# ANALOG DEVICES **Deep Color HDMI 1.3 Transmitter with CEC**

# **ADV7510**

#### **FEATURES**

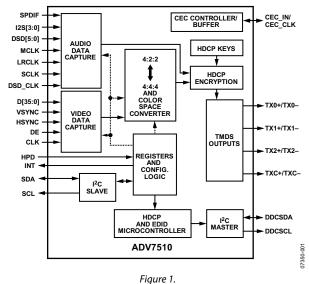
General Incorporates HDMI (v.1.3 with Deep Color, x.v.Color) 225 MHz supports 12-bit Deep Color operation in all video formats up to 1080p **Supports Gamut Metadata Packet transmission** Integrated CEC buffer/controller Compatible with DVI v.1.0, and HDCP v.1.3 Video/audio inputs accept logic levels from 1.8 V to 3.3 V **Digital video** Programmable two-way color space converter Supports RGB, YCbCr, and DDR Supports ITU656-based embedded syncs Auto input video format timing detection (CEA-861-D) **Digital audio** Supports standard S/PDIF for stereo LPCM or compressed audio up to 192 kHz 8-channel uncompressed LPCM I<sup>2</sup>S audio up to 192 kHz Special features for easy system design On-chip MPU with I<sup>2</sup>C master to perform HDCP operations and EDID reading operations 5 V tolerant I<sup>2</sup>C and HPD I/Os, no extra device needed No audio master clock needed for supporting S/PDIF and I<sup>2</sup>S On-chip MPU reports HDMI events through interrupts and registers

#### **GENERAL DESCRIPTION**

The ADV7510 is a 225 MHz High Definition Multimedia Interface (HDMI<sup>™</sup>) transmitter, which is ideal for home entertainment products including DVD players/recorders, digital set top boxes, A/V receivers, gaming consoles, and PCs.

The digital video interface contains an HDMI and a DVI v.1.0compatible transmitter, and supports all HDTV formats (including 1080p with 12-bit Deep Color). The ADV7510 also supports x.v.Color<sup>™</sup>, high bit rate audio, digital theater sound (DTS), and programmable AVI InfoFrames features.

### FUNCTIONAL BLOCK DIAGRAM



With the inclusion of HDCP, the ADV7510 allows the secure transmission of protected content as specified by the HDCP v.1.3 protocol.

The ADV7510 supports both S/PDIF and 8-channel I<sup>2</sup>S audio. Its high fidelity 8-channel I2S can transmit either stereo or 7.1 surround audio up to 768 kHz. The S/PDIF can carry compressed audio including Dolby® Digital, DTS®, and THX®.

Fabricated in an advanced CMOS process, the ADV7510 is provided in a 100-lead LQFP surface-mount plastic package and is specified over the 0°C to +85°C temperature range.

For more information about the ADV7510, email: flatpanel\_apps@analog.com.

Rev. SpA

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## ADV7510

### NOTES

I<sup>2</sup>C refers to a communications protocol originally developed by Philips Semiconductors (now NXP Semiconductors).

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