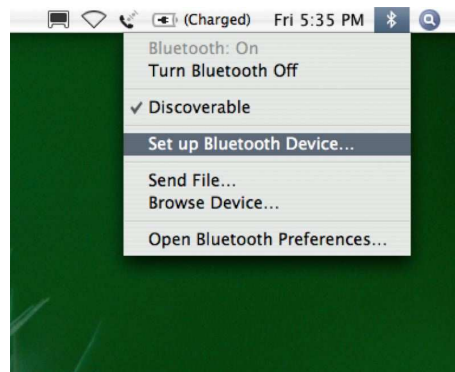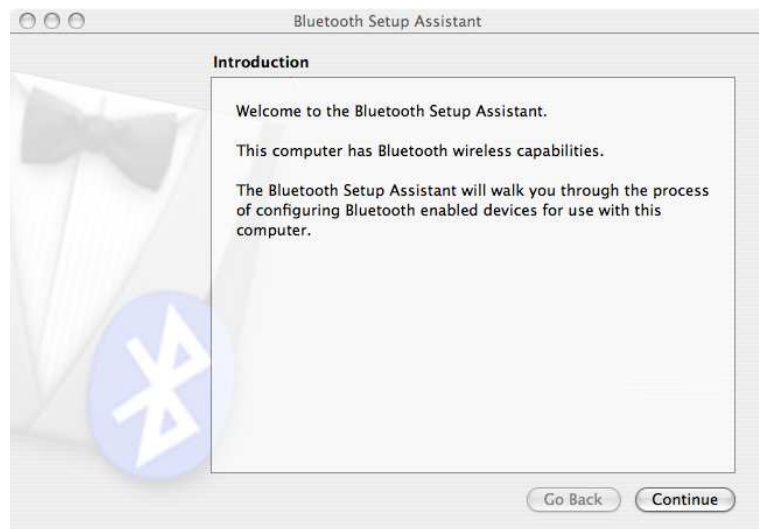# How to connect to the Scribbler

1. Create a bluetooth connection between your computer and your Scribbler.
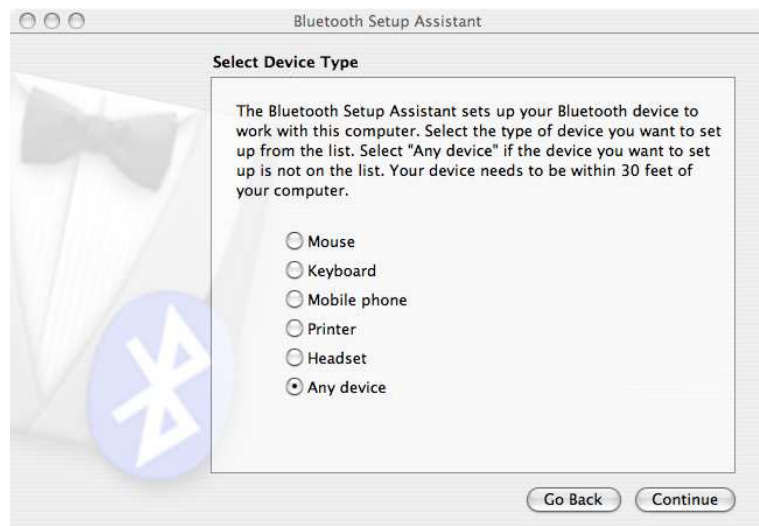
(a) Turn on your Scribbler and then open the wizard to set up a bluetooth device:

(b) Here is what the screen looks like when the wizard, i.e., the "Bluetooth Setup Assistant", starts up. Click on **Continue**.

(c) On the next screen, where you select the type of bluetooth device, click on **Any device**. This is because the Scribbler is a type of device that doesn't match any of the other choices on the list.

(d) Next, your computer will start searching for any bluetooth device that it can find. It will probably find other computers and other Scribblers that are in the room. It may find people's cell phones. You want to select the IPRE device that matches the serial number on your robot. Look on the green board and you'll see a little white sticker with a 6-digit number on it. That is the device you want to select. Select it and then click on **Continue**.

(e) Next, your computer will try to gather information about the bluetooth device (i.e., your robot). You want to click on **Continue**, but you may have to wait a few seconds until the button is enabled.

