# **RENESAS TECHNICAL UPDATE**

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Product Category	MPU/MCU	Document No.	TN-SH7-A781C/E	Rev.	3.00	
Title	SH7450 Group, SH7451 Group Hardware M Errata Rev.C	Information Category	Technical Notification	1		
Applicable Product	SH7450 Group, SH7451 Group		Reference Document	SH7450 Group, SH74 Hardware Manual Rev		)

Since we changed the following contents of "TN-SH7-A781 B/E:SH7450 Group and SH7451 Group hardware manual Errata Rev.B (Technical update published on February 17, 2011)", we announce you.

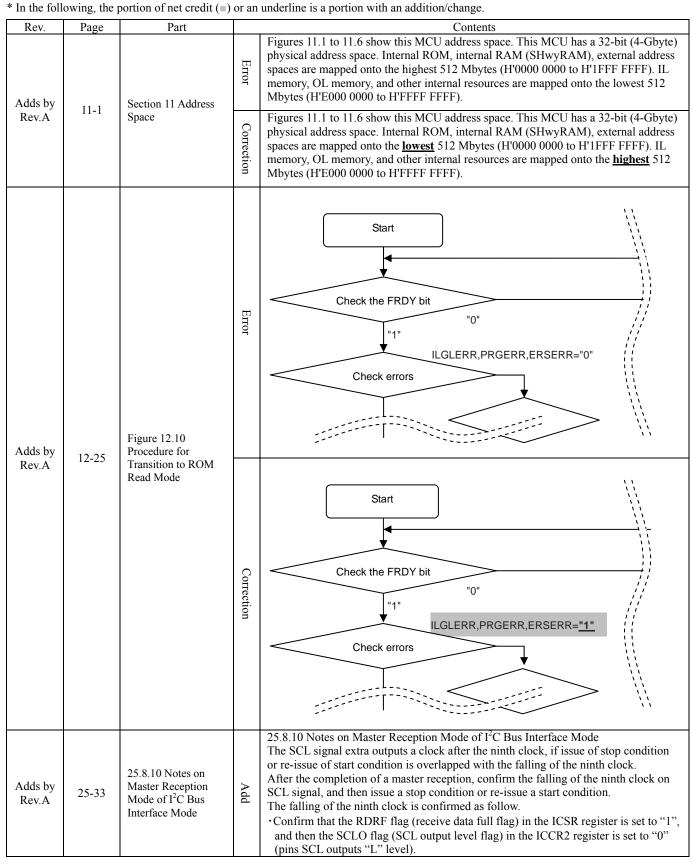
Please use attached errata in the case of use of SH7450 Group and SH7451 Group hardware manual Rev.1.00.

In addition, the contents of errata (Rev.B) of this manual are also indicated to attach errata (Rev.C).

- Technical update TN-SH7-A781B/E: Errata (Rev.B)

Appending Document:"SH7450 Group and SH7451 Group hardware manual Rev.1.00" errata Rev.C - 22 sheets







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Adds by Rev.B 38-14 38.3.1 Power-On/Off Timing 38.3.1 Power-On/Off Timing Vcc win. PVcc win. Vcc Vcc Wcc win. Vcc Vcc Wcc Wcc win. Vcc Vcc Wcc Wcc Wcc Wcc Wcc Wcc Wcc Wcc	
Adds by Rev.B 38-14 38.3.1 Power-On/Off Timing 38.3.1 Power-On/Off Timing Vcc win. Vcc Vcc Wcc Wcc win. Vcc Vcc Wcc Wcc Wcc Wcc Wcc Wcc Wcc Wcc	
Adds by Rev.B 38-14 38.3.1 Power-On/Off Timing 38.3.1 Power-On/Off Timing Gir of Specify Sign and figure Vcc min. Vcc Vcc Max. Figure 38.4 Power-On/Off Timing	
Adds by Rev.B 38-14 38.3.1 Power-On/Off Timing 38.3.1 Power-On/Off Timing Vcc Vcc min. Vcc mi	$\left  \begin{array}{c c} & & \\ \hline g & \\ \hline g & \\ \hline \end{array} \right  = \frac{PVcc}{+} PVcc min. \qquad \qquad$
Adds by Rev.B     38-14     38.3.1 Power-On/Off Timing     38.3.1 Power-On/Off Vcc     Vcc     Vcc min.     Vcc min.       Vdd     Vdd.min     Vcc     Vcc     Vcc     Vcc       Figure 38.4 Power-On/Off Timing     Figure 38.4 Power-On/Off Timing	
Rev.B     Imming     Imming <td>Adds by 1 38.3.1 Power On/Off 1 7</td>	Adds by 1 38.3.1 Power On/Off 1 7
Vdd VDDL max. Figure 38.4 Power-On/Off Timing	
Vdd     Vdd.min       Ifgure     Vdd.min       Figure 38.4 Power-On/Off Timing	Rev.B 38-14 Timing C PLLVcc Vcc min. Vcc min. Vcc max.
Image: State of the state o	Rev.B 38-14 Timing Vcc PLLVcc Vcc min. Vcc min. Vcc min. Vcc max.
Figure 38.4 Power-On/Off Timing	Rev.B 38-14 Jobs Trower-on on Timing Vcc PLLVcc Vcc min. Vcc min. Vcc L max.
© Figure 38.4 Power-On/Off Timing	Rev.B 38-14 Jobs Trower-on on Timing Vcc PLLVcc Vcc min. Vcc min. Vcc min. Vcc min. Vcc L max. Vcc L max.
	Rev.B 38-14 Jobs Trower-on on Timing Vcc min.
	Rev.B     38-14     38-14     56.5.11 ower-on/on     Vcc     Vcc min.     Vcc min.     Vcc min.       Ydd     Vdd     Vdd.min     Vdd.min     Vdd.min
	And Sty     38-14     38-14     Solution of the second o



Rev.	Page	Part	Contents
			Table 1.1 Specifications Overview: Description of SCIF changed.
		Table 1.1	Error: Maximum transfer rate: 3.3 MHz
Adds by	1-5	Table 1.1 Specifications	Correct: Maximum transfer rate: <u>3.3 Mbps</u>
Rev.C	1-5	Overview	Table 1.1 Specifications Overview: Description of RSPI changed.
			Error: Maximum transfer rate: 10 MHz
			Correct: Maximum transfer rate: <u>10 Mbp</u> s
A 11.1		Table 1.1	Table 1.1 Specifications Overview: Description of DRO changed.
Adds by Rev.C	1-6	Specifications	Error: Maximum transfer speed: 10 MHz
Rev.C		Overview	Correct: Maximum transfer speed: <u>20 Mbps(when 16bits is selected)</u>
			Figure 1.1 Block Diagram: Incorrect description corrected.
			O in a figure shows the corrected part.
			Error:
			SH-4A core (240 MHz maximum)
			Debugging
			CPU FPU IL memory OL memory functions
			cache cache UTLB ITLB UBC
			SuperHyway bus (80 MHz maximum)
Adds by	1-8	Figure 1.1 Block	
Rev.C		Diagram	
			Correct:
			SH-4A core (240 MHz maximum)
			CPII   CPII   CDII   Contendary   Contendary   functions
			cache cache UTLB ITLB UBC
			(32 Kbytes) (32 Kbytes) (°64) (°4) UBC
			1
			SuperHyway bus (80 MHz maximum)
			Figure 7.4 P4 Area: Incorrect description corrected.
			Error:
			H'E000 0000 Store queue
			H'E 400 0000 Reserved area
			H'E500 0000 On chin month aron
			H 2000 0000
			Reserved area
Adds by			H'F000 0000
Rev.C	7-6	Figure 7.4 P4 Area	
NUV.C			Correct:
			H'E000 0000 Store queue
			H'E 400 0000 Reserved area
			H'E500 E000 H'E520 2000 On-chip memory area
			H Es20 2000
			Reserved area
			H'F000 0000
			Incorrect description corrected (the 4th line).
Adds by	_ ~		Error: The area from <u>H'E500 0000</u> to <u>H'E5FF FFFF</u> comprises addresses for accessing the
	7-6	7.1.1 (1) (d) P4 Area	on-chip memory.
Rev.C			1. Comparts The area from EULEON EOM to EULEON 1. ELE commission addresses for accessing
Rev.C			Correct: The area from <u>H'E500 E000</u> to <u>H'E520 1FFF</u> comprises addresses for accessing the on-chip memory.



