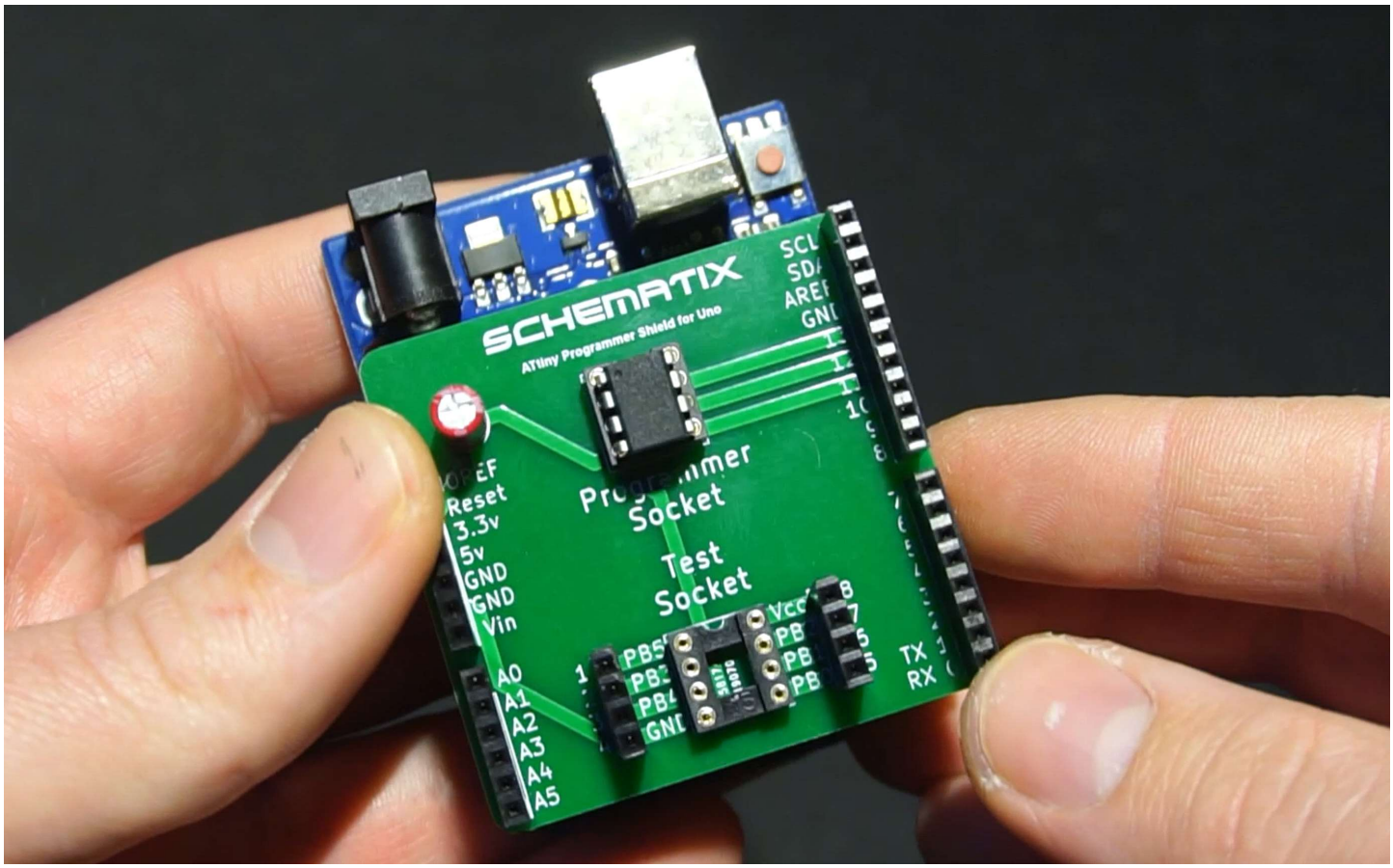
SCHEMATIX

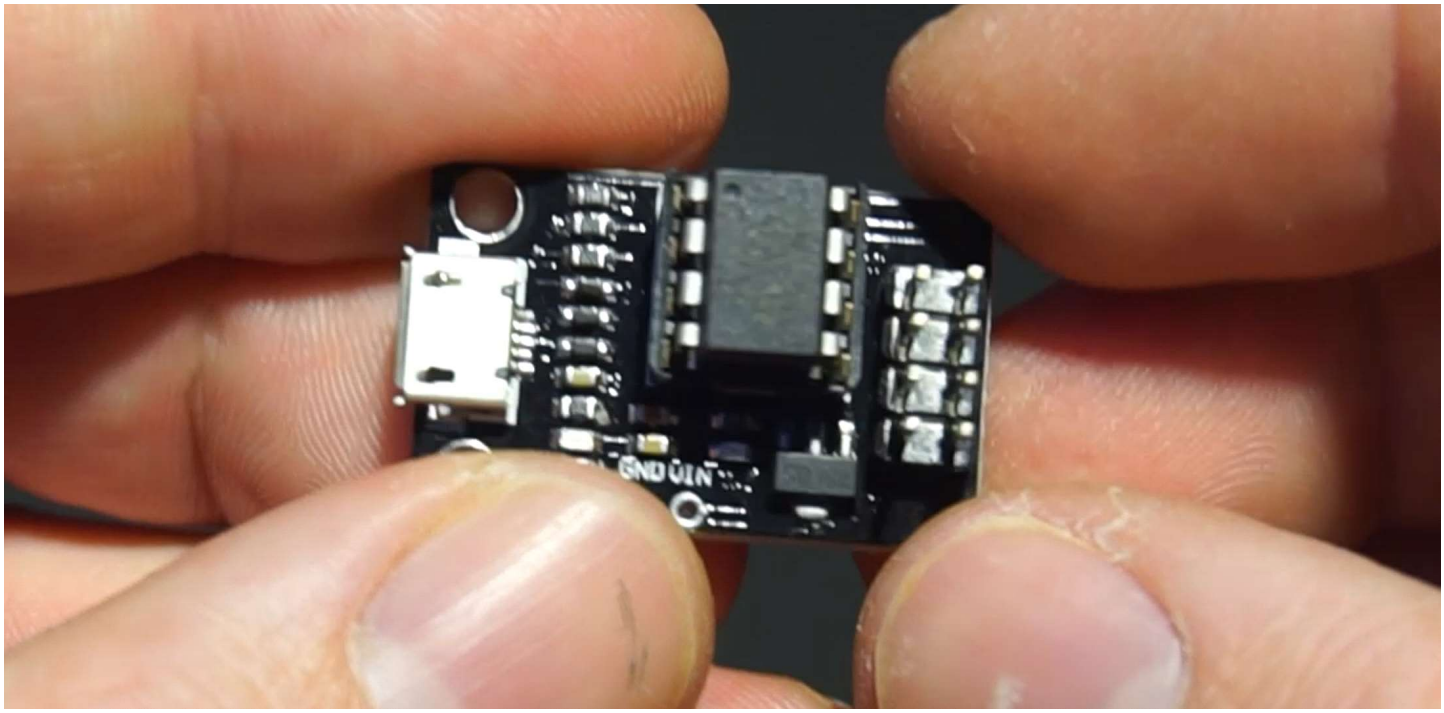
How to program ATtiny85 for "RCD Tester"

There are 2 methods you can use to flash the RCD Timer program to the ATtiny.

Option 1. Is using an Arduino Uno as a programmer, used to flash the program to the ATtiny. (My personal preference)



Option 2. Is using Arduino IDE to flash the program using a USB programmer (You must have a bootloader pre-installed onto the ATtiny for this method to work) You can watch this video to learn how to install a bootloader if required: https://www.youtube.com/watch?v=HQMMTeUYUmI&t=0s

