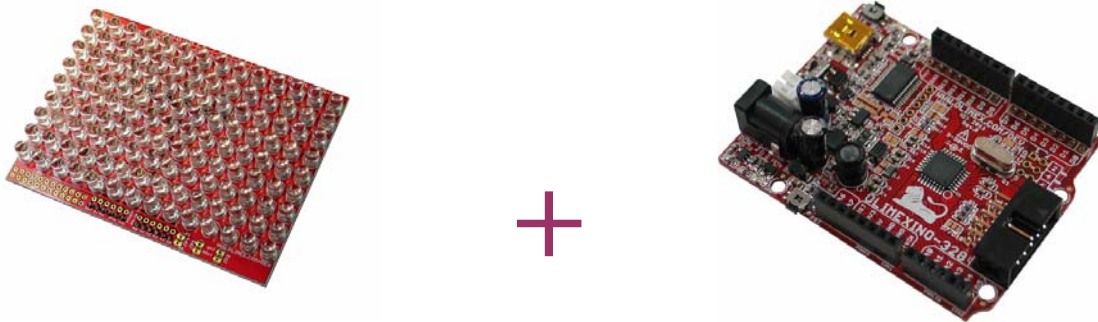


The LoL Shield on Olimexino-328

Instructions by LadyMM



For the LoL Shield to work, It needs to be connected to a board like the olimexino-328. The olimexino-328 is an arduino-like board, which runs programs called “sketches”. The programs themselves are written in C and compiled in the Arduino environment and then uploaded to the board’s memory via miniUSB.

Special drivers and settings are needed, however, for your computer to correctly recognise the board. Installation instructions are below.

1.Installation of the arduino-based board

(Instructions and screenshots from Limor Fried

<http://www.ladyada.net/learn/arduino>)

Visit <http://www.ftdichip.com/Drivers/VCP.htm> for the latest drivers for your **Olimexino-328** board

(Instructions for other arduino boards can be found at <http://arduino.cc/en/Guide/HomePage>)

Windows:

(The screenshots show a Windows XP machine, but the installation is the same for XP/Vista/Windows7)

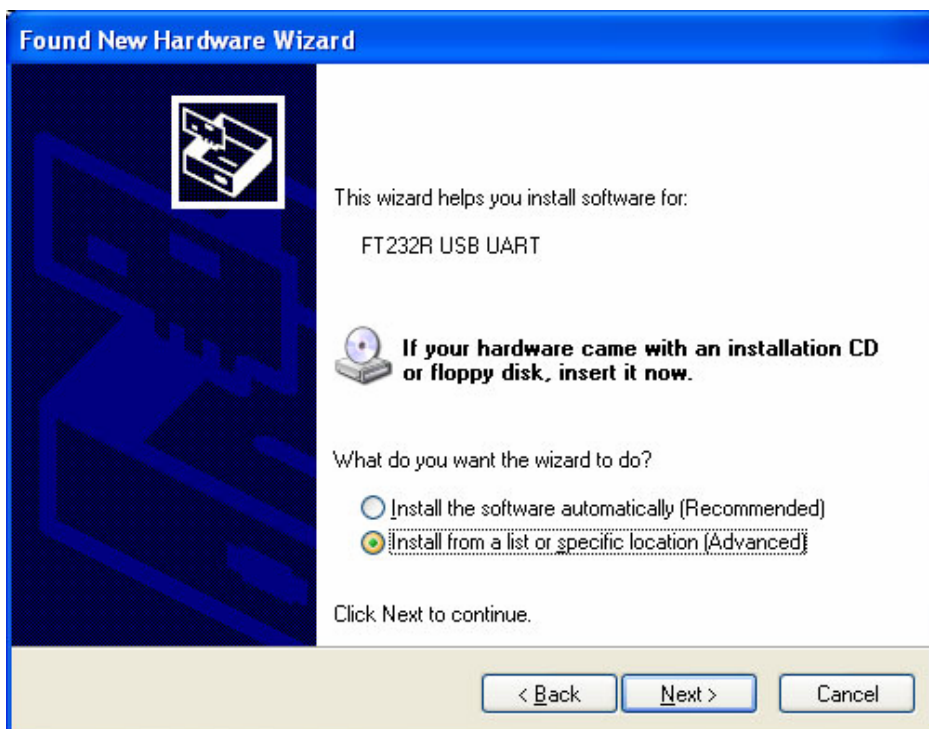
When you plug in the Arduino, you may hear a sound from the computer and a little popup bubble in the bottom right corner of the screen that says Found New Hardware FT232R USB UART



After a few seconds, the new hardware wizard will start. Select "No not this time" and click Next>



