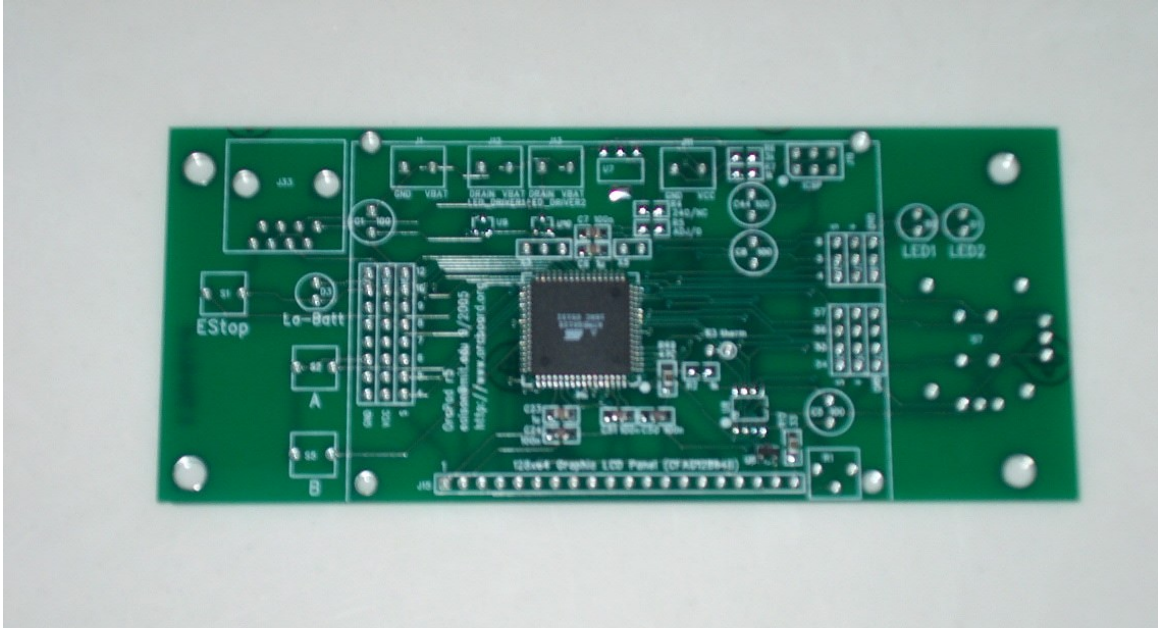
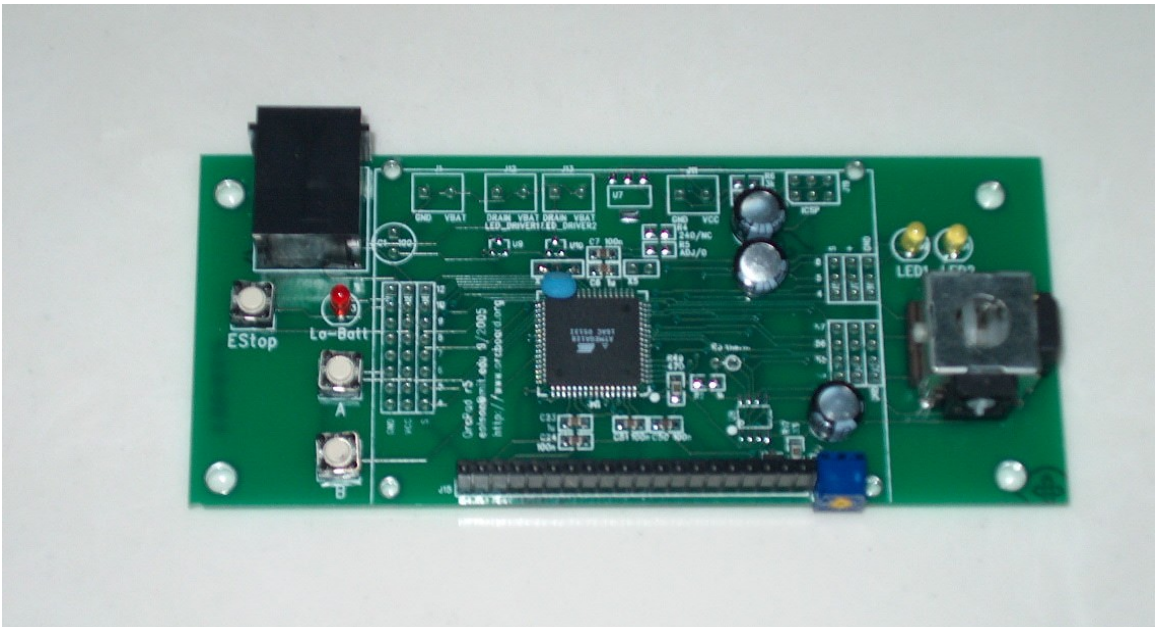


## Orcpad Assembly Instructions

Below is an image of the board for your orcpad without components. Notice the printed labels on the board—these are the labels referenced in the part listing on the next page.



After soldering, the board should look like this:



When soldering, make sure that neither the board nor the components get too hot—take breaks if necessary or work on different parts of the board. Also, solder the shorter components first.

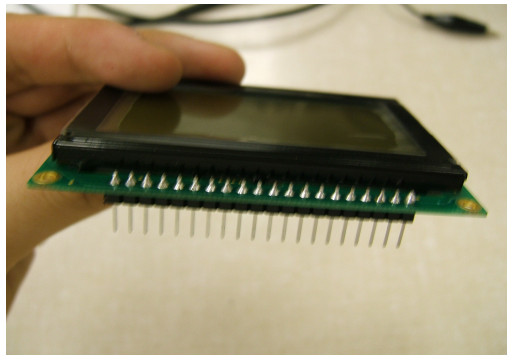
Specific Notes:

- The 20pin male header does not attach to the orcpad. You will attach it to your LCD screen (you will receive your LCD after getting your orcpad checked off).
- Notice that the leads on the LEDs have different lengths. The long lead is positive and the short lead is negative. If you're confused, see a staff member—the directionality does matter!
- Note also that the capacitors have white vertical band denoting the negative side. On all the capacitors, the negative side must face towards the bottom of the board (where the header is attached). The negative pin should be soldered into the hole with the round contact, while the positive side should be soldered into the hole with the square contact.

Complete list of components and locations:

- 2 1uF capacitors (C6, C23)
- 4 100nF capacitors (C7, C24, C50, C51)
- a 33 ohm resistor (R17)
- a 470 ohm resistor (R49)
- FET (U6)
- Push button switches (A,B,EStop)
- 3 LEDs (one red—D3/Lo Batt, two yellow—D2/LED1, D1/LED2)
- Variable resistor (R1) for adjusting LCD display
- 2 100uF capacitors (C5,C8)
- Oscillator (X3). The directionality does not matter.
- Ethernet Cable connector (J33)
- Joystick (S7). You can put an eraser on top of the joystick to make a knob.
- 20 pin female header (J15).

When you get done this far, take it to a staff member. They will program your board and give you an LCD screen. Carefully solder the male header to the LCD—take breaks if it starts getting hot—and attach it so that it sits over your board.



Now you can attach your orcpad to your orcboard with your ethernet cable.