

Parts List



Figure 1: All of the absolutely necessary parts, not assembled. There are additional components that are optional that are not pictured here – they include the Bluetooth add-on, and pollution sensors.

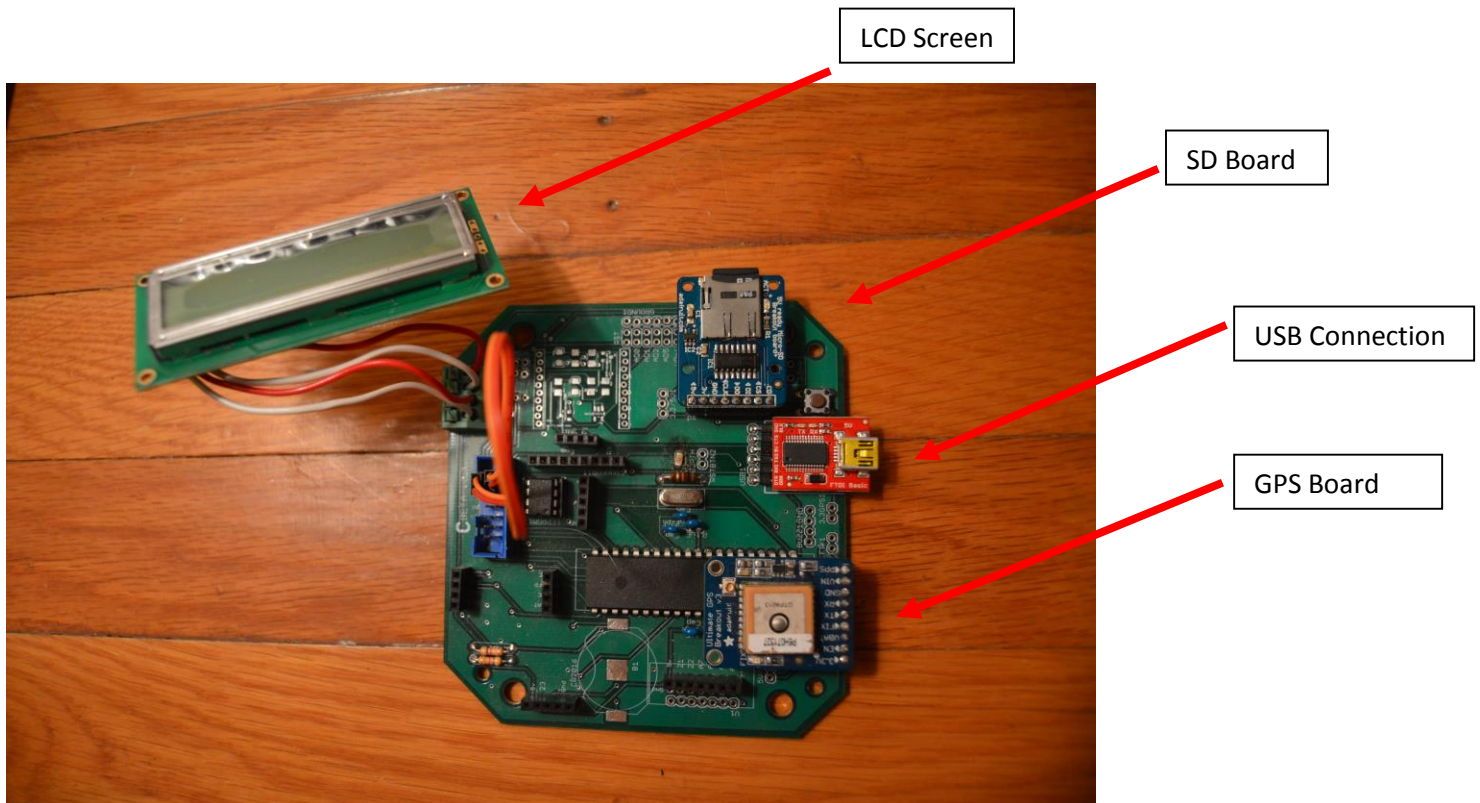


Figure 2: All of the necessary parts, assembled



Figure 3: A close-up of the GPS board

Link to Product: <http://www.adafruit.com/product/746>



Figure 4: The breakout board from the back.

