TITLE:
Delay for some period by playing melody or sound effect

REVISED DATE :	13, JUNE, 1998
REVISED VERSION :	1.0
APPLY TO CHIPS :	EM57000 Series Chip
APPLY TO SOFTWARE :	ALL EM57000 series coding system above version 2.1

SEE ALSO:

1. In program user may need to implement delay function. For example it may be necessary to delay (idle) for 30 sec waiting user input, if there are no input comes after 30 sec, chip will power down automatically.

2. In most condition user may implement delay function with internal timer. But he can also implement this function with speech or melody.

3. When use internal timer, please note that for EM57000 series, internal timer is adjusted.

   Following is the simple example for delay with internal timer :

```
SAVEPWR:
     PLAY TAIL.WAV #8       ; Force D/A current to low
     CJP  SAVEPWR
                           ; Now Delay for 10 sec.

     MOV  TIMER,  #1      ; Set timer for 8 ms interval
     MOV  M1     #0      ; Initial condition
     MOV  M2     #0      ; Initial condition
     MOV  M3     #0      ;

     RSTC
LVL1:
     CJC  UPDATE
     JMP  LVL1

UPDATE:
     CALL KEYSCAN           ; Keyboard scan routine ( every 8 ms )
     CALL OUTPUT            ; Output routine      ( every 8 ms )

     MOV  A        M1
     INCA
     MOV  M1       A
     CAJE #0       UPDATE1 ;   8 * 16 = 128 ms passed
     JMP  LVL1
```

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```
UPDATE1:
     MOV  A        M2
     INCA
     MOV  M2       A
     CAJE #8        UPDATE2 ; 128 * 8  = 1024 ms = 1 sec. passed
     JMP  LVL1

UPDATE2:
     MOV  M2       #0
     MOV  A        M3
     INCA
     MOV  M3       A
     CAJE #10       10SEC
     JMP  LVL1

10SEC:
     ...                    ; 10 sec passed
```

4. Following is the example for delay with playing speech :

```
SAVEPWR:
     PLAY TAIL.WAV  #8     ; Force D/A current to low
     CJP  SAVEPWR

UPDATE:
     PLAY SEC10.WAV #4
     CALL SCANKEY
     CALL OUTPUT
     CJP  UPDATE
10SEC:
     ...                    ; 10 sec passed
```

5. Following is the example for delay with playing melody or sound effect :

```
     MOV  TEMPO    #60
UPDATE:
     PLAY SEC10.MLD
     CALL SCANKEY
     CALL OUTPUT
     CJP  UPDATE
10SEC:
     ...                    ; 10 sec passed
```

6. Note that before goes delay routine it's a good idea to set D/A to lowest level. That is play a tail section to force D/A latch with lowest data. Note also that for melody or sound effect delay routine, it is not

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possible to let D/A low while playing melody or sound effect. If use melody or sound effect section for delay routine, the current consumption will be far larger than using "playing speech" or "count internal timer" method.