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Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

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April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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RENESAS TECHNICAL UPDATE

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Product Category	MPU&MCU		Document No.	TN-H8*-A392A/E	Rev.	1.00
Title	Note regarding counter initialization by the TME bit in the WDT module when a frequency-divided clock signal from subclock is selected		Information Category	Technical Notification		
Applicable Product	See below.	Lot No.	Reference Document	See below.		
		All lots				

Please note the following point for caution when the TME bit in TCSR is used to initialize the counter (TCNT) of the watchdog timer (WDT) and the selected input for TCNT is a clock signal obtained by frequency-dividing Φ_{SUB} ($PSS = 1$).

—Note—

1. Applicable Module

This note applies to watchdog timers for which clock signals obtained by frequency-dividing Φ and Φ_{SUB} are selectable as the input to TCNT (the relevant WDTs are listed in the table overleaf).

2. Condition for Occurrence

TCNT might not be initialized to H'00 by clearing the TME bit to 0 if both of the following conditions also hold at the time.

- (1) The PSS bit in TCSR has been set to 1 to select a clock obtained by frequency-dividing Φ_{SUB} .
- (2) The TME bit has been cleared to 0 in high-speed mode or medium-speed mode during TCNT operation and then re-set to 1, to enable the TCNT.

The TME bit was 0 for a shorter period than one cycle of Φ_{SUB} .

3. Phenomenon

When the TME bit is 0 for a shorter period than that of Φ_{SUB} , the attempt to initialize the TCNT by the TME bit is ineffective and TCNT continues to count up.

4. Countermeasure

When a clock obtained by frequency-dividing Φ_{SUB} has been selected as the input to TCNT, initialize TCNT to H'00 by following any of the below instructions.

- (1) Write H'00 to TCNT (writing to TCNT takes priority over counting).
- (2) Clear the TME bit to 0 in sub-active mode* (the TME bit will be 0 for a longer period than that of Φ_{SUB}).
* H8S/2500 series products do not have a sub-active mode.
- (3) Clear the TME bit and PSS bit to 0 (selects a clock signal obtained by frequency-dividing Φ as the input to TCNT).

5. Applicable Products and Related Manuals

Series	Product Group	Hardware Manual	Rev.	Relevant WDT
H8S/2600 Series	H8S/2607 Group	H8S/2607 Group Hardware Manual (REJ09B0427-0100)	1.00	WDT_1
	H8S/2609 Group	H8S/2609 Group Hardware Manual (REJ09B0428-0100)	1.00	WDT_1
	H8S/2615 Group	H8S/2615 Group Hardware Manual (REJ09B0072-0200O)	2.00	WDT_1
	H8S/2630 Group	H8S/2639, H8S/2638, H8S/2636, H8S/2630, H8S/2635 Group Hardware Manual (REJ09B0103-0600)	6.00	WDT1
	H8S/2635 Group			
	H8S/2636 Group			
	H8S/2638 Group			
	H8S/2639 Group			
	H8S/2633 Group	H8S/2633 Group, H8S/2633 F-ZTAT™, H8S/2633R F-ZTAT™, H8S/2695 Hardware Manual (REJ09B0234-0500)	5.00	WDT1
	H8S/2643 Group	H8S/2643 Group, H8S/2643 F-ZTAT™ Hardware Manual (REJ09B0186-0300O)	3.00	WDT1
	H8S/2646 Group	H8S/2646 Group, H8S/2646R F-ZTAT™, H8S/2648R F-ZTAT™ Hardware Manual (REJ09B0257-0500)	5.00	WDT1
H8S/2648 Group				
H8S/2649 Group	H8S/2649 Group Hardware Manual (REJ09B0200-0200)	2.00	WDT_1	
H8S/2500 Series	H8S/2506 Group	H8S/2556 Group, H8S/2552 Group, H8S/2506 Group Hardware Manual (REJ09B0099-0500)	5.00	WDT_1
	H8S/2552 Group			
	H8S/2556 Group			
H8S/2400 Series	H8S/2472 Group	H8S/2472, H8S/2462 Group Hardware Manual(REJ09B0403-0100)	1.00	WDT_1
	H8S/2462 Group			
	H8S/2463 Group	-	-	WDT_1
H8S/2200 Series	H8S/2227 Group	H8S/2258, H8S/2239, H8S/2238, H8S/2237, H8S/2227 Groups Hardware Manual (REJ09B0054-0500)	5.00	WDT_1
	H8S/2237 Group			
	H8S/2238 Group			
	H8S/2239 Group			
	H8S/2258 Group	H8S/2268 Group, H8S/2264 Group Hardware Manual (REJ09B0071-0400)	4.00	WDT_1
	H8S/2264 Group			
	H8S/2268 Group	H8S/2282 Group, H8S/2280 Group Hardware Manual (REJ09B0148-0300)	3.00	WDT_1
H8S/2280 Group				
H8S/2282 Group				
H8S/2100 Series	H8S/2112 Group	H8S/2112 Group Hardware Manual (REJ09B0451-0100)	1.00	WDT_1
	H8S/2112R Group	H8S/2112R Group Hardware Manual (REJ09B0462-0100)	1.00	WDT_1
	H8S/2114R Group	H8S/2114R Group Hardware Manual (REJ09B0098-0300)	3.00	WDT_1
	H8S/2114 Group			
	H8S/2116 Group	H8S/2116 Group Hardware Manual (REJ09B0255-0100)	1.00	WDT_1
	H8S/2117 Group	H8S/2117 Group Hardware Manual (REJ09B0350-0200)	2.00	WDT_1
	H8S/2117R Group	H8S/2117R Group Hardware Manual (REJ09B0452-0100)	1.00	WDT_1
	H8S/2125 Group	H8S/2125 Group Hardware Manual (REJ09B0310-0100)	1.00	WDT_1
	H8S/2153 Group	H8S/2153 Group Hardware Manual (REJ09B0384-0100)	1.00	WDT_1
	H8S/2164 Group	H8S/2164 Group Hardware Manual (REJ09B0429-0100)	1.00	WDT_1
	H8S/2168 Group	H8S/2168 Group Hardware Manual (REJ09B0078-0300Z)	3.00	WDT_1
	H8S/2189R Group	H8S/2189R Group Hardware Manual (REJ09B0223-0200)	2.00	WDT_1
	H8S/2189 Group			