



12-Bit, 170 MHz Video and Graphics Digitizer with 3D Comb Filter Decoder and Quad HDMI Receiver

ADV7840

FEATURES

Video and graphics digitizer

- Four 170 MHz, 12-bit ADCs
- 12-channel analog input mux
- 525i-/625i-component analog input
- 525p-/625p-component progressive scan support
- 720p-/1080i-/1080p-component HDTV support
- Digitizes RGB graphics up to 1600 × 1200 at 60 Hz (UXGA)
- HDMI®/graphics and composite processing
- Simultaneous HDMI and graphics synchronization processing
- NTSC/PAL/SECAM color standards support
- NTSC/PAL 3D comb filter
- 3D digital noise reduction (DNR)
- Advanced time-base correction (TBC) with frame synchronization
- Interlaced-to-progressive conversion for 525i and 625i
- Advanced VBI data slicer, including teletext, CC, and V-chip
- IF compensation filter
- Analog monitor output
- SCART fast blank support, including slow switch detect
- Programmable internal antialias filters
- Support for weak, poor time base and nonstandard input signals
- Vertical peaking, horizontal peaking, CTI, and LTI

Quad HDMI® receiver

- HDMI 1.3a support
- 36-/30-/24-bit deep color support
- Flexible audio interface (DSD, DST, Dolby® TrueHD, DTS®-HD master audio, and DTS-HD high resolution audio)
- 225 MHz HDMI receiver
- Repeater support
- High-bandwidth Digital Content Protection (HDCP 1.3)
- 36-/30-bit Deep Color and 24-bit color support
- HDMI 1.3-compatible audio interface
- S/PDIF (IEC90658-compatible) digital audio output
- Programmable equalizer for cable lengths up to 30 meters
- Internal EDID RAM

General

- Highly flexible output interface
- 36-bit 4:4:4 pixel output interface
- Dual STDI function support standard identification

- 2 any-to-any, 3 × 3 color space conversion (CSC) matrices
- 3 programmable interrupt request output pins
- Advanced synchronization processing for robust synchronization extraction for poor video sources

APPLICATIONS

Advanced TVs

- PDP HDTVs
- LCD TVs (HDTV ready)
- LCD/DLP® rear projection HDTVs
- CRT HDTVs
- LCoS™ HDTVs

AVR video receivers

LCD/DLP front projectors

HDTV STBs with PVR

CRT HDTV

Projectors

DVD recorders with progressive scan input support

FUNCTIONAL BLOCK DIAGRAM

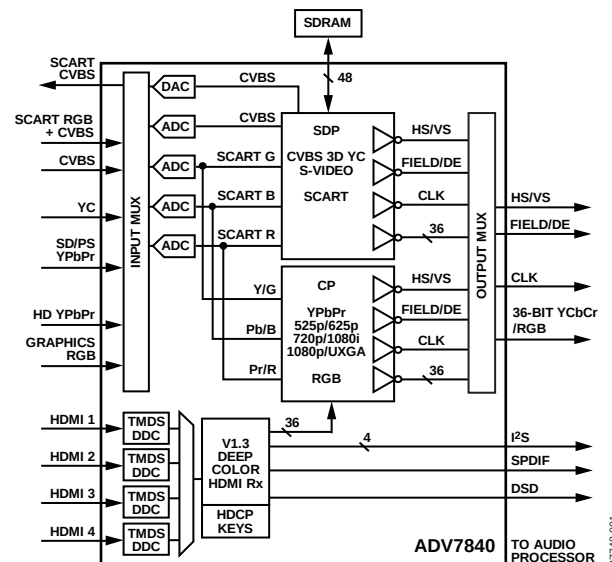


Figure 1.

For more information about the ADV7840, contact your local Analog Devices, Inc., FAE or sales office.

Advantiv
Advanced Television Solutions
by Analog Devices

NSV
Precision Video
by Analog Devices

Rev. SpC

Information furnished by Analog Devices is believed to be accurate and reliable. However, no responsibility is assumed by Analog Devices for its use, nor for any infringements of patents or other rights of third parties that may result from its use. Specifications subject to change without notice. No license is granted by implication or otherwise under any patent or patent rights of Analog Devices. Trademarks and registered trademarks are the property of their respective owners.

One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106, U.S.A.
Tel: 781.329.4700 www.analog.com
Fax: 781.461.3113 ©2009–2010 Analog Devices, Inc. All rights reserved.

07748-001

NOTES

I²C refers to a communications protocol originally developed by Philips Semiconductors (now NXP Semiconductors).

HDMI, the HDMI Logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.