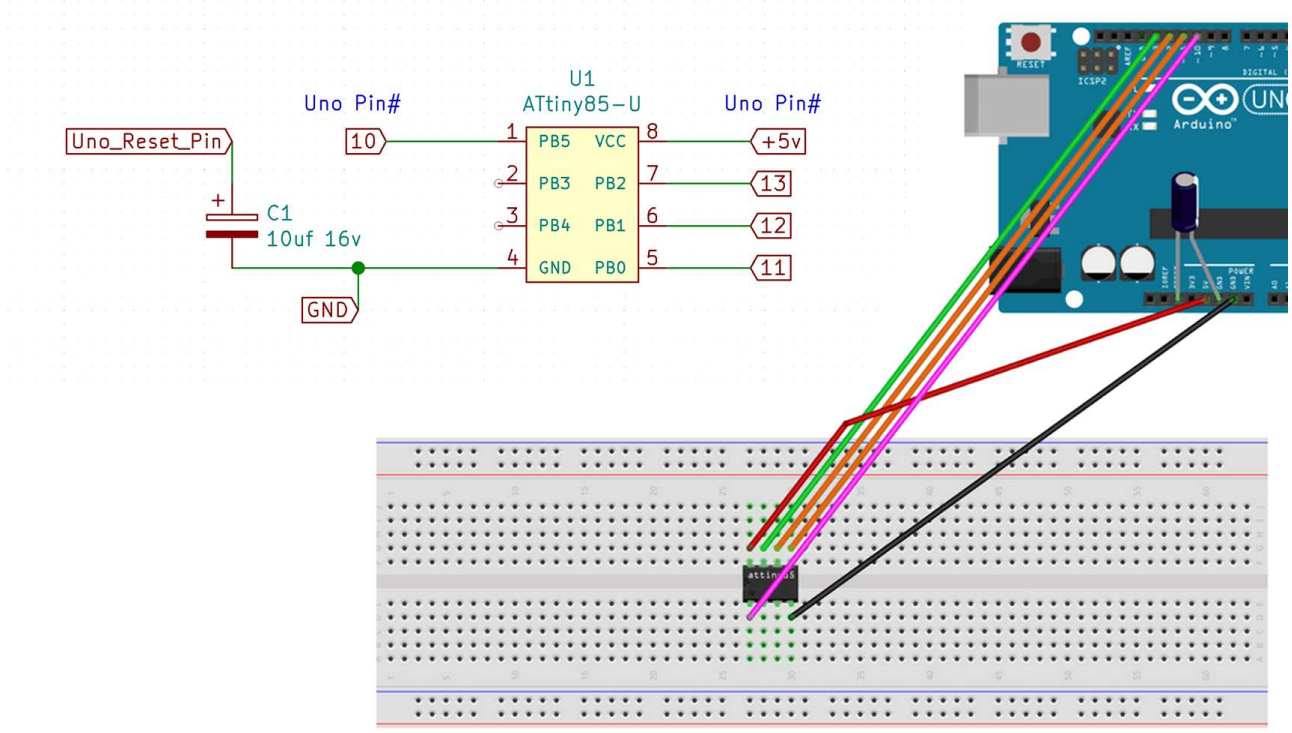


OPTION 1

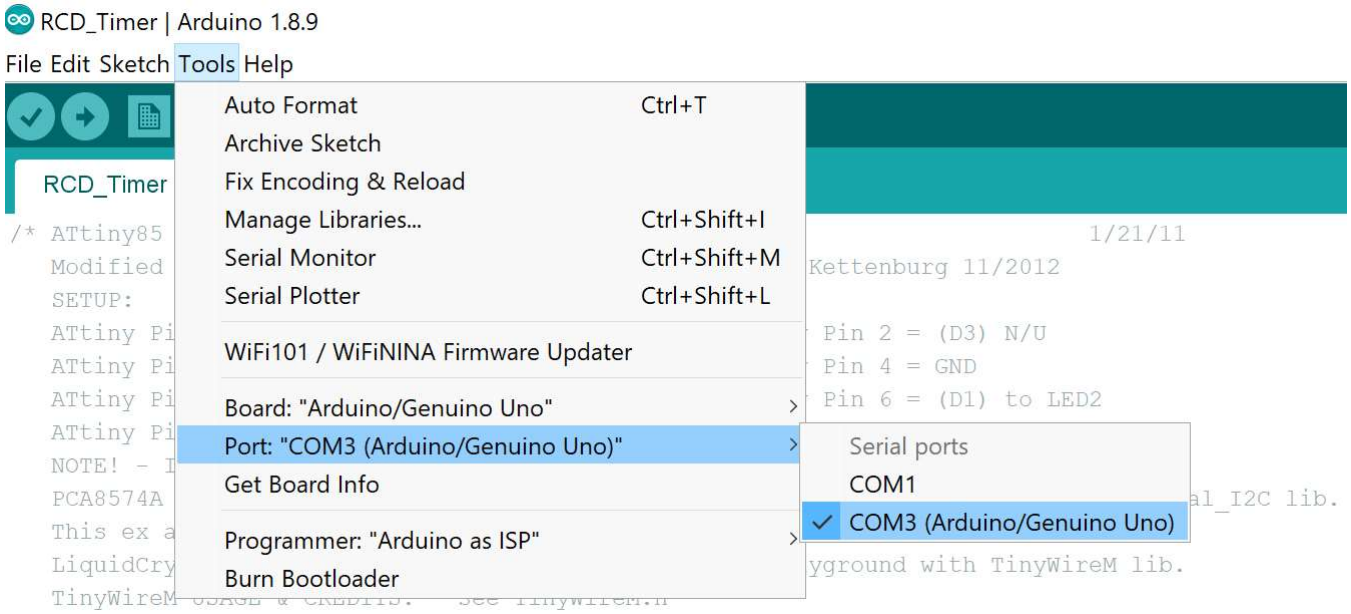
1. Install Arduino IDE if you don't have it already. You can download it from: https://www.arduino.cc/en/main/software

2. Now we need to program the Uno with the default "Arduino ISP" sketch. To do this click on the "File" Tab and from the examples menu in IDE, select from the submenu under "Built-in Examples" the "ArduinoISP" sketch and upload it to your Uno.