Rev.	Page	Part	Contents
			Incorrect description corrected (the 12th line). Error: The area from H'F300 0000 to H'F37F FFFF is used for direct access to instruction
Adds by Rev.C	7-6	7.1.1 (1) (d) P4 Area	TLB data array.         Correct: The area from H'F300 0000 to H'F3FF FFFF is used for Direct access to instruction TLB data array.         Incorrect description corrected (the 18th line).         Error: The area from H'F600 0000 to H'F60F FFFF is used for direct access to the unified TLB address array.         Correct: The area from H'F600 0000 to H'F6FF FFFF is used for direct access to the unified TLB address array.
			<ul> <li>Incorrect description corrected (the 20th line).</li> <li>Error: The area from H'F700 0000 to <u>H'F70F FFFF</u> is used for direct access to unified TLB data array.</li> <li>Correct: The area from H'F700 0000 to <u>H'F7FF FFFF</u> is used for direct access to unified TLB data array.</li> </ul>
Adds by Rev.C	7-40	7.6.6 (2) UTLB Data Array 2	Incorrect description corrected (the 2nd line). Error: The UTLB data array is allocated to addresses H'F780 0000 to <u>H'F78F FFFF</u> in the P4 area. Correct: The UTLB data array is allocated to addresses H'F780 0000 to <u>H'F7FF FFFF</u> in the P4 area.
Adds by Rev.C	9-1	9.1 IL Memory/ OL Memory	Incorrect description corrected (the 3rd line). Error: The SH-4A includes <u>three</u> types of memory modules for storage of instructions and data: OL memory, IL memory, <u>and U memory</u> . Correct: The SH-4A includes <u>two</u> types of memory modules for storage of instructions and data: OL memory and IL memory.
Adds by Rev.C	9-9	9.3.4 OL Memory Block Transfer	Incorrect description corrected (the 10th line). Error: In either case, transfer <u>rate</u> is fixed to 32 bytes. Correct: In either case, transfer <u>size</u> is fixed to 32 bytes. Incorrect description corrected (the 11th line). Error: In either case, other pages and cache can be accessed during block transfer, <u>but the</u> <u>CPU will stall if the page which is being transferred is accessed before data</u> transfer ends. Correct: In either case, other pages and cache can be accessed during block transfer, <u>if the</u> <u>page is accessed during data transfer, the CPU will stall until block</u> transfer ends.
Adds by Rev.C	10-1	10.1.1 (2) The MD0 pin	Incorrect description corrected (the 3rd line). Error: In single chip mode, only the internal ROM is used. Correct: In single chip mode, only the internal ROM and RAM is used.
Adds by Rev.C	12-8	12.3.2 Flash Access Status Register	<ul> <li>Description of the bit 7 (ROMAE bit) in the Flash Access Status Register (FASTAT) corrected (the 25th line).</li> <li>Error: A block erase, <u>block program</u>, or lock bit program command is issued to ROM when the user boot MAT is selected.</li> <li>Correct: A block erase, <u>program</u>, or lock bit program command is issued to ROM when the user boot MAT is selected.</li> </ul>
Adds by Rev.C	12-9	12.3.3 ROM MAT Select Register	Setting value of the bit 15 to 8 (KEY bit) in the ROM MAT Select Register (ROMMAT) corrected. Error: R: R W: *1 Note: *1 Write data is not retained. Correct: R: 0 W: W
Adds by Rev.C	12-13	12.3.6 Flash P/E Mode Entry Register	Setting value of the bit 15 to 8 (FEKEY bit) in the Flash P/E Mode Entry Register (FENTRYR) corrected. Error: R: R W: *1 Note: *1 Write data is not retained. Correct: R: 0 W: W
Adds by Rev.C	12-15	12.3.7 Flash Protect Register	Setting value of the bit 15 to 8 (FPKEY bit) in the Flash Protect Register (FPROTR) corrected. Error: R: R W: *1 Note: *1 Write data is not retained. Correct: R: 0 W: W



Rev.	Page	Part	Contents			
Adds by Rev.C	12-16	12.3.8 Flash Reset Register	Setting value of the bit 15 to 8 (FRKEY bit) in the Flash Reset Register (FRESETR) corrected. Error: R: R W: *1 Note: *1 Write data is not retained. Correct: R: 0 W: W			
Adds by Rev.C	12-18	Table 12.3 Comparison of Programming Modes	Table 12.3 Comparison of Programming Modes: Notes deleted.         Deleted: Notes: *1 A specified block can be erased after the key code is authenticated.         *2 After the MCU is started in the embedded program stored MAT and the boot program provided by Renesas Technology Corp. is executed, execution starts from the location indicated by the reset vector of the user boot MAT.			
Adds by Rev.C	12-20	Table 12.5 FCU Command Format	Table 12. 5 FCU Command Format: Incorrect description corrected.         Error: Number of Bus Cycle         Correct: Number of Command Cycle <sup>*1</sup> Notes: *1 The number of command cycles is the number of peripheral bus write accesses to program/erase address.			
Adds by Rev.C	12-23	Figure 12.8 Command State Transitions in ROM Read Mode and P/E Mode	Figure 12.8 Command State Transitions in ROM Read Mode and P/E Mode: Incorrect description corrected. O in a figure shows the deleted part. Error: ROM read mode FENTRY = H0002 FENTRY = H0002 FENTRY = H0000 ROM P/E mode (command input wait) Command miss rest from FENTRY = H0000 FENTRY = H0000			
Adds by Rev.C	12-24	12.6.3 FCU Command Usage	Incorrect description corrected (the 11th line). Error: If the FRDY bit is held in the "0" state for a period longer than the program/erase time or the suspend delay time(see section 38, Electrical Characteristics), Correct: If the FRDY bit is held in the "0" state for a period longer than the program/erase time (see section 38, Electrical Characteristics),			
Adds by Rev.C	15-3	15.1.1 Interrupt Request Sources in INTC	Incorrect description corrected (the 2nd line).         Error: The INTC manages non-maskable interrupt (NMI interrupt) and general interrupt (IRQ interrupt) and on-chip peripheral module interrupt requests in exceptional handling.         Correct: The INTC manages non-maskable interrupt (NMI interrupt) and general interrupt (IRQ interrupt and on-chip peripheral module interrupt) and general interrupt (IRQ interrupt and on-chip peripheral module interrupt requests in exceptional handling).			



