# TVP5160EVM Quick Start Guide

Digital Video Department

## 1 Introduction

The TVP5160EVM refers to the TVP5160 board and the ADV7311 board when they are connected together. Throughout this document this combination of boards is referred to as the TVP5160EVM. This Quick Start Guide steps through the necessary hardware and software setups required to use the TVP5160EVM.

## 2 Overview

The TVP5160EVM is designed for the purpose of evaluating the TVP5160 video decoder. The EVM is powered by a 5-V, 3-A universal supply. $I^2C$ communication is emulated using a PC parallel port configured for 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 TVP5160EVM:

- TVP5160EVM (provided)
- Universal 5-V, 3-A, power supply (provided)
- Parallel cable (provided)
- Windows based PC
- 1 composite RCA video cable
- 1 YPbPr component RCA video cable
- Video source (pattern generator, DVD player, etc)
- TV or display monitor that supports YPbPr component video inputs

# 4 Hardware Setup

The following describes how to set up the hardware for the TVP5160EVM.

1. Connect the TVP5160EVM boards together using the 120-pin board connector on each board.
2. Connect a CVBS input to the TVP5160 board and a component cable to the YPbPr outputs of the ADV7311 board.

   **NOTE**: For evaluation it is recommended that YPbPr component video outputs are used in order to bypass the internal video decoder of the TV or video display.
3. Connect the parallel port cable from the TVP5160EVM to the PC.

   **NOTE**: There are footprints for a dc jack and a DB25 connector on the ADV7311 board, but the default power and $I^2C$ is provided by the TVP5160 board via the 120-pin connector, P2.
4. Connect the 5-V power supply to the dc jack on the TVP5160 board. A green LED on each board should now be lit.

# 5 Software Installation

WinVCC4 is a Windows application that uses the PC parallel port to emulate $I^2C$, providing access to each device on the $I^2C$ 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 $I^2C$ registers with the press of a button. WinVCC4 also has “Property Sheets” for the TVP5160 which allows the user to control the $I^2C$ registers with a GUI.

The following provides the steps required to install WinVCC4:

1. Explore the provided TVP5160EVM 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 will operate correctly.
3. Install Setup.exe. This will install WinVCC4 onto the PC. No reboot is required.
4. Run WinVCC4.exe.

# 6 Using WinVCC4

The following describes the steps to take within WinVCC4 in order to get video out of the TVP5160EVM.

1. Once WinVCC4 is executed, the WinVCC4 Configuration screen appears. This dialog box is used to configure the $I^2C$ bus. Next to VID_DEC, select the TVP5160 and ensure the $I^2C$ address is set to 0xB8. This should match the I2C ADDR jumper on the TVP5160 board.

   **NOTE**: If WinVCC4 is running and the TVP5160 board $I^2C$ address is changed, then Reset must be pressed on the EVM.

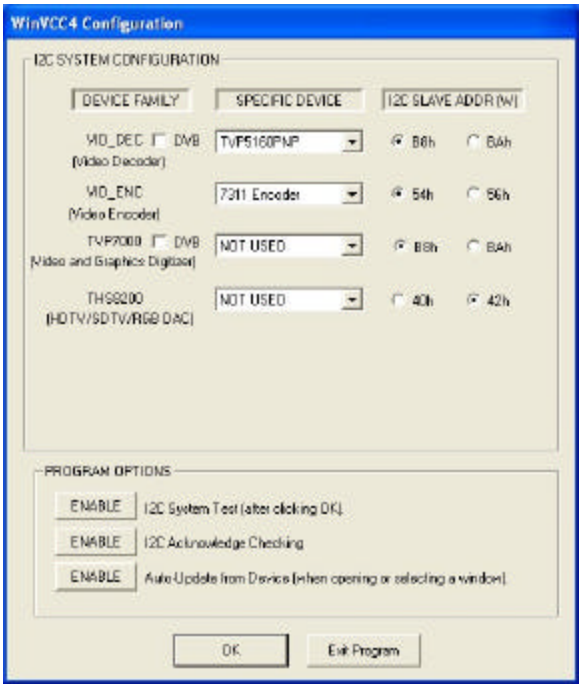



**Figure 1. WinVCC4 – $I^2C$ Configuration Screen**

2. Next to VID_ENC, select the ADV7311 and ensure the $I^2C$ address is set to 0x54. This should match the I2C ADDR jumper on the ADV7311 board.

