

TVP7000EVM Quick Start Guide

1 Introduction

The TVP7000EVM refers to both the TVP7000 board and the THS8200 board when they are connected together. This quick start guide steps through the necessary hardware and software setups required to use the TVP7000EVM.

2 Overview

The TVP7000EVM is designed for the purpose of evaluating the TVP7000 triple 8/10-bit video and graphics digitizer with analog PLL. The EVM is powered by a 5 V, 3-A universal supply. I2C communication is emulated using a PC parallel port configured for EPP (enhanced parallel port), ECP (extended capability port), or bi-directional mode. The parallel port mode can be changed using the PC BIOS setup, available during the reboot process.

3 Required Hardware and Equipment

The following lists the required hardware and equipment necessary to use the TVP7000EVM.

- TVP7000EVM (provided)
- Universal 5 V 3 A power supply (provided)
- Parallel cable (provided)
- Windows based PC
- Two VGA cables (DB15)
- Two Component cables
- Component video or graphics source
- TV or display monitor that supports VGA and YPbPr component inputs

4 Hardware Setup

The following describes how to set up the hardware for the TVP7000EVM.

- Connect the TVP7000EVM boards together using the 120-pin board connector on each board.
- Connect the parallel port cable from the TVP7000EVM to the PC.

Note:

There is a dc jack on the THS8200 board, but the default power is provided by the TVP7000 board via the 120-pin connector, P2.

- Connect the 5-V power supply to the dc jack on the TVP7000 board. A green LED on each board should now be lit.

4.1 For YPbPr Component Inputs

1. Connect a video source (DVD Player) to the RED, GREEN, and BLUE input connectors of the TVP7000 EVM.
2. Connect a component cable from R/PR, G/Y, and B/PB on the THS8200 board to a monitor.

4.2 For PC Graphics Inputs (Includes RGB, HSYNC, and VSYNC)

1. Connect a graphics source (PC or Quantum generator) to the VGA connector on the TVP7000 board.
2. Connect a VGA cable from the VGA connector on the THS8200 board to a monitor.

5 Software Installation

WinVCC4 is a Windows application that uses the PC parallel port to emulate I2C, providing access to each device on the I2C bus. WinVCC4 makes use of CMD files, a text editable file that allows preset video setups to be programmed easily.

This feature allows the user to easily set multiple I2C registers with the press of a button. WinVCC4 also has Property Sheets for the TVP7000 which allows the user to control the I2C registers with a GUI.

The following provides the steps required to install WinVCC4.

1. Explore the provided TVP7000EVM Software CD.
2. Install Port95NT.exe. This is the parallel port driver used by WinVCC4. This driver must be installed and the PC must be rebooted before WinVCC4 operates correctly.
3. Install Setup.exe. This installs WinVCC4 onto the PC. No reboot is required.
4. Run WinVCC4.exe

6 Using WinVCC4

The following quickly describes the steps to take within WinVCC4 in order to view PC graphics or video from the TVP7000EVM. Once WinVCC4 is executed, the WinVCC4 Configuration screen appears. This dialog box is used to configure the I2C bus. See [Figure 1](#).

1. Next to TVP7000, select the TVP7000 using the drop down box and ensure the I2C address is set to 0xB8. This should match the I2C ADDR jumper on the TVP7000 board. Ensure that the DVB box is NOT selected.
2. Next to the THS8200, select the THS8200 using the drop down box and ensure the I2C address is set to 0x40. This should match the I2C ADDR jumper on the THS8200 board.

Note:

If WinVCC4 is running and the TVP7000 board I2C address jumper is changed, power must be cycled on the EVM.