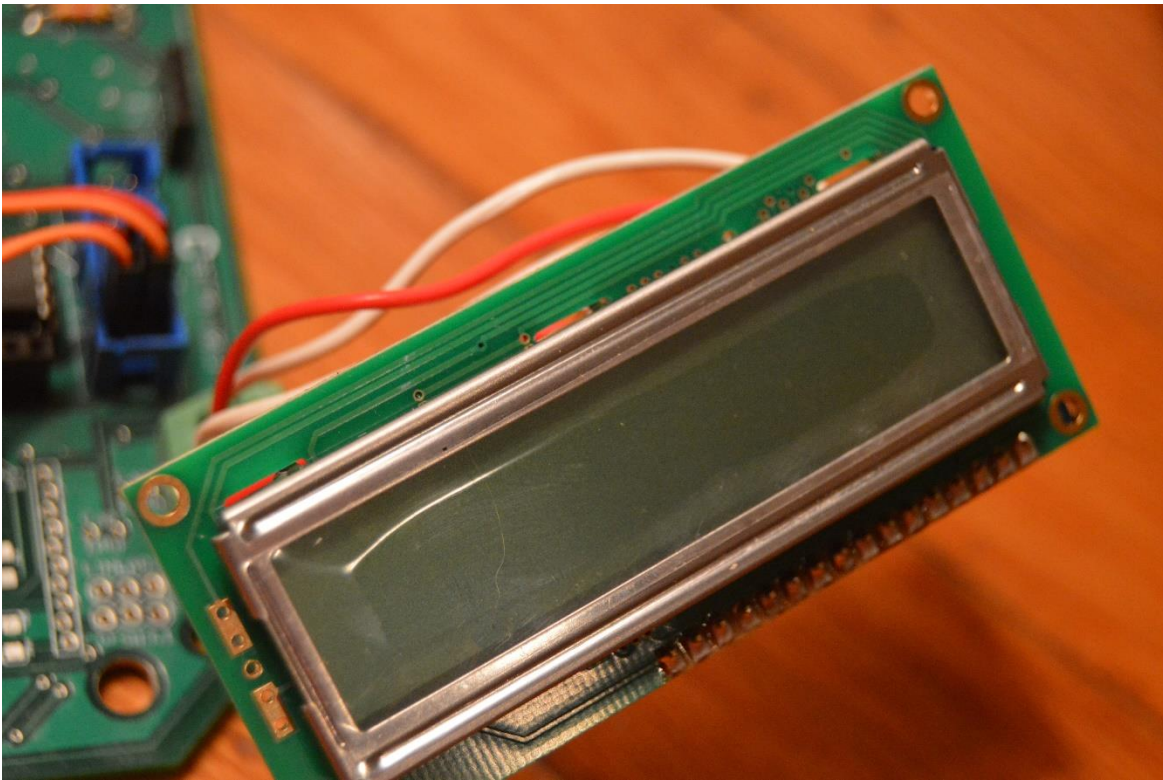


Figure 5: The LCD screen connected to the CBeta board.

Link: this is an example of an LCD screen, but may not be the exact model ours is:

https://www.virtuabotix.com/product/virtuabotix-2-16-green-standard-16-pin-lcd-screen-arduino-versalino-microcontrollers/?gclid=CjsKDwjwmuafBRCQ7ef6zJXhdRIkAFH2mefup2b8DhSV_paCv7_hc4taECNU0pnnDshiwH8hfv30Ggla_fd_BwE



Figure 6: The Micro SD card and the adapter. The micro SD card is the one that is actually in the climate tracker. This is where all of the data is stored. Any micro SD card will do, this does not need to be a specific brand. The size is also flexible.



