



RUG3 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 through USB. Please note that steps are shown for Windows XP operating system and that steps or screen shots may vary for different Windows OS's.

If you are unable to get your computer to communicate with your RUG3 through USB, a couple problems may exist: 1) Your USB driver is not properly installed 2) The correct COM Port may not be selected in the RUG3 Support Software or 3) Both. In this How To we'll go through the steps to setup RUG3 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 RUG3 and your computer, making sure 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 RUG3 Support 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 RUG3. 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').

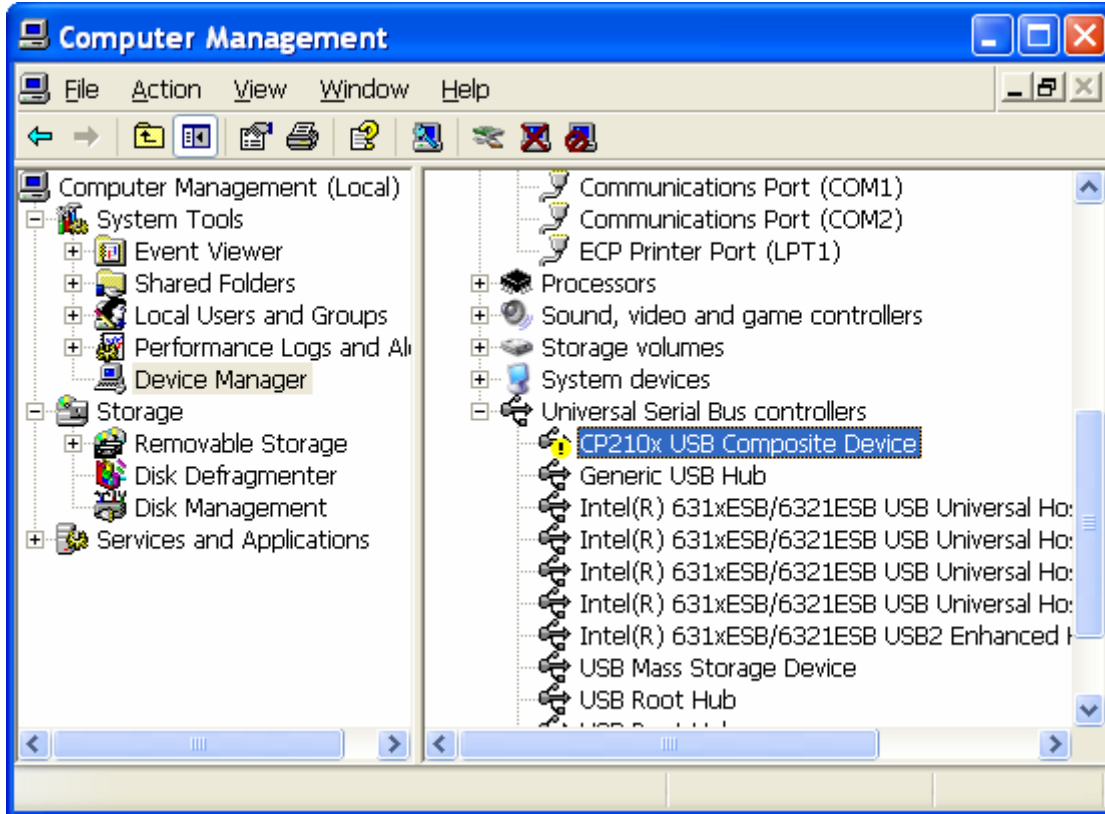


Figure 1

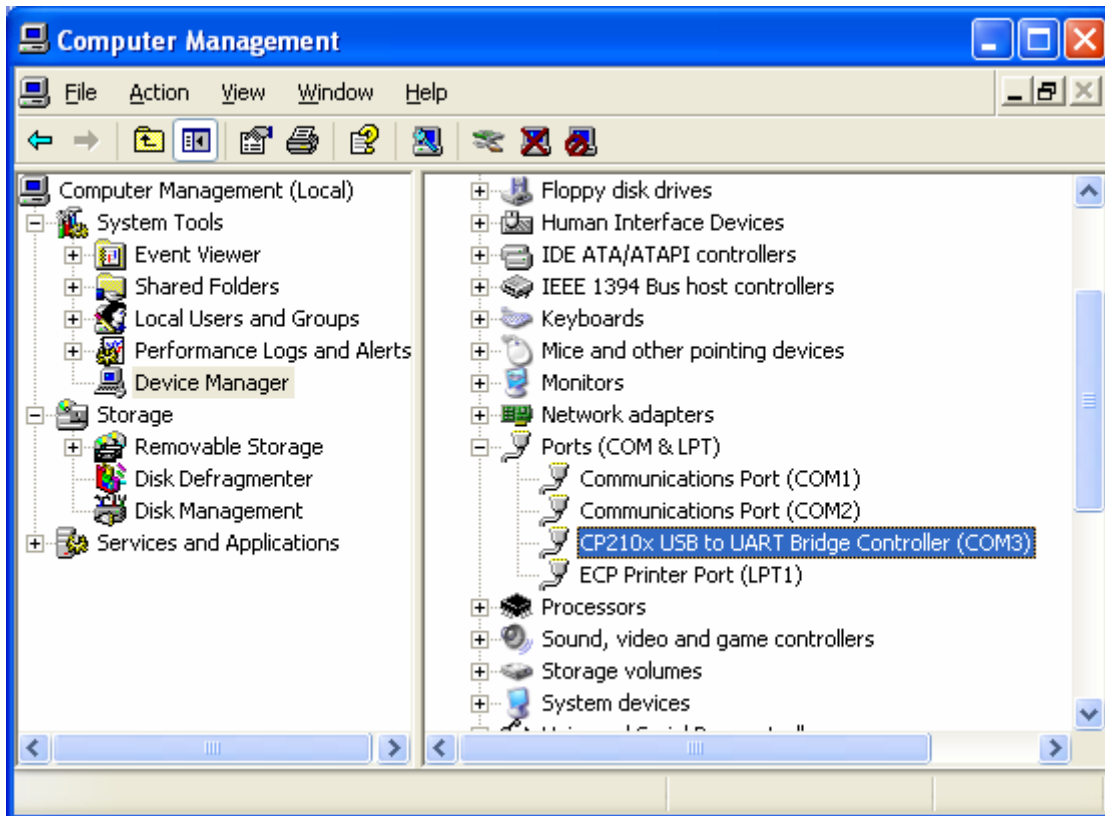


Figure 2

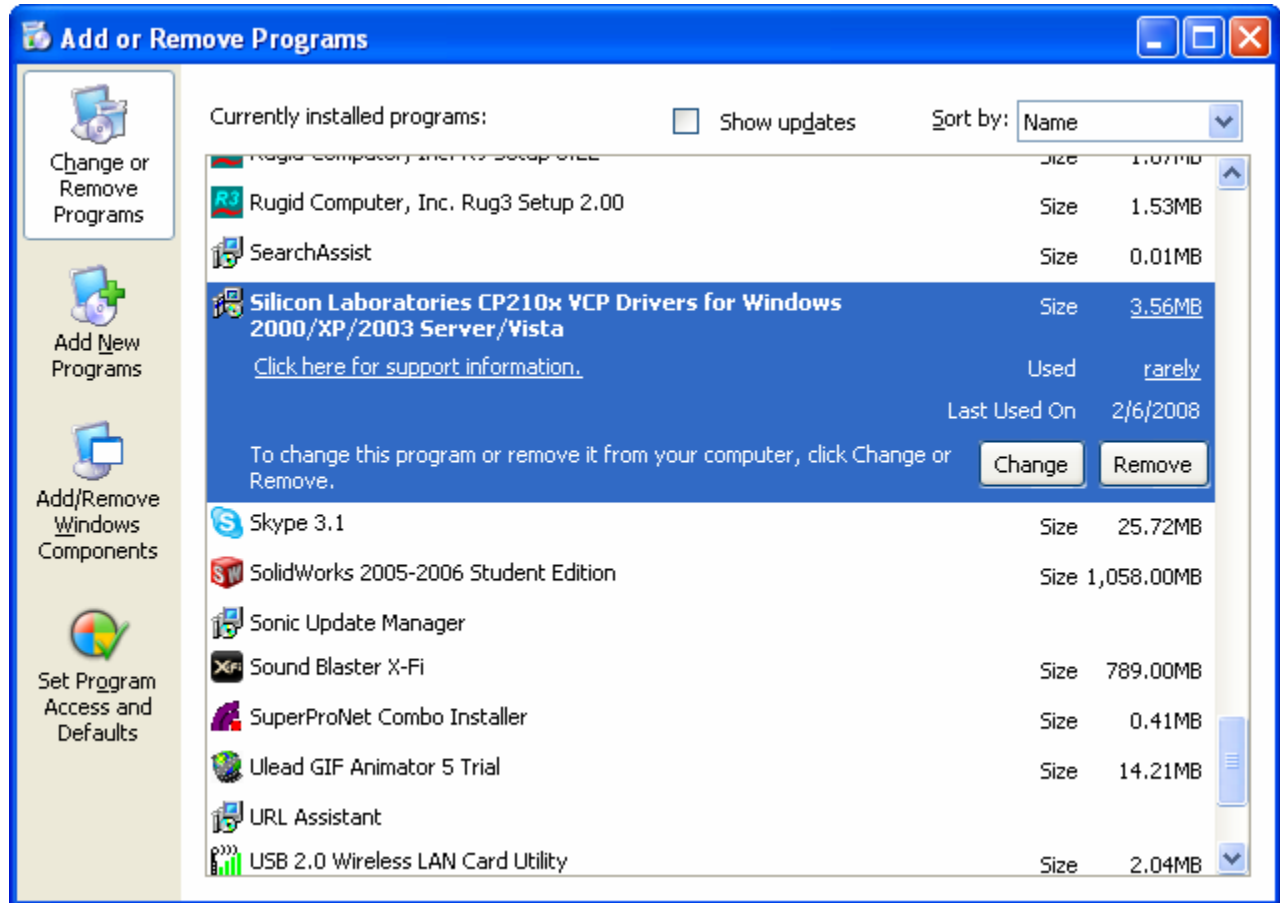


Figure 3

Download USB Driver

Download the RUG3 USB driver from the Rugid Computer website at www.rugidcomputer.com/download_files.htm or from the driver developer at www.silabs.com/tqwWebApp/public/web_content/products/Microcontrollers/USB/en/mcu_vcp.htm. If downloading from the driver developer be sure to select the 'VCP Driver Kit' for Windows 2000/XP/Server 2003/Vista.