3. Use your preferred method (such as a breadboard) to connect the ATtiny85 to your Uno as shown below:

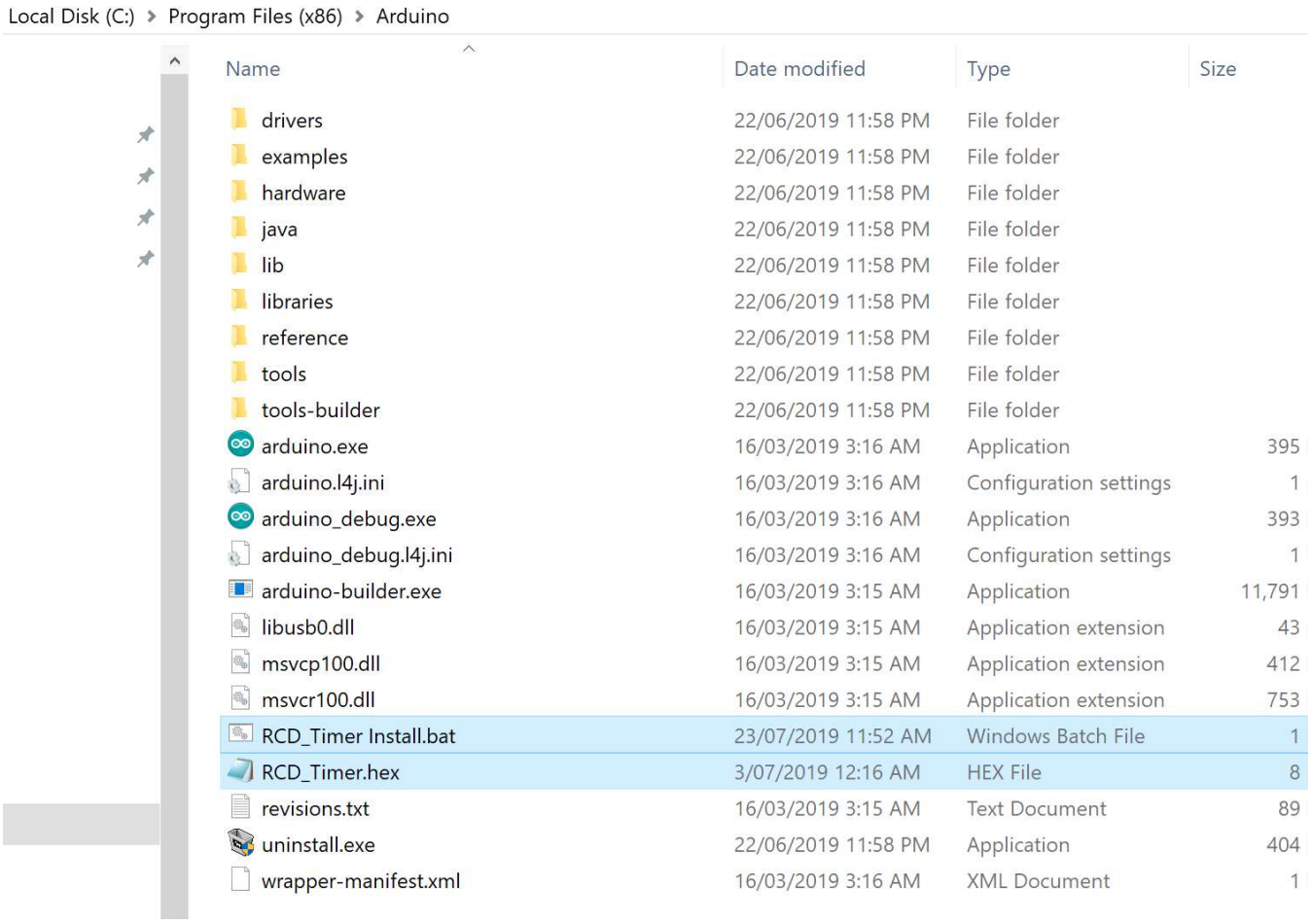


4. Plugin your Uno (with an ATtiny85 connected) via USB and open IDE. Find what COM port the Uno is connected to. (Example: COM3)

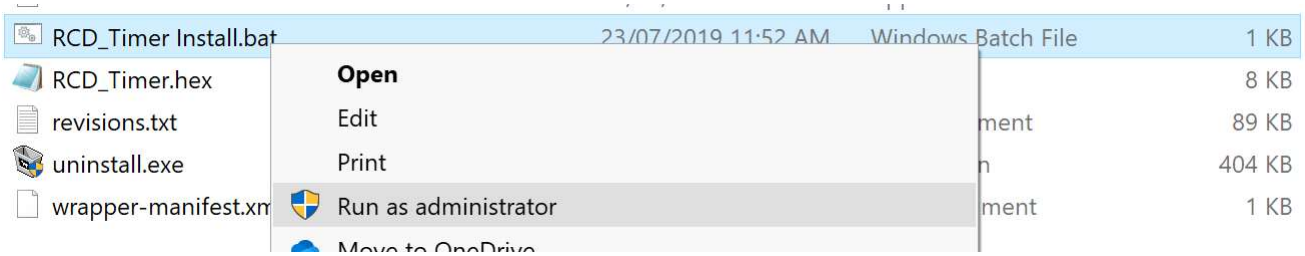


5. Open "RCD_Timer Install.bat" With an editor such as Notepad. Look for this line "PCOMxx". Next, replace the 'xx' with whatever COM port number your Uno is connected to (In my example it should look like this "PCOM3") Save your changes before exiting.

6. Now move the edited "RCD_Timer Install.bat" AND "RCD_Timer.hex" files into the IDE root folder.



7. Right-click "RCD_Timer Install.bat" and select "Run as Admin". Sit back and relax for 5secs while it flashes the program. If all went well you should receive this message "AVRdude done. Thank you. Press any key to continue..."

