# 16F88 Instruction Set

| Mnemonic | Description | Operation | Status bits | |
|---|---|---|---|---|
| ADDLW k | Add literal and W | w + k → destination | C, DC, Z | 1 |
| ADDWF f, d | Add W and f | w + f → destination | C, DC, Z | 1 |
| ANDLW k, d | AND literal and W | w and k → destination | Z | 1 |
| ANDWF f, d | AND W and f | w and f → destination | Z | 1 |
| BCF f, b | Bit Clear f | 0 → f<b> | | 1 |
| BSF f, b | Bit Set f | 1 → f<b> | | 1 |
| BTFSC f, b | Bit Test f, Skip if Clear | skip if f<b> = 0 *(2 Cycles)* | | 1 |
| BTFSS f, b | Bit Test f, Skip if Set | skip if f<b> = 1 *(2 Cycles)* | | 1 |
| CALL k | Call Subroutine | PC → TOS, k → PC[10:0]<br>PCLATH[4:3] → PC[12:11] | | 2 |
| CLRF f | Clear f | 0x00 → f, 1 → Z | Z | 1 |
| CLRW | Clear W | 0x00 → w, 1 → Z | Z | 1 |
| CLRWDT | Clear Watchdog Timer | 0x00 → WDT, 1 → TO, 1 → PD | TO, PD | 1 |
| COMF f, d | Compliment f | f - 0xFF → destination | Z | 1 |
| DECF f, d | Decrement f | f - 1 → destination | Z | 1 |
| DECFSZ f, d | Decrement f and Skip if Zero | f - 1 → destination<br>skip if result = 0 *(2 Cycles)* | | 1 |
| GOTO k | Go to address | k → PC[10:0]<br>PCLATH[4:3] → PC[12:11] | | 2 |
| INCF f, d | Increment f | F + 1 → destination | Z | 1 |
| INCFSZ f, d | Increment f and Skip if Zero | F + 1 → destination<br>skip if result = 0 *(2 Cycles)* | | 1 |
| IORLW k, d | Inclusive OR literal with W | w or k → destination | Z | 1 |
| IORWF f, d | Inclusive OR w with f | w or f → destination | Z | 1 |
| MOVF f, d | Move f | f → destination | Z | 1 |
| MOVLW k | Move literal to W | k → w | | 1 |
| MOVWF f | Move W to f | w → f | | 1 |
| NOP | No Operation | No Operation | | 1 |
| RETFIE | Return from interrupt | TOS → PC, 1 → GIE | | 2 |
| RETLW k | Return with literal in W | k → w, TOS → PC | | 2 |
| RETURN | Return from Subroutine | TOS → PC | | 2 |
| RLF f, d | Rotate Left f through Carry | C << f << C → destination | C | 1 |
| RRF f, d | Rotate Right f through Carry | C >> f >> C → destination | C | 1 |
| SLEEP | Enter Standby Mode | 0x00 → WDT, stop oscillator | TO, PD | 1 |
| SUBLW k | Subtract W from literal | k - w → destination | C, DC, Z | 1 |
| SUBWF f, d | Subtract W from f | f - w → destination | C, DC, Z | 1 |
| SWAPF f, d | Swap nibbles in f | f[3:0] → destination [7:4]<br>f[7:4] → destination [3:0] | | 1 |
| XORLW k, d | Exclusive OR literal with W | w xor k → destination | Z | 1 |
| XORWF f, d | Exclusive OR W with f | w xor f → destination | Z | 1 |

k = 8 bit Literal or 11 bit Address, f = File Register, d = Destination (w *or* f) if omitted will default to f
skip instructions add an extra cycle if condition is true (BTFSC, BTFSS, DECFZ, INCFZ)

# MPASM Pseudo Instruction Set *(mini macros for the midrange PIC)*

| Mnemonic | Description | Operation | Status bits | |
|---|---|---|---|---|
| ADDCF f, d | Add Carry to File Register | btfsc STATUS, C<br>incf f, d | Z | 2 |
| ADDDCF f, d | Add Digit Carry to File Register | btfsc STATUS, DC<br>incf f, d | Z | 2 |
| BC k | Branch on Carry | btfss STATUS, C<br>goto k | | 2 |
| BNC k | Branch on Not Carry | btfsc STATUS, C<br>goto k | | 2 |
| BDC k | Branch on Digit Carry | btfss STATUS, DC<br>goto k | | 2 |
| BNDC k | Branch on Not Digit Carry | Btfsc STATUS, DC<br>goto k | | 2 |
| BZ k | Branch on Zero | btfss STATUS, Z<br>goto k | | 2 |
| BNZ k | Branch on Not Zero | btfsc STATUS, Z<br>goto k | | 2 |
| CLRC | Clear Carry | bcf STATUS, C | C | 1 |
| CLRDC | Clear Digit Carry | bcf STATUS, DC | DC | 1 |
| CLRZ | Clear Zero | bcf STATUS, Z | Z | 1 |
| LCALL k | Long Call | bcf/bsf STATUS, RP0<br>bcf/bsf STATUS, RP1<br>call k | | 3 |
| LGOTO k | Long Goto | bcf/bsf STATUS, RP0<br>bcf/bsf STATUS, RP1<br>goto k | | 3 |
| MOVFW f | Move File Register to W | movf, 0 | Z | 1 |
| NEGF f, d | Negate File Register | comf f, 1<br>incf f, d | Z | 2 |
| SETC | Set Carry | bsf STATUS, C | C | 1 |
| SETDC | Set Digit Carry | bsf STATUS, DC | DC | 1 |
| SETZ | Set Zero | bsf STATUS, Z | Z | 1 |
| SKPC | Skip on Carry | btfss STATUS, C *(2 Cycles)* | | 1 |
| SKPNC | Skip on Not Carry | btfsc STATUS, C *(2 Cycles)* | | 1 |
| SKPDC | Skip on Digit Carry | btfss STATUS, DC *(2 Cycles)* | | 1 |
| SKPNDC | Skip on Not Digit Carry | btfsc STATUS, DC *(2 Cycles)* | | 1 |
| SKPZ | Skip on Zero | btfss STATUS, Z *(2 Cycles)* | | 1 |
| SKPNZ | Skip on Not Zero | btfsc STATUS, Z *(2 Cycles)* | Z | 1 |
| SUBCF f, d | Subtract Carry from File Register | btfsc STATUS, C<br>decf f, d | Z | 2 |
| SUBDCF f, d | Subtract Digit Carry from File Register | btfsc STATUS, DC<br>decf f, d | Z | 2 |
| TSTF | Test File Register for Zero | movf f, 1 | Z | 1 |