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.

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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.

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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.

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_vcapparamsNTSC.c” to “include evmdm642_vcapparamsPAL.c”.
4. Select Project −> Build to build the new executable.
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