

# Driver Installation Instructions

## **Stellaris® In-Circuit Debug Interface (ICDI) and Virtual COM Port**

Stellaris® evaluation and reference design kits provide an integrated Stellaris® In-Circuit Debug Interface (ICDI) which allows programming and debugging of the onboard LM4F microcontroller. The Stellaris ICDI can be used with the Stellaris LM Flash Programmer as well as any of the Stellaris-supported toolchains such as Texas Instruments' Code Composer Studio. Both JTAG and Serial Wire Debug (SWD) are also supported. To use the Stellaris ICDI, follow these instructions to install the appropriate drivers on the host computer.

### **Install Drivers on the Host Computer**

To debug and download the custom application in the microcontroller's Flash memory and use Virtual COM Port connectivity, you must first install the following drivers on the host computer:

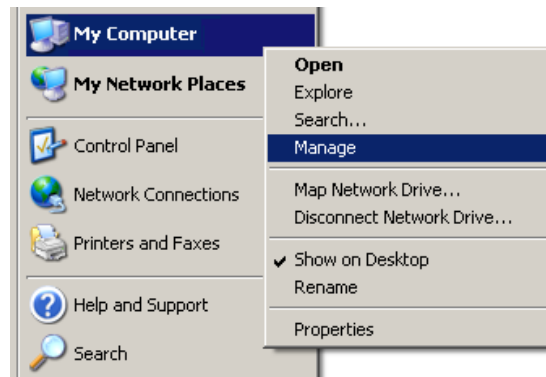
- Stellaris Virtual Serial Port
- Stellaris ICDI JTAG/SWD
- Stellaris ICDI DFU

**Note:** Your host PC should be running at least Microsoft® Windows 2000, XP, Vista, Windows 7, or Windows 8. This document describes how to install drivers on the Windows XP operating system (see the “Driver Installation Using Windows XP” section) as well as the Windows 7/Windows 8 operating systems (see the “Driver Installation Using Windows 7/Windows 8” section).

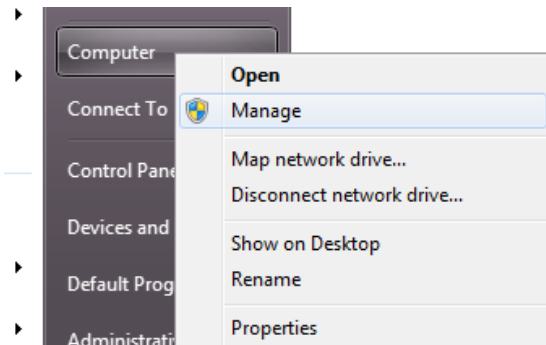
These drivers provide the debugger with access to the JTAG/SWD interface and the host PC with access to the Virtual COM Port.

To see which drivers are installed on the host computer, check the hardware properties using the Windows Device Manager. To do this on Windows XP or Windows 7, perform the following:

1. Right-click the My Computer (Windows XP) or the Computer (Windows 7) menu item from the Windows Start button and select Manage from the drop-down menu (see images below).
2. Click Device Manager under Computer Management → System Tools (see images below). The Device Manager window displays a list of hardware devices installed on your computer and allows you to set the properties for each device.



