TAS3103 Errata

1   I²C Frame Sequence Error

1.1   Problem Description

An illegal I²C frame sequence (stop followed by a start) or a glitch on the SDA line can cause the TAS3103 to stop responding to I²C commands.

1.2   System Impact

The TAS3103 will stop responding to I²C commands. A device reset is needed to correct the issue.

1.3   Workaround

Avoid glitches on the I²C lines and illegal I²C frame sequences.

1.4   Comments

This issue has been corrected in the TAS3103A.

2   Volume Saturation

2.1   Problem Description

Volume saturation can occur when a clock error occurs during a volume ramp transition.

2.2   System Impact

Any channel where the volume is transitioning can saturate and require a device reset.

2.3   Workaround

If volume is busy during a clock error, reset the TAS3103.

2.4   Comments

This issue has been corrected in the TAS3103A.

3   Treble and Bass Filters

3.1   Problem Description

The TAS3103 has an intermittent problem when writing to the treble and bass filter set registers (0xF5 and 0xF7).

3.2   System Impact

Writing to these registers can cause the bass or treble filters to have an undetermined response.

3.3   Workaround

When writing to the registers (0xF5 or 0xF7), they should be written twice. The write commands should be separated by a minimum of TBLC (64 LRCLKs by default) + 2 LRCLKs.

3.4   Comments

This issue has been corrected in the TAS3103A.

4   Incorrect Operation Following a Reset or Power Down

4.1   Problem Description

Following a reset or power down, an internal voltage drop may occur due to inadequate power-supply and regulator decoupling. The internal voltage drop can cause the device to enter an indeterminate state.

4.2   System Impact

The TAS3103 may not operate correctly without adequate decoupling, as described in the following workaround.

4.3   Workaround

Two parallel capacitors should be connected from ground to the DVDD_BYPASS_CAP pin, pin 29, and located as close as possible to the pin: a 4.7-µF ceramic capacitor (±20% tolerance or better with low ESR) and a ceramic 0.01-µF capacitor. Two parallel capacitors should be connected from ground to the VDDS power supply, pin 31, and should be placed within 1 inch (25 mm) of the device: a 47-µF (±20% tolerance) capacitor and a ceramic 0.1-µF capacitor. A_VDDS (3.3 V) and AVDD_BYPASS_CAP should each have a 0.47-µF, low-ESR decoupling capacitor to AVSS.

5 Impact of MCLK Frequency Change on PLL

5.1 *Problem Description*

A change of MCLK frequency can cause the PLL to lose lock and the device to enter an indeterminate state.

5.2 *System Impact*

The TAS3103 may not operate correctly.

5.3 *Workaround*

The TAS3103 should be placed in reset during or immediately following a change in MCLK frequency or when MCLK is stopped.

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 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.

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.

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

Products		**Applications**	
Amplifiers	amplifier.ti.com	Audio	www.ti.com/audio
Data Converters	dataconverter.ti.com	Automotive	www.ti.com/automotive
DSP	dsp.ti.com	Broadband	www.ti.com/broadband
Interface	interface.ti.com	Digital Control	www.ti.com/digitalcontrol
Logic	logic.ti.com	Military	www.ti.com/military
Power Mgmt	power.ti.com	Optical Networking	www.ti.com/opticalnetwork
Microcontrollers	microcontroller.ti.com	Security	www.ti.com/security
		Telephony	www.ti.com/telephony
		Video & Imaging	www.ti.com/video
		Wireless	www.ti.com/wireless

Mailing Address: Texas Instruments
                     Post Office Box 655303 Dallas, Texas 75265