connected to the internet, Windows automatically searches for a compatible driver in the Windows update site and installs the latest version of the driver. If Windows does not automatically start the search, the search can be triggered manually. The following sections describe the steps to start the driver search in the Windows XP and the Windows 7 operating systems. The procedure is similar for other supported operating systems. Contact the Cypress support team for help.

#### 2.1.1 Start Windows Update search in Windows XP

Follow these steps to start the Windows Update search:

1. Connect the USB-Serial device to the machine
2. Open **Window Device Manager**. To open Window Device Manager, go to **Start > Control Panel**. Double-click on **System**. On the Hardware tab, click **Device Manager**.
3. Right-click on the USB-Serial device and select **Update Driver...** from the context menu (as shown in Figure 2-1) to launch the **Hardware Update Wizard**.

Figure 2-1: Open Hardware Update Wizard



4. In the **Hardware Update Wizard** select **Install the software automatically (Recommended)** (as shown in Figure 2-2) and click **Next** to start the search on Windows Update site (Figure 2-3).

Figure 2-2: Hardware Update Wizard

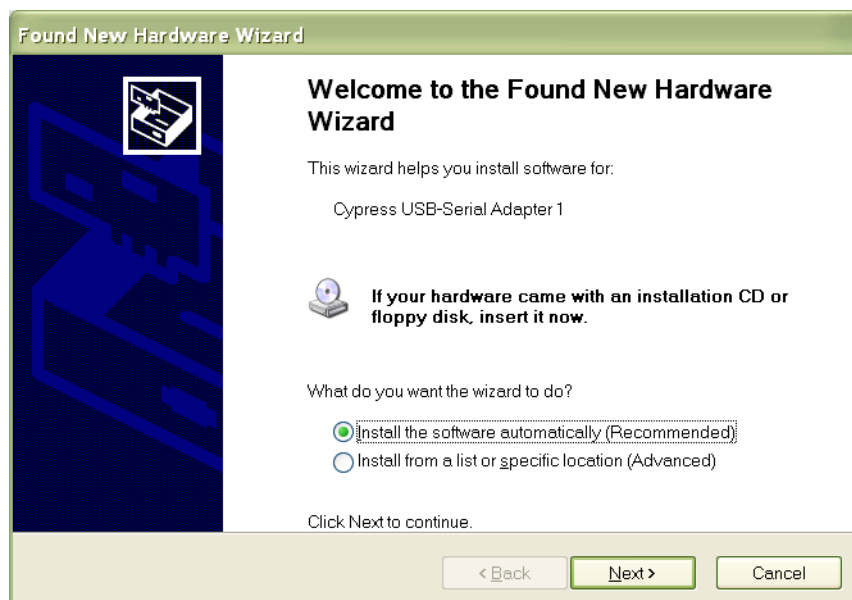
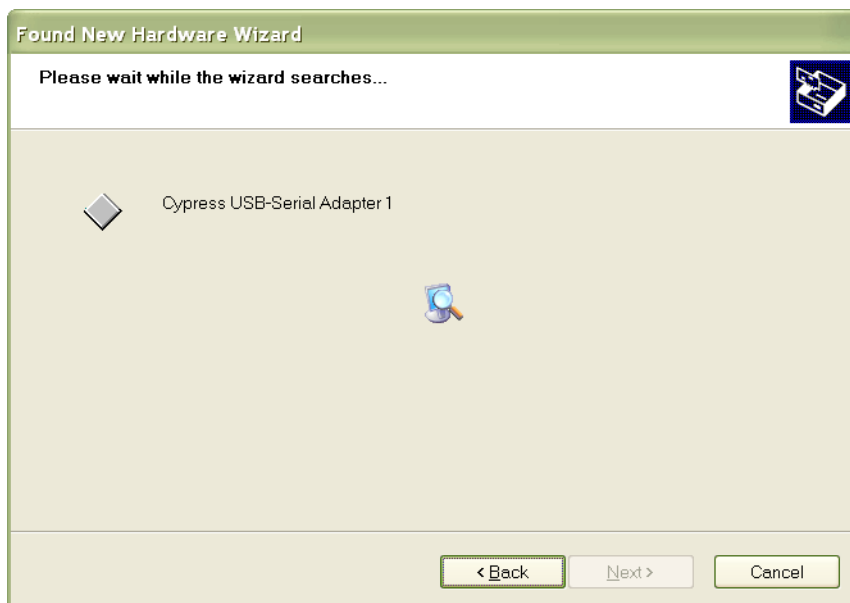
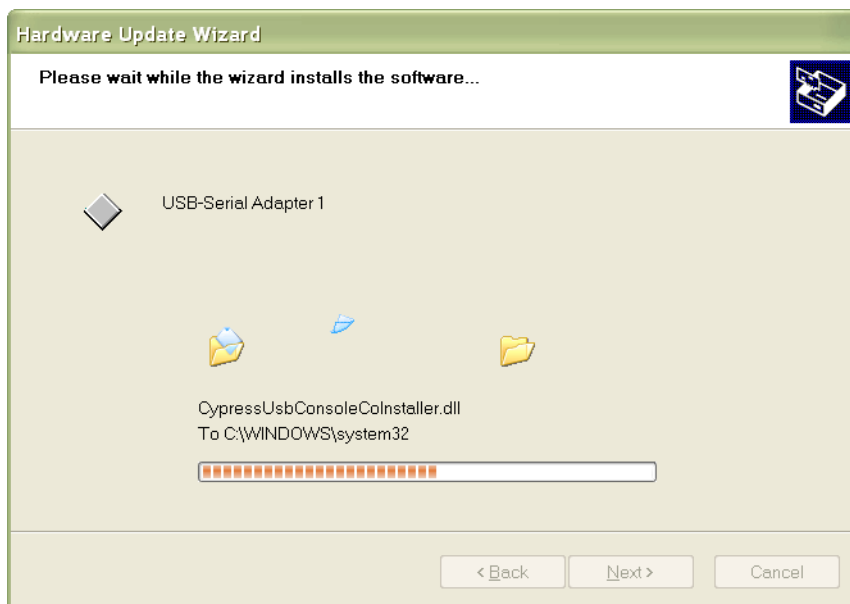