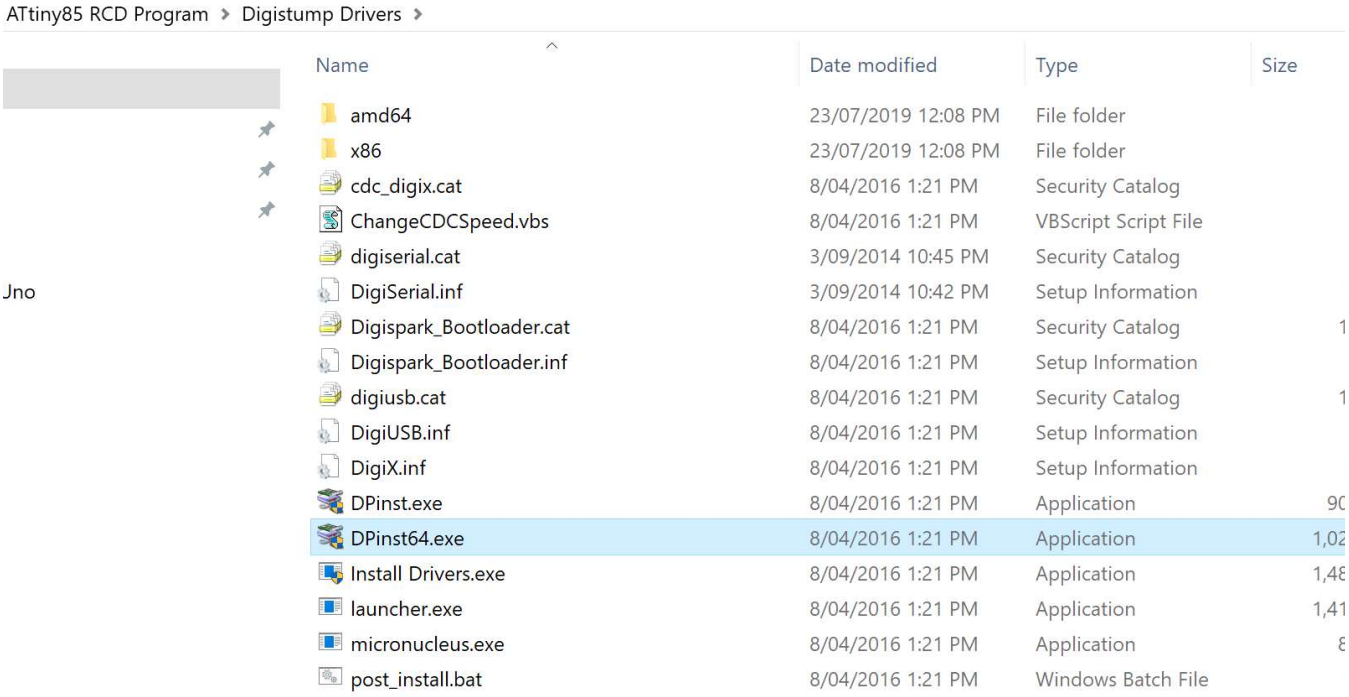


8. You can now install the ATtiny into the RCD PCB socket.

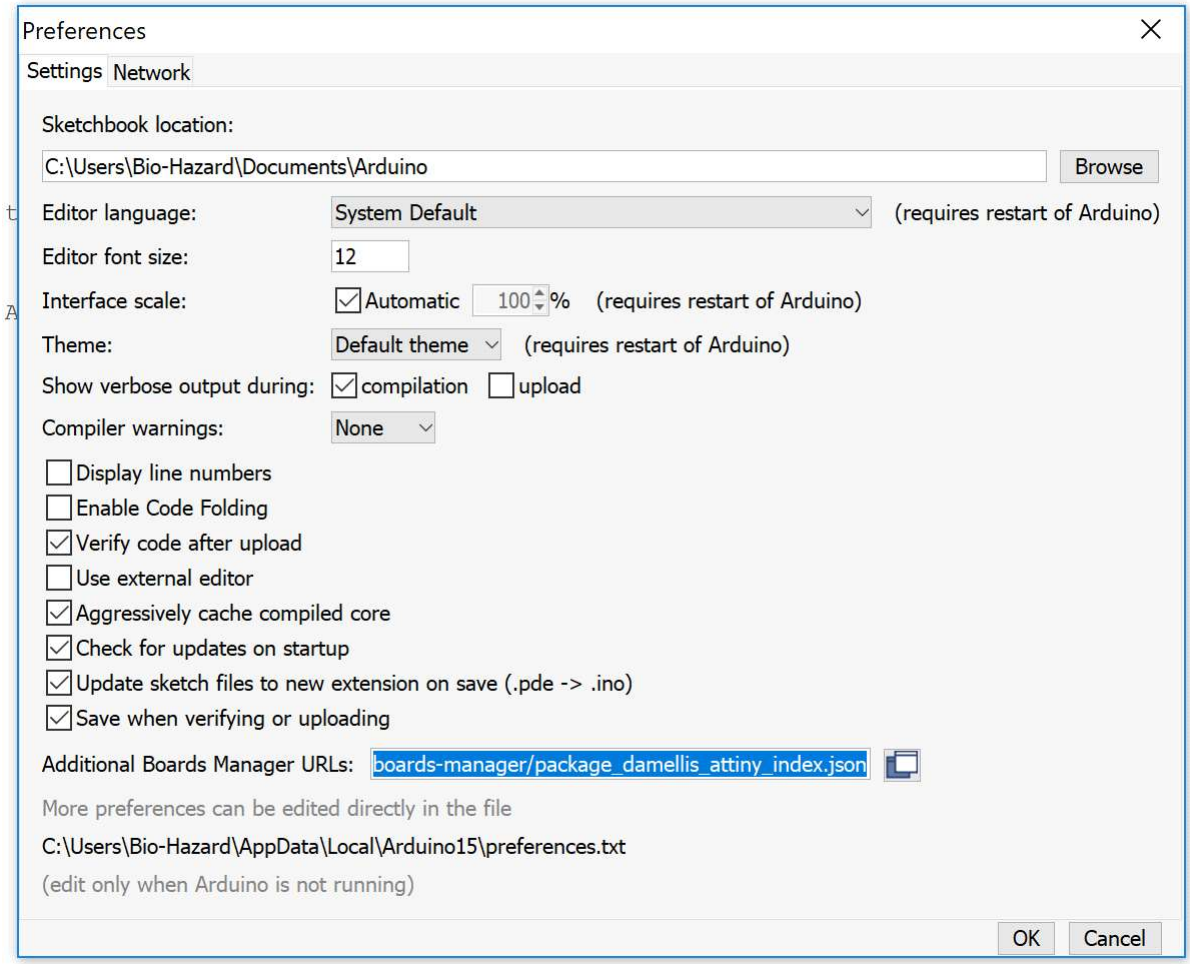
OPTION 2

1. Install Arduino IDE if you don't have it already. You can download it from: https://www.arduino.cc/en/main/software

2. Install the drivers. From the "Digistump Drivers" Folder run "DPinst.exe" for 32bit computers OR "DPinst64.exe" for 64bit computers.

