Optional – Programming Sandwich

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It is suggested that you obtain the following free software:

Autodesk Eagle
http://www.autodesk.com/products/eagle/free-download
Arduino IDE
https://www.arduino.cc/en/Main/Software

View working Sandwich VFO: YouTube of Sandwich

https://youtu.be/8v3NiCrCNrY

Download appropriate zip file ("sandwich VFO 40 Meter" for example) from:
http://www.larvell.net/Side_Left_B/Download.htm or http://www.crkits.com/.
Arduino Sketch for 80m, 40m, or 20m band
Then Unzip the file. This will create a folder: sandwich_digital_vfo_40.
Inside the folder is a file called: sandwich_digital_vfo_40.ino. This is the file
we will use for programming.

Programming Arduino.
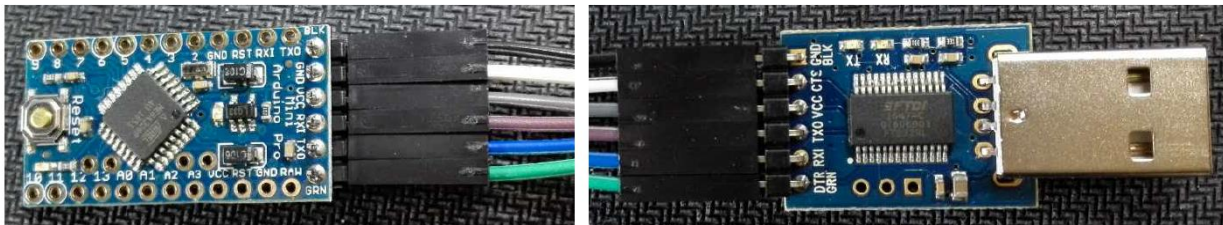
Connect the FT232 based serial programmer with Arduino as shown
with 6 wires. (Included with the FT232 order)

Do not connect to USB port of your computer, just yet. See following
steps on next page.

We will now set correct board, processor speed and port, click then click
the Upload button (the 2nd button on the top left) to program the board with
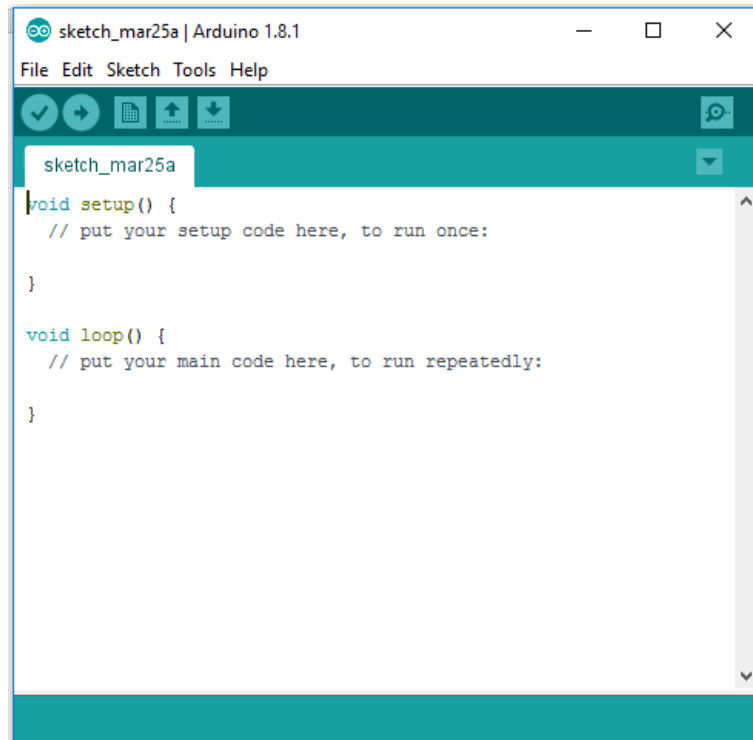sandwich firmware.

