BIOS Audio Driver Release Notes

Version: 1.10.02

Release Notes

May 28, 2008

This driver architecture conforms to the PSP framework. The driver handles communication to or from the multi-channel Audio/buffered serial port (McASP). Audio driver acts as an interface between the application and underneath mini driver. The package shall include deliverables for the following:

- Audio driver for (DSP/BIOSv5.31.08) running on the DSP core of the DM648/C6452 Soc.

TABLE OF CONTENTS

1   New In This Release

The user guide has been updated for the various pragma directives, macro definitions and compiler switches used in the driver.

1.1   Change in the deliverable

Audio driver features a compile time Macro option to provide ONE_TO_ONE (One serializer as input and one serializer as output) and FOUR_TO_ONE (4 serializer i.e. 8 mono channels and 1 serializer as output) options.

Applications are supposed to provide buffers of appropriate size. Buffer size should be equal to **buffer of each serializer * no. of serializers** (configured during compile time) to the driver. To facilitate the applications which use only one serializer (as in GIO example of DVSDK) ONE_TO_ONE option is provided.

In this release the audio drivers have been pre-built using both macros and application can use (link) them using RTSC query through CFG file that is part of the application project. Please note the statement "Settings.channel = ONE_TO_ONE "in the CFG file of dm648_evm_audio_st_sample_1_to_1.pjt for DM648 and c6452_evm_audio_st_sample_1_to_1.pjt for C6452, which would get the one to one library to application for linking. If a CFG file does not have this statement, then by default four to one library is linked to sample application.

In this package among the standalone audio sample applications, **dm648_evm_audio_st_sample_1_to_1.pjt for DM648 and c6452_evm_audio_st_sample_1_to_1.pjt for C6452** shows the usage of one to one library and **dm648_evm_audio_st_sample.pjt for DM648 and c6452_evm_audio_st_sample.pjt for C6452** shows the usage of four to one library.

Please note that the four to one mode is the default mode for the audio driver of this EVM and one to one mode is supported as add-on feature to support other existing applications.

1.2   Changes for the Applications

A.   All the applications which used the ONE_TO_ONE macro in the audio driver pjt file and uses one serializer for input and one serializer for output (GIO audio example in DVSDK) should

1. In RTSC way, add **Settings.channel = Settings.ONE_TO_ONE** statement in the CFG file. Please refer the dm648_evm_audio_st_sample_1_to_1.pjt for DM648 and c6452_evm_audio_st_sample_1_to_1.pjt for C6452 and its CFG file for the actual usage (example given below)

"/* USE Audio Driver for DM648 */
var audio =
xdc.loadPackage('ti.sdo.pspdrivers.system.DM648.bios.evmDM648.audio');
var Settings =
xdc.module('ti.sdo.pspdrivers.system.DM648.bios.evmDM648.audio.Settings');
Settings.channel = Settings.ONE_TO_ONE;

"/* USE Audio Driver for C6452 */
var audio = xdc.loadPackage('ti.sdo.pspdrivers.system.C6452.bios.evm6452.audio');
var Settings =
xdc.module('ti.sdo.pspdrivers.system.C6452.bios.evm6452.audio.Settings');
Settings.channel = Settings.ONE_TO_ONE;

2. Non RTSC (conventional applications) can add the library or library pjt of ONE to ONE audio library in the application project file as demonstrated in combo1 pjt (combined sample application) file.

B.   All application which would use the 4 serializer for input and one for output (demo example showing multi-channel video and audio)

1. In RTSC based application, just add lib from the audio driver package (by default audio driver with 4 to 1 capability would be delivered by xdc for linking)

2. In legacy way, add the library or library pjt file into application project file

2   System Requirements

This release requires the following products.

❖ CCS (CCS 3.3.38)

❖ Code generation tool version is 6.0.8

❖ DSP/BIOS 5.31.08

❖ Installing DSP/BIOS Audio Driver in pspdriver package

❖ Install BIOS package as per instructions provided along with the package.