At the next screen, select Install from a list or specific location



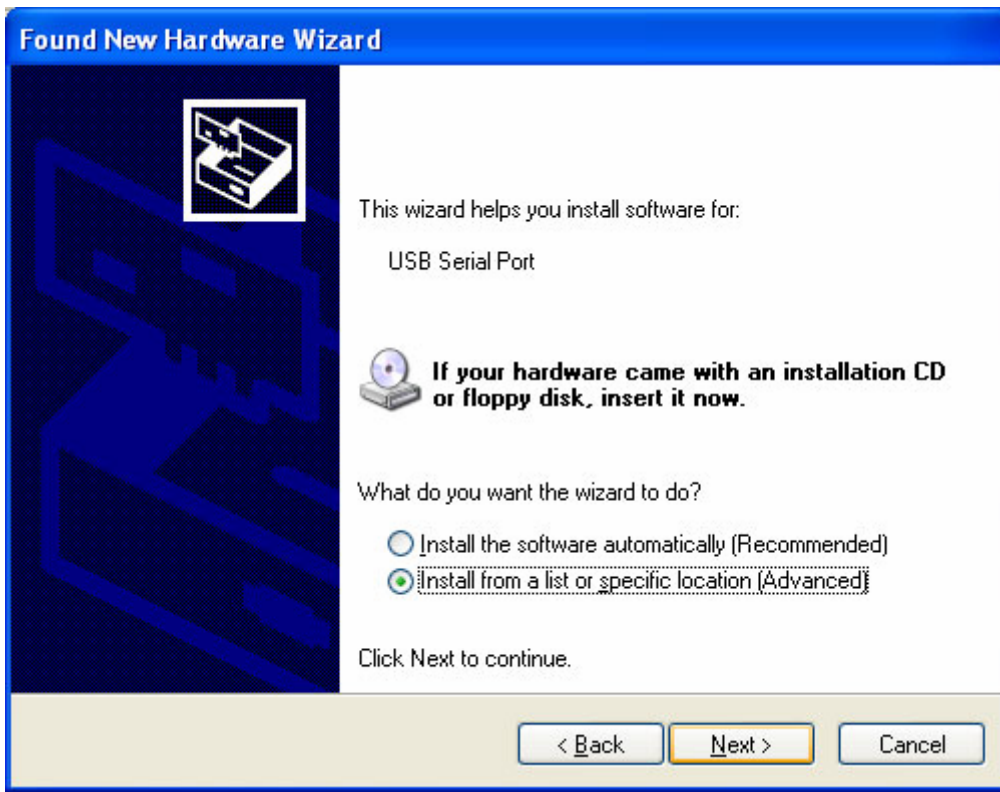
At the next screen make sure Include this location is selected and browse to the folder that contains the driver you downloaded. Select the folder and click OK



It should copy some files and then come up with this window. Click Finish



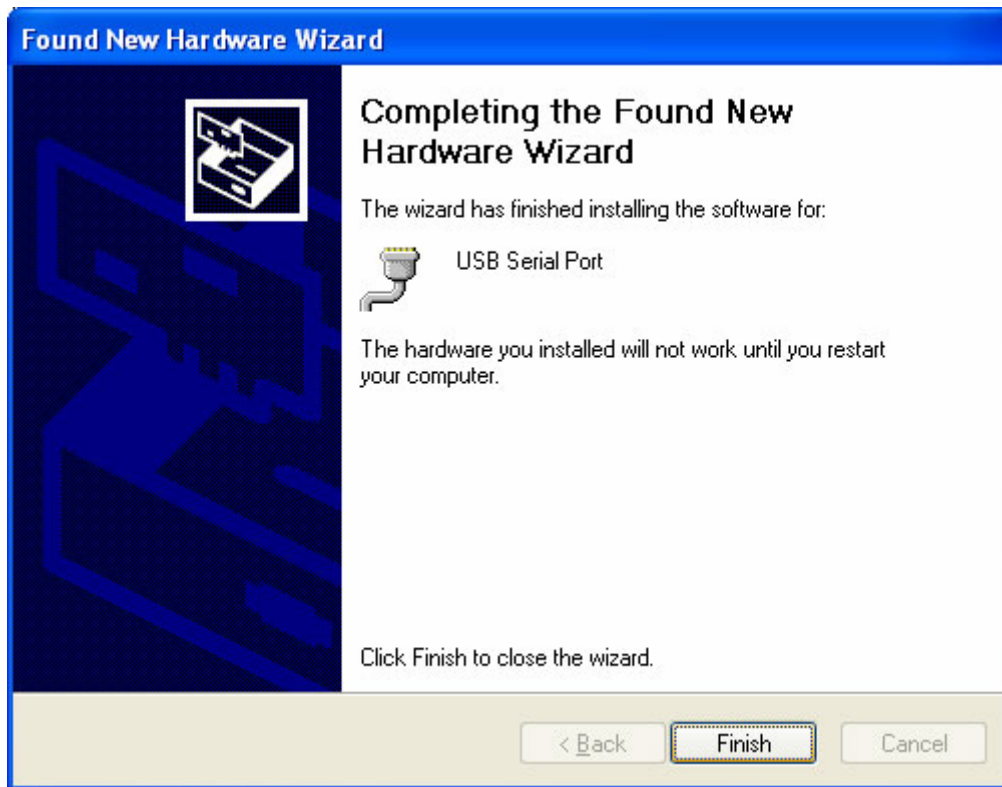
Almost immediately, another window will pop up, this time it will say USB Serial Port. As before, click Install from a list or specific location



Browse to the same folder again...



