

```
' *****  
' * Frequency Counter with 7Seg LED ATTiny2313-20PC  
' * 2007.10.06 by JN3XBY ex. JA6IRK  
' *****
```

```
Dim Intcnt As Long  
Dim Scancnt As Byte  
Dim Seg0 As Byte  
Dim Seg1 As Byte  
Dim Seg2 As Integer  
Dim Seg3 As Integer  
Dim Seg4 As Long  
Dim Seg5 As Long  
Dim Data7segd As Byte  
Dim Dispnt As Byte  
Dim Freq As Long  
Dim Freqd As Long
```

```
Dim Cntflag As Bit  
Dim Fcnt1 As Long  
Dim Intcnt0 As Integer
```

```
Dim Segtmp1 As Long  
Dim Segtmp2 As Long  
Dim Segtmp3 As Long  
Dim Segtmp4 As Long  
Dim Segtmp5 As Long
```

```
Dim Keyin As Byte
```

```
Ddrb = &B11111111  
Portb = 0  
Ddrd = &B10111111  
Portd = &B00000000
```

```
' *****  
' * TIMER INT INIT & START  
' *****
```

```
Config Timer0 = Timer , Prescale = 8 ' 0.16mS at 12.8MHz  
On Ovf0 Tim0_int  
Enable Ovf0  
Config Timer1 = Counter , Edge = Falling , Noise Cancel = 1  
On Ovf1 Cnt1_ovf  
Enable Ovf1  
Enable Interrupts  
  
Timer1 = 0  
Start Timer1
```

```
Main:
```

```
    If Cntflag = 1 Then  
        Fcnt1 = Fcnt1 * 65536  
        Freq = Fcnt1 + Freq  
  
        If Keyin = &B0000001 Then Writeeprom Freq , 10 ' IF Shift Memory
```

```
Readeeprom Freqd , 10
Freq = Freq - freqd
Freq = Freq + 8.19
```

```
' IF Shift
' SideTone Hosei
' LSB/USB
```

```
Freqd = Freq * 1250
Freqd = Freqd / 1280
```

```
Gosub Leddisp
```

```
Intcnt0 = 1023
Fcnt1 = 0
Cntflag = 0
```

```
Start Timer1
Start Timer0
```

```
End If
```

```
Goto Main
```

```
Leddisp:
```

```
Seg5 = Freqd / 100000
Segtmp1 = Seg5 * 100000
Segtmp1 = Freqd - Segtmp1
Seg4 = Segtmp1 / 10000
Segtmp2 = Seg4 * 10000
Segtmp2 = Segtmp1 - Segtmp2
Seg3 = Segtmp2 / 1000
Segtmp3 = Seg3 * 1000
Segtmp3 = Segtmp2 - Segtmp3
Seg2 = Segtmp3 / 100
Segtmp4 = Seg2 * 100
Segtmp4 = Segtmp3 - Segtmp4
Seg1 = Segtmp4 / 10
Segtmp5 = Seg1 * 10
Seg0 = Segtmp4 - Segtmp5
```

```
Return
```

```
' *****
' * TIMER INT COUNTER SUBROUTINE
' *****
```

```
Tim0_int:
'     Gosub Timerintsub
'     Return
```

```
Timerintsub:
```

```
If Intcnt0 <> 0 Then
Intcnt0 = Intcnt0 - 1
Else
Stop Timer1
Stop Timer0
Freq = Timer1
Timer1 = 0
```

```
Cntflag = 1
End If
```

```
If Dispcnt = 0 Then
  Data7segd = Lookup(seg0 , 7segd)
  Portd = &B1000000
Elseif Dispcnt = 1 Then
  Data7segd = Lookup(seg1 , 7segd)
  Portd = &B0010000
Elseif Dispcnt = 2 Then
  Data7segd = Lookup(seg2 , 7segd)
  Portd = &B0001000
Elseif Dispcnt = 3 Then
  Data7segd = Lookup(seg3 , 7segd)
  Portd = &B0000100
Elseif Dispcnt = 4 Then
  Data7segd = Lookup(seg4 , 7segd)
  Data7segd = Data7segd And &B11101111
  Portd = &B0000010
Elseif Dispcnt = 5 Then
  Data7segd = Lookup(seg5 , 7segd)
  Portd = &B0000001
  If Seg5 = 0 Then Portd = 0
Elseif Dispcnt = 6 Then
  Data7segd = &B11111111
  Portd = &B0000000
  Portb = &B11111111
  Ddrd = &B1011110
  Waitus 1
  Keyin = Pind And &B0000001
  Ddrd = &B1011111
End If
```

```
' 0 sapuresu
```

```
' IF Shift Meomry Key Input
```

```
Dispcnt = Dispcnt + 1
If Dispcnt = 7 Then Dispcnt = 0

Portb = Data7segd
```

```
Return
```

```
' *****
' * Counter1 INT Subroutine
' *****
```

```
Cnt1_ovf:
  Fcnt1 = Fcnt1 + 1
  Return
```

```
' *****
' * 7seg LED DISPLAY DATA
' *****
```

```
7segd:
Data &B00010010 , &B10011111 , &B00110001 , &B00010101 , &B10011100 , &B01010100 , &B01010000 , &B00011111 , &B00010000 , &B00010100
' , &B01111000 , &B01110000 , &B11111001 , &B11010001
```

```
' a: b7, b: b6, c: b5, dot: b4, d: b3, e: b2, g: b1, f: b0
' Seg0: d6, Seg1: d4, Seg2: d3, Seg3: d2, Seg4: d1, Seg5: d0
```