On-Screen-Display Driver Examples for DM642 EVM Demonstration Software Release Report

Video and Imaging Systems

ABSTRACT

The On-Screen-Display (OSD) driver examples illustrate the usage of the OSD driver on the DM642 EVM. The examples also cover all display formats supported by the OSD FPGA of the DM642 EVM.

Contents

List of Figures

1 Overview

The OSD driver examples are located under ti\boards\evmdm642\examples\osd. The name of the project is loopback_osd.pjt. There are four different configurations for this project.

8-Bit Mode:

- NTSC: NTSC capture and display loop-back with on-screen display showing texts, effects and a TI banner at the bottom.

- PAL: PAL capture and display loop-back with on-screen display.showing texts, effects and a TI banner at the bottom.

16-Bit Mode:

- HD480P: NTSC capture(default, can be changed to PAL), and High-Definition 480p@60fps display showing texts, effects and a TI banner at the bottom.

- HD720P: HD480P: NTSC capture(default, can be changed to PAL), and High-Definition 720p@60fps display showing texts, effects and a TI banner at the bottom.

2 Building and Running the Examples

2.1 Hardware Setup

The diagram below shows the setup to run examples built using NTSC or PAL configurations.
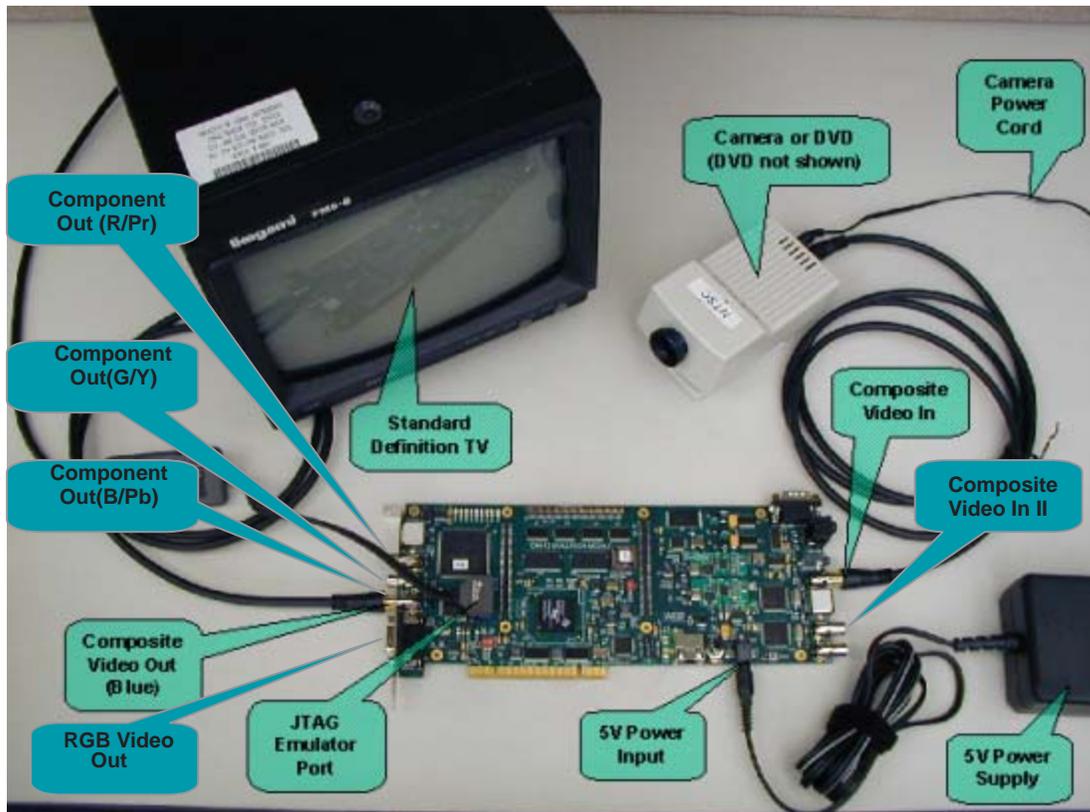
Figure 1. Hardware Setup

