

OLIMEXINO – STM32

by LadyMM

INTRODUCTION:

Arduino is an open-source electronics prototyping platform, designed to make the process of using electronics in multidisciplinary projects more accessible. The hardware consists of a simple open hardware design for the Arduino board with an Atmel AVR processor and on-board I/O support. The software consists of a standard programming language and the boot loader that runs on the board. Arduino hardware is programmed using a Wiring-based language (syntax + libraries), similar to C++ with some simplifications and modifications, and a Processingbased IDE.

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

Installing the OLIMEXINO-STM32

Download the MAPLE IDE (Based on the Arduino IDE) from
<http://leaflabs.com/docs/maple-ide-install.html#download>

for your OS.

Windows

Partial Installation Instructions (text) from the leaflabs site.

First, extract all the files in the ZIP file (the IDE) to a suitable location on your system (like your Desktop folder). Next, you have to install some drivers.

Note: Note that while these instructions work on Windows XP, changes in Windows 7 mean that you won't be able to install the IDE without disabling driver signing on your computer. We're working on resolving this situation. For now, users on the forum have reported a workaround.

Link below, read carefully and use at your own discretion:

<http://forums.leaflabs.com/topic.php?id=73>

We recommend using Windows XP 32bit because, as stated by some forum members, even if you manage to install the drivers in Vista/7, the protocols for communicating with the board are different and in some cases may not be reliable. The forum is a good place to ask for advice.

First, install DFU drivers (for uploading code to your Maple) **using the following steps.**

Plug your Maple into the USB port.

(Windows may prompt you even if you haven't put the board in perpetual bootloader mode yet. Ignore all prompts until you have completed the steps below and the board is in perpetual bootloader mode)

Hit the reset button on your Maple (it's the small button at the bottom left, labeled RESET). Notice that it blinks quickly 6 times, then blinks slowly a few more times. Hit reset again, and this time push and hold the other button during the 6 fast blinks (the button is on the top right; it is labeled BUT). You can release it once the slow blinks start.

Your Maple is now in perpetual bootloader mode. This should give you a chance to install the DFU drivers.

Windows should now prompt you for some drivers.

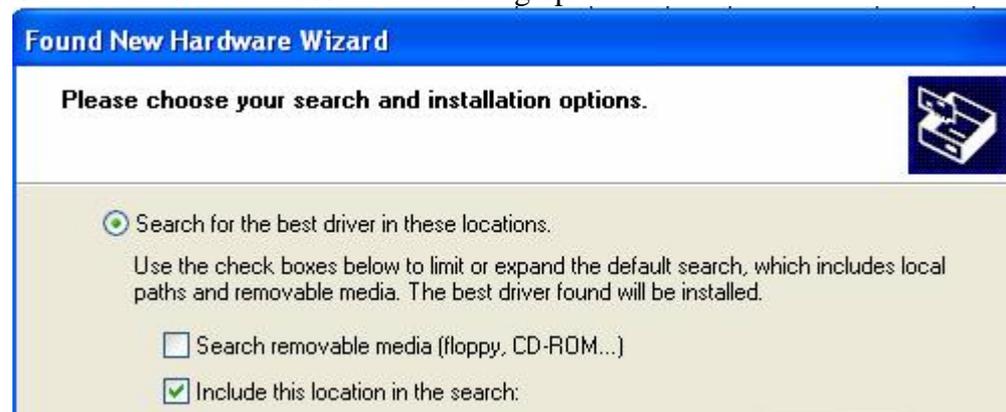
After a few seconds, the new hardware wizard will start. Select "No not this time" and click Next>



On the next screen, choose the second option and click Next.



On the next screen choose the following option:



Below the checkboxes, choose Browse and point to this folder
<top level directory of the Maple IDE>/drivers/mapleDrv/dfu/



Click OK, then Next and wait for the driver to finish installing and click FINISH.



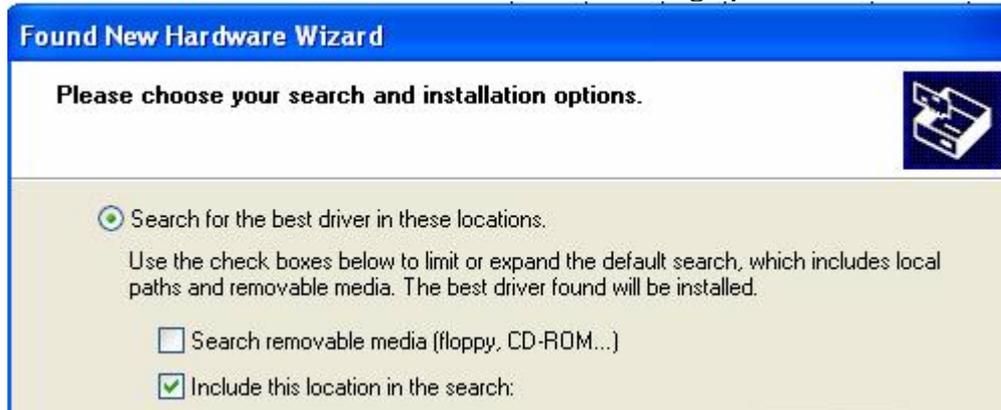
Reset your Maple and allow it to exit the bootloader (wait for the slow blinking to stop). The Maple will next start running whatever program was uploaded to it last. (New Maples will start running the test program we upload to them before shipping them to you).

