

# PIC18 CONFIGURATION SETTINGS ADDENDUM

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# PIC18 CONFIGURATION SETTINGS ADDENDUM

# **Table of Contents**

| Configuration Settings | 1  |
|------------------------|----|
| PIC18C242              | 1  |
| PIC18C252              | 2  |
| PIC18C442              | 3  |
| PIC18C452              | 4  |
| PIC18C601              | 5  |
| PIC18C658              | 6  |
| PIC18C801              | 7  |
| PIC18C858              | 8  |
| PIC18F1220             | 9  |
| PIC18F1320             | 11 |
| PIC18F2220             | 14 |
| PIC18F2320             | 17 |
| PIC18F2331             | 20 |
| PIC18F2410             | 23 |
| PIC18F242              | 26 |
| PIC18F2420             | 28 |
| PIC18F2431             | 31 |
| PIC18F2439             | 34 |
| PIC18F2455             | 36 |
| PIC18F248              | 40 |
| PIC18F2480             | 42 |
| PIC18F24J10            | 45 |
| PIC18F2510             | 46 |
| PIC18F2515             | 49 |
| PIC18F252              | 52 |
| PIC18F2520             | 55 |
| PIC18F2525             | 58 |
| PIC18F2539             | 61 |
| PIC18F2550             | 63 |
| PIC18F258              | 67 |
| PIC18F2580             | 70 |
| PIC18F2585             | 73 |

| PIC18F25J10 | 76  |
|-------------|-----|
| PIC18F2610  | 78  |
| PIC18F2620  | 81  |
| PIC18F2680  | 84  |
| PIC18F4220  | 88  |
| PIC18F4320  | 91  |
| PIC18F4331  | 94  |
| PIC18F4410  | 98  |
| PIC18F442   | 100 |
| PIC18F4420  | 103 |
| PIC18F4431  | 106 |
| PIC18F4439  | 109 |
| PIC18F4455  | 111 |
| PIC18F448   | 115 |
| PIC18F4480  | 117 |
| PIC18F44J10 | 121 |
| PIC18F4510  | 122 |
| PIC18F4515  | 125 |
| PIC18F452   | 128 |
| PIC18F4520  | 131 |
| PIC18F4525  | 134 |
| PIC18F4539  | 137 |
| PIC18F4550  | 139 |
| PIC18F458   | 143 |
| PIC18F4580  | 146 |
| PIC18F4585  | 149 |
| PIC18F45J10 | 152 |
| PIC18F4610  | 154 |
| PIC18F4620  | 157 |
| PIC18F4680  | 160 |
| PIC18F6310  | 164 |
| PIC18F6390  | 166 |
| PIC18F6410  | 168 |
| PIC18F6490  | 170 |
| PIC18F64J15 | 172 |
| PIC18F6520  | 174 |
| PIC18F6525  | 176 |
| PIC18F6527  | 179 |
| PIC18F6585  | 182 |

# **Table of Contents**

| PIC18F65J10                 | 185 |
|-----------------------------|-----|
| PIC18F65J15                 | 187 |
| PIC18F6620                  | 189 |
| PIC18F6621                  | 191 |
| PIC18F6622                  | 194 |
| PIC18F6627                  | 197 |
| PIC18F6680                  | 201 |
| PIC18F66J10                 | 204 |
| PIC18F66J15                 | 206 |
| PIC18F6720                  | 208 |
| PIC18F6722                  | 211 |
| PIC18F67J10                 | 215 |
| PIC18F8310                  | 217 |
| PIC18F8390                  | 219 |
| PIC18F8410                  | 221 |
| PIC18F8490                  | 223 |
| PIC18F84J15                 | 225 |
| PIC18F8520                  | 227 |
| PIC18F8525                  | 230 |
| PIC18F8527                  | 233 |
| PIC18F8585                  | 236 |
| PIC18F85J10                 | 239 |
| PIC18F85J15                 | 241 |
| PIC18F8620                  | _   |
| PIC18F8621                  | 246 |
| PIC18F8622                  | 249 |
| PIC18F8627                  | 253 |
| PIC18F8680                  | 257 |
| PIC18F86J10                 | 260 |
| PIC18F86J15                 | 262 |
| PIC18F8720                  | 264 |
| PIC18F8722                  | 268 |
| PIC18F87J10                 | 272 |
| Worldwide Sales and Service | 276 |

| PIC18 Configuration Settings Addendum |  |  |
|---------------------------------------|--|--|
| NOTES:                                |  |  |
|                                       |  |  |
|                                       |  |  |
|                                       |  |  |
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# PIC18 CONFIGURATION SETTINGS ADDENDUM

# **Configuration Settings**

This addendum lists the configuration settings available for each of the PIC18 devices for use with MPLAB C18's #pragma config directive and MPASM's CONFIG directive.

# PIC18C242

#### **Code Protect:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

#### **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

#### Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

|   | PWRT = ON  | Enabled  |
|---|------------|----------|
| ſ | PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1   | 1:1                         |
|---|-----------------------------|
| WDTPS = 2   | 1:2                         |
| WDTPS = 4   | 1:4                         |
| WDTPS = 8   | 1:8                         |
| WDTPS = 16  | 1:16                        |
| WDTPS = 32  | 1:32                        |
| WDTPS = 64  | 1:64                        |
| WDTPS = 128   | 1:128                       |
| WDTPS = 8<br>WDTPS = 16<br>WDTPS = 32<br>WDTPS = 64 | 1:8<br>1:16<br>1:32<br>1:64 |

# **CCP2 Mux:**

| CCP2MUX = OFF | Disable (RB3) |
|---------------|---------------|
| CCP2MUX = ON  | Enable (RC1)  |

#### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# PIC18C252

#### **Code Protect:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

#### **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

# Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

# CCP2 Mux:

| CCP2MUX = OFF | Disable (RB3) |
|---------------|---------------|
| CCP2MUX = ON  | Enable (RC1)  |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# PIC18C442

#### **Code Protect:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

# **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

## Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

# **CCP2 Mux:**

| CCP2MUX = OFF | Disable (RB3) |
|---------------|---------------|
| CCP2MUX = ON  | Enable (RC1)  |

#### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# PIC18C452

# **Code Protect:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

# **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

# Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| <u> </u>    |       |
|-------------|-------|
| WDTPS = 1   | 1:1   |
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

#### CCP2 Mux:

| CCP2MUX = OFF | Disable (RB3) |
|---------------|---------------|
| CCP2MUX = ON  | Enable (RC1)  |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# PIC18C601

# **Oscillator Selection:**

| OSC = LP | LP Oscillator |
|----------|---------------|
| OSC = EC | EC Oscillator |
| OSC = HS | HS Oscillator |
| OSC = RC | RC Oscillator |

# **Power-up Timer:**

| PWRT = ON  | Enable  |
|------------|---------|
| PWRT = OFF | Disable |

# **External Bus Data Width:**

| BW = 8  | 8-bit external bus mode  |
|---------|--------------------------|
| BW = 16 | 16-bit external bus mode |

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Timer Postscale Selection:**

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

# Stack Full/Underflow RESET:

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# PIC18C658

# **Code Protect:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

# **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

#### Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# PIC18C801

# **Oscillator Selection:**

| OSC = LP | LP Oscillator |
|----------|---------------|
| OSC = EC | EC Oscillator |
| OSC = HS | HS Oscillator |
| OSC = RC | RC Oscillator |

# **Power-up Timer:**

| PWRT = ON  | Enable  |
|------------|---------|
| PWRT = OFF | Disable |

# **External Bus Data Width:**

| BW = 8  | 8-bit external bus mode  |
|---------|--------------------------|
| BW = 16 | 16-bit external bus mode |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Timer Postscale Selection:**

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

# Stack Full/Underflow RESET:

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# **PIC18C858**

# **Code Protect:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

# **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

# Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# PIC18F1220

# **Oscillator Selection:**

| OSC = LP     | LP Oscillator                            |
|--------------|--|
| OSC = XT     | XT Oscillator                            |
| OSC = HS     | HS Oscillator                            |
| OSC = EC     | External Clock on OSC1, OSC2 as Fosc/4   |
| OSC = ECIO   | External Clock on OSC1, OSC2 as RA6      |
| OSC = HSPLL  | HS + PLL                                 |
| OSC = RCIO   | External RC on OSC1, OSC2 as RA6         |
| OSC = INTIO2 | Internal RC, OSC1 as RA7, OSC2 as RA6    |
| OSC = INTIO1 | Internal RC, OSC1 as RA7, OSC2 as Fosc/4 |
| OSC = RC     | External RC on OSC1, OSC2 as Fosc/4      |

# **Fail Safe Clock Monitor:**

| FSCM = OFF | Fail Safe Clock Monitor disabled |
|------------|----------------------------------|
| FSCM = ON  | Fail Safe Clock Monitor enabled  |

# **Internal External Switch Over mode:**

| IESO = OFF | Internal External Switch Over mode disabled |
|------------|---|
| IESO = ON  | Internal External Switch Over mode enabled  |

# **Power-Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown-Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

#### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# Stack Full/Overflow Reset:

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

# **Code Protection Block 1:**

| CP1 | = ON  | Enabled  |
|-----|-------|----------|
| CP1 | = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

# Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

# **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F1320

#### **Oscillator Selection:**

| Occinator ocioculorni |  |
|-----------------------|--|
| OSC = LP              | LP Oscillator                            |
| OSC = XT              | XT Oscillator                            |
| OSC = HS              | HS Oscillator                            |
| OSC = EC              | External Clock on OSC1, OSC2 as Fosc/4   |
| OSC = ECIO            | External Clock on OSC1, OSC2 as RA6      |
| OSC = HSPLL           | HS + PLL                                 |
| OSC = RCIO            | External RC on OSC1, OSC2 as RA6         |
| OSC = INTIO2          | Internal RC, OSC1 as RA7, OSC2 as RA6    |
| OSC = INTIO1          | Internal RC, OSC1 as RA7, OSC2 as Fosc/4 |
| OSC = RC              | External RC on OSC1, OSC2 as Fosc/4      |

#### **Fail Safe Clock Monitor:**

| FSCM = OFF | Fail Safe Clock Monitor disabled |
|------------|----------------------------------|
| FSCM = ON  | Fail Safe Clock Monitor enabled  |

# **Internal External Switch Over mode:**

| IESO = OFF | Internal External Switch Over mode disabled |
|------------|---|
| IESO = ON  | Internal External Switch Over mode enabled  |

# **Power-Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown-Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| · |
|---|
|   |
|   |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# Stack Full/Overflow Reset:

| STVR = OFF | Disabled |  |
|------------|----------|--|
| STVR = ON  | Enabled  |  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

# **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F2220

# **Oscillator Selection:**

| OSC = LP     | LP Oscillator                            |
|--------------|--|
| OSC = XT     | XT Oscillator                            |
| OSC = HS     | HS Oscillator                            |
| OSC = EC     | External Clock on OSC1, OSC2 as Fosc/4   |
| OSC = ECIO   | External Clock on OSC1, OSC2 as RA6      |
| OSC = HSPLL  | HS + PLL                                 |
| OSC = RCIO   | External RC on OSC1, OSC2 as RA6         |
| OSC = INTIO2 | Internal RC, OSC1 as RA7, OSC2 as RA6    |
| OSC = INTIO1 | Internal RC, OSC1 as RA7, OSC2 as Fosc/4 |
| OSC = RC     | External RC on OSC1, OSC2 as Fosc/4      |

# **Fail Safe Clock Monitor:**

| FSCM = OFF | Fail Safe Clock Monitor disabled |
|------------|----------------------------------|
| FSCM = ON  | Fail Safe Clock Monitor enabled  |

# **Internal External Switch Over mode:**

| IESO = OFF | Internal External Switch Over mode disabled |
|------------|---|
| IESO = ON  | Internal External Switch Over mode enabled  |

# **Power-Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown-Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# **PORTB A/D Enable:**

| PBAD = DIG | Digital |
|------------|---------|
| PBAD = ANA | Analog  |

# **CCP2 Pin Function:**

| CCP2MX = B3  | RB3 |
|--------------|-----|
| CCP2MX = OFF | RB3 |
| CCP2MX = C1  | RC1 |
| CCP2MX = ON  | RC1 |

# Stack Full/Overflow Reset:

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

# **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

# **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F2320

# **Oscillator Selection:**

| OSC = LP     | LP Oscillator                            |
|--------------|--|
| OSC = XT     | XT Oscillator                            |
| OSC = HS     | HS Oscillator                            |
| OSC = EC     | External Clock on OSC1, OSC2 as Fosc/4   |
| OSC = ECIO   | External Clock on OSC1, OSC2 as RA6      |
| OSC = HSPLL  | HS + PLL                                 |
| OSC = RCIO   | External RC on OSC1, OSC2 as RA6         |
| OSC = INTIO2 | Internal RC, OSC1 as RA7, OSC2 as RA6    |
| OSC = INTIO1 | Internal RC, OSC1 as RA7, OSC2 as Fosc/4 |
| OSC = RC     | External RC on OSC1, OSC2 as Fosc/4      |

# **Fail Safe Clock Monitor:**

| FSCM = OFF | Fail Safe Clock Monitor disabled |
|------------|----------------------------------|
| FSCM = ON  | Fail Safe Clock Monitor enabled  |

# **Internal External Switch Over mode:**

| IESO = OFF | Internal External Switch Over mode disabled |
|------------|---|
| IESO = ON  | Internal External Switch Over mode enabled  |

# **Power-Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown-Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# **PORTB A/D Enable:**

| PBAD = DIG | Digital |
|------------|---------|
| PBAD = ANA | Analog  |

#### **CCP2 Pin Function:**

| CCP2MX = B3  | RB3 |
|--------------|-----|
| CCP2MX = OFF | RB3 |
| CCP2MX = C1  | RC1 |
| CCP2MX = ON  | RC1 |

#### Stack Full/Overflow Reset:

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

# **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

# Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

# **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F2331

# **Oscillator Selection:**

| ernal RC, RA6 is CLKOUT             |
|-------------------------------------|
| , RA6 is CLKOUT                     |
| , RA6 is I/O                        |
| -PLL Enabled                        |
| ernal RC, RA6 is I/O                |
| ernal RC, RA6 & RA7 are I/O         |
| ernal RC, RA6 is CLKOUT, RA7 is I/O |
| ernal RC, RA6 is CLKOUT             |
| ernal RC, RA6 is CLKOUT             |
|                                     |

# **Fail Safe Clock Monitor Enable:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

#### **Internal/External Switch-Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRTEN = ON  | Enabled  |
|--------------|----------|
| PWRTEN = OFF | Disabled |

# **Brown Out Reset:**

| BOREN = OFF | Disabled |
|-------------|----------|
| BOREN = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDTEN = OFF | Disabled |
|-------------|----------|
| WDTEN = ON  | Enabled  |

# **Watchdog Timer Enable Window:**

| WINEN = ON  | Enabled  |
|-------------|----------|
| WINEN = OFF | Disabled |

# Watchdog Postscaler:

| Tratellary i detectaion |         |
|-------------------------|---------|
| WDPS = 1                | 1:1     |
| WDPS = 2                | 1:2     |
| WDPS = 4                | 1:4     |
| WDPS = 8                | 1:8     |
| WDPS = 16               | 1:16    |
| WDPS = 32               | 1:32    |
| WDPS = 64               | 1:64    |
| WDPS = 128              | 1:128   |
| WDPS = 256              | 1:256   |
| WDPS = 512              | 1:512   |
| WDPS = 1024             | 1:1024  |
| WDPS = 2048             | 1:2048  |
| WDPS = 4096             | 1:4096  |
| WDPS = 8192             | 1:8192  |
| WDPS = 16384            | 1:16384 |
| WDPS = 32768            | 1:32768 |

# **Timer1 Oscillator Mux:**

| T1OSCMX = OFF | Active   |
|---------------|----------|
| T1OSCMX = ON  | Inactive |

# **High-Side Transistors Polarity:**

| HPOL = LOW  | Active low  |
|-------------|-------------|
| HPOL = HIGH | Active high |

# **Low-Side Transistors Polarity:**

| LPOL = LOW  | Active low  |
|-------------|-------------|
| LPOL = HIGH | Active high |

# **PWM output pins RESET state control:**

| PWMPIN = ON  | Enabled  |
|--------------|----------|
| PWMPIN = OFF | Disabled |

#### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

#### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# **Low Voltage Programming:**

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

# **Write Protection Block 0:**

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

# **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F2410

#### **Oscillator Selection:**

| LP                                   |
|--------------------------------------|
| XT                                   |
| HS                                   |
| RC                                   |
| EC-OSC2 as Clock Out                 |
| EC-OSC2 as RA6                       |
| HS-PLL Enabled                       |
| RC-OSC2 as RA6                       |
| INTRC-OSC2 as RA6, OSC1 as RA7       |
| INTRC-OSC2 as Clock Out, OSC1 as RA7 |
|                                      |

# **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | Enabled                               |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| Tratoria og i obtobatori |         |
|--------------------------|---------|
| WDTPS = 1                | 1:1     |
| WDTPS = 2                | 1:2     |
| WDTPS = 4                | 1:4     |
| WDTPS = 8                | 1:8     |
| WDTPS = 16               | 1:16    |
| WDTPS = 32               | 1:32    |
| WDTPS = 64               | 1:64    |
| WDTPS = 128              | 1:128   |
| WDTPS = 256              | 1:256   |
| WDTPS = 512              | 1:512   |
| WDTPS = 1024             | 1:1024  |
| WDTPS = 2048             | 1:2048  |
| WDTPS = 4096             | 1:4096  |
| WDTPS = 8192             | 1:8192  |
| WDTPS = 16384            | 1:16384 |
| WDTPS = 32768            | 1:32768 |
|                          |         |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

# **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

# **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

#### **Enhanced CPU Enable:**

| ENHCPU = OFF | Disabled |
|--------------|----------|
| ENHCPU = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

# **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F242

# **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

# Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

# **CCP2 Mux:**

| CCP2MUX = OFF | Disable (RB3) |
|---------------|---------------|
| CCP2MUX = ON  | Enable (RC1)  |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |  |
|-----------|----------|--|
| LVP = ON  | Enabled  |  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

# **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

# **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F2420

# **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |
|               |                                      |

# **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | Enabled                               |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

# **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

#### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Enhanced CPU Enable:**

| ENHCPU = OFF | Disabled |
|--------------|----------|
| ENHCPU = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

# **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

|             | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F2431

# **Oscillator Selection:**

| 0.00        | L D                                    |
|-------------|--|
| OSC = LP    | LP                                     |
| OSC = XT    | XT                                     |
| OSC = HS    | HS                                     |
| OSC = RC2   | External RC, RA6 is CLKOUT             |
| OSC = EC    | EC, RA6 is CLKOUT                      |
| OSC = ECIO  | EC, RA6 is I/O                         |
| OSC = HSPLL | HS-PLL Enabled                         |
| OSC = RCIO  | External RC, RA6 is I/O                |
| OSC = IRCIO | Internal RC, RA6 & RA7 are I/O         |
| OSC = IRC   | Internal RC, RA6 is CLKOUT, RA7 is I/O |
| OSC = RC1   | External RC, RA6 is CLKOUT             |
| OSC = RC    | External RC, RA6 is CLKOUT             |