❖ Audio driver source is available in <root>/pspdrivers_/packages/ti/sdo/pspdrivers/system/dm648/bios/evmDM648/audio/src for DM648 and <root>/pspdrivers_/packages/ti/sdo/pspdrivers/system/c6452/bios/evm6452/audio/src for C6452 folder.

❖ Build the Audio driver project file in build directory to build the debug/release library.

❖ Sample application / test code is provided in Driver package in <root>/pspdrivers_/packages/ti/sdo/pspdrivers/system/dm648/bios/evmDM648/audio/sample for DM648 and <root>/pspdrivers_/packages/ti/sdo/pspdrivers/system/c6452/bios/evm6452/audio/sample for C6452 folder.

3   Uninstall the DSP/BIOS Audio driver

❖ Un-install the products (listed in system requirements) as per instructions provided with the product.

4   Adding instance of the device driver

To have Audio driver included in the application, add McASP TCI file i.e. "dm648_audio_mcasp.tci" for DM648 "c6452_audio_mcasp.tci" for C6452 in the TCF file of the application.

5   Release Contents

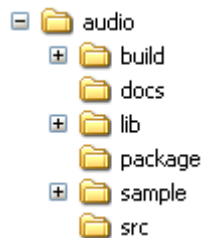Figure 1 shows the release contents of the DSP/BIOS Audio driver.

Figure 1: DSP/BIOS Audio driver release contents.

❑ **build :** This folder contains the driver library project.

❑ **docs :** This folder contains Release notes document and User Guide Document.

> Release Note gives the details the system requirements, steps to Install /Uninstall the Package.This document list the known issues of the driver.

> User Guide provides information about how to use the driver. It contains description of sample applications which guide the end user to make their applications using this driver.

❑ **lib :** This folder contains the generated libraries.

❑ **src :** This folder contains the sources for audio

❑ **package :** This folder contains RTSC packaging related files.

❑ **sample :** This folder contains the sample applications that demonstrates the use of the driver. This sample application demonstrates basic features of the driver. User can use this sample application as reference to make their applications. In addition to that this folder also contains the .tci files for McASP instances.

> o **build :** This subfolder in sample folder contains sample application library as well as stand alone sample application project. User can run specific sample application by adding sample applications library in executable project.

6   Fixed In This Release

None.

7   Known Issues

1.	AUDIO_OUT_SELECT IOCTL is not supported as output selection (Line 2 or Headphone) is not selectable.

Release Note
• AUDIO_OUT_SELECT IOCTL is not supported as audio out selection (LINE OUT headphone) is not configurable.
Workaround
None

2.	**Changing audio input mode from MIC to LINE IN and vice versa causes a problem. It appears that audio is recorded from both the input sources.**
Release Note	
• Changing audio input mode from MIC to LINE IN and vice versa causes a problem. It appears that audio is recorded from both the input sources.	
Workaround	
None	

NOTE: Please refer to McASP release notes for known issues of McASP peripheral

8 Revision history

Date	Author	Comments	Version
25th December, 2006	Pratik Joshi	First draft	1.0
3rd January, 2007	Pratik Joshi	Closed review comments for Release 0.4.0	1.1
16th January, 2007	Pratik Joshi	Updated for release 0.4.1	1.2
2nd February, 2007	Pratik Joshi	Updated for release 0.5.0	1.3
23rd March, 2007	Pratik Joshi	Updated for release 0.6.0	1.4
15th June, 2007	Pratik Joshi	Updated for release 1.10.00.XX	1.6
2nd July, 2007	Pratik Joshi	Closed review comments raise on Release 1.00.00.00	1.7
6th July, 2007	Pratik Joshi	Removed known issues and put them as EVM limitation in audio user guide	1.8
29th August, 2007	Pratik Joshi	Added sections 1.1 and 1.2 for better understanding	1.9
January 18, 2008	Nagarjuna K	Updated for both DM648 and C6452	1.10
February 29, 2008	M Sriram	Updated for release 1.10.00.10	1.11
May 28,2008	Imtiaz SMA	Updated for release 1.10.01	1.12