Figure 2-3: Search Windows Update for compatible driver



5. On finding a compatible driver, the wizard downloads and completes the driver installation.

Figure 2-4: Driver installation from Windows Update

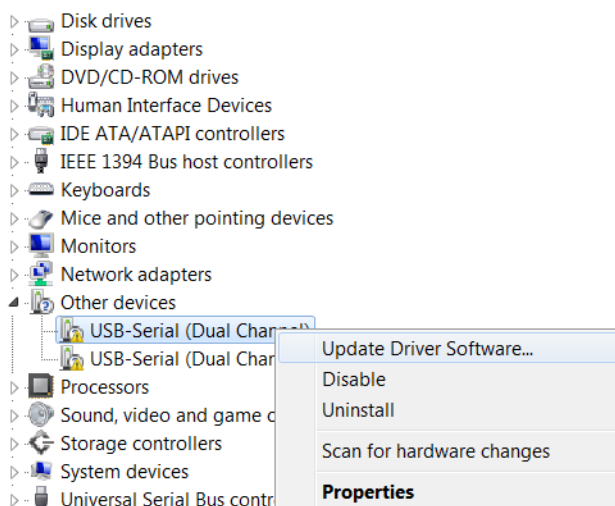


### 2.1.2 Start Windows Update search in Windows 7

Follow these steps to start the search in Windows 7 operating system:

1. Connect the USB-Serial device to the machine
2. Open **Device Manager**. To open **Device Manager**, click **Start**. In the search box, type **Device Manager**, and then, in the list of results, click **Device Manager**
3. Right-click on the USB-Serial device, and then, in the context menu, click **Update Driver Software...** to launch the Update Driver Software dialog (Figure 2-5)

Figure 2-5: Open Update Driver Software Wizard



4. In the Update Driver Software dialog (Figure 2-6), click **Search automatically for updated driver software** to begin the search for the driver online (Figure 2-7).

Figure 2-6: Update Driver Software Wizard

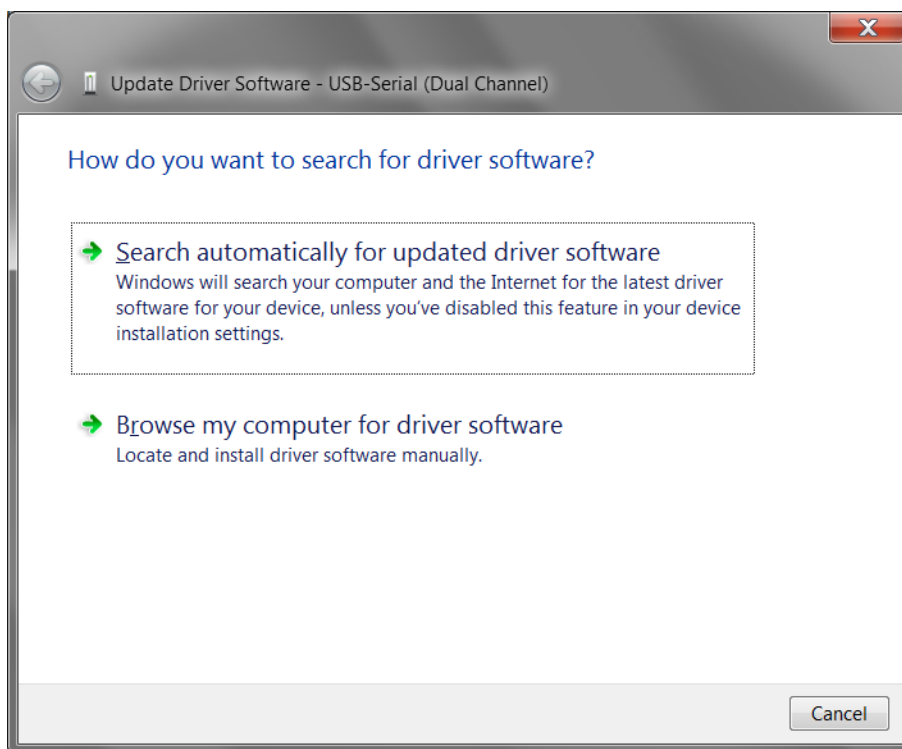
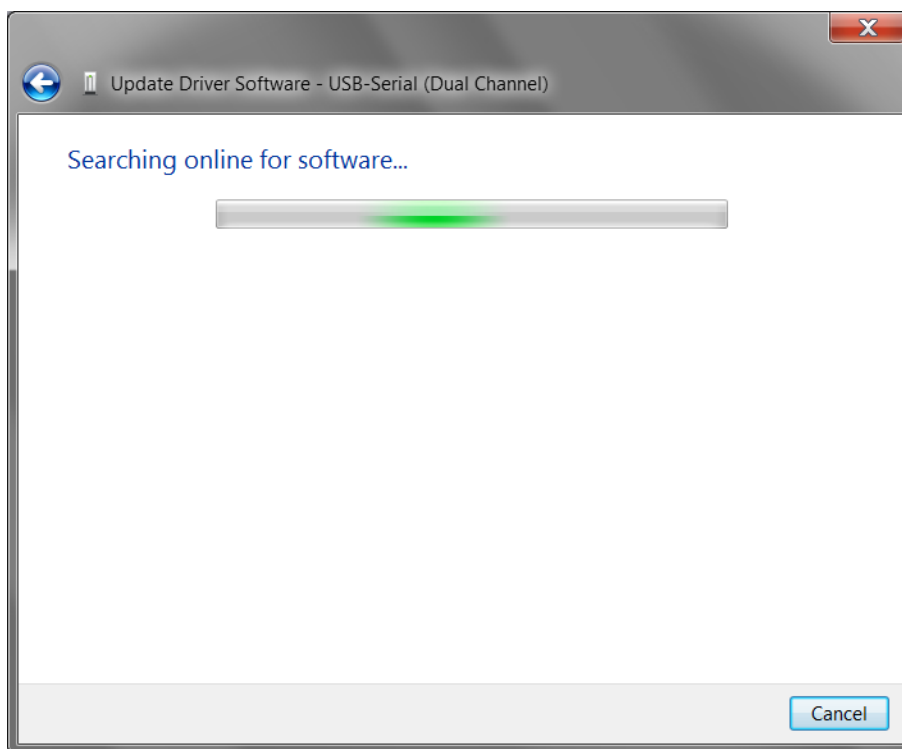


