
RELEASE NOTES

Patch Code

for

TVP5150AM1 ROM v4.00

Release Notes

Patch Code Version 4.8CAA

(Friday, May 14, 2010)

Copyright © 2010 Texas Instruments Incorporated. All rights reserved.

Information in this document is subject to change without notice. Texas Instruments may have pending patent applications, trademarks, copyrights, or other intellectual property rights covering matter in this document. The furnishing of this documents is given for usage with Texas Instruments products only and does not give you any license to the intellectual property that might be contained within this document. Texas Instruments makes no implied or expressed warranties in this document and is not responsible for the products based from this document.

TABLE OF CONTENTS

1. Introduction	2
2. Minimum System Requirements (when using TI EVM)	2
<i>Hardware.....</i>	<i>2</i>
<i>Software</i>	<i>2</i>
3. Device/Firmware Affected	2
4. Fixes Implemented in this Release	2
5. Changes to.....	3
<i>Datasheet Features.....</i>	<i>3</i>
<i>Register Map.....</i>	<i>3</i>
<i>Pin Out and Pin List.....</i>	<i>3</i>
<i>Electrical Specifications.....</i>	<i>3</i>
6. Errata in this release of patch code.....	4
7. Instructions for Patch Code Download	3
<i>Customer System.....</i>	<i>4</i>
8. Related Documentation	6

IMPORTANT NOTICE

Texas Instruments (TI) reserves the right to make changes to or to discontinue any semiconductor product or service identified in this publication without notice. TI advises its customer to obtain the latest version of the relevant information to verify, before placing orders, that the information being relied on is current.

TI warrants performance of its semiconductor products to current specifications in accordance with TI's standard warranty. Testing and other quality control techniques are utilized to the extent TI deems necessary to support this warranty. Unless mandated by government requirements, specific testing of all parameters of each device is not necessarily performed.

TI assumes no liability for TI applications assistance, customer product design, software performance, or infringement of patents or services described herein. Nor does TI warrant or represent that any license, express or implied, is granted under any patent right, copyright, mask work right, or any other intellectual property right of TI covering or relating to any combination, machine, or process in which such semiconductor products or services might be used.

1. Introduction

This release is intended for the users of the TVP5150AM1.

The release is based on the TVP5150AM1, v4.00 ROM.
This patch code is based on patch 048CAA.

2. Minimum System Requirements (when using TI EVM)

Hardware

- IBM PC with MS windows 98, 2000, or XP.
- Parallel cable
- TI EVM

Software

- WinVCC4 v5.03.
- WinVCC4 command file, Patch_048CAA.cmd
- Patch file for TI EVM, P5150A_048CAA.hra
- Patch file for customer backend system, P5150A_048CAA.c

3. Device/Firmware Affected

Device	TVP5150AM1
Firmware	04.00
WinVCC4	V5.03
Datasheet	SLES098

4. Fixes Implemented in this Release

- Improved Horizontal Lock status speed to less than 100ms.
- Fixed Force Macrovision AGC pulse detection On/Off control issue.
- Improved S-video input ramp signal; no motion is observed.
- Fixed flicker issue seen with 38.1% flat field signal.
- Fixed unstable chroma level for S-video.
- Fixed through put problem for S-Video in PAL.
- Fixed HUE control problem.
- Improved NTSC S-Video Noise Spectrum SNR.

- Improved S-Video dynamic range.
- Fixed 3% gap issue for S-video.
- Fixed comb filter mode after switch from snow signal to multiburst w/ no color burst.
- Improved Color AGC speed.
- Improved line noise from a fast change in sync height.
- Improved VCR jitter.
- Improved line noise for weak signal input at 35-30dB.
- Improved line noise and flickering for VCR/DVD-RW combo.
- Stable chroma level when switching from CVBS to S-video sources.
- Fixed vertical jump seen with still image which outputs 2 even fields.
- Contrast max range is limited to 207 in firmware. Value greater than max is ignored.
- Does not support Secam.
- Fixed day/night problem.
- Fixed the automatic level control (ALC) to function properly when the sync-tip is clipped.

5. Changes to

Datasheet Features

None

Register Map

None

Pin Out and Pin List

None

Electrical Specifications

None

6. Errata in this patch release

- Users are requested not to use the Color Burst Reference bit (bit 6 in register 0x02h) as listed in the datasheet.

- Contrast control is fixed.

7. Instructions for Patch Code Download

TI EVM

1. Power-on the board with TVP5150AM1 device on it. Connect source to Input and Output to monitor
2. From WinVCC4 open Patch_048CAA.CMD file.

3. Load line 1

"Set up after Power On, For ROM 4.0 only All Switch (Init: NTSC)"

Now you should get good picture on monitor. There is no code loading here, just setups for TVP5150AM1 & ADI7194.

Check the version number from property sheets on WinVCC4. You will see 04.00

4. Load line 2

"Patch Code P5150A_048CAA.hra, for ROM 4.0 only "

Now the patch code is downloaded & microprocessor is restarted. The decoder is running ROM + Patch RAM code.

Check the version number from the property sheets, you will see 04.8C. You should see the changes in this patch now.

Customer System

Ensure the device used is a TVP5150AM1 ROM v4.00.

1. Power on the board with TVP5150AM1 ROM v4.00 device on it.
2. Start the TVP5150AM1 without the patch code.

There are only 2 register writes to get the 5150AM1 up and running. The user has to enable the outputs (register 0x03) and start the internal microprocessor (writing 0x00 into register 0x7F). There is no code loading here, this just set up the TVP5150AM1 for normal operation.

Check the version number in registers 0x82 and 0x83. The values you will see are 0x04 and 0x00 respectively.

3. Load the code

There is password for patch ram download. After the password is set, it is a good idea to lock the device again, by writing 00 into that address. The password prevents undesirable writes into the device at startup due to power surges etc. The following code demonstrates the method for unlocking and then locking the device again.

**** Code starts here ****

a. Unlock the device

I2C subaddr	Data	
0x21,	0x51	//MSB data
0x22,	0x50	//LSB data
0x23,	0xFF	//Data address
0x24,	0x04	//Write command

b. Download real patch code P5150A_048CAA.hra through 0x7E

c. Restart Microprocessor

Write into register 0x7F, data 0x00 // Restart TVP5150AM1 microprocessor

d. Lock the device

I2C subaddr	Data	
0x21,	0x00	//MSB data
0x22,	0x00	//LSB data
0x23,	0xFF	//Data address
0x24,	0x04	//Write command

**** Code ends here ****

Now decoder should run ROM + Patch RAM code.

Check the version number in registers 0x82 and 0x83. The values you will see are 0x04 and 0x8C respectively.

You should see that the decoder now incorporates the fixes mentioned in the previous section.

4. If there is a H/W reset to the TVP5150AM1 (active low pulse to pin-8), the original ROM code is restarted to run (patch code is disabled). To let patch code run without downloading the whole patch code again, please follow the following procedure.

Set the correct password by doing the 4 writes as mentioned above to unlock the device. Then write 0x05 to I2C address 0x10. Now the patch code is running. (Verify the version number in registers 0x82 and 0x83. The values you will see are 0x04 and 0x8C respectively). Finally, lock the device as in the previous section.

8. Related Documentation

Description	File	Purpose
Patch version 04.8CAA Release Notes	ReleaseNotesforPatchv4.8CAA.pdf	This Document. Latest bugs, Updates and Installation.
5150AM1 Data Sheet	TVP5150AM1	Device Data Sheet.

	Data Manual (SLES098.pdf)	5150AM1 Detailed Data Sheet.
--	------------------------------	------------------------------