# **Fail Safe Clock Monitor Enable:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

#### Internal/External Switch-Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRTEN = ON  | Enabled  |
|--------------|----------|
| PWRTEN = OFF | Disabled |

# **Brown Out Reset:**

| BOREN = OFF | Disabled |
|-------------|----------|
| BOREN = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDTEN = OFF | Disabled |
|-------------|----------|
| WDTEN = ON  | Enabled  |

# **Watchdog Timer Enable Window:**

| WINEN = ON  | Enabled  |
|-------------|----------|
| WINEN = OFF | Disabled |

# Watchdog Postscaler:

| WDPS = 1     | 1:1     |
|--------------|---------|
| WDPS = 2     | 1:2     |
| WDPS = 4     | 1:4     |
| WDPS = 8     | 1:8     |
| WDPS = 16    | 1:16    |
| WDPS = 32    | 1:32    |
| WDPS = 64    | 1:64    |
| WDPS = 128   | 1:128   |
| WDPS = 256   | 1:256   |
| WDPS = 512   | 1:512   |
| WDPS = 1024  | 1:1024  |
| WDPS = 2048  | 1:2048  |
| WDPS = 4096  | 1:4096  |
| WDPS = 8192  | 1:8192  |
| WDPS = 16384 | 1:16384 |
| WDPS = 32768 | 1:32768 |

# **Timer1 Oscillator Mux:**

| T1OSCMX = OFF | Active   |
|---------------|----------|
| T1OSCMX = ON  | Inactive |

# **High-Side Transistors Polarity:**

| HPOL = LOW  | Active low  |
|-------------|-------------|
| HPOL = HIGH | Active high |

# **Low-Side Transistors Polarity:**

| LPOL = LOW  | Active low  |
|-------------|-------------|
| LPOL = HIGH | Active high |

# PWM output pins RESET state control:

| PWMPIN = ON  | Enabled  |
|--------------|----------|
| PWMPIN = OFF | Disabled |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# **Low Voltage Programming:**

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

# **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

# Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

#### PIC18F2439

#### **Oscillator Selection:**

| Occimator Concomoni |                      |
|---------------------|----------------------|
| OSC = LP            | LP                   |
| OSC = XT            | XT                   |
| OSC = HS            | HS                   |
| OSC = RC            | RC                   |
| OSC = EC            | EC-OSC2 as Clock Out |
| OSC = ECIO          | EC-OSC2 as RA6       |
| OSC = HSPLL         | HS-PLL Enabled       |
| OSC = RCIO          | RC-OSC2 as RA6       |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

# **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

# **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

# **Write Protection Block 0:**

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

# **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

### PIC18F2455

#### 96MHz PLL Prescaler:

| PLLDIV = 1  | No divide (4MHz input)     |
|-------------|----------------------------|
| PLLDIV = 2  | Divide by 2 (8MHz input)   |
| PLLDIV = 3  | Divide by 3 (12MHz input)  |
| PLLDIV = 4  | Divide by 4 (16MHz input)  |
| PLLDIV = 5  | Divide by 5 (20MHz input)  |
| PLLDIV = 6  | Divide by 6 (24MHz input)  |
| PLLDIV = 10 | Divide by 10 (40MHz input) |
| PLLDIV = 12 | Divide by 12 (48MHz input) |

# **CPU System Clock Postscaler:**

| CPUDIV = OSC1_PLL2 | [OSC1/OSC2 Src: /1][96MHz PLL Src: /2] |
|--------------------|--|
| CPUDIV = OSC2_PLL3 | [OSC1/OSC2 Src: /2][96MHz PLL Src: /3] |
| CPUDIV = OSC3_PLL4 | [OSC1/OSC2 Src: /3][96MHz PLL Src: /4] |
| CPUDIV = OSC4_PLL6 | [OSC1/OSC2 Src: /4][96MHz PLL Src: /6] |

### **Full-Speed USB Clock Source Selection:**

| •          |                               |
|------------|-------------------------------|
| USBDIV = 1 | Clock source from OSC1/OSC2   |
| USBDIV = 2 | Clock source from 96MHz PLL/2 |

# **Oscillator Selection bits:**

| FOSC = XT_XT       | XT oscillator, XT used by USB                                     |
|--------------------|---|
| FOSC = XTPLL_XT    | XT oscillator, PLL enabled, XT used by USB                        |
| FOSC = ECIO_EC     | External clock, port function on RA6, EC used by USB              |
| FOSC = EC_EC       | External clock, CLKOUT on RA6, EC used by USB                     |
| FOSC = ECPLLIO_EC  | External clock, PLL enabled, port function on RA6, EC used by USB |
| FOSC = ECPLL_EC    | External clock, PLL enabled, CLKOUT on RA6, EC used by USB        |
| FOSC = INTOSCIO_EC | Internal oscillator, port function on RA6, EC used by USB         |
| FOSC = INTOSC_EC   | Internal oscillator, CLKOUT on RA6, EC used by USB                |
| FOSC = INTOSC_XT   | Internal oscillator, XT used by USB                               |
| FOSC = INTOSC_HS   | Internal oscillator, HS used by USB                               |
| FOSC = HS          | HS oscillator, HS used by USB                                     |
| FOSC = HSPLL_HS    | HS oscillator, PLL enabled, HS used by USB                        |

# **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

# **Internal/External Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF       | Disabled  |
|-----------------|---|
| BOR = SOFT      | Controlled by SBOREN  |
| BOR = ON_ACTIVE | Enabled when the device is not in SLEEP, SBOREN bit is disabled |
| BOR = ON        | Enabled, SBOREN bit is disabled                                 |

# **Brown Out Voltage:**

| BORV = 46 | 4.6V |
|-----------|------|
| BORV = 43 | 4.3V |
| BORV = 28 | 2.8V |
| BORV = 21 | 2.1V |

# **USB Voltage Regulator Enable:**

| VREGEN = OFF | Disabled |
|--------------|----------|
| VREGEN = ON  | Enabled  |

# Watchdog Timer:

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# **Low Power Timer1 Oscillator Enable:**

| LPT1OSC = OFF | Timer1 oscillator configured for high power |
|---------------|---|
| LPT1OSC = ON  | Timer1 oscillator configured for low power  |

#### Port B A/D Enable:

| PBADEN = OFF | PortB<4:0> pins are configured as digital I/O on RESET  |
|--------------|---|
| PBADEN = ON  | PortB<4:0> pins are configured as analog input on RESET |

#### **CCP2 Mux bit:**

| CCP2MX = OFF | CCP2 input/output is multiplexed with RB3 |
|--------------|---|
| CCP2MX = ON  | CCP2 input/output is multiplexed with RC1 |

# **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Dedicated In-Circuit Debug/Programming Enable:**

| ICPRT = OFF | Disabled |  |
|-------------|----------|--|
| ICPRT = ON  | Enabled  |  |

#### **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

# **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### **Write Protection Block 0:**

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

# **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# **PIC18F248**

# **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

### Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |
|             |       |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

# **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

# **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F2480

#### **Oscillator Selection bits:**

| OSC = LP      | LP   |
|---------------|--|
| OSC = XT      | XT   |
| OSC = HS      | HS   |
| OSC = RC      | External RC with OSC2 as divide by 4 clock out                 |
| OSC = EC      | EC with OSC2 as divide by 4 clock out                          |
| OSC = ECIO    | EC with OSC2 as RA6  |
| OSC = HSPLL   | HS with HW enabled 4xPLL                                       |
| OSC = RCIO    | External RC with OSC2 as RA6                                   |
| OSC = IRCIO67 | Internal RC with OSC2 as RA6 and OSC1 as RA7                   |
| OSC = IRCIO7  | Internal RC with OSC1 as RA7 and OSC2 as divide by 4 clock out |
| OSC = ERC1    | External RC with OSC2 as divide by 4 clock out                 |
| OSC = ERC     | External RC with OSC2 as divide by 4 clock out                 |

# **Fail Safe Clock Monitor:**

| FCMENB = OFF | Disabled |
|--------------|----------|
| FCMENB = ON  | Enabled  |

# **Internal External Osc. Switch:**

| IESOB = OFF | Disabled |
|-------------|----------|
| IESOB = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF        | Disabled  |
|------------------|---|
| BOR = SBORENCTRL | Controlled by SBOREN                              |
| BOR = BOACTIVE   | Enabled whenever Part is Active - SBOREN Disabled |
| BOR = BOHW       | Enabled in HW, SBOREN disabled                    |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# Watchdog Timer:

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

#### Watchdog Postscaler:

| Material 9 1 90100 atc. |  |
|-------------------------|--|
| 1:1                     |  |
| 1:2                     |  |
| 1:4                     |  |
| 1:8                     |  |
| 1:16                    |  |
| 1:32                    |  |
| 1:64                    |  |
| 1:128                   |  |
| 1:256                   |  |
| 1:512                   |  |
| 1:1024                  |  |
| 1:2048                  |  |
| 1:4096                  |  |
| 1:8192                  |  |
| 1:16384                 |  |
| 1:32768                 |  |
|                         |  |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# **Low Power Timer1 Oscillator:**

| LPT1OSC = OFF | Timer1 Low Power Oscillator disabled |
|---------------|--------------------------------------|
| LPT1OSC = ON  | Timer1 Low Power Oscillator Active   |

# Port B Pins Configured for A/D:

|             | Port B<4> and Port B<1:0> Configured as Digital I/O Pins on Reset |
|-------------|---|
| PBADEN = ON | Port B<4> and Port B<1:0> Configured as Analog Pins on Reset      |

# **BackGround Debug:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Extended Instruction Set CPU:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

#### **Boot Block Size:**

| BBSIZ = 1024 | 1K words (2K bytes) Boot Block |
|--------------|--------------------------------|
| BBSIZ = 2048 | 2K words (4K bytes) Boot Block |

# **Low Voltage Programming:**

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# Stack Overflow/Underflow Reset:

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F24J10

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

#### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

#### **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

# Internal/External Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Default/Reset System Clock Select bit:**

| FOSC1 = INTRC | INTRC enabled as system clock |
|---------------|-------------------------------|
| FOSC1 = FOSC  | Clock selected by FOSC0       |

# **FOSC0: Oscillator Selection bit:**

| FOSC0 = HS | HS oscillator  |
|------------|----------------|
| FOSC0 = EC | External Clock |

# Watchdog Postscaler:

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

# **CCP2 Mux:**

| CCP2MUX = OFF | CCP2 Multiplexed with RB3 |
|---------------|---------------------------|
| CCP2MUX = ON  | CCP2 Multiplexed with RC1 |

# PIC18F2510

# **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |
|               | •                                    |

# **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# **Internal External Osc. Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 46 | 4.6V |
|-----------|------|
| BORV = 43 | 4.3V |
| BORV = 28 | 2.8V |
| BORV = 21 | 2.1V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

# Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

# **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

#### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

#### XINST Enable:

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

# **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

# Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

# **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

# **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F2515

# **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

# **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | Enabled                               |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

# **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

#### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Enhanced CPU Enable:**

| ENHCPU = OFF | Disabled |
|--------------|----------|
| ENHCPU = ON  | Enabled  |

# **Background Debugger Enable:**

| DEDIIG ON   | Enabled  |
|-------------|----------|
| DEBUG = ON  | Enabled  |
| DEBUG = OFF | Disabled |

# **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Write Protection Block 0:**

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F252

# **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

# Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| 1:1   |
|-------|
| 1:2   |
| 1:4   |
| 1:8   |
| 1:16  |
| 1:32  |
| 1:64  |
| 1:128 |
|       |

#### **CCP2 Mux:**

| CCP2MUX = OFF | Disable (RB3) |
|---------------|---------------|
| CCP2MUX = ON  | Enable (RC1)  |

#### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

# **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

# **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

### **Write Protection Block 0:**

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

# Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

# **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F2520

# **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

# **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# **Internal External Osc. Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 46 | 4.6V |
|-----------|------|
| BORV = 43 | 4.3V |
| BORV = 28 | 2.8V |
| BORV = 21 | 2.1V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

#### Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

# **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

# **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# XINST Enable:

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

# **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

# Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

#### PIC18F2525

# **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

# **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | Enabled                               |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| Traterial g i detectatori |         |
|---------------------------|---------|
| WDTPS = 1                 | 1:1     |
| WDTPS = 2                 | 1:2     |
| WDTPS = 4                 | 1:4     |
| WDTPS = 8                 | 1:8     |
| WDTPS = 16                | 1:16    |
| WDTPS = 32                | 1:32    |
| WDTPS = 64                | 1:64    |
| WDTPS = 128               | 1:128   |
| WDTPS = 256               | 1:256   |
| WDTPS = 512               | 1:512   |
| WDTPS = 1024              | 1:1024  |
| WDTPS = 2048              | 1:2048  |
| WDTPS = 4096              | 1:4096  |
| WDTPS = 8192              | 1:8192  |
| WDTPS = 16384             | 1:16384 |
| WDTPS = 32768             | 1:32768 |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

# **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

# **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Enhanced CPU Enable:**

| ENHCPU = OFF | Disabled |
|--------------|----------|
| ENHCPU = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

# Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F2539

# **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

# **Write Protection Block 0:**

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### Write Protection Block 2:

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F2550

# 96MHz PLL Prescaler:

| PLLDIV = 1  | No divide (4MHz input)     |
|-------------|----------------------------|
| PLLDIV = 2  | Divide by 2 (8MHz input)   |
| PLLDIV = 3  | Divide by 3 (12MHz input)  |
| PLLDIV = 4  | Divide by 4 (16MHz input)  |
| PLLDIV = 5  | Divide by 5 (20MHz input)  |
| PLLDIV = 6  | Divide by 6 (24MHz input)  |
| PLLDIV = 10 | Divide by 10 (40MHz input) |
| PLLDIV = 12 | Divide by 12 (48MHz input) |

# **CPU System Clock Postscaler:**

| CPUDIV = OSC1_PLL2 | [OSC1/OSC2 Src: /1][96MHz PLL Src: /2] |
|--------------------|--|
| CPUDIV = OSC2_PLL3 | [OSC1/OSC2 Src: /2][96MHz PLL Src: /3] |
| CPUDIV = OSC3_PLL4 | [OSC1/OSC2 Src: /3][96MHz PLL Src: /4] |
| CPUDIV = OSC4_PLL6 | [OSC1/OSC2 Src: /4][96MHz PLL Src: /6] |

# **Full-Speed USB Clock Source Selection:**

| USBDIV = 1 | Clock source from OSC1/OSC2   |
|------------|-------------------------------|
| USBDIV = 2 | Clock source from 96MHz PLL/2 |

# **Oscillator Selection bits:**

| FOSC = XT_XT       | XT oscillator, XT used by USB                                     |
|--------------------|---|
| FOSC = XTPLL_XT    | XT oscillator, PLL enabled, XT used by USB                        |
| FOSC = ECIO_EC     | External clock, port function on RA6, EC used by USB              |
| FOSC = EC_EC       | External clock, CLKOUT on RA6, EC used by USB                     |
| FOSC = ECPLLIO_EC  | External clock, PLL enabled, port function on RA6, EC used by USB |
| FOSC = ECPLL_EC    | External clock, PLL enabled, CLKOUT on RA6, EC used by USB        |
| FOSC = INTOSCIO_EC | Internal oscillator, port function on RA6, EC used by USB         |
| FOSC = INTOSC_EC   | Internal oscillator, CLKOUT on RA6, EC used by USB                |
| FOSC = INTOSC_XT   | Internal oscillator, XT used by USB                               |
| FOSC = INTOSC_HS   | Internal oscillator, HS used by USB                               |
| FOSC = HS          | HS oscillator, HS used by USB                                     |
| FOSC = HSPLL_HS    | HS oscillator, PLL enabled, HS used by USB                        |

# Fail Safe Clock Monitor:

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

# **Internal/External Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF       | Disabled  |
|-----------------|---|
| BOR = SOFT      | Controlled by SBOREN  |
| BOR = ON_ACTIVE | Enabled when the device is not in SLEEP, SBOREN bit is disabled |
| BOR = ON        | Enabled, SBOREN bit is disabled                                 |

# **Brown Out Voltage:**

| BORV = 46 | 4.6V |
|-----------|------|
| BORV = 43 | 4.3V |
| BORV = 28 | 2.8V |
| BORV = 21 | 2.1V |

# **USB Voltage Regulator Enable:**

| VREGEN = OFF | Disabled |
|--------------|----------|
| VREGEN = ON  | Enabled  |

# **Watchdog Timer:**

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

# **Watchdog Postscaler:**

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

#### **Low Power Timer1 Oscillator Enable:**

| LPT1OSC = OFF | Timer1 oscillator configured for high power |
|---------------|---|
| LPT1OSC = ON  | Timer1 oscillator configured for low power  |

#### Port B A/D Enable:

| PBADEN = OFF | PortB<4:0> pins are configured as digital I/O on RESET  |
|--------------|---|
| PBADEN = ON  | PortB<4:0> pins are configured as analog input on RESET |

# **CCP2 Mux bit:**

| CCP2MX = OFF | CCP2 input/output is multiplexed with RB3 |
|--------------|---|
| CCP2MX = ON  | CCP2 input/output is multiplexed with RC1 |

### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Dedicated In-Circuit Debug/Programming Enable:**

| ICPRT = OFF | Disabled |
|-------------|----------|
| ICPRT = ON  | Enabled  |

# **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

# **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### Write Protection Block 3:

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

#### **PIC18F258**

#### **Oscillator Selection:**

| LP                   |
|----------------------|
| XT                   |
| HS                   |
| RC                   |
| EC-OSC2 as Clock Out |
| EC-OSC2 as RA6       |
| HS-PLL Enabled       |
| RC-OSC2 as RA6       |
|                      |

#### Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

#### **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

## **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

## Watchdog Postscaler:

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

#### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

#### PIC18F2580

#### **Oscillator Selection bits:**

| OSC = LP      | LP   |
|---------------|--|
| OSC = XT      | XT   |
| OSC = HS      | HS   |
| OSC = RC      | External RC with OSC2 as divide by 4 clock out                 |
| OSC = EC      | EC with OSC2 as divide by 4 clock out                          |
| OSC = ECIO    | EC with OSC2 as RA6  |
| OSC = HSPLL   | HS with HW enabled 4xPLL                                       |
| OSC = RCIO    | External RC with OSC2 as RA6                                   |
| OSC = IRCIO67 | Internal RC with OSC2 as RA6 and OSC1 as RA7                   |
| OSC = IRCIO7  | Internal RC with OSC1 as RA7 and OSC2 as divide by 4 clock out |
| OSC = ERC1    | External RC with OSC2 as divide by 4 clock out                 |
| OSC = ERC     | External RC with OSC2 as divide by 4 clock out                 |

#### **Fail Safe Clock Monitor:**

| FCMENB = OFF | Disabled |
|--------------|----------|
| FCMENB = ON  | Enabled  |

