RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU			Document No.	TN-SH7-A785A/E	Rev.	1.00
Title	Limitation on Use of SH7780 HAC 20-bit TX DMA			Information Category	Technical Notification		
Applicable Product	SH7780 Group	Lot No.		Reference Document	SH7780 Hardware Manual Rev.1.00 Dec.13.2005 (REJ09B0158-0100)		
		All lots					

There is a limitation of the Audio Codec Interface (HAC) of the SH7780.

[Summary]

When using the HAC with all the following conditions 1) to 3), the PCM playback data may not be transferred correctly, a same data is written to the HACPCML and HACPCMR. As a result, as the shown below figure, the HAC transmits the same PCM data to slot 3 and 4 of the AC97 frame and the data that is not transmitted during slot 3 and 4 are lost.
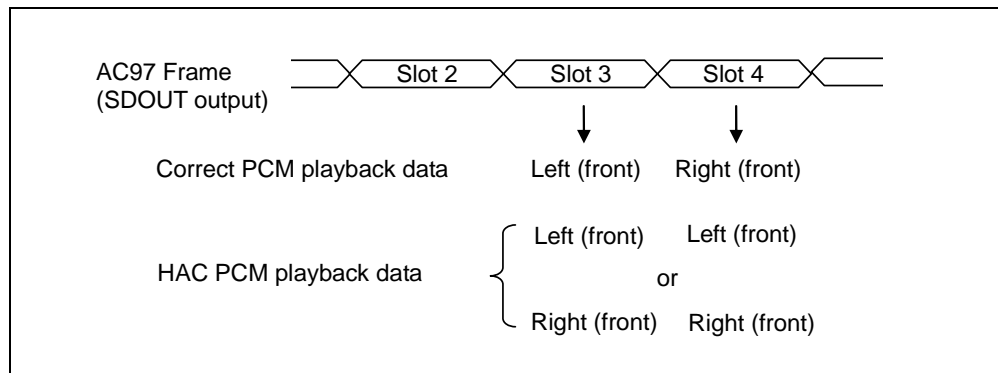

Figure. 20-Bit PCM Playback Data in TX DMA Enable

[Condition]

1) Slot 3 and 4 PCM playback data stream: 20 bits.

2) PCM playback data transfer (PCM data output).

3) Using TX DMA transfer for the PCM playback data transfer (TX DMA enable).

[Workaround]

When using TX DMA transfer of the 20-bit PCM playback data for slot 3 and 4 by, there is no workaround.

Use not the DMA transfer but the PIO transfer for the 20-bit PCM playback data for slot 3 and 4.

Note that, the 16-bit data DMA operation for slot 3 and 4, and the 20-bit PCM record data transfer (RX DMA enable) are no problem.

- End of Text -

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