



USB Driver Installation Guide

The purpose of this document is to walk you through the installation and setup of your computer to communicate with the RUG3 RTU or WiSI docking station through USB. Please note that steps are shown for Windows XP operating system and those steps or screen shots may vary for different Windows OS's. At the time of this application note, the USB device driver supports the following Windows OS's: XP, Server 2003, Vista, and 7.

If you are unable to get your computer to communicate with your Rugid device through USB, a few problems may exist: 1) Your USB driver is not properly installed 2) The correct COM Port may not be selected in your Rugid software or 3) Power may need to be applied (this applies only to the RUG3). In this application note we'll go through the steps to setup USB communication.

Do I Already Have the Driver?

If you are unsure if you have the USB driver installed, go through the following steps to check:

1. Plug the USB cable into your Rugid device and your computer. Make sure that if you are using a RUG3 rev. 10 or earlier that the RUG3 is powered by a separate source and not through USB.
2. Go to Start -> Control Panel -> Administrative Tools -> Computer Management. Select 'Device Manager' under System Tools.
3. In the right-hand panel expand the 'Universal Serial Bus controllers' list OR the 'Other Devices' list. If Windows is not properly configured, an item will show in one of these lists entitled 'CP210x USB Composite Device' OR 'CP2102 USB to UART Bridge Controller' with a yellow circle and a black exclamation to the left-hand side as shown in figure 1 below. If the driver is properly installed, 'CP210x USB to UART Bridge Controller (COMx)' will show up in the Device Manager under the 'Ports (COM & LPT)' heading with the assigned COM port in parenthesis next to it (make note of this COM port assignment, this is what you will use in the Rugid software COM Port Setup) as shown in figure 2 below. If the driver is not properly configured, proceed to step 4, if it is properly configured proceed to 'Support Software Settings'.
4. If you reached this step it is possible that you have the drivers but that Windows has not recognized that these drivers are to be used with your Rugid device. To check if you fall into this category go to Start -> Control Panel -> Add or Remove Programs. Scroll down to find 'Silicon Laboratories CP210x VCP Drivers for Windows...', see figure 3. If you cannot find the driver in your list of currently installed programs then you need to download the driver (see 'Download USB Driver'). If the driver appears in your list, then you need to configure Windows to use this driver (see 'Configure Windows').