Rev.	Page	Part	Contents
Adds by Rev.C	15-62	15.7.2 To Clear IRQ Interrupt Requests When Level Detection is Selected	<ul> <li>Incorrect description corrected (the 2nd line).</li> <li>Error: To clear IRQ interrupt requests that are set up for level detection, write "1" to the INTMSK.IRQn (n = 0 to 7) bit register IM07 to IM00 bits that correspond to the requests to be cleared.</li> <li>Correct: To clear IRQ interrupt requests that are set up for level detection, write "1" to the INTMSK.IRQn (n = 0 to 7) bit that correspond to the requests to be cleared.</li> </ul>
Adds by Rev.C	15-63	15.7.3 To Clear IRQ Interrupt Requests When Edge Detection is Selected	Incorrect description corrected (the 2nd line). Error: To clear IRQ interrupt requests that are set up for edge detection, write "0" to the INTREQ.IRQn (n = 0 to 7) bit that correspond to the requests to be cleared. Correct: To clear IRQ interrupt requests that are set up for edge detection, write "0" to the INTREQ.IRQn (n = 0 to 7) bit that correspond to the requests to be cleared <u>after</u> <u>reading</u> "1".
			Incorrect description corrected (the 3rd line). Error: Although the WDTCSR register is initialized by a hardware reset, the count value is retained when a reset due to a counter overflow occurs in watchdog timer mode. The value will be H'0000 0000 after a hardware reset. Correct: The WDTCSR register is reset by the RESET# pin and initialized to "H'0000 0000". Although the value set prior to the reset will be retained for resets due to counter overflows in watchdog timer mode, the WOVF bit is set to "1". The value set prior to the reset will be retained for resets due to H-UDI. Setting value of the bit 4 (WOVF bit) in the Watchdog Timer Control/Status Register
Adds by Rev.C	17-4	17.3.2 Watchdog Timer Control/Status Register	(WDTCSR) corrected. Error: W: W Correct: W: *1 Note: *1 Only writing "0" is valid. If "1" is written, the previous value will be retained. Setting value of the bit 3 (IOVF bit) in the Watchdog Timer Control/Status Register
			(WDTCSR) corrected. Error: W: W Correct: W: *1 Note: *1 Only writing "0" is valid. If "1" is written, the previous value will be retained.
Adds by Rev.C	17-5	17.3.3 Watchdog Timer Base Stop Time Register	Setting value of the bit 31 to 24 (WDTBSTKEY bit) in the Watchdog Timer Base Stop Time Register (WDTBST) corrected. Error: R: R Correct: R: 0
Adds by Rev.C	17-7	17.4.1 Using Watchdog Timer Mode	Incorrect description corrected (the 5th line). Error: 4. In watchdog timer mode, the application must periodically clear the WDTCNT counter so that the WDTCNT counter does not overflow. See section 17.4.4, Clearing the WDT Counter, for the procedure for clearing this counter. Correct: 4. In watchdog timer mode, the application must periodically clear the WDTCNT or the WDTBCNT counter so that the WDTCNT counter does not overflow. See section 17.4.4, Clearing the WDT Counter, for the procedure for clearing this counter.
Adds by Rev.C	18-33	18.3.9 (2) Port A Control Register 3	Description of the bit 2 to 0 (PA8MD bit) in the Port A Control Register 3 (PACR3) corrected (the 5th line). Error: 011: DDB08 output (DRI) Correct: 011: DDB08 input (DRI)
Adds by Rev.C	18-41	18.3.11 (4) Port C Control Register 1	Description of the bit 14 to 12 (PC3MD bit) in the Port C Control Register 1 (PCCR1) corrected (the 6th line). Error: 100: SSL20 output (RSPI) Correct: 100: SSL20 input/output (RSPI) Description of the bit 10 to 8 (PC2MD bit) in the Port C Control Register 1 (PCCR1) corrected (the 6th line). Error: 100: RSPCK2 output (RSPI) Correct: 100: RSPCK2 input/output (RSPI)
Adds by Rev.C	18-51	18.3.14 (1) Port F Control Register 2	Description of the bit 6 to 4 (PF5MD bit) in the Port F Control Register 2 (PFCR2) corrected (the 3rd line). Error: 001: SCL output (IIC3) Correct: 001: SCL input/output (IIC3) Description of the bit 2 to 0 (PF4MD bit) in the Port F Control Register 2 (PFCR2) corrected (the 3rd line). Error: 001: SDA output (IIC3) Correct: 001: SDA output (IIC3)
Adds by Rev.C	18-54	18.3.15 (2) Port G Control Register 1	Description of the bit 14 to 12 (PG3MD bit) in the Port G Control Register 1 (PGCR1) corrected (the 5th line). Error: 011: SSL00 output (RSPI) Correct: 011: SSL00 input/output (RSPI)



Rev.	Page	Part	Contents
Adds by Rev.C	18-67	18.3.18 (3) Port K Control Register 2	Description of the bit 10 to 8 (PK6MD bit) in the Port K Control Register 2 (PKCR2) corrected (the 5th line). Error: 100: TXD3 input/output (SCIF) Correct: 100: TXD3 output (SCIF)
Adds by Rev.C	18-69	18.3.18 (4) Port K Control Register 1	Description of the bit 2 to 0 (PK0MD bit) in the Port K Control Register 1 (PKCR1) corrected (the 4th line). Error: 010: SSL10 output (RSPI) Correct: 010: SSL10 input/output (RSPI)
Adds by Rev.C	18-73	18.3.20 (1) Port M Control Register 4	<ul> <li>Description of Notes in the Port M Control Register 4 (PMCR4) corrected.</li> <li>Error: Note: Set PM12 to PM15 as all analog input pins or all general ports. Setting and using them as a mixture of analog input pins and general ports is not supported.</li> <li>Correct: Note: Set PM0 to PM15 as all analog input pins or all general ports. Setting and using them as a mixture of analog input pins and general ports is not supported.</li> </ul>
Adds by Rev.C	18-74	18.3.20 (2) Port M Control Register 3	<ul> <li>Description of Notes in the Port M Control Register 3 (PMCR3) corrected.</li> <li>Error: Note: Set <u>PM8</u> to <u>PM11</u> as all analog input pins or all general ports. Setting and using them as a mixture of analog input pins and general ports is not supported.</li> <li>Correct: Note: Set <u>PM0</u> to <u>PM15</u> as all analog input pins or all general ports. Setting and using them as a mixture of analog input pins or all general ports is not supported.</li> </ul>
Adds by Rev.C	18-75	18.3.20 (3) Port M Control Register 2	<ul> <li>Description of Notes in the Port M Control Register 2 (PMCR2) corrected.</li> <li>Error: Note: Set <u>PM4</u> to <u>PM7</u> as all analog input pins or all general ports. Setting and using them as a mixture of analog input pins and general ports is not supported.</li> <li>Correct: Note: Set <u>PM0</u> to <u>PM15</u> as all analog input pins or all general ports. Setting and using them as a mixture of analog input pins and general ports is not supported.</li> </ul>
Adds by Rev.C	18-76	18.3.20 (4) Port M Control Register 1	<ul> <li>Description of Notes in the Port M Control Register 1 (PMCR1) corrected.</li> <li>Error: Note: Set PM0 to PM3 as all analog input pins or all general ports. Setting and using them as a mixture of analog input pins and general ports is not supported.</li> <li>Correct: Note: Set PM0 to PM15 as all analog input pins or all general ports. Setting and using them as a mixture of analog input pins and general ports is not supported.</li> </ul>
Adds by Rev.C	18-77	18.3.21 (1) Port N Control Register 2	<ul> <li>Description of Notes in the Port N Control Register 2 (PNCR2) corrected.</li> <li>Error: Note: Set <u>PN4</u> to PN7 as all analog input pins or all general ports. Setting and using them as a mixture of analog input pins and general ports is not supported.</li> <li>Correct: Note: Set <u>PN0</u> to PN7 as all analog input pins or all general ports. Setting and using them as a mixture of analog input pins and general ports is not supported.</li> </ul>
Adds by Rev.C	18-78	18.3.21 (2) Port N Control Register 1	<ul> <li>Description of Notes in the Port N Control Register 1 (PNCR1) corrected.</li> <li>Error: Note: Set PN0 to PN3 as all analog input pins or all general ports. Setting and using them as a mixture of analog input pins and general ports is not supported.</li> <li>Correct: Note: Set PN0 to PN7 as all analog input pins or all general ports. Setting and using them as a mixture of analog input pins and general ports is not supported.</li> </ul>
Adds by Rev.C	20-15	20.3.7 DMAi Channel Control Register	<ul> <li>Description of the bit 20 (TS2 bit) in the DMAi Channel Control Register (DMiCHCR) corrected (the 15th line).</li> <li>Error: Note: 16-bit and 32-bit accesses are possible between External address space, IL memory/OL memory, SHwyRAM, and ROM only.</li> <li>Correct: Note: 16-byte and 32-byte accesses are possible between External address space, IL memory/OL memory, SHwyRAM, and ROM only.</li> </ul>