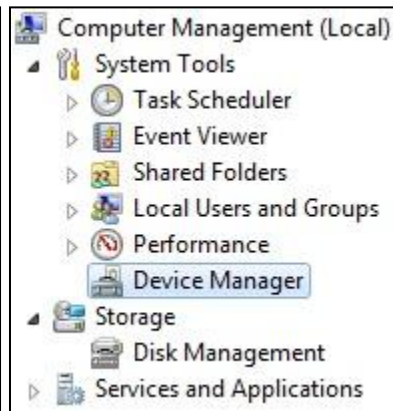
**Windows XP**



**Windows 7**



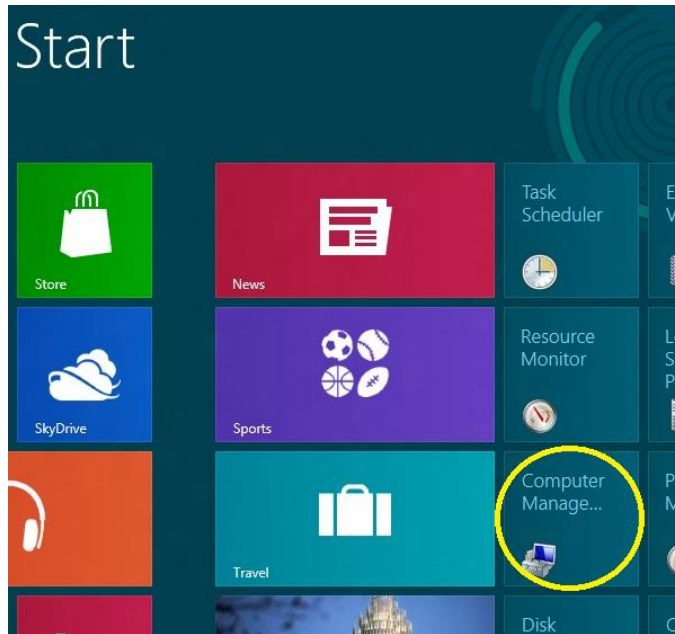
**Windows XP**



**Windows 7/Windows 8**

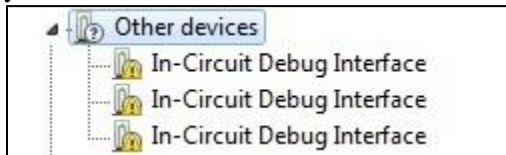
To check the hardware properties using the Windows Device Manager on Windows 8, perform the following:

1. Open the Windows Start Screen and click on Computer Management (see image below).
2. Click Device Manager under Computer Management → System Tools (see image above). The Device Manager window displays a list of hardware devices installed on your computer and allows you to set the properties for each device.



Windows 8

When the board is connected to the computer for the first time, the computer detects the onboard ICDI interface and the Stellaris® microcontroller. Drivers that are not yet installed display a yellow exclamation mark in the Device Manager window.



Download the necessary drivers for your Stellaris evaluation or reference design kit from the [www.ti.com/tool/stellaris\\_icdi\\_drivers](http://www.ti.com/tool/stellaris_icdi_drivers) web site. Extract the files from the zip folder to a known location on your Windows-enabled host PC.

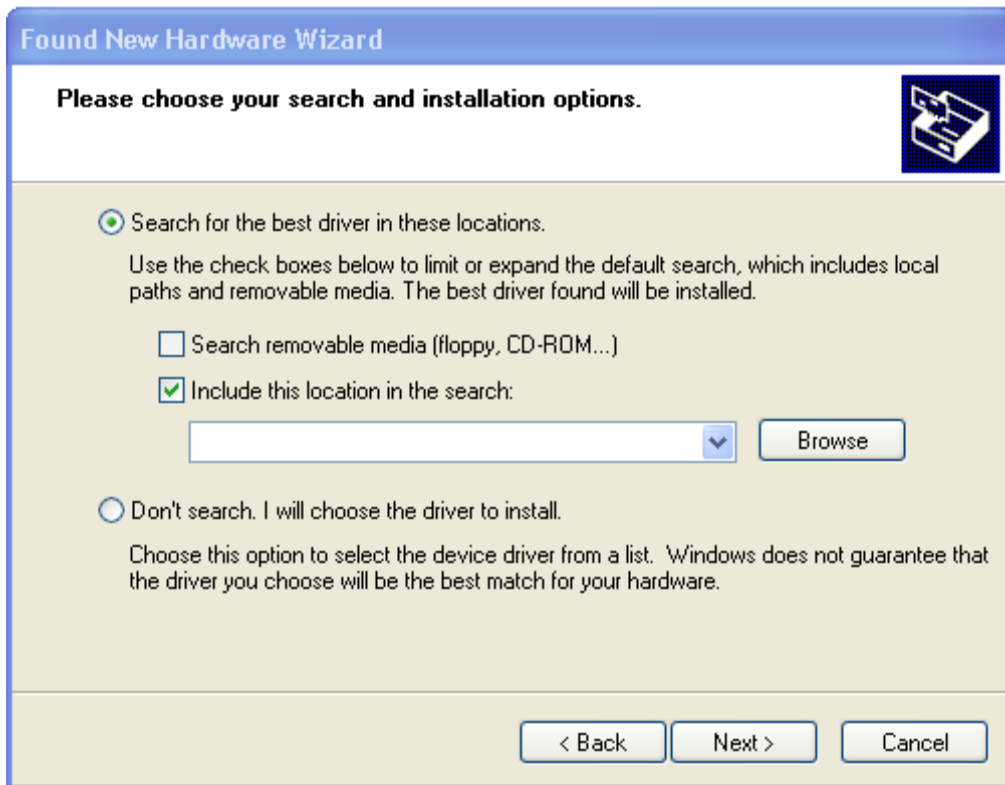
Connect the Stellaris® board using the included USB cable to your host PC as specified by the *README First* document for that kit.

