ADV7623 HDMI 1.4 Transceiver

High Performance HDMI Repeater Solution

Features

- 4 input, 1 output HDMI 1.4 transceiver
- Xpressview fast switching on all HDMI inputs
- Audio return channel (ARC)
- 3D TV support
- Content type bits
- Character and icon based on screen display (OSD)
- Energy Star®-compatible power configurations
- Integrated CEC 1.4 controller
- Repeater support

HDMI 1.4 Transceiver

- 225 MHz operation supports up to 1080p 36-bit color
- EDID replication with internal RAM up to 512 bytes
- 5 V detect pins
- Hot plug assertion control pins
- On-chip MPU with I²C master to perform HDCP operations and EDID reading operations

HDMI 1.4 Audio Support

- Dedicated, flexible audio output and input ports for audio extraction and insertion
- S/PDIF digital audio output and input
- SACD (super audio CD) with DSD output interface
- Compressed SACD with DST output interface
- High bit rate (HBR) audio (for example, Dolby® TrueHD and DTS-HD Master Audio™)

General

- Software libraries (driver and application) available
- PCB reference design on 2-layer board

Applications

- AVR
- HTiB
- Soundbar
- HBR-enabled TV
- HDMI matrix switch
- Other A/V repeater applications

The ADV7623 is a high performance, 4 input, 1 output, High-Definition Multimedia Interface (HDMI™) transceiver that integrates HDMI receiver and transmitter with digital audio I/Os onto one chip. It supports all HDCP repeater functions through fully tested ADI repeater software libraries and drivers.

The ADV7623 incorporates Xpressview™ fast switching on all input HDMI ports. Using Analog Devices' hardware-based HDCP engine that minimizes software overhead, Xpressview technology allows fast switching between any HDMI input ports in less than 1 second.

The ADV7623 supports all mandatory 3D TV formats, in addition to all HDTV formats up to 1080p 36-bit Deep Color. The ADV7623 also features an integrated HDMI 1.4 CEC controller, which supports capability discovery and control (CDC).

The ADV7623 has an integrated on-screen display (OSD) feature that allows generation and control of high quality character and icon based system status and control displays. Customers interested in using OSD are provided with Analog Devices' OSD SDK.

The ADV7623 offers a dedicated flexible audio output port and a dedicated audio input port to allow for easy extraction and insertion of audio data into and out of the HDMI stream. All HDMI audio formats, including super audio CD (SACD) via DSD, compressed SACD via DST, and HBR, are supported. The ADV7623 also features an audio return channel (ARC) receiver. ARC simplifies cabling by combining upstream audio capability in a conventional HDMI cable.

Fabricated in an advanced CMOS process, the ADV7623 is provided in a 144-lead, 20 mm × 20 mm LQFP, Pb-free package and is specified over the –20°C to +70°C temperature range.

Advantiv® Advanced Television Solutions by Analog Devices | Xpressview™ Fast Switching Technology by Analog Devices

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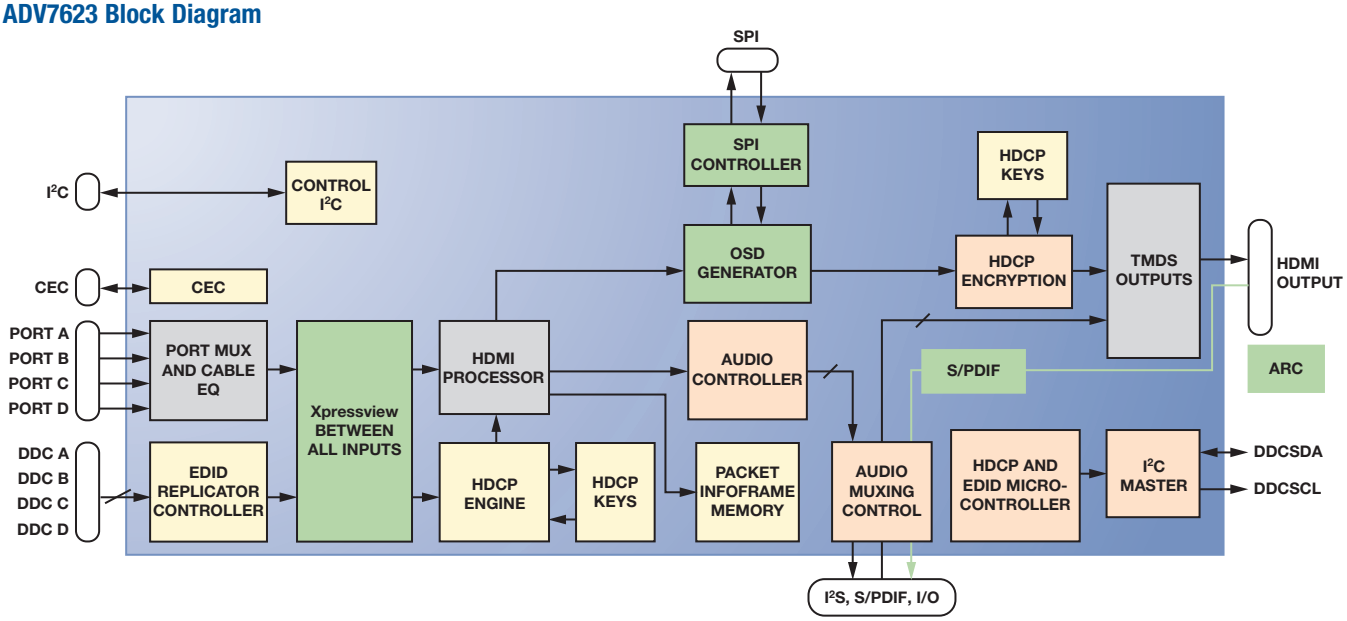
