

Introduction

1020 bytes would fit in a 16F84. This demonstrates how easy it is to use the ATOM ver2.2.

The demonstration shows how to use the EXTINT interrupt as well as using a 8870 DTMF display chip

lookup table is for display purpose only

Setup vars and Constants

```
temp0      var   byte           ;local var used and destroyed in subroutines
temp1      var   byte
digit      var   byte           ;number of digit pressednew
digit      var   bit            ;flag

yes        con   1              ;yes new digit
no         con   0              ;no digit was serviced
std        CON   P0             ;pin 15 on M-8870 goes low after detecting touch tones
CLK        CON   P1             ;LCD strobe line

RegSelCON  P3                  ;LCD register or data line

LCDDATA    VAR   OUTC           ;Data to LCD
DATA8870   VAR   IND            ;Data from M8870 pins 11-14, D0-D3 initialize

pause 500
lcdwrite   RegSel\CLK,LCDDATA,[INITlcd1,INITlcd2]

REBOOT:    ;jump to this label if you want to clear display
lcdwrite   RegSel\CLK,LCDDATA,[home,CLEAR]

setup interrupt

SetExtInt  Ext_H2L             ;triggered on a high to low
transition

OnInterrupt ExtInt, detectbuttonpushed ;jump to where on interrupt
input STD                       ;make PO input high to low
interrupt detect

Enable ExtInt                    ;Turn on EXTINT interrupt

end setup interrupt
```



```
clear                                ;clear all vars
main:
if newdigit = yes then gosub phonenumberlcdwrite ;only update display is new
digit detected
goto main

*****End main routines*****

Disable                               ;all code below is disabled

*routine is kept short as possible
detectbuttonpushed:                  ;interrupt is sent here below DISABLE to prevent
                                      ;multi interrupts
                                      ;flag is set
    newdigit    =    yes
    temp0       =    DATA8870
resume                               ;return from interrupt

phonenumberlcdwrite:                 ;only needed for the LCD display
    lookup
TEMP0,["0","1","2","3","4","5","6","7","8","9","*","#","D","E"],TEMP0
    lcdwrite RegSel\CLK,LCDDATA,[temp0]
    newdigit=no
return
```



About This AppNote

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