(f) Then you will be asked to enter a "passkey" that will pair your computer with your robot. The passkey for all the Scribblers is **1234**.
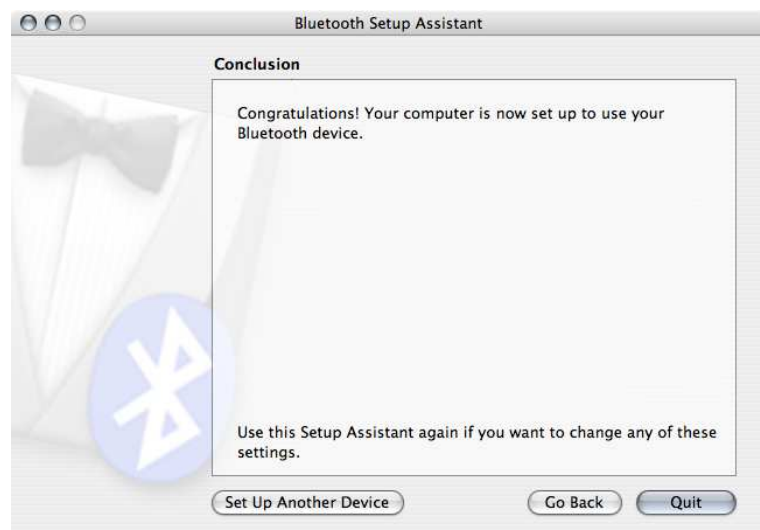Enter that in the box and then click on **Continue**.

(g) The wizard will show a screen verifying that the passkey worked.

Then it will try to find "services" that your device offers. There won't be any, but that's okay.
Click on **Continue**.

(h) Now you are finished creating the bluetooth connection from your computer to your robot.
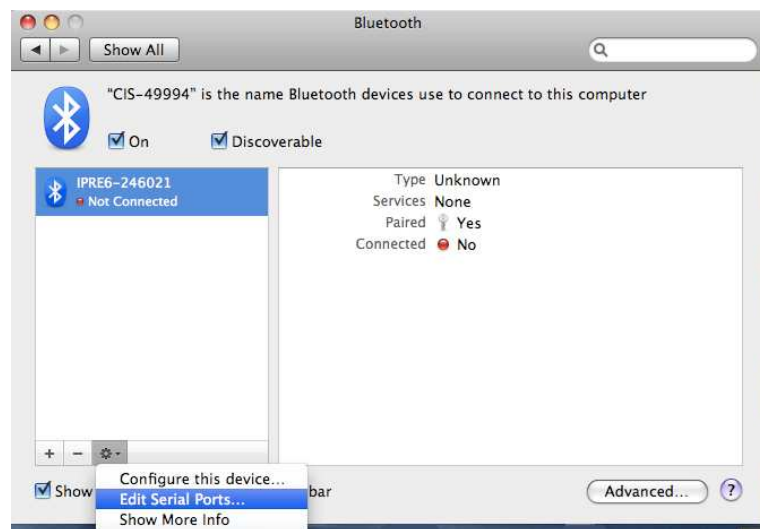
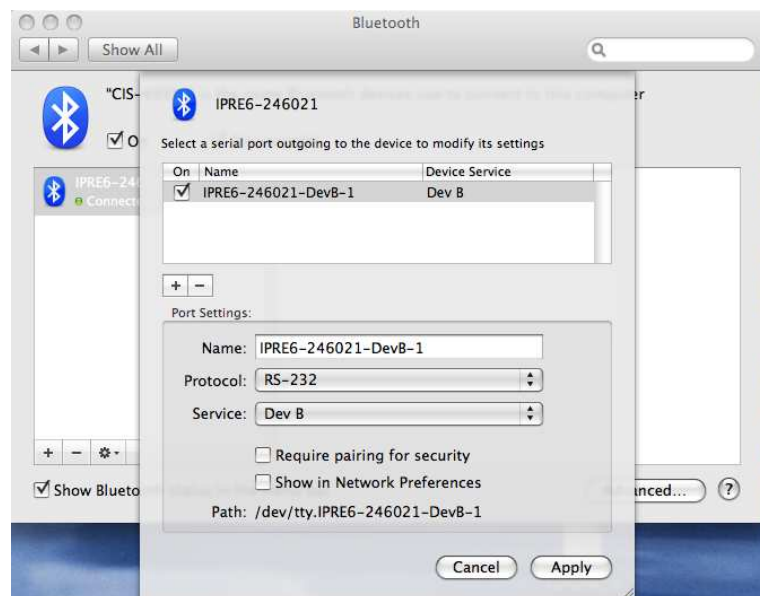2. Set up "preferences" for your new bluetooth connection.
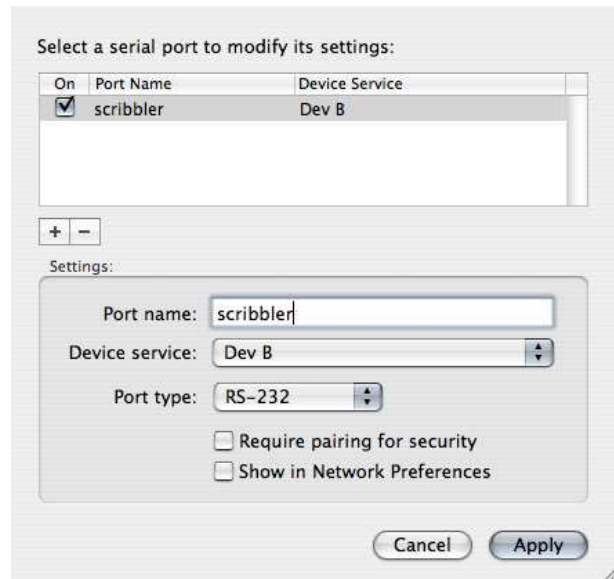
(a) Open the bluetooth preferences wizard.