Rev.	Page	Part			Conten	ts	
				ansfer Request Source	ces for On-Chip P	eripheral Module F	Request:
			Descriptions of	of Transfer source an	d destination char	nged.	
			On-chip	DMA Transfer	Setting Value	Transfer Source	Transfer
			Peripheral	Request Sources	for CnMRID		Destination
			Module RSPI	RSPI0 transmit	Bit H'11	Any*	Transmit buffer
			Körr	buffer empty	11 11	Tilly	Transmit burier
				RSPI0 receive buffer full	H'12	Receive buffer	Any*
				RSPI1 transmit	H'15	Any*	Transmit buffer
				buffer empty			
				RSPI1 receive buffer full	H'16	Receive buffer	Any*
				RSPI2 transmit	H'19	Any*	Transmit buffer
		Table 20.5 Transfer		buffer empty RSPI2 receive	H'1A	Receive buffer	Any*
Adds by	20.20	Request Sources for		buffer full	11 174	Receive buller	Any
Rev.C	20-26	On-Chip Peripheral					
		Module Request	On-chip	DMA Transfer	Setting Value	Transfer Source	Transfer
			Peripheral	Request Sources	for CnMRID	Transfer Source	Destination
			Module		Bit		CRODR
			RSPI	RSPI0 transmit buffer empty	H'11	Any	SP0DR
				RSPI0 receive	H'12	SP0DR	Any
				buffer full RSPI1 transmit	H'15	Any	SP1DR
				buffer empty			
				RSPI1 receive buffer full	H'16	SP1DR	Any
				RSPI2 transmit	H'19	Any	SP2DR
				buffer empty RSPI2 receive	H'1A	SP2DR	A my
				buffer full	IIIA	SF2DK	Any
Adds by Rev.C	21-20	21.6.2 ATU-IIIS Clock Bus Control Register	(ATCBCNT) Deleted: Whe	f the bit 1 to 0 (CB5I deleted (the 7th line) n the multiplied-and bus, the setting of the	). -corrected clock i	s selected as the so	Control Register urce for line 5 of the
				ription corrected (the			
Adds by	21.20	21.7 Overview of		onization of a presca n changed.	ler is not possible	e after it has started	or its division ratio
Rev.C	21-28	Prescalers		hronization of the pr	escalers is not po	ssible when its divi	sion ratio has been
			chang	ged after the prescale	ers have started.		
				f the bit 2 to 0 (CKS)	ELA bit) in the TA	Ai Control Register	(TAiCR) corrected
Adds by	21-33	21.11.1 TAi Control	(the 5th line). Error: Clock-l	ous line 5 supplies ex	sternally input clo	ock B (TCLKB) or 1	the multiplied-and
Rev.C	21.00	Register	Error: Clock-bus line 5 supplies externally input clock B (TCLKB) or the multiplied-and -corrected clock output by timer B.				
				k-bus line 5 supplies			1.2
				f the bit 11 to 0 (IOA rected (the 11th line)		the TAII/O Contro	l Register 1
A 11.1		21 11 2 TA 1/0		he noise canceler is		cted edge is simply	extracted from the
Adds by Rev.C	21-34	21.11.2 TAiI/O Control Register 1	external	inputs (TIA00 to T	IA05 and TIA10 t	to TIA15).	
100.0			Correct: Edge extraction is executed to a signal after noise removal. When the noise canceler is disabled, the selected edge is simply extracted from the external inputs				
				00 to TIA05 and TIA		mpry extracted from	n me externar inputs
			Incorrect desc	ription deleted (the 3	33th line).		
Adds by	21-42	21.11.8 TAik Noise		n the NCEA bits are			
Rev.C		Canceler Counter		ting continues until t h or a level change o			
			Incorrect desc	ription corrected (the	e 4th line).		
Adds by	21-49	21.13 Overview of		the number of edges			
Rev.C	12	Timer F		ts the number of edg	ges input to the ex	ternal input pin (TI	(FjA) in a specified
			perio	<u>a.</u>			



Rev.	Page	Part	Contents
Adds by	21-54	21.14.2 TF Noise	Description of the bit 3 to 0 (NCEF3 to NCEF0 bit) in the TF Noise Canceller Control Register (TFNCCR) corrected (the 31th line). Error: If a noise change is detected, this change is regarded as noise and the noise canceller does not change the signal after a noise cancel regarding that no level change of
Rev.C	21-34	Canceller Control Register	input signal occurred. Correct: If a noise change is detected <u>until a compare match occurs</u> , this change is regarded as noise and the noise canceller does not change the signal after a noise cancel regarding that no level change of input signal occurred.
Adds by Rev.C	21-73	Figure 21.14 Operation Example of Edge Count in Given Time	Figure 21.14 Operation Example of Edge Count in Given Time: Value of TFjECNTA corrected.         Error:         Pck         TFjECNTA         Compare match         TFjECNTA         0       1         2       11         12       2         Correct:         Pck         TFjECNTA         0       1         2       11         12       2         2       11         12       0         2       11         12       0         12       11         12       11         12       11         12       11         12       11         12       11         12       11         12       11         12       11         12       11
Adds by Rev.C	21-78	Figure 21.19 Operation Example of Measurement of PWM Input Waveform Timing	Figure 21.19 Operation Example of Measurement of PWM Input Waveform Timing: Description of TFjGRC corrected. Error: TFjECNTC clock TFjECNTC TFjGRC TFjGRC TFjECNTC TFjECN
Adds by Rev.C	21-79	Figure 21.20 Operation Example of Rotation Speed/Pulse Measurement	Figure 21.20 Operation Example of Rotation Speed/Pulse Measurement: Description of TFjGRB corrected.         Error:         TFjECNTC         Clock         TFjGRB         1 (Compare match occurs when ECNTCFn = 256)         Correct:         TFjECNTC         TFjECNTC         1 (Compare match occurs when ECNTCFn = 256)         Correct:         TFjECNTC         TFjERB         1 (Compare match occurs when TFjECNTC = 256)
Adds by Rev.C	21-83	21.16 Overview of Timer G	Incorrect description corrected (the 4th line). Error: The generated pulse is used to activate the A/D converter or interrupt trigger. Correct: The generated pulse is used to activate as the starting/interrupt trigger of the A/D converter.



Rev.	Page	Part	Contents
			Figure 21.27 TOU Enable Circuit Configuration Diagram: Description of TOUn_m enable source corrected.
Adds by Rev.C	21-100	Figure 21.27 TOU Enable Circuit Configuration Diagram	Error: TOUn_m enable source select (ENSELTnm) PDI event output A PDI event output B PDI event output C PDI event output D O PDI event output D PDI event output D
		21.20.16 TOUnPWM	PDAC event output CO PDAC event output DO Setting value of the bit 15 to 8 (ATUKEY bit) in the TOUnPWM Output-Prohibit Control
Adds by Rev.C	21-112	Output-Prohibit Control Register	Register (TOnPODISCR) corrected. Error: R: R Correct: R: 0
Adds by Rev.C	21-128	Figure 21.28 Operation Example of PWM Output Mode	Figure 21.28 Operation Example of PWM Output Mode: Notes corrected.         Error: *2 The value of the reload 1 register is reloaded in the counter.         Correct: *2 The value of the reload 1 buffer is reloaded in the counter.
Adds by Rev.C	21-129	21.21.1 (2) Reload Register Updating in PWM Output Mode	Incorrect description corrected (the 7th line). Error: Normally this operation is performed all at once, with a <u>32-bit word access</u> starting at the reload 1 register address. Correct: Normally this operation is performed all at once, with a <u>32-bit access</u> starting at the reload 1 register address.
Adds by Rev.C	21-129	Figure 21.29 PWM Circuit Diagram	Figure 21.29 PWM Circuit Diagram: Description of reload register corrected. Error: Internal bus Reload 1 Reload 1 Reload 0 Reload 0, reload 1 WR Reload 1 buffer *1 Reload 1 buffer *1 Reload 1 buffer *1 Reload 1 buffer *1 Reload 0, reload 1 WR Reload 1 WR
Adds by Rev.C	21-142	Figure 21.39 Operation Example of One-Shot PWM Output Mode (Reload 0 Register: H'FFFF)	<ul> <li>Figure 21.39 Operation Example of One-Shot PWM Output Mode (Reload 0 Register: H'FFFF): Notes corrected.</li> <li>Error: *1 The value of the reload 1 register is reloaded in the counter because the reload 1 register is set to H'FFFF.</li> <li>Correct: *1 The value of the reload 1 register is reloaded in the counter because the reload 0 register is set to H'FFFF.</li> </ul>



#### Date: June 28, 2011

# RENESAS TECHNICAL UPDATE TN-SH7-A781C/E

Rev.	Page	Part	Contents
Adds by Rev.C	21-150	21.21.7 (1) Disabling PWM Output by Using a Signal on an External Pin	<ul> <li>Incorrect description corrected (the 10th line).</li> <li>Error: Disabling PWM output when a signal is input on PWMOFFn A. Write an appropriate setting value ("000", "010", "011", "10X" or "11X") to the POSTn bits in the TOnPOCR register.</li> <li>Correct: Disabling PWM output when a signal is input on PWMOFFn A. Write an appropriate setting value ("001", "010", "011", "10X" or "11X") to the POSTn bits in the TOnPOCR register.</li> </ul>
Adds by Rev.C	21-158	Figure 21.49 Timer Configuration Diagram	Figure 21.49 Timer Configuration Diagram: Description of TOU0_1,TOU0_3,TOU0_5 corrected. Error: PCLK PRS