## **Driver Installation Using Windows XP**

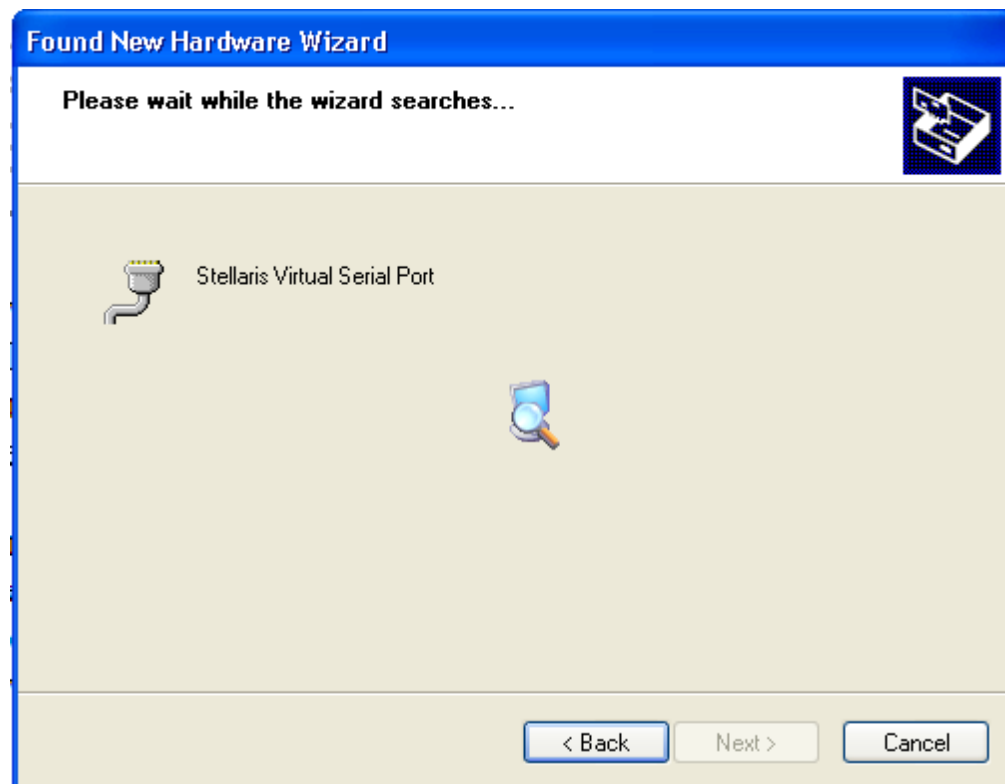
When you connect the Stellaris® device for the first time, Windows starts the Found New Hardware Wizard and asks if you want to install the drivers for the Stellaris Virtual Serial Port. Select “Install from a list or specific location (Advanced)” and then click Next.



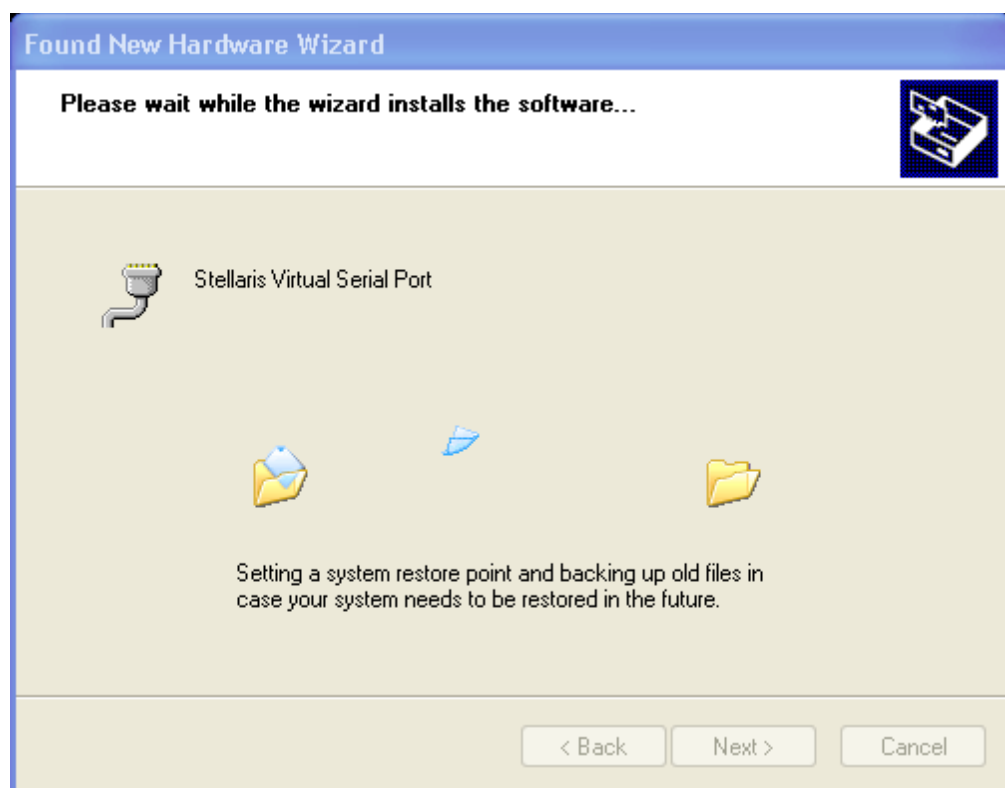
Select "Search for the best driver in these locations", and check the "Include this location in the search:" option. Click Browse. Browse to the known location on your host PC of the driver installation files. Click OK then click Next.



