

## FEATURES

### APIX®2 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
- Support for two independent video streams and two synchronous audio streams
- Up to 3000 Mbps sustained downstream link bandwidth
- Up to 187.5 Mbps upstream link bandwidth
- Media independent interface (MII), serial port interface (SPI), I<sup>2</sup>C, and GPIO interfaces for sideband communication
- Dual 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 on each port
- 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

### 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
- Supports multiplexed (TDM) I<sup>2</sup>S audio I/O
- On-chip SRC for synchronization to external master clocks and to synchronize two independent audio streams

### General

- Dual interrupt controller with APIX link status reporting
- Internal EDID RAM
- 100-lead LQFP\_EP, 14 mm × 14 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 [ADV7682](#), including the complete data sheet, contact your local Analog Devices, Inc., sales office at [www.analog.com/sales](http://www.analog.com/sales).

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## SIMPLIFIED FUNCTIONAL BLOCK DIAGRAM

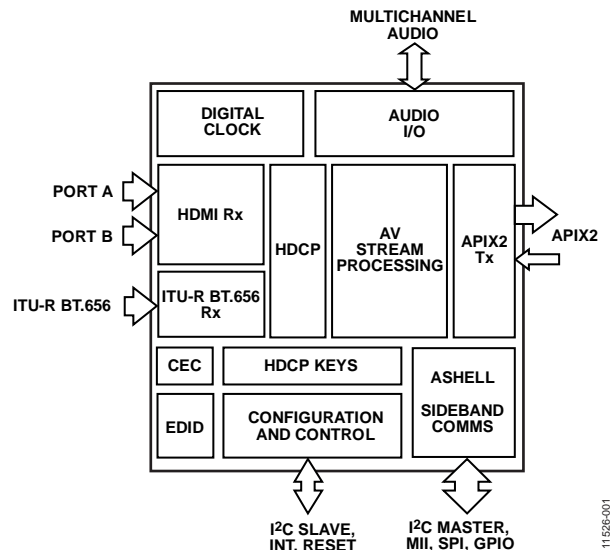


Figure 1.

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**NOTES**

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