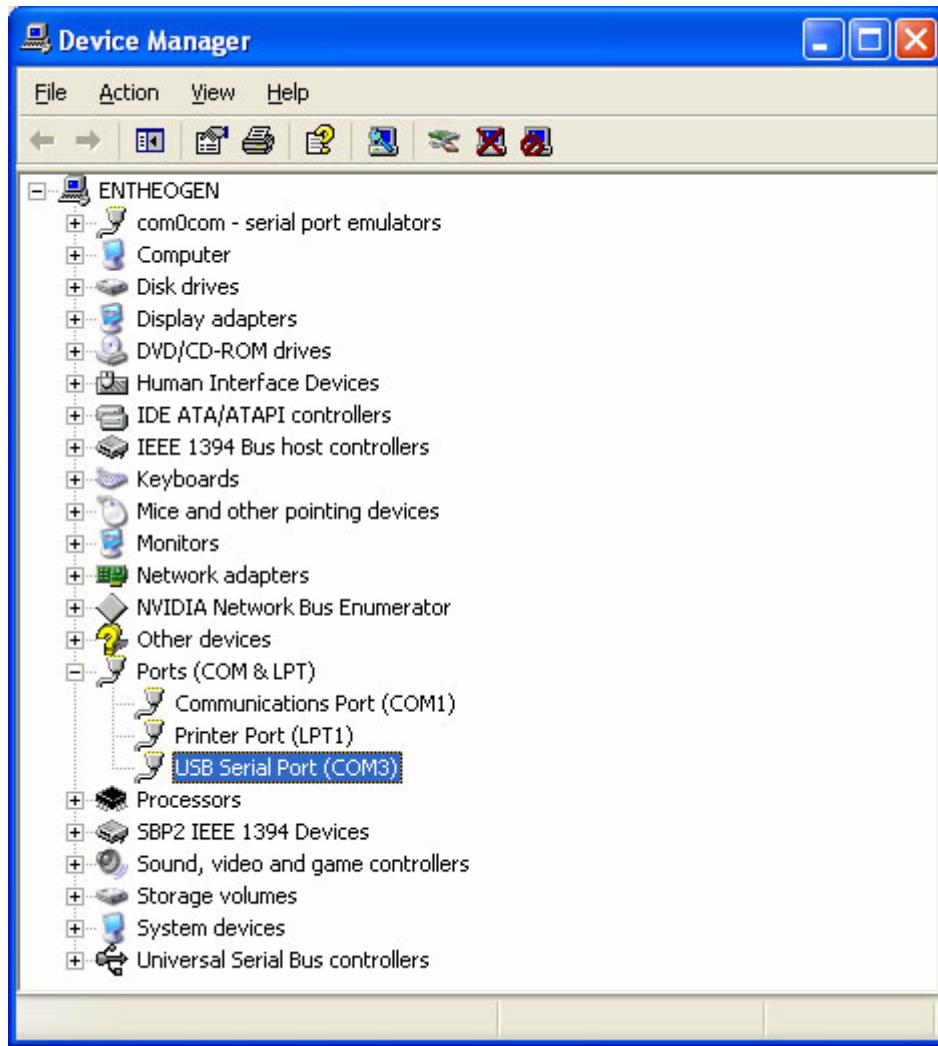
And it should complete successfully!



You may need to reboot the computer.



When the computer is done rebooting, make sure the Arduino is plugged in (and the green light is lit). Go to the Device Manager (From the Start Menu, select Settings->Control Panel. Double click on System and select the Hardware tab. Then click on the Device Manager button)



Look for an entry under Ports (COM & LPT) that says USB Serial Port (COM) the COM number may vary but it should be something like COM3 or COM4. The COM stands for "communication", and each one has a unique number, known as the COM Port number. In this case the COM Port number is COM3.

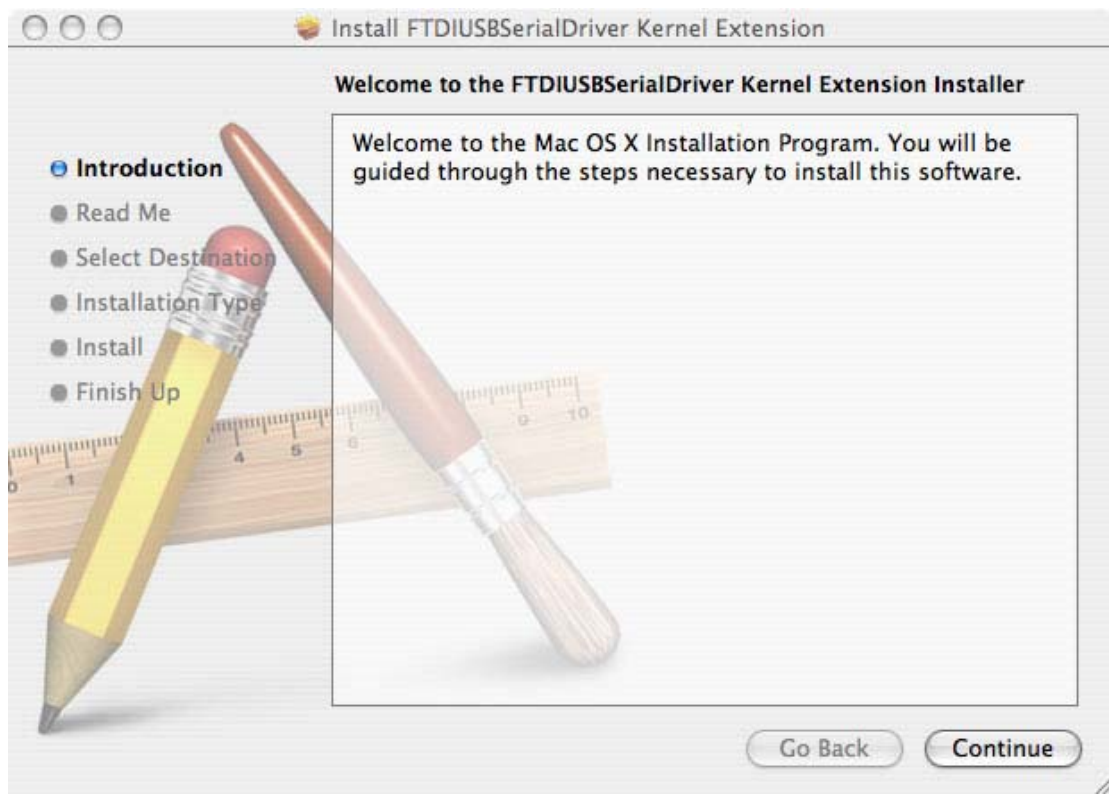
If you don't see the COM port verify the Arduino is plugged in, and check that you installed the VCP FTDI driver.