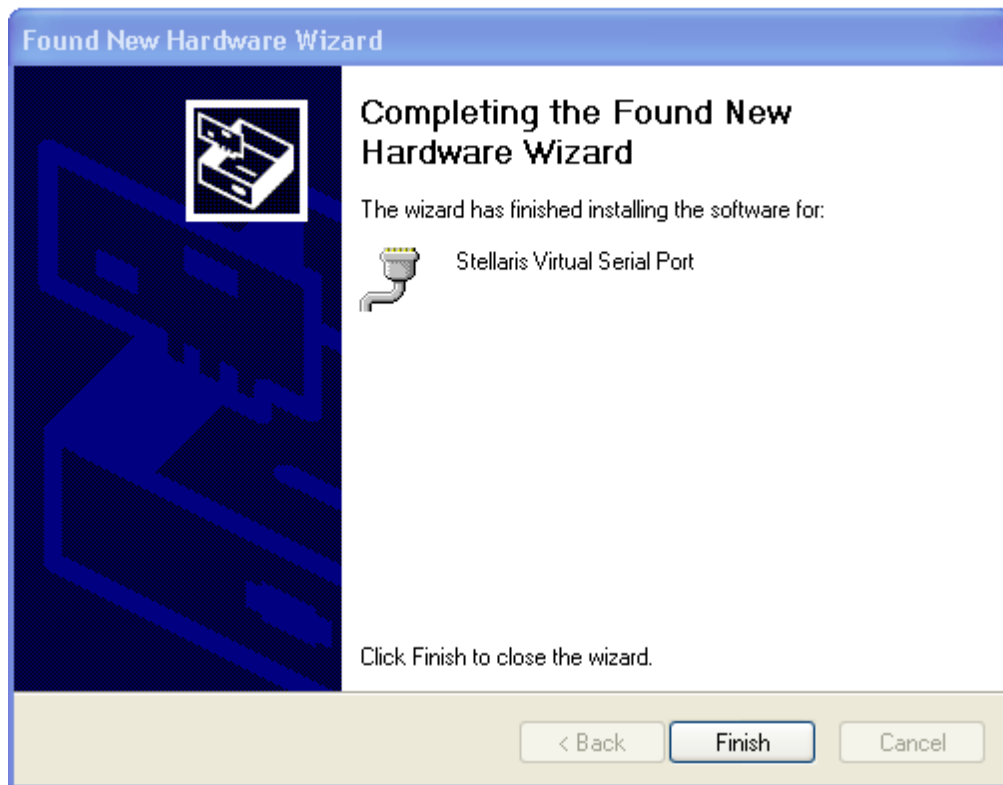
A warning may pop up during the installation process regarding the driver not being signed, click Continue Anyway to proceed. The wizard displays a “Please wait while the wizard searches...” status window. No user action is required.



The wizard then displays a “Please wait while the wizard installs the software...” status window as the software is installed.



After the installation of the Stellaris Virtual Serial Port drivers, click Finish to close the dialog box.



You have just installed the drivers for the Stellaris Virtual Serial Port.

The Found New Hardware Wizard appears again for the Stellaris ICDI JTAG/SWD Interface and then one more time for the Stellaris ICDI DFU Device drivers. Follow the same instructions to install the drivers for these two devices.

You can confirm the three device driver installations by launching the Windows Device Manager and right-clicking to select "Scan for Hardware Changes". This updates the Device Manager properties list. Most of the time, the Device Manager will refresh the properties list automatically. The Stellaris Virtual Serial Port, the Stellaris ICDI JTAG/SWD Interface, and the Stellaris ICID DFU Device now appear in the list. This indicates that the drivers have been successfully installed.

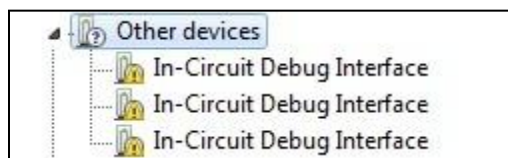
With these drivers installed, Windows automatically detects any new Stellaris® boards (with a Stellaris®-based ICDI) that you connect to your computer, and installs the required drivers for you.

## **Driver Installation Using Windows 7/Windows 8**

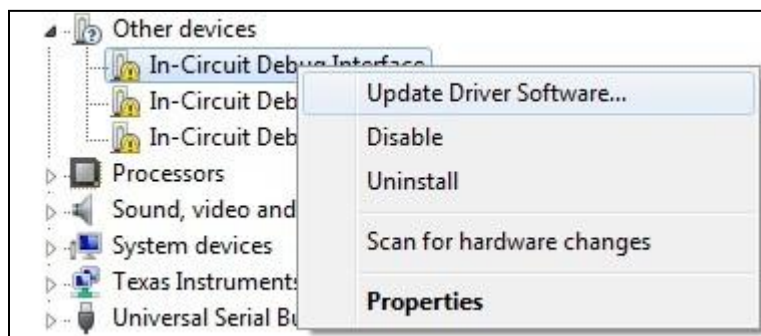
When you connect the Stellaris device for the first time, Windows 7 or Windows 8 immediately searches for signed drivers. Wait until this process times out.



