```
        LIST
; P12F683.INC  Standard Header File, Version 1.00   Microchip Technology, Inc.
        NOLIST

; This header file defines configurations, registers, and other useful bits of
; information for the PIC12F683 microcontroller.  These names are taken to match
; the data sheets as closely as possible.

; Note that the processor must be selected before this file is
; included.  The processor may be selected the following ways:

;       1. Command line switch:
;               C:\ MPASM MYFILE.ASM /PIC16F684
;       2. LIST directive in the source file
;               LIST   P=PIC12F683
;       3. Processor Type entry in the MPASM full-screen interface


;==========================================================================
;
;       Revision History
;
;==========================================================================
;1.00   12/09/03 Original


;==========================================================================
;
;       Verify Processor
;
;==========================================================================

        IFNDEF __12F683
            MESSG "Processor-header file mismatch.  Verify selected processor."
        ENDIF


;==========================================================================
;
;       Register Definitions
;
;==========================================================================

W               EQU    H'0000'
F               EQU    H'0001'

;----- Register Files-------------------------------------------------------

INDF            EQU H'0000'
TMR0            EQU H'0001'
PCL             EQU H'0002'
STATUS          EQU H'0003'
FSR             EQU H'0004'
GPIO            EQU H'0005'

PCLATH          EQU  H'000A'
INTCON          EQU  H'000B'
PIR1            EQU  H'000C'
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TMR1L           EQU   H'000E'
TMR1H           EQU   H'000F'
T1CON           EQU   H'0010'
TMR2            EQU   H'0011'
T2CON           EQU   H'0012'
CCPR1L          EQU   H'0013'
CCPR1H          EQU   H'0014'
CCP1CON         EQU   H'0015'

WDTCON          EQU   H'0018'
CMCON0          EQU   H'0019'
CMCON1          EQU   H'001A'

ADRESH          EQU   H'001E'
ADCON0          EQU   H'001F'

OPTION_REG      EQU   H'0081'

TRISIO          EQU   H'0085'

PIE1            EQU   H'008C'

PCON            EQU   H'008E'
OSCCON          EQU   H'008F'
OSCTUNE         EQU   H'0090'

PR2             EQU   H'0092'

WPU             EQU   H'0095'
WPUA            EQU   H'0095'
IOC             EQU   H'0096'
IOCA            EQU   H'0096'

VRCON           EQU   H'0099'
EEDATA          EQU   H'009A'
EEDAT           EQU   H'009A'
EEADR           EQU   H'009B'
EECON1          EQU   H'009C'
EECON2          EQU   H'009D'
ADRESL          EQU   H'009E'
ANSEL           EQU   H'009F'


;----- STATUS Bits ----------------------------------------------------

IRP     EQU   H'0007'
RP1     EQU   H'0006'
RP0     EQU   H'0005'
NOT_TO  EQU   H'0004'
NOT_PD  EQU   H'0003'
Z       EQU   H'0002'
DC      EQU   H'0001'
C       EQU   H'0000'


;----- GPIO Bits ------------------------------------------------------
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```
GP5      EQU   H'0005'
GP4      EQU   H'0004'
