

INTRODUCTION

The ADV7842/ADV7844 supports an SDR or a DDR SDRAM external memory interface. It uses this external memory for 3D combing and for time base correction. For applications that do not require these advanced features, the ADV7842/ADV7844 can operate without the external SDRAM. This document outlines the hardware and software changes required to operate the ADV7842/ADV7844 without 3D comb functionality.

HARDWARE CHANGES

It is necessary to implement the following hardware changes in order to operate the ADV7842/ADV7844 without the SDRAM memory connected:

- SDRAM VDD supplies should be connected to DVDDIO
- SDRAM VREF should be connected to DGND
- DQ and DQS lines should be connected to ground through a 4k7 resistor
- All other memory pins can be left unconnected

SOFTWARE CHANGES

A number of software changes are required for correct operation with external memory disconnected:

- ADV7842/ADV7844 memory pins should be tristated.
 - SDP_IO Map Register 0x29 bit [4] should be set to 1.
- Disable 3D comb and Frame TBC.
 - SDP Map Register 0x12 bit [0] and [2] respectively should be set to 0.
- Disable clock to external memory. This is recommended to give lower power consumption.
 - SDP_IO Map Register 0x39 bit [6] should be set to 1.
- Disable Y_2D_PK_EN. This control enables 2D detail enhancements for 2D combed areas of image in 3D comb modes. This should only be used in a 3D application.
 - SDP Map Register 0x0E bit [4] should be set to 0.

REVISION HISTORY**10/13 – Rev. 0 to Rev. A**

Updated Introduction and Hardware Changes sections

10/10 – Revision 0 : Initial Version**LEGAL TERMS AND CONDITIONS**

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