To our customers,

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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.

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

April 1st, 2010
Renesas Electronics Corporation

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Issued by: Renesas Electronics Corporation (http://www.renesas.com)
Send any inquiries to http://www.renesas.com/inquiry.
Thank you for your consistent patronage of Renesas semiconductor products.

We would like to inform you of the problems in data transfer by the SCI that occur when a specific register of the SCI is written to by using the H8SX E6000H emulator (HS1650EPH60H). Please take this information into consideration when you use the emulator.

[Problems]

1) The following problems may occur when writing to any of the applicable registers of the channel on which data transmission or reception is in progress.

(A) Writing to an applicable register for the channel that is transmitting data illegally inverts the values of the bits being transmitted.

(B) Writing to an applicable register for the channel that is receiving data illegally inverts the values of the bits being received.

(C) When data is written to an applicable register immediately after clearing of the overrun error flag, the first SCK clock pulse is not normally output (i.e. incorrect duty cycle), which prevents correct reception.

[Applicable Registers]

Serial control register (SCR): Controls transmission/reception and interrupts and selects a clock source

Smart card mode register (SCMR): Selects the communication format and a clock source for the on-chip baud rate generator

Serial mode register (SMR): Selects smart card interface mode and its format
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<td>Writing to an applicable register of the channel that is receiving data</td>
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*Note: There are exceptional cases under the operating conditions of “asynchronous mode/internal clock/reception.” The data transfer error does not occur when there is sufficient margin in data reception or when the transfer rate of the transmitting device is lower than that of the H8SX.

2) Cause
These problems are caused by the emulator evaluation chip (HD64E1688) installed on the emulator (HS1650EPH60H).

3) Applicable Devices
All devices incorporating the SCI and supported by HS1650EPH60H.
[Countermeasure]
Take the following procedure to make sure if your usage fall under the category that causes the problem.

(1) Operating condition
Check if your usage fits into any of the combinations of communication mode (synchronous/asynchronous/smart card interface), clock source selection (internal/external clock), and whether transmission or reception as shown in the table in the previous page.

(2) Writing to an applicable register and its timing
If the operating conditions apply, check to see if writing is performed with the timing stated in the table.
If your usage is found to be the case through steps (1) and (2), the following countermeasure must be taken to avoid the problems.

Cases (A) and (B): Do not write to any applicable registers during data transmission or reception.
Case (C): Clear the overrun error flag after writing to the SCR register.
For the case of “asynchronous/internal clock (marked * in the table)”, no countermeasure with software is needed as long as there is sufficient margin in reception.

[Other]
For more information, please contact Customer Support Dept. in Global Strategic Communication Div. of Renesas Solutions Corporation or the sales office where you have purchased the Renesas product.

Note: The serial number is written on the label at the lower position of the emulator’s rear panel.

MODEL HS1650EPH60H
SERIAL No. xxxx H
DATE 200x.xx
MADE IN JAPAN

Lot No: Serial number 0001 to 0108 and 0110 to 0117