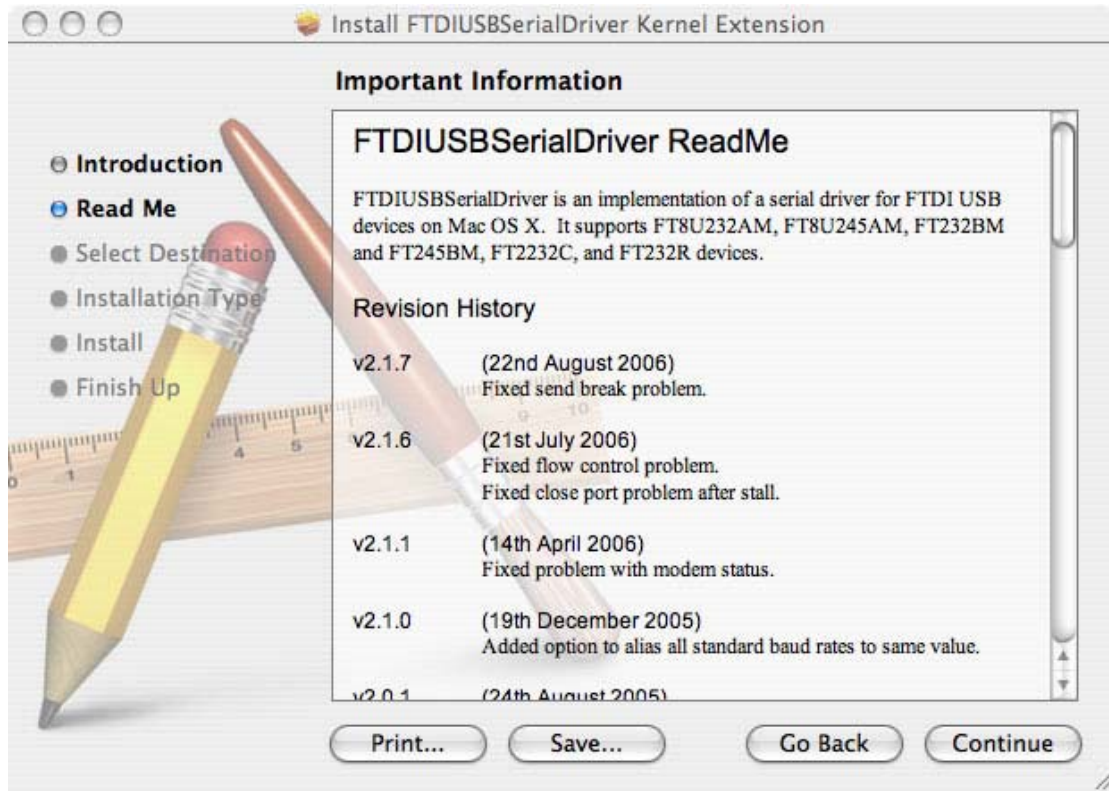
MAC OS

Open up the driver dmg file



And double click on the driver package, go through all the steps necessary to install the driver