Rev.	Page	Part	Contents
Rev.	Page 22-1	Part Figure 22.1 Block Diagram of TMU	Figure 22.1 Block Diagram of TMU: Incorrect description corrected. O in a figure shows the corrected part. Error: Problem dock TMU Problem dock TMU TMU TMU TMU TMU TMU TMU TMU
Adds by Rev.C	23-14	23.3.7 SCi Serial Status Register	Description of the bit 5 (TDFE bit) in the SCi Serial Status Register (SCiFSR) corrected (the 10th line).         Error: 1: Indicates that the number of transmit data items written to the SCiFTDR register is less than the specified transmit trigger count* <sup>2</sup> .         Correct: 1: Indicates that the number of transmit data items written to the SCiFTDR
Adds by Rev.C	23-16	23.3.7 SCi Serial Status Register	register is less than or equal to         the specified transmit trigger count*2.         Description of the bit 1 (RDF bit) in the SCi Serial Status Register (SCiFSR) corrected (the 8th, 20th lines).         Error: 1: Indicates that the number of SCiFRDR register receive data items is greater than the specified receive trigger count         Correct: 1: Indicates that the number of SCiFRDR register receive data items is greater than or equal to the specified receive trigger count         Error: RDF is set to "1" when a quantity of receive data more than the specified receive trigger number is stored in the SCiFRDR register*2         Correct: RDF is set to "1" when a quantity of receive data more than or equal to the specified receive trigger store*2         Correct: RDF is set to "1" when a quantity of receive data more than or equal to the specified receive trigger number is stored in the SCiFRDR register*2



Rev.	Page	Part	Contents
Adds by Rev.C	23-23	23.3.9 SCi FIFO Control Register	<ul> <li>Description of the bit 10 to 8 (RSTRG bit) in the SCi FIFO Control Register (SCiFCR) corrected (the 2nd line).</li> <li>Error: When the quantity of receive data in the SCi receive FIFO data register (SCiFRDR) becomes more than the number shown below, RTSi# signal is set to "H" level.</li> <li>Correct: When the quantity of receive data in the SCi receive FIFO data register (SCiFRDR) becomes more than <u>or equal to</u> the number shown below, RTSi# signal is set to "H" level.</li> <li>Description of the bit 7 to 6 (RTRG bit) in the SCi FIFO Control Register (SCiFCR) corrected (the 3rd line).</li> <li>Error: The RDF flag is set to "1" when the quantity of receive data stored in the SCi receive FIFO register (SCiFRDR) is increased more than the set trigger number shown below.</li> <li>Correct: The RDF flag is set to "1" when the quantity of receive data stored in the SCi receive FIFO register (SCiFRDR) is increased more than <u>or equal to</u> the set trigger number shown below.</li> </ul>
Adds by Rev.C	23-24	23.3.9 SCi FIFO Control Register	<ul> <li>Description of the bit 5 to 4 (TTRG bit) in the SCi FIFO Control Register (SCiFCR) corrected (the 4th line).</li> <li>Error: The TDFE flag is set to "1" when the quantity of transmit data in the SCi transmit FIFO data register (SCiFTDR) becomes less than the set trigger number shown below.</li> <li>Correct: The TDFE flag is set to "1" when the quantity of transmit data in the SCi transmit FIFO data register (SCiFTDR) becomes less than <u>or equal to</u> the set trigger number shown below.</li> </ul>
Adds by Rev.C	23-36	23.4.2 (3) Transmitting and Receiving Data	<ul> <li>Incorrect description corrected (the 6th line).</li> <li>Error: 2. When data is transferred from the SCiFTDR register to the SCiTSR register and transmission is started, consecutive transmit operations are performed until there is no transmit data left in the SCiFTDR register. When the number of transmit data bytes in the SCiFTDR register falls below the transmit trigger number set in the SCiFIFO control register (SCiFCR), the TDFE flag is set. If the TIE bit in the SCi serial control register (SCiSR) is set to "1" at this time, a transmit-FIFO-data-empty interrupt (TXI) request is generated.</li> <li>Correct: 2. When data is transferred from the SCiFTDR register to the SCiTSR register and transmission is started, consecutive transmit operations are performed until there is no transmit data left in the SCiFTDR register. When the number of transmit data bytes in the SCiFTDR register falls below the transmit trigger number set in the SCiFTDR register falls below the transmit trigger number of transmit data bytes in the SCiFTDR register (SCiFCR), the TDFE flag is set. If the TIE bit in the SCiFIFO control register (SCiFCR), the TDFE flag is set. If the TIE bit in the SCiFIFO control register (SCiFCR), the TDFE flag is set. If the TIE bit in the SCi serial control register (SCiFCR) is set to "1" at this time, a transmit-FIFO-data-empty interrupt (TXI) request is generated.</li> </ul>
Adds by Rev.C	23-46	23.5 SCIFi Interrupt	Incorrect title corrected (the 1st line). Error: 23.5 SCIF Interrupts Correct: 23.5 SCIFi Interrupt Sources and DMAC
Adds by Rev.C	24-62	24.4.13 Interrupt Sources	Incorrect description corrected (the 3rd line). Error: The receive buffer full interrupt is assigned to vector address <u>sp_rxint</u> , the transmit buffer empty interrupt to <u>sp_txint</u> , and the mode fault and overrun interrupts to <u>sp_errint</u> . Correct: The receive buffer full interrupt is assigned to vector address <u>SPRIn</u> , the transmit buffer empty interrupt to <u>SPTIn</u> , and the mode fault and overrun interrupts to <u>SPEIn</u> .



