;C01 H-bridge, A012345 air sensors,A76,B0123 limit switches

s0 equ 20

n0 equ 21

n1 equ 22

n2 equ 23

n3 equ 24

n4 equ 25

n5 equ 26

fl equ 27

s4 equ 28

ad equ 29

d0 equ 2a

d1 equ 2b

d2 equ 2c

s1 equ 2d

fu equ 2e

list p=16f882

#include<p16f882.inc>

org 0

goto st

org 4

goto serv

st call init\_rs

clrf fu

call one

clrf PORTC

movlw b'10100000'

movwf INTCON

call zero

clrf fl

movlw .50

movwf s4

loop call dly

btfss PORTA,0

call a0

btfss PORTA,1

call a1

btfss PORTA,2

call a2

btfss PORTA,3

call a3

btfss PORTA,4

call a4

btfss PORTA,5

call a5

;;;;;;;;;;;;;;;;;;;;;;;;;

btfsc PORTA,0

call b0

btfsc PORTA,1

call b1

btfsc PORTA,2

call b2

btfsc PORTA,3

call b3

btfsc PORTA,4

call b4

btfsc PORTA,5

call b5

goto loop

;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;sub

zero movlw 0

movwf n0

movwf n1

movwf n2

movwf n3

movwf n4

movwf n5

return

a0 btfsc fl,0

return

bsf fl,0

return

a1 btfsc fl,1

return

bsf fl,1

return

a2 btfsc fl,2

return

bsf fl,2

return

a3 btfsc fl,3

return

bsf fl,3

return

a4 btfsc fl,4

return

bsf fl,4

return

a5 btfsc fl,5

return

bsf fl,5

return

b0 btfss fl,0

return

bcf fl,0

incf n0

return

b1 btfss fl,1

return

bcf fl,1

incf n1

return

b2 btfss fl,2

return

bcf fl,2

incf n2

return

b3 btfss fl,3

return

bcf fl,3

incf n3

return

b4 btfss fl,4

return

bcf fl,4

incf n4

return

b5 btfss fl,5

return

bcf fl,5

incf n5

return

init\_rs clrf PORTA

clrf PORTB

clrf PORTC

clrf ADCON0

bsf STATUS,RP1

clrf CM1CON0

clrf CM2CON0

clrf CM2CON1

bsf STATUS,RP0

clrf ANSEL

clrf ANSELH

bcf STATUS,RP1

bsf STATUS,RP0

movlw b'11111111'

movwf TRISA

movwf TRISB

movlw b'10000000' ;C7 RX(I/P)

movwf TRISC

movlw b'00000000'

movwf ADCON1

movlw b'10000111'

movwf OPTION\_REG

movlw .25 ; Boot Baud Rate = 2400

movwf SPBRG ; 0x19=9600 bps (0x0C=19200 bps)

movlw b'00100100' ; brgh = high (2)

movwf TXSTA ; enable Async Transmission, set brgh

bcf STATUS,RP0

clrf PORTB

clrf PORTC

clrf PORTA

bcf STATUS,RP0

movlw b'10010000' ; enable Async Reception

movwf RCSTA

call dly

movf RCREG,W

movf RCREG,W

movf RCREG,W

return

dly clrf s0

ss clrwdt

decfsz s0

goto ss

return

send movwf ad

clrf d0

clrf d1

clrf d2

con clrwdt

decfsz ad

goto co

goto dc

co incf d0

btfss d0,1

goto con

btfss d0,3

goto con

clrf d0

incf d1

btfss d1,1

goto con

btfss d1,3

goto con

clrf d1

incf d2

goto con

dc movf d1,0

addlw .48

call snd

movf d0,0

addlw .48

call snd

movlw " "

call snd

return

snd movwf TXREG

bsf STATUS,RP0

sx clrwdt

btfss TXSTA,TRMT

goto sx

bcf STATUS,RP0

return

one btfsc fu,0 ;goto position one

return

movlw b'00000001'

movwf fu

btfss PORTA,7

return

bsf PORTC,0

z1 sleep

btfsc PORTA,7

goto z1

return

two btfsc fu,1

return

btfsc fu,0

goto t\_go

bsf PORTC,0

tt sleep

btfsc PORTA,6

goto tt

movlw b'00000010'

movwf fu

return

t\_go bsf PORTC,1

tx sleep

btfsc PORTA,6

goto tx

movlw b'00000010'

movwf fu

return

three btfsc fu,2

return

btfsc fu,0

goto h\_go

btfsc fu,1

goto h\_go

bsf PORTC,0

ts sleep

btfsc PORTB,0

goto ts

movlw b'00000100'

movwf fu

return

h\_go bsf PORTC,1

tm sleep

btfsc PORTB,0

goto tm

movlw b'00000100'

movwf fu

return

four btfsc fu,3

return

btfsc fu,0

goto f\_go

btfsc fu,1

goto f\_go

btfsc fu,2

goto f\_go

bsf PORTC,0

tu sleep

btfsc PORTB,1

goto tu

movlw b'00001000'

movwf fu

return

f\_go bsf PORTC,1

tb sleep

btfsc PORTB,1

goto tb

movlw b'00001000'

movwf fu

return

five btfsc fu,4

return

btfsc fu,0

goto v\_go

btfsc fu,1

goto v\_go

btfsc fu,2

goto v\_go

btfsc fu,3

goto v\_go

bsf PORTC,0

tp sleep

btfsc PORTB,2

goto tp

movlw b'00010000'

movwf fu

return

v\_go bsf PORTC,1

tv sleep

btfsc PORTB,2

goto tv

movlw b'00010000'

movwf fu

return

six btfsc fu,5

return

bsf PORTC,1

z6 sleep

btfsc PORTB,3

goto z6

movlw b'00100000'

movwf fu

return

delay movlw .30

movwf s0

del sleep

decfsz s0

goto del

clrf PORTC

return

serv movlw b'10100000' ;int services

movwf INTCON

decfsz s4

retfie

movlw .50

movwf s4

clrf INTCON

movf n0,0

call send

movf n1,0

call send

movf n2,0

call send

movf n3,0

call send

movf n4,0

call send

movlw .26

movwf s1

pp movlw " "

call snd

decfsz s1

goto pp

movf n5,0

call send

movf n0,0

sublw .33

btfss STATUS,C

goto c0

movf n1,0

sublw .33

btfss STATUS,C

goto c1

movf n2,0

sublw .33

btfss STATUS,C

goto c2

movf n3,0

sublw .33

btfss STATUS,C

goto c3

movf n4,0

sublw .33

btfss STATUS,C

goto c4

movf n5,0

sublw .33

btfss STATUS,C

goto c5

goto ok

c0 call one

goto ok

c1 call two

goto ok

c2 call three

goto ok

c3 call four

goto ok

c4 call five

goto ok

c5 call six

ok clrf PORTC

call zero

call delay

movlw b'10100000'

movwf INTCON

retfie

end