

```
.include <m2560def.inc>
.def    tmp = r16
.def    t1OVCnt = r25 ; r25:r2:r3 holds the frequency
.def    freqH   = r2   ; "
.def    freqL   = r3   ; "
.cseg
.org    0x00
jmp    start
.org    OVFIAddr
jmp    T1OVISR
.org    0xF6
start:  ldi tmp, low(RAMEND) ; initialize the SP
        out SPL, tmp ; "
        ldi tmp, high(RAMEND) ; "
        out SPH, tmp ; "
        cbi DDRD, 6 ; configure PD6 for input (T1 pin)
        ldi tmp, 0 ;
        sts TCCR1B, tmp ; stop Timer 1
        sts TCNT1H, tmp ; force Timer 1 to count from 0
        sts TCNT1L, tmp ; "
        ldi t1OVCnt, 0 ; initialize TCNT1 overflow count to 0
        ldi tmp, 0 ; configure Timer 1 to normal mode
        sts TCCR1A, tmp ; "
        ldi tmp, 7 ; configure Timer 1 to use T1 as its clock
        sts TCCR1B, tmp ; input and count using T1's rising edge
        ldi tmp, 0x01 ; clear the TOV1 flag
        out TIFR1, tmp ; "
        sts TIMSK1, tmp ; enable Timer 1 overflow interrupt
        sei ; enable interrupt globally
        ldi tmp, 10 ; wait for one second
        call dlyby100msOC ; "
        ldi tmp, 0 ; stop Timer 1
        sts TCCR1B, tmp ; "
        lds freqL, TCNT1L ; copy the TCNT1L
        lds freqH, TCNT1H ; copy the TCNT1H
again:  jmp again
; -----
dlyby100msOC:
; -----
; -----
; The following is the Timer 1 overflow service routine.
; -----
T1OVISR:  inc t1OVCnt
        reti
```