Go to the Device Manager. Under the category “Other devices”, you should see three In-Circuit Debug Interface devices with yellow exclamation marks.

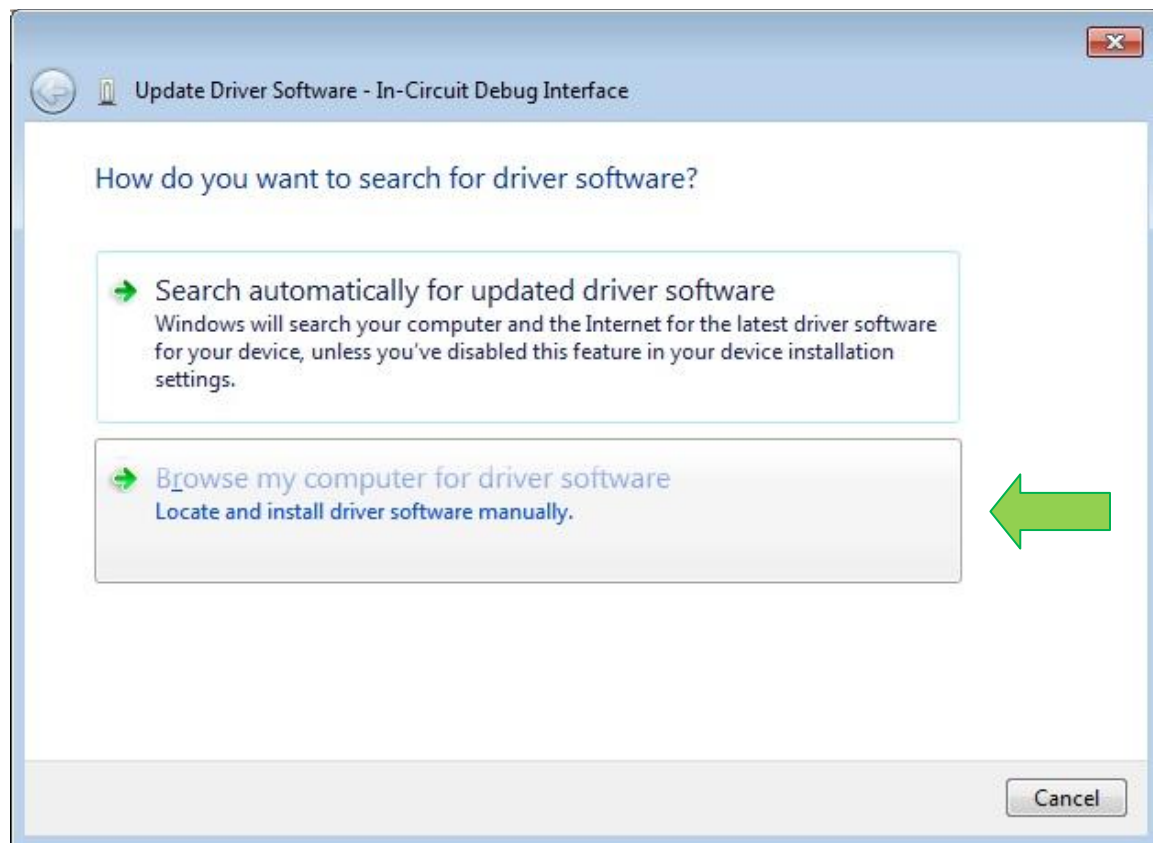


Right click one of these devices and click Update Driver Software.



Windows will ask you “How do you want to search for driver software?”. Select “Browse my computer for driver software”.