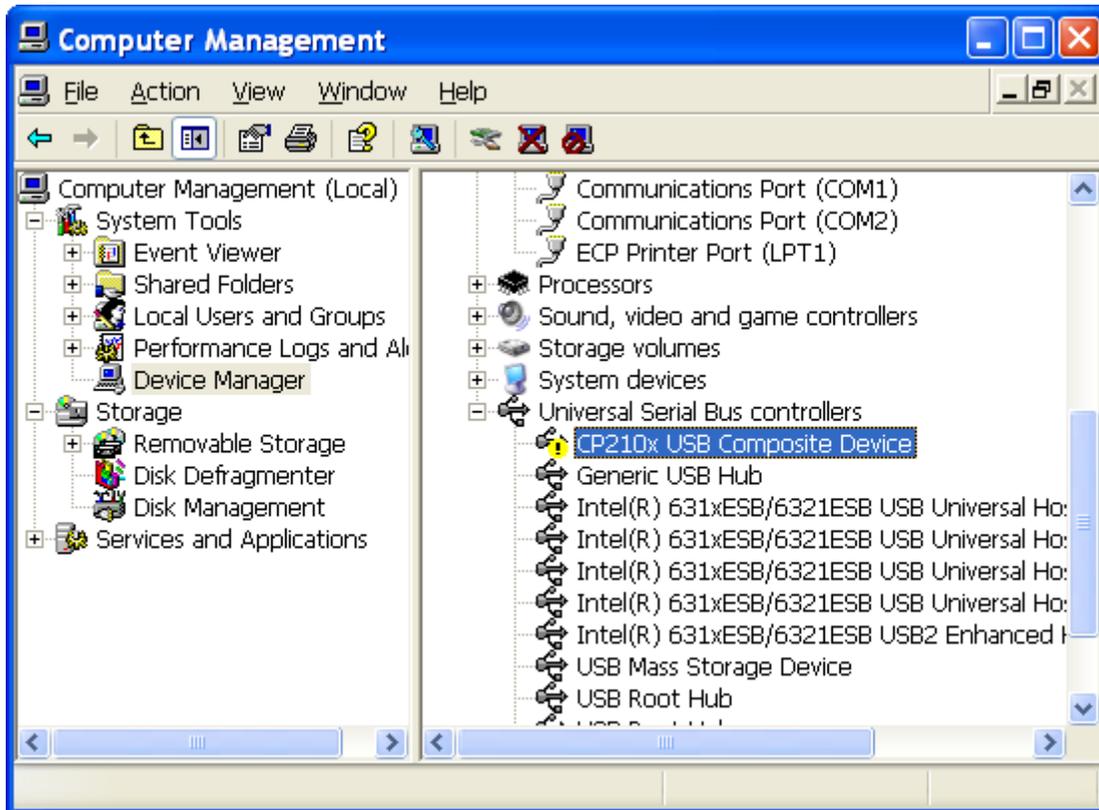


Figure 1

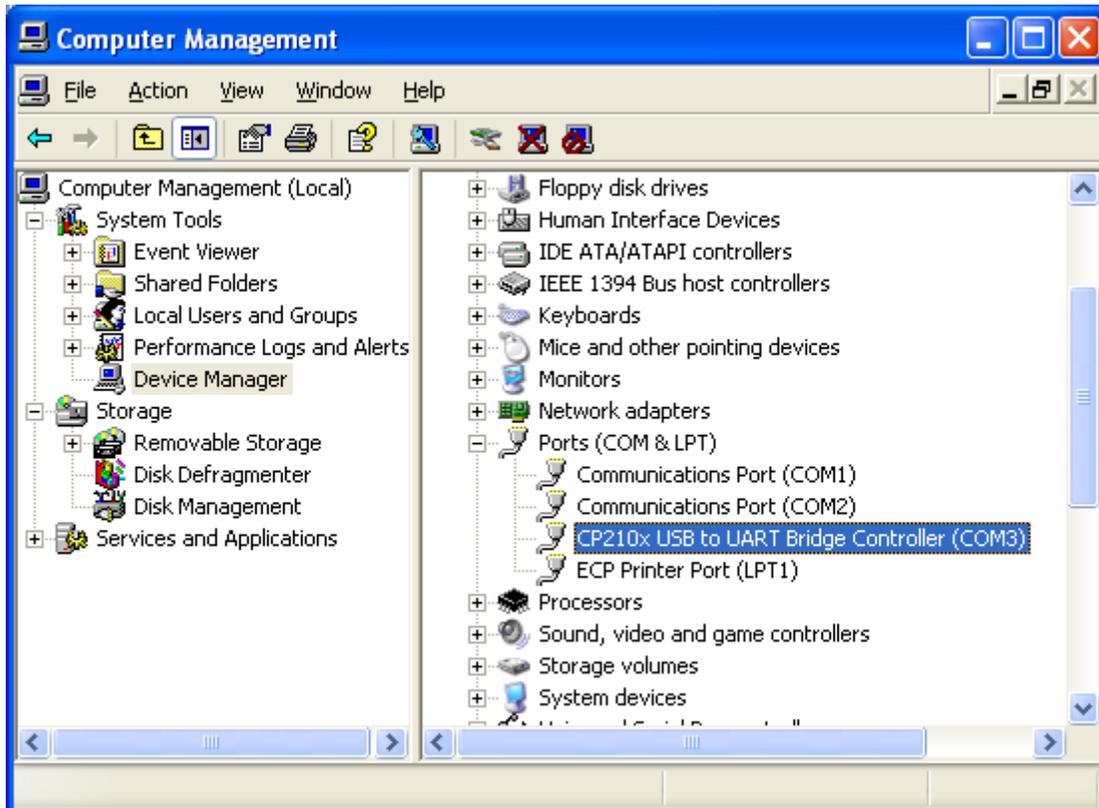


Figure 2

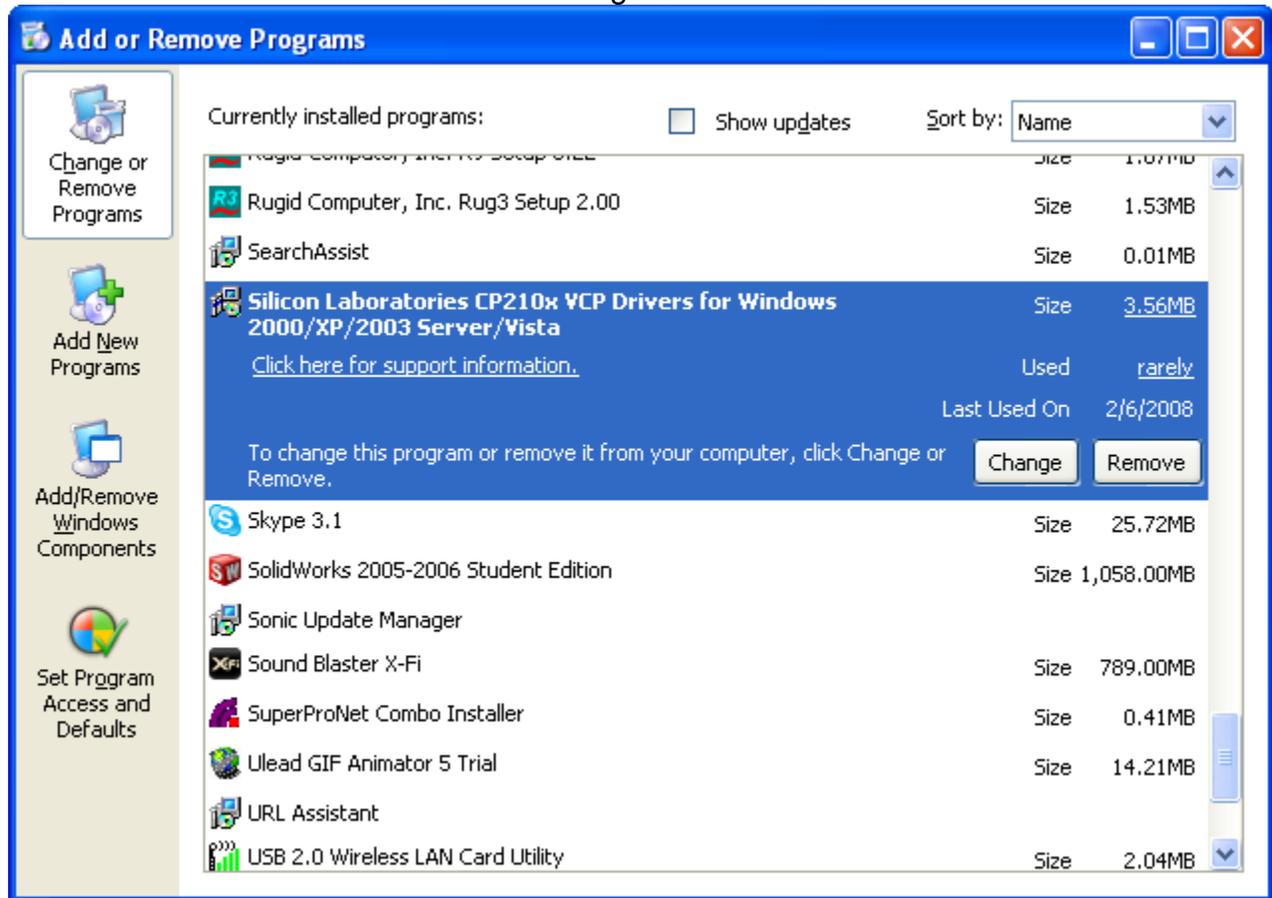


Figure 3

Download USB Driver

Download the USB driver from the Rugid Computer website at www.rugidcomputer.com/download_files.htm or from the driver developer at <http://www.silabs.com/products/mcu/pages/usbtouartbridgevcpdrivers.aspx>. If downloading from the driver developer be sure to select the 'VCP Driver Kit' for Windows XP/Server 2003/Vista/7.

When prompted to run or save, please select 'run'. If you choose to save, note the file directory where the file is saved so you may return and run the executable at a later time.

If you selected run, when prompted again select 'run' again. The Silicon Laboratories CP210x VCP Drivers for Windows will launch. Proceed through the installation wizard steps to install the drivers onto your computer.

Once the wizard has reached completion click 'finish' to complete and close the installation wizard.

At this point, you have downloaded the drivers but Windows is not configured to use these drivers.

Configure Windows

