

## Running the R4 Software on a USB Port

Like a lot of other engine management software programs that have been around for a while, the R4 program is designed to communicate through a 9-pin serial communication port. Unfortunately, modern laptop computers no longer have serial ports. The easiest way to use the R4 program on a modern laptop is with a USB-to-serial adapter cable.

USB-to-serial adapter cables are pretty common and are available at Radio Shack and other computer stores. Typical prices range from \$20 to \$40. There are several different manufacturers of these cables. When selecting one of these cables, make sure that it comes with a software driver disc. In order to use the adapter cable, you must successfully install the software driver that makes it work.

To install the cable for use, begin by powering up the laptop with the cable unplugged. Let it boot up into Windows. When the boot-up sequence is complete, plug the USB connector on the USB-to-serial cable into one of the USB ports on the laptop. At this point, the 9-pin connector end of the adapter cable should be unplugged.

After you plug in the cable, a message bubble like the one below will appear on the screen that indicates that new hardware was found.



The computer will launch the new hardware installation wizard as shown below. You can select No in answer to the Window Update question. Insert the disk into the CD drive of the computer and follow the prompts that guide you through the installation process.

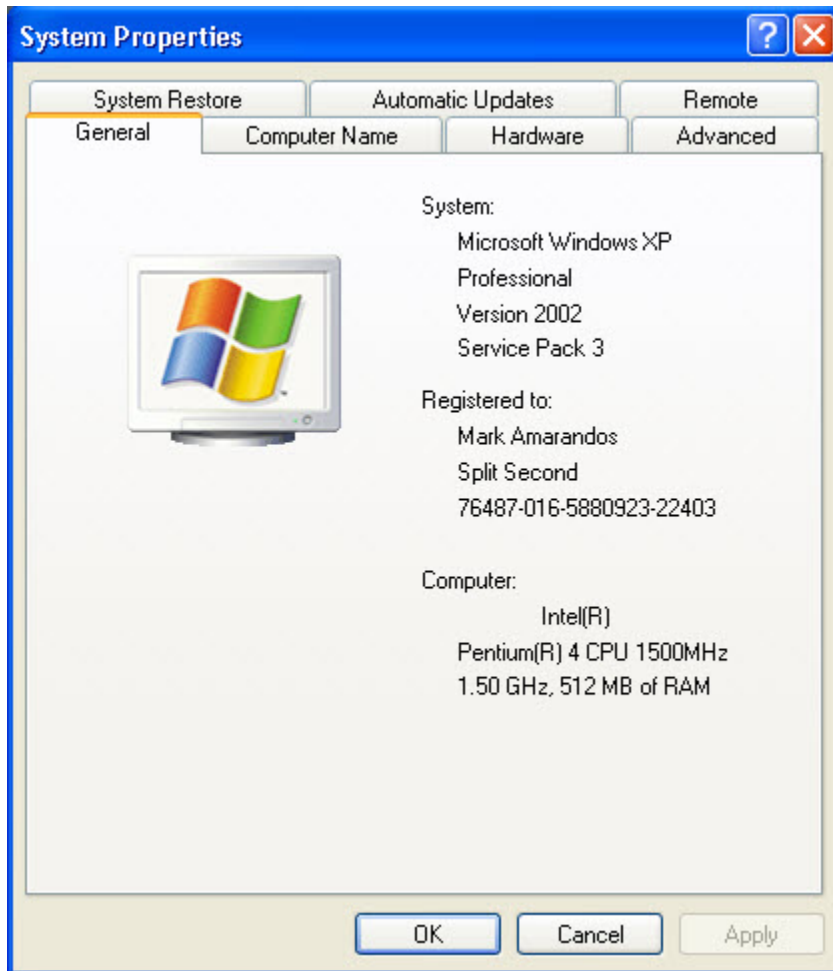


After going through the prompts, the computer will install the driver. When it is complete it will display the following message.

