

## FEATURES

### General

- Low power HDMI/DVI transmitter ideal for portable applications
- CEC controller and expanded message buffer (3 messages) reduces system overhead
- Incorporates HDMI technology
- 3D video
- Extended colorimetry
- Compatible with DVI 1.0
- Video/audio inputs accept logic levels from 1.8 V to 3.3 V

### Digital video

- 150 MHz operation supports all video and graphics resolutions from 480i to 1080p
- Programmable 2-way color space converter
- Supports RGB, YCbCr, and DDR
- Supports ITU-656-based embedded syncs
- Automatic input video format timing detection (CEA-861-E)

### Digital audio

- Supports standard S/PDIF for stereo LPCM or compressed audio up to 192 kHz

- 2-channel, uncompressed LPCM I<sup>2</sup>S audio up to 192 kHz

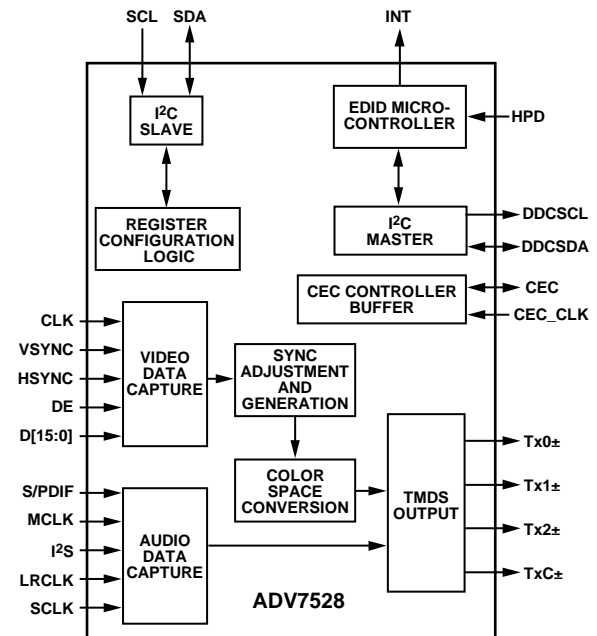
### Special features for easy system design

- On-chip microcontroller with I<sup>2</sup>C master to perform EDID reading; reports HDMI events through interrupts and registers
- 5 V tolerant I<sup>2</sup>C and HPD I/Os, no extra device needed
- No audio master clock needed to support S/PDIF and I<sup>2</sup>S
- Compatible with the [AD9394](#) 5 V charge pump HDMI companion chip for hot plug detection in portable applications

## APPLICATIONS

- Digital video cameras
- Digital still cameras
- Cellular handsets
- Personal media players
- Portable gaming

## FUNCTIONAL BLOCK DIAGRAM



### NOTES

1. HSYNC AND SCLK CAN BE RECONFIGURED AS MCLK.

Figure 1.

## GENERAL DESCRIPTION

The ADV7528 is a 150 MHz, High-Definition Multimedia Interface (HDMI®) transmitter with expanded CEC buffer. It supports HDTV formats up to 1080p and computer graphic resolutions up to SXGA at 75 Hz.

The ADV7528 supports x.v.Color™ (gamut metadata) for a wider color gamut.

The ADV7528 supports both S/PDIF and 2-channel I<sup>2</sup>S audio. Its high fidelity, 2-channel I<sup>2</sup>S audio can transmit stereo up to a 192 kHz sampling rate. S/PDIF can carry stereo LPCM audio or compressed audio, including Dolby® digital and DTS®.

The ADV7528 helps to reduce system design complexity and cost by incorporating features such as an I<sup>2</sup>C master for EDID reading and 5 V tolerance on the I<sup>2</sup>C and Hot Plug™ detect pins.

Fabricated in an advanced CMOS process, the ADV7528 is available in a space-saving, surface-mount, 49-ball WLCSP package. This package is RoHS compliant and specified to operate from -25°C to +85°C.

For more information on the [ADV7528](#), email Analog Devices, Inc., at [ATV\\_VideoTx\\_Apps@analog.com](mailto:ATV_VideoTx_Apps@analog.com).

### Rev. SpA

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## NOTES

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

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