

To our customers,

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## Old Company Name in Catalogs and Other Documents

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On April 1<sup>st</sup>, 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

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-SH7-A625A/E	Rev.	1.00
Title	The explanations for the bit rate of IrDA		Information Category	Technical Notification		
Applicable Product	SH7720 Group SH7721 Group SH7705 Group	Lot No.	Reference Document	SH7720 hardware manual Rev2.00 ( REJ09B0033-0200 ) SH7705 hardware manual Rev2.00 ( REJ09B0082-0200 )		
		All				

There are the explanations for the bit rate of IrDA in the SH7720 Group, the SH7721 Group and the SH7705 Group..

The bit rate of IrDA is recommended to be set to become the value of the following table.

For instance, in case of the transfer rate of 115.2kbps, please set the following value.

$$(Nb+1) : (Ni+1) = 2 : 1$$

Though the SCIF module and the IrDA module operate asynchronously, SCIF and IrDA synchronize by setting "(Nb+1):(Ni+1) = 2:1". As a result, even when the error margin of the bit rate is caused, the error margin in IR intraframe becomes uniform.

Moreover, the PSEL bit in SCIMR register is set to 1, sending and receiving can be optimized.

Nb	Nb+1	B	Ni	Ni+1
17	18	115.2	8	9
35	36	57.6	8	9
53	54	38.4	8	9
107	108	19.2	8	9
215	216	9.6	8	9

\*1 Nb: Baud rate value of SCIF ( the SCBRD7-0 bit of SCBRR register )

\*2 Ni: Baud rate value of IrDA ( the ICK3-0 bit of SCIMR register )

\*3 B: Bit rate ( bits/s )