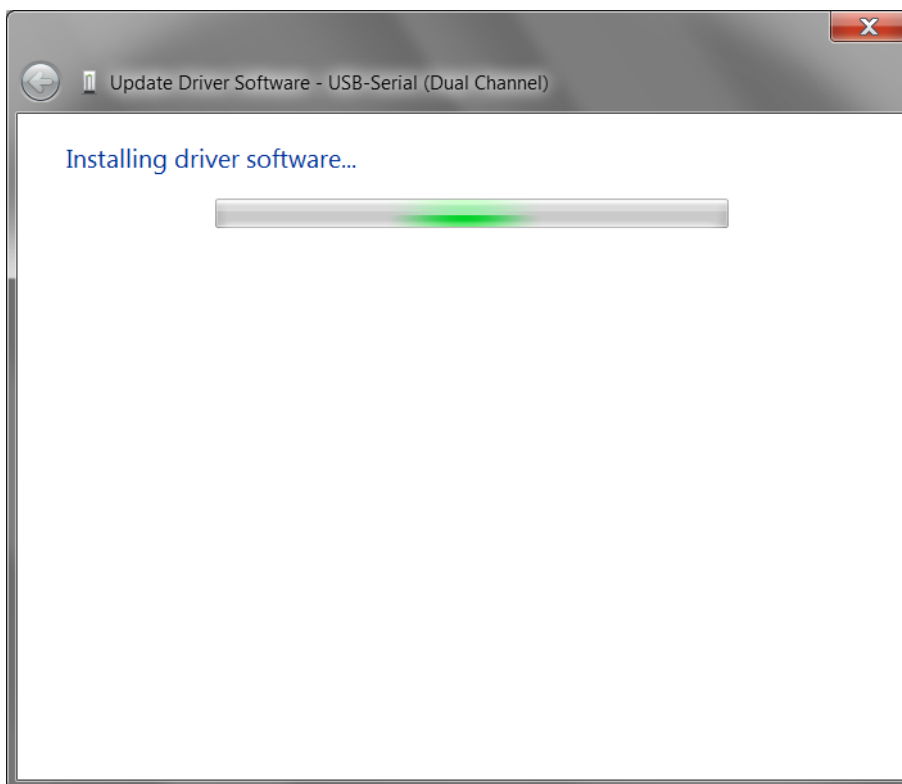


Figure 2-7: Search online for driver



5. On finding a compatible driver, the wizard downloads the driver and completes the installation.

Figure 2-8: Driver installation in-progress

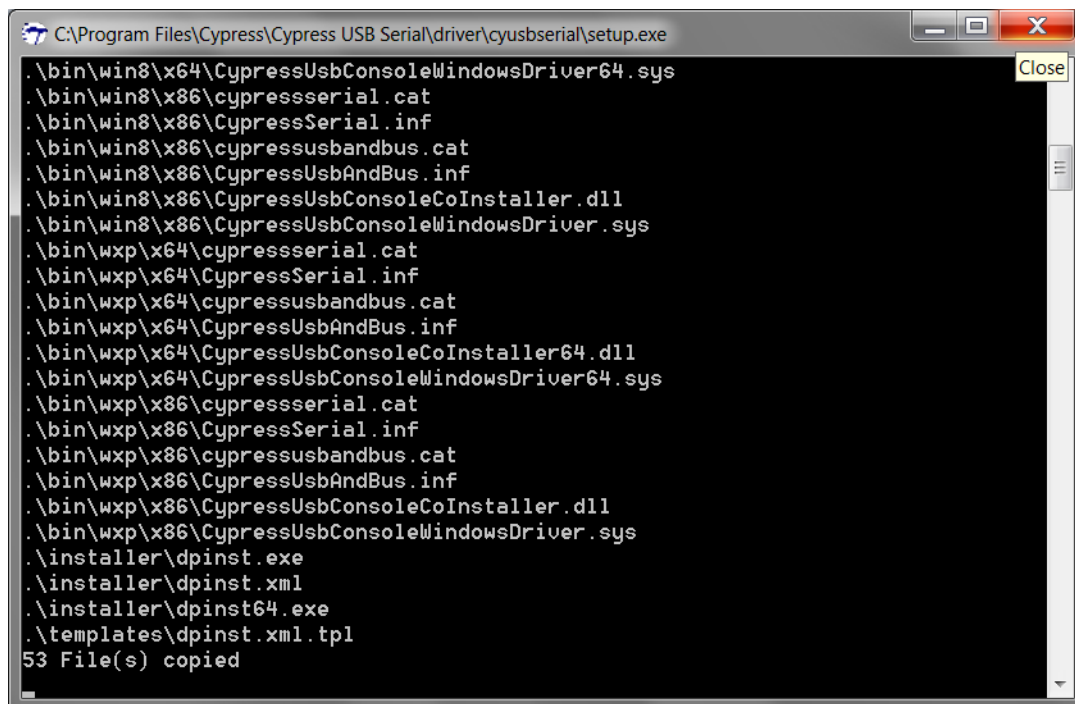


## 2.2 Driver Installer Setup

If you do not have internet connection or have a slow internet connection or prefer to install from the Installer package, you can install the driver using the driver installer setup. The Cypress USB-Serial Software MSI installer packages the Cypress CDC driver installer setup. Follow these steps to install the driver using the Cypress CDC driver installer:

1. Install the Cypress USB-Serial Software package and navigate to the installed location. The CDC driver installer can be located at `<installpath>\drivers\cyusbserial\setup.exe`. The **setup.exe** file requires administrator privileges to run.
2. Double click on **setup.exe** to launch the driver installer. The installer copies the required driver files to the temporary folder in the system (Figure 2-9) and starts the installation. The `setup.exe` console automatically closes after the driver installation.

Figure 2-9: Cypress CDC driver installer setup



## 2.3 Manual Installation

You do not need perform manual installation, but for advanced users who prefer manual installation, then the option is provided. Follow these steps to install the driver manually:

1. Connect the USB-Serial device to the machine.
2. Open **Device Manager**. To open **Device Manager**, click **Start**. In the search box, type **Device Manager**, and then, in the list of results, click **Device Manager**.
3. Right-click on the USB-Serial device, and then, in the context menu, click **Update Driver Software...** to launch the Update Driver Software dialog.
4. Click **Browse my computer for driver software** to select the driver INF file location.
5. In the **Search for driver software in this location** field, enter the location of the driver INF (Figure 2-10). The driver INF can be located at `<installpath>/drivers/cyusbserial/bin/<OS>/<ARCH>` where `<OS>` is the machine operating system and `<ARCH>` is the operating system architecture. Figure 2-11 shows the CDC driver directory structure.