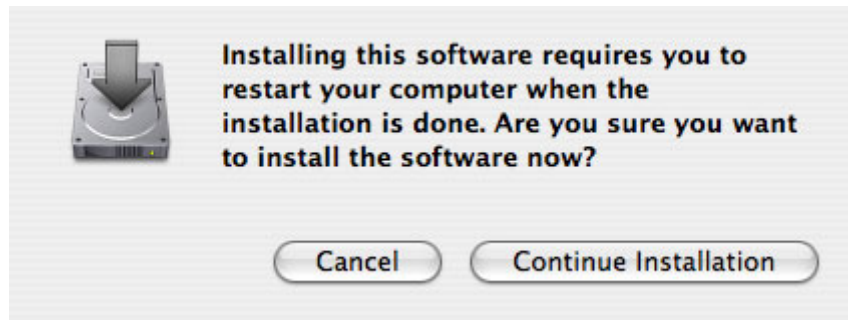
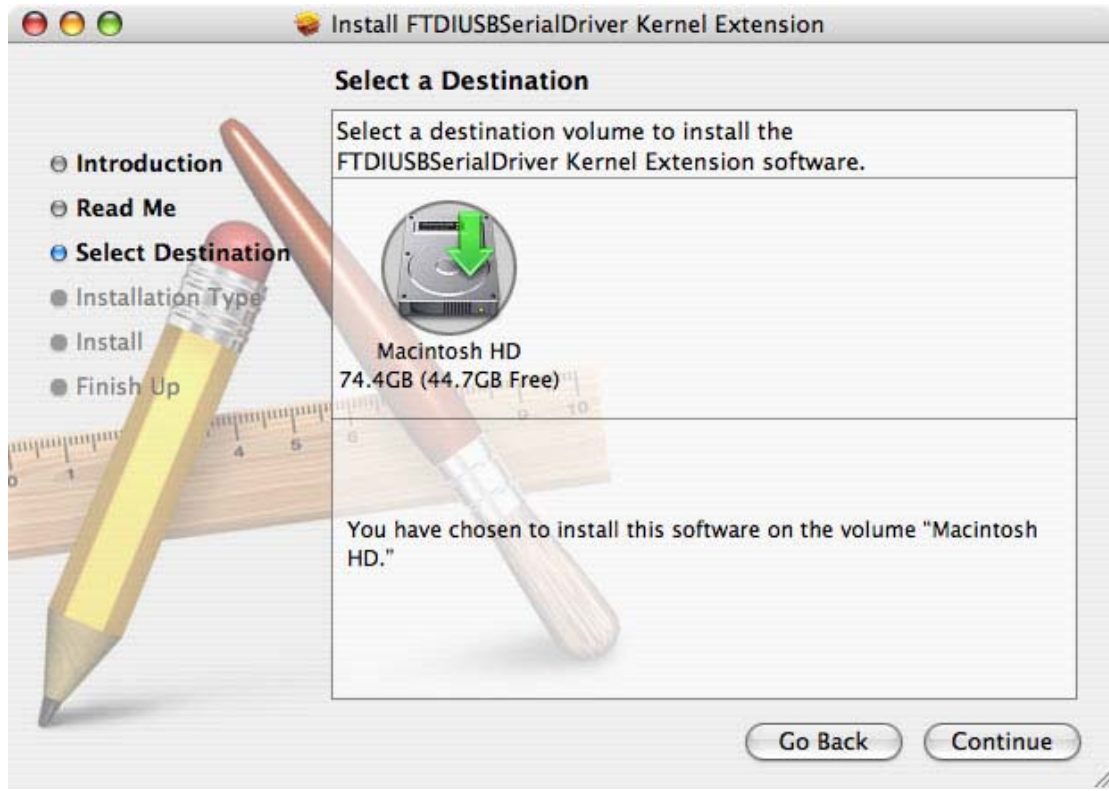