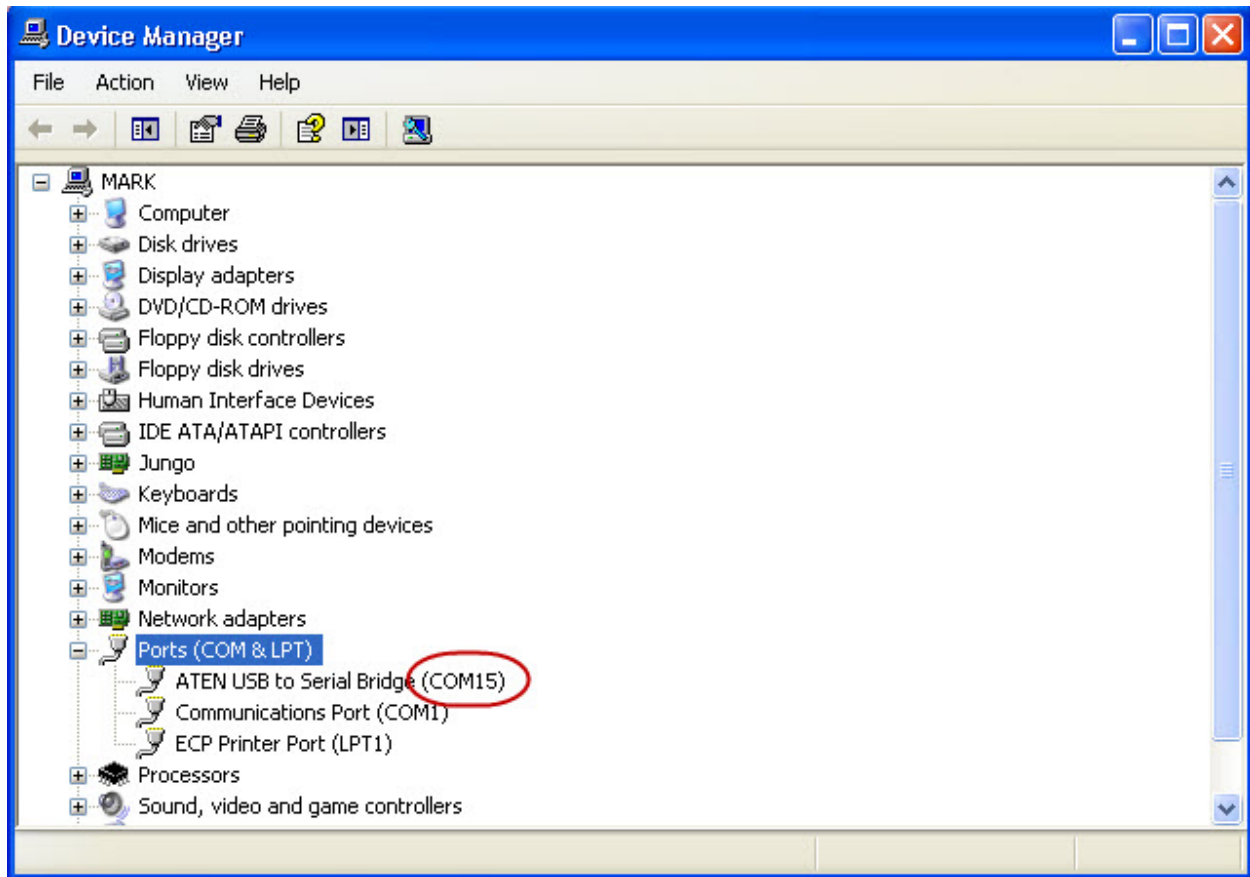


During the installation process, the computer will assign a com port number for the driver. Before you can use the driver you have to make sure that the com port setting that was assigned is between 1 and 8. The R4 program can only work with com ports within that range. To determine the assigned com port you will have to go to the device manager on the computer.

To access the device manager, click the Start button and Control Panel. Select the Classic View and click on System. This should bring up the System Properties screen as shown below.