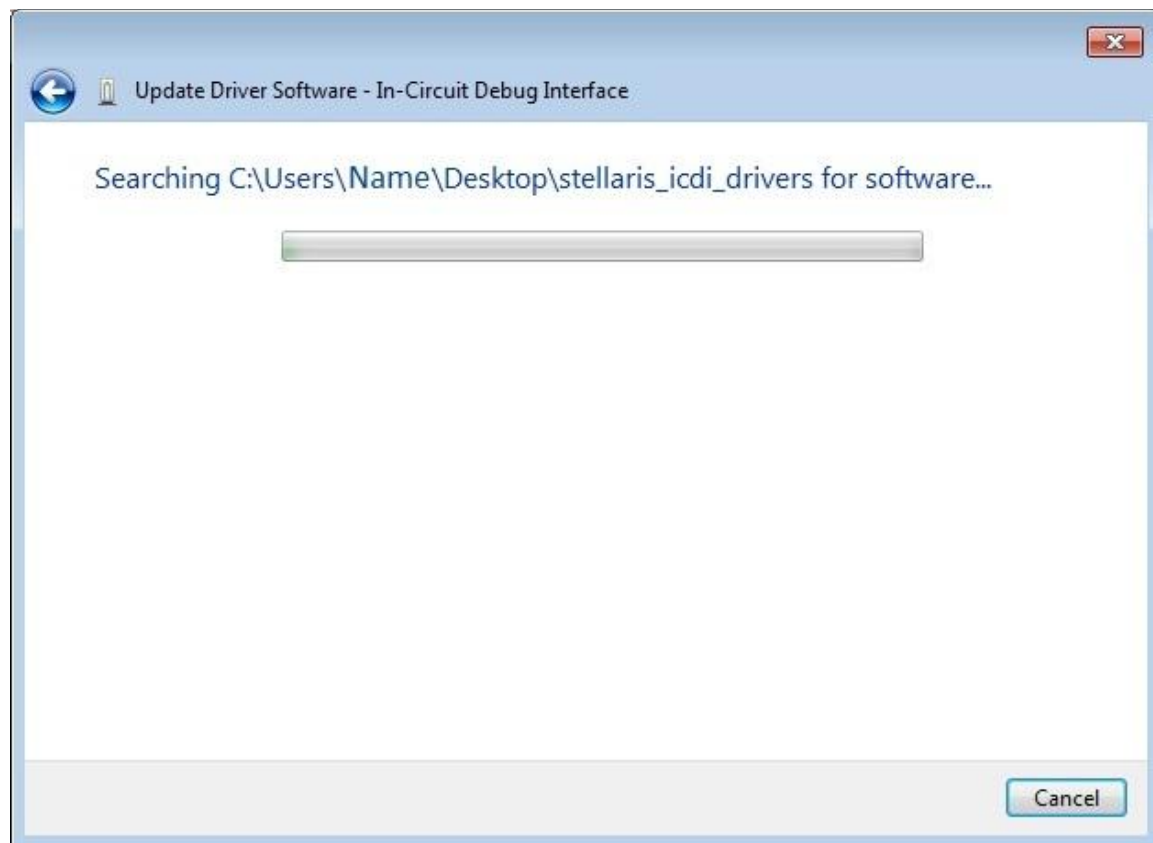




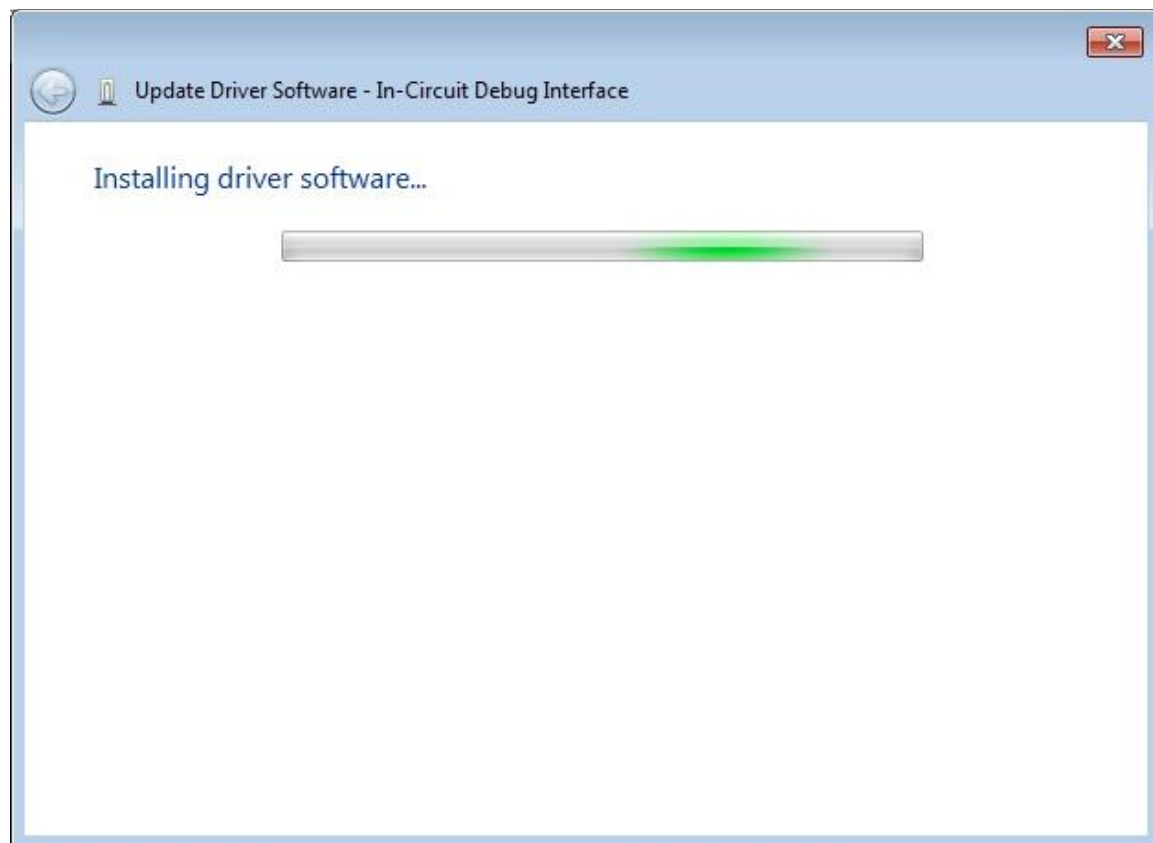
Under “Search for driver software in this location:” click Browse and browse to the known location on your host PC of the driver installation files. Click OK. Check the “Include subfolders” option, and then click Next.