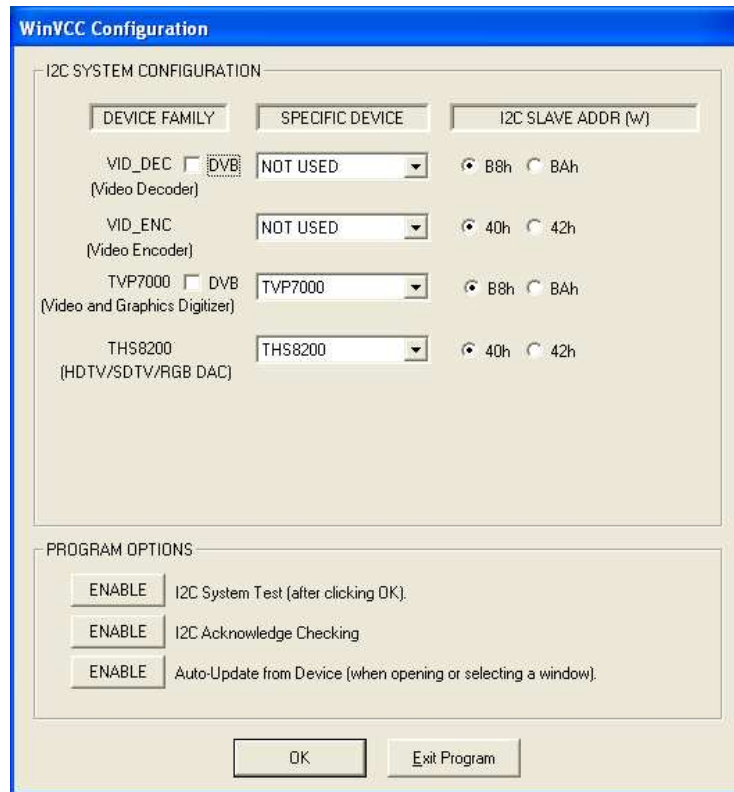


Figure 1. WinVCC4-I2C Configuration Screen

3. Ensure that all other boxes are selected as Not Used and that all Program Options buttons are set to Enabled. Click OK.
4. If there are no I2C communication issues, the Windows Video Control Center box will display. See [Figure 2](#). If there are I2C issues, an I2C Test Report box will display. Completely exit out of WinVCC4, double check the parallel port cable connections, verify I2C Address jumpers on the two boards are set properly, cycle power on the TVP7000EVM and re-run WinVCC4.

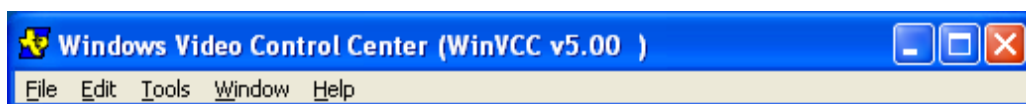


Figure 2. WinVCC4 Main Screen

5. Load the provided Initialize.CMD file into WinVCC4 by clicking on Tools→System Initialization→Browse. The default directory is C:\Program Files\Texas Instruments\WinVCC4\TVP7000\Initialization\Initialize.CMD.
6. Depending on whether your input cables to the TVP7000 EVM are connected for YPbPr video, or PC graphics, highlight the TVP7000 + 8200 dataset that corresponds to the input format you want to support. Click the Program Devices button to initialize the TVP7000EVM. See [Figure 3](#).

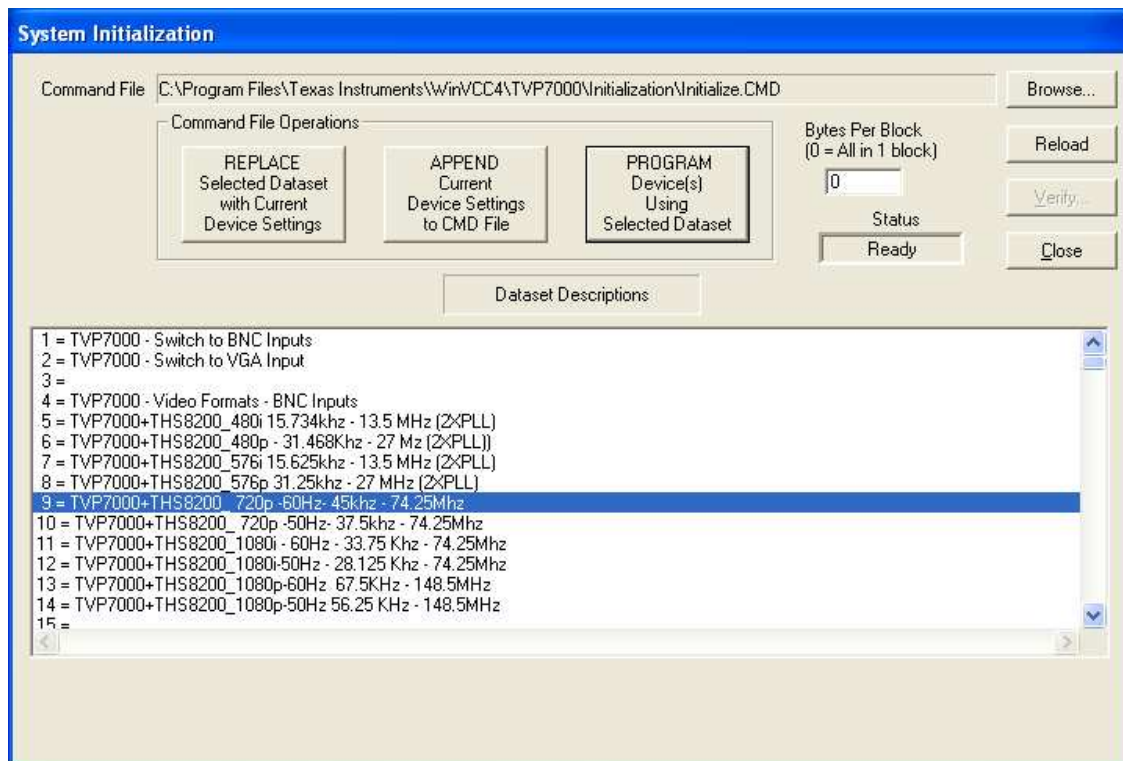


Figure 3. WinVCC4-System Initialization

7. With the appropriate input source provided at the VGA or YPbPr input connectors, PC graphics or video should be viewable on the TV/display monitor.