#### Internal External Osc. Switch:

| IESOB = OFF | Disabled |
|-------------|----------|
| IESOB = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOR = OFF        | Disabled  |
|------------------|---|
| BOR = SBORENCTRL | Controlled by SBOREN                              |
| BOR = BOACTIVE   | Enabled whenever Part is Active - SBOREN Disabled |
| BOR = BOHW       | Enabled in HW, SBOREN disabled                    |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

## **Watchdog Postscaler:**

| _             | T       |
|---------------|---------|
| WDTPS = 1     | 1:1     |
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

#### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

#### **Low Power Timer1 Oscillator:**

| LPT1OSC = OFF | Timer1 Low Power Oscillator disabled |
|---------------|--------------------------------------|
| LPT1OSC = ON  | Timer1 Low Power Oscillator Active   |

## Port B Pins Configured for A/D:

| PBADEN = OFF | Port B<4> and Port B<1:0> Configured as Digital I/O Pins on Reset |
|--------------|---|
| PBADEN = ON  | Port B<4> and Port B<1:0> Configured as Analog Pins on Reset      |

# **BackGround Debug:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Extended Instruction Set CPU:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

#### **Boot Block Size:**

| BBSIZ = 1024 | 1K words (2K bytes) Boot Block |
|--------------|--------------------------------|
| BBSIZ = 2048 | 2K words (4K bytes) Boot Block |

# **Low Voltage Programming:**

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

#### Stack Overflow/Underflow Reset:

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F2585

#### **Oscillator Selection bits:**

| Occident Dito. |  |
|----------------|--|
| OSC = LP       | LP   |
| OSC = XT       | XT   |
| OSC = HS       | HS   |
| OSC = RC       | External RC with OSC2 as divide by 4 clock out                 |
| OSC = EC       | EC with OSC2 as divide by 4 clock out                          |
| OSC = ECIO     | EC with OSC2 as RA6  |
| OSC = HSPLL    | HS with HW enabled 4xPLL                                       |
| OSC = RCIO     | External RC with OSC2 as RA6                                   |
| OSC = IRCIO67  | Internal RC with OSC2 as RA6 and OSC1 as RA7                   |
| OSC = IRCIO7   | Internal RC with OSC1 as RA7 and OSC2 as divide by 4 clock out |
| OSC = ERC1     | External RC with OSC2 as divide by 4 clock out                 |
| OSC = ERC      | External RC with OSC2 as divide by 4 clock out                 |
|                |  |

#### **Fail Safe Clock Monitor:**

| FCMENB = OFF | Disabled |
|--------------|----------|
| FCMENB = ON  | Enabled  |

## **Internal External Osc. Switch:**

| IESOB = OFF | Disabled |
|-------------|----------|
| IESOB = ON  | Enabled  |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOR = OFF        | Disabled  |
|------------------|---|
| BOR = SBORENCTRL | Controlled by SBOREN                              |
| BOR = BOACTIVE   | Enabled whenever Part is Active - SBOREN Disabled |
| BOR = BOHW       | Enabled in HW, SBOREN disabled                    |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

## **Watchdog Postscaler:**

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

#### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## **Low Power Timer1 Oscillator:**

| LPT1OSC = OFF | Timer1 Low Power Oscillator disabled |
|---------------|--------------------------------------|
| LPT1OSC = ON  | Timer1 Low Power Oscillator Active   |

# **Port B Pins Configured for A/D:**

| PBADEN = OFF | Port B<4> and Port B<1:0> Configured as Digital I/O Pins on Reset |
|--------------|---|
| PBADEN = ON  | Port B<4> and Port B<1:0> Configured as Analog Pins on Reset      |

## **BackGround Debug:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Extended Instruction Set CPU:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

#### **Boot Block Size:**

| BBSIZ = 1024 | 1K words (2K bytes) Boot Block |
|--------------|--------------------------------|
| BBSIZ = 2048 | 2K words (4K bytes) Boot Block |
| BBSIZ = 4096 | 4K words (8K bytes) Boot Block |

#### **Low Voltage Programming:**

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

#### Stack Overflow/Underflow Reset:

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

#### PIC18F25J10

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

#### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

#### **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

#### **Internal/External Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Default/Reset System Clock Select bit:**

| FOSC1 = INTRC | INTRC enabled as system clock |
|---------------|-------------------------------|
| FOSC1 = FOSC  | Clock selected by FOSC0       |

#### FOSC0: Oscillator Selection bit:

| FOSC0 = HS | HS oscillator  |
|------------|----------------|
| FOSC0 = EC | External Clock |

#### Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

#### **CCP2 Mux:**

| CCP2MUX = OFF | CCP2 Multiplexed with RB3 |
|---------------|---------------------------|
| CCP2MUX = ON  | CCP2 Multiplexed with RC1 |

#### PIC18F2610

## **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

#### **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

## Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | Enabled                               |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

#### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

#### Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

#### **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

#### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

#### **Enhanced CPU Enable:**

| ENHCPU = OFF | Disabled |
|--------------|----------|
| ENHCPU = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### Write Protection Block 3:

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

#### **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

#### PIC18F2620

#### **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

#### Fail Safe Clock Monitor:

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

#### Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

## **Brown Out Voltage:**

| BORV = 46 | 4.6V |
|-----------|------|
| BORV = 43 | 4.3V |
| BORV = 28 | 2.8V |
| BORV = 21 | 2.1V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

## **Watchdog Postscaler:**

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

#### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

#### T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

#### Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

#### **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## XINST Enable:

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

#### PIC18F2680

#### **Oscillator Selection bits:**

| OSC = LP      | LP   |
|---------------|--|
| OSC = XT      | XT   |
| OSC = HS      | HS   |
| OSC = RC      | External RC with OSC2 as divide by 4 clock out                 |
| OSC = EC      | EC with OSC2 as divide by 4 clock out                          |
| OSC = ECIO    | EC with OSC2 as RA6  |
| OSC = HSPLL   | HS with HW enabled 4xPLL                                       |
| OSC = RCIO    | External RC with OSC2 as RA6                                   |
| OSC = IRCIO67 | Internal RC with OSC2 as RA6 and OSC1 as RA7                   |
| OSC = IRCIO7  | Internal RC with OSC1 as RA7 and OSC2 as divide by 4 clock out |
| OSC = ERC1    | External RC with OSC2 as divide by 4 clock out                 |
| OSC = ERC     | External RC with OSC2 as divide by 4 clock out                 |

#### **Fail Safe Clock Monitor:**

| FCMENB = OFF | Disabled |
|--------------|----------|
| FCMENB = ON  | Enabled  |

## **Internal External Osc. Switch:**

| IESOB = OFF | Disabled |
|-------------|----------|
| IESOB = ON  | Enabled  |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOR = OFF        | Disabled  |
|------------------|---|
| BOR = SBORENCTRL | Controlled by SBOREN                              |
| BOR = BOACTIVE   | Enabled whenever Part is Active - SBOREN Disabled |
| BOR = BOHW       | Enabled in HW, SBOREN disabled                    |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

## **Watchdog Postscaler:**

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

#### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## **Low Power Timer1 Oscillator:**

| LPT1OSC = OFF | Timer1 Low Power Oscillator disabled |
|---------------|--------------------------------------|
| LPT1OSC = ON  | Timer1 Low Power Oscillator Active   |

# **Port B Pins Configured for A/D:**

| PBADEN = OFF | Port B<4> and Port B<1:0> Configured as Digital I/O Pins on Reset |
|--------------|---|
| PBADEN = ON  | Port B<4> and Port B<1:0> Configured as Analog Pins on Reset      |

#### **BackGround Debug:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Extended Instruction Set CPU:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

#### **Boot Block Size:**

| BBSIZ = 1024 | 1K words (2K bytes) Boot Block |
|--------------|--------------------------------|
| BBSIZ = 2048 | 2K words (4K bytes) Boot Block |
| BBSIZ = 4096 | 4K words (8K bytes) Boot Block |

#### **Low Voltage Programming:**

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

#### Stack Overflow/Underflow Reset:

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

## **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

#### PIC18F4220

## **Oscillator Selection:**

| OSC = LP     | LP Oscillator                            |
|--------------|--|
| OSC = XT     | XT Oscillator                            |
| OSC = HS     | HS Oscillator                            |
| OSC = EC     | External Clock on OSC1, OSC2 as Fosc/4   |
| OSC = ECIO   | External Clock on OSC1, OSC2 as RA6      |
| OSC = HSPLL  | HS + PLL                                 |
| OSC = RCIO   | External RC on OSC1, OSC2 as RA6         |
| OSC = INTIO2 | Internal RC, OSC1 as RA7, OSC2 as RA6    |
| OSC = INTIO1 | Internal RC, OSC1 as RA7, OSC2 as Fosc/4 |
| OSC = RC     | External RC on OSC1, OSC2 as Fosc/4      |

#### **Fail Safe Clock Monitor:**

| FSCM = OFF | Fail Safe Clock Monitor disabled |
|------------|----------------------------------|
| FSCM = ON  | Fail Safe Clock Monitor enabled  |

#### **Internal External Switch Over mode:**

| IESO = OFF | Internal External Switch Over mode disabled |
|------------|---|
| IESO = ON  | Internal External Switch Over mode enabled  |

# **Power-Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

### **Brown-Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

## **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

#### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

#### PORTB A/D Enable:

| PBAD = DIG | Digital |
|------------|---------|
| PBAD = ANA | Analog  |

#### **CCP2 Pin Function:**

| CCP2MX = B3  | RB3 |
|--------------|-----|
| CCP2MX = OFF | RB3 |
| CCP2MX = C1  | RC1 |
| CCP2MX = ON  | RC1 |

#### Stack Full/Overflow Reset:

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

#### PIC18F4320

## **Oscillator Selection:**

| OSC = LP     | LP Oscillator                            |
|--------------|--|
| OSC = XT     | XT Oscillator                            |
| OSC = HS     | HS Oscillator                            |
| OSC = EC     | External Clock on OSC1, OSC2 as Fosc/4   |
| OSC = ECIO   | External Clock on OSC1, OSC2 as RA6      |
| OSC = HSPLL  | HS + PLL                                 |
| OSC = RCIO   | External RC on OSC1, OSC2 as RA6         |
| OSC = INTIO2 | Internal RC, OSC1 as RA7, OSC2 as RA6    |
| OSC = INTIO1 | Internal RC, OSC1 as RA7, OSC2 as Fosc/4 |
| OSC = RC     | External RC on OSC1, OSC2 as Fosc/4      |

#### **Fail Safe Clock Monitor:**

| FSCM = OFF | Fail Safe Clock Monitor disabled |
|------------|----------------------------------|
| FSCM = ON  | Fail Safe Clock Monitor enabled  |

## **Internal External Switch Over mode:**

| IESO = OFF | Internal External Switch Over mode disabled |
|------------|---|
| IESO = ON  | Internal External Switch Over mode enabled  |

# **Power-Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown-Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

## **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

## **Watchdog Postscaler:**

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

#### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

#### **PORTB A/D Enable:**

| PBAD = DIG | Digital |
|------------|---------|
| PBAD = ANA | Analog  |

#### **CCP2 Pin Function:**

| CCP2MX = B3  | RB3 |
|--------------|-----|
| CCP2MX = OFF | RB3 |
| CCP2MX = C1  | RC1 |
| CCP2MX = ON  | RC1 |

#### Stack Full/Overflow Reset:

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

## **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

#### PIC18F4331

#### **Oscillator Selection:**

| OSC = LP    | LP                                     |
|-------------|--|
| OSC = XT    | XT                                     |
| OSC = HS    | HS                                     |
| OSC = RC2   | External RC, RA6 is CLKOUT             |
| OSC = EC    | EC, RA6 is CLKOUT                      |
| OSC = ECIO  | EC, RA6 is I/O                         |
| OSC = HSPLL | HS-PLL Enabled                         |
| OSC = RCIO  | External RC, RA6 is I/O                |
| OSC = IRCIO | Internal RC, RA6 & RA7 are I/O         |
| OSC = IRC   | Internal RC, RA6 is CLKOUT, RA7 is I/O |
| OSC = RC1   | External RC, RA6 is CLKOUT             |
| OSC = RC    | External RC, RA6 is CLKOUT             |

#### **Fail Safe Clock Monitor Enable:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

#### **Internal/External Switch-Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Power Up Timer:**

| PWRTEN = ON  | Enabled  |
|--------------|----------|
| PWRTEN = OFF | Disabled |

#### **Brown Out Reset:**

| BOREN = OFF | Disabled |
|-------------|----------|
| BOREN = ON  | Enabled  |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDTEN = OFF | Disabled |
|-------------|----------|
| WDTEN = ON  | Enabled  |

# **Watchdog Timer Enable Window:**

| WINEN = ON  | Enabled  |
|-------------|----------|
| WINEN = OFF | Disabled |

#### Watchdog Postscaler:

| Tratellary i detectaion |         |
|-------------------------|---------|
| WDPS = 1                | 1:1     |
| WDPS = 2                | 1:2     |
| WDPS = 4                | 1:4     |
| WDPS = 8                | 1:8     |
| WDPS = 16               | 1:16    |
| WDPS = 32               | 1:32    |
| WDPS = 64               | 1:64    |
| WDPS = 128              | 1:128   |
| WDPS = 256              | 1:256   |
| WDPS = 512              | 1:512   |
| WDPS = 1024             | 1:1024  |
| WDPS = 2048             | 1:2048  |
| WDPS = 4096             | 1:4096  |
| WDPS = 8192             | 1:8192  |
| WDPS = 16384            | 1:16384 |
| WDPS = 32768            | 1:32768 |

#### **Timer1 Oscillator Mux:**

| T1OSCMX = OFF | Active   |
|---------------|----------|
| T1OSCMX = ON  | Inactive |

## **High-Side Transistors Polarity:**

| HPOL = LOW  | Active low  |
|-------------|-------------|
| HPOL = HIGH | Active high |

## **Low-Side Transistors Polarity:**

| LPOL = LOW  | Active low  |
|-------------|-------------|
| LPOL = HIGH | Active high |

#### **PWM output pins RESET state control:**

| PWMPIN = ON  | Enabled  |
|--------------|----------|
| PWMPIN = OFF | Disabled |

#### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

#### **External clock MUX bit:**

| EXCLKMX = RD0 | MUXed with RD0 |
|---------------|----------------|
| EXCLKMX = RC3 | MUXed with RC3 |

#### **PWM4 MUX bit:**

| PWM4MX = RD5 | MUXed with RD5 |
|--------------|----------------|
| PWM4MX = RB5 | MUXed with RB5 |

#### SSP I/O MUX bit:

| SSPMX = RD1 | SDO output muxed with RD1 |
|-------------|---------------------------|
| SSPMX = RC7 | SD0 output muxed with RC7 |

#### **FLTA MUX bit:**

| FLTAMX = RD4 | MUXed with RD4 |
|--------------|----------------|
| FLTAMX = RC1 | MUXed with RC1 |

#### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

## **Low Voltage Programming:**

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |  |
|-----------|----------|--|
| CPD = OFF | Disabled |  |

#### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### Write Protection Block 3:

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

#### PIC18F4410

## **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

#### **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |  |
|-------------|----------|--|
| FCMEN = ON  | Enabled  |  |

## Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | Enabled                               |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| _             | T       |
|---------------|---------|
| WDTPS = 1     | 1:1     |
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

#### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

#### Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

#### **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

#### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

### **Enhanced CPU Enable:**

| ENHCPU = OFF | Disabled |
|--------------|----------|
| ENHCPU = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Write Protection Block 0:**

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

#### **PIC18F442**

#### **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

#### Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

## Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

#### **Watchdog Postscaler:**

| 1:1   |
|-------|
| 1:2   |
| 1:4   |
| 1:8   |
| 1:16  |
| 1:32  |
| 1:64  |
| 1:128 |
|       |

#### **CCP2 Mux:**

| CCP2MUX = OFF | Disable (RB3) |
|---------------|---------------|
| CCP2MUX = ON  | Enable (RC1)  |

#### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

### PIC18F4420

# **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

### **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | Enabled                               |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

### Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

### **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

### **Enhanced CPU Enable:**

| ENHCPU = OFF | Disabled |
|--------------|----------|
| ENHCPU = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

### Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

### PIC18F4431

### **Oscillator Selection:**

| OSC = LP    | LP                                     |
|-------------|--|
| OSC = XT    | XT                                     |
| OSC = HS    | HS                                     |
| OSC = RC2   | External RC, RA6 is CLKOUT             |
| OSC = EC    | EC, RA6 is CLKOUT                      |
| OSC = ECIO  | EC, RA6 is I/O                         |
| OSC = HSPLL | HS-PLL Enabled                         |
| OSC = RCIO  | External RC, RA6 is I/O                |
| OSC = IRCIO | Internal RC, RA6 & RA7 are I/O         |
| OSC = IRC   | Internal RC, RA6 is CLKOUT, RA7 is I/O |
| OSC = RC1   | External RC, RA6 is CLKOUT             |
| OSC = RC    | External RC, RA6 is CLKOUT             |

# **Fail Safe Clock Monitor Enable:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

### Internal/External Switch-Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRTEN = ON  | Enabled  |
|--------------|----------|
| PWRTEN = OFF | Disabled |

### **Brown Out Reset:**

| BOREN = OFF | Disabled |
|-------------|----------|
| BOREN = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDTEN = OFF | Disabled |
|-------------|----------|
| WDTEN = ON  | Enabled  |

# **Watchdog Timer Enable Window:**

| WINEN = ON  | Enabled  |
|-------------|----------|
| WINEN = OFF | Disabled |

# **Watchdog Postscaler:**

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

### **Timer1 Oscillator Mux:**

| T1OSCMX = OFF | Active   |
|---------------|----------|
| T1OSCMX = ON  | Inactive |

# **High-Side Transistors Polarity:**

| HPOL = LOW  | Active low  |
|-------------|-------------|
| HPOL = HIGH | Active high |

# **Low-Side Transistors Polarity:**

| LPOL = LOW  | Active low  |
|-------------|-------------|
| LPOL = HIGH | Active high |

# PWM output pins RESET state control:

| PWMPIN = ON  | Enabled  |
|--------------|----------|
| PWMPIN = OFF | Disabled |

### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

### **External clock MUX bit:**

| EXCLKMX = RD0 | MUXed with RD0 |
|---------------|----------------|
| EXCLKMX = RC3 | MUXed with RC3 |

# PWM4 MUX bit:

| PWM4MX = RD5 | MUXed with RD5 |
|--------------|----------------|
| PWM4MX = RB5 | MUXed with RB5 |

### SSP I/O MUX bit:

| SSPMX = RD1 | SDO output muxed with RD1 |
|-------------|---------------------------|
| SSPMX = RC7 | SD0 output muxed with RC7 |

### **FLTA MUX bit:**

| FLTAMX = RD4 | MUXed with RD4 |
|--------------|----------------|
| FLTAMX = RC1 | MUXed with RC1 |

### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# **Low Voltage Programming:**

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

### **Write Protection Block 0:**

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

### **Boot Block Write Protection:**

| V | NRTB = ON  | Enabled  |
|---|------------|----------|
| V | WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