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 RUG3 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 steps following guides 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.

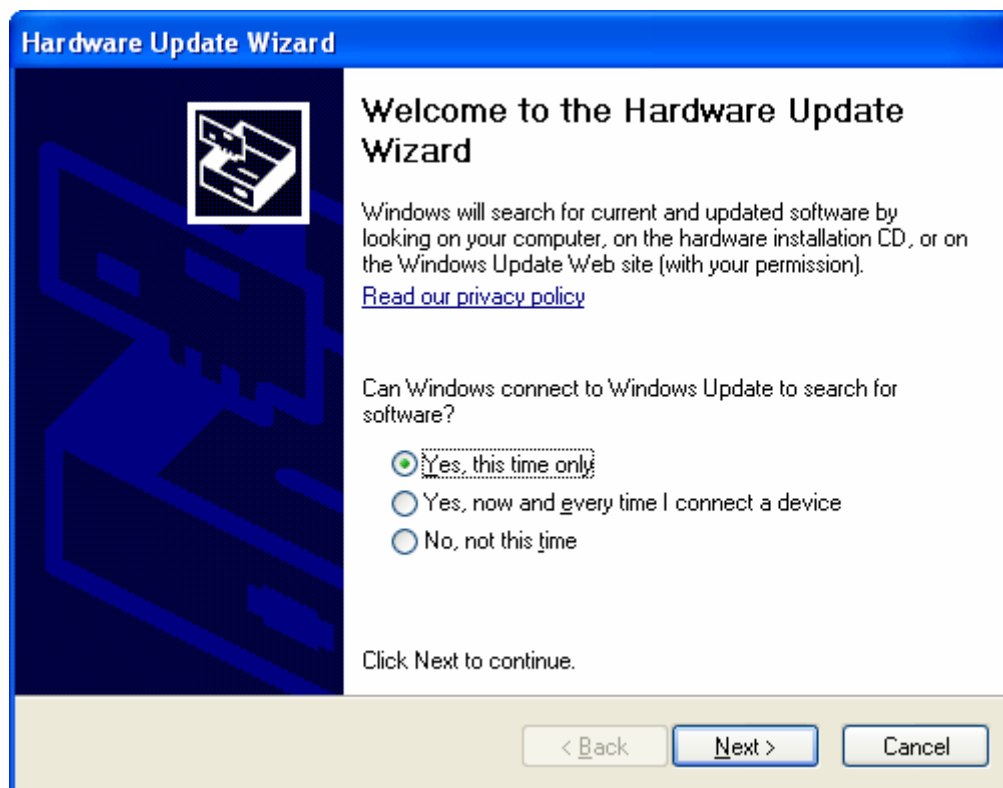


Figure 4

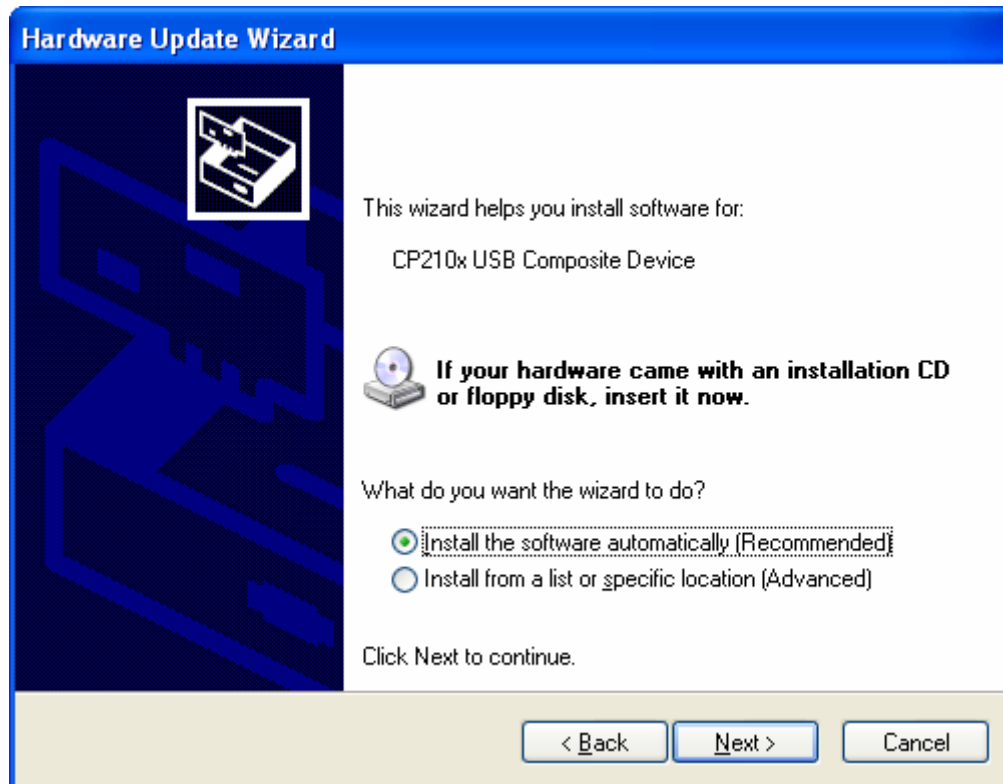


Figure 5

3. The hardware wizard may find two different driver version in which you must select between. Although you may choose version 5.2.1.0 and it should work, since it is not digitally signed (see figure 6) it may cause some Windows anomalies. Otherwise, you may select version 4.28.0.2700 which is digitally signed (see figure 7).