Please follow the steps on the next few pages for those new to
programming the Arduino.
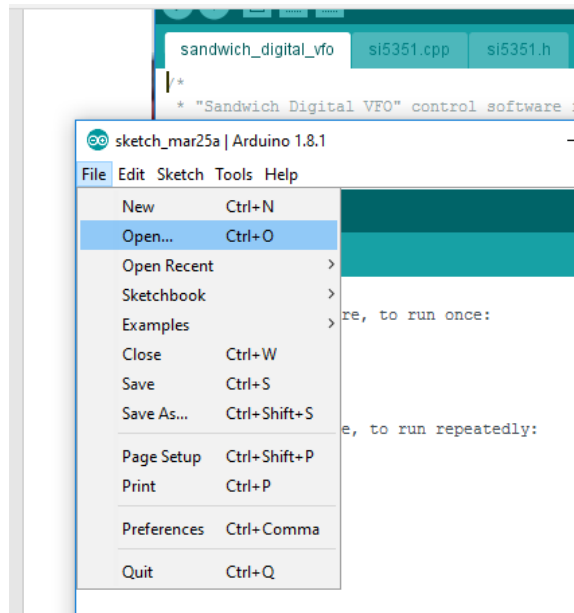
Arduino IDE Window

Select this ICON

Select Arduino and this window will open:

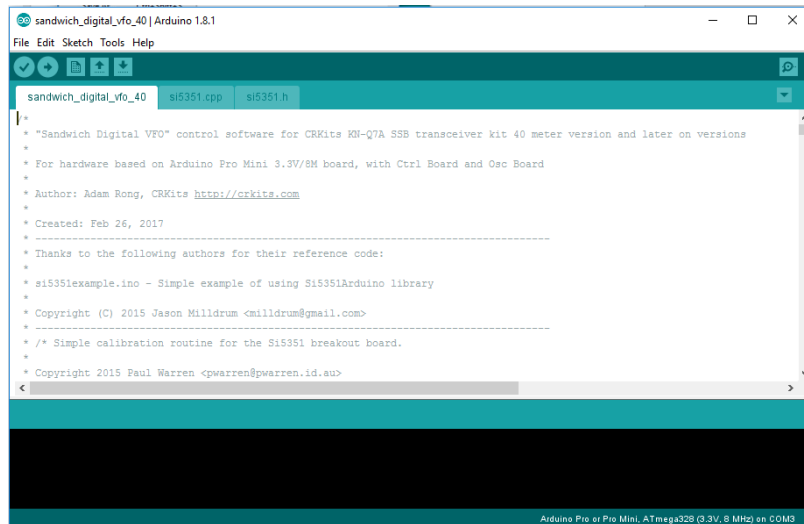Next, we will open the file that we plan to upload to the Arduino.
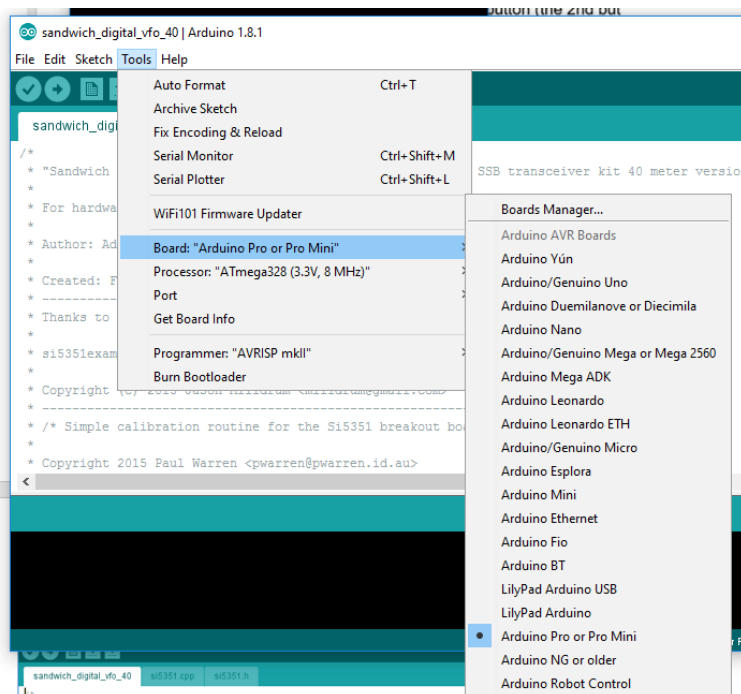
Select: File then Open

Select file: sandwich_digital_vfo_40.ino for 40 Meter upload to Arduino, or select the appropriate ".ino" file.