Once Maple is running some user code, Windows should prompt you for more drivers.

Choose the second option:



Click NEXT. On the next screen choose the following option:



Below the checkboxes, choose Browse and point to this folder
<top level directory of the Maple IDE>/drivers/mapleDrv/serial/



Click OK, NEXT. At some point Windows may prompt you:

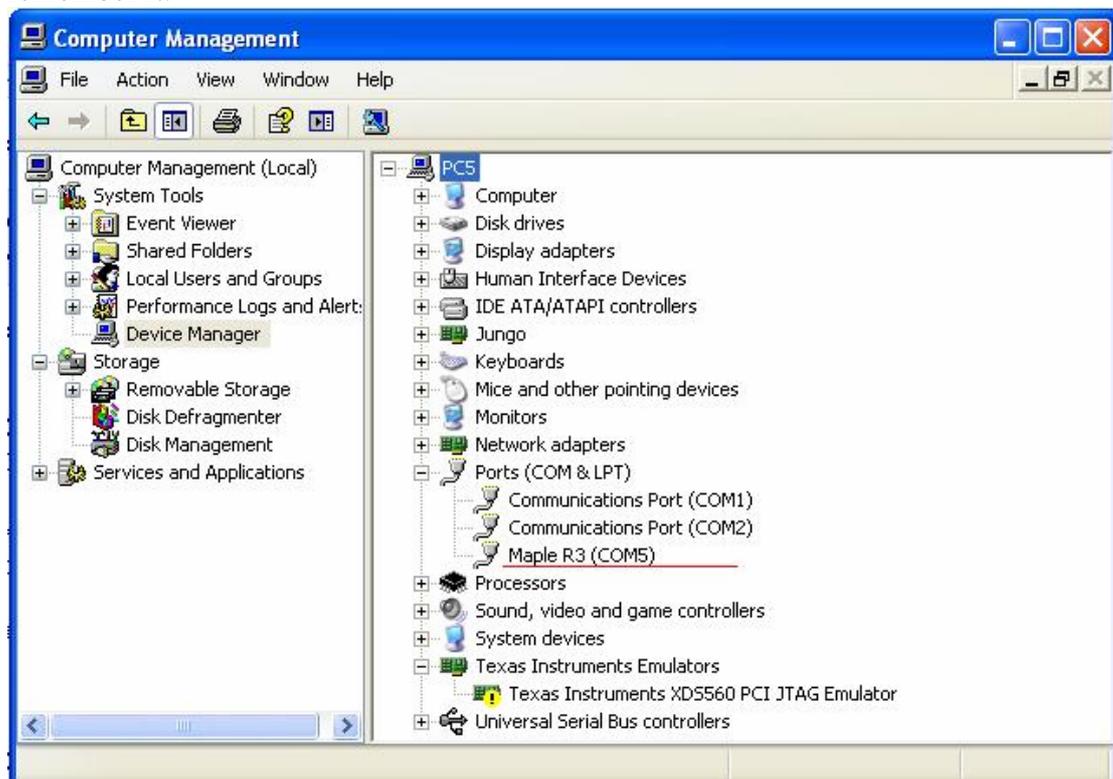


Click on “continue anyway” Wait for the installation process to finish.

The drivers are now ready!

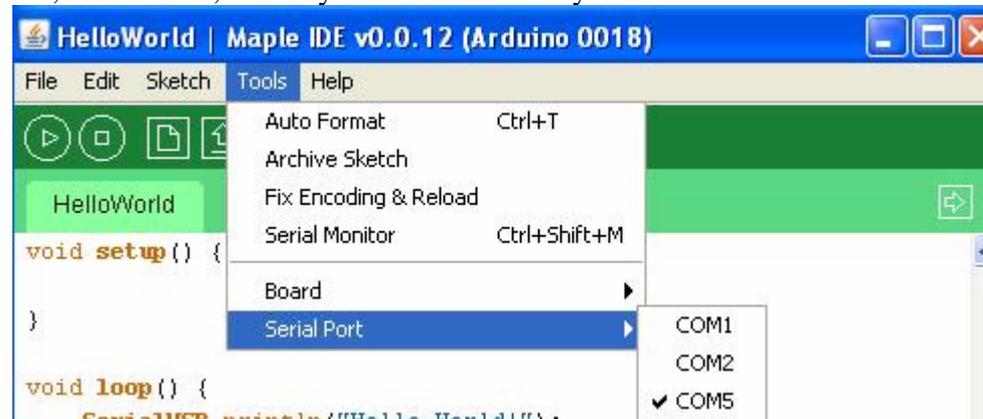
Configuring the MAPLE Environment

Open the start menu, right click on My Computer and choose Manage. In the right menu choose Device Manager. Under ports, find the COM number of your board and remember it.