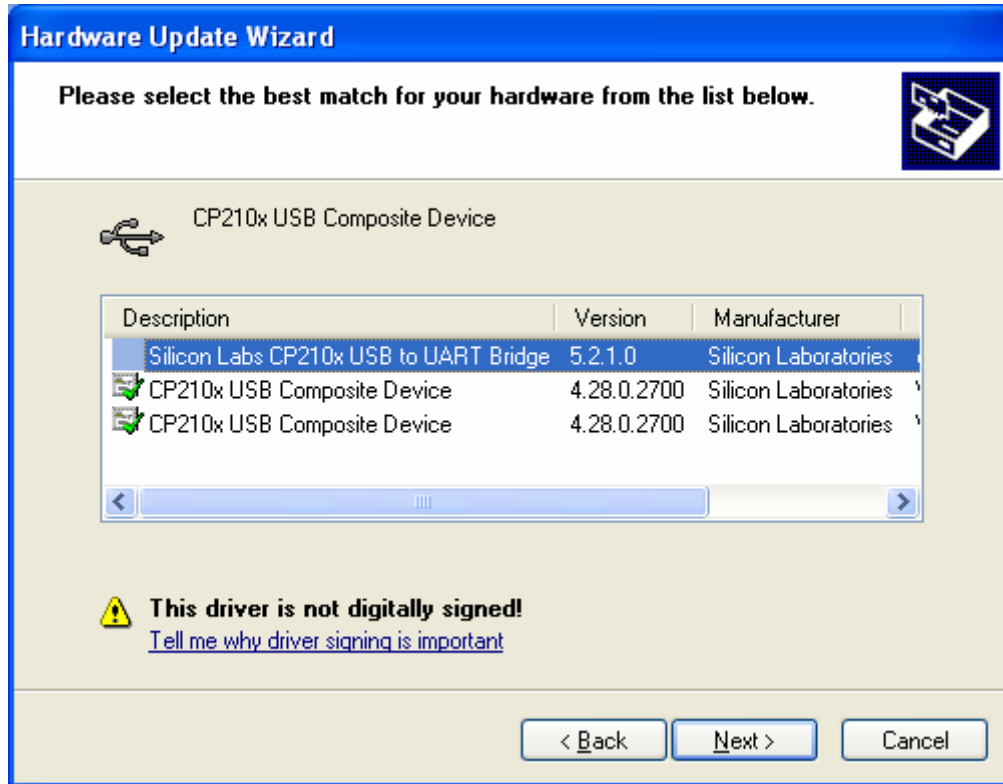


Figure 6

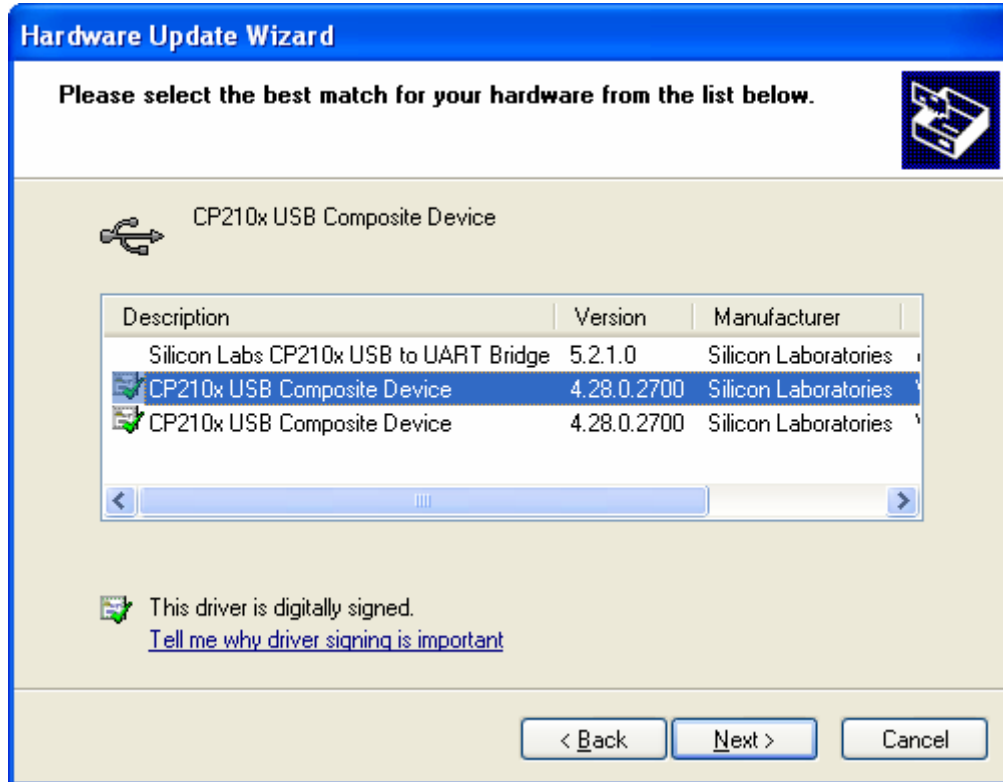


Figure 7

4. If you did elect to install version 5.2.1.0, 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_2K_XP_S2K3_Vista\x86", see figure 8