Rev.	Page	Part			Contents	3			
	~~~~		Table 24.12 R deleted. Error:	SPIi Interrupt Sourc	es Interrupt Condi	tion: Item of Name and Abbreviation			
			Name	Interrupt Source	Abbreviation	Interrupt Condition			
			sp_rxint	Receive buffer full	RXI	(SPiCR.SPRIE = 1) & (SPiSR.SPRF = 1)			
			sp_txint	Transmit buffer empty	TXI	(SPiCR.SPTIE = 1) & (SPiSR.SPTEF = 1)			
4 11 1		Table 24.12	sp_errint	Mode fault MOI	MOI	(SPiCR.SPEIE = 1) & (SPiSR.MODF = 1)			
Adds by Rev.C	24-62	RSPIi Interrupt Sources Interrupt Condition		Overrun	OVI	(SPiCR.SPEIE = 1) & $(SPiSR.OVRF = 1)$			
		Condition	Comercette						
			Correct:	rupt Source		Interrupt Condition			
			Receive buf			= 1) & (SPiSR.SPRF = 1)			
			Transmit bu			= 1) & (SPISR.SPTEF = 1)			
			Mode fault N			= 1) & (SPiSR.MODF = 1)			
			Overrun			= 1) & (SPiSR.OVRF = 1)			
			L						
			Error: 3. After		RE flag in the ICS	R register has been set, write the ave address and R/W#) to the ICDRT			
Adds by	25-16	25.4.2 Master				ically cleared to "0", and data is DRS register. TDRE flag is set again.			
Rev.C		Transmit Operation				CSR register has been set, write the slave address and R/W#) to the			
			ICDRT register. At this time, TDRE flag is automatically cleared to "0", and						
			data is transferred from the <b>ICDRT</b> register to the ICDRS register. TDRE flag is set again.						
			Incorrect desc	ription corrected (th					
Adds by	25-23	25.4.6 (3) Receive	Error: Notes: 3. Check if the BC bit in the ICMR register is set to "1" and then set the RCVD bit in the ICCR1 register to "1".						
Rev.C		Operation	Correct: Notes: 3. Check if the BC bit in the ICMR register is set to <u>"1xx"</u> and then set the RCVD bit in the ICCR1 register to "1".						
					Reset Procedure Ex	ample Using the IICRST BIT:			
		Figure 25.18 I <sup>2</sup> C Bus Interface 3 Reset	Error: (4) Wa	it until the bus is in t	he bus released sta	te. The bus released state can be			
Adds by Rev.C	25-25	Procedure Example				ading the I/O ports corresponding to the PFPRL register)			
100.00		Using the IICRST BIT	SCL and SDA (the PF5PR and PF4PR bits in the <b>PFPRL</b> register). Correct: (4) Wait until the bus is in the bus released state. The bus released state can be						
		DIT	recognized by a variety of means, including reading the I/O ports corresponding to SCL and SDA (the PF5PR and PF4PR bits in the PFPR register).						
		25.9.9.7		ription corrected (th		and the ICCD register TDDD (1)			
Adds by	25-33	25.8.8 Register Initialization with		" when "1" is writte		node, the ICSR register TDRE flag is it.			
Rev.C	20 00	the IICRST Bit	Correct: In ma	aster transmit mode as "1" when "1" is wri	and slave transmit	mode, the ICSR register TDRE flag is			
			Table 26.4 Ma	ailbox Configuration	: Incorrect descrip	tion corrected.			
Adds by	06.15	Table 26.4 Mailbox	Error: Notes 4			VLR register for mailboxes [56] to			
Rev.C	26-15	Configuration	Correct: Note	[63] are disabled. S		VIVI D1 register for mailbourg [56] to			
			Correct: Note:		l. Set 0 to these bits	KIVLR1 register for mailboxes [56] to s.			
				ription corrected (th	e 12th line).				
Adds by	04.04	26.3.9 CANi			abled (When the T	RMREQ bit is <u>"1"</u> and the RECREQ			
Rev.C	26-34	Message Control Register i	bit is <u>"0</u> Correct: Rece		anabled (When the	TRMREQ bit is "0" and the RECREQ			
		Register j	bit is	"1")					
		26.3.20 CANi Error			in the CANi Error	Interrupt Factor Judge Register			
Adds by Rev.C	26-57	Interrupt Factor	(CiEIFR) corrected (the 4th line). Deleted: After the BLIF bit is set to "1", 32 consecutive dominant bits are detected again						
Kev.C		Judge Register		r either of the follow		ave dominant ons are detected again			
<u>ــــــــــــــــــــــــــــــــــــ</u>		•			0				



Rev.	Page	Part	Contents				
			Table 27.1 Overview of the ADC: Incorrect description corrected. Error:				
Adds by		Table 27.1 Overview	ItemDescriptionSupport for scan conversion end interrupt (ADI), interrupt conversion end interrupt (ADID), and 				
Rev.C	27-2	of the ADC	Correct:       Description         Support for scan conversion end interrupt (ADI), interrupt conversion end interrupt, and DMA transfer function       On completion of scanning for scan conversion, a scan conversion end interrupt request (ADOI, ADII) can be generated or the DMAC can be started.				
	27-9		Incorrect description corrected (the 5th, 7th lines). Error: The other bits are reserved. They are always read as "0", <u>and the write value should</u> <u>always be "0".</u> Correct: The other bits are reserved. They are always read as "0".				
Adds by Rev.C	27-9 27-10	27.4.1 (1) A/D0 Data Registers 0 to 7 and A/D1 Data Registers 0 to 7	Description of the Reserved bits in the A/D0 Data Registers 0 to 7 (AD0DR0 to AD0DR7) and A/D1 Data Registers 0 to 7 (AD1DR0 to AD1DR7) deleted (the 2nd line). Deleted: The write value should always be "0". Setting value of the Reserved bits in the A/D0 Data Registers 0 to 7 and A/D1 Data Registers 0 to 7 corrected. Error: W: 0 Correct: W: -				
Adds by Rev.C	27-11	27.4.1 (2) A/D0 Data Registers 8 to 15	Incorrect description corrected (the 4th line). Error: The other bits are reserved. They are always read as "0", and the write value should always be "0". Correct: The other bits are reserved. They are always read as "0". Description of the Reserved bits in the A/D0 Data Registers 8 to 15 (AD0DR8 to AD0DR15) deleted (the 2nd line). Deleted: The write value should always be "0". Setting value of the Reserved bits in the A/D0 Data Registers 8 to 15 corrected. Error: W: 0 Correct: W: -				
Adds by Rev.C	27-12	27.4.1 (3) A/D0 Data Register DIAG0 and A/D1 Data Register DIAG1	Incorrect description corrected (the 4th line). Error: The other bits are reserved. They are always read as "0", and the write value should always be "0". Correct: The other bits are reserved. They are always read as "0". Description of the Reserved bits in the A/D0 Data Register DIAG0 and A/D1 Data Register DIAG1 (AD0DRD and AD1DRD) deleted (the 2nd line). Deleted: The write value should always be "0". Setting value of the Reserved bits in the A/D0 Data Register DIAG0 and A/D1 Data Register DIAG1 (AD0DRD and AD1DRD) corrected. Error: W: 0 Correct: W: -				
Adds by Rev.C	27-15	27.4.3 A/Di Control Extended Register	Description of the bit 11 (DIAGM bit) in the A/Di Control Extended Register (ADiCER) corrected (the 12th line).         Error: To prevent incorrect operation, the DIAGM bit must be switched only while the ADSCSCT bit in the ADREF register is set to "0".         Correct: To prevent incorrect operation, the DIAGM bit must be switched only while the ADSCACT bit in the ADREF register is set to "0".				
Adds by Rev.C	27-41	Figure 27.9 External Trigger Input Timing	Figure 27.9 External Trigger Input Timing: Legend corrected. Error: tD4: Time until the <u>falling</u> of the ADSCACT bit after the <u>rising</u> of the ADiTRG# pin is sampled Correct: tD4: Time until the <u>rising</u> of the ADSCACT bit after the <u>falling</u> of the ADiTRG# pin is sampled				