### PIC18F4439

### **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

### **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

# **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

### PIC18F4455

### 96MHz PLL Prescaler:

| No divide (4MHz input)     |
|----------------------------|
| Divide by 2 (8MHz input)   |
| Divide by 3 (12MHz input)  |
| Divide by 4 (16MHz input)  |
| Divide by 5 (20MHz input)  |
| Divide by 6 (24MHz input)  |
| Divide by 10 (40MHz input) |
| Divide by 12 (48MHz input) |
|                            |

# **CPU System Clock Postscaler:**

| CPUDIV = OSC1_PLL2 | [OSC1/OSC2 Src: /1][96MHz PLL Src: /2] |
|--------------------|--|
| CPUDIV = OSC2_PLL3 | [OSC1/OSC2 Src: /2][96MHz PLL Src: /3] |
| CPUDIV = OSC3_PLL4 | [OSC1/OSC2 Src: /3][96MHz PLL Src: /4] |
| CPUDIV = OSC4_PLL6 | [OSC1/OSC2 Src: /4][96MHz PLL Src: /6] |

# **Full-Speed USB Clock Source Selection:**

| USBDIV = 1 | Clock source from OSC1/OSC2   |
|------------|-------------------------------|
| USBDIV = 2 | Clock source from 96MHz PLL/2 |

### **Oscillator Selection bits:**

| FOSC = XT_XT       | XT oscillator, XT used by USB                                     |
|--------------------|---|
| FOSC = XTPLL_XT    | XT oscillator, PLL enabled, XT used by USB                        |
| FOSC = ECIO_EC     | External clock, port function on RA6, EC used by USB              |
| FOSC = EC_EC       | External clock, CLKOUT on RA6, EC used by USB                     |
| FOSC = ECPLLIO_EC  | External clock, PLL enabled, port function on RA6, EC used by USB |
| FOSC = ECPLL_EC    | External clock, PLL enabled, CLKOUT on RA6, EC used by USB        |
| FOSC = INTOSCIO_EC | Internal oscillator, port function on RA6, EC used by USB         |
| FOSC = INTOSC_EC   | Internal oscillator, CLKOUT on RA6, EC used by USB                |
| FOSC = INTOSC_XT   | Internal oscillator, XT used by USB                               |
| FOSC = INTOSC_HS   | Internal oscillator, HS used by USB                               |
| FOSC = HS          | HS oscillator, HS used by USB                                     |
| FOSC = HSPLL_HS    | HS oscillator, PLL enabled, HS used by USB                        |

# **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

### Internal/External Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

### **Brown Out Reset:**

| BOR = OFF       | Disabled  |
|-----------------|---|
| BOR = SOFT      | Controlled by SBOREN  |
| BOR = ON_ACTIVE | Enabled when the device is not in SLEEP, SBOREN bit is disabled |
| BOR = ON        | Enabled, SBOREN bit is disabled                                 |

### **Brown Out Voltage:**

| BORV = 46 | 4.6V |
|-----------|------|
| BORV = 43 | 4.3V |
| BORV = 28 | 2.8V |
| BORV = 21 | 2.1V |

# **USB Voltage Regulator Enable:**

| VREGEN = OFF | Disabled |
|--------------|----------|
| VREGEN = ON  | Enabled  |

# **Watchdog Timer:**

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

# Watchdog Postscaler:

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

### **Low Power Timer1 Oscillator Enable:**

| LPT1OSC = OFF | Timer1 oscillator configured for high power |
|---------------|---|
| LPT1OSC = ON  | Timer1 oscillator configured for low power  |

#### Port B A/D Enable:

| PBADEN = OFF | PortB<4:0> pins are configured as digital I/O on RESET  |
|--------------|---|
| PBADEN = ON  | PortB<4:0> pins are configured as analog input on RESET |

### **CCP2 Mux bit:**

| CCP2MX = OFF | CCP2 input/output is multiplexed with RB3 |
|--------------|---|
| CCP2MX = ON  | CCP2 input/output is multiplexed with RC1 |

### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Dedicated In-Circuit Debug/Programming Enable:**

| ICPRT = OFF | Disabled |
|-------------|----------|
| ICPRT = ON  | Enabled  |

### **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

### Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

### **PIC18F448**

### **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

# Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

# **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

### PIC18F4480

### **Oscillator Selection bits:**

| I  |
|--|
| LP   |
| XT   |
| HS   |
| External RC with OSC2 as divide by 4 clock out                 |
| EC with OSC2 as divide by 4 clock out                          |
| EC with OSC2 as RA6  |
| HS with HW enabled 4xPLL                                       |
| External RC with OSC2 as RA6                                   |
| Internal RC with OSC2 as RA6 and OSC1 as RA7                   |
| Internal RC with OSC1 as RA7 and OSC2 as divide by 4 clock out |
| External RC with OSC2 as divide by 4 clock out                 |
| External RC with OSC2 as divide by 4 clock out                 |
|  |

### **Fail Safe Clock Monitor:**

| FCMENB = OFF | Disabled |
|--------------|----------|
| FCMENB = ON  | Enabled  |

### **Internal External Osc. Switch:**

| IESOB = OFF | Disabled |
|-------------|----------|
| IESOB = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

### **Brown Out Reset:**

| BOR = OFF        | Disabled  |
|------------------|---|
| BOR = SBORENCTRL | Controlled by SBOREN                              |
| BOR = BOACTIVE   | Enabled whenever Part is Active - SBOREN Disabled |
| BOR = BOHW       | Enabled in HW, SBOREN disabled                    |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# Watchdog Timer:

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

### **Low Power Timer1 Oscillator:**

| LPT1OSC = OFF | Timer1 Low Power Oscillator disabled |
|---------------|--------------------------------------|
| LPT1OSC = ON  | Timer1 Low Power Oscillator Active   |

# Port B Pins Configured for A/D:

| PBADEN = OFF | Port B<4> and Port B<1:0> Configured as Digital I/O Pins on Reset |
|--------------|---|
| PBADEN = ON  | Port B<4> and Port B<1:0> Configured as Analog Pins on Reset      |

### **BackGround Debug:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Extended Instruction Set CPU:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

### **Boot Block Size:**

| BBSIZ = 1024 | 1K words (2K bytes) Boot Block |
|--------------|--------------------------------|
| BBSIZ = 2048 | 2K words (4K bytes) Boot Block |

### **Low Voltage Programming:**

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

### Stack Overflow/Underflow Reset:

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

### Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

### Write Protection Block 3:

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

### **Boot Block Table Read Protection:**

|             | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

### PIC18F44J10

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

### **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

### **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

### Internal/External Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Default/Reset System Clock Select bit:**

| FOSC1 = INTRC | INTRC enabled as system clock |
|---------------|-------------------------------|
| FOSC1 = FOSC  | Clock selected by FOSC0       |

### FOSC0: Oscillator Selection bit:

| FOSC0 = HS | HS oscillator  |
|------------|----------------|
| FOSC0 = EC | External Clock |

# **Watchdog Postscaler:**

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

### **CCP2 Mux:**

| CCP2MUX = OFF | CCP2 Multiplexed with RB3 |
|---------------|---------------------------|
| CCP2MUX = ON  | CCP2 Multiplexed with RC1 |

# PIC18F4510

### **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

# **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# **Internal External Osc. Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 46 | 4.6V |
|-----------|------|
| BORV = 43 | 4.3V |
| BORV = 28 | 2.8V |
| BORV = 21 | 2.1V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

### Watchdog Postscaler:

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

### T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

# Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

### **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

### XINST Enable:

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Write Protection Block 0:**

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| V | NRTC = ON  | Enabled  |
|---|------------|----------|
| V | WRTC = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

### PIC18F4515

### **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

# **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

### Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | Enabled                               |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |
|               |         |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

### **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

### Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

### **Enhanced CPU Enable:**

| ENHCPU = OFF | Disabled |
|--------------|----------|
| ENHCPU = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

### PIC18F452

#### **Oscillator Selection:**

| Occimiano: Ociocnionii |                      |
|------------------------|----------------------|
| OSC = LP               | LP                   |
| OSC = XT               | XT                   |
| OSC = HS               | HS                   |
| OSC = RC               | RC                   |
| OSC = EC               | EC-OSC2 as Clock Out |
| OSC = ECIO             | EC-OSC2 as RA6       |
| OSC = HSPLL            | HS-PLL Enabled       |
| OSC = RCIO             | RC-OSC2 as RA6       |
|                        |                      |

### Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

### **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

### Watchdog Postscaler:

| •           |       |
|-------------|-------|
| WDTPS = 1   | 1:1   |
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

### **CCP2 Mux:**

| CCP2MUX = OFF | Disable (RB3) |
|---------------|---------------|
| CCP2MUX = ON  | Enable (RC1)  |

### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### Write Protection Block 2:

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

### Write Protection Block 3:

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

### PIC18F4520

# **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

### **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 46 | 4.6V |
|-----------|------|
| BORV = 43 | 4.3V |
| BORV = 28 | 2.8V |
| BORV = 21 | 2.1V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

### T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

### Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

### **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# XINST Enable:

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

### PIC18F4525

### **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

### **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

### **Internal External Osc. Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

### **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | Enabled                               |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

### Watchdog Postscaler:

| Traterial g i detectatori |         |
|---------------------------|---------|
| WDTPS = 1                 | 1:1     |
| WDTPS = 2                 | 1:2     |
| WDTPS = 4                 | 1:4     |
| WDTPS = 8                 | 1:8     |
| WDTPS = 16                | 1:16    |
| WDTPS = 32                | 1:32    |
| WDTPS = 64                | 1:64    |
| WDTPS = 128               | 1:128   |
| WDTPS = 256               | 1:256   |
| WDTPS = 512               | 1:512   |
| WDTPS = 1024              | 1:1024  |
| WDTPS = 2048              | 1:2048  |
| WDTPS = 4096              | 1:4096  |
| WDTPS = 8192              | 1:8192  |
| WDTPS = 16384             | 1:16384 |
| WDTPS = 32768             | 1:32768 |

### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

### **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

### **Enhanced CPU Enable:**

| ENHCPU = OFF | Disabled |
|--------------|----------|
| ENHCPU = ON  | Enabled  |

### **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

### PIC18F4539

### **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

### **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

### Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

### Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F4550

#### 96MHz PLL Prescaler:

| PLLDIV = 1  | No divide (4MHz input)     |
|-------------|----------------------------|
| PLLDIV = 2  | Divide by 2 (8MHz input)   |
| PLLDIV = 3  | Divide by 3 (12MHz input)  |
| PLLDIV = 4  | Divide by 4 (16MHz input)  |
| PLLDIV = 5  | Divide by 5 (20MHz input)  |
| PLLDIV = 6  | Divide by 6 (24MHz input)  |
| PLLDIV = 10 | Divide by 10 (40MHz input) |
| PLLDIV = 12 | Divide by 12 (48MHz input) |

## **CPU System Clock Postscaler:**

| CPUDIV = OSC1_PLL2 | [OSC1/OSC2 Src: /1][96MHz PLL Src: /2] |
|--------------------|--|
| CPUDIV = OSC2_PLL3 | [OSC1/OSC2 Src: /2][96MHz PLL Src: /3] |
| CPUDIV = OSC3_PLL4 | [OSC1/OSC2 Src: /3][96MHz PLL Src: /4] |
| CPUDIV = OSC4_PLL6 | [OSC1/OSC2 Src: /4][96MHz PLL Src: /6] |

## **Full-Speed USB Clock Source Selection:**

| •          |                               |
|------------|-------------------------------|
| USBDIV = 1 | Clock source from OSC1/OSC2   |
| USBDIV = 2 | Clock source from 96MHz PLL/2 |

## **Oscillator Selection bits:**

| FOSC = XT_XT       | XT oscillator, XT used by USB                                     |
|--------------------|---|
| FOSC = XTPLL_XT    | XT oscillator, PLL enabled, XT used by USB                        |
| FOSC = ECIO_EC     | External clock, port function on RA6, EC used by USB              |
| FOSC = EC_EC       | External clock, CLKOUT on RA6, EC used by USB                     |
| FOSC = ECPLLIO_EC  | External clock, PLL enabled, port function on RA6, EC used by USB |
| FOSC = ECPLL_EC    | External clock, PLL enabled, CLKOUT on RA6, EC used by USB        |
| FOSC = INTOSCIO_EC | Internal oscillator, port function on RA6, EC used by USB         |
| FOSC = INTOSC_EC   | Internal oscillator, CLKOUT on RA6, EC used by USB                |
| FOSC = INTOSC_XT   | Internal oscillator, XT used by USB                               |
| FOSC = INTOSC_HS   | Internal oscillator, HS used by USB                               |
| FOSC = HS          | HS oscillator, HS used by USB                                     |
| FOSC = HSPLL_HS    | HS oscillator, PLL enabled, HS used by USB                        |

## Fail Safe Clock Monitor:

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

## Internal/External Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOR = OFF       | Disabled  |
|-----------------|---|
| BOR = SOFT      | Controlled by SBOREN  |
| BOR = ON_ACTIVE | Enabled when the device is not in SLEEP, SBOREN bit is disabled |
| BOR = ON        | Enabled, SBOREN bit is disabled                                 |

## **Brown Out Voltage:**

| BORV = 46 | 4.6V |
|-----------|------|
| BORV = 43 | 4.3V |
| BORV = 28 | 2.8V |
| BORV = 21 | 2.1V |

## **USB Voltage Regulator Enable:**

| VREGEN = OFF | Disabled |
|--------------|----------|
| VREGEN = ON  | Enabled  |

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

| _             | T       |
|---------------|---------|
| WDTPS = 1     | 1:1     |
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

#### **Low Power Timer1 Oscillator Enable:**

| LPT1OSC = OFF | Timer1 oscillator configured for high power |
|---------------|---|
| LPT1OSC = ON  | Timer1 oscillator configured for low power  |

#### Port B A/D Enable:

| PBADEN = OFF | PortB<4:0> pins are configured as digital I/O on RESET  |
|--------------|---|
| PBADEN = ON  | PortB<4:0> pins are configured as analog input on RESET |

## **CCP2 Mux bit:**

| CCP2MX = OFF | CCP2 input/output is multiplexed with RB3 |
|--------------|---|
| CCP2MX = ON  | CCP2 input/output is multiplexed with RC1 |

### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Dedicated In-Circuit Debug/Programming Enable:**

| ICPRT = OFF | Disabled |
|-------------|----------|
| ICPRT = ON  | Enabled  |

## **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

## **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

## **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### Write Protection Block 3:

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## **PIC18F458**

## **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

## Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

## **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

## Watchdog Postscaler:

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

## **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

### Write Protection Block 3:

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F4580

## **Oscillator Selection bits:**

| OSC = LP      | LP   |
|---------------|--|
| OSC = XT      | XT   |
| OSC = HS      | HS   |
| OSC = RC      | External RC with OSC2 as divide by 4 clock out                 |
| OSC = EC      | EC with OSC2 as divide by 4 clock out                          |
| OSC = ECIO    | EC with OSC2 as RA6  |
| OSC = HSPLL   | HS with HW enabled 4xPLL                                       |
| OSC = RCIO    | External RC with OSC2 as RA6                                   |
| OSC = IRCIO67 | Internal RC with OSC2 as RA6 and OSC1 as RA7                   |
| OSC = IRCIO7  | Internal RC with OSC1 as RA7 and OSC2 as divide by 4 clock out |
| OSC = ERC1    | External RC with OSC2 as divide by 4 clock out                 |
| OSC = ERC     | External RC with OSC2 as divide by 4 clock out                 |

## **Fail Safe Clock Monitor:**

| FCMENB = OFF | Disabled |
|--------------|----------|
| FCMENB = ON  | Enabled  |

## Internal External Osc. Switch:

| IESOB = OFF | Disabled |
|-------------|----------|
| IESOB = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOR = OFF        | Disabled  |
|------------------|---|
| BOR = SBORENCTRL | Controlled by SBOREN                              |
| BOR = BOACTIVE   | Enabled whenever Part is Active - SBOREN Disabled |
| BOR = BOHW       | Enabled in HW, SBOREN disabled                    |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

| _             | T       |
|---------------|---------|
| WDTPS = 1     | 1:1     |
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

#### **Low Power Timer1 Oscillator:**

| LPT1OSC = OFF | Timer1 Low Power Oscillator disabled |
|---------------|--------------------------------------|
| LPT1OSC = ON  | Timer1 Low Power Oscillator Active   |

## Port B Pins Configured for A/D:

| Port B<4> and Port B<1:0> Configured as Digital I/O Pins on Reset |
|---|
| Port B<4> and Port B<1:0> Configured as Analog Pins on Reset      |

# **BackGround Debug:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Extended Instruction Set CPU:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Boot Block Size:**

| BBSIZ = 1024 | 1K words (2K bytes) Boot Block |
|--------------|--------------------------------|
| BBSIZ = 2048 | 2K words (4K bytes) Boot Block |

# **Low Voltage Programming:**

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## Stack Overflow/Underflow Reset:

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F4585

## **Oscillator Selection bits:**

| Occinator Corcottori Bitor |  |
|----------------------------|--|
| OSC = LP                   | LP   |
| OSC = XT                   | XT   |
| OSC = HS                   | HS   |
| OSC = RC                   | External RC with OSC2 as divide by 4 clock out                 |
| OSC = EC                   | EC with OSC2 as divide by 4 clock out                          |
| OSC = ECIO                 | EC with OSC2 as RA6  |
| OSC = HSPLL                | HS with HW enabled 4xPLL                                       |
| OSC = RCIO                 | External RC with OSC2 as RA6                                   |
| OSC = IRCIO67              | Internal RC with OSC2 as RA6 and OSC1 as RA7                   |
| OSC = IRCIO7               | Internal RC with OSC1 as RA7 and OSC2 as divide by 4 clock out |
| OSC = ERC1                 | External RC with OSC2 as divide by 4 clock out                 |
| OSC = ERC                  | External RC with OSC2 as divide by 4 clock out                 |
|                            |  |

#### **Fail Safe Clock Monitor:**

| FCMENB = OFF | Disabled |
|--------------|----------|
| FCMENB = ON  | Enabled  |

## **Internal External Osc. Switch:**

| IESOB = OFF | Disabled |
|-------------|----------|
| IESOB = ON  | Enabled  |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOR = OFF        | Disabled  |
|------------------|---|
| BOR = SBORENCTRL | Controlled by SBOREN                              |
| BOR = BOACTIVE   | Enabled whenever Part is Active - SBOREN Disabled |
| BOR = BOHW       | Enabled in HW, SBOREN disabled                    |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

## **Watchdog Postscaler:**

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## **Low Power Timer1 Oscillator:**

| LPT1OSC = OFF | Timer1 Low Power Oscillator disabled |
|---------------|--------------------------------------|
| LPT1OSC = ON  | Timer1 Low Power Oscillator Active   |

## Port B Pins Configured for A/D:

| PBADEN = OFF | Port B<4> and Port B<1:0> Configured as Digital I/O |
|--------------|---|
|              | Pins on Reset                                       |
| PBADEN = ON  | Port B<4> and Port B<1:0> Configured as Analog      |
|              | Pins on Reset                                       |

## **BackGround Debug:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Enhanced Instruction Set CPU:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