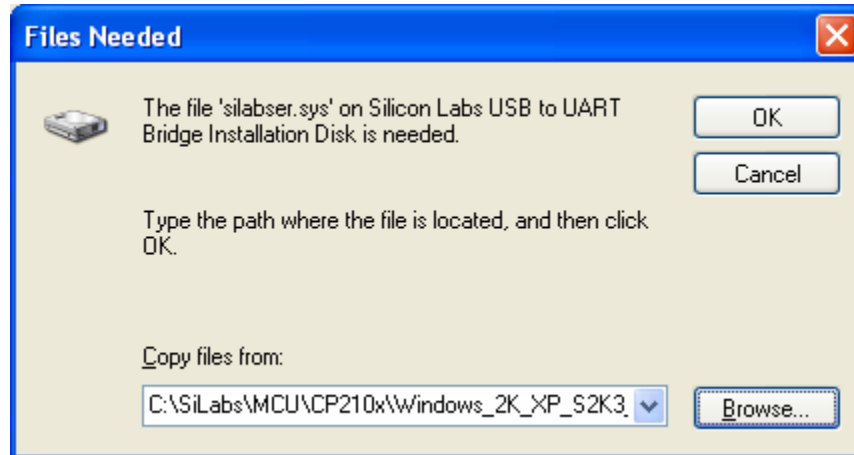


Figure 8

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'.

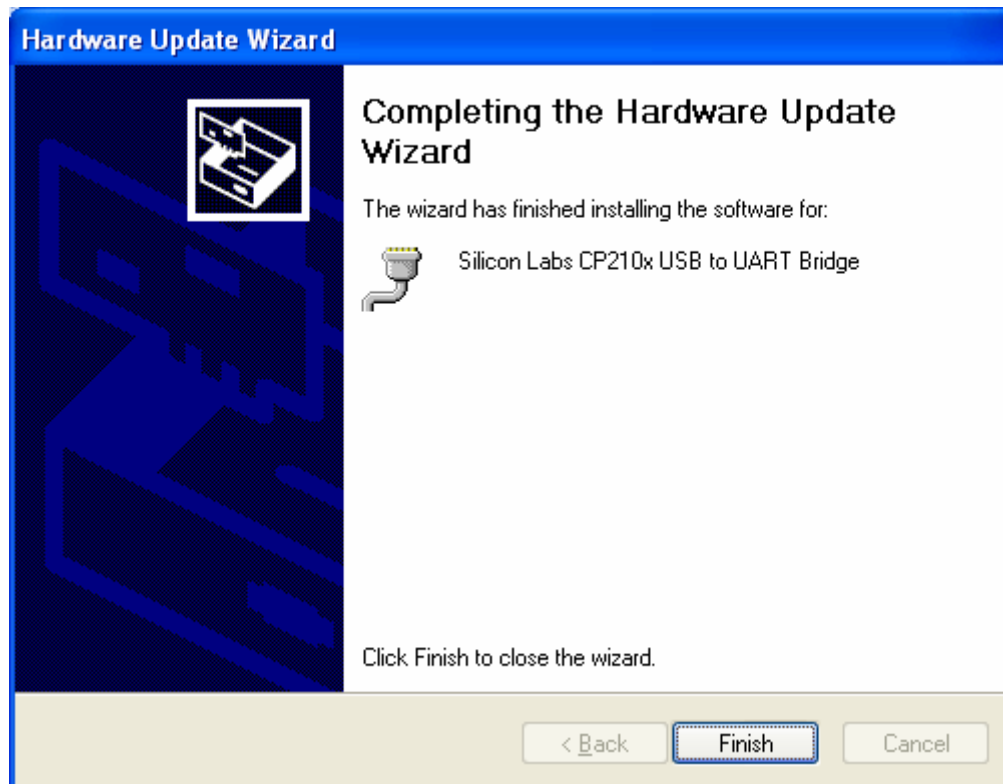


Figure 9

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 RUG3 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).

