RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-RX*-A189A/E	Rev.	1.00
Title	Errata to the 2D Drawing Engine (DRW2D) for the RX65N Group, RX651 Group User's Manual: Hardware		Information Category	Technical Notification		
Applicable Product	RX65N Group, RX651 Group	Lot No.	Reference Document	RX65N Group, RX651 Group User's Manual: Hardware Rev.2.10 (R01UH0590EJ0210)		
		All				

This document describes the errata to the 2D drawing engine (DRW2D) for the RX65N Group, RX651 Group User's Manual: Hardware, Rev.2.10.

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Description for the RPSTOP bit in section 16.3.24, Extended Bus Master Priority Control Register (EBMAPCR) is modified as follows.

Before correction

Bit	Symbol	Bit Name	Description	R/W
b29	RPSTOP	Rendering Stop	0 : Stop of rendering of DRW2D is invalid. 1 : Stop of rendering of DRW2D is valid.	R/W

After correction

Bit	Symbol	Bit Name	Description	R/W
b29	RPSTOP	Rendering Stop	This function is not available. Set this bit to 0.	R/W

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The following description for the RPSTOP bit in section 16.3.24, Extended Bus Master Priority Control Register (EBMAPCR) is deleted.

RPSTOP Bit (Rendering Stop)

This bit stops rendering of DRW2D. For details, refer to section 48.6, Stopping the DRW2D Render Process.

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The following description is added to Table 48.1, DRW2D Specification.

Item	Descriptions
Data arrangement	Little endian

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Descriptions in section 48.2.32, Display List Start Address Register (DLISTST) are corrected as follows.

<u>Before correction</u>

This register specifies the start address of display list.

Setting a new display list start address to this register triggers execution of the new display list. Execution stops only when a new list is set or the current list terminates.

The DLISTST register is write-only and read as undefined.

<u>After correction</u>

This register specifies the start address of display list.

When setting a new display list start address to this register, confirm that the execution of the previous display list is finished.

The DLISTST register is write-only and read as undefined.

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Section 48.6, Stopping the DRW2D Render Process are deleted and Usage Notes are added as follows.

<u>Before correction</u>

48.6   Stopping the DRW2D Render Process

If a render process has started either in register or display list mode, the DRW2D processes the data autonomously until the render process is finished. Depending on the rendering, this process might take several milliseconds.

If the DRW2D is to be disabled because, for example, the MCU enters a low-power mode, proceed as follows to stop the ongoing rendering:

(1)   Set the DRW2D registers as follows:

        SIZE = 0x00010001;   // Set bounding box dimensions to 1 pixel × 1 line

        CONTROL2 = 0x00000000;   // Color format A(8), no texture, CLUT

        Alternatively do the same in display list mode:

        .LWORD 08080011EH   ; start of list: "address word"

        .LWORD 000010001H   ; SIZE (register index 1Eh) = 0001 0001h

        .LWORD 000000000H   ; CONTROL2 (register index 01h) = 0000 0000h

(2)   Set the EBMAPCR.RPSTOP bit to 1. When the RPSTOP bit becomes 1, the rendering process stops.

(3)   Set the MSTPCRC.MSTPC28 bit to 1 to disable the DRW2D. After disabling the DRW2D, set the EBMAPCR.RPSTOP bit to 0.

48.7   DRW2D Library

Use of the DRW2D requires the DRW2D library provided by Renesas Electronics. Please contact our sales office for information regarding the DRW2D library.

<u>After correction</u>

48.6   Usage Notes

48.6.1   Notes for Endian Setting

DRW2D accesses a memory on the premise that all data are stored in little-endian format. When using the DRW2D, set the MDE.MDE[2:0] bits to 111b (little endian). Refer to section 7, Option-Setting Memory for details on the MDE register.

48.6.2   DRW2D Library

Use of the DRW2D requires the DRW2D library provided by Renesas Electronics. Please contact our sales office for information regarding the DRW2D library.

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