To run the examples, you must set up the hardware by following these steps:

- Connect the DM642 EVM to the appropriate power source.
- Connect the XDX510/560 emulator to the JTAG pins to download the demonstration code to the board, and to control it from Code Composer Studio.
- Video Input:
  – Connect the RCA connector designated as **Composite Video In** to a NTSC (PAL) video source.
- Video Output
  – For NTSC and PAL examples, connect the RCA connector designated as **Composite Video Out (Blue)** to a NTSC- and/or PAL-compatible TV monitor.
  – For high definition examples, connect all **three** RCA connectors (designated as **Component Out Y/G, Component Out Pr/R and Component Out Pb/B**, respectively) to a high-definition TV monitor that can support the 480p, and 720p resolutions.

2.2 Building the Examples

The simplest way to build all examples is to run the **build.bat** file in the osd directory from the windows command interpreter. Use "–a" option for Rebuild All. **Make sure to run dosrun.bat located under ti\ prior to running the build.bat file.**

The following steps are for rebuilding an individual example:

1. Start Code Composer Studio on your PC.

2. Select **Project–> Open** to open the project loopback_osd.pjt from the **examples\osd** folder.

3. Select the configuration that needs to be rebuilt from the configuration drop-down list box. The default configuration is HD480P.
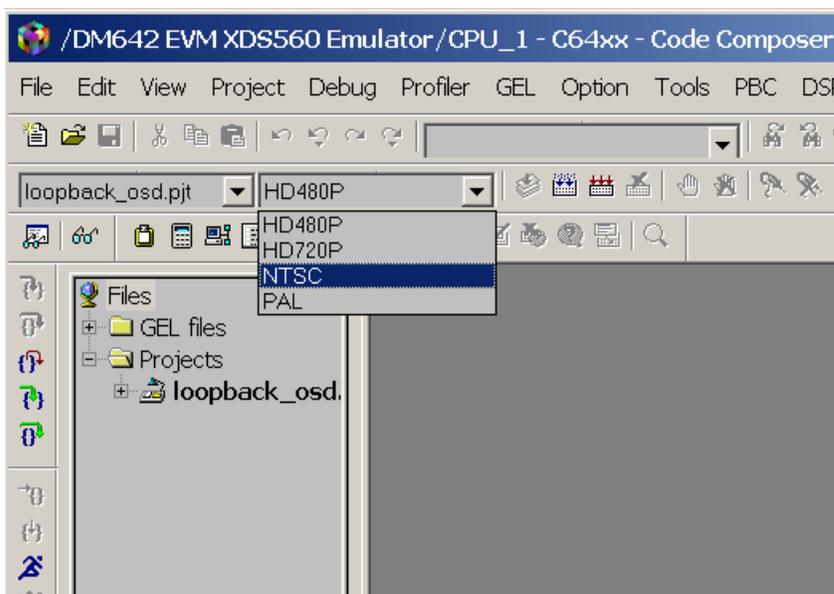
4. Select **Project –> Build** or **Project –> Rebuild All** to rebuild the project for the selected configuration.

2.3 Modifying a Project to Support a Different Video Format

The following steps change the video capture format in the HD720P configuration from NTSC (720x480) to PAL(720x576):

1. Follow the steps 1, 2 and 3 above to open the loopback_osdpjt project under the examples/osd directory and select HD720P from the configuration drop-down list.

2. Open tskOSD.h file under the same folder. Search for _#ifdef _HD720P.

3. Change the line right after the "#ifdef _HD720P" from "#include evmdm642_vcapparams**NTSC**.c" to "include evmdm642_vcapparams**PAL**.c".

4. Select **Project –> Build** to build the new executable.

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