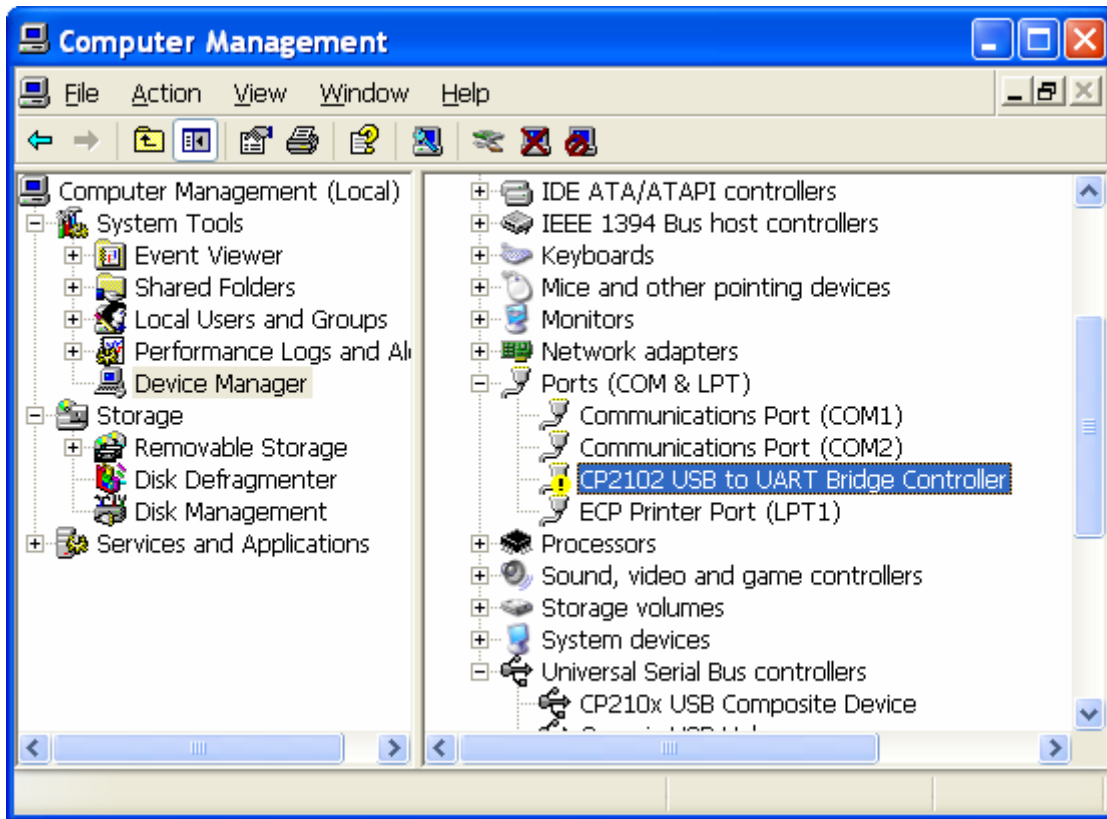


Figure 10

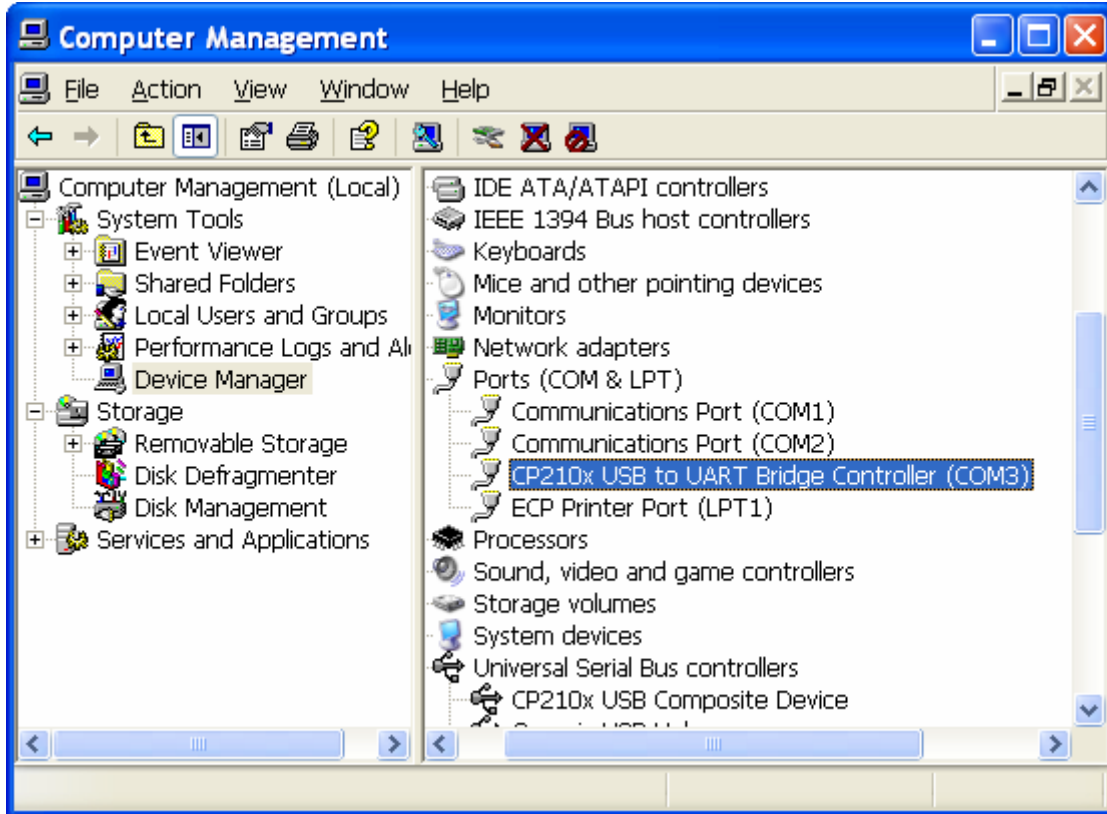


Figure 11

Support Software Settings

When using the 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.

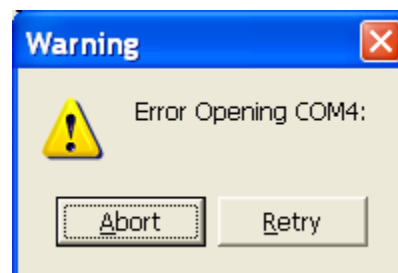


Figure 12

To configure the 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 13).