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 $I^2C$ communication issues, then the Real-Time Polling window will display next. If there are $I^2C$ issues, then an $I^2C$ Test Report box will display. Completely exit out of WinVCC4, double check the parallel port cable connections, cycle power on the TVP5160EVM, and re-run WinVCC4.

5. At the Real-Time Polling window, ensure that VIDEO-STANDARD AUTO_SWITCH POLLING is enabled and click OK.

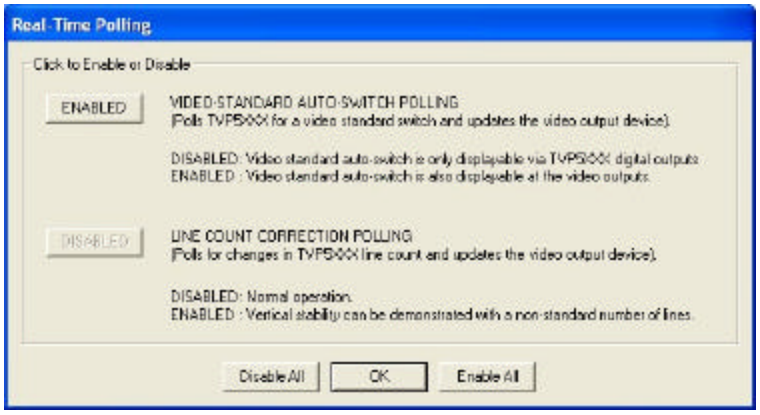



**Figure 2. WinVCC4 – Real Time Polling Screen**

6. Load the provided Initialize.cmd file into WinVCC4 by clicking on Tools -> System Initialization -> Browse. The default directory is c:\TIVideo\TVP5160EVM.




**Figure 3. WinVCC4 – Main Screen**

7. Click the “TVP5160 (SD) + ADV7311” dataset in the window and then click the Program Dataset button to initialize the TVP5160EVM.

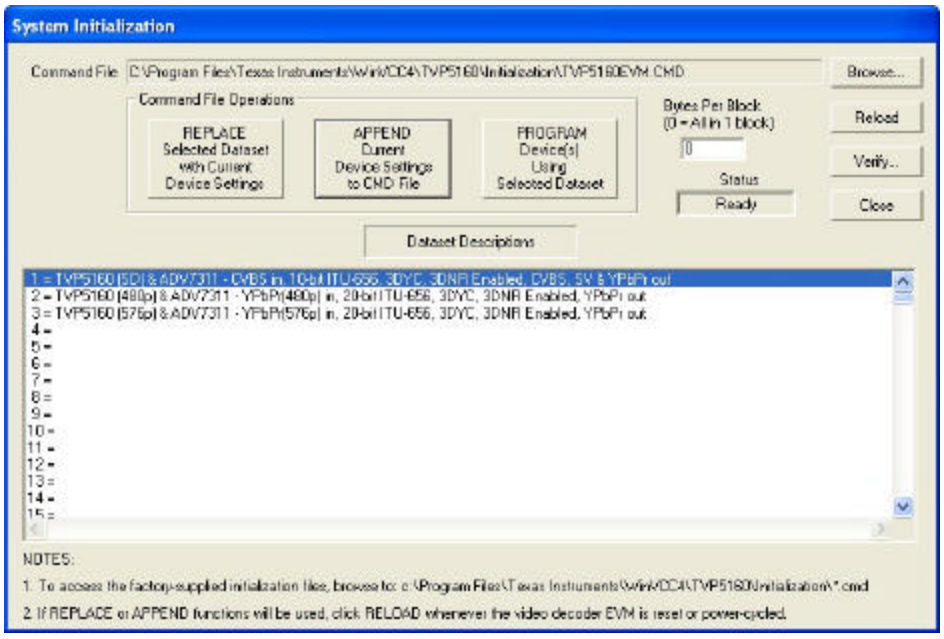



**Figure 4. WinVCC4 – System Initialization**

8. With a video source provided at the composite video input, video should be viewable on the TV/display monitor. All ADV7311 outputs are enabled simultaneously.

   **NOTE**: To ensure the TVP5160 is working properly, go to Video Status and check the H/V/C lock status and the video standard. This is only a check on the TVP5160 board and not the ADV7311 board or the TV/display monitor.

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Mailing Address: Texas Instruments
Post Office Box 655303 Dallas, Texas 75265

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