Figure 2-10: Browse for driver software

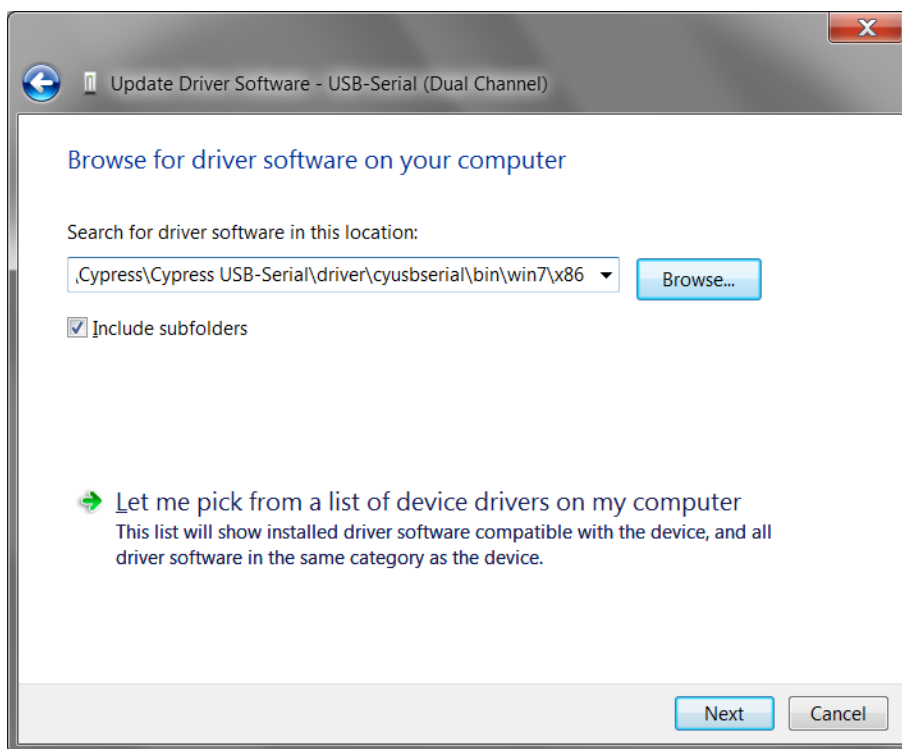


Figure 2-11: Cypress CDC driver directory structure

```

+---driver
|   +---cyusb3
|   |
|   \---cyusbserial
|         setup.exe
|         +---bin
|         |   +---vista
|         |   +---win7
|         |   |   +---x64
|         |   |       cypressserial.cat
|         |   |       CypressSerial.inf
|         |   |       cypressusbandbus.cat
|         |   |       CypressUsbAndBus.inf
|         |   |       CypressUsbConsoleCoInstaller64.dll
|         |   |       CypressUsbConsoleWindowsDriver64.sys
|         |   |   \---x86
|         |   |       cypressserial.cat
|         |   |       CypressSerial.inf
|         |   |       cypressusbandbus.cat
|         |   |       CypressUsbAndBus.inf
|         |   |       CypressUsbConsoleCoInstaller.dll
|         |   |       CypressUsbConsoleWindowsDriver.sys
|         |   +---win8
|         |   \---wxp
|         +---installer
|         |   dpinst.exe
