

TVP5150AEVM

Quick Start Guide

User's Guide

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Preface

Read This First

About This Manual

This is a quick reference guide to get the TVP5150AEVM up and running.

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TVP5150AEVM Quick Start Guide

1.1 Introduction

The TVP5150AEVM is designed specifically for evaluating the TVP5150A low cost, low power NTSC/PAL/SECAM video decoder. The EVM is powered by a 5-V, 3-A supply provided by a universal power supply functional in any country. This power supply is provided.

Communication is emulated using a PC parallel port configured in bidirectional mode or extended capability port (ECP) mode. This configuration is available through the PC bios setup, available typically on a reboot.

1.2 Overview

The TVP5150AEVM supports composite and S-video analog video inputs. The TVP5150AEVM analog outputs consist of composite, S-video, and component video (YPbPr). The analog outputs are available simultaneously. The 5-V supply and the I²C signals are shared across a common connector interface along with the necessary data and clocks.

1.3 Hardware Description

There are three choices for video inputs on the TVP5150AEVM:

- CVBS1
- CVBS2
- S-video

Since the TVP5150A supports two inputs and the above mentioned video inputs require four inputs, a low cost SPDT video switch is used to switch between CVBS1, 2, and S-video. As referenced in the schematics, a high or 1

on the video switch enables CVBS1 and CVBS2 as the video inputs. The final selection of CVBS 1 or CVBS2 within the TVP5150A is done via the TVP5150A I²C register 0x00. A low or 0 on the video switch enables S-video as the input. The final selection for S-video within the TVP5150A is done via the TVP5150A I²C register 0x00.

The state of the video switch is controlled by tying the video switch control signal high or low via a hardware jumper or by using the general-purpose output pin, GPCL, of the TVP5150A. GPCL is the default method for controlling the state of the video switch, as it only requires the user to program I²C registers rather than change a hardware jumper. The provided EVM software sets this register based on the input selected.

There is an option for an anti-alias filter on the board. The filters can be bypassed by changing the positions of jumpers JP6 and JP7. To enable the filters place shunt jumpers from pin1 to 3 and pin 2 to 4. To bypass the filters place the shunt jumpers from 1 to 2 and 3 to 4. This is explained on the schematic. By default the filters are in circuit.

By default, the digital data provided to the video encoder from the TVP5150A is 8-bit ITU-R BT.656 data. The video format and channel selection, along with other controls for both the video encoder and the TVP5150A are available using the WinVCC4 application.

All analog video outputs of the encoder board have reconstruction filters.

1.4 Software Tools

WinVCC4 is a Windows program application that uses the PC parallel port to emulate I²C, providing access to all registers of each device. WinVCC4 also provides the option of .CMD files that allow for preset video setups to be programmed easily without reprogramming each register multiple times. These .CMD files are completely unrelated to the typical Windows .CMD files and may be edited using a text editor. This feature allows the user to easily set I²C registers with the press of a button. WinVCC4 also has *Property Sheets* for the TVP5150A, which allows the user to control the I²C registers in an easy to understand and use format.

1.5 Software Installation

- 1) Insert the CD-ROM into the computer that emulates the I²C bus via the parallel port.
- 2) Run the SETUP.EXE file to install WinVCC4 and documentation.
- 3) Click *Next* at all prompts and finally click *Finish* to complete the installation process.
- 4) A message may appear instructing you to install the DriverLINX port I/O driver (if it was not previously installed). This must be installed for

WinVCC4 to run. To install the driver, run PORT95NT.EXE, which is located in the root directory of the installation CD-ROM.

- 5) At the root directory of the installation CD is a zip file named Application_Reports.zip, which contains several application documents.

1.6 Hardware Configuration

- 1) Connect the TVP5150AEVM and the video encoder board together.
- 2) Connect all necessary video input and output cables to both the TVP5150AEVM and the video encoder board.

NOTE: The default settings assign CVBS1 as the input.

- 3) Connect a PC parallel port cable to the TVP5150A DB25 connector.
- 4) Provide the 5-V supply via the dc jack on the TVP5150A board using the provided power supply. Verify that the green LED on both boards is on.
- 5) Go to Start→Programs→TVP5150AEVM Software to start WinVCC4.
- 6) Within WinVCC4, the TVP5150A should be set for base I²C address 0xB8. The video encoder's device type should be set to encoder mode with 0x54 as the base I2C address.
- 7) Provide a video pattern to the video input into the TVP5150A.
- 8) Load the CMD file provided in WinVCC4 by clicking on Tools→System Initialization→Browse.
- 9) Select the desired setup depending on the connected inputs, outputs, and video format of the pattern. Load the setup by clicking on it once and then clicking Program.

NOTE: The register settings made to each device may be viewed by opening the CMD file in Notepad or another text editor.

- 10) Proper video should now be observed on the video display.