#### **Boot Block Size:**

| BBSIZ = 1024 | 1K words (2K bytes) Boot Block |
|--------------|--------------------------------|
| BBSIZ = 2048 | 2K words (4K bytes) Boot Block |
| BBSIZ = 4096 | 4K words (8K bytes) Boot Block |

## **Low Voltage Programming:**

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

#### Stack Overflow/Underflow Reset:

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

## **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

## **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F45J10

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

## **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

## **Internal/External Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Default/Reset System Clock Select bit:**

| FOSC1 = INTRC | INTRC enabled as system clock |
|---------------|-------------------------------|
| FOSC1 = FOSC  | Clock selected by FOSC0       |

## FOSC0: Oscillator Selection bit:

| FOSC0 = HS | HS oscillator  |
|------------|----------------|
| FOSC0 = EC | External Clock |

## Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## **CCP2 Mux:**

| CCP2MUX = OFF | CCP2 Multiplexed with RB3 |
|---------------|---------------------------|
| CCP2MUX = ON  | CCP2 Multiplexed with RC1 |

## PIC18F4610

## **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

## **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

## Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | Enabled                               |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

| _             | T       |
|---------------|---------|
| WDTPS = 1     | 1:1     |
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

## **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

#### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Enhanced CPU Enable:**

| ENHCPU = OFF | Disabled |
|--------------|----------|
| ENHCPU = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### Write Protection Block 3:

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F4620

## **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |
|               |                                      |

#### Fail Safe Clock Monitor:

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

## Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

## **Brown Out Voltage:**

| BORV = 46 | 4.6V |
|-----------|------|
| BORV = 43 | 4.3V |
| BORV = 28 | 2.8V |
| BORV = 21 | 2.1V |

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

## Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

#### Port B A/D Enable:

| PBADEN = OFF | Port B<4:0> digital on RESET |
|--------------|------------------------------|
| PBADEN = ON  | Port B<4:0> analog on RESET  |

## **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

## **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## XINST Enable:

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

## **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### Write Protection Block 3:

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F4680

## **Oscillator Selection bits:**

| OSC = LP      | LP   |
|---------------|--|
| OSC = XT      | XT   |
| OSC = HS      | HS   |
| OSC = RC      | External RC with OSC2 as divide by 4 clock out                 |
| OSC = EC      | EC with OSC2 as divide by 4 clock out                          |
| OSC = ECIO    | EC with OSC2 as RA6  |
| OSC = HSPLL   | HS with HW enabled 4xPLL                                       |
| OSC = RCIO    | External RC with OSC2 as RA6                                   |
| OSC = IRCIO67 | Internal RC with OSC2 as RA6 and OSC1 as RA7                   |
| OSC = IRCIO7  | Internal RC with OSC1 as RA7 and OSC2 as divide by 4 clock out |
| OSC = ERC1    | External RC with OSC2 as divide by 4 clock out                 |
| OSC = ERC     | External RC with OSC2 as divide by 4 clock out                 |

#### **Fail Safe Clock Monitor:**

| FCMENB = OFF | Disabled |
|--------------|----------|
| FCMENB = ON  | Enabled  |

## **Internal External Osc. Switch:**

| IESOB = OFF | Disabled |
|-------------|----------|
| IESOB = ON  | Enabled  |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOR = OFF        | Disabled  |
|------------------|---|
| BOR = SBORENCTRL | Controlled by SBOREN                              |
| BOR = BOACTIVE   | Enabled whenever Part is Active - SBOREN Disabled |
| BOR = BOHW       | Enabled in HW, SBOREN disabled                    |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

## Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## **Low Power Timer1 Oscillator:**

| LPT1OSC = OFF | Timer1 Low Power Oscillator disabled |
|---------------|--------------------------------------|
| LPT1OSC = ON  | Timer1 Low Power Oscillator Active   |

# **Port B Pins Configured for A/D:**

| PBADEN = OFF | Port B<4> and Port B<1:0> Configured as Digital I/O Pins on Reset |
|--------------|---|
| PBADEN = ON  | Port B<4> and Port B<1:0> Configured as Analog Pins on Reset      |

## **BackGround Debug:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Enhanced Instruction Set CPU:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

#### **Boot Block Size:**

| BBSIZ = 1024 | 1K words (2K bytes) Boot Block |
|--------------|--------------------------------|
| BBSIZ = 2048 | 2K words (4K bytes) Boot Block |
| BBSIZ = 4096 | 4K words (8K bytes) Boot Block |

## **Low Voltage Programming:**

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

#### Stack Overflow/Underflow Reset:

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

## **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

## **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

## **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F6310

## **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC-OSC2 as Clock Out                 |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO    | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO    | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

## **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# **Internal External Osc. Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

| _             | T       |
|---------------|---------|
| WDTPS = 1     | 1:1     |
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## **Low Power Timer1 Selection:**

| LPT1OSC = OFF | High Power, High noise immunity T1OSC selected |
|---------------|--|
| LPT1OSC = ON  | Low Power, Low noise immunity T1OSC selected   |

## **CCP2 Mux:**

| CCP2MX = PORTBE | CCP2 input/output is multiplexed with RE7/RB3 |
|-----------------|---|
| CCP2MX = PORTC  | CCP2 input/output is multiplexed with RC1     |

#### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

## **Extended Instruction set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

# **Table Read Protection Internal Memory:**

| EBTR = ON  | Enabled  |
|------------|----------|
| EBTR = OFF | Disabled |

## PIC18F6390

## **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC-OSC2 as Clock Out                 |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO    | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO    | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

## **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

## Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## **Low Power Timer1 Selection:**

| LPT1OSC = OFF | High Power, High noise immunity T1OSC selected |
|---------------|--|
| LPT1OSC = ON  | Low Power, Low noise immunity T1OSC selected   |

## **CCP2 Mux:**

| CCP2MX = PORTBE | CCP2 input/output is multiplexed with RE7/RB3 |
|-----------------|---|
| CCP2MX = PORTC  | CCP2 input/output is multiplexed with RC1     |

#### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

## **Extended Instruction set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Background Debugger Enable:**

| l | DEBUG = ON  | Enabled  |
|---|-------------|----------|
|   | DEBUG = OFF | Disabled |

## **Code Protection:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

# **Table Read Protection Internal Memory:**

| EBTR = ON  | Enabled  |
|------------|----------|
| EBTR = OFF | Disabled |

## PIC18F6410

## **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC-OSC2 as Clock Out                 |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO    | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO    | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

## **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# **Internal External Osc. Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## **Low Power Timer1 Selection:**

| LPT1OSC = OFF | High Power, High noise immunity T1OSC selected |
|---------------|--|
| LPT1OSC = ON  | Low Power, Low noise immunity T1OSC selected   |

## **CCP2 Mux:**

| CCP2MX = PORTBE | CCP2 input/output is multiplexed with RE7/RB3 |
|-----------------|---|
| CCP2MX = PORTC  | CCP2 input/output is multiplexed with RC1     |

#### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

## **Extended Instruction set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

# **Table Read Protection Internal Memory:**

| EBTR = ON  | Enabled  |
|------------|----------|
| EBTR = OFF | Disabled |

## PIC18F6490

## **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC-OSC2 as Clock Out                 |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO    | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO    | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

## **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

## Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

| _             | T       |
|---------------|---------|
| WDTPS = 1     | 1:1     |
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## **Low Power Timer1 Selection:**

| LPT1OSC = OFF | High Power, High noise immunity T1OSC selected |
|---------------|--|
| LPT1OSC = ON  | Low Power, Low noise immunity T1OSC selected   |

## **CCP2 Mux:**

| CCP2MX = PORTBE | CCP2 input/output is multiplexed with RE7/RB3 |
|-----------------|---|
| CCP2MX = PORTC  | CCP2 input/output is multiplexed with RC1     |

#### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

## **Extended Instruction set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

# **Table Read Protection Internal Memory:**

| EBTR = ON  | Enabled  |
|------------|----------|
| EBTR = OFF | Disabled |

## PIC18F64J15

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

## **Configuration Word Signature:**

| SIGN = CLR | Clear |
|------------|-------|
| SIGN = SET | Set   |

#### **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

## Internal/External Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Oscillator Selection bits:**

| FOSC = HS    | HS oscillator                           |
|--------------|---|
| FOSC = HSPLL | HS oscillator, Software Controlled PLL  |
| FOSC = EC    | External Clock                          |
| FOSC = ECPLL | External Clock, Software Controlled PLL |

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

## **Data Bus Width Select:**

| BW = 8  | 8-bit external bus  |
|---------|---------------------|
| BW = 16 | 16-bit external bus |

## **Processor Mode Selection:**

| MODE = MM   | Microcontroller Mode - External bus disabled        |
|-------------|---|
| MODE = XM12 | Extended Microcontroller Mode - 12-bit address mode |
| MODE = XM16 | Extended Microcontroller Mode - 16-bit address mode |
| MODE = XM20 | Extended Microcontroller Mode - 20-bit address mode |

## **External Address Bus Shift Enable:**

| EASHIFT = OFF | External bus reflects PC value |
|---------------|--------------------------------|
| EASHIFT = ON  | External bus starts at 000000h |

## **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

## PIC18F6520

## **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC-OSC2 as Clock Out |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

## Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

## **CCP2 Mux:**

| CCP2MUX = OFF | Uses RE7 |
|---------------|----------|
| CCP2MUX = RE7 | Uses RE7 |
| CCP2MUX = ON  | Uses RC1 |
| CCP2MUX = RC1 | Uses RC1 |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

## **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

## **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

## **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## **Write Protection Block 0:**

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

## **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

## **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F6525

## **Oscillator Selection:**

| OSC = LP        | LP                        |
|-----------------|---------------------------|
| OSC = XT        | XT                        |
| OSC = HS        | HS                        |
| OSC = RC        | RC                        |
| OSC = EC        | EC-OSC2 as Clock Out      |
| OSC = ECIO      | EC-OSC2 as RA6            |
| OSC = HSPLL     | HS-PLL Enabled            |
| OSC = RCIO      | RC-OSC2 as RA6            |
| OSC = ECIOPLL   | EC-OSC2 as RA6 and PLL    |
| OSC = ECIOSWPLL | EC-OSC2 as RA6 and SW PLL |
| OSC = HSSWPLL   | HS with SW PLL            |

## Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

## Watchdog Postscaler:

| material g i detectation |         |
|--------------------------|---------|
| WDTPS = 1                | 1:1     |
| WDTPS = 2                | 1:2     |
| WDTPS = 4                | 1:4     |
| WDTPS = 8                | 1:8     |
| WDTPS = 16               | 1:16    |
| WDTPS = 32               | 1:32    |
| WDTPS = 64               | 1:64    |
| WDTPS = 128              | 1:128   |
| WDTPS = 256              | 1:256   |
| WDTPS = 512              | 1:512   |
| WDTPS = 1024             | 1:1024  |
| WDTPS = 2048             | 1:2048  |
| WDTPS = 4096             | 1:4096  |
| WDTPS = 8192             | 1:8192  |
| WDTPS = 16384            | 1:16384 |
| WDTPS = 32768            | 1:32768 |
|                          |         |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## **ECCP Mux:**

| ECCPMX = PORTH | Muxed with RH7:4 |
|----------------|------------------|
| ECCPMX = PORTE | Muxed with RE6:3 |

## **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 or RE7 |
|-----------------|-----------------------|
| CCP2MX = PORTC  | Muxed with RC1        |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

## **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

## **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

## **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F6527

## **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

## **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

## Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

## **Brown Out Voltage:**

| BORV = 46 | 4.5V |
|-----------|------|
| BORV = 43 | 4.2V |
| BORV = 28 | 2.7V |
| BORV = 21 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

## Watchdog Postscaler:

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

## **ECCP2 Mux:**

| CCP2MX = PORTB | Muxed with RB3 |
|----------------|----------------|
| CCP2MX = PORTC | Muxed with RC1 |

## **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Boot Block Size:**

| BBSIZ = BB2K | 2Kb Boot Block |
|--------------|----------------|
| BBSIZ = BB4K | 4Kb Boot Block |
| BBSIZ = BB8K | 8Kb Boot Block |

## **XINST Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

## **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

## **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F6585

## **Oscillator Selection bits:**

| OSC = LP        | LP                                       |
|-----------------|--|
| OSC = XT        | XT                                       |
| OSC = HS        | HS                                       |
| OSC = RC        | RC with OSC2 as divide by 4 clock out    |
| OSC = EC        | EC with OSC2 as divide by 4 clock out    |
| OSC = ECIO      | EC with OSC2 as RA6                      |
| OSC = HSPLL     | HS with HW enabled 4xPLL                 |
| OSC = RCIO      | RC with OSC2 as RA6                      |
| OSC = ECIOPLL   | EC with OSC2 as RA6 and HW enabled 4xPLL |
| OSC = ECIOSWPLL | EC with OSC2 as RA6 and SW enabled 4xPLL |
| OSC = HSSWPLL   | HS with SW enabled 4xPLL                 |

## Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# Watchdog Timer:

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

## Watchdog Postscaler:

| Traterial g i detectatori |         |
|---------------------------|---------|
| WDTPS = 1                 | 1:1     |
| WDTPS = 2                 | 1:2     |
| WDTPS = 4                 | 1:4     |
| WDTPS = 8                 | 1:8     |
| WDTPS = 16                | 1:16    |
| WDTPS = 32                | 1:32    |
| WDTPS = 64                | 1:64    |
| WDTPS = 128               | 1:128   |
| WDTPS = 256               | 1:256   |
| WDTPS = 512               | 1:512   |
| WDTPS = 1024              | 1:1024  |
| WDTPS = 2048              | 1:2048  |
| WDTPS = 4096              | 1:4096  |
| WDTPS = 8192              | 1:8192  |
| WDTPS = 16384             | 1:16384 |
| WDTPS = 32768             | 1:32768 |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## **CCP2 Mux bit:**

| CCP2MX = OFF | CCP2 input/output is multiplexed with RE7 |
|--------------|---|
| CCP2MX = ON  | CCP2 input/output is multiplexed with RC1 |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

## **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F65J10

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Configuration Word Signature:**

| SIGN = CLR | Clear |
|------------|-------|
| SIGN = SET | Set   |

## **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

## **Internal/External Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Oscillator Selection bits:**

| FOSC = HS    | HS oscillator                           |
|--------------|---|
| FOSC = HSPLL | HS oscillator, Software Controlled PLL  |
| FOSC = EC    | External Clock                          |
| FOSC = ECPLL | External Clock, Software Controlled PLL |

## Watchdog Postscaler:

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

## **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

## **Data Bus Width Select:**

| BW = 8  | 8-bit external bus  |
|---------|---------------------|
| BW = 16 | 16-bit external bus |

## **Processor Mode Selection:**

| MODE = MM   | Microcontroller Mode - External bus disabled        |
|-------------|---|
| MODE = XM12 | Extended Microcontroller Mode - 12-bit address mode |
| MODE = XM16 | Extended Microcontroller Mode - 16-bit address mode |
| MODE = XM20 | Extended Microcontroller Mode - 20-bit address mode |

## **External Address Bus Shift Enable:**

| EASHIFT = OFF | External bus reflects PC value |
|---------------|--------------------------------|
| EASHIFT = ON  | External bus starts at 000000h |

## **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

## PIC18F65J15

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

## **Configuration Word Signature:**

| SIGN = CLR | Clear |
|------------|-------|
| SIGN = SET | Set   |

# **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

## Internal/External Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Oscillator Selection bits:**

| FOSC = HS    | HS oscillator                           |
|--------------|---|
| FOSC = HSPLL | HS oscillator, Software Controlled PLL  |
| FOSC = EC    | External Clock                          |
| FOSC = ECPLL | External Clock, Software Controlled PLL |

## Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

## **Data Bus Width Select:**

| BW = 8  | 8-bit external bus  |
|---------|---------------------|
| BW = 16 | 16-bit external bus |

## **Processor Mode Selection:**

| MODE = MM   | Microcontroller Mode - External bus disabled        |
|-------------|---|
| MODE = XM12 | Extended Microcontroller Mode - 12-bit address mode |
| MODE = XM16 | Extended Microcontroller Mode - 16-bit address mode |
| MODE = XM20 | Extended Microcontroller Mode - 20-bit address mode |

## **External Address Bus Shift Enable:**

| EASHIFT = OFF | External bus reflects PC value |
|---------------|--------------------------------|
| EASHIFT = ON  | External bus starts at 000000h |

## **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

## PIC18F6620

## **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

## Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

## CCP2 Mux:

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

## **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

## **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

## **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

## **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### Write Protection Block 2:

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

## **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F6621

## **Oscillator Selection:**

| OSC = LP        | LP                        |
|-----------------|---------------------------|
| OSC = XT        | XT                        |
| OSC = HS        | HS                        |
| OSC = RC        | RC                        |
| OSC = EC        | EC-OSC2 as Clock Out      |
| OSC = ECIO      | EC-OSC2 as RA6            |
| OSC = HSPLL     | HS-PLL Enabled            |
| OSC = RCIO      | RC-OSC2 as RA6            |
| OSC = ECIOPLL   | EC-OSC2 as RA6 and PLL    |
| OSC = ECIOSWPLL | EC-OSC2 as RA6 and SW PLL |
| OSC = HSSWPLL   | HS with SW PLL            |

#### Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## **ECCP Mux:**

| ECCPMX = PORTH | Muxed with RH7:4 |
|----------------|------------------|
| ECCPMX = PORTE | Muxed with RE6:3 |

## **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 or RE7 |
|-----------------|-----------------------|
| CCP2MX = PORTC  | Muxed with RC1        |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |  |
|------------|----------|--|
| STVR = ON  | Enabled  |  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

## **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

## **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

## **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

## **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

## **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F6622

## **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |
|               |                                      |

## **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

## Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 46 | 4.5V |
|-----------|------|
| BORV = 43 | 4.2V |
| BORV = 28 | 2.7V |
| BORV = 21 | 2.0V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

## Watchdog Postscaler:

| Wateridog i Ostscaler. |         |
|------------------------|---------|
| WDTPS = 1              | 1:1     |
| WDTPS = 2              | 1:2     |
| WDTPS = 4              | 1:4     |
| WDTPS = 8              | 1:8     |
| WDTPS = 16             | 1:16    |
| WDTPS = 32             | 1:32    |
| WDTPS = 64             | 1:64    |
| WDTPS = 128            | 1:128   |
| WDTPS = 256            | 1:256   |
| WDTPS = 512            | 1:512   |
| WDTPS = 1024           | 1:1024  |
| WDTPS = 2048           | 1:2048  |
| WDTPS = 4096           | 1:4096  |
| WDTPS = 8192           | 1:8192  |
| WDTPS = 16384          | 1:16384 |
| WDTPS = 32768          | 1:32768 |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

## **ECCP2 Mux:**

| CCP2MX = PORTB | Muxed with RB3 |
|----------------|----------------|
| CCP2MX = PORTC | Muxed with RC1 |

## **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Boot Block Size:**

| BBSIZ = BB2K | 2Kb Boot Block |
|--------------|----------------|
| BBSIZ = BB4K | 4Kb Boot Block |
| BBSIZ = BB8K | 8Kb Boot Block |

