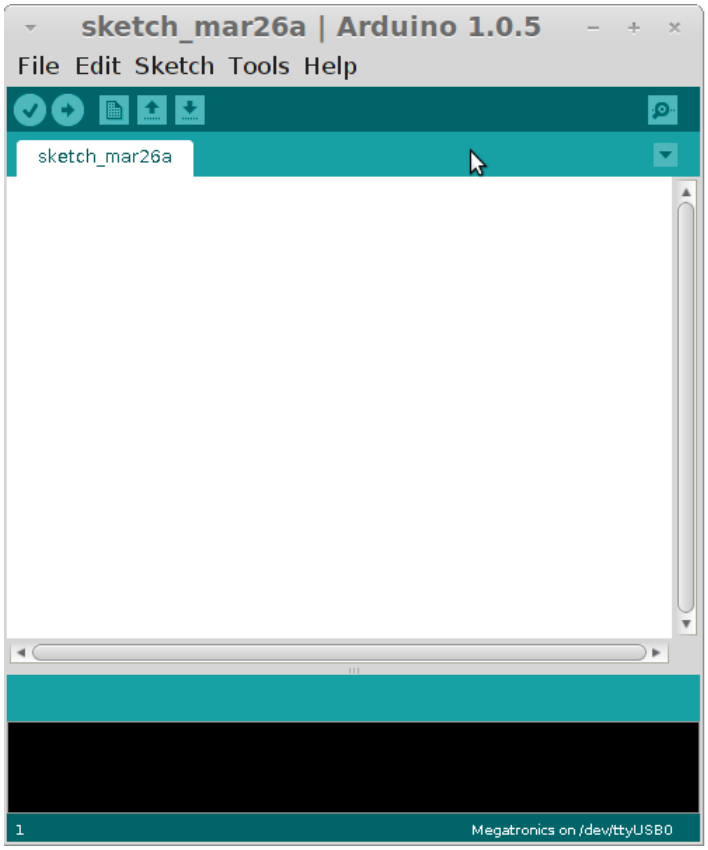
Arduino IDE user guide



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INTRODUCTION

Arduino is an open-source project, enabling hobbyists to easily take advantage of the powerful Atmega chips. The Arduino IDE is the software where you can write code and upload it to the Atmega chip. The code is then executed on the chip.

Most 3D-printer electronics are Arduino-compatible, they use the Atmega chip and enable the user to upload their code using Arduino. This includes Megatronics, Minitronics and RAMPS.

Before you can start using the electronics you need software 'firmware', that translates machine instructions (gcode) into actual movements. There are a few options here, including Marlin and Sprinter and Repetier. The actual firmware is not discussed in this document. You can use Arduino to upload this firmware onto your electronics. This document will guide you in the steps you need to take.

DOCUMENT CHANGE HISTORY

Version 1.0

- Initial release

DOWNLOADING AND INSTALLING

You can download and install the Arduino version from http://arduino.cc/. This ensures you have the latest version. Instead, you may choose to download the Arduino version we provide on http://reprapworld.com/?software. This version includes the required components for Megatronics/Minitronics.

Extract the files file into a location of your choice. On Windows you may need to install drivers for the electronics board before you can upload software. The installation files are located under the /drivers subdir. Linux and Mac should recognize the boards out-of-the-box.

You can simply run Arduino by executing the Arduino file.

UPLOADING FIRMWARE

To upload a firmware, you must first open the files using File → Open. Select the .ino file from the directory containing the firmware. Arduino will open several tabs with files.

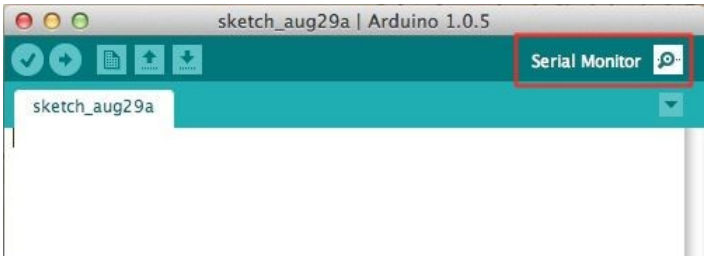
Next step is to select the correct electronics board. From the Tools menu, locate the Board item. This item should include a few sub items, including Megatronics, Minitronics, Arduino mega 2560 (RAMPS with mega 2560) and Arduino Mega 1280 (RAMPS with mega1280). Select the board that fits your electronics.

Also we need to select the serial port the electronics is connected to. In the Tools menu, locate the Serial port item. This should include at least one item if the board is connected and the drivers are installed properly. If there are multiple items here, you need to find out which is the correct one by unplugging the board and checking which port was removed.

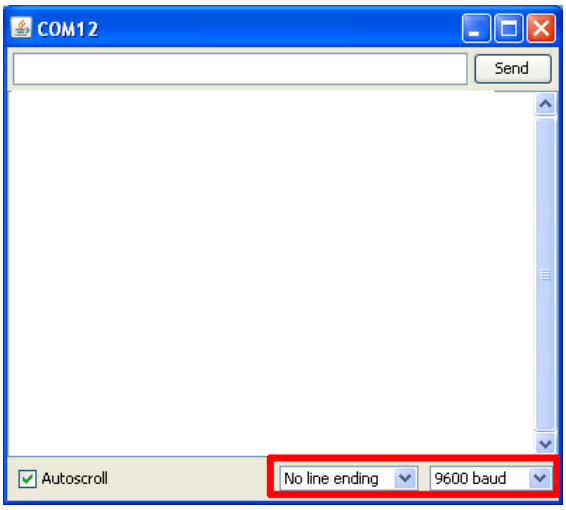
Once you have set the board and serial port, you can upload the firmware by pressing File → Upload. Arduino will try to compile the firmware, if any errors occur the process will stop and you will need to fix the errors before trying again. Once compilation is complete, the actual upload will start. This may take a minute for a large sketch.

SERIAL MONITOR

You can actually 'talk' to the firmware using the Serial monitor. Make sure the correct serial port is selected and locate the Serial monitor button.



This will open a new window:



Make sure the line ending is set to newline and the baud rate corresponds to your firmware (115200 mostly), or you will get jibberish. You can enter a command in the upper box (M105 for example), this will result in response from the firmware. The temperature in this case.