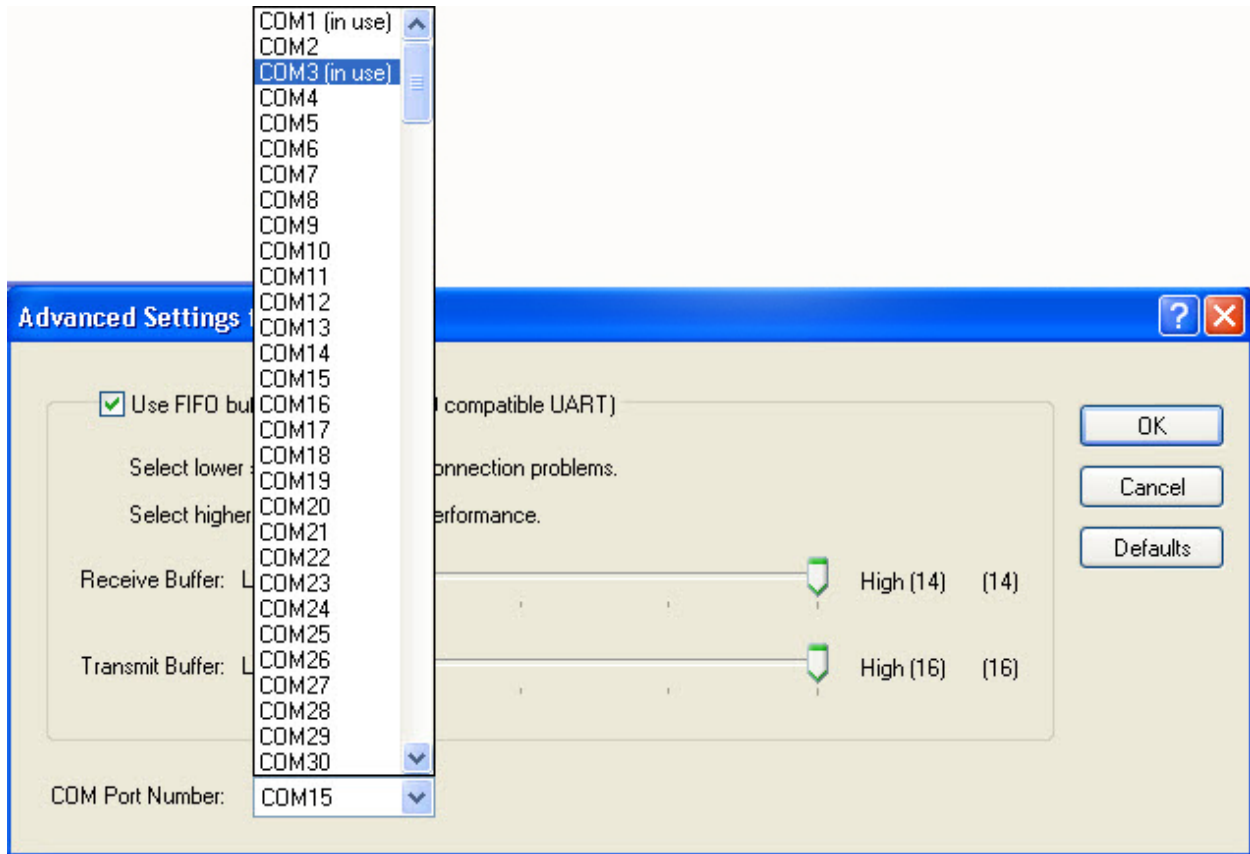


Click on the Hardware tab and the Device Manager button. This will bring up a list of the installed components on your computer. Look for the Ports (COM & LPT) entry. These entries are listed in alphabetical order. Double click on the Ports listing to expand and view the installed port drivers. The example below shows the USB-to-serial driver as ATEN USB to Serial Bridge (COM15). Your driver listing should show the name of your USB-to-serial adapter manufacturer.



Note that we have circled COM15 in red. We did that to draw your attention to the way that the com port number is shown. Because the assigned com port is above 8, we will have to change it. Double click on the line showing your USB-to-serial driver. This will bring up a Properties window. Click on the Port Settings tab and the Advanced button.

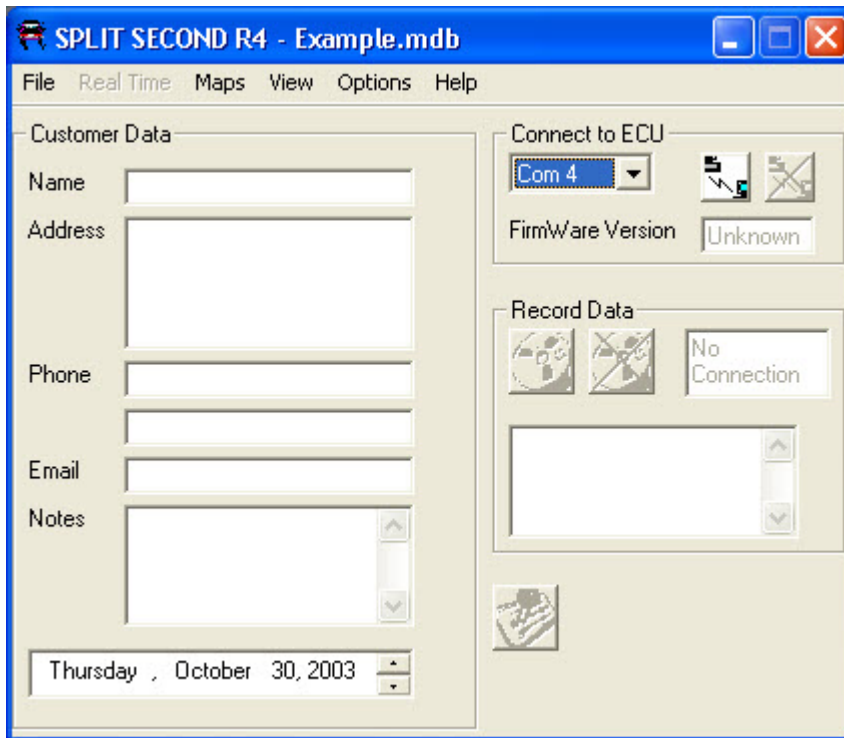
In this window you will see a com port number pull-down menu. We have clicked that in the following screen shot to show the selection process. Select a com port between 1 and 8 that is not currently in use. For our example we are going to select com 4.



Once you have selected the desired com port setting, click OK twice to go back to the device manager screen. You can close the device manager and open it again to verify that the new com port selection is active.

Now that the desired com port is set in the computer, we need to match that setting in the R4 program. Launch the R4 program and open the file that you would like to use. Click the com port pull-down arrow and select the correct com port number. The com port in our example is com 4 as shown below.

The R4 program defaults to com 1 so that is the most convenient com port number to use. If you wind up using another com port number, you will have to select it each time you open a file and connect to the ECU in the R4 program.



Once you have selected the correct com port, turn on the vehicle ignition to power up the programmable unit. Plug in the serial connector and click on the Connect to ECU icon. When you are successfully connected, the Connect to ECU icon will become inactive and the Disconnect from ECU icon will become active.

Always plug in the serial connector just before connecting to the ECU. Also unplug the cable immediately after clicking the Disconnect from ECU icon. This will avoid data communication issues while the R4 program is not connected.