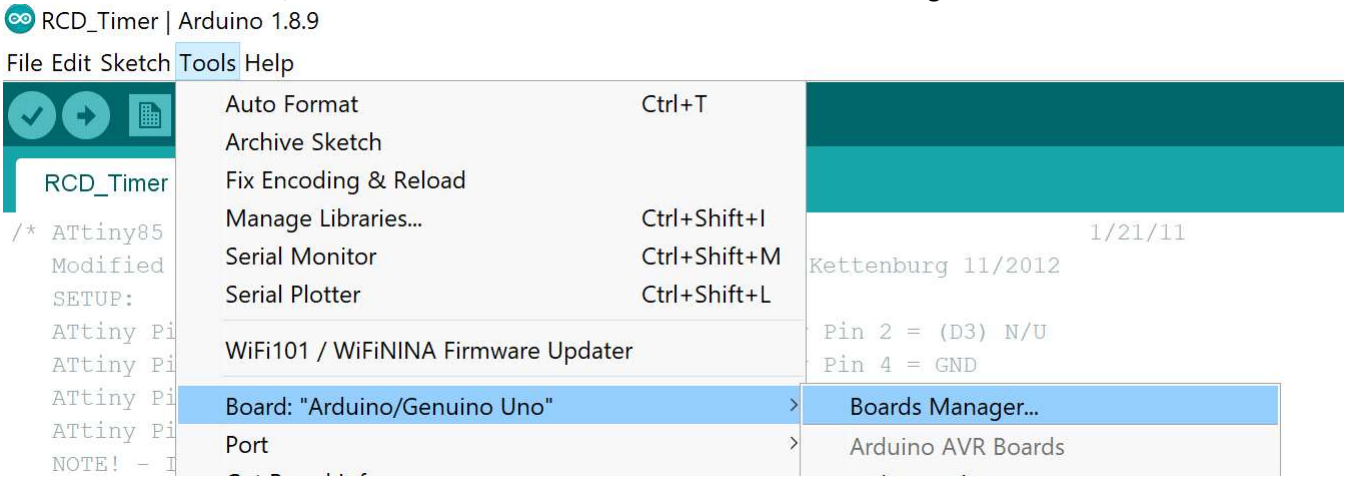


3. Next Download & Install the Digistump library. To do this, start IDE, Then select "Preferences" Under the "File" tab in the top left corner. The under "Additional Boards Manager URL:" add this line: http://digistump.com/package_digistump_index.json

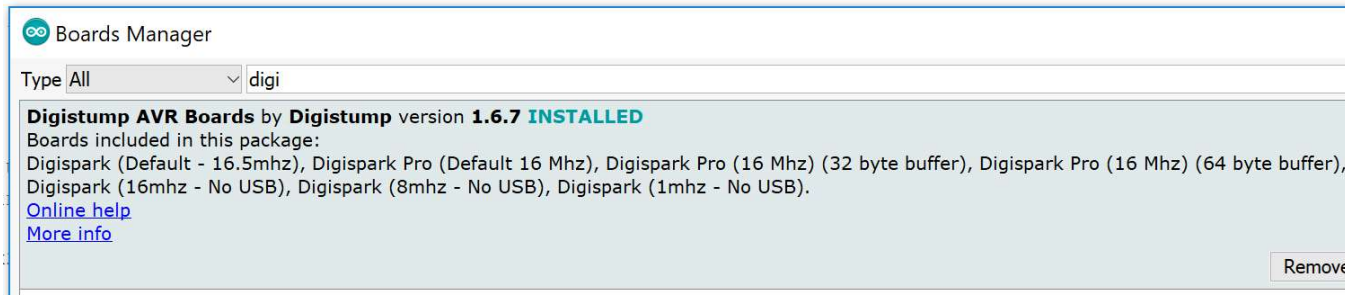


4. Press Ok to close the Preferences window.

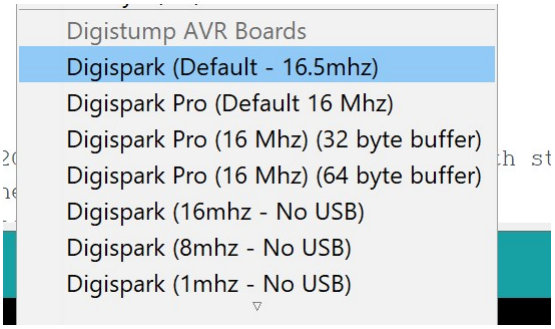
5. Click on the "Tools" tab, then mouse over "Board:" then select "Boards Manager".



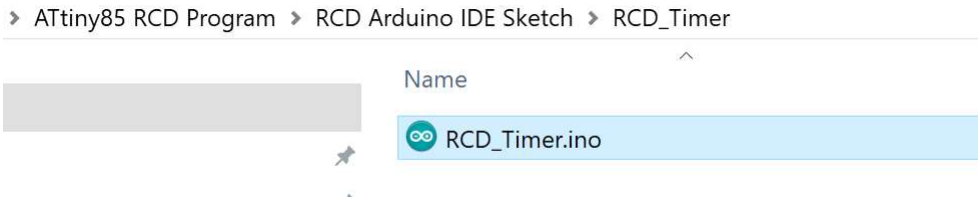
6. Type "Digi" in the search box, Look for "Digistump AVR Boards By Digistump" And install it.



7. Under the Board tab, you should find new options for the ATtiny. For the ATtiny I was using I selected the "Digispark (Default - 16.5mhz) option.



8. Open the folder "RCD Arduino IDE Sketch/RCD_Timer" in there you'll find "RCD_Timer.ino". Open this file in Arduino IDE.



9. Press upload, Then when prompted plug in your USB programmer. IDE should automatically detect and then upload the program to the ATtiny.

10. You can now install the ATtiny into the RCD PCB socket.