Lab #9b
I/O Card Part #6
Input Circuit
Rev c 3/27/07

Purpose:

To perform tests of the Input Circuit from lab #8.

Procedure:

1) Verify that the address of your card is 170H (as set by the dip switches).

2) Insert your board into the test jig and power up the circuit. Observe the current being supplied. If this value is high (above 500mA) or the Current Limited Light is lit **POWER DOWN IMMEDIATELY** and check your wiring paying special attention to power and ground connections. Also verify that your IC's are plugged in correctly (pin one on side A is pin 1 on Side B).

3) Set the dip switches on the test jig as follows IOW=HIGH, IOR=LOW, AEN=LOW, Switch 4 (same dip as IOW/IOR/AEN) = HIGH (Turns on the test jig IO circuit) and the proper FULL address is on the test jig address switches (170H).

4) Modify the input port dip switch on your card and verify the pattern on the test jig LED's match the pattern on the dip switch. Verify a number of these patterns.

5) Have the instructor check your work.

6) Remove your card from the test jig.

7) Write a program that will do the following:
   a) Set a variable called LAST to 0
   b) Input a value from port 170H
   c) If input = LAST loop back to b).
   d) Store new input value in LAST
   e) Display the hex value on the screen using the hex to ascii routine provided.
   f) Print a carriage return (ASCII code 0Dh) and Line Feed (ASCII code 0Ah)
   g) Loop back to b)

8) Transfer the compiled program to a floppy disk.

9) Install your card in the 486 computer (make sure the computer is OFF before installing the card).

10) Power up the computer (if the computer does not give you a DOS prompt in an appropriate time period, power down and ask the instructor for help.

11) Execute your program.

12) Check and see if the HEX value being printed to the screen is the same as the pattern on the input port dip switch on your card. Try multiple patterns on the switch and verify the results each time.

13) Get a picture of your computer screen output for the final report.