



FEATURES

General

Incorporates HDMI 1.4 features

Audio return channel (ARC)

3D video support

225 MHz supports 12-bit Deep Color operation in all video formats up to 1080p

Supports gamut metadata packet transmission

Integrated CEC buffer/controller—upgraded to HDMI 1.4

Compatible with DVI 1.0 and HDCP 1.4

Video/audio inputs accept logic levels from 1.8 V to 3.3 V

Digital video

3D video ready

Programmable two-way color space converter

Supports RGB, YCbCr, and DDR

Supports ITU656-based embedded syncs

Automatic input video format timing detection (CEA-861-E)

Digital audio

Audio return channel (ARC) for HDMI 1.4 support

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

8-channel uncompressed LPCM I²S audio up to 192 kHz

Special features for easy system design

On-chip MPU with I²C master to perform HDCP operations and EDID reading operations

5 V tolerant I²C and HPD I/Os, no extra device needed

No audio master clock needed for supporting S/PDIF and I²S

On-chip MPU reports HDMI events through interrupts and registers

APPLICATIONS

Home entertainment products

Gaming consoles

PCs

DVD players and recorders

Digital set top boxes

A/V receivers

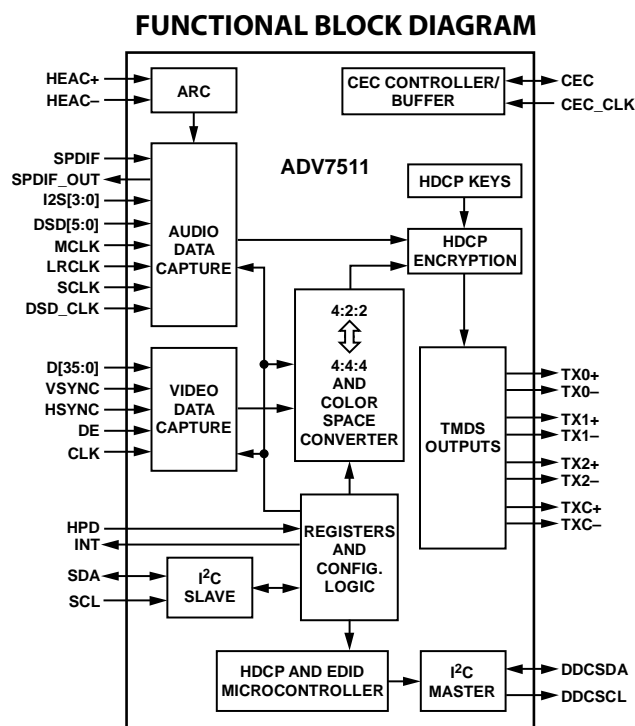


Figure 1.

GENERAL DESCRIPTION

The ADV7511 is a 225 MHz High-Definition Multimedia Interface (HDMI™) 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 1.4- and a DVI 1.0-compatible transmitter, and supports all HDTV formats (including 1080p with 12-bit Deep Color). The ADV7511 supports the HDMI 1.4-specific features, HEAC (ARC), and 3D video. In addition to these features, the ADV7511 supports x.v.Color™, high bit rate audio, and programmable AVI InfoFrames. With the inclusion of HDCP, the ADV7511 allows the secure transmission of protected content as specified by the HDCP 1.4 protocol.

The ADV7511 supports both S/PDIF and 8-channel I²S 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 ADV7511 is provided in a 100-lead LQFP surface-mount plastic package and is specified over the 0°C to +70°C temperature range.

For more information about the ADV7511, email: ATV_VideoTx_Apps@analog.com.

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NOTES

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