To configure Windows to use the drivers when communicating with a Rugid device through USB, go through the following steps. Please note that there is more than one path to configure windows to use the drivers and that the following steps guide you through one possible way.

1. Go to Start -> Control Panel -> Administrative Tools -> Computer Management. Select 'Device Manager' under System Tools. Right click 'CP210x USB Composite Device' in the right-hand panel under the 'Universal Serial Bus controllers' list.
2. Select 'Update Driver...'. Windows will now take you through the hardware update wizard.



Figure 4

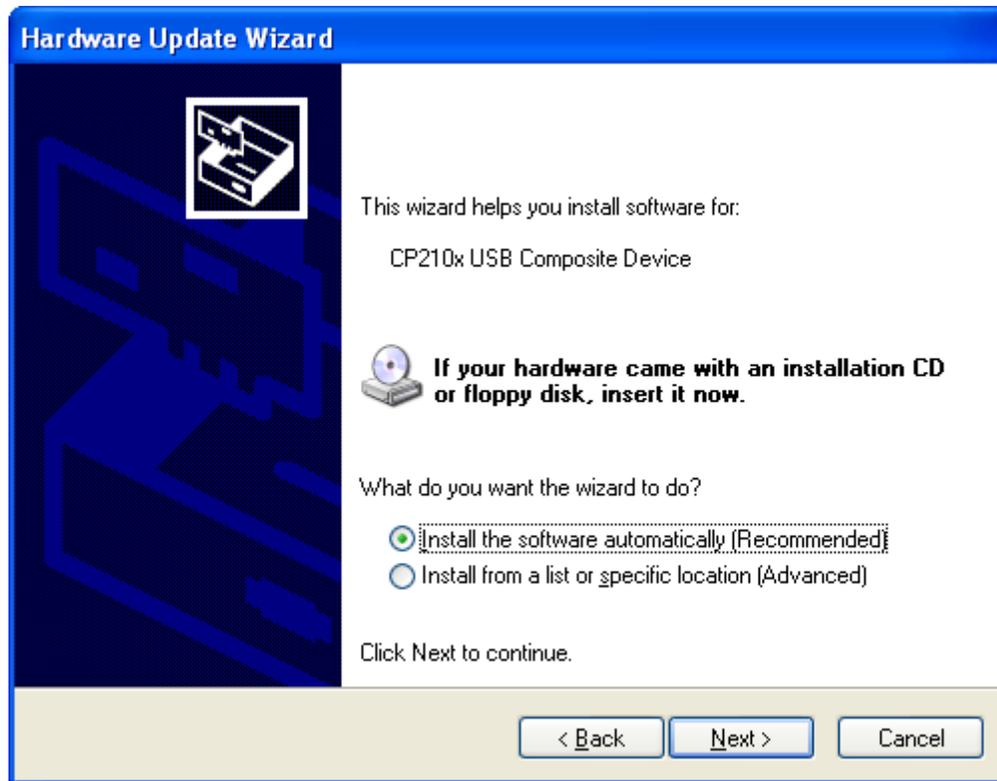


Figure 5

3. The hardware wizard may find multiple driver version in which you must select between. Although you may choose the latest driver version and it should work, Windows may complain that it is not digitally signed (see figure 6) it may cause some Windows anomalies. Otherwise, you may select a version which is digitally signed (see figure 7). Please note that depending on your operating system, you may have no choice but to choose the latest driver version as earlier driver versions may not support later operating systems.

