

FEATURES

APIX² transmitter with HDCP

- High-bandwidth Digital Content Protection (HDCP) 1.4 support with internal preprogrammed HDCP keys
- Dual-channel encryption engine supports simple daisy-chain implementation for remote displays
- Independent encryption of video and audio
- Up to 3000 Mbps sustained downstream link bandwidth
- Up to 187.5 Mbps upstream link bandwidth
- Media independent interface (MII), serial port interface (SPI), I²C, and GPIO interfaces for sideband communication
- High-Definition Multimedia Interface (HDMI[®]) receiver
- Supports all HDMI video resolutions up to the maximum APIX[®] video link bandwidth of 2.57 Gbps
- All mandatory and additional 3D video formats supported
- HDCP 1.4 decryption support

Hardware controller for automated HDCP repeater functions across APIX and HDMI HDCP blocks

- HDCP repeater support, up to 24 KSVs supported
- Integrated CEC controller, CEC 1.4 compatible
- Adaptive TMDS equalizer
- 5 V detect and Hot Plug™ assert

ITU-R BT.656 support

- 8-bit ITU-R BT.656 interface with embedded timing
- 720p supported at 148.5 MHz clock rate

Audio support

- HDMI audio extraction support
- Advanced audio muting feature
- Supports multiplexed (TDM) I²S audio I/O
- On-chip SRC for synchronization to external master clocks

General

- Dual interrupt controller with APIX link status reporting
- Internal EDID RAM
- Any-to-any 3 × 3 color space conversion (CSC) matrix
- 64-lead LFCSP, 9 mm × 9 mm package

Qualified for automotive applications

APPLICATIONS

- Automotive infotainment
- Infotainment head units
- Rear seat entertainment systems
- Automotive media port applications
- HDMI repeaters and video switches

For more information about the [ADV7680](#), including the complete data sheet, contact your local Analog Devices, Inc., sales office at www.analog.com/sales.

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SIMPLIFIED FUNCTIONAL BLOCK DIAGRAM

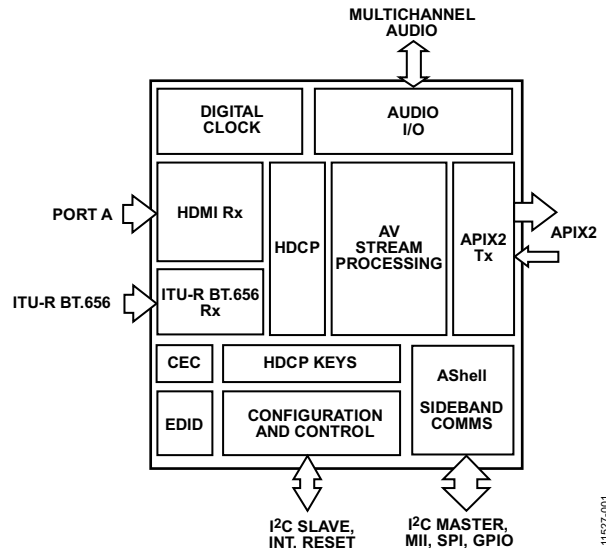


Figure 1.

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NOTES

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