## **XINST Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

## **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

## **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

## **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## **Write Protection Block 0:**

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

## **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

## **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

## **Boot Block Write Protection:**

| V | NRTB = ON  | Enabled  |
|---|------------|----------|
| V | WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F6627

## **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

## **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

## Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

## **Brown Out Voltage:**

| BORV = 46 | 4.5V |
|-----------|------|
| BORV = 43 | 4.2V |
| BORV = 28 | 2.7V |
| BORV = 21 | 2.0V |

## **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

## **ECCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

## **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Boot Block Size:**

| BBSIZ = BB2K | 2Kb Boot Block |
|--------------|----------------|
| BBSIZ = BB4K | 4Kb Boot Block |
| BBSIZ = BB8K | 8Kb Boot Block |

## **XINST Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

## **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

## **Code Protection Block 4:**

| CP4 = ON  | Enabled  |
|-----------|----------|
| CP4 = OFF | Disabled |

## **Code Protection Block 5:**

| CP5 = ON  | Enabled  |
|-----------|----------|
| CP5 = OFF | Disabled |

## **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

## **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## **Write Protection Block 0:**

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

## **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

## Write Protection Block 3:

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

## Write Protection Block 4:

| WRT4 = ON  | Enabled  |
|------------|----------|
| WRT4 = OFF | Disabled |

## Write Protection Block 5:

| WRT5 = ON  | Enabled  |
|------------|----------|
| WRT5 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Table Read Protection Block 4:**

| EBTR4 = ON  | Enabled  |
|-------------|----------|
| EBTR4 = OFF | Disabled |

## **Table Read Protection Block 5:**

| EBTR5 = ON  | Enabled  |
|-------------|----------|
| EBTR5 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F6680

## **Oscillator Selection bits:**

| Coomator Coloculon Bitor |  |
|--------------------------|--|
| OSC = LP                 | LP                                       |
| OSC = XT                 | XT                                       |
| OSC = HS                 | HS                                       |
| OSC = RC                 | RC with OSC2 as divide by 4 clock out    |
| OSC = EC                 | EC with OSC2 as divide by 4 clock out    |
| OSC = ECIO               | EC with OSC2 as RA6                      |
| OSC = HSPLL              | HS with HW enabled 4xPLL                 |
| OSC = RCIO               | RC with OSC2 as RA6                      |
| OSC = ECIOPLL            | EC with OSC2 as RA6 and HW enabled 4xPLL |
| OSC = ECIOSWPLL          | EC with OSC2 as RA6 and SW enabled 4xPLL |
| OSC = HSSWPLL            | HS with SW enabled 4xPLL                 |
|                          |  |

#### Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# Watchdog Timer:

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

## Watchdog Postscaler:

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## **CCP2 Mux bit:**

| CCP2MX = OFF | CCP2 input/output is multiplexed with RE7 |
|--------------|---|
| CCP2MX = ON  | CCP2 input/output is multiplexed with RC1 |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

## **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## **Write Protection Block 0:**

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

## **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

## **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F66J10

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

## **Configuration Word Signature:**

| SIGN = CLR | Clear |
|------------|-------|
| SIGN = SET | Set   |

## **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

## **Internal/External Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Oscillator Selection bits:**

| FOSC = HS    | HS oscillator                           |
|--------------|---|
| FOSC = HSPLL | HS oscillator, Software Controlled PLL  |
| FOSC = EC    | External Clock                          |
| FOSC = ECPLL | External Clock, Software Controlled PLL |

## Watchdog Postscaler:

| Traterial g i detectatori |         |
|---------------------------|---------|
| WDTPS = 1                 | 1:1     |
| WDTPS = 2                 | 1:2     |
| WDTPS = 4                 | 1:4     |
| WDTPS = 8                 | 1:8     |
| WDTPS = 16                | 1:16    |
| WDTPS = 32                | 1:32    |
| WDTPS = 64                | 1:64    |
| WDTPS = 128               | 1:128   |
| WDTPS = 256               | 1:256   |
| WDTPS = 512               | 1:512   |
| WDTPS = 1024              | 1:1024  |
| WDTPS = 2048              | 1:2048  |
| WDTPS = 4096              | 1:4096  |
| WDTPS = 8192              | 1:8192  |
| WDTPS = 16384             | 1:16384 |
| WDTPS = 32768             | 1:32768 |

## **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

## **Data Bus Width Select:**

| BW = 8  | 8-bit external bus  |
|---------|---------------------|
| BW = 16 | 16-bit external bus |

## **Processor Mode Selection:**

| MODE = MM   | Microcontroller Mode - External bus disabled        |
|-------------|---|
| MODE = XM12 | Extended Microcontroller Mode - 12-bit address mode |
| MODE = XM16 | Extended Microcontroller Mode - 16-bit address mode |
| MODE = XM20 | Extended Microcontroller Mode - 20-bit address mode |

# **External Address Bus Shift Enable:**

| EASHIFT = OFF | External bus reflects PC value |
|---------------|--------------------------------|
| EASHIFT = ON  | External bus starts at 000000h |

## **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

## PIC18F66J15

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Configuration Word Signature:**

| SIGN = CLR | Clear |
|------------|-------|
| SIGN = SET | Set   |

## **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

## **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

## Internal/External Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Oscillator Selection bits:**

| FOSC = HS    | HS oscillator                           |
|--------------|---|
| FOSC = HSPLL | HS oscillator, Software Controlled PLL  |
| FOSC = EC    | External Clock                          |
| FOSC = ECPLL | External Clock, Software Controlled PLL |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

## **Data Bus Width Select:**

| BW = 8  | 8-bit external bus  |
|---------|---------------------|
| BW = 16 | 16-bit external bus |

## **Processor Mode Selection:**

| MODE = MM   | Microcontroller Mode - External bus disabled        |
|-------------|---|
| MODE = XM12 | Extended Microcontroller Mode - 12-bit address mode |
| MODE = XM16 | Extended Microcontroller Mode - 16-bit address mode |
| MODE = XM20 | Extended Microcontroller Mode - 20-bit address mode |

## **External Address Bus Shift Enable:**

| EASHIFT = OFF | External bus reflects PC value |
|---------------|--------------------------------|
| EASHIFT = ON  | External bus starts at 000000h |

## **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

## PIC18F6720

## **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

## Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

## **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

## **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

## **Code Protection Block 4:**

| CP4 = ON  | Enabled  |
|-----------|----------|
| CP4 = OFF | Disabled |

## **Code Protection Block 5:**

| CP5 = ON  | Enabled  |
|-----------|----------|
| CP5 = OFF | Disabled |

## **Code Protection Block 6:**

| CP6 = ON  | Enabled  |
|-----------|----------|
| CP6 = OFF | Disabled |

## **Code Protection Block 7:**

| CP7 = ON  | Enabled  |
|-----------|----------|
| CP7 = OFF | Disabled |

## **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

## **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

## **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

## Write Protection Block 4:

| WRT4 = ON  | Enabled  |
|------------|----------|
| WRT4 = OFF | Disabled |

## **Write Protection Block 5:**

| WRT5 = ON  | Enabled  |
|------------|----------|
| WRT5 = OFF | Disabled |

## Write Protection Block 6:

| WRT6 = ON  | Enabled  |
|------------|----------|
| WRT6 = OFF | Disabled |

## Write Protection Block 7:

| WRT7 = ON  | Enabled  |
|------------|----------|
| WRT7 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

# **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

# **Table Read Protection Block 4:**

| EBTR4 = ON  | Enabled  |
|-------------|----------|
| EBTR4 = OFF | Disabled |

### **Table Read Protection Block 5:**

| EBTR5 = ON  | Enabled  |
|-------------|----------|
| EBTR5 = OFF | Disabled |

### **Table Read Protection Block 6:**

| EBTR6 = ON  | Enabled  |
|-------------|----------|
| EBTR6 = OFF | Disabled |

### **Table Read Protection Block 7:**

| EBTR7 = ON  | Enabled  |
|-------------|----------|
| EBTR7 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F6722

# **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |
|               |                                      |

# **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# **Internal External Osc. Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 46 | 4.5V |
|-----------|------|
| BORV = 43 | 4.2V |
| BORV = 28 | 2.7V |
| BORV = 21 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| Wateriacy i Cotocaici. |         |
|------------------------|---------|
| WDTPS = 1              | 1:1     |
| WDTPS = 2              | 1:2     |
| WDTPS = 4              | 1:4     |
| WDTPS = 8              | 1:8     |
| WDTPS = 16             | 1:16    |
| WDTPS = 32             | 1:32    |
| WDTPS = 64             | 1:64    |
| WDTPS = 128            | 1:128   |
| WDTPS = 256            | 1:256   |
| WDTPS = 512            | 1:512   |
| WDTPS = 1024           | 1:1024  |
| WDTPS = 2048           | 1:2048  |
| WDTPS = 4096           | 1:4096  |
| WDTPS = 8192           | 1:8192  |
| WDTPS = 16384          | 1:16384 |
| WDTPS = 32768          | 1:32768 |
|                        |         |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

# **ECCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

# **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Boot Block Size:**

| BBSIZ = BB2K | 2Kb Boot Block |
|--------------|----------------|
| BBSIZ = BB4K | 4Kb Boot Block |
| BBSIZ = BB8K | 8Kb Boot Block |

# XINST Enable:

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

# **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

# **Code Protection Block 4:**

| CP4 = ON  | Enabled  |
|-----------|----------|
| CP4 = OFF | Disabled |

# **Code Protection Block 5:**

| CP5 = ON  | Enabled  |
|-----------|----------|
| CP5 = OFF | Disabled |

# **Code Protection Block 6:**

| CP6 = ON  | Enabled  |
|-----------|----------|
| CP6 = OFF | Disabled |

# **Code Protection Block 7:**

| CP7 = ON  | Enabled  |
|-----------|----------|
| CP7 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

# Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRTO = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

### Write Protection Block 4:

| WRT4 = ON  | Enabled  |
|------------|----------|
| WRT4 = OFF | Disabled |

# **Write Protection Block 5:**

| WRT5 = ON  | Enabled  |
|------------|----------|
| WRT5 = OFF | Disabled |

### Write Protection Block 6:

| WRT6 = ON  | Enabled  |
|------------|----------|
| WRT6 = OFF | Disabled |

### **Write Protection Block 7:**

| WRT7 = ON  | Enabled  |
|------------|----------|
| WRT7 = OFF | Disabled |

### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

### **Table Read Protection Block 4:**

| EBTR4 = ON  | Enabled  |
|-------------|----------|
| EBTR4 = OFF | Disabled |

### **Table Read Protection Block 5:**

| EBTR5 = ON  | Enabled  |
|-------------|----------|
| EBTR5 = OFF | Disabled |

### **Table Read Protection Block 6:**

| EBTR6 = ON  | Enabled  |
|-------------|----------|
| EBTR6 = OFF | Disabled |

# **Table Read Protection Block 7:**

| EBTR7 = ON  | Enabled  |
|-------------|----------|
| EBTR7 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F67J10

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

#### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Configuration Word Signature:**

| SIGN = CLR | Clear |
|------------|-------|
| SIGN = SET | Set   |

# **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

# **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

# Internal/External Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Oscillator Selection bits:**

| FOSC = HS    | HS oscillator                           |
|--------------|---|
| FOSC = HSPLL | HS oscillator, Software Controlled PLL  |
| FOSC = EC    | External Clock                          |
| FOSC = ECPLL | External Clock, Software Controlled PLL |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

# **Data Bus Width Select:**

| BW = 8  | 8-bit external bus  |
|---------|---------------------|
| BW = 16 | 16-bit external bus |

# **Processor Mode Selection:**

| MODE = MM   | Microcontroller Mode - External bus disabled        |
|-------------|---|
| MODE = XM12 | Extended Microcontroller Mode - 12-bit address mode |
| MODE = XM16 | Extended Microcontroller Mode - 16-bit address mode |
| MODE = XM20 | Extended Microcontroller Mode - 20-bit address mode |

# **External Address Bus Shift Enable:**

| EASHIFT = OFF | External bus reflects PC value |
|---------------|--------------------------------|
| EASHIFT = ON  | External bus starts at 000000h |

# **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

# PIC18F8310

# **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC-OSC2 as Clock Out                 |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO    | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO    | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

# **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

# **Processor Mode Selection:**

| PM = EM  | Extended Microcontroller Mode       |
|----------|-------------------------------------|
| PM = MPB | Microprocessor with Boot Block Mode |
| PM = MP  | Microprocessor Mode                 |
| PM = MC  | Microcontroller Mode                |

# **External Data Bus Width:**

| BW = 8  | 8-Bit External Data Bus Width  |
|---------|--------------------------------|
| BW = 16 | 16-Bit External Data Bus Width |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# **Low Power Timer1 Selection:**

| LPT1OSC = OFF | High Power, High noise immunity T1OSC selected |
|---------------|--|
| LPT1OSC = ON  | Low Power, Low noise immunity T1OSC selected   |

# **CCP2 Mux:**

| CCP2MX = PORTBE | CCP2 input/output is multiplexed with RE7/RB3 |
|-----------------|---|
| CCP2MX = PORTC  | CCP2 input/output is multiplexed with RC1     |

# **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# **Extended Instruction set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Code Protection:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

# **Table Read Protection Internal Memory:**

| EBTR = ON  | Enabled  |
|------------|----------|
| EBTR = OFF | Disabled |

# PIC18F8390

# **Oscillator Selection:**

| LP                                   |
|--------------------------------------|
| XT                                   |
| HS                                   |
| RC-OSC2 as Clock Out                 |
| EC-OSC2 as Clock Out                 |
| EC-OSC2 as RA6                       |
| HS-PLL Enabled                       |
| RC-OSC2 as RA6                       |
| INTRC-OSC2 as RA6, OSC1 as RA7       |
| INTRC-OSC2 as Clock Out, OSC1 as RA7 |
|                                      |

# **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| Wateriacy i Cotocaici. |         |
|------------------------|---------|
| WDTPS = 1              | 1:1     |
| WDTPS = 2              | 1:2     |
| WDTPS = 4              | 1:4     |
| WDTPS = 8              | 1:8     |
| WDTPS = 16             | 1:16    |
| WDTPS = 32             | 1:32    |
| WDTPS = 64             | 1:64    |
| WDTPS = 128            | 1:128   |
| WDTPS = 256            | 1:256   |
| WDTPS = 512            | 1:512   |
| WDTPS = 1024           | 1:1024  |
| WDTPS = 2048           | 1:2048  |
| WDTPS = 4096           | 1:4096  |
| WDTPS = 8192           | 1:8192  |
| WDTPS = 16384          | 1:16384 |
| WDTPS = 32768          | 1:32768 |
|                        |         |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# **Low Power Timer1 Selection:**

| LPT1OSC = OFF | High Power, High noise immunity T1OSC selected |
|---------------|--|
| LPT1OSC = ON  | Low Power, Low noise immunity T1OSC selected   |

# **CCP2 Mux:**

| CCP2MX = PORTBE | CCP2 input/output is multiplexed with RE7/RB3 |
|-----------------|---|
| CCP2MX = PORTC  | CCP2 input/output is multiplexed with RC1     |

# **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# **Extended Instruction set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Code Protection:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

# **Table Read Protection Internal Memory:**

| EBTR = ON  | Enabled  |
|------------|----------|
| EBTR = OFF | Disabled |

# PIC18F8410

### **Oscillator Selection:**

| LP                                   |
|--------------------------------------|
| XT                                   |
| HS                                   |
| RC-OSC2 as Clock Out                 |
| EC-OSC2 as Clock Out                 |
| EC-OSC2 as RA6                       |
| HS-PLL Enabled                       |
| RC-OSC2 as RA6                       |
| INTRC-OSC2 as RA6, OSC1 as RA7       |
| INTRC-OSC2 as Clock Out, OSC1 as RA7 |
|                                      |

### **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| Wateriacy i ostsouici. |         |
|------------------------|---------|
| WDTPS = 1              | 1:1     |
| WDTPS = 2              | 1:2     |
| WDTPS = 4              | 1:4     |
| WDTPS = 8              | 1:8     |
| WDTPS = 16             | 1:16    |
| WDTPS = 32             | 1:32    |
| WDTPS = 64             | 1:64    |
| WDTPS = 128            | 1:128   |
| WDTPS = 256            | 1:256   |
| WDTPS = 512            | 1:512   |
| WDTPS = 1024           | 1:1024  |
| WDTPS = 2048           | 1:2048  |
| WDTPS = 4096           | 1:4096  |
| WDTPS = 8192           | 1:8192  |
| WDTPS = 16384          | 1:16384 |
| WDTPS = 32768          | 1:32768 |

# **Processor Mode Selection:**

| PM = EM  | Extended Microcontroller Mode       |
|----------|-------------------------------------|
| PM = MPB | Microprocessor with Boot Block Mode |
| PM = MP  | Microprocessor Mode                 |
| PM = MC  | Microcontroller Mode                |

# **External Data Bus Width:**

| BW = 8  | 8-Bit External Data Bus Width  |
|---------|--------------------------------|
| BW = 16 | 16-Bit External Data Bus Width |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# **Low Power Timer1 Selection:**

| LPT1OSC = OFF | High Power, High noise immunity T1OSC selected |
|---------------|--|
| LPT1OSC = ON  | Low Power, Low noise immunity T1OSC selected   |

# **CCP2 Mux:**

| CCP2MX = PORTBE | CCP2 input/output is multiplexed with RE7/RB3 |
|-----------------|---|
| CCP2MX = PORTC  | CCP2 input/output is multiplexed with RC1     |

# **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# **Extended Instruction set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Code Protection:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

# **Table Read Protection Internal Memory:**

| EBTR = ON  | Enabled  |
|------------|----------|
| EBTR = OFF | Disabled |

# PIC18F8490

# **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC-OSC2 as Clock Out                 |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO    | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO    | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |
|               |                                      |

# **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| Wateriacy i Cotocaici. |         |
|------------------------|---------|
| WDTPS = 1              | 1:1     |
| WDTPS = 2              | 1:2     |
| WDTPS = 4              | 1:4     |
| WDTPS = 8              | 1:8     |
| WDTPS = 16             | 1:16    |
| WDTPS = 32             | 1:32    |
| WDTPS = 64             | 1:64    |
| WDTPS = 128            | 1:128   |
| WDTPS = 256            | 1:256   |
| WDTPS = 512            | 1:512   |
| WDTPS = 1024           | 1:1024  |
| WDTPS = 2048           | 1:2048  |
| WDTPS = 4096           | 1:4096  |
| WDTPS = 8192           | 1:8192  |
| WDTPS = 16384          | 1:16384 |
| WDTPS = 32768          | 1:32768 |
|                        |         |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# **Low Power Timer1 Selection:**

| LPT1OSC = OFF | High Power, High noise immunity T1OSC selected |
|---------------|--|
| LPT1OSC = ON  | Low Power, Low noise immunity T1OSC selected   |

# **CCP2 Mux:**

| CCP2MX = PORTBE | CCP2 input/output is multiplexed with RE7/RB3 |
|-----------------|---|
| CCP2MX = PORTC  | CCP2 input/output is multiplexed with RC1     |