HINT: You can just double click on the ".ino" file to bring up the following window and shorten your steps.
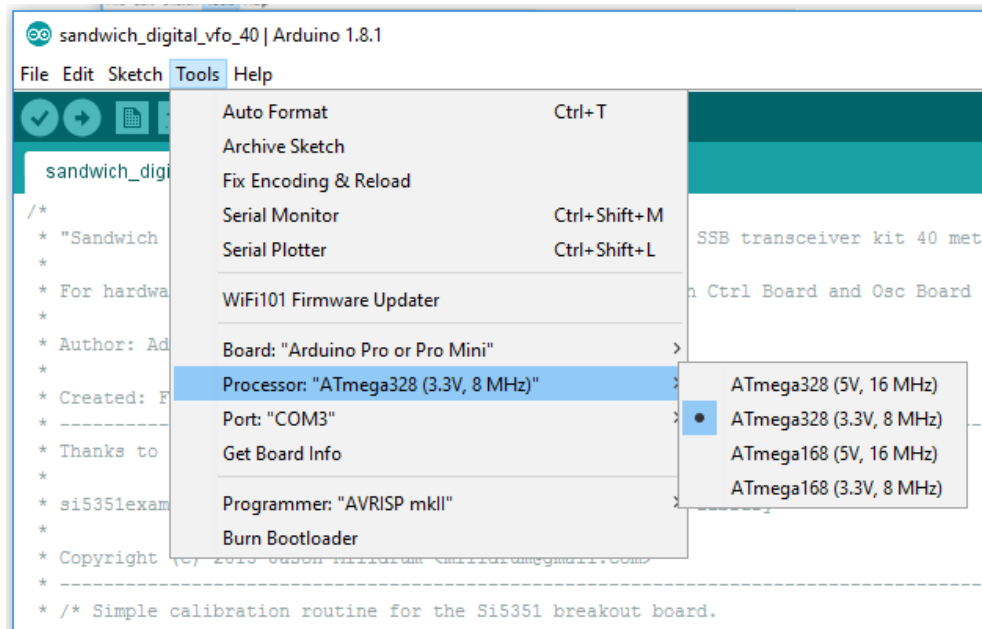
A new Window will open:

**If you scroll down the contents, you will see the code that is to program the Arduino.**

Once software is loaded into the menu, Under Tools Menu: Select Arduino processor: **Arduino Pro or Pro Mini**

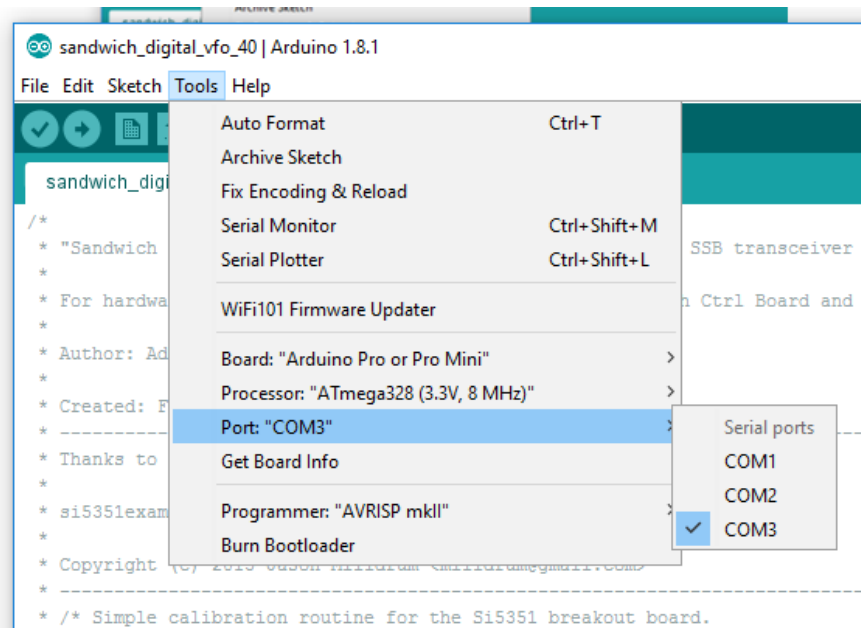Make sure that the Processor is the appropriate one as shown:

Next under Tools Menu: select COM port.
   To check port, first see what ports are active. The FT232 has not been plugged in yet!
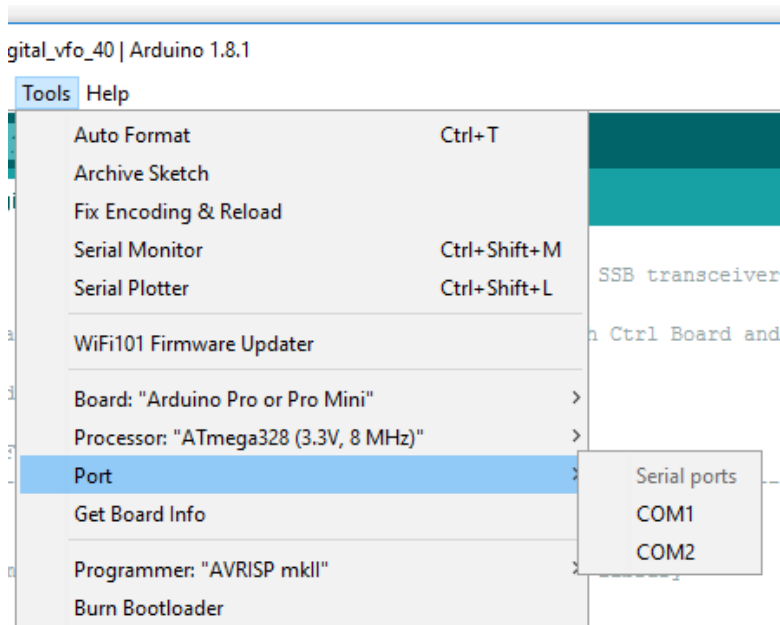
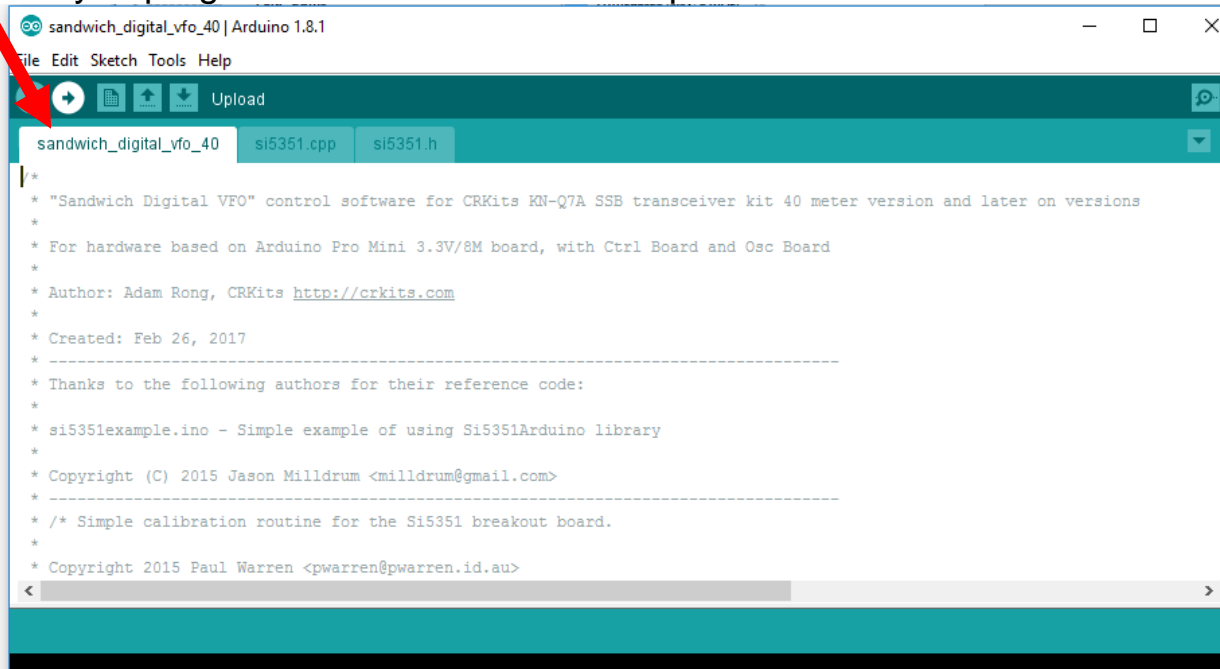My computer looked like this at first:

Now insert the FT232 adapter into a spare USB port on your computer. A new port should appear on the software.

Mine was COM3.

Note: The lights should be on for the sandwich.

With the software set up and the USB to sandwich connected, you are now ready to program the Arduino. Select "Upload"

The software will load. Lights should blink on the sandwich.
When complete, you are now ready to use it.