Adds by Rev.C	28-29	28.3.13 DRIi Transfer Control Register	<ul> <li>Description of the bit 1 (DBST bit) in the DRIi Transfer Control Register (DRIiTRMCNT) corrected (the 4th line).</li> <li>Error: To prevent loss of DRI transfer data within the DRI module, the module includes a 32 bits by 4 stage intermediate buffer, and this DBST bit will be "1" in the state where there is data present in this intermediate buffer.</li> <li>Correct: To prevent loss of DRI transfer data within the DRI module, the module includes a 32 bits by 4 stage intermediate buffer, and this DBST bit will be "1" in the state where there is data present in this intermediate buffer.</li> <li>Correct: To prevent loss of DRI transfer data within the DRI module, the module includes a 32 bits by 4 stage intermediate buffer, and this DBST bit will be "1" in the state where there is data present in this intermediate buffer. On the other hand, the DBST bit is a value "0" when there is no data in the intermediate buffer.</li> </ul>				



Rev.	Page	Part	Contents				
Adds by Rev.C	28-32	28.3.14 DRIi Special Mode Register	Description of the bit 3 (SPMEN bit) in the DRIi Special Mode Register (DRIiSPMOD) corrected (the 6th line). Error: DRIi data acquisition control register (DRIiDCAPCNT) <u>1. DSDSL</u> (input data bus width) bits Correct: DRIi data acquisition control register (DRIiDCAPCNT) <u>1. DWDSL</u> (input data bus width) bits				
Adds by Rev.C	28-36	28.3.15 DRIi Data Acquisition Control Register	Description of the bit 10 (DWRPR bit) in the DRIi Data Acquisition Control Register (DRIiDCAPCNT) corrected (the 3rd,8th,9th lines). Error: DEXLS Correct: DEXSL				
Adds by Rev.C	28-43	28.3.20 DRIi Data Acquisition Event Count Setting Register	<ul> <li>Incorrect description corrected (the 5th line).</li> <li>Error: When special mode is selected, this register must be set to a value that meets the conditions listed in table 28.6 according to the setting of the DRIi data acquisition control register (DRIiDCAPCNT) DSDSL (input data bus width selection) bit.</li> <li>Correct: When special mode is selected, this register must be set to a value that meets the conditions listed in table 28.6 according to the setting of the DRIi data acquisition bit.</li> <li>Correct: When special mode is selected, this register must be set to a value that meets the conditions listed in table 28.6 according to the setting of the DRIi data acquisition control register (DRIiDCAPCNT) DWDSL (input data bus width selection) bit.</li> </ul>				
Adds by Rev.C	28-65	Figure 28.8 DRI Initialization Flowchart	Figure 28.8 DRI Initialization Flowchart: "Clock supply to the DRI module settings" added. Error: Pin function settings Interrupt/DMA enable settings Correct: Start Clear the interrupt request status Correct: Start Pin function settings Set the module stop register 0 (MSTPCR0) Pin function settings Set interrupt/DMA request items Clear the interrupt/DMA request items Set interrupt/DMA request items Set interrupt/DMA request items Clear the interrupt/DMA request items Clear the interrupt/DMA request items Clear the interrupt request status				
Adds by Rev.C	28-66	28.4.2 (1) One-shot mode	Incorrect description corrected. Error: From that point on, the counter is decremented each time the event selected by the <u>DECmCTSL</u> (DECm count event selection) bits occurs. Correct: From that point on, the counter is decremented each time the event selected by the <u>DECmCS</u> (DECm count event selection) bits occurs.				



Rev.	Page	Part	Contents					
			Figure 29.3 DRO Setup Example: "Clock supply to the DRO module settings" added. Error:					
			Start         Pin setting         • Set port n control register m (PnCRm)         • Interrupt controller setting         • Set the interrupt priority					
Adds by Rev.C	29-12	Figure 29.3 DRO Setup Example	Correct: Start Clock supply to the DRO module settings · Set the module stop register 0 (MSTPCR0)					
			Pin setting					
			Interrupt controller setting					
Adds by Rev.C	30-8	30.4.4 PDAC Status Register	Setting value of the bit 7 (DWOUT bit) in the PDAC Status Register (PDISTATUS) corrected. Error: W: W Correct: W: - Setting value of the bit 6 to 4 (DWMON bit) in the PDAC Status Register (PDISTATUS) corrected. Error: W: W					
Adds by Rev.C	30-58	30.8 Usage Notes	Correct: W: - Notes added. Added: To use the PDAC, set the PDAC bit in the module stop register 0 (MSTPCR0) to "0" to enable PDAC and PSEL operations, and then set the PDAC related register. Otherwise, the clocks are not supplied to the PDAC module and PDAC operation is					
Adds by Rev.C	32-15	32.4.2 FlexRay Lock Register	disabled even though the PDAC related register is set. Description of the bit 7 to 0 (CLK7 to CLK0 bit) in the FlexRay Lock Register (FRLCK) corrected (the 2nd line). Error: To leave CONFIG state by writing bits CMD3 to <u>CMD1</u> in the FRSUCC1 register (commands READY), the write operation has to be directly preceded by two write accesses to the Configuration Lock Key (unlock sequence). Correct: To leave CONFIG state by writing bits CMD3 to <u>CMD0</u> in the FRSUCC1 register (commands READY), the write operation has to be directly preceded by two write					
Adds by Rev.C	32-18	32.5.1 FlexRay Error Interrupt Register	accesses to the Configuration Lock Key (unlock sequence). Description of the bit 9 (IIBA bit) in the FlexRay Error Interrupt Register (FREIR) corrected (the 16th line). Error: (2) The CPU writes to any register of the Input Buffer while the IBSYH bit in the FRIBCR register is set to "1". 0: No illegal CPU access to <u>Output</u> Buffer occurred 1: Illegal CPU access to <u>Output</u> Buffer occurred Correct: (2) The CPU writes to any register of the Input Buffer while the IBSYH bit in the FRIBCR register is set to "1". 0: No illegal CPU access to <u>Input</u> Buffer occurred 1: Illegal CPU access to Input Buffer occurred 1: Illegal CPU access to Input Buffer occurred 1: Illegal CPU access to Input Buffer occurred					
Adds by Rev.C	32-65	32.6.8 FlexRay GTU Configuration Register 1	<ul> <li>Description of the bit 19 to 0 (UT19 to UT0 bit) in the FlexRay GTU Configuration</li> <li>Register 1 (FRGTUC1) corrected (the 2nd line).</li> <li>Error: Configures the duration of the communication cycle in microticks. Valid value are 640 to 64000 uT.</li> <li>Correct: Configures the duration of the communication cycle in microticks. Valid value are 640 to 640000 uT.</li> </ul>					
Adds by Rev.C	32-76	32.7.1 FlexRay CC Status Vector Register	640 to 640000 uT. Description of the bit 29 to 24 (PSL5 to PSL0 bit) in the FlexRay CC Status Vector Register (FRCCSV) corrected (the 5th line). Error: Set to <u>B'000100</u> when leaving HALT state. Correct: Set to <u>B'000000</u> when leaving HALT state.					



Rev.	Page	Part			tents			
		Figure 32.6 Overall	U U	erall State Diagram of FlexRay C	Communication Controller: Description			
Adds by		State Diagram of	corrected.					
Rev.C	32-144	FlexRay		t Power ON FlexRay Module In				
		Communication	Correct: HW Re	eset Power ON FlexRay Module	Initialization.			