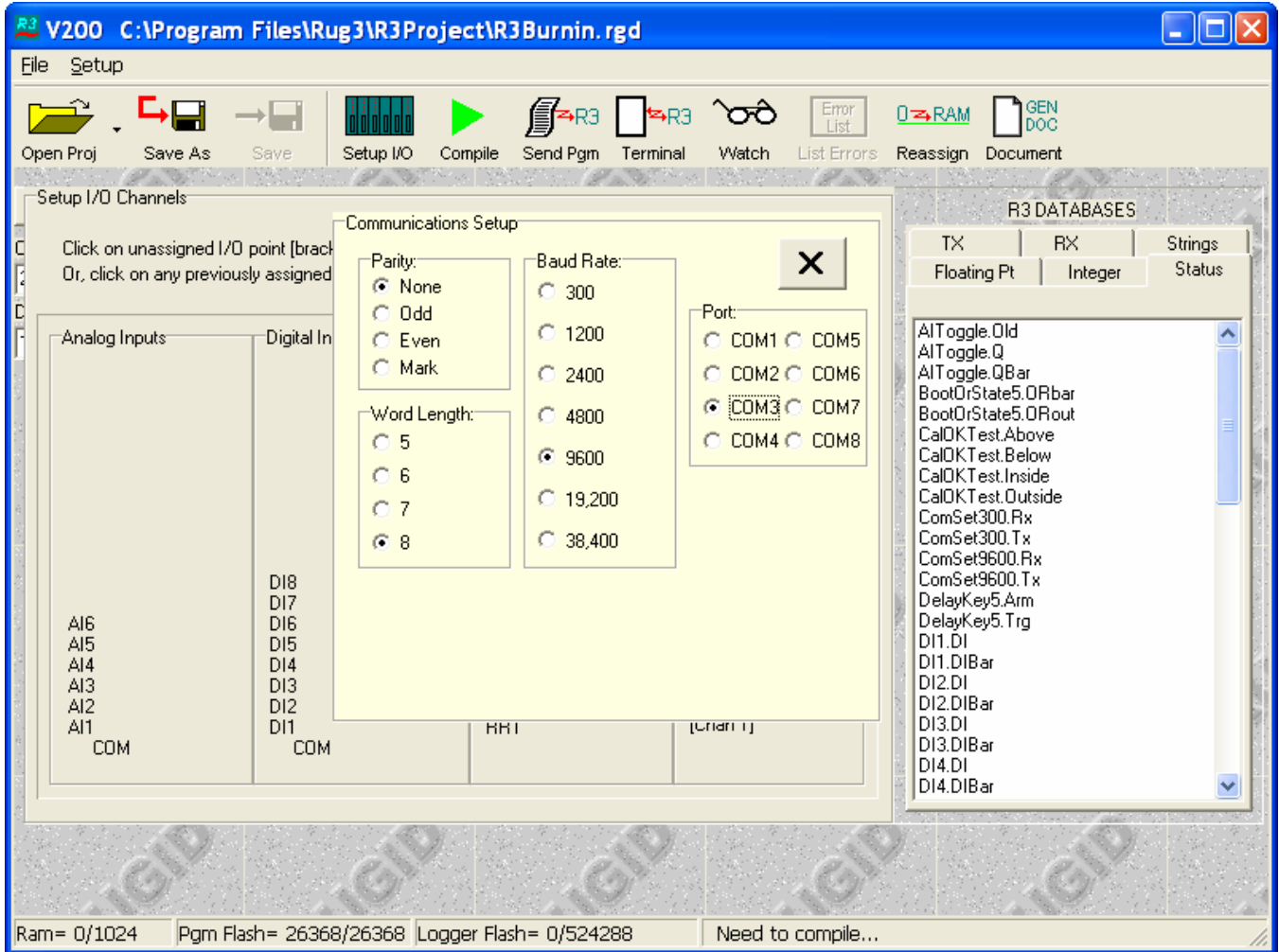


Figure 13

Now you should 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 14, then you have correctly installed and setup your USB driver!