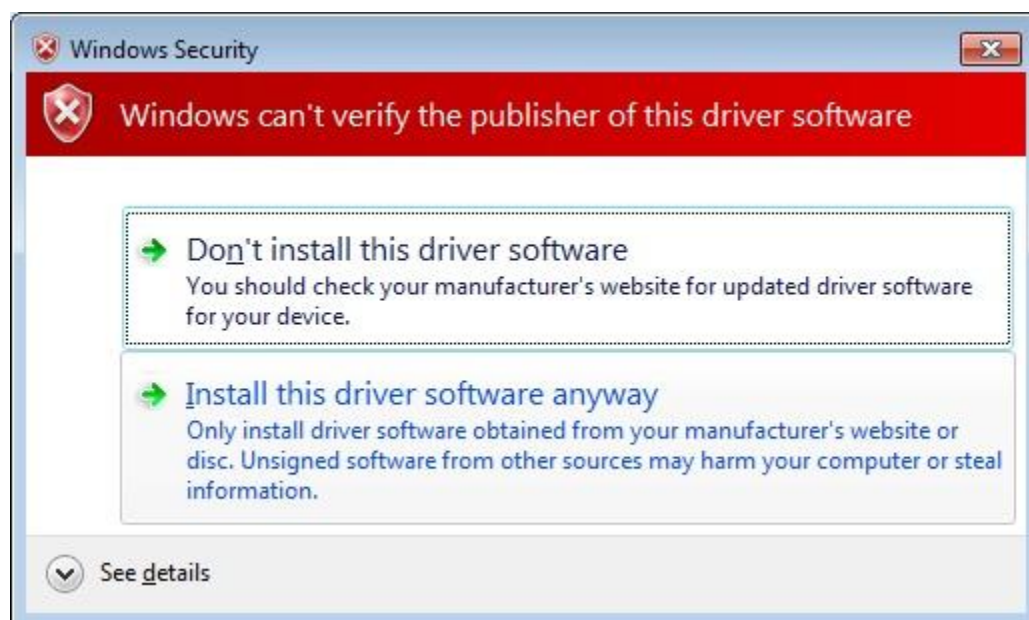
Windows displays a status window that shows where it's currently searching for the drivers. No user action is required.



Then, Windows displays an “Installing driver software...” status window which means that the drivers were found in the location it was pointed to and that they are being installed.



