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M16C Family

Usage Precautions when Clearing Interrupt Request Bit

Classification	Products Effected
Corrections and supplementary explanation of document ✔ Notes Knowhow Others	M16C/80 Series M16C/60 Series M16C/20 Series

Usage Precautions

When clearing an interrupt request bit of the interrupt control register, depending on the instruction used, an interrupt request bit may not get cleared.

Please use an MOV instruction to clear an interrupt request bit by modifying the interrupt control register.

When modifying the interrupt control register of M16C/60 and M16C/20 series microcontrollers (MCU), ensure that you only modify the interrupt control register when interrupt is disabled or a location in code where an interrupt will not generated.

Program examples of clearing interrupt request bit of M16C/60 series MCU:

Example 1: Modifying the interrupt control register

```
FCLR     I                  ; Disable interrupts
MOV.B    #00H,0055H          ; Clear Timer A0 interrupt request bit
MOV.W    MEM,R0              ; Dummy read
FSET     I                  ; Enable interrupts
```

Example 2: Clearing the interrupt request bit
```
FCLR     I                  ; Disable interrupts
MOV.B    0055H,R0L           ; Read Timer A0 interrupt request bit
AND.B    #0F7H,R0L           ; Clear Timer A0 interrupt request bit
MOV.B    R0L,0055H           ; Write to Timer A0 interrupt request bit
MOV.W    MEM,R0              ; Dummy read
FSET     I                  ; Enable interrupts
```

The reason why a dummy read is inserted before "FSET I" in Examples 1 and 2, is to prevent the interrupt enable flag I from being set before the interrupt control register is rewritten due to the effects of the instruction queue.

Moreover, please also refer to the interrupt precautions described in the manual.