Note:

To ensure the TVP7000 is configure properly and that the input source is connected, go to the Status page of the TVP7000 Property Sheets and check the input sync status. See [Figure 4](#).

If a VGA graphics input (DB15 connector) was configured, HSYNC input status should indicate FROM HSYNC and VSYNC Input Status should indicate FROM VSYNC.

If a video input (BNC connectors) was configured, SOG input status should indicate SOG DETECTED and sync status should indicate FROM SYNC SEP.

If video or PC graphics is not visible on the monitor from the TVP7000EVM ensure the following is correct:

- The input/output cables are connected correctly for either video or PC graphics.

- The input source is configured for video or PC graphics.

- The correct dataset is selected and programmed for the correct video or PC graphics input format.

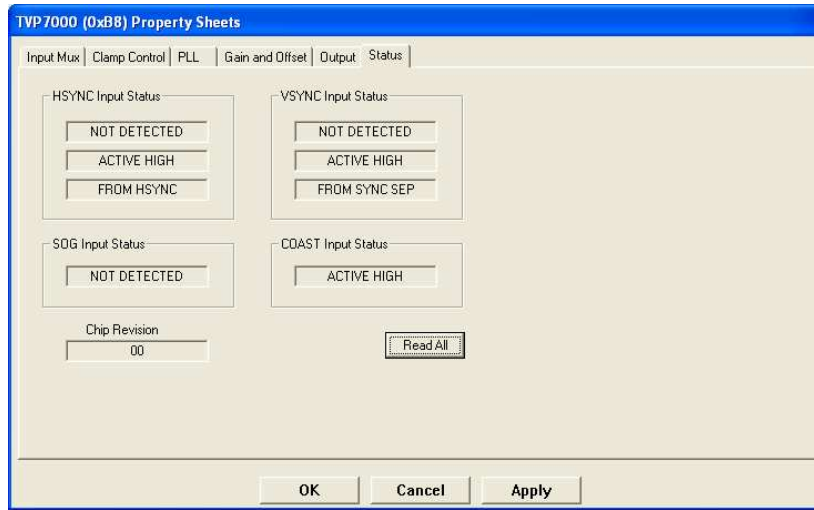


Figure 4. TVP7000 Property Sheets - Status

8. To switch between inputs, select the input mux page, see [Figure 5](#). Click the input selection drop down box. You can then select VGA input, or BNC1-5 input. The initialization file supplied with the TVP7000 EVM assigns PC graphics to the VGA connector and video to the BNC connectors. Video inputs can use either the dedicated HSYNC and VSYNC BNC connectors or composite SOG/Y present on the video input.

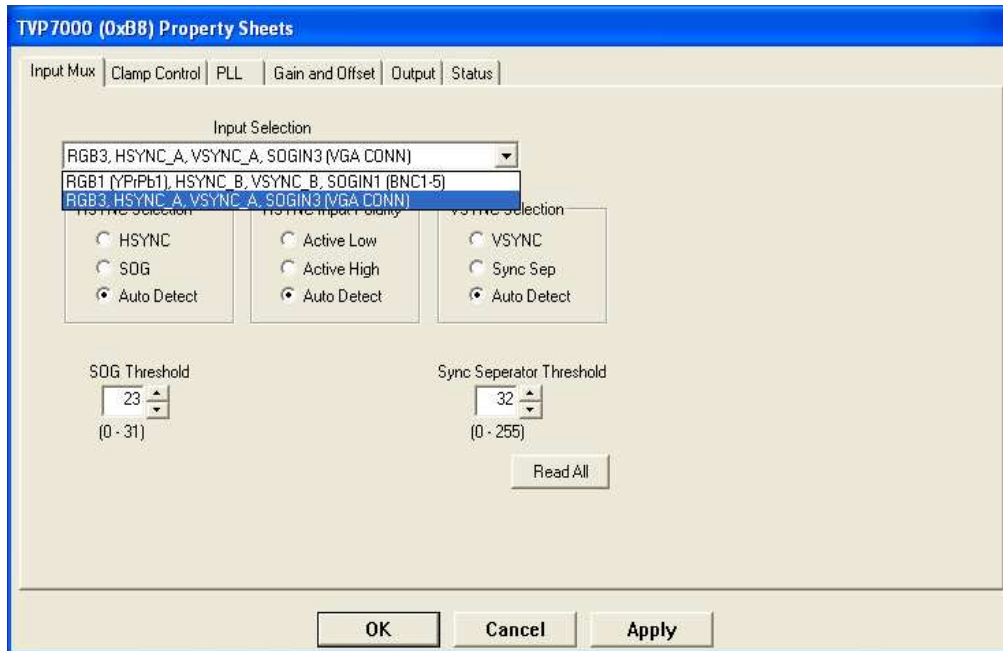


Figure 5. TVP7000 Property Sheets - Input Mux

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