|         |   dpinst64.exe
|         \---templates
|             dpinst.xml.tpl

```

6. Click **Next** to start the Cypress Bus enumerator driver installation. After the Cypress Bus enumerator installation completes (), two nodes, that is, the **USB Bus Enumerator** node and the **USB-Serial Adapter X** node, appear under **CypressUsbConsoleWindowsDriver** in the Device Manager, as shown in Figure 2-13.

Figure 2-12: Cypress USB-Serial adapter installation complete

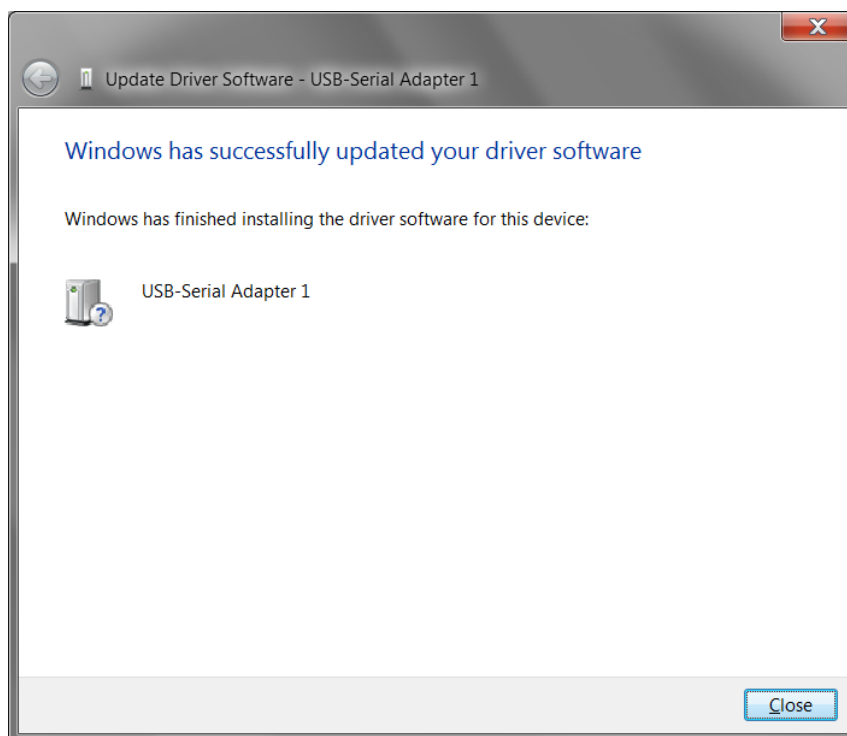
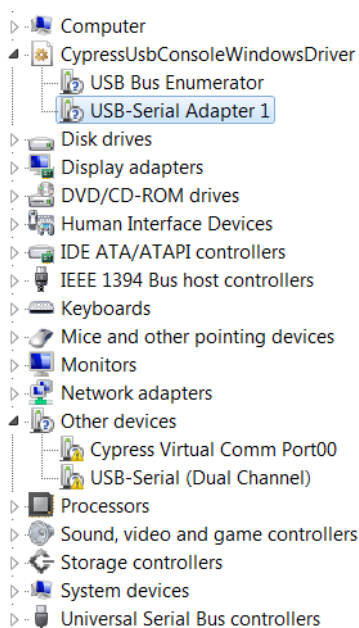
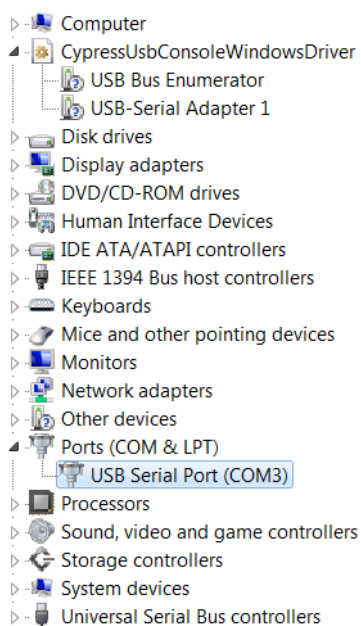


Figure 2-13: Cypress USB-Serial adapter node in Device Manager



7. Now another node, **Cypress Virtual Comm Port00**, appears under **Other devices** in the Device Manager. This is the Cypress USB Serial port. Follows steps 4 to 6 to install the driver for the Cypress USB Serial port. Figure 2-14 shows the Device Manager after successful installation of the Cypress CDC driver.

