

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>

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-SH7-A598A/E	Rev.	1.00
Title	Error corrections in SH7147 series hardware manual (Rev1.00)		Information Category	Technical Notification		
Applicable Product	SH7147 Group	Lot No.	Reference Document	SH7147 Group Hardware Manual Rev1.00 (REJ09B0230-0100)		
		All				

We greatly appreciate your purchasing our semiconductor products.

We would like to inform you of the clerical error referring on-chip debugging E10A-USB in SH7147 Series Hardware Manual (Rev. 1.00). Please attend the following points.

* SH7147 series products are **not supported of E10A-USB emulator**. Please refer to "E10A-USB emulator Target devices" list on RENESAS homepage for detailed information.

1. The modification

(1) Pin Function controller (PFC)

- P755-756 Port D control register L2 (PDCRL2)

[Before]

Bit	Bit Name	Initial		Description
		Value	R/W	
15	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.
14	PD7MD2	0	R/W	PD7 Mode
13	PD7MD1	0	R/W	Select the function of the
12	PD7MD0	0*	R/W	PD7/D7/TXD2/ $\overline{\text{SCS}}$ / $\overline{\text{AUDSYNC}}$ pin. Fixed to AUDSYNC output when using the AUD function of E10A. 000: PD7 I/O (port) 001: D7 I/O (BSC) 011: $\overline{\text{AUDSYNC}}$ output (AUD) 101: $\overline{\text{SCS}}$ I/O (SSU) 110: TXD2 output (SCI) Other than above: Setting prohibited
11	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.

Bit	Bit Name	Initial		Description
		Value	R/W	
10	PD6MD2	0	R/W	PD6 Mode
9	PD6MD1	0	R/W	Select the function of the PD6/D6/RXD2/AUDCK pin.
8	PD6MD0	0*	R/W	Fixed to AUDCK output when using the AUD function of E10A. 000: PD6 I/O (port) 001: D6 I/O (BSC) 011: AUDCK output (AUD) 110: RXD2 input (SCI) Other than above: Setting prohibited
7	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.
6	PD5MD2	0	R/W	PD5 Mode
5	PD5MD1	0	R/W	Select the function of the PD5/D5/SCK1/AUDMD pin.
4	PD5MD0	0*	R/W	Fixed to AUDMD input when using the AUD function of E10A. 000: PD5 I/O (port) 001: D5 I/O (BSC) 011: AUDMD input (AUD) 110: SCK1 I/O (SCI) Other than above: Setting prohibited
3		0	R	Reserved This bit is always read as 0. The write value should always be 0.
2	PD4MD2	0	R/W	PD4 Mode
1	PD4MD1	0	R/W	Select the function of the PD4/D4/TXD1/AUDRST pin.
0	PD4MD0	0*	R/W	Fixed to AUDRST input when using the AUD function of E10A. 000: PD4 I/O (port) 001: D4 I/O (BSC) 011: AUDRST input (AUD) 110: TXD1 output (SCI) Other than above: Setting prohibited

[After]

Bit	Bit Name	Initial		Description
		Value	R/W	
15	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.
14	PD7MD2	0	R/W	PD7 Mode
13	PD7MD1	0	R/W	Select the function of the
12	PD7MD0	0*	R/W	PD7/D7/TXD2/SCS/AUDSYNC pin. 000: PD7 I/O (port) 001: D7 I/O (BSC) 011: AUDSYNC output (AUD) 101: SCS I/O (SSU) 110: TXD2 output (SCI) Other than above: Setting prohibited
11	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.
10	PD6MD2	0	R/W	PD6 Mode
9	PD6MD1	0	R/W	Select the function of the PD6/D6/RXD2/AUDCK pin.
8	PD6MD0	0*	R/W	000: PD6 I/O (port) 001: D6 I/O (BSC) 011: AUDCK output (AUD) 110: RXD2 input (SCI) Other than above: Setting prohibited
7	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.
6	PD5MD2	0	R/W	PD5 Mode
5	PD5MD1	0	R/W	Select the function of the PD5/D5/SCK1/AUDMD pin.
4	PD5MD0	0*	R/W	000: PD5 I/O (port) 001: D5 I/O (BSC) 011: AUDMD input (AUD) 110: SCK1 I/O (SCI) Other than above: Setting prohibited
3		0	R	Reserved This bit is always read as 0. The write value should always be 0.

