This assignment should be completed by Wednesday, November 3rd. Note: there is nothing to hand in for this assignment. In this homework assignment, you will explore:

- EEPROMs
- LCDs

The reading for this assignment is available on the course web site.

1. [Optional] Review the technology links available at:
   http://ece.colorado.edu/~mcclure/misc.html

2. Review the new links and documents available on the course web site. The data sheet for the HD44780 LCD controller is available there, along with the data sheet for the Optrex DMC20434 (same as DMC16433) LCD Module. A few LCD handouts will be distributed in class.

3. Read the document "Adding an NM24C04 (or NM24C16) EEPROM to your board".

4. Wire up your EEPROM interface.

5. Read the document "Adding an LCD (with an HD44780 LCD controller) to your board".

6. Wire up your LCD interface and connect your LCD to your board. The holes in the four corners of the LCD module are the right size for #2 machine screws. #4 machines screws can also be made to fit. However, it is easiest just to use 30 AWG wire wrap wire or some stripped 22 AWG wire to connect the four corners of the LCD module to your perf board instead of drilling holes.

Note: A pin strip header/socket combination makes a nice way to interface your LCD to your board. If your LCD module has a female socket already attached, you can wire wrap the pin strip header into your board and then plug in your LCD. Your LCD then can be removed from your board easily. If your LCD module has no female socket and only has holes in the PCB, you can do one of the following:

1) solder in the male pin strip header to the LCD module, and then wire wrap the modified LCD module to the board

2) solder in a female pin strip socket to the LCD module, and then wire wrap the pin strip header to the board. This method allows you to remove the LCD module from your board.

One good type of male header is 3M part number 929834-03-36 (mating length 0.235", tail length 0.410"), available from vendors such as DigiKey and Mouser Electronics. It is similar to the picture below to the left (36 pin header trimmed down to 14 pins). Mill-Max also makes a similar type of header.

One good type of female socket is 3M part number 929974-01-14 (Mouser number 517-974-01-14). It is similar to the drawing below to the right. AMP also makes a similar type of socket (AMP 1-535541-2).