To our customers,

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.

Renesas Electronics website: http://www.renesas.com

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Renesas Electronics Corporation

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RENESAS TECHNICAL UPDATE

Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Renesas Technology Corp.

Product Category	MPU&MCU		Document No.	TN-H8*-A381A/E	Rev.	1.00
Title	H8SX/1658R and 1668R Group Note on activation of the A/D converter by an external trigger		Information Category	Technical Notification		
Applicable Product	H8SX/1658R, H8SX/1654R, H8SX/1653R, H8SX/1668R, H8SX/1664R, H8SX/1663R	Lot No. All lots	Reference Document	H8SX/1658R Group Hardware Manual (REJ09B0413-0100) H8SX/1668R Group Hardware Manual (REJ09B0412-0100)		

We would like to inform you of a point regarding usage of the A/D converter of the H8SX/1658R and 1668R Group products. Please take this information into consideration when using the products.

When starting of the A/D converter by an external trigger is in use, stopping of the A/D converter may not be possible when any of the following ((1) to (3)) is executed.

*1 External trigger: Conversion-start trigger from the ADTRG input pin or peripheral modules (TMR and TPU)

(1) Changing the value of the ADST bit in the ADCSR register from 0 to 1
(2) Changing from the activation by external trigger setting to the external-trigger-disabled setting
(3) Changing the scan-mode setting (changing the setting of the SCANE and ADSTCLR bits to switch from continuous scan mode to single mode or one-cycle scan mode)

If any of the above situations is relevant, please make settings in accord with the instructions below.

If case (1) is applicable:

Do not set 1 to the ADST bit in ADCSR register.

If case (2) or (3) is applicable:

Be sure to invalidate the external trigger input before changing the setting from activation by the external trigger to disabling of the external trigger or changing the scan-mode setting (changing the setting of the SCANE and ADSTCLR bits) while activation by the external trigger is in use.

Setting the TRGS1, TRGS0, and EXTRGS bits in the ADCR register to the values given overleaf invalidates the external trigger input for the start of A/D conversion.

See flowchart 1 for details of the procedure in the event of (2) or (3).

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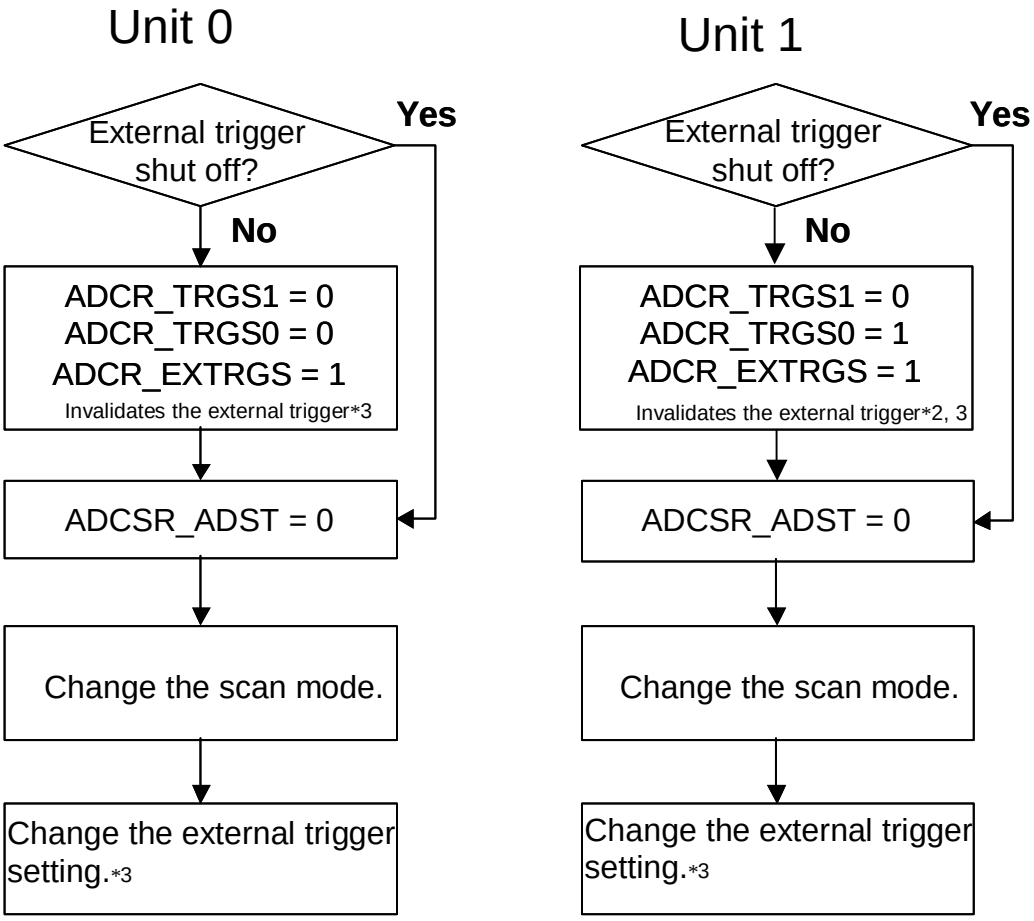
Flowchart 1 Procedure for changing modes when starting of the A/D converter by an external trigger signal has been selected



*2 Ensure that the TTGE bit in TIER of TPU unit 1 is set to 0 before making these settings, as is specified on page 604(H8SX1658R Group),706(H8SX1668R Group) of the hardware manual.

*3 Ensure that the TRGS1, TRGS0, and EXTRGS bits in the respective ADCR registers are set (as bytes) at the same time.