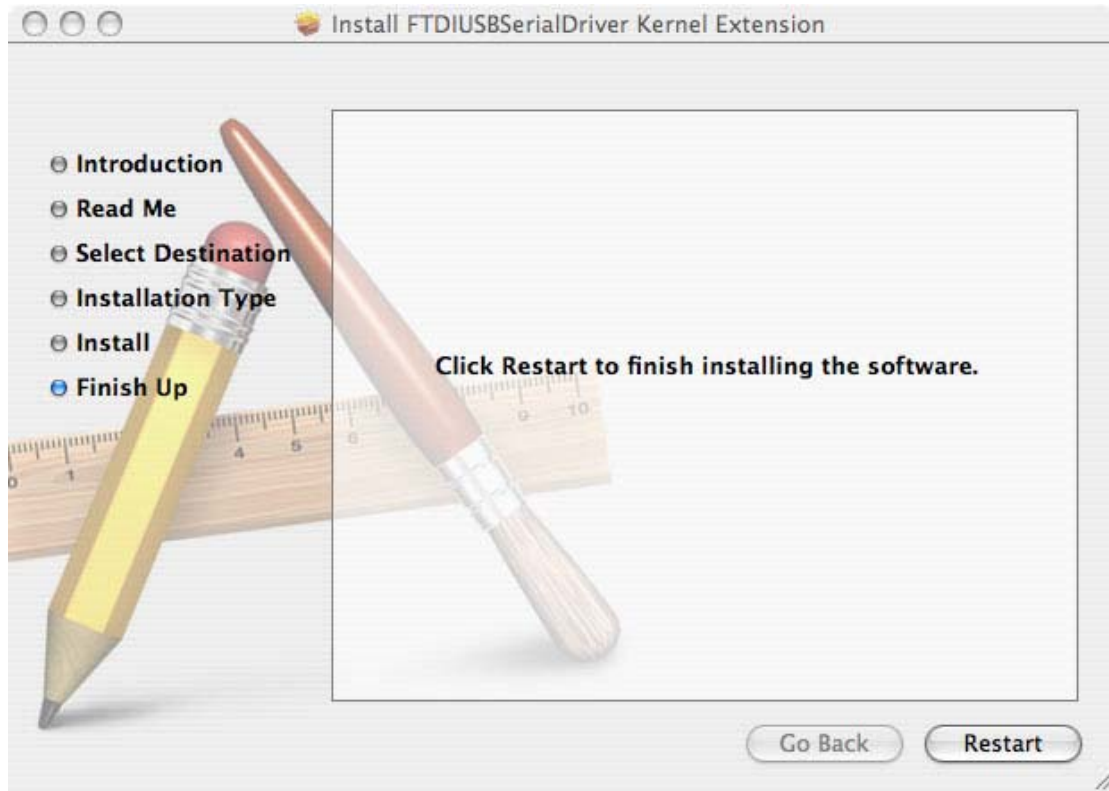


You will need administrative privileges to install the software

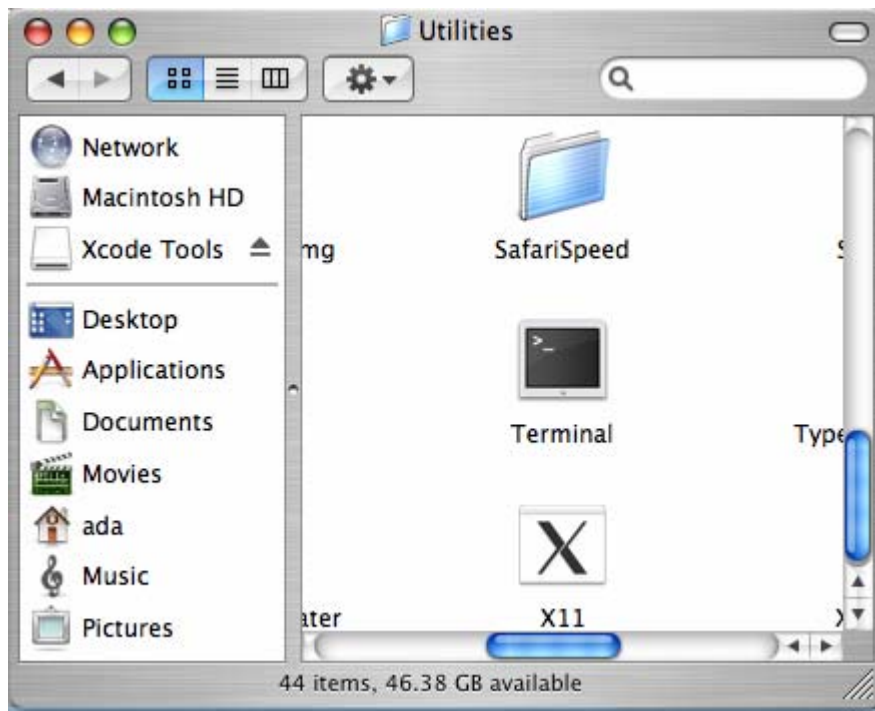


When it's done, restart the computer





Once its rebooted, start up Terminal, located in the Utilities folder



**Plug in the Arduino, make sure the green light is on.
In the Terminal window, type in `ls /dev/cu.*` and/or `ls /dev/tty.*` which should give the following responses**

```
Terminal — bash — 80x16
Last login: Sat Sep 15 18:45:14 on ttys1
Welcome to Darwin!
adafruit:~ ada$ ls /dev/cu.*
/dev/cu.Babbit2_Phone-SerialPo-1      /dev/cu.modem
/dev/cu.Bluetooth-Modem              /dev/cu.usbserial-A4001nCf
/dev/cu.Bluetooth-PDA-Sync
adafruit:~ ada$

adafruit:~ ada$
```

```
Terminal — bash — 80x16
adafruit:~ ada$ ls /dev/tty.*
/dev/tty.Babbit2_Phone-SerialPo-1      /dev/tty.modem
/dev/tty.Bluetooth-Modem              /dev/tty.usbserial-A4001nCf
/dev/tty.Bluetooth-PDA-Sync
adafruit:~ ada$
```

Make sure you see a line with the text `/dev/cu.usbserial-xxxxx` where the xxx's can be anything. Same for `/dev/tty.usbserial-xxxxx`. This indicates that the driver installed properly and that the Arduino was found.

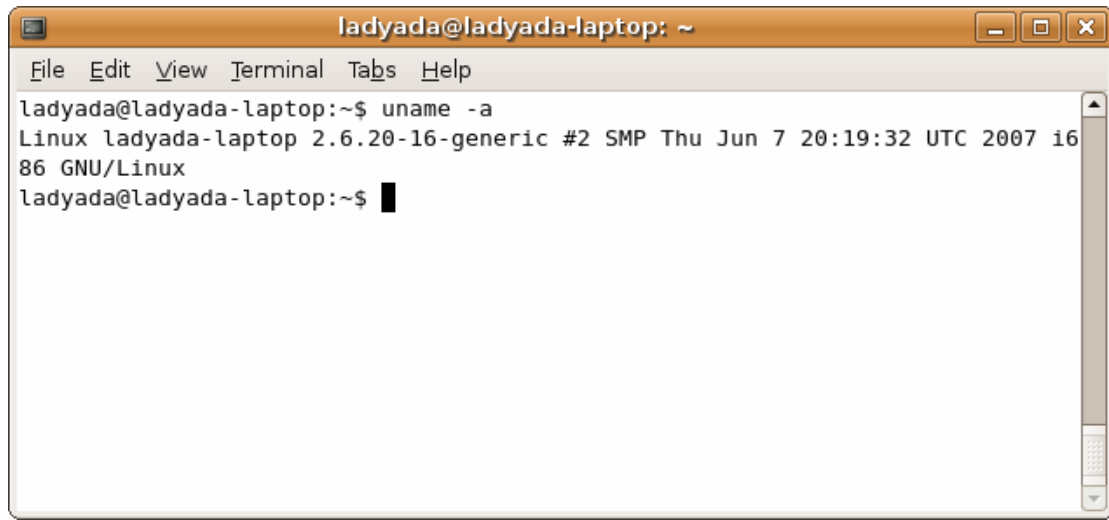
If you can't find the text, verify that your Arduino is plugged in, try a different USB port.