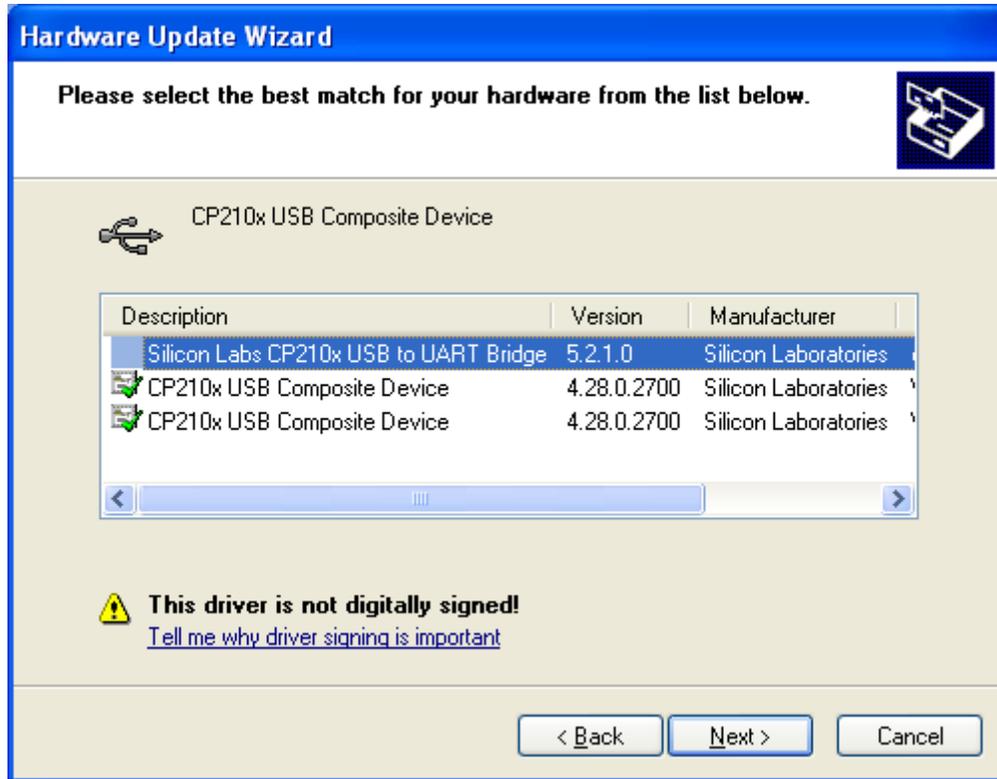


Figure 6

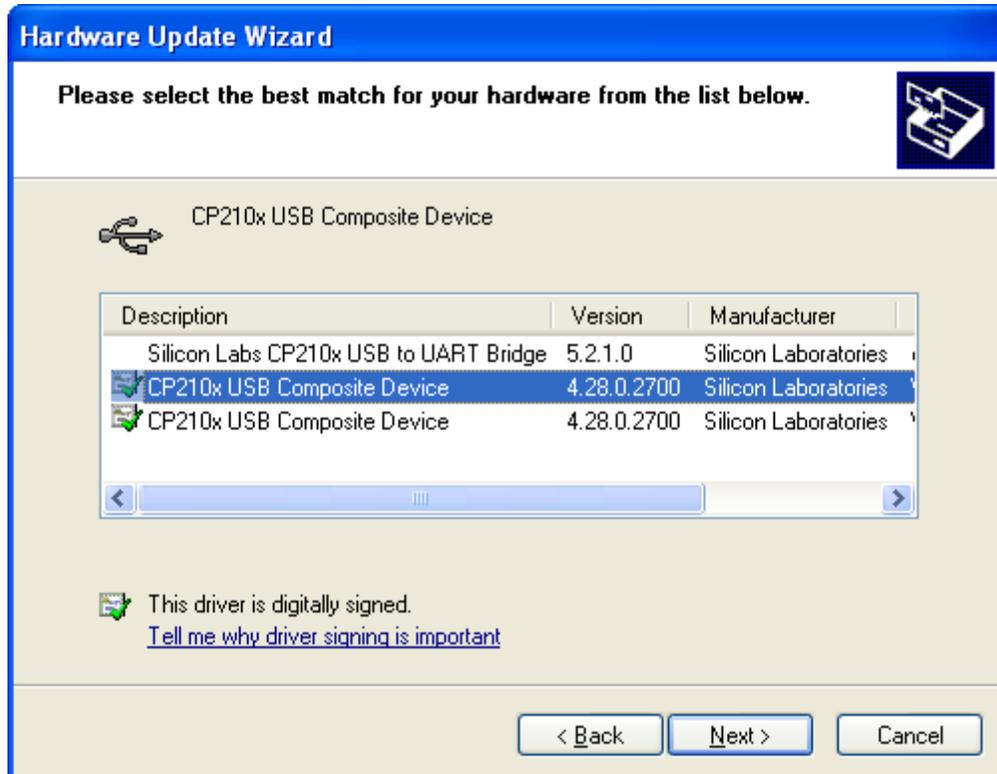


Figure 7

4. If you did elect to install the latest version, the hardware wizard may complain that file 'silabser.sys' is needed. When you downloaded the driver, this file was downloaded you just need to direct the hardware wizard to look in the correct place. If you let the installer save the driver files in the default location the file should be located in the directory "C:\SiLabs\MCU\CP210x\Windows_XP_S2K3_Vista_7", see figure 8 (earlier driver versions may have slightly different folder names, this depends on the OS the driver supports).