Figure 2-14: Cypress Serial port installation complete



8. Repeat steps 3 to 7 for all USB-Serial CDC-class interfaces.

## 3. Cypress Generic USB3 Driver Installation



The Cypress USB 3.0 driver can be installed for all USB-Serial Vendor device interfaces. This is a generic vendor-class driver. The driver can be installed using three methods:

1. Windows Update
2. Driver Installer Setup
3. Manual Installation

The following sections of the document explain each of these three methods.

### 3.1 Windows Update

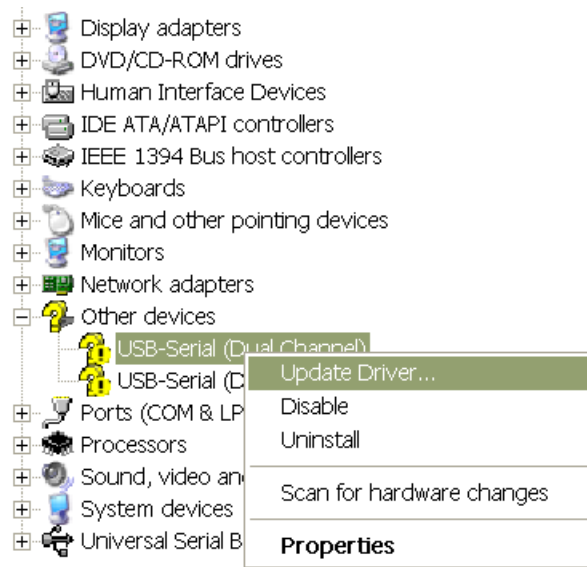
For machines that are connected to the internet, Windows automatically searches for a compatible driver in the Windows update site and installs the latest version of the driver. During rare occasions, Windows does not automatically start the search; in such cases, the search can be triggered manually. The following sections describe the steps to start the driver search in Windows XP and Windows 7 operating systems. The procedure should be similar for other supported operating systems.

#### 3.1.1 Start Windows Update search in Windows XP

Follow these steps to start the Windows Update search:

1. Connect the USB-Serial device to the machine.
2. Open **Window Device Manager**. To open **Window Device Manager**, click **Start**, and then click **Control Panel**. Double-click **System**. On the Hardware tab, click **Device Manager**.
3. Right-click on the USB-Serial device and select **Update Driver...** from the context menu (as shown in Figure 3-1) to launch the **Hardware Update Wizard**.

Figure 3-1: Open Hardware Update Wizard

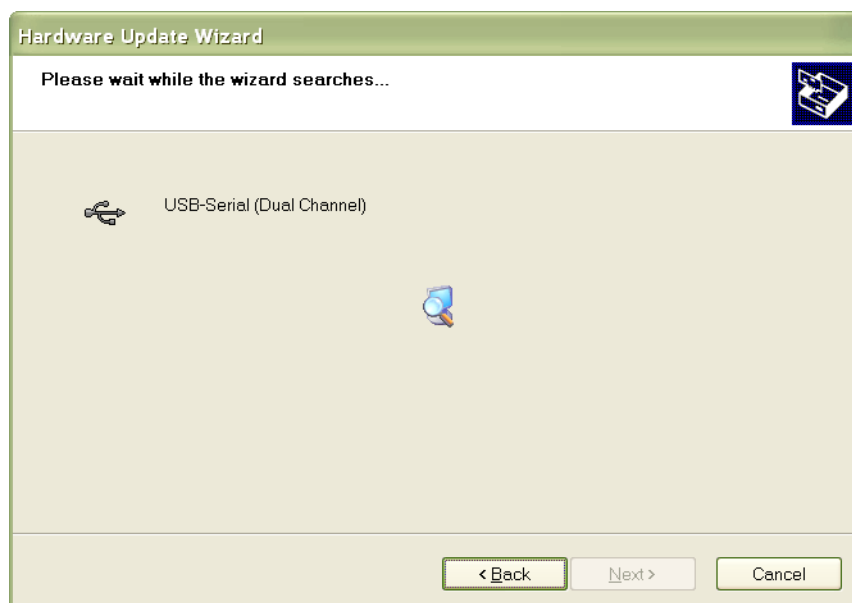


4. In the **Hardware Update Wizard**, select **Install the software automatically (Recommended)** (as shown in Figure 3-2) and click **Next** to start the search on Windows Update site (Figure 3-3).

Figure 3-2: Hardware Update Wizard



Figure 3-3: Search Windows Update for compatible driver



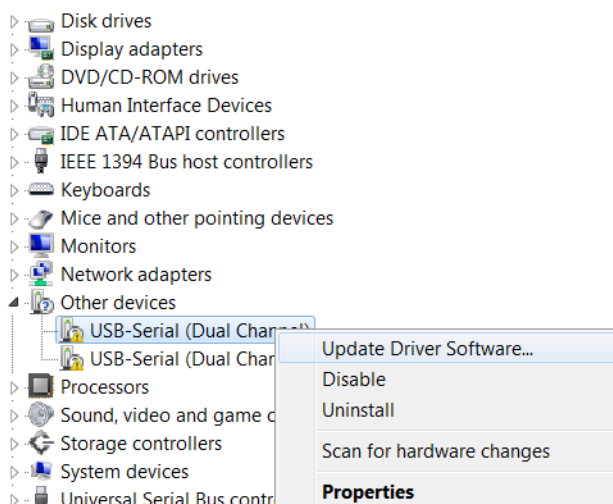
5. On finding a compatible driver, the wizard downloads and completes the driver installation.

