

'-----Title-----

' File.....mpx4250.pbp  
' Started....7/20/12  
' Microcontroller used: Microchip Technology PIC16F88  
' microchip.com  
' PicBasic Pro Code: micro-Engineering Labs, Inc.  
' melabs.com

'-----Program Description-----

' The program uses one of the analog-to-digital  
' converters,(AN4), to measure the output of thh  
' MPX4250AP pressure sensor (an analog signal).  
' It then converts the analog voltage into an 8-bit  
' digital value (0 to 255) and displays it on an LCD.  
' The program also converts the raw output reading of  
' the MPX4250AP to a depth measurement.

'-----Schematic-----

' See schematic at:  
' [http://www.cornerstonerobotics.org/schematics/control4\\_mpx4250ap.pdf](http://www.cornerstonerobotics.org/schematics/control4_mpx4250ap.pdf)

'-----PIC Connections-----

16F88 Pin	Wiring
RA0	LCD pin 11(DB4)
RA1	LCD pin 12(DB5)
RA2	LCD pin 13(DB6)
RA3	LCD pin 14(DB7)
RA4	Pin 1 MPX4250AP
RB4	LCD Register Select(RS)
RB3	LCD Enable(E)

' See schematic for the other usual PIC connections

'-----LCD Connections-----

LCD Pin	Wiring
1	Ground(Vss)
2	+ 5v(Vdd)
3	Center of 20K Pot(Contrast)
4	RB4(Register Select,RS)
5	Ground(Read/Write,R/W)
6	RB3(Enable)
7	No Connection(DB0)
8	No Connection(DB1)
9	No Connection(DB2)
10	No Connection(DB3)
11	RA0(DB4)
12	RA1(DB5)
13	RA2(DB6)
14	RA3(DB7)



start:

```
ADCIN 4, x           ' Read analog voltage on AN4 and
                    ' convert to 8-bit digital value
                    ' and store as x.

LCDOUT $FE,1,"RAW READING = ",#x  ' Clears LCD screen, displays
                    ' "RAW READING = " and the 8-bit
                    ' value of x.

y = x/3 - 30        ' Equation converts raw reading
                    ' to depth(y)

LCDOUT $FE,$C0,"Depth = ",#y     ' Prints depth

PAUSE 1000          ' Pause 1 second between readings

GOTO start         ' Go to start label

END
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