

RENESAS TECHNICAL UPDATE

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Product Category	MPU & MCU	Document No.	TN-RX*-A050A/E	Rev.	1.00
Title	Note on Realtime Clock Status after Power-on in the RX630 Group	Information Category	Technical Notification		
Applicable Product	RX630 Group	Lot No.	Reference Document	RX630 Group User's Manual: Hardware Rev.1.50 (R01UH0040EJ0150)	
		See the applicable product list			

1. Note

Due to the realtime clock (RTC) specifications, registers in the RTC module are not reset by MCU reset signals, including the RES# pin reset and watchdog timer reset. The register values are retained after a reset. Therefore, register values in the RTC module are undefined after power-on. As a result, the clock may not be supplied, and the internal reset may not be released.

2. Measures

Supply a clock to the RTC module using any of the following measures:

A. Oscillate both the main clock and sub-clock

When the sub-clock oscillator is connected, the sub-clock oscillator starts oscillating at power-on. Whether the RCR4.RCKSEL bit is 0 or 1, a clock is supplied to the RTC module by oscillating the main clock. After the main clock and sub-clock oscillation is stabilized, set the frequency of the peripheral module clock (PCLKB) to a frequency equal to or greater than the main clock frequency, and access registers.

B. Select the sub-clock as the count source of the RTC module

When the sub-clock oscillator is connected, the sub-clock oscillator starts oscillating at power-on. A clock is supplied to the RTC module by setting the RCR4.RCKSEL bit to 0. After the sub-clock oscillation is stabilized, set the frequency of PCLKB to a frequency equal to or greater than the sub-clock frequency, and access registers.

C. Oscillate the main clock, and select the main clock as the count source of the RTC module

When the sub-clock oscillator is not connected, select this measure. A clock is supplied to the RTC module by oscillating the main clock and setting the RCR4.RCKSEL bit to 1. After the main clock oscillation is stabilized, set the frequency of PCLKB to a frequency equal to or greater than the main clock frequency, and access registers.

When neither the main clock nor the sub-clock is used, the RTC module cannot be used. Set the SOSCCR.SOSTP bit to 1 and set the RCR3.RTCEN bit to 0 to stop the sub-clock oscillator. In addition, set the RCR2.START bit to 0.

[Applicable product list]

Group	Specification
RX630	Products with a RAM capacity of 64 Kbytes • The 8th digit (ROM, RAM, and E2 data flash capacity) of the product part number is 7 or 8.
	Products with a RAM capacity of 96 Kbytes and 176 or more pins • The 8th digit (ROM, RAM, and E2 data flash capacity) of the product part number is A or B, and 11th and 12th digits (package type, number of pins, and pin pitch) are FC, BG, or LC.
	Products with a RAM capacity of 128 Kbytes • The 8th digit (ROM, RAM, and E2 data flash capacity) of the product part number is D or E.