### 3.1.2 Start Windows Update search in Windows 7

Follow these steps to start the search in a Windows 7 operating system:

1. Connect the USB-Serial device to the machine.
2. Open **Device Manager**. To open **Device Manager**, click **Start**. In the search box, type **Device Manager**, and then, in the list of results, click **Device Manager**.
3. Right-click on the USB-Serial device, and then, in the context menu, click **Update Driver Software...** to launch the Update Driver Software dialog (Figure 3-4).

Figure 3-4: Open Update Driver Software Wizard



4. Click **Search automatically for updated driver software** (Figure 3-5) to begin the search for the driver online (Figure 3-6).



Figure 3-5: Update Driver Software Wizard

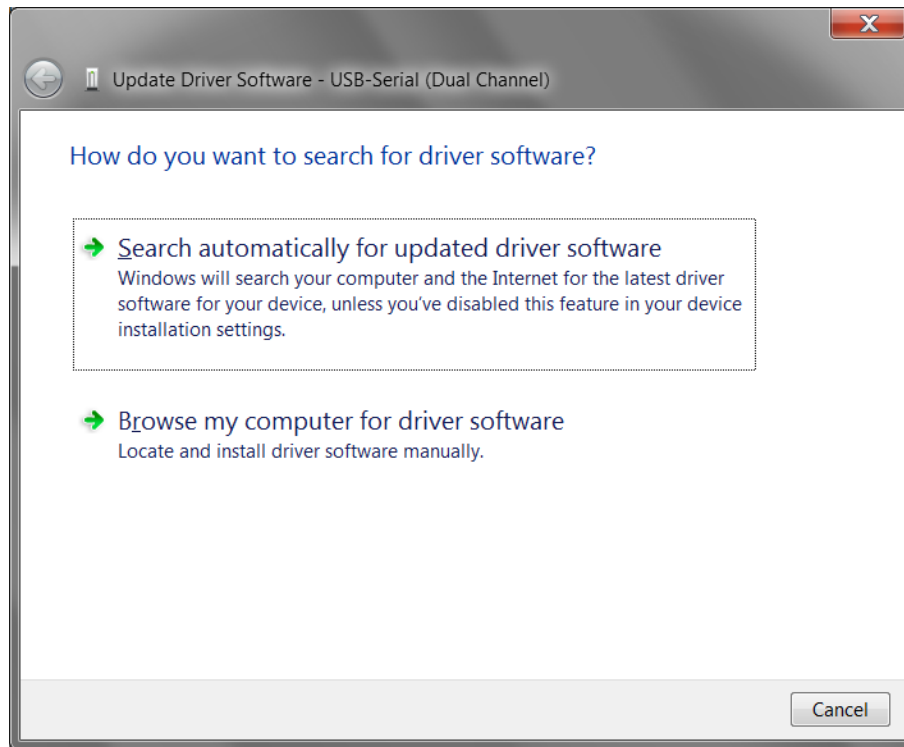
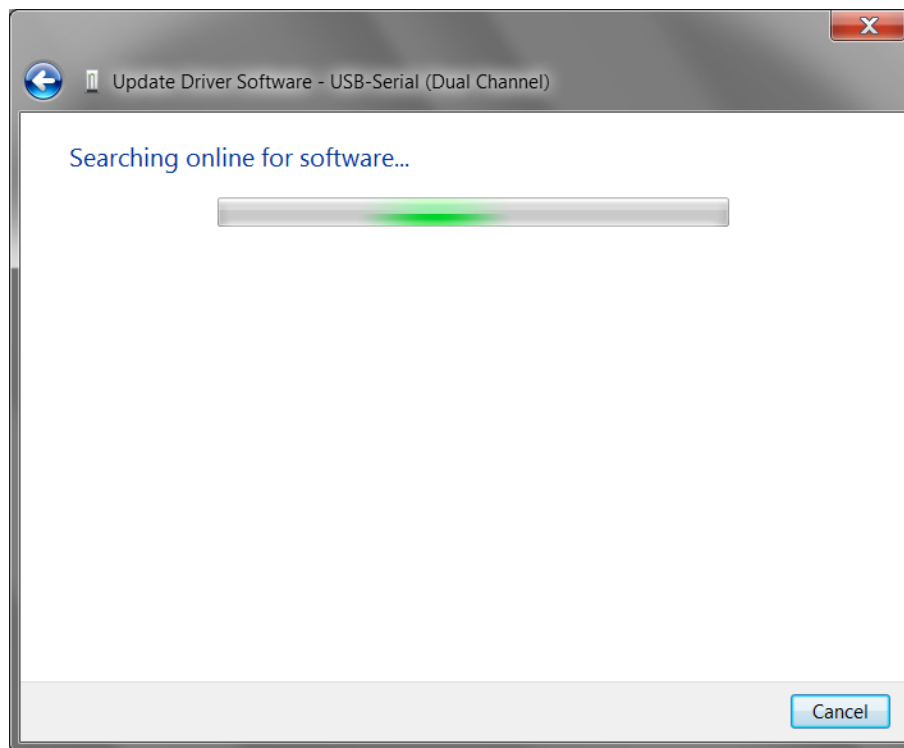
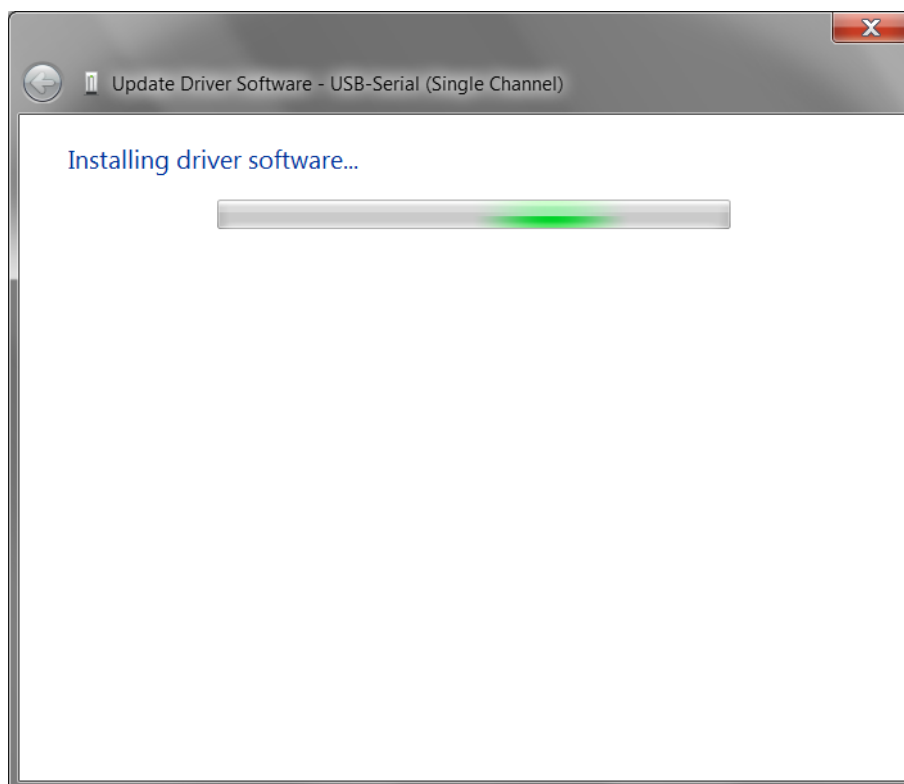


