

## ramen\_int2

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/*
*****
PIC10F322 Ramen Timer by nobcha 2012
MPLAB 8.73a HI-TECH Pro Lite v9.83
Pin assign RA2: Ceramic speaker RA3: Switch
03/03/2012 released
*****
#include <htc.h>
#define _XTAL_FREQ 250000
__CONFIG(
    FOSC_INTOSC & BOREN_OFF & WDTE_OFF & PWRTE_ON & MCLRE_OFF
    & CP_OFF & LVP_OFF & WRT_OFF
);
unsigned int Scale[8] = {2192, 2458, 2760, 2928, 3280, 3691, 4144, 4387};
unsigned char i;

// single tone generation
void single_tone(unsigned char period, unsigned int scale){
    unsigned char k;
    NC01CON= 0b00000000;          // NCO output RA2 disable

    NC01INCL=(char) ( scale&0xFF);          // Set NCO
    NC01INCH=(char) ( scale >>8);
    NC01CON= 0b11100000;          // NCO output RA2 enable
    for(k=0 ;k<period; k++) __delay_ms(125);          // wait
}
// NCO INTIAL
void nco_init(void) {
    NC01CLK = 0b00000001;          // Clock from Fosc
    NC01ACCL = 0;
    NC01ACCH = 0;
    NC01ACCU = 0;
    CLC1CON = 0;
    CWG1CON0 = 0;
}
// sleep
void sleep_cont(void) {
    IOCIE=1;
    asm("sleep");
    asm("nop");
    IOCIF=0;
    IOCIE=0;
    IOCAF3=0;
    nco_init();
}
void main(void) {
// Initialize
    OSCCON = 0b00010000;          // 250kHz internal clock

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                                ramen_int2
CLKRCON = 0b00000000;
GIE      = 0;                    // Interrupt disable
ANSELA   = 0;                    // ALL digital port
TRISA    = 0b00001000;          // PORT direction RA3 input
LATA     = 0b00000000;          // PORT initialize
nco_init();
// Interrupt change on switch PORTA3
IOCAN    = 0x8;                  // porta3 interrupt on
change
IOCIIE   = 1;
i=0;
single_tone(6, 2192);            // Si
single_tone(2, 3691);           // Ra
// Ramen Timer
while(1) {
    GIE=0;
    sleep_cont();
    for (i=0; i<180; i++) {
        __delay_ms(875);
        PORTA1=~PORTA1;
        single_tone(1, 2458);
        NC01CON= 0b00000000;
    }
    __delay_ms(200);
    IOCIF=0;
    IOCIIE=0;
    IOCAF3=0;
    for (i=0; i<2; i++) {
        single_tone(2, 3280);    // So
        single_tone(2, 3691);    // Ra
        single_tone(6, 4144);    // Si
        single_tone(2, 3691);    // Ra
        single_tone(4, 3280);    // So
        single_tone(2, 3280);    // So
        single_tone(2, 3691);    // Ra
        single_tone(2, 4144);    // Si
        single_tone(2, 3691);    // Ra
        single_tone(2, 3280);    // So
        single_tone(16, 3691);   // Ra
        NC01CON= 0b00000000;    // NCO disable
    }
    i=0;
}
}
interrupt func(void) {
    GIE=0;
    PORTA1=~PORTA1;
}

```

```
    if(IOCIF==1 ){          ramen_int2          // Switch on
        i=1;
    }
}
```