(b) Then select **Edit Serial Ports. . .**

(c) On the screen that pops up, you want to select the serial port to modify. Your IPRE should be on the list. If it doesn't appear, try clicking on the "+" button below the list.

(d) In the box next to **Port name:**, type *scribbler.* and then click on **Apply.**

Select a serial port to modify its settings:

On	Port Name	Device Service
☑	scribbler	Dev B

+ −

Settings:

Port name: scribbler

Device service: Dev B

Port type: RS–232

☐ Require pairing for security
☐ Show in Network Preferences

Cancel   Apply

(e) You will again see the screen shown in step 2(b). Again, select your IPRE device and click on **Edit Serial Ports...** This time, click on the checkbox next to **Require pairing for security** and then click on **Apply.**

I know you want to know why you couldn't do this on the previous step, at the same time that you entered the port name. For some reason, it seems to work more consistently if you set these two properties in two separate steps.

Select a serial port to modify its settings:

On	Port Name	Device Service
☑	scribbler	Dev B

+ −

Settings:

Port name: scribbler

Device service: Dev B

Port type: RS–232

☑ Require pairing for security
☐ Show in Network Preferences

Cancel   Apply

3. Now you are ready to run your first program on the Scribbler.

(a) First you need to open the **Terminal** application which is part of the Mac operating system. The Terminal icon may appear on your Desktop or in your Dock. If it is in neither of these places, then find the **Applications** icon in your Finder window. Click on that and scroll down to **Utilities** and click on that. You should find the terminal icon in the Utilities folder.
Double-click on the Terminal icon to start up the application.

Terminal

(b) The Terminal application starts up and opens a window that looks something like the drawing to the right. There is a **prompt** (the text that probably says something like `bash$` or `student$`) and a **cursor** (the rectangular thing after the prompt). This is called a "command window". In it, you will type some commands that tell the computer what to do. In this lab, you will run two little test programs using this command window, following the instructions below.

Click on your Terminal window. You need to tell the Terminal application where it can find the test programs. I installed the test programs inside a folder on the **Desktop** called **labIV.3**. To make sure that this setup is still okay on your computer, go to the Desktop and look for the **labIV.3** folder. Double-click on that, and you should find the some test programs inside.

Now, back to the Terminal window. At the `student$` prompt, type the following two commands (but don't repeat the prompt), pressing the **enter** key after each command:

```
student$ cd Desktop/labIV.3
student$ make test
student$ ./test
```

The first command (`cd`) tells the Terminal application to change its "working directory" (the default place where it finds programs) to the folder where I put the test programs. The second command (`make test`) tells the Terminal application to compile the program `test.cpp` The third command (`./test`) tells the Terminal application to run the test program.

(c) A window should appear that asks you to enter the passkey to allow your computer to talk to your Scribbler. Enter **1234** and click on **Pair**.

The program should run, making your Scribbler play with its lights, move about, and then beep.

If this does not happen, then please ask your instructor for help!