



TITLE:

How to Implement Infrared function with EM57000 series ?

REVISED DATE	: 13, JUNE, 1998
REVISED VERSION	: 1.0
APPLY TO CHIPS	: EM57000 Series Chip (Except EM57001,EM57400)
APPLY TO SOFTWARE	: ALL EM57000 series coding system above version 2.1

SEE ALSO:

1. EM57000 series contain infrared function (EM57001 and EM57400 don't have infrared function) which can generate 38K Hz square wave to outside world from port 3.2 whenever it needs.
2. To activate infrared function, programmer should control bit 2, bit3 and bit4 of mode register :

When bit4,3,2 of mode register is "101", infrared function will be activated.

When bit4,3,2 of mode register is "000", infrared function will be disabled.

MODE = 101?B => Enable infrared function.

MODE = 000?B => Disable infrared function.

Note that for bit 0 of mode register we mark it as ? means this bit can be "1" or "0". This bit have no relation with infrared function.

bit 0 of MODE register can be used to enable/disable flash with volume.

3. User will need to enable port 3.2 by seting bit 2 of P3S as "0" so that 38K Hz square wave can send to outside world. But status of Port 3.2 can be "1" or "0"
4. Following is a simple example, it show you how to implement infrared function :

```
MOV  A,  #0000B ; Enable port 3.2
MOV  P3S A
MOV  A,  #0100B ; Initial status of port 3.2 is "1"
MOV  P3  A
```

SIGN1:

```
MOV  A    #1010B ; Send out 38 K Hz square
MOV  MODE A
```



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RSTC

```
DELAY1:                ; P3.2 = 38K Hz
CJC  SIGN2              ; for 8 mS
JMP  DELAY1
```

```
SIGN2:
MOV  A    #0000B ; Stop 38 K Hz square
MOV  MODE A
```

```
DELAY2:                ; P3.2 = 1
CJC  SIGN3              ; for 8 mS
JMP  DELAY2
```

```
SIGN3:
MOV  A    #1010B ; Send out 38 K Hz square again
MOV  MODE A
RSTC
```

```
DELAY3:                ; P3.2 = 38K Hz
CJC  SIGN4              ; for 8 mS
JMP  DELAY3
```

```
SIGN4:
...
```