# **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# **Extended Instruction set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection:**

| CP = ON  | Enabled  |
|----------|----------|
| CP = OFF | Disabled |

# **Table Read Protection Internal Memory:**

| EBTR = ON  | Enabled  |
|------------|----------|
| EBTR = OFF | Disabled |

# PIC18F84J15

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Configuration Word Signature:**

| SIGN = CLR | Clear |
|------------|-------|
| SIGN = SET | Set   |

### **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

# **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

# Internal/External Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Oscillator Selection bits:**

| FOSC = HS    | HS oscillator                           |
|--------------|---|
| FOSC = HSPLL | HS oscillator, Software Controlled PLL  |
| FOSC = EC    | External Clock                          |
| FOSC = ECPLL | External Clock, Software Controlled PLL |

### Watchdog Postscaler:

| Wateriacy i ostsouici. |         |
|------------------------|---------|
| WDTPS = 1              | 1:1     |
| WDTPS = 2              | 1:2     |
| WDTPS = 4              | 1:4     |
| WDTPS = 8              | 1:8     |
| WDTPS = 16             | 1:16    |
| WDTPS = 32             | 1:32    |
| WDTPS = 64             | 1:64    |
| WDTPS = 128            | 1:128   |
| WDTPS = 256            | 1:256   |
| WDTPS = 512            | 1:512   |
| WDTPS = 1024           | 1:1024  |
| WDTPS = 2048           | 1:2048  |
| WDTPS = 4096           | 1:4096  |
| WDTPS = 8192           | 1:8192  |
| WDTPS = 16384          | 1:16384 |
| WDTPS = 32768          | 1:32768 |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

# **Data Bus Width Select:**

| BW = 8  | 8-bit external bus  |
|---------|---------------------|
| BW = 16 | 16-bit external bus |

# **Processor Mode Selection:**

| MODE = MM   | Microcontroller Mode - External bus disabled        |
|-------------|---|
| MODE = XM12 | Extended Microcontroller Mode - 12-bit address mode |
| MODE = XM16 | Extended Microcontroller Mode - 16-bit address mode |
| MODE = XM20 | Extended Microcontroller Mode - 20-bit address mode |

# **External Address Bus Shift Enable:**

| EASHIFT = OFF | External bus reflects PC value |
|---------------|--------------------------------|
| EASHIFT = ON  | External bus starts at 000000h |

# **ECCP Mux:**

| ECCPMUX = OFF | Disabled |
|---------------|----------|
| ECCPMUX = ON  | Enabled  |

# **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

# PIC18F8520

# **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC-OSC2 as Clock Out |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

# Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Watchdog Postscaler:**

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

# **Processor Mode Selection:**

| MODE = EM  | Extended Microcontroller Mode       |
|------------|-------------------------------------|
| MODE = MPB | Microprocessor with Boot Block Mode |
| MODE = MP  | Microprocessor Mode                 |
| MODE = MC  | Microcontroller Mode                |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

# **CCP2 Mux:**

| CCP2MUX = OFF | Uses RE7 |
|---------------|----------|
| CCP2MUX = RE7 | Uses RE7 |
| CCP2MUX = ON  | Uses RC1 |
| CCP2MUX = RC1 | Uses RC1 |

### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

# **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

# **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

# **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

# Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

# **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

### Write Protection Block 3:

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F8525

# **Oscillator Selection:**

| OSC = LP        | LP                        |
|-----------------|---------------------------|
| OSC = XT        | XT                        |
| OSC = HS        | HS                        |
| OSC = RC        | RC                        |
| OSC = EC        | EC-OSC2 as Clock Out      |
| OSC = ECIO      | EC-OSC2 as RA6            |
| OSC = HSPLL     | HS-PLL Enabled            |
| OSC = RCIO      | RC-OSC2 as RA6            |
| OSC = ECIOPLL   | EC-OSC2 as RA6 and PLL    |
| OSC = ECIOSWPLL | EC-OSC2 as RA6 and SW PLL |
| OSC = HSSWPLL   | HS with SW PLL            |

# Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

# **Processor Mode Selection:**

| MODE = EM  | Extended Microcontroller Mode       |
|------------|-------------------------------------|
| MODE = MPB | Microprocessor with Boot Block Mode |
| MODE = MP  | Microprocessor Mode                 |
| MODE = MC  | Microcontroller Mode                |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

### MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# **ECCP Mux:**

| ECCPMX = PORTH | Muxed with RH7:4 |
|----------------|------------------|
| ECCPMX = PORTE | Muxed with RE6:3 |

# CCP2 Mux:

| CCP2MX = PORTBE | Muxed with RB3 or RE7 |
|-----------------|-----------------------|
| CCP2MX = PORTC  | Muxed with RC1        |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

# **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

# Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F8527

# **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |
|               |                                      |

### Fail Safe Clock Monitor:

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 46 | 4.5V |
|-----------|------|
| BORV = 43 | 4.2V |
| BORV = 28 | 2.7V |
| BORV = 21 | 2.0V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

# **Processor Mode Selection:**

| MODE = EM  | Extended Microcontroller Mode       |
|------------|-------------------------------------|
| MODE = MPB | Microprocessor with Boot Block Mode |
| MODE = MP  | Microprocessor Mode                 |
| MODE = MC  | Microcontroller Mode                |

# **External Bus Address Width:**

| ADDRBW = ADDR8BIT  | 8 Bit Address Bus  |
|--------------------|--------------------|
| ADDRBW = ADDR12BIT | 12 Bit Address Bus |
| ADDRBW = ADDR16BIT | 16 Bit Address Bus |
| ADDRBW = ADDR20BIT | 20 Bit Address Bus |

# **External Bus Data Width:**

| DATABW = DATA8BIT  | 8 Bit Data Bus  |
|--------------------|-----------------|
| DATABW = DATA16BIT | 16 Bit Data Bus |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

# **MCLR Enable:**

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

# **ECCP Mux:**

| ECCPMX = PORTH | Muxed with RH7:4 |
|----------------|------------------|
| ECCPMX = PORTE | Muxed with RE6:3 |

### **ECCP2 Mux:**

| CCP2MX = PORTB | Muxed with RB3 |
|----------------|----------------|
| CCP2MX = PORTC | Muxed with RC1 |

# **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

### **Boot Block Size:**

| BBSIZ = BB2K | 2Kb Boot Block |
|--------------|----------------|
| BBSIZ = BB4K | 4Kb Boot Block |
| BBSIZ = BB8K | 8Kb Boot Block |

### XINST Enable:

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

# **Write Protection Block 0:**

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

# **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F8585

# **Oscillator Selection bits:**

| OSC = LP        | LP                                       |
|-----------------|--|
| OSC = XT        | XT                                       |
| OSC = HS        | HS                                       |
| OSC = RC        | RC with OSC2 as divide by 4 clock out    |
| OSC = EC        | EC with OSC2 as divide by 4 clock out    |
| OSC = ECIO      | EC with OSC2 as RA6                      |
| OSC = HSPLL     | HS with HW enabled 4xPLL                 |
| OSC = RCIO      | RC with OSC2 as RA6                      |
| OSC = ECIOPLL   | EC with OSC2 as RA6 and HW enabled 4xPLL |
| OSC = ECIOSWPLL | EC with OSC2 as RA6 and SW enabled 4xPLL |
| OSC = HSSWPLL   | HS with SW enabled 4xPLL                 |

### Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# Watchdog Timer:

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

# Watchdog Postscaler:

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

# **Processor Mode Selection:**

| MODE = EM  | Extended Microcontroller Mode       |
|------------|-------------------------------------|
| MODE = MPB | Microprocessor with Boot Block Mode |
| MODE = MP  | Microprocessor Mode                 |
| MODE = MC  | Microcontroller Mode                |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

# MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# **CCP2 Mux bit:**

| CCP2MX = OFF | CCP2 input/output is multiplexed with RE7 |
|--------------|---|
| CCP2MX = ON  | CCP2 input/output is multiplexed with RC1 |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

# **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

# Write Protection Block 0:

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

# **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

|   | WRTD = ON  | Enabled  |
|---|------------|----------|
| 1 | WRTD = OFF | Disabled |

### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F85J10

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Configuration Word Signature:**

| SIGN = CLR | Clear |
|------------|-------|
| SIGN = SET | Set   |

# **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

# **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

# Internal/External Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Oscillator Selection bits:**

| FOSC = HS    | HS oscillator                           |
|--------------|---|
| FOSC = HSPLL | HS oscillator, Software Controlled PLL  |
| FOSC = EC    | External Clock                          |
| FOSC = ECPLL | External Clock, Software Controlled PLL |

### Watchdog Postscaler:

| Wateriaby i obtocaler. |         |
|------------------------|---------|
| WDTPS = 1              | 1:1     |
| WDTPS = 2              | 1:2     |
| WDTPS = 4              | 1:4     |
| WDTPS = 8              | 1:8     |
| WDTPS = 16             | 1:16    |
| WDTPS = 32             | 1:32    |
| WDTPS = 64             | 1:64    |
| WDTPS = 128            | 1:128   |
| WDTPS = 256            | 1:256   |
| WDTPS = 512            | 1:512   |
| WDTPS = 1024           | 1:1024  |
| WDTPS = 2048           | 1:2048  |
| WDTPS = 4096           | 1:4096  |
| WDTPS = 8192           | 1:8192  |
| WDTPS = 16384          | 1:16384 |
| WDTPS = 32768          | 1:32768 |
|                        |         |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

# **Data Bus Width Select:**

| BW = 8  | 8-bit external bus  |
|---------|---------------------|
| BW = 16 | 16-bit external bus |

# **Processor Mode Selection:**

| MODE = MM   | Microcontroller Mode - External bus disabled        |
|-------------|---|
| MODE = XM12 | Extended Microcontroller Mode - 12-bit address mode |
| MODE = XM16 | Extended Microcontroller Mode - 16-bit address mode |
| MODE = XM20 | Extended Microcontroller Mode - 20-bit address mode |

# **External Address Bus Shift Enable:**

| EASHIFT = OFF | External bus reflects PC value |
|---------------|--------------------------------|
| EASHIFT = ON  | External bus starts at 000000h |

### **ECCP Mux:**

| ECCPMUX = OFF | Disabled |
|---------------|----------|
| ECCPMUX = ON  | Enabled  |

### **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

# PIC18F85J15

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Configuration Word Signature:**

| SIGN = CLR | Clear |
|------------|-------|
| SIGN = SET | Set   |

# **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

# **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

# Internal/External Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Oscillator Selection bits:**

| FOSC = HS    | HS oscillator                           |
|--------------|---|
| FOSC = HSPLL | HS oscillator, Software Controlled PLL  |
| FOSC = EC    | External Clock                          |
| FOSC = ECPLL | External Clock, Software Controlled PLL |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

# **Data Bus Width Select:**

| BW = 8  | 8-bit external bus  |
|---------|---------------------|
| BW = 16 | 16-bit external bus |

# **Processor Mode Selection:**

| MODE = MM   | Microcontroller Mode - External bus disabled        |
|-------------|---|
| MODE = XM12 | Extended Microcontroller Mode - 12-bit address mode |
| MODE = XM16 | Extended Microcontroller Mode - 16-bit address mode |
| MODE = XM20 | Extended Microcontroller Mode - 20-bit address mode |

# **External Address Bus Shift Enable:**

| EASHIFT = OFF | External bus reflects PC value |
|---------------|--------------------------------|
| EASHIFT = ON  | External bus starts at 000000h |

# **ECCP Mux:**

| ECCPMUX = OFF | Disabled |
|---------------|----------|
| ECCPMUX = ON  | Enabled  |

# **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

# PIC18F8620

# **Oscillator Selection:**

| OSC = LP    | LP                   |
|-------------|----------------------|
| OSC = XT    | XT                   |
| OSC = HS    | HS                   |
| OSC = RC    | RC                   |
| OSC = EC    | EC-OSC2 as Clock Out |
| OSC = ECIO  | EC-OSC2 as RA6       |
| OSC = HSPLL | HS-PLL Enabled       |
| OSC = RCIO  | RC-OSC2 as RA6       |

### Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

### **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| 1:1   |
|-------|
| 1:2   |
| 1:4   |
| 1:8   |
| 1:16  |
| 1:32  |
| 1:64  |
| 1:128 |
|       |

# **Processor Mode Selection:**

| MODE = EM  | Extended Microcontroller Mode       |
|------------|-------------------------------------|
| MODE = MPB | Microprocessor with Boot Block Mode |
| MODE = MP  | Microprocessor Mode                 |
| MODE = MC  | Microcontroller Mode                |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

# **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

# **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

# **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

# **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

# **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

# **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

# **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

# **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

# **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F8621

# **Oscillator Selection:**

| OSC = LP        | LP                        |
|-----------------|---------------------------|
| OSC = XT        | XT                        |
| OSC = HS        | HS                        |
| OSC = RC        | RC                        |
| OSC = EC        | EC-OSC2 as Clock Out      |
| OSC = ECIO      | EC-OSC2 as RA6            |
| OSC = HSPLL     | HS-PLL Enabled            |
| OSC = RCIO      | RC-OSC2 as RA6            |
| OSC = ECIOPLL   | EC-OSC2 as RA6 and PLL    |
| OSC = ECIOSWPLL | EC-OSC2 as RA6 and SW PLL |
| OSC = HSSWPLL   | HS with SW PLL            |

# Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

# **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

# **Processor Mode Selection:**

| MODE = EM  | Extended Microcontroller Mode       |
|------------|-------------------------------------|
| MODE = MPB | Microprocessor with Boot Block Mode |
| MODE = MP  | Microprocessor Mode                 |
| MODE = MC  | Microcontroller Mode                |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# **ECCP Mux:**

| ECCPMX = PORTH | Muxed with RH7:4 |
|----------------|------------------|
| ECCPMX = PORTE | Muxed with RE6:3 |

# **CCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 or RE7 |
|-----------------|-----------------------|
| CCP2MX = PORTC  | Muxed with RC1        |

# **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTRO = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

# PIC18F8622

## **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

# **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

## **Internal External Osc. Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 46 | 4.5V |
|-----------|------|
| BORV = 43 | 4.2V |
| BORV = 28 | 2.7V |
| BORV = 21 | 2.0V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

## Watchdog Postscaler:

| Wateriady i dotocaici. |         |
|------------------------|---------|
| WDTPS = 1              | 1:1     |
| WDTPS = 2              | 1:2     |
| WDTPS = 4              | 1:4     |
| WDTPS = 8              | 1:8     |
| WDTPS = 16             | 1:16    |
| WDTPS = 32             | 1:32    |
| WDTPS = 64             | 1:64    |
| WDTPS = 128            | 1:128   |
| WDTPS = 256            | 1:256   |
| WDTPS = 512            | 1:512   |
| WDTPS = 1024           | 1:1024  |
| WDTPS = 2048           | 1:2048  |
| WDTPS = 4096           | 1:4096  |
| WDTPS = 8192           | 1:8192  |
| WDTPS = 16384          | 1:16384 |
| WDTPS = 32768          | 1:32768 |

## **Processor Mode Selection:**

| MODE = EM  | Extended Microcontroller Mode       |
|------------|-------------------------------------|
| MODE = MPB | Microprocessor with Boot Block Mode |
| MODE = MP  | Microprocessor Mode                 |
| MODE = MC  | Microcontroller Mode                |

# **External Bus Address Width:**

| ADDRBW = ADDR8BIT  | 8 Bit Address Bus  |
|--------------------|--------------------|
| ADDRBW = ADDR12BIT | 12 Bit Address Bus |
| ADDRBW = ADDR16BIT | 16 Bit Address Bus |
| ADDRBW = ADDR20BIT | 20 Bit Address Bus |

# **External Bus Data Width:**

| DATABW = DATA8BIT  | 8 Bit Data Bus  |
|--------------------|-----------------|
| DATABW = DATA16BIT | 16 Bit Data Bus |

## **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

## **ECCP Mux:**

| ECCPMX = PORTH | Muxed with RH7:4 |
|----------------|------------------|
| ECCPMX = PORTE | Muxed with RE6:3 |

## **ECCP2 Mux:**

| CCP2MX = PORTB | Muxed with RB3 |
|----------------|----------------|
| CCP2MX = PORTC | Muxed with RC1 |

#### **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

## **Boot Block Size:**

| BBSIZ = BB2K | 2Kb Boot Block |
|--------------|----------------|
| BBSIZ = BB4K | 4Kb Boot Block |
| BBSIZ = BB8K | 8Kb Boot Block |

#### **XINST Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

# **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

## **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

## **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### **Write Protection Block 0:**

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

# **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F8627

# **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

## **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

## Internal External Osc. Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 46 | 4.5V |
|-----------|------|
| BORV = 43 | 4.2V |
| BORV = 28 | 2.7V |
| BORV = 21 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## **Processor Mode Selection:**

| MODE = EM  | Extended Microcontroller Mode       |
|------------|-------------------------------------|
| MODE = MPB | Microprocessor with Boot Block Mode |
| MODE = MP  | Microprocessor Mode                 |
| MODE = MC  | Microcontroller Mode                |

## **External Bus Address Width:**

| ADDRBW = ADDR8BIT  | 8 Bit Address Bus  |
|--------------------|--------------------|
| ADDRBW = ADDR12BIT | 12 Bit Address Bus |
| ADDRBW = ADDR16BIT | 16 Bit Address Bus |
| ADDRBW = ADDR20BIT | 20 Bit Address Bus |

## **External Bus Data Width:**

| DATABW = DATA8BIT  | 8 Bit Data Bus  |
|--------------------|-----------------|
| DATABW = DATA16BIT | 16 Bit Data Bus |

## **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

## **MCLR Enable:**

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

## **ECCP Mux:**

| ECCPMX = PORTH | Muxed with RH7:4 |
|----------------|------------------|
| ECCPMX = PORTE | Muxed with RE6:3 |

#### **ECCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

## **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

#### **Boot Block Size:**

| BBSIZ = BB2K | 2Kb Boot Block |
|--------------|----------------|
| BBSIZ = BB4K | 4Kb Boot Block |
| BBSIZ = BB8K | 8Kb Boot Block |

#### XINST Enable:

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

# **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

## **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

# **Code Protection Block 4:**

| CP4 = ON  | Enabled  |
|-----------|----------|
| CP4 = OFF | Disabled |

## **Code Protection Block 5:**

| CP5 = ON  | Enabled  |
|-----------|----------|
| CP5 = OFF | Disabled |

## **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRTO = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### Write Protection Block 4:

| WRT4 = ON  | Enabled  |
|------------|----------|
| WRT4 = OFF | Disabled |

## **Write Protection Block 5:**

| WRT5 = ON  | Enabled  |
|------------|----------|
| WRT5 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

## **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

#### **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |  |
|-------------|----------|--|
| EBTR1 = OFF | Disabled |  |

## **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

## **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

# **Table Read Protection Block 4:**

| EBTR4 = ON  | Enabled  |
|-------------|----------|
| EBTR4 = OFF | Disabled |

## **Table Read Protection Block 5:**

| EBTR5 = ON  | Enabled  |
|-------------|----------|
| EBTR5 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F8680

