;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