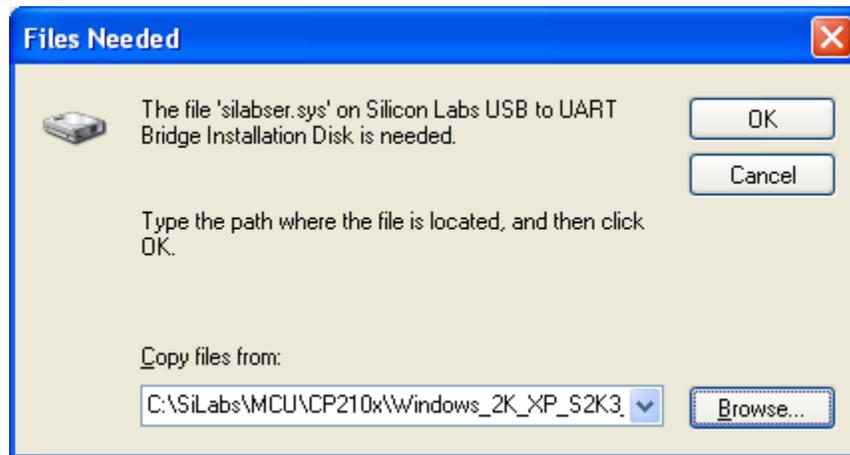


Figure 8

5. Once the hardware wizard has reached completion and finished installing the software for the Silicon Labs CP210x USB to UART Bridge (see figure 9) hit 'Finish'.

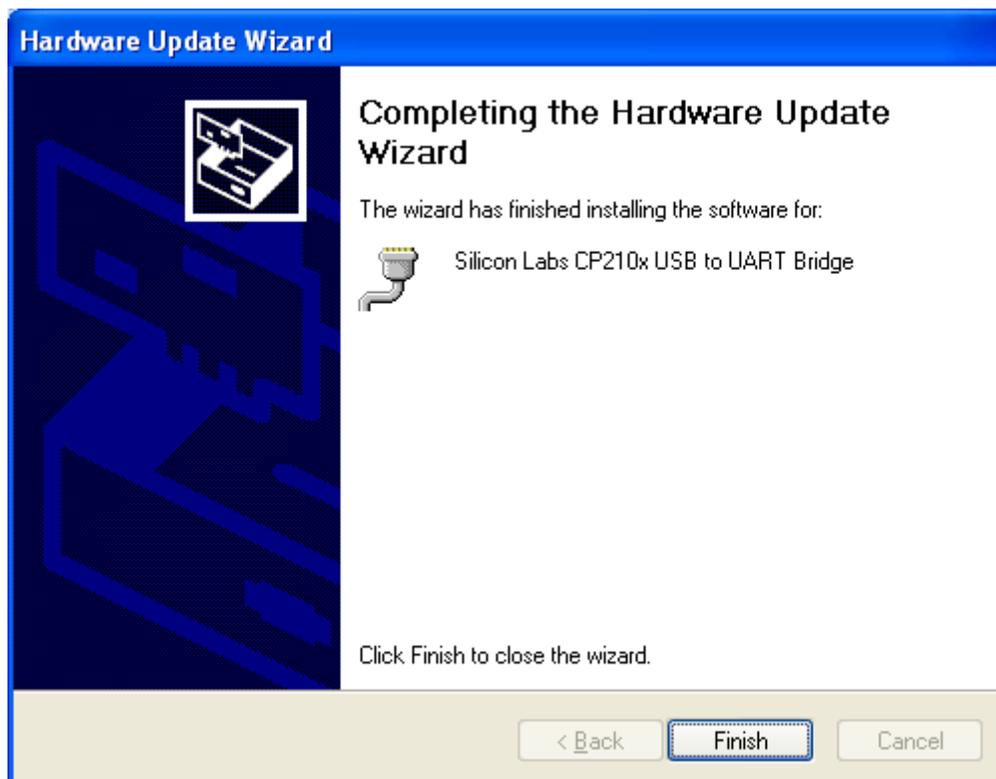


Figure 9

6. If you return to the device manager (see step 1 from above) you may see that the 'CP2102 USB to UART Bridge Controller' is listed under 'Ports (COM & LPT)' now instead of under 'Universal Serial Bus controllers'. However, there may still be a yellow circle and exclamation icon marking this device and no COM port assigned to it (in parenthesis to the right of this device, see figure 10). If your device manager looks like that of figure 10 and not like that of figure 11 then you need to repeat step 2 from above. If your device manager appears as in figure 11 then windows has properly configured itself to communicate with the Rugid device through USB. If properly configured, note the COM port assigned to this device. This COM port is what you will need to select in the Support Software COM Settings (see 'Support Software Settings' below).

