

TUSB3200A Errata

1 Summary of Errata

With the codec port configured in AC'97 2.0 mode, recording at Sampling Rates other than 48 kHz requires uniformly spaced data input.

Detailed Description

When using the TUSB3200A in AC'97 2.0 mode, sampling rates other than 48 kHz are implemented by using the tag bits in slot 0. At sampling rates less than 48 kHz, only a few of the AC'97 frames contain valid data. For example, at 8 kHz, there are 8 valid frames for every 48 AC'97 frames. TUSB3200A requires valid frames that are uniformly spaced. That means that, for 8 kHz sampling rate, the CODEC must put one valid sample every six CODEC frames for the data transfer to work properly. If the CODEC puts out valid frames as a burst, that means eight valid frames followed by 40 invalid frames, then the recorded data is scrambled.

Overall Impact

There is no impact anticipated if the AC'97 codec supports uniformly spaced valid frames.

Workaround

Most AC'97 codecs support uniformly spaced valid frames, including TI's AC'97 CODEC, part number TLV320AIC27. If a DSP implements AC'97, then care needs to be taken to put out valid samples uniformly.

Course of Action

This issue has not been addressed.

2 Summary of Errata

With the CODEC port in any AC'97 mode, the AC'97 Valid Tag bits are always set in slot 0 when the C-Port is enabled.

Detailed Description

Once the C-Port is enabled, the valid tag bits are always set in slot 0. This makes the CODEC think that the data is always present, even though the host stops streaming. The streaming logic does not control the tag bits to indicate that the data is invalid if TUSB3200A runs out of data. However, when the host stops streaming data, TUSB3200A sends all zeros even though tag bits are set to '1'. This becomes critical for AC-3 data, where packet size can vary in each USB frame. TUSB3200A might repeat the last sample if it runs out of data in a particular USB frame.

Overall Impact

This is a problem when the AC-3 link does not have framing control to indicate start and stop of data. This issue does not impact normal AC'97 operations.

Workaround

There is no alternative in implementing this. Cannot use external logic or host drivers to get around the problem. If AC-3 has framing control to indicate the start and stop of the data being transferred, this might not cause a problem.

Course of Action

This issue has not been addressed.

3 Summary of Errata

Mono 16-bit recording in slot 0 in IIS/GP/AIC modes is corrupted if DMA is enabled before `soft_PLL()` locks.

Detailed Description

If DMA is enabled before `soft_PLL()` is locked and if the DMA is used to record 16-bit mono audio recording from only slot 0, then the recorded data can be corrupted.

Overall Impact

Mono 16-bit recording in slot 0 in IIS/GP/AIC modes requires special handling.

Workaround

DMA for 16-bit mono recording in slot 0 needs to be enabled after making sure that the `soft_PLL()` locks and it never loses lock during the recording. Or, use a different slot for 16-bit mono recording.

Course of Action

This issue has not been addressed.

4 Summary of Errata

With codec port is configured in AC'97 2.0 mode, the TUSB3200A does not support on-demand sampling with multiple codecs.

Detailed Description

On-demand sampling is supported only with one codec in AC'97 2.0 mode. When two AC'97 codecs are configured in a system, the sampling rate is fixed at 48 kHz.

Overall Impact

In application using two AC'97 codecs, the only supported sampling frequency is 48 kHz.

Workaround

None.

Course of Action

This issue has not been addressed.

IMPORTANT NOTICE

Texas Instruments Incorporated and its subsidiaries (TI) reserve the right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its hardware products to the specifications applicable at the time of sale in accordance with TI's standard warranty. Testing and other quality control techniques are used to the extent TI deems necessary to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

TI assumes no liability for applications assistance or customer product design. Customers are responsible for their products and applications using TI components. To minimize the risks associated with customer products and applications, customers should provide adequate design and operating safeguards.

TI does not warrant or represent that any license, either express or implied, is granted under any TI patent right, copyright, mask work right, or other TI intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information published by TI regarding third-party products or services does not constitute a license from TI to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

Reproduction of TI information in TI data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. Reproduction of this information with alteration is an unfair and deceptive business practice. TI is not responsible or liable for such altered documentation. Information of third parties may be subject to additional restrictions.

Resale of TI products or services with statements different from or beyond the parameters stated by TI for that product or service voids all express and any implied warranties for the associated TI product or service and is an unfair and deceptive business practice. TI is not responsible or liable for any such statements.

TI products are not authorized for use in safety-critical applications (such as life support) where a failure of the TI product would reasonably be expected to cause severe personal injury or death, unless officers of the parties have executed an agreement specifically governing such use. Buyers represent that they have all necessary expertise in the safety and regulatory ramifications of their applications, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of TI products in such safety-critical applications, notwithstanding any applications-related information or support that may be provided by TI. Further, Buyers must fully indemnify TI and its representatives against any damages arising out of the use of TI products in such safety-critical applications.

TI products are neither designed nor intended for use in military/aerospace applications or environments unless the TI products are specifically designated by TI as military-grade or "enhanced plastic." Only products designated by TI as military-grade meet military specifications. Buyers acknowledge and agree that any such use of TI products which TI has not designated as military-grade is solely at the Buyer's risk, and that they are solely responsible for compliance with all legal and regulatory requirements in connection with such use.

TI products are neither designed nor intended for use in automotive applications or environments unless the specific TI products are designated by TI as compliant with ISO/TS 16949 requirements. Buyers acknowledge and agree that, if they use any non-designated products in automotive applications, TI will not be responsible for any failure to meet such requirements.

Following are URLs where you can obtain information on other Texas Instruments products and application solutions:

Products

Audio	www.ti.com/audio
Amplifiers	amplifier.ti.com
Data Converters	dataconverter.ti.com
DLP® Products	www.dlp.com
DSP	dsp.ti.com
Clocks and Timers	www.ti.com/clocks
Interface	interface.ti.com
Logic	logic.ti.com
Power Mgmt	power.ti.com
Microcontrollers	microcontroller.ti.com
RFID	www.ti-rfid.com
RF/IF and ZigBee® Solutions	www.ti.com/lprf

Applications

Communications and Telecom	www.ti.com/communications
Computers and Peripherals	www.ti.com/computers
Consumer Electronics	www.ti.com/consumer-apps
Energy and Lighting	www.ti.com/energy
Industrial	www.ti.com/industrial
Medical	www.ti.com/medical
Security	www.ti.com/security
Space, Avionics and Defense	www.ti.com/space-avionics-defense
Transportation and Automotive	www.ti.com/automotive
Video and Imaging	www.ti.com/video
Wireless	www.ti.com/wireless-apps

TI E2E Community Home Page

e2e.ti.com

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2011, Texas Instruments Incorporated