You can also try running the Console application, which will possibly give you some information about why its failing.

LINUX

Linux doesn't have any drivers to install, assuming you're running a v2.6 kernel. These instructions assume you're running Ubuntu. Each linux distribution is different, but the instructions should be basic enough to follow for other distros.

You can verify your kernel version by running `uname -a` in a terminal window, note that this kernel is version 2.6.20



```
ladyada@ladyada-laptop: ~  
File Edit View Terminal Tabs Help  
ladyada@ladyada-laptop:~$ uname -a  
Linux ladyada-laptop 2.6.20-16-generic #2 SMP Thu Jun 7 20:19:32 UTC 2007 i686 GNU/Linux  
ladyada@ladyada-laptop:~$
```

Sometimes the Linux distribution installs brltty (braille device) which will conflict with the Arduino. You must uninstall brltty! Do so by running

`sudo apt-get remove brltty`

In a terminal window. If it says it's not installed then that's OK. If you're not running a Debian-derived installation use whatever tool is necessary to verify that you don't have brltty running

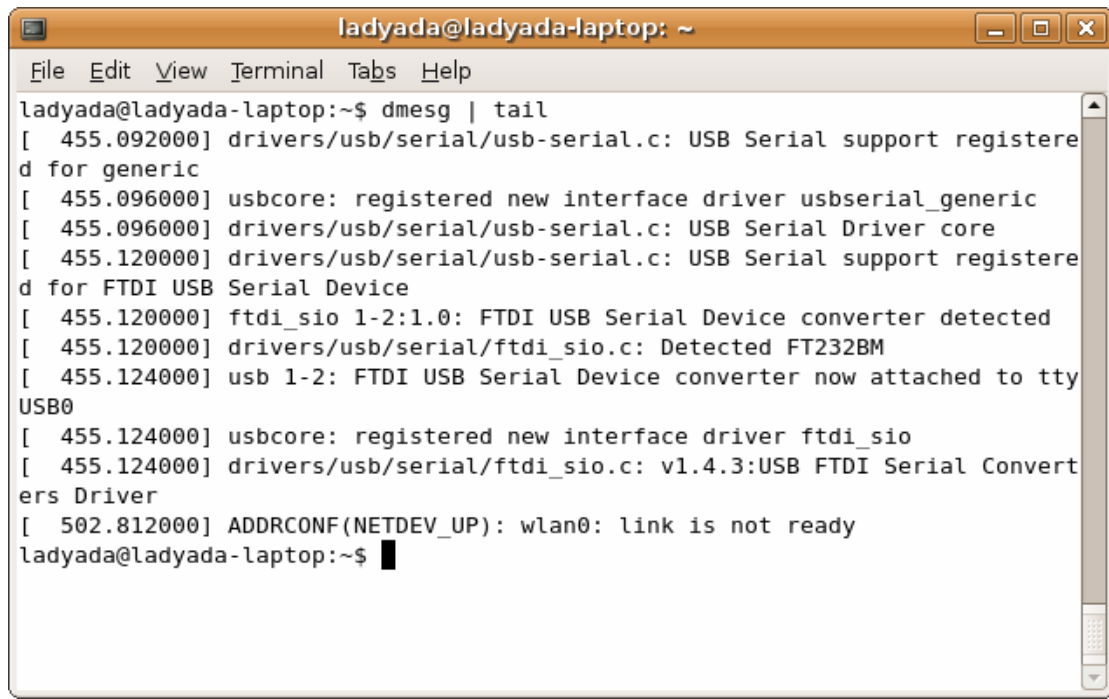
Plug in the Arduino, verify that the green LED is lit, and type `ls /dev/ttyUSB*` into a terminal window, you should see a device file called something like `ttyUSB0`



```
ladyada@ladyada-laptop: ~  
File Edit View Terminal Tabs Help  
ladyada@ladyada-laptop:~$ ls /dev/ttyUSB*  
/dev/ttyUSB0  
ladyada@ladyada-laptop:~$
```

Depending on your Linux distro, it may be /dev/tty/USB0 or /dev/tty.USB etc.

If you can't seem to find it, use `dmesg | tail` right after plugging in the Arduino and look for hints on where it may put the device file. For example here it says Serial Device converter now attached to ttyUSB0



```
ladyada@ladyada-laptop: ~  
File Edit View Terminal Tabs Help  
ladyada@ladyada-laptop:~$ dmesg | tail  
[ 455.092000] drivers/usb/serial/usb-serial.c: USB Serial support registered for generic  
[ 455.096000] usbcore: registered new interface driver usbserial_generic  
[ 455.096000] drivers/usb/serial/usb-serial.c: USB Serial Driver core  
[ 455.120000] drivers/usb/serial/usb-serial.c: USB Serial support registered for FTDI USB Serial Device  
[ 455.120000] ftdi_sio 1-2:1.0: FTDI USB Serial Device converter detected  
[ 455.120000] drivers/usb/serial/ftdi_sio.c: Detected FT232BM  
[ 455.124000] usb 1-2: FTDI USB Serial Device converter now attached to ttyUSB0  
[ 455.124000] usbcore: registered new interface driver ftdi_sio  
[ 455.124000] drivers/usb/serial/ftdi_sio.c: v1.4.3:USB FTDI Serial Converters Driver  
[ 502.812000] ADDRCONF(NETDEV_UP): wlan0: link is not ready  
ladyada@ladyada-laptop:~$
```