#### **Oscillator Selection bits:**

| LP                                       |
|--|
| XT                                       |
| HS                                       |
| RC with OSC2 as divide by 4 clock out    |
| EC with OSC2 as divide by 4 clock out    |
| EC with OSC2 as RA6                      |
| HS with HW enabled 4xPLL                 |
| RC with OSC2 as RA6                      |
| EC with OSC2 as RA6 and HW enabled 4xPLL |
| EC with OSC2 as RA6 and SW enabled 4xPLL |
| HS with SW enabled 4xPLL                 |
|  |

## Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

# **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 20 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | HW Disabled - SW Controlled |
|-----------|-----------------------------|
| WDT = ON  | HW Enabled - SW Disabled    |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

#### **Processor Mode Selection:**

| MODE = EM  | Extended Microcontroller Mode       |
|------------|-------------------------------------|
| MODE = MPB | Microprocessor with Boot Block Mode |
| MODE = MP  | Microprocessor Mode                 |
| MODE = MC  | Microcontroller Mode                |

## **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

## **CCP2 Mux bit:**

| CCP2MX = OFF | CCP2 input/output is multiplexed with RE7 |
|--------------|---|
| CCP2MX = ON  | CCP2 input/output is multiplexed with RC1 |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |  |
|-----------|----------|--|
| LVP = ON  | Enabled  |  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

## **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

#### **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

### **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

## Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

## **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

#### PIC18F86J10

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

#### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Configuration Word Signature:**

| SIGN = CLR | Clear |
|------------|-------|
| SIGN = SET | Set   |

## **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

# **Internal/External Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Oscillator Selection bits:**

| FOSC = HS    | HS oscillator                           |
|--------------|---|
| FOSC = HSPLL | HS oscillator, Software Controlled PLL  |
| FOSC = EC    | External Clock                          |
| FOSC = ECPLL | External Clock, Software Controlled PLL |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

# **Data Bus Width Select:**

| BW = 8  | 8-bit external bus  |
|---------|---------------------|
| BW = 16 | 16-bit external bus |

# **Processor Mode Selection:**

| MODE = MM   | Microcontroller Mode - External bus disabled        |
|-------------|---|
| MODE = XM12 | Extended Microcontroller Mode - 12-bit address mode |
| MODE = XM16 | Extended Microcontroller Mode - 16-bit address mode |
| MODE = XM20 | Extended Microcontroller Mode - 20-bit address mode |

## **External Address Bus Shift Enable:**

| EASHIFT = OFF | External bus reflects PC value |
|---------------|--------------------------------|
| EASHIFT = ON  | External bus starts at 000000h |

# **ECCP Mux:**

| ECCPMUX = OFF | Disabled |
|---------------|----------|
| ECCPMUX = ON  | Enabled  |

## **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

## PIC18F86J15

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

### **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Configuration Word Signature:**

| SIGN = CLR | Clear |
|------------|-------|
| SIGN = SET | Set   |

#### **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CP0 = OFF | Disabled |

## **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

## Internal/External Switch Over:

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Oscillator Selection bits:**

| FOSC = HS    | HS oscillator                           |
|--------------|---|
| FOSC = HSPLL | HS oscillator, Software Controlled PLL  |
| FOSC = EC    | External Clock                          |
| FOSC = ECPLL | External Clock, Software Controlled PLL |

## Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

## Data Bus Width Select:

| BW = 8  | 8-bit external bus  |
|---------|---------------------|
| BW = 16 | 16-bit external bus |

## **Processor Mode Selection:**

| MODE = MM   | Microcontroller Mode - External bus disabled        |
|-------------|---|
| MODE = XM12 | Extended Microcontroller Mode - 12-bit address mode |
| MODE = XM16 | Extended Microcontroller Mode - 16-bit address mode |
| MODE = XM20 | Extended Microcontroller Mode - 20-bit address mode |

## **External Address Bus Shift Enable:**

| EASHIFT = OFF | External bus reflects PC value |
|---------------|--------------------------------|
| EASHIFT = ON  | External bus starts at 000000h |

# **ECCP Mux:**

| ECCPMUX = OFF | Disabled |
|---------------|----------|
| ECCPMUX = ON  | Enabled  |

## **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

## PIC18F8720

# **Oscillator Selection:**

| LP                   |
|----------------------|
| XT                   |
| HS                   |
| RC                   |
| EC-OSC2 as Clock Out |
| EC-OSC2 as RA6       |
| HS-PLL Enabled       |
| RC-OSC2 as RA6       |
|                      |

# Osc. Switch Enable:

| OSCS = ON  | Enabled  |
|------------|----------|
| OSCS = OFF | Disabled |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

## **Brown Out Reset:**

| BOR = OFF | Disabled |
|-----------|----------|
| BOR = ON  | Enabled  |

## **Brown Out Voltage:**

| BORV = 45 | 4.5V |
|-----------|------|
| BORV = 42 | 4.2V |
| BORV = 27 | 2.7V |
| BORV = 25 | 2.5V |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1   | 1:1   |
|-------------|-------|
| WDTPS = 2   | 1:2   |
| WDTPS = 4   | 1:4   |
| WDTPS = 8   | 1:8   |
| WDTPS = 16  | 1:16  |
| WDTPS = 32  | 1:32  |
| WDTPS = 64  | 1:64  |
| WDTPS = 128 | 1:128 |

## **Processor Mode Selection:**

| MODE = EM  | Extended Microcontroller Mode       |
|------------|-------------------------------------|
| MODE = MPB | Microprocessor with Boot Block Mode |
| MODE = MP  | Microprocessor Mode                 |
| MODE = MC  | Microcontroller Mode                |

## **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

## **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

#### **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

#### **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = | = ON  | Enabled  |
|-------|-------|----------|
| CP1 = | = OFF | Disabled |

## **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

## **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

#### **Code Protection Block 4:**

| CP4 = ON  | Enabled  |
|-----------|----------|
| CP4 = OFF | Disabled |

## **Code Protection Block 5:**

| CP5 = ON  | Enabled  |
|-----------|----------|
| CP5 = OFF | Disabled |

### **Code Protection Block 6:**

| CP6 = ON  | Enabled  |
|-----------|----------|
| CP6 = OFF | Disabled |

## **Code Protection Block 7:**

| CP7 = ON  | Enabled  |
|-----------|----------|
| CP7 = OFF | Disabled |

# **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### **Write Protection Block 0:**

| WRT0 = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### Write Protection Block 1:

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

## **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

#### Write Protection Block 3:

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

## Write Protection Block 4:

| WRT4 = ON  | Enabled  |
|------------|----------|
| WRT4 = OFF | Disabled |

#### **Write Protection Block 5:**

| WRT5 = ON  | Enabled  |
|------------|----------|
| WRT5 = OFF | Disabled |

#### **Write Protection Block 6:**

| WRT6 = ON  | Enabled  |
|------------|----------|
| WRT6 = OFF | Disabled |

## Write Protection Block 7:

| WRT7 = ON  | Enabled  |
|------------|----------|
| WRT7 = OFF | Disabled |

## **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

#### **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

## **Table Read Protection Block 4:**

| EBTR4 = ON  | Enabled  |
|-------------|----------|
| EBTR4 = OFF | Disabled |

#### **Table Read Protection Block 5:**

| EBTR5 = ON  | Enabled  |
|-------------|----------|
| EBTR5 = OFF | Disabled |

## **Table Read Protection Block 6:**

| EBTR6 = ON  | Enabled  |
|-------------|----------|
| EBTR6 = OFF | Disabled |

## **Table Read Protection Block 7:**

| EBTR7 = ON  | Enabled  |
|-------------|----------|
| EBTR7 = OFF | Disabled |

#### **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F8722

# **Oscillator Selection:**

| OSC = LP      | LP                                   |
|---------------|--------------------------------------|
| OSC = XT      | XT                                   |
| OSC = HS      | HS                                   |
| OSC = RC      | RC                                   |
| OSC = EC      | EC-OSC2 as Clock Out                 |
| OSC = ECIO6   | EC-OSC2 as RA6                       |
| OSC = HSPLL   | HS-PLL Enabled                       |
| OSC = RCIO6   | RC-OSC2 as RA6                       |
| OSC = INTIO67 | INTRC-OSC2 as RA6, OSC1 as RA7       |
| OSC = INTIO7  | INTRC-OSC2 as Clock Out, OSC1 as RA7 |

## **Fail Safe Clock Monitor:**

| FCMEN = OFF | Disabled |
|-------------|----------|
| FCMEN = ON  | Enabled  |

# **Internal External Osc. Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

# **Power Up Timer:**

| PWRT = ON  | Enabled  |
|------------|----------|
| PWRT = OFF | Disabled |

#### **Brown Out Reset:**

| BOREN = OFF     | Disabled                              |
|-----------------|---------------------------------------|
| BOREN = ON      | SBOREN Enabled                        |
| BOREN = NOSLP   | Enabled except SLEEP, SBOREN Disabled |
| BOREN = SBORDIS | Enabled, SBOREN Disabled              |

# **Brown Out Voltage:**

| BORV = 46 | 4.5V |
|-----------|------|
| BORV = 43 | 4.2V |
| BORV = 28 | 2.7V |
| BORV = 21 | 2.0V |

# **Watchdog Timer:**

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# Watchdog Postscaler:

| WDTPS = 1     | 1:1     |
|---------------|---------|
| WDTPS = 2     | 1:2     |
| WDTPS = 4     | 1:4     |
| WDTPS = 8     | 1:8     |
| WDTPS = 16    | 1:16    |
| WDTPS = 32    | 1:32    |
| WDTPS = 64    | 1:64    |
| WDTPS = 128   | 1:128   |
| WDTPS = 256   | 1:256   |
| WDTPS = 512   | 1:512   |
| WDTPS = 1024  | 1:1024  |
| WDTPS = 2048  | 1:2048  |
| WDTPS = 4096  | 1:4096  |
| WDTPS = 8192  | 1:8192  |
| WDTPS = 16384 | 1:16384 |
| WDTPS = 32768 | 1:32768 |

## **Processor Mode Selection:**

| MODE = EM  | Extended Microcontroller Mode       |
|------------|-------------------------------------|
| MODE = MPB | Microprocessor with Boot Block Mode |
| MODE = MP  | Microprocessor Mode                 |
| MODE = MC  | Microcontroller Mode                |

## **External Bus Address Width:**

| ADDRBW = ADDR8BIT  | 8 Bit Address Bus  |
|--------------------|--------------------|
| ADDRBW = ADDR12BIT | 12 Bit Address Bus |
| ADDRBW = ADDR16BIT | 16 Bit Address Bus |
| ADDRBW = ADDR20BIT | 20 Bit Address Bus |

## **External Bus Data Width:**

| DATABW = DATA8BIT  | 8 Bit Data Bus  |
|--------------------|-----------------|
| DATABW = DATA16BIT | 16 Bit Data Bus |

# **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

## MCLR Enable:

| MCLRE = OFF | Disabled |
|-------------|----------|
| MCLRE = ON  | Enabled  |

# T1 Oscillator Enable:

| LPT1OSC = OFF | Disabled |
|---------------|----------|
| LPT1OSC = ON  | Enabled  |

## **ECCP Mux:**

| ECCPMX = PORTH | Muxed with RH7:4 |
|----------------|------------------|
| ECCPMX = PORTE | Muxed with RE6:3 |

## **ECCP2 Mux:**

| CCP2MX = PORTBE | Muxed with RB3 |
|-----------------|----------------|
| CCP2MX = PORTC  | Muxed with RC1 |

## **Stack Overflow Reset:**

| STVREN = OFF | Disabled |
|--------------|----------|
| STVREN = ON  | Enabled  |

## Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

#### **Boot Block Size:**

| BBSIZ = BB2K | 2Kb Boot Block |
|--------------|----------------|
| BBSIZ = BB4K | 4Kb Boot Block |
| BBSIZ = BB8K | 8Kb Boot Block |

#### **XINST Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Code Protection Block 0:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

#### **Code Protection Block 1:**

| CP1 = ON  | Enabled  |
|-----------|----------|
| CP1 = OFF | Disabled |

#### **Code Protection Block 2:**

| CP2 = ON  | Enabled  |
|-----------|----------|
| CP2 = OFF | Disabled |

## **Code Protection Block 3:**

| CP3 = ON  | Enabled  |
|-----------|----------|
| CP3 = OFF | Disabled |

# **Code Protection Block 4:**

| CP4 = ON  | Enabled  |
|-----------|----------|
| CP4 = OFF | Disabled |

## **Code Protection Block 5:**

| CP5 | = ON  | Enabled  |
|-----|-------|----------|
| CP5 | = OFF | Disabled |

## **Code Protection Block 6:**

| CP6 = ON  | Enabled  |
|-----------|----------|
| CP6 = OFF | Disabled |

## **Code Protection Block 7:**

| CP7 = ON  | Enabled  |
|-----------|----------|
| CP7 = OFF | Disabled |

## **Boot Block Code Protection:**

| CPB = ON  | Enabled  |
|-----------|----------|
| CPB = OFF | Disabled |

#### **Data EEPROM Code Protection:**

| CPD = ON  | Enabled  |
|-----------|----------|
| CPD = OFF | Disabled |

#### Write Protection Block 0:

| WRTO = ON  | Enabled  |
|------------|----------|
| WRT0 = OFF | Disabled |

#### **Write Protection Block 1:**

| WRT1 = ON  | Enabled  |
|------------|----------|
| WRT1 = OFF | Disabled |

#### **Write Protection Block 2:**

| WRT2 = ON  | Enabled  |
|------------|----------|
| WRT2 = OFF | Disabled |

## **Write Protection Block 3:**

| WRT3 = ON  | Enabled  |
|------------|----------|
| WRT3 = OFF | Disabled |

#### Write Protection Block 4:

| WRT4 = ON  | Enabled  |
|------------|----------|
| WRT4 = OFF | Disabled |

## **Write Protection Block 5:**

| WRT5 = ON  | Enabled  |
|------------|----------|
| WRT5 = OFF | Disabled |

## **Write Protection Block 6:**

| WRT6 = ON  | Enabled  |
|------------|----------|
| WRT6 = OFF | Disabled |

#### **Write Protection Block 7:**

| WRT7 = ON  | Enabled  |
|------------|----------|
| WRT7 = OFF | Disabled |

#### **Boot Block Write Protection:**

| WRTB = ON  | Enabled  |
|------------|----------|
| WRTB = OFF | Disabled |

# **Configuration Register Write Protection:**

| WRTC = ON  | Enabled  |
|------------|----------|
| WRTC = OFF | Disabled |

## **Data EEPROM Write Protection:**

| WRTD = ON  | Enabled  |
|------------|----------|
| WRTD = OFF | Disabled |

## **Table Read Protection Block 0:**

| EBTR0 = ON  | Enabled  |
|-------------|----------|
| EBTR0 = OFF | Disabled |

#### **Table Read Protection Block 1:**

| EBTR1 = ON  | Enabled  |
|-------------|----------|
| EBTR1 = OFF | Disabled |

#### **Table Read Protection Block 2:**

| EBTR2 = ON  | Enabled  |
|-------------|----------|
| EBTR2 = OFF | Disabled |

#### **Table Read Protection Block 3:**

| EBTR3 = ON  | Enabled  |
|-------------|----------|
| EBTR3 = OFF | Disabled |

#### **Table Read Protection Block 4:**

| EBTR4 = ON  | Enabled  |
|-------------|----------|
| EBTR4 = OFF | Disabled |

## **Table Read Protection Block 5:**

| EBTR5 = ON  | Enabled  |
|-------------|----------|
| EBTR5 = OFF | Disabled |

#### Table Read Protection Block 6:

| EBTR6 = ON  | Enabled  |
|-------------|----------|
| EBTR6 = OFF | Disabled |

# **Table Read Protection Block 7:**

| EBTR7 = ON  | Enabled  |
|-------------|----------|
| EBTR7 = OFF | Disabled |

## **Boot Block Table Read Protection:**

| EBTRB = ON  | Enabled  |
|-------------|----------|
| EBTRB = OFF | Disabled |

## PIC18F87J10

# **Background Debugger Enable:**

| DEBUG = ON  | Enabled  |
|-------------|----------|
| DEBUG = OFF | Disabled |

## **Extended Instruction Set Enable:**

| XINST = OFF | Disabled |
|-------------|----------|
| XINST = ON  | Enabled  |

## **Stack Overflow Reset:**

| STVR = OFF | Disabled |
|------------|----------|
| STVR = ON  | Enabled  |

# Low Voltage ICSP:

| LVP = OFF | Disabled |
|-----------|----------|
| LVP = ON  | Enabled  |

# Watchdog Timer:

| WDT = OFF | Disabled |
|-----------|----------|
| WDT = ON  | Enabled  |

# **Configuration Word Signature:**

| SIGN = CLR | Clear |
|------------|-------|
| SIGN = SET | Set   |

## **Code Protection:**

| CPO = ON  | Enabled  |
|-----------|----------|
| CPO = OFF | Disabled |

## **Fail Safe Clock Monitor:**

| FCMEM = OFF | Disabled |
|-------------|----------|
| FCMEM = ON  | Enabled  |

## **Internal/External Switch Over:**

| IESO = OFF | Disabled |
|------------|----------|
| IESO = ON  | Enabled  |

## **Oscillator Selection bits:**

| FOSC = HS    | HS oscillator                           |
|--------------|---|
| FOSC = HSPLL | HS oscillator, Software Controlled PLL  |
| FOSC = EC    | External Clock                          |
| FOSC = ECPLL | External Clock, Software Controlled PLL |

# Watchdog Postscaler:

| 1:1     |
|---------|
| 1:2     |
| 1:4     |
| 1:8     |
| 1:16    |
| 1:32    |
| 1:64    |
| 1:128   |
| 1:256   |
| 1:512   |
| 1:1024  |
| 1:2048  |
| 1:4096  |
| 1:8192  |
| 1:16384 |
| 1:32768 |
|         |

## **External Bus Data Wait:**

| WAIT = ON  | Enabled  |
|------------|----------|
| WAIT = OFF | Disabled |

# **Data Bus Width Select:**

| BW = 8  | 8-bit external bus  |
|---------|---------------------|
| BW = 16 | 16-bit external bus |

# **Processor Mode Selection:**

| MODE = MM   | Microcontroller Mode - External bus disabled        |
|-------------|---|
| MODE = XM12 | Extended Microcontroller Mode - 12-bit address mode |
| MODE = XM16 | Extended Microcontroller Mode - 16-bit address mode |
| MODE = XM20 | Extended Microcontroller Mode - 20-bit address mode |

## **External Address Bus Shift Enable:**

| EASHIFT = OFF | External bus reflects PC value |
|---------------|--------------------------------|
| EASHIFT = ON  | External bus starts at 000000h |

# **ECCP Mux:**

| ECCPMUX = OFF | Disabled |
|---------------|----------|
| ECCPMUX = ON  | Enabled  |

# **CCP2 Mux:**

| CCP2MUX = OFF | Disabled |
|---------------|----------|
| CCP2MUX = ON  | Enabled  |

# **Configuration Settings**

|        | Goinigaration Gottings |
|--------|------------------------|
| NOTES: |                        |
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