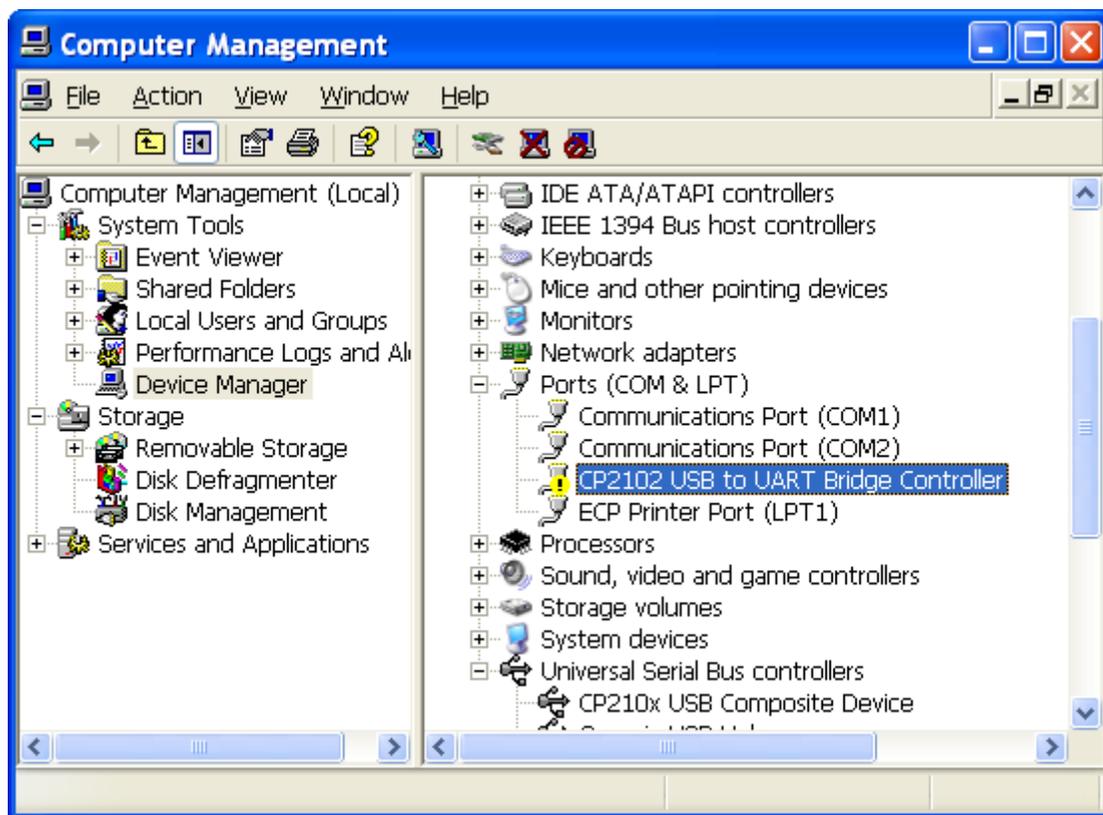


Figure 10

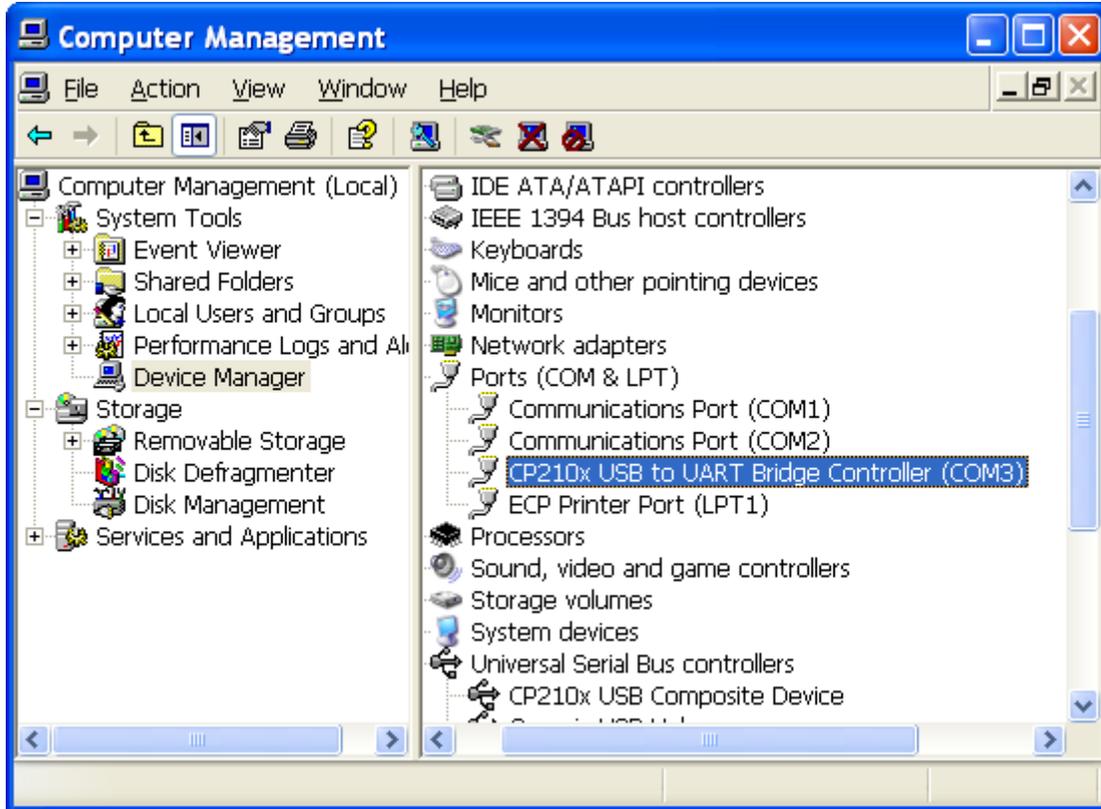


Figure 11

Support Software Settings

When using the RUG3 support software, if you try to open the terminal page (ie, load new OS or send a program to the RUG3) and a warning box appears similar to figure 12 then the support software COM settings are not correctly selected.