If you see something like this

```
[ 1900.712000] ftdi_sio 2-10:1.0: FTDI USB Serial Device converter detected  
[ 1900.712000] drivers/usb/serial/ftdi_sio.c: Detected FT232BM  
[ 1900.712000] usb 2-10: FTDI USB Serial Device converter now attached to ttyUSB0  
[ 1901.868000] usb 2-10: usbfs: interface 0 claimed by ftdi_sio while 'brltty' sets config #1  
[ 1901.872000] ftdi_sio ttyUSB0: FTDI USB Serial Device converter now disconnected from ttyUSB0  
[ 1901.872000] ftdi_sio 2-10:1.0: device disconnected
```

That means you have not uninstalled brltty and you should try again.

2. Configuring The Arduino Environment

1. Getting the arduino environment:

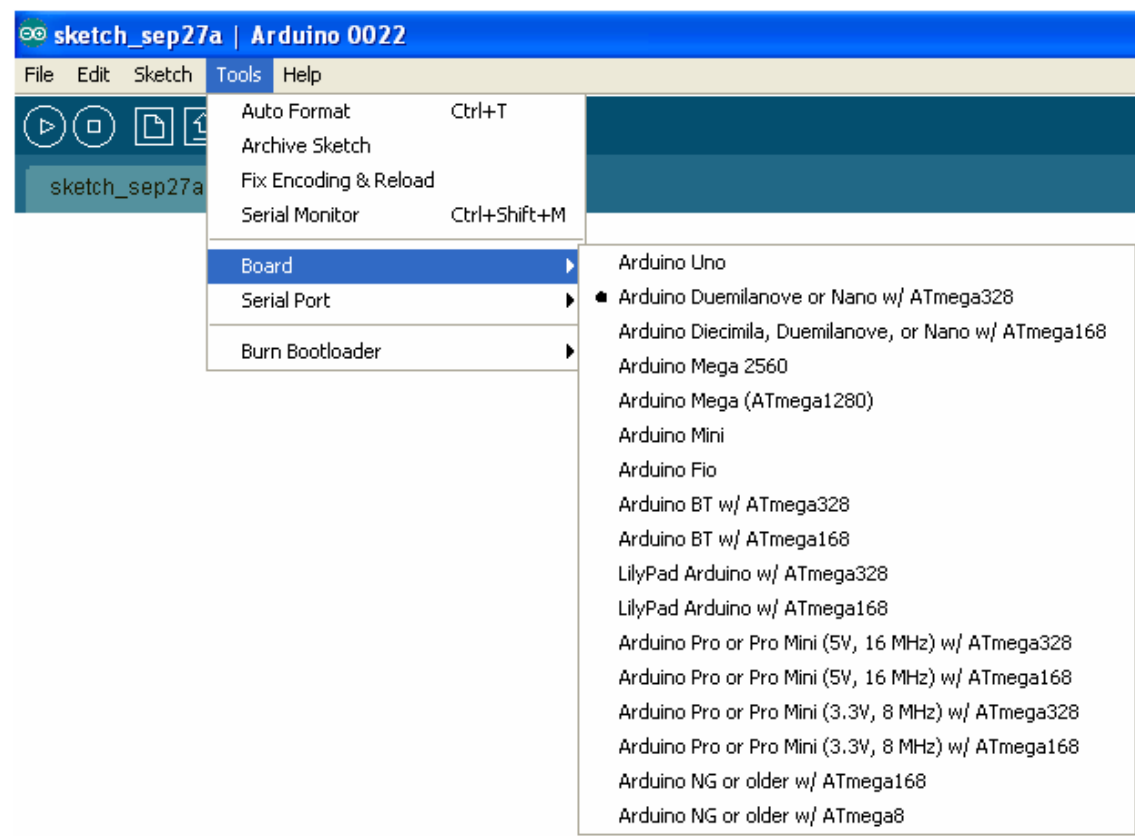
Download the latest arduino for your OS from:

<http://arduino.cc/en/Main/Software>

The arduino environment is portable and only needs to be extracted from the archive.

2. Configuring the arduino environment

- Getting the *LoL-Shield* Libraries
Visit <http://code.google.com/p/lolshield/downloads/list>
And download the latest library. To install the library, first extract it from the .zip archive, then make sure the arduino environment is not running.
Copy the extracted folder to the /arduino – 00xx/libraries/ folder, where xx is the version number of the arduino software.
- Remember the COM port that your board received during installation – then choose the same number from Tools/Serial Port/COMX where X is the number of the correct port.
- Since you are using the **Olimexino-328**, go to Tools/Board and choose the option shown below on the screenshot.



Now your board should be configured and you can try running some of the example sketches, or start making your own.

Some useful links for those, who are new to the C language and/or the Arduino environment:

<http://arduino.cc/en/Tutorial/HomePage>

<http://arduino.cc/en/Reference/HomePage>

http://www.acm.uiuc.edu/webmonkeys/book/c_guide/

[http://en.wikipedia.org/wiki/C_\(programming_language\)](http://en.wikipedia.org/wiki/C_(programming_language))

<http://arduino.cc/en/Guide>

<http://www.olimex.com/>