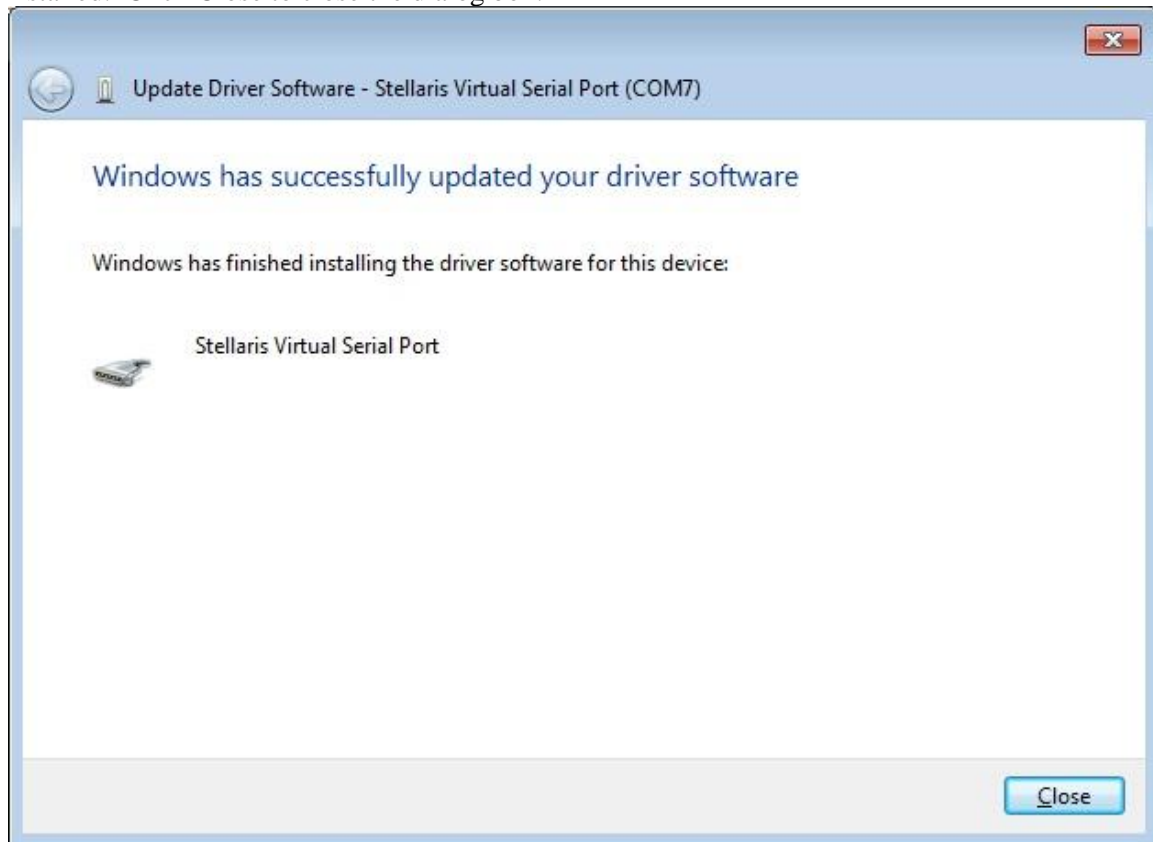
A warning may appear that says “Windows can’t verify the publisher of this driver software”. This is a result of the driver not being signed. Click “Install this driver software anyway” to proceed.



Windows displays a message that says “Windows has successfully updated your driver software. You should see under “Windows has finished installing the driver software for this device:” one of these three devices:

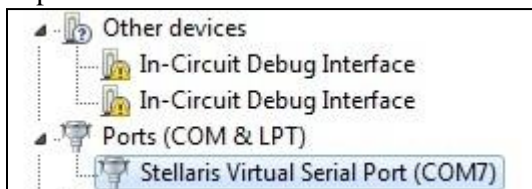
- Stellaris Virtual Serial Port
- Stellaris ICDI DFU Device
- Stellaris ICDI JTAG/SWD Interface

The following image shows when the driver for the Stellaris Virtual Serial Port has successfully installed. Click Close to close the dialog box.

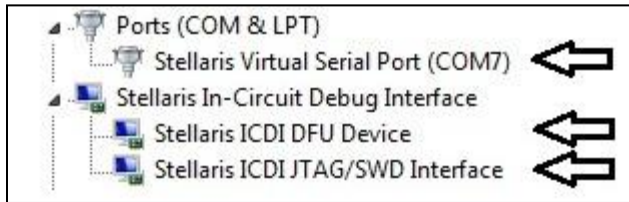


You can confirm that the device driver installed correctly by launching the Windows Device Manager and right-clicking to select “Scan for Hardware Changes”. This updates the Device Manager properties list. Most of the time, the Device Manager will refresh the properties list automatically. Check to see that the device you’ve installed is now present in the Device Manager. You should see either the Stellaris Virtual Serial Port under the category Ports (COM & LPT), the Stellaris ICDI DFU Device under the category Stellaris In-Circuit Debug Interface, or the Stellaris ICDI JTAG/SWD Interface under the category Stellaris In-Circuit Debug Interface.

Repeat the same instructions to install the drivers for the remaining two devices.



After successfully installing all three device drivers, you should see the Stellaris Virtual Serial Port under the Ports (COM & LPT) category and both the Stellaris ICDI DFU Device and the Stellaris ICDI JTAG/SWD Interface under the Stellaris In-Circuit Debug Interface category. If installed correctly, none of the drivers will have a yellow exclamation mark.



With these drivers installed, Windows automatically detects any new Stellaris® boards (with a Stellaris®-based ICDI) that you connect to your computer, and installs the required drivers for you.

## **Conclusion**

You are now ready to program your Stellaris device with LM Flash Programmer or any of the Stellaris-supported toolchains.

## **References**

In addition to this document, the following references are available for download at [www.ti.com/stellaris](http://www.ti.com/stellaris):

- *Stellaris® Development and Evaluation Kits for Code Composer Studio™ Quickstart Guide*
- *Stellaris® LM4F Microcontroller Data Sheet*
- *Stellaris Evaluation or Reference Design Kit User's Manual*
- *Stellaris Evaluation Kit README First*
- *StellarisWare Driver Library*
- *StellarisWare Driver Library User's Manual*, publication SW-DRL-UG