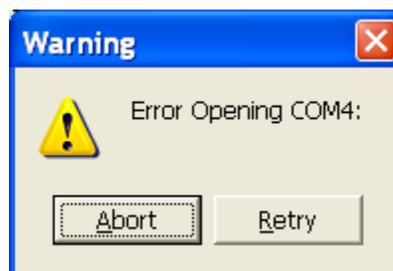


Figure 12

When using the WiSI Configuration Console, if you try to communicate with a WiSI (loading settings or viewing real-time data) with incorrect COM settings, an error box will appear similar to figure 13.

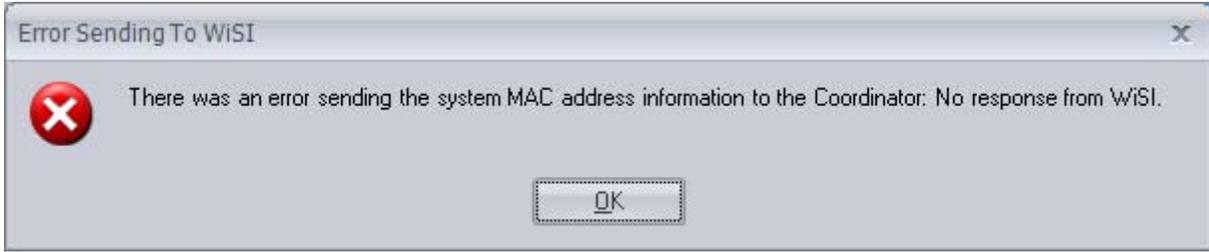


Figure 13

To configure the RUG3 support software to use the COM port assigned to your USB port go to Setup -> Com Port. Once here, select the COM Port that was assigned to this device as was viewed in the device manager (in this example it is COM3, see figure 11 and figure 14).

To configure the WiSI Configuration Console to use the COM port assigned to your USB port navigate to the 'Settings' tab and select the COM Port that was assigned to this device as was viewed in the device manager.