GP3      EQU   H'0003'
GP2      EQU   H'0002'
GP1      EQU   H'0001'
GP0      EQU   H'0000'


;----- INTCON Bits -------------------------------------------------------

GIE      EQU   H'0007'
PEIE     EQU   H'0006'
T0IE     EQU   H'0005'
INTE     EQU   H'0004'
GPIE     EQU   H'0003'
T0IF     EQU   H'0002'
INTF     EQU   H'0001'
GPIF     EQU   H'0000'


;----- PIR1 Bits ---------------------------------------------------------

EEIF     EQU      H'0007'
ADIF     EQU      H'0006'
CCP1IF   EQU      H'0005'
CMIF     EQU      H'0003'
OSFIF    EQU   H'0002'
T2IF     EQU      H'0001'
TMR2IF   EQU      H'0001'
T1IF     EQU      H'0000'
TMR1IF   EQU      H'0000'


;----- T1CON Bits --------------------------------------------------------

T1GINV   EQU      H'0007'
T1GE     EQU      H'0006'
T1CKPS1  EQU   H'0005'
T1CKPS0  EQU   H'0004'
T1OSCEN  EQU   H'0003'
NOT_T1SYNC   EQU      H'0002'
TMR1CS   EQU      H'0001'
TMR1ON   EQU      H'0000'


;----- T2CON Bits --------------------------------------------------------

TOUTPS3  EQU   H'0006'
TOUTPS2  EQU   H'0005'
TOUTPS1  EQU   H'0004'
TOUTPS0  EQU   H'0003'
TMR2ON   EQU      H'0002'
T2CKPS1  EQU   H'0001'
T2CKPS0  EQU   H'0000'


;----- CCP1CON Bits ------------------------------------------------------

DC1B1    EQU   H'0005'
DC1B0    EQU   H'0004'
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CCP1M3    EQU     H'0003'
CCP1M2    EQU     H'0002'
CCP1M1    EQU     H'0001'
CCP1M0    EQU     H'0000'


;----- WDTCON Bits --------------------------------------------------

WDTPS3    EQU     H'0004'
WDTPS2    EQU     H'0003'
WDTPS1    EQU     H'0002'
WDTPS0    EQU     H'0001'
SWDTEN    EQU     H'0000'


;----- COMCON0 Bits -------------------------------------------------

COUT    EQU     H'0006'
CINV    EQU     H'0004'
CIS EQU  H'0003'
CM2 EQU  H'0002'
CM1 EQU  H'0001'
CM0 EQU  H'0000'


;----- COMCON1 Bits -------------------------------------------------

T1GSS    EQU      H'0001'
CMSYNC   EQU   H'0000'


;----- ADCON0 Bits --------------------------------------------------

ADFM      EQU     H'0007'
VCFG      EQU     H'0006'
CHS2      EQU     H'0004'
CHS1      EQU     H'0003'
CHS0      EQU     H'0002'
GO    EQU     H'0001'
NOT_DONE      EQU      H'0001'
GO_DONE EQU  H'0001'
ADON      EQU     H'0000'


;----- OPTION Bits --------------------------------------------------

NOT_GPPU     EQU H'0007'
INTEDG       EQU H'0006'
T0CS         EQU H'0005'
T0SE         EQU H'0004'
PSA          EQU H'0003'
PS2          EQU H'0002'
PS1          EQU H'0001'
PS0          EQU H'0000'



;----- PIE1 Bits ----------------------------------------------------

EEIE    EQU  H'0007'
ADIE    EQU  H'0006'
CCP1IE  EQU  H'0005'
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CMIE    EQU  H'0003'
OSFIE   EQU  H'0002'
T2IE    EQU  H'0001'
TMR2IE  EQU  H'0001'
T1IE    EQU  H'0000'
TMR1IE  EQU  H'0000'


;----- PCON Bits -------------------------------------------------------

ULPWUE  EQU  H'0005'
SBODEN  EQU  H'0004'
NOT_POR EQU  H'0001'
NOT_BOD EQU  H'0000'

;----- OSCCON Bits -----------------------------------------------------

IRCF2   EQU  H'0006'
IRCF1   EQU  H'0005'
IRCF0   EQU  H'0004'
OSTS    EQU  H'0003'
HTS     EQU  H'0002'
LTS     EQU  H'0001'