Figure 3-6: Search online for driver



5. On finding a compatible driver, the wizard downloads the driver and completes the installation.

Figure 3-7: Driver installation in-progress



## 3.2 Driver Installer Setup

If you do not have an active internet connection or choose to install from the setup package, then the driver can be installed using the driver installer setup. The Cypress USB-Serial Software MSI installer packages the generic Cypress USB 3 driver installer setup. Follow these steps to install the driver using the generic Cypress USB 3 driver installer:

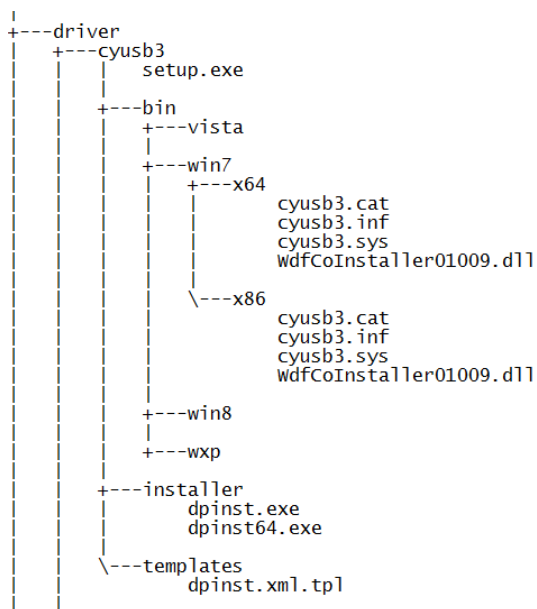
1. Install the Cypress USB-Serial Software package and navigate to the installed location. The USB 3 driver installer can be located at `<installpath>\drivers\cyusb3\setup.exe`. The setup.exe file requires administrator privileges to run.
2. Double click on **setup.exe** to launch the driver installer. The installer copies the required driver files to the system temporary folder and starts the installation. The setup.exe console automatically closes after the driver installation completes.

## 3.3 Manual Installation

Advanced users, who choose manual driver installation, must follow these steps to install the driver manually:

1. Connect the USB-Serial device to the machine.
2. Open **Device Manager**. To open **Device Manager**, click **Start**. In the search box, type **Device Manager**, and then, in the list of results, click **Device Manager**.
3. Right-click on the USB-Serial device, and then, in the context menu, click **Update Driver Software...** to launch the Update Driver Software dialog.
4. Click **Browse my computer for driver software** to select the driver INF file location.
5. In the **Search for driver software in this location** field, enter the location of the driver INF. The driver INF can be located at `<installpath>/drivers/cyusb3/bin/<OS>/<ARCH>` where `<OS>` is the machine operating system and `<ARCH>` is the operating system architecture. Figure 3-8 shows the USB3 driver directory structure.

Figure 3-8: Cypress USB3 driver directory structure



- Click **Next** to start the vendor-class driver installation. After the installation completes, **USB-Serial XXXX Vendor X** node appears under **Universal Serial Bus controllers** in the Device Manager, as shown in Figure 3-9.

Figure 3-9: Cypress USB-Serial vendor interface device node



- Repeat steps 3 to 6 for all USB-Serial vendor-class device interfaces

# Revision History



## Document History

**Document Title:** Cypress USB-Serial Driver Installation Guide

**Document Number:** 001-87770

Revision	ECN	Orig. of Change	Submission Date	Description of Change
**	4108462	BAAM	08/29/2013	New document
*A		BAAM		Updated sections 2.2 and 3.2