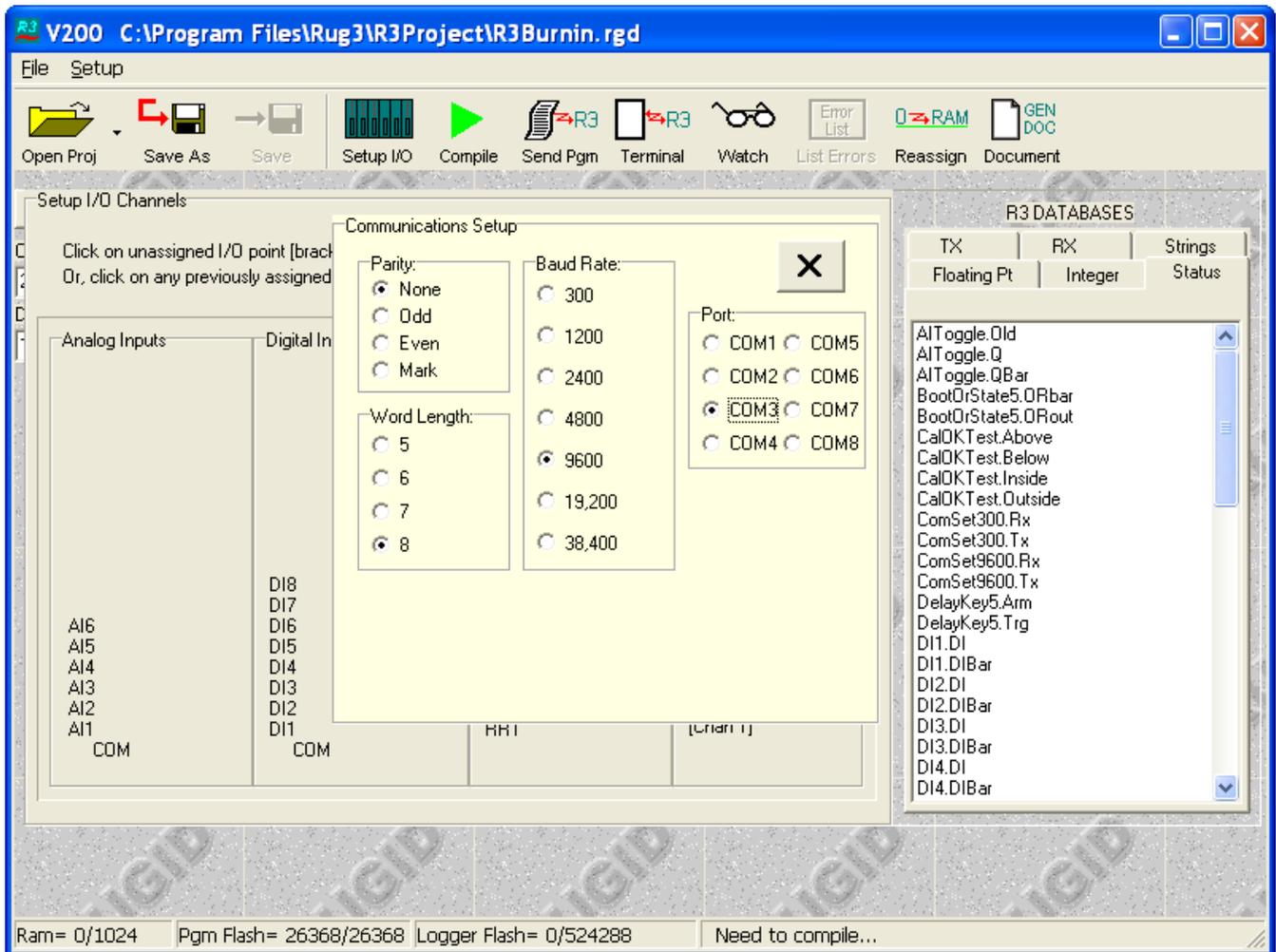


Figure 14

For the RUG3, you should now be able to open the terminal page. To check that you have communications, try hitting the reset button on the RUG3 or removing and reapplying power. If you get a message in your terminal window such as in figure 15, then you have correctly installed and setup your USB driver!

For the WiSI, you should now be able to successfully load the WiSI settings or view real-time data.

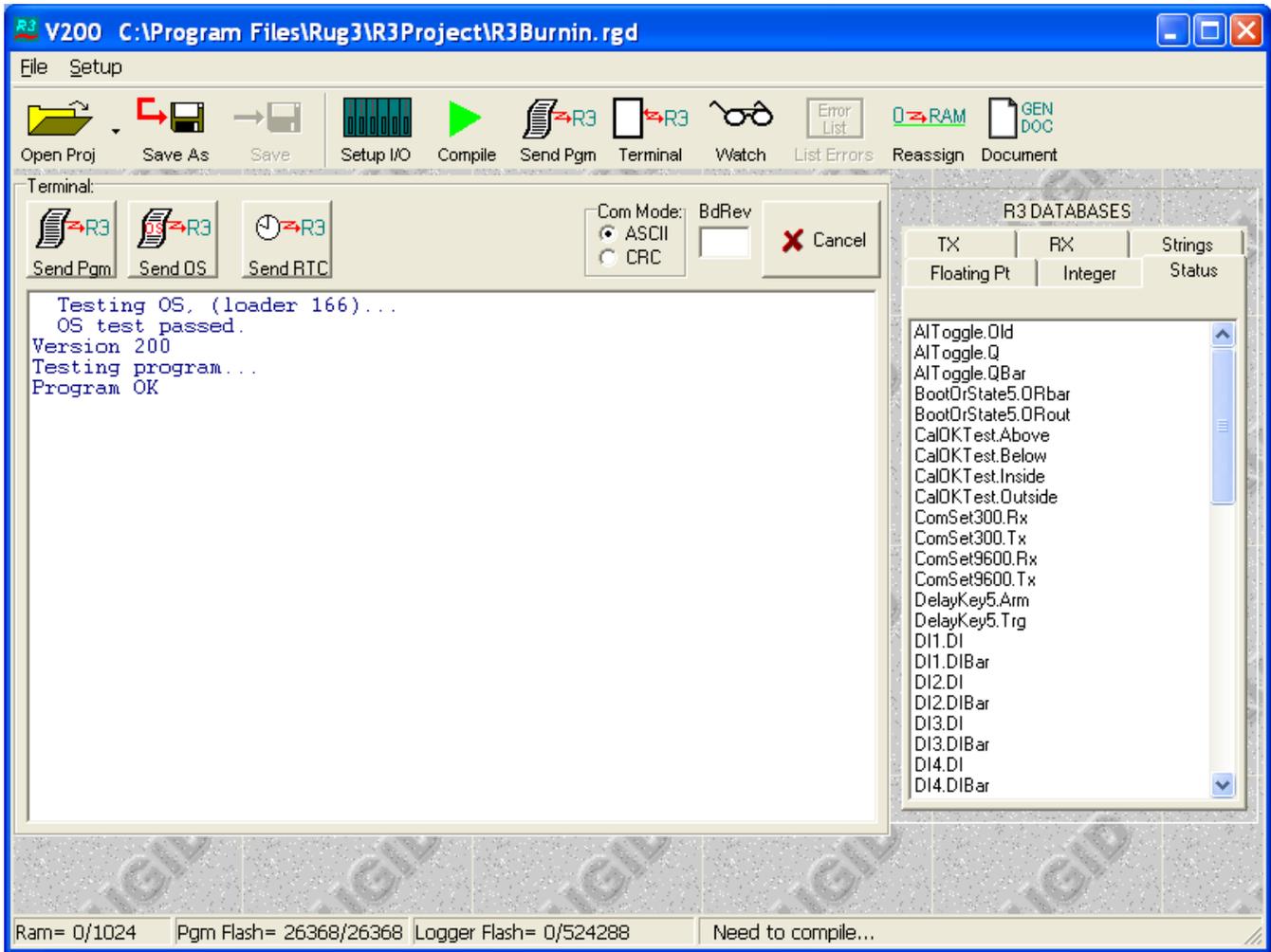


Figure 15



Contact Information

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