

# **DSP/BIOS UART Device Driver**

**Release 1.10.03**

## **Release Notes**

**April 16 2009**

This is a release note of UART **DSP/BIOS** Device Driver for applications based on DSP family. The product has been built and tested over TI's DM648/C6452/DM6437/C6424 evm development board.

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## 1 General information

The UART device driver included in this release package supports h/w capabilities of DSP UART peripheral device.

The driver supports Synchronous I/O and implements Polled, Interrupt enabled modes of operation.

The driver is based on an architecture that allows for easy customization/extension. It separates usage policies such as buffering scheme and blocked-calls from basic device management for data transfers.

The driver is multi-instantiable and re-entrant safe for use in multi-threaded environment.

### 1.1 Sample Application

The uart sample **DSP/ BIOS** application that can be found in the path "`<root>\pspdriers\system\<<SoC>\bios\evm<SoC>\uart\src`" is a representative test program. Initialization of UART driver is done by calling initialization function from BIOS. The test task starts-up the driver in interrupt mode of operation. Operation mode (polled/interrupt/dma) mode cannot be changed dynamically. If the operation mode has to be changed, driver has to be reinitialized.

This sample app can be used to demonstrate interrupt and polled mode of operation. For dma mode support, the project file (.pj) needs to be modified to enable PSP\_UART\_EDMA\_SUPPORT macro and the EDMA3 driver libraries to be linked externally.

Note: <SoC> values are dm648/dm6437/c6452/c6424

This sample application by default demonstrates SYNC mode of operation. To enable ASYNC mode support, the user has to define the macro PSP\_UART\_ASYNC\_MODE\_SUPPORT in both the sample application project and driver project and both projects need to be re-built again. And also the internal buffering should be disabled in the driver project by undefining PSP\_UART\_BUFFERING\_ENABLED in order for this sample application to demonstrate read-write operations completely. Because this sample application is checking for callback, which wont be called for the first write request(since ther request size is 50 which is less than 1000, the driver will write 50 bytes into internal buffer and immediately returns transfer complete to the application.

## 2 New in this Release

- ❖ Added explanation and description for pragmas, compiler switches and macros used in the source code, in the User Guide.

### 3 System Requirements

- ❖ Refer to top level release notes for details on tools and BIOS versions.

### 4 Installation and Usage

- ❖ Install BIOS package as per instructions provided along with the package.
- ❖ Uart Device driver sources are available in <root>/Driver/Uart folder.
- ❖ Build the uart project file in build directory to build the debug/release library.
- ❖ Sample application details are provided in <root>/drivers/uart/sample folder.

### 5 Uninstallation

- ❖ Un-install the Driver package as per instructions provided with the package.

### 6 Fixed In This Release

- ❖ DPSP00010270

UART sample application in release version, 1.10.00.09 had some console printf's in callback functions (interrupt context), which made the application to lose control some times. Please note that as these callbacks are not applicable in sync mode and thus this problem does not come-up in sync mode. The issue has been corrected in this release by removing the UART\_DEBUG statements, in the TX and RX callback functions for asynchronous mode. File affected : ti/sdo/pspdrivers/system/dm648/bios/evmDM648/uart/src/psp\_bios\_uart\_sample\_read\_write.c

### 7 Known Issues

<b>Workaround</b>	
	None

### 8 Revision history

Date	Author	Comments	Version
June 15, 2007	JP	Updated for 1.10.00.01 release.	1.5
July 10, 2007	JP	Updated for 1.10.00.02 release.	1.6
Aug 30, 2007	JP	Updated for 1.10.00.04 release	1.7
Sep 20, 2007	JP	Updated for 1.10.00.05 release	1.8

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Nov 14, 2007	Nagarjuna K	Updated for DM6437/C6424 and DM648/C6424 merge	1.9
Nov 29, 2007	JP	Updated for 1.10.00.08 release	2.0
Jan 18, 2007	JP	Updated for 1.10.00.09 release	2.1
February 29, 2008	M Sriram	Updated for release 1.10.00.10	2.2
May 28, 2008	Chandan Nath	Updated for release 1.10.01	2.3

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