SCS     EQU  H'0000'

;----- OSCTUNE Bits ----------------------------------------------------

TUN4      EQU     H'0004'
TUN3      EQU     H'0003'
TUN2      EQU     H'0002'
TUN1      EQU     H'0001'
TUN0      EQU     H'0000'


;----- IOC Bits --------------------------------------------------------

IOC5      EQU     H'0005'
IOC4      EQU     H'0004'
IOC3      EQU     H'0003'
IOC2      EQU     H'0002'
IOC1      EQU     H'0001'
IOC0      EQU     H'0000'

;----- IOCA Bits -------------------------------------------------------

IOCA5     EQU     H'0005'
IOCA4     EQU     H'0004'
IOCA3     EQU     H'0003'
IOCA2     EQU     H'0002'
IOCA1     EQU     H'0001'
IOCA0     EQU     H'0000'

;----- VRCON Bits ------------------------------------------------------

VREN    EQU  H'0007'
VRR     EQU  H'0005'
VR3     EQU  H'0003'
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VR2      EQU  H'0002'
VR1      EQU  H'0001'
VR0      EQU  H'0000'


;----- EECON1 Bits ----------------------------------------------------------


WRERR    EQU  H'0003'
WREN     EQU  H'0002'
WR       EQU  H'0001'
RD       EQU  H'0000'


;----- ANSEL Bits ----------------------------------------------------------


ADCS2    EQU  H'0006'
ADCS1    EQU  H'0005'
ADCS0    EQU  H'0004'
ANS3     EQU     H'0003'
ANS2     EQU     H'0002'
ANS1     EQU     H'0001'
ANS0     EQU     H'0000'


;===========================================================================
;
;        RAM Definition
;
;===========================================================================


        __MAXRAM H'FF'
        __BADRAM H'06', H'08'-H'09', H'0D', H'1B'-H'1D'
        __BADRAM H'86', H'88'-H'89', H'8D', H'93'-H'94', H'97'-H'98',
H'C0'-H'EF'


;===========================================================================
;
;        Configuration Bits
;
;===========================================================================

_FCMEN_ON     EQU     H'3FFF'     ;b'0011 1111 1111 1111
_FCMEN_OFF    EQU     H'37FF'
_IESO_ON      EQU     H'3FFF'
_IESO_OFF     EQU     H'3BFF'     ;b'0011 1011 1111 1111
_BOD_ON       EQU     H'3FFF'
_BOD_NSLEEP   EQU     H'3EFF'
_BOD_SBODEN   EQU     H'3DFF'
_BOD_OFF      EQU     H'3CFF'     ;b'0011 1100 1111 1111
_CPD_ON       EQU     H'3F7F'
_CPD_OFF      EQU     H'3FFF'     ;b'0011 1111 1111 1111
_CP_ON        EQU     H'3FBF'
_CP_OFF       EQU     H'3FFF'     ;b'0011 1111 1111 1111
_MCLRE_ON     EQU     H'3FFF'
_MCLRE_OFF    EQU     H'3FDF'     ;b'0011 1111 1101 1111
_PWRTE_OFF    EQU     H'3FFF'
_PWRTE_ON     EQU     H'3FEF'     ;b'0011 1111 1110 1111
_WDT_ON       EQU     H'3FFF'     ;b'0011 1111 1111 1111
_WDT_OFF      EQU     H'3FF7'
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_LP_OSC          EQU      H'3FF8'
_XT_OSC          EQU      H'3FF9'
_HS_OSC          EQU      H'3FFA'
_EC_OSC          EQU      H'3FFB'           ;FOSC<2:0> =       x100
_INTRC_OSC_NOCLKOUT EQU  H'3FFC'       ;b'0011 1111 1111 1100
_INTOSCIO            EQU      H'3FFC' ;b'0011 1111 1111 1100
_INTRC_OSC_CLKOUT    EQU  H'3FFD'
_INTOSC          EQU      H'3FFD'
_EXTRC_OSC_NOCLKOUT EQU      H'3FFE'
_EXTRCIO         EQU      H'3FFE'
_EXTRC_OSC_CLKOUT    EQU      H'3FFF'
_EXTRC           EQU      H'3FFF'

        LIST
```