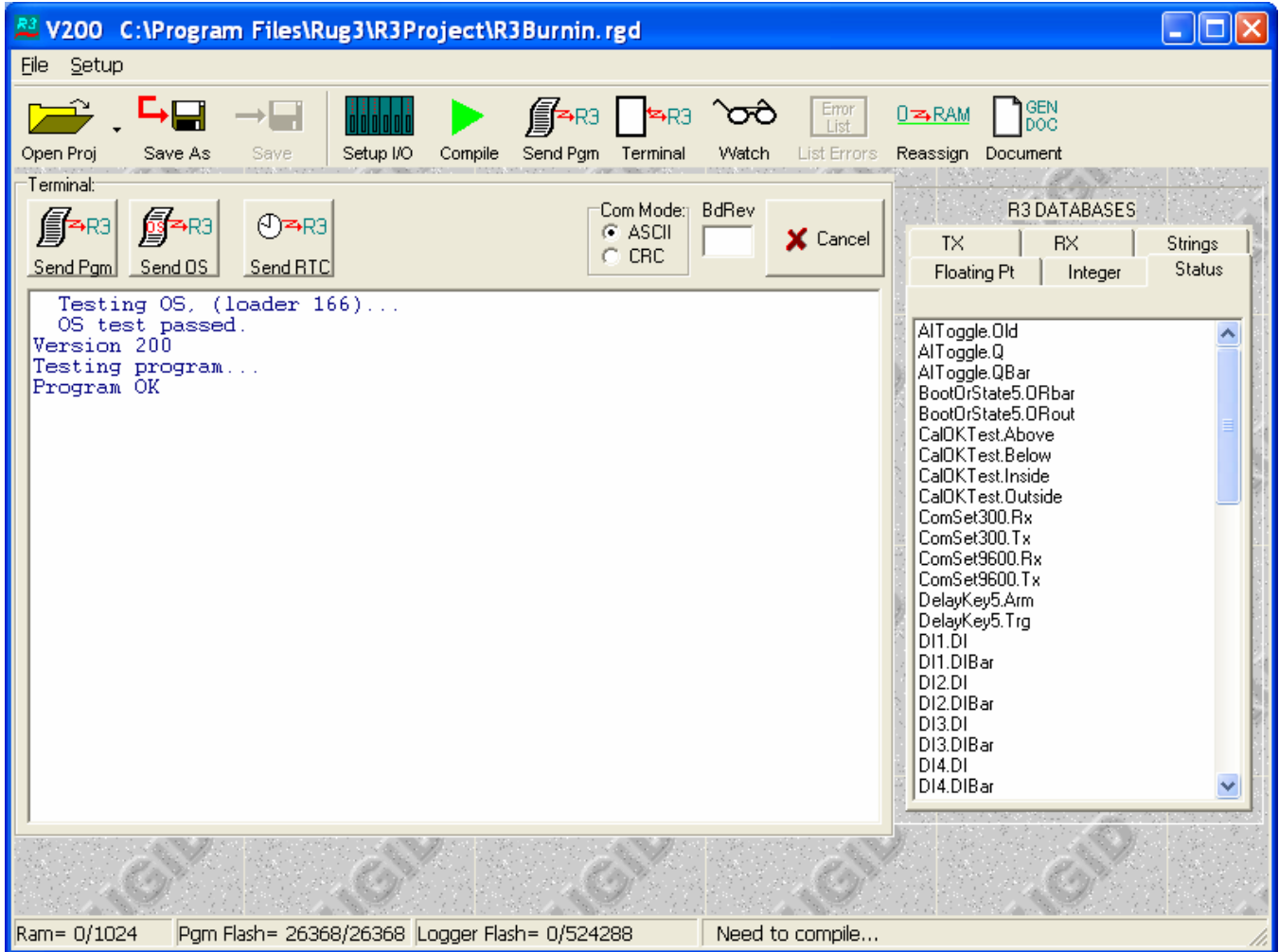


Figure 14



Contact Information

Rugid Computer, Inc.
6305 Elizan Dr. NW
Olympia, WA 98502
360.866.4492

<http://www.rugidcomputer.com>
support@rugidcomputer.com