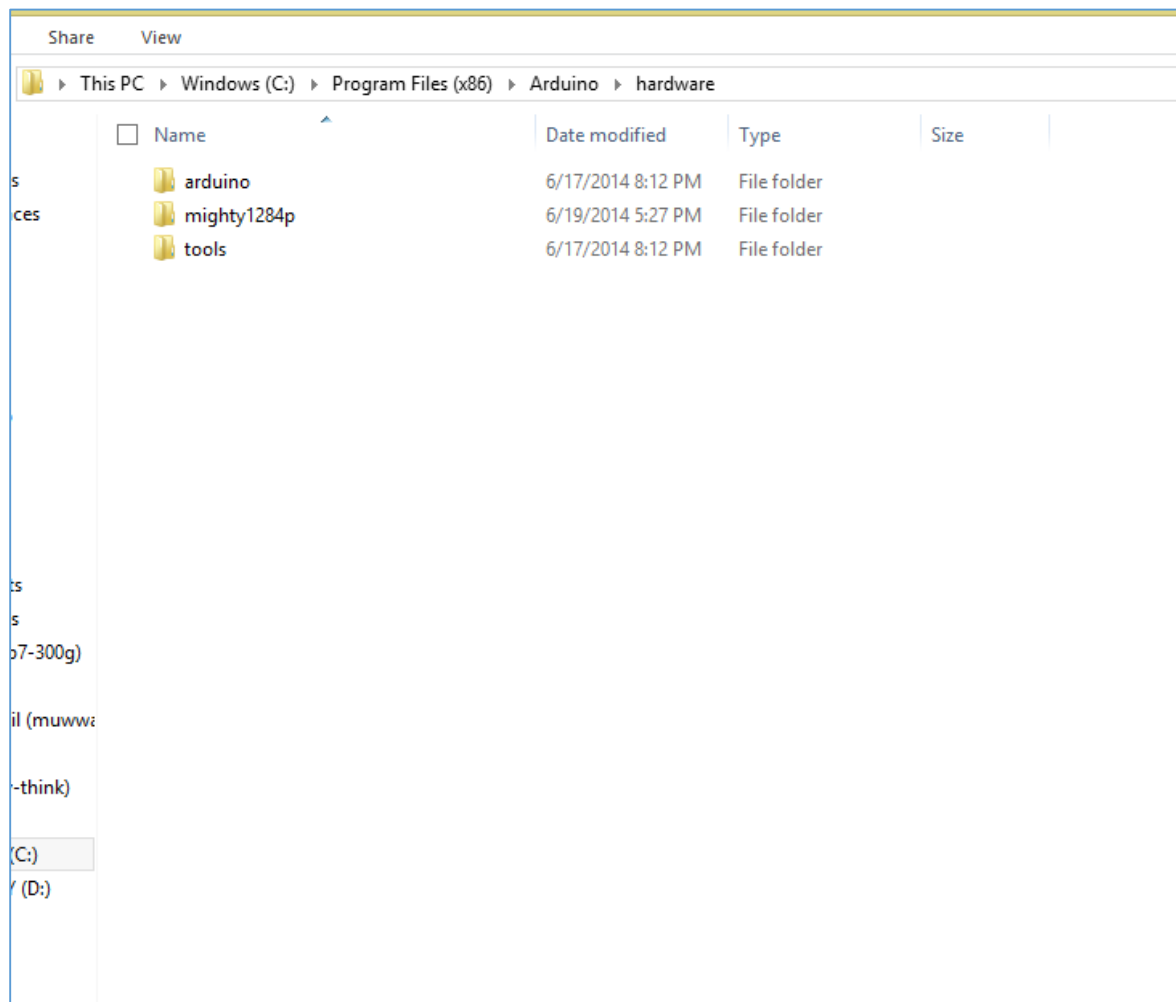
Figure 7: The Bluetooth that can send data to your cell phone, if desired. This is optional but hopefully will be used in the final design. The data will be backed up to the SD card.

Link to Product: <https://learn.adafruit.com/introducing-bluefruit-ez-link/overview>

*Note: the humidity and temperature add-ons are missing. We did not add these yet.

Documenting Initial Setup

- Start with the CBeta Board.
- See parts list for complete description of each piece.
- Make sure all connections are properly in place. Connections are:
 - USB Connection - Make sure that the USB board is connected to the main CBeta board. It is properly connected. On the red USB board, there is a female connection that is labeled “Ground” (GND literally on the board). You plug the USB board into the CBeta board where I says USB. Make sure the female ground connection lines up with the male ground pin. Take a mini USB cable and connect it from the USB board to the computer.
 - GPS Connection - Plug this into the port that says “GPS” (see image for assembled product).
 - SD Card - Insert the mini SD card into the board and plug the board into the pins that are labeled “SD” (see image for assembled product).
- Open Arduino
- You need to tell Arduino that you are using the CBeta Board. In order to do this, you need to download the files from this website: <https://github.com/JChristensen/mighty-1284p> which is the Mighty 1284p Bootloader. Unzip the files.
- Then, go to your C Drive on your computer. Select Program Files. Your computer may have two different program files folders. You want the one that has an “Arduino” folder inside it and then a “hardware” folder inside that. Drag the unzipped folder into this hardware folder.



- In the Arduino menu, select “Tools” and then go down to “Board” and choose “Mighty 1284p 16MHz using Optiboot”
- Restart Arduino