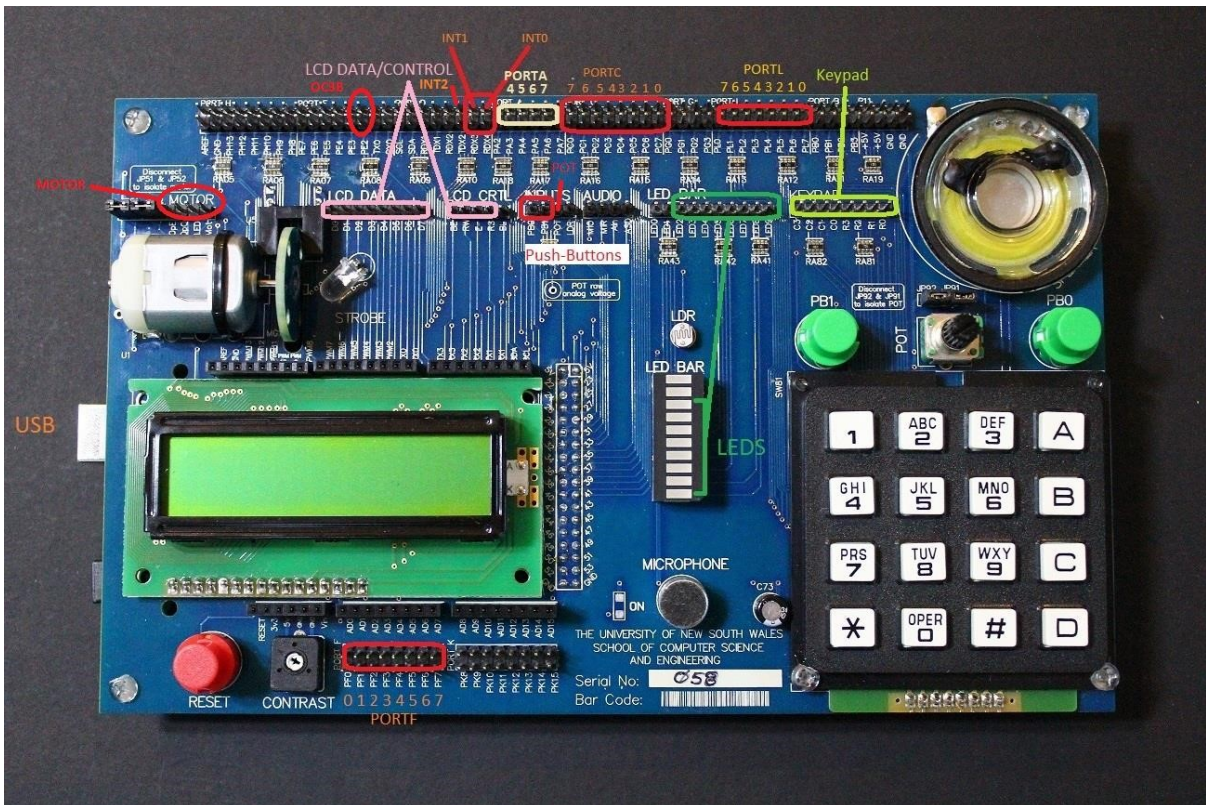


Board Introduction



Top row and bottom rows of pins map to AVR pins. The middle row of pins map to corresponding Input/Output devices on the board. In the top and bottom rows, 2 pins are present above each label and note that both pins are the same.

Note that some labels on the board are not correct. Strictly follow the provided wiring guidelines.

Installing the drivers and flashing tools

Skip this step if you are using a lab computer – they have the drivers and flashing tools already installed. On your personal computers, download and install the Arduino IDE (from the link under lab 3 on course page). This requires a Windows operating system. You can set up a virtual machine if you do not have Windows.

Connecting to the Computer

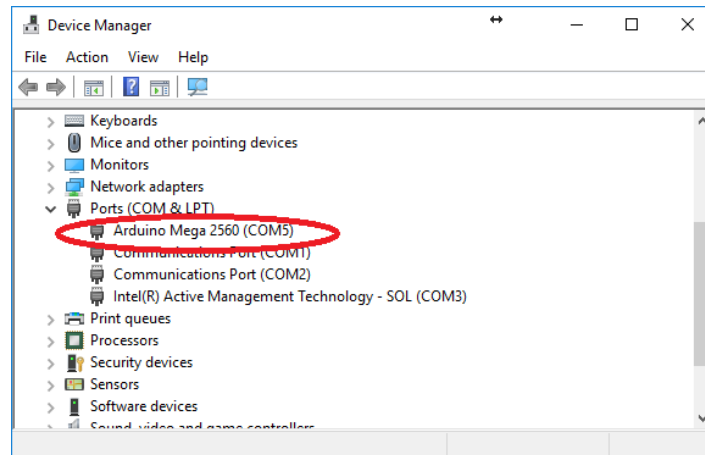
To connect the board to your computer, use the USB Type-B port on the Arduino (left). A green light should be visible on the Arduino board on the back of the development board.

Wiring

Use the provided cables to make connections from Port C to the LEDs. To connect correctly, none of the wires needs to cross over (Connect LED2-LED9 to PC0-PC7 respectively).

Find COM port number

To work out which COM port the Arduino is connected to, open Device Manager. You may get a warning about administrator privileges that you can ignore. Scroll down to 'Ports (COM & LPT)'. There should be one item called 'Arduino Mega 2560 (COMX)'. See the example figure below.



Programming

Download the file 'Downloader' from the Lab3 on the course website. Extract the files and open the folder.

Run the batch file 'console.bat' to open up a command prompt. To load the test program, run use the download command:

```
download COMX test.hex
```

COMX is the name of the port you found earlier. Eg: COM3 or COM16

If the download is successful and the LEDs are connected correctly, the LEDs should start flashing one by one.

To download a different hex file, replace 'test.hex' with the path to the other file.

Testing the board

Download the "Board test procedure" from the Lab3 on the course website. Follow the wiring and testing instructions in the document.

DO NOT remove the wires once you are done. You will use this wiring throughout the semester.