

RENESAS TECHNICAL UPDATE

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Product Category	MPU & MCU	Document No.	TN-16C-A217A/E	Rev.	1.00
Title	M16C/30P Group Wait Time when Switching the CPU Clock from the Sub Clock to the Main Clock	Information Category	Technical Notification		
Applicable Product	M16C/30P Group Flash Memory Version One Time Flash Version	Lot No.	—	Reference Document	

The wait time when switching the CPU clock from the sub clock to the main clock has been changed.

1. Content

When in low power mode (CPU clock: sub clock; main clock: off), after the CM05 bit in the CM0 register is set to 0 (main clock on), if the CPU clock is switched from the sub clock to the main clock within a certain period of time, the MCU may not operate properly.

The description below is a note extracted from the manual^(*1). The changes made to (b) can be found in 2-b below.

10. To use the main clock as the clock source for the CPU clock, set bits in the following order.

- (a) Set the CM05 bit to "0" (oscillate).
- (b) Wait the main clock oscillation stabilizes.
- (c) Set the CM07 bit to "0".

*1: M16C/30P Group Hardware Manual Rev.1.22 (REJ09B0179-0122)
Note 10 in System Clock Control Register 0 on page 47 of 291.

2. Solution

When switching the CPU clock to the main clock after operating in low power mode, follow these steps.

- (a) Set the CM05 bit in the CM0 register to 0 (main clock on).
- (b) Wait for 450 μ s or the time until the main clock oscillation stabilizes, whichever is longer.
- (c) Set the CM07 bit in the CM0 register to 0 (main clock).

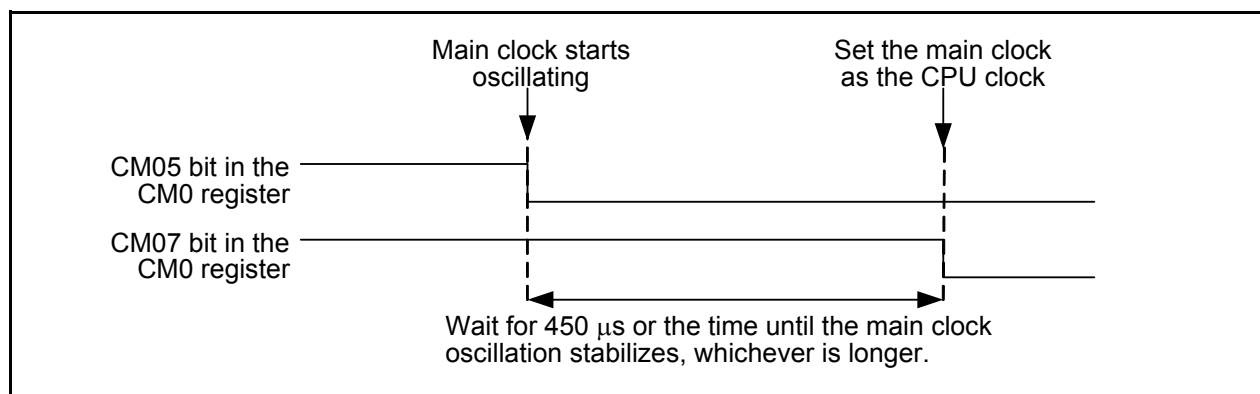


Figure 1. Timing to Set the Main Clock as the CPU Clock After Operating in Low Power Mode.