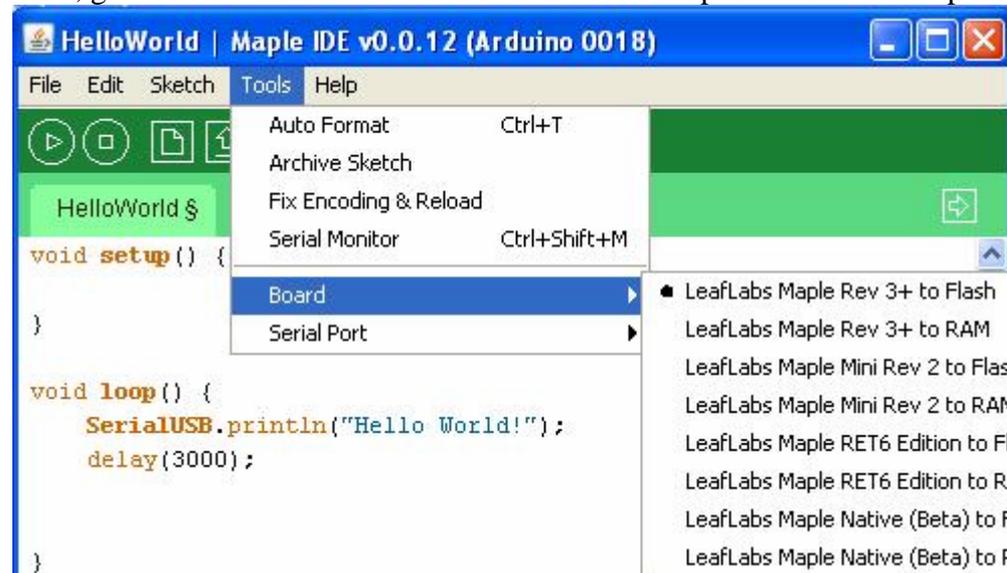


Run the MAPLE environment by opening maple-ide.exe in the folder you extracted earlier (the downloaded IDE). The following settings are needed for your OLIMEXINO-STM32 to work properly:

In the Tools/Serial port menu choose the serial COM port you found earlier. On this PC, it is COM5, but on yours it could be any number.



Next, go into the Tools/Board menu and choose the option shown in the picture.



Now, you should be able to upload sketches to your board. Refer to the end of this document for hints.

Linux

Note: The IDE is written in Java and requires a compatible runtime (JRE).

If you don't have one, they're usually pretty easy to install. Sun Java 1.6 and OpenJDK 1.6 are known to work, and runtimes mostly compatible with Sun Java 1.5+ should probably get the job done.

To install Java, try using your distribution's software packaging tool and search for "JRE" or "java". On Debian-based systems (including Ubuntu) you can try to install the OpenJDK 1.6 JRE with:

```
$ sudo aptitude install openjdk-6-jre
```

Extract the tarball to an appropriate location (like your home directory or desktop).

Make sure you have a Java runtime (JRE) installed; if you can run java from the shell, you should be fine.

Next, run the script `install-udev-rules.sh` in the extracted IDE directory. It will ask for root permissions (you will be prompted with something along the lines of `[sudo] password for <username>:`). You now need to restart udev:

```
$ sudo restart udev
```

This will grant members of the group `plugdev` read/write access to Maple devices over USB. Make sure that you are in that group by running `$ sudo adduser <your username> plugdev` (which will ensure access to the Maple, but may report that you are already a member of that group). (For more information on why this is part of the install process, see the Unix toolchain quickstart).

To run the Maple IDE, run `maple-ide` from the shell, or double-click on it if your window system supports it.

Feel free to put the IDE directory wherever you want. As long as you leave its internal structure unchanged, things should be fine.

OS X

Double-click on the `.dmg` file you downloaded to mount the disk image. From the mounted image, drag and drop the Maple IDE icon into your computer's Applications folder.

To run the Maple IDE, double-click the Maple IDE application you dragged into your computer's Applications folder.

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/C++ language and/or the Maple environment:

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://leaflabs.com/docs/ide.html>

<http://leaflabs.com/docs/language-index.html>

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