		Controller	Tu a a mua at al a a ani	tion composed (the 2nd line)				
				ption corrected (the 3rd line).	la ning DESET EDVA and EDVD by the			
		32.16.1	Error: State transitions are controlled by externals pins RESET, FRXA, and FRXB by the POC state machine, and by the CHI Command Vector (bits CMD3 to CMD0 in the FRSUCC1 register), and also by the FR bit in the FRR register.					
Adds by	32-144	Communication						
Rev.C	52-144	Controller State			nals pins RESET, FRXA, and FRXB by			
		Diagram			Command Vector (bits CMD3 to CMD0			
				FRSUCC1 register).	command vector (ons childs to child			
				FO Status: Empty, Not Empty, C	overrun: Description corrected			
			Error:	i o Status. Empty, i tot Empty, e	venun. Desemption confected.			
			Lifei.	FIFO not o	empty			
				PIDX (store nex	4)			
				Buffers 1	2 3			
				Messages A				
				<b>↑</b>				
Adds by		Figure 32.10 FIFO		GIDX				
Rev.C	32-166	Status: Empty, Not		(read olde	st)			
		Empty, Overrun	Correct:					
			FIFO not empty PIDX					
			(store next)					
			Buffers 1 2 3 Messages A					
				Messages A				
				GIDX (read oldes	t)			
A 11 1			Description add	ed.				
Adds by Rev.C	33-5	33.4 Usage Notes	Added: Execute	read and write accesses to the re	egister area of a module in the module			
Kev.C			stopped	state after supplying the clock to	the corresponding module.			
				the bit 15 to 8 (AUDREKEY bit	t) in the AUDR Enable Register			
Adds by	36-5	36.4.1 AUDR Enable	(AUDRENB) c	orrected.				
Rev.C	252	Register	Error: R: R					
			Correct: R: 0					
			~	he SIZ[1:0] bits in DIR comman	d corrected.			
			Error:	-	~ · ·			
			Bit Name	Function	Description			
			SIZ[1:0]	Access size specification	00: Byte (8bit)			
					01: Word (16bit)			
					10: Long word (32bit)			
Adds by	36-9	36.5.3 (1) Input			11: <u>Illegal value</u>			
Rev.C	50-7	Format	Correct:					
			Bit Name	Function	Description			
			SIZ[1:0]	Access size specification	00: Byte (8bit)			
				recess size specification	01: Word (16bit)			
					10: Long word (32bit)			
					11: <u>Setting prohibited</u>			

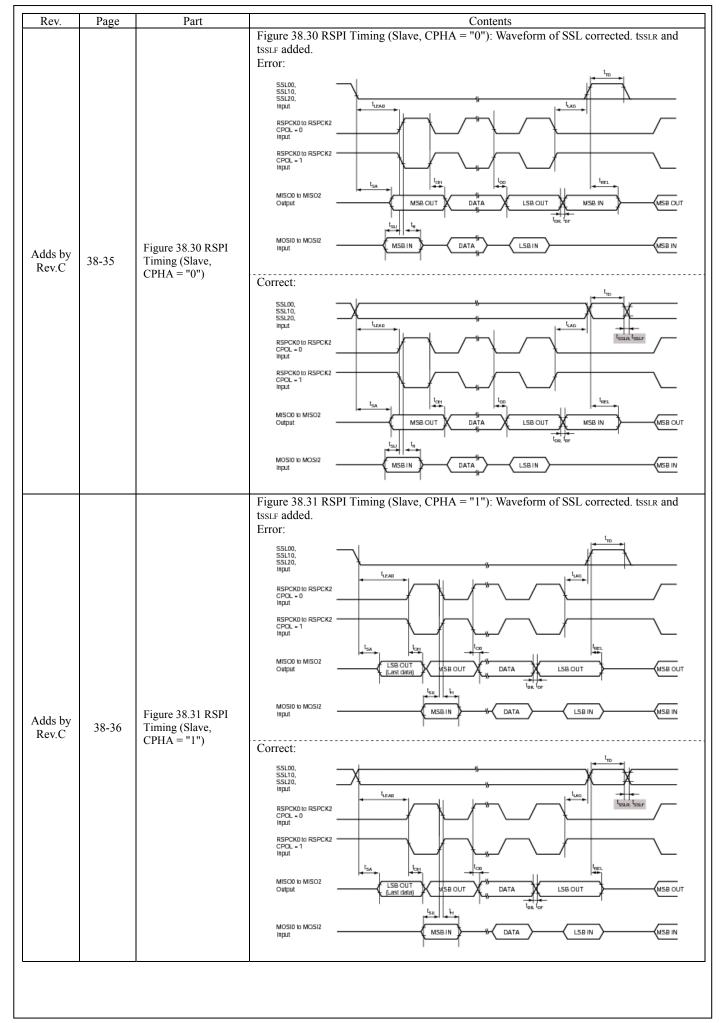


Rev.	Page	Part			Conten	ts			
	-			C Characteristics - Output al Output": Description co		hen 3.3 V	is Used w	rith Drivi	ng Ability
				Item		Symbol Min. Un			Unit
			Output	PA0 to PA15, PB0 to PB6		- Syllibol Voн		-	V
			high-level	PC0 to PC15, PD0 to PD1		VOH	<u></u>	<u>ec –0.5</u>	v
			voltage	PE0 to PE15, PF0 to PF5,					
			(normal	PG0 to PG7					
			output)*	PH0 to PH15, PJ0 to PJ15	5.		PV	cc -0.5	V
			1 /	PK0 to PK14, PL0 to PL9			<u> </u>	<u></u>	
			Correct:						
				Item		Symbol	. ]	Min.	Unit
			Output	PA0 to PA15, PB0 to PB6	<u>ó</u> ,	Voн		cc - 1.1	V
		Table 38.7 DC Characteristics- Output Voltage: When 3.3 V is Used with Driving Ability Set to "Normal Output"	high-level	PC0 to PC15, PD0 to PD1		1 011		<u>v 111</u>	
			voltage	PE0 to PE15, PF0 to PF5,					
			(normal	PG0 to PG7					
A 11.1			output)*		PH0 to PH15, PJ0 to PJ15,		PV	<u>cc –1.1</u>	V
Adds by	Rev.C 38-8			PK0 to PK14, PL0 to PL9					
Rev.C			Error:						
			Item			Symbol	1	Max.	Unit
			Output			Vol		0.4	V
			low-level	PC0 to PC15, PD0 to PD1		VOL	-	0.4	v
			voltage						
			(normal	5					
			output)*	PH0 to PH15, PJ0 to PJ15	5,			0.4	V
				PK0 to PK14, PL0 to PL9					
			Correct:						
				Item		Symbol	. 1	Max.	Unit
			Output	PA0 to PA15, PB0 to PB6		Vol		0.9	V
			low-level	PC0 to PC15, PD0 to PD1	· ·				
			voltage	PE0 to PE15, PF0 to PF5,					
			(normal output)*	PG0 to PG7 PH0 to PH15, PJ0 to PJ15	-			0.0	V
			output)	PK0 to PK14, PL0 to PL9				<u>0.9</u>	v
				110 01111,110 0112					
			Table 38 16 F	Power-On/Off Timing: De	scription of	item corre	rted		
			Error:	oner on/on rinning. De	5 ription of		u.		
				Item	Symbol	Min.	Max.	Unit	Figures
		Table 38.16	Vdd holding	g time at Vcc shutdown	tvddh	-	0	us	38.4
Adds by	38-14	Power-On/Off	v du noium	sinte at vee shutdowli	CY DDII		0	us	JU.T
Rev.C	50-14	Timing	Correct:						
				Item	Symbol	Min.	Max.	Unit	Figures
			Vcc holding	time at Vdd shutdown	tvddh	-	0	us	38.4
			vec norunig	, unic at vuu shutuowli	LYDDH	-	0	us	JU. <del>4</del>
I									



Rev.	Page	Part	Contents						
			Figure 38.5 Operation Mode and Oscillation Timing at Power-On/Off: Symbol added.						
Adds by Rev.C	38-15	Figure 38.5 Operation Mode and Oscillation Timing at Power-On/Off	Prigration vide and Oschlation mining at Power-Onton. Symbol added. Error: Internal clock AVcc Vcc Vcc Vdc Vcc Vdc Vdc Vdc Vcc Vdc Vcc Vdc Vcc Vcc Vdc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc Vcc						
Adds by	28.22	Table 38.26 RSPI	Table 38.26 RSPI Timing: Description of Figures corrected.         Error:       Item       Symbol       Min.       Max.       Unit       Figures         SSL rise/fall time       Output       tssLr, tssLF       -       8       ns       38.28, 38.29						
Rev.C	38-33	Timing	Correct:						
			Item Symbol Min. Max. Unit Figures						
			SSL rise/fall time Output tsslr, - 8 ns 38.28 to						
			Input tsslf - 1 us 38.31						







Rev.	Page	Part			Contents					
				Table 38.29 DRI Timing (When Special Mode is On): Description of Min. corrected.						
			Error:	0 1 1			TT '/	<b>F</b> .		
			Item	Symbol	Min.	Max.	Unit	Figures		
			Minimum DIN edge count	twDLYDIN1	$8 \text{ tc}(\text{CAP})^{*1}$	-		38.33 to		
			at DINI initialization level in delayed reset mode					38.36		
			(minimum width at							
		Table 38.29 DRI	initialization level)							
Adds by	38-38	Timing (When		•						
Rev.C		Special Mode is On)	Correct:							
			Item	Symbol	Min.	Max.	Unit	Figures		
			Minimum DIN edge count	twDLYDIN1	$8 \text{ tc}(\text{DCAP})^{*1}$	-		38.33 to		
			at DINI initialization					38.36		
			level in delayed reset mode (minimum width at							
			initialization level)							
				_ <b>ļ</b>			4	ļJ		
			Figure 38.34 Edge Detect	ion Timing (Edge	Interval to Preve	ent DRI Ir	nternal Sir	nultaneous		
			Edge Detection Timing):							
		Figure 38.34 Edge Detection Timing	Error:							
			(Before)							
				,,			_			
			DINj	-% % - <b>1</b> 08	Vac // //	Vaz Ver	s <u> </u>	* O.B Vcc		
				_	>> >>					
Adds by		(Edge Interval to		ts(E-	a 1-•	ts(E-E)	<u> </u>	► ts(E-E)		
Rev.C	38-39	Prevent DRI Internal	(Before) Rising/(After) Faling	(Before) Rising/(After) Fallin	ig (Bafore) Fäsing/(Afle	r) Falling	(Before) Rising/(A	fter) Falling		
		Simultaneous Edge	Correct:			(				
		Detection Timing)	(Before)	S DB Vcc	" " 0.2 Voc ¥	s ´	" 0.2 Vcc ¥_			
							a			
			DINj (After) D.2 Vcc	-) ))	Voc	0.2 Vcz. "	10	TORVec .		
			→ ts(E-E)			ts(E-E)		► ts(E-E)		
			(Before) Rising/(After) Rising	(Bafore) Rising/(Aftar) Fallin			(Before) Falling/(A			
							and an all of the			
			Table G.1 Register Assign	ments: Description	on corrected.					
			Error:	1						
				ddress +1 Add			3 Address	Access		
				24 bit 23 to 10	5 bit 15 to 8 l	pit 7	to 0 bit	Size		
				U33				32		
Adds by		Table G.1 Register		oad ister						
Rev.C	G-114	Assignments		3RLD)						
1.07.0										
			Correct:							
				ddress +1 Add			3 Address	Access		
				24 bit 23 to 10			to 0 bit	Size		
			H'FFFF E958	TOU33 R	eload Register(TO3	3RLD)		32		