Bit	Bit Name	Initial		Description
		Value	R/W	
2	PD4MD2	0	R/W	PD4 Mode
1	PD4MD1	0	R/W	Select the function of the PD4/D4/TXD1/AUDRST pin.
0	PD4MD0	0*	R/W	000: PD4 I/O (port) 001: D4 I/O (BSC) 011: AUDRST input (AUD) 110: TXD1 output (SCI) Other than above: Setting prohibited

• P18-23-24 Port D Control Register L1 (PDCRL1)

[Before]

Bit	Bit Name	Initial Value		Description
		Value	R/W	
15	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.
14	PD3MD2	0	R/W	PD3 Mode
13	PD3MD1	0	R/W	Select the function of the PD3/D3/RXD1/AUDATA3 pin. Fixed to AUDATA3 output when using the AUD function of E10A.
12	PD3MD0	0*	R/W	000: PD3 I/O (port) 001: D3 I/O (BSC) 011: AUDATA3 output (AUD) 110: RXD1 input (SCI) Other than above: Setting prohibited
11	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.
10	PD2MD2	0	R/W	PD2 Mode
9	PD2MD1	0	R/W	Select the function of the PD2/D2/SCK0/AUDATA2 pin. Fixed to AUDATA2 output when using the AUD function of E10A.
8	PD2MD0	0*	R/W	000: PD2 I/O (port) 001: D2 I/O (BSC) 011: AUDATA2 output (AUD) 110: SCK0 I/O (SCI) Other than above: Setting prohibited
7	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.
6	PD1MD2	0	R/W	PD1 Mode
5	PD1MD1	0	R/W	Select the function of the PD1/D1/TXD0/AUDATA1 pin. Fixed to AUDATA1 output when using the AUD function of E10A.
4	PD1MD0	0*	R/W	000: PD1 I/O (port) 001: D1 I/O (BSC) 011: AUDATA1 output (AUD) 110: TXD0 output (SCI) Other than above: Setting prohibited
3	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.
2	PD0MD2	0	R/W	PD0 Mode
1	PD0MD1	0	R/W	Select the function of the PD0/D0/RXD0/AUDATA0 pin. Fixed to AUDATA0 output when using the AUD function of E10A.
0	PD0MD0	0*	R/W	000: PD0 I/O (port) 001: D0 I/O (BSC) 011: AUDATA0 output (AUD) 110: RXD0 input (SCI) Other than above: Setting prohibited

[After]

Bit	Bit Name	Initial Value	R/W	Description
15	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.
14	PD3MD2	0	R/W	PD3 Mode
13	PD3MD1	0	R/W	Select the function of the PD3/D3/RXD1/AUDATA3 pin.
12	PD3MD0	0*	R/W	000: PD3 I/O (port) 001: D3 I/O (BSC) 011: AUDATA3 output (AUD) 110: RXD1 input (SCI) Other than above: Setting prohibited
11	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.
10	PD2MD2	0	R/W	PD2 Mode
9	PD2MD1	0	R/W	Select the function of the PD2/D2/SCK0/AUDATA2 pin.
8	PD2MD0	0*	R/W	000: PD2 I/O (port) 001: D2 I/O (BSC) 011: AUDATA2 output (AUD) 110: SCK0 I/O (SCI) Other than above: Setting prohibited
7	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.
6	PD1MD2	0	R/W	PD1 Mode
5	PD1MD1	0	R/W	Select the function of the PD1/D1/TXD0/AUDATA1 pin.
4	PD1MD0	0*	R/W	000: PD1 I/O (port) 001: D1 I/O (BSC) 011: AUDATA1 output (AUD) 110: TXD0 output (SCI) Other than above: Setting prohibited
3	---	0	R	Reserved This bit is always read as 0. The write value should always be 0.
2	PD0MD2	0	R/W	PD0 Mode
1	PD0MD1	0	R/W	Select the function of the PD0/D0/RXD0/AUDATA0 pin.
0	PD0MD0	0*	R/W	000: PD0 I/O (port) 001: D0 I/O (BSC) 011: AUDATA0 output (AUD) 110: RXD0 input (SCI) Other than above: Setting prohibited

(2) Advanced User Debugger (AUD)

- P940 (4) Other limitations

[Before]

- When using an on-chip debugger, such as E10A, the AUD cannot be used as the user function regardless of the existence of AUD options.

[After]

Delete

- P943 (3) Other limitations

[Before]

- When using an on-chip debugger, such as E10A, the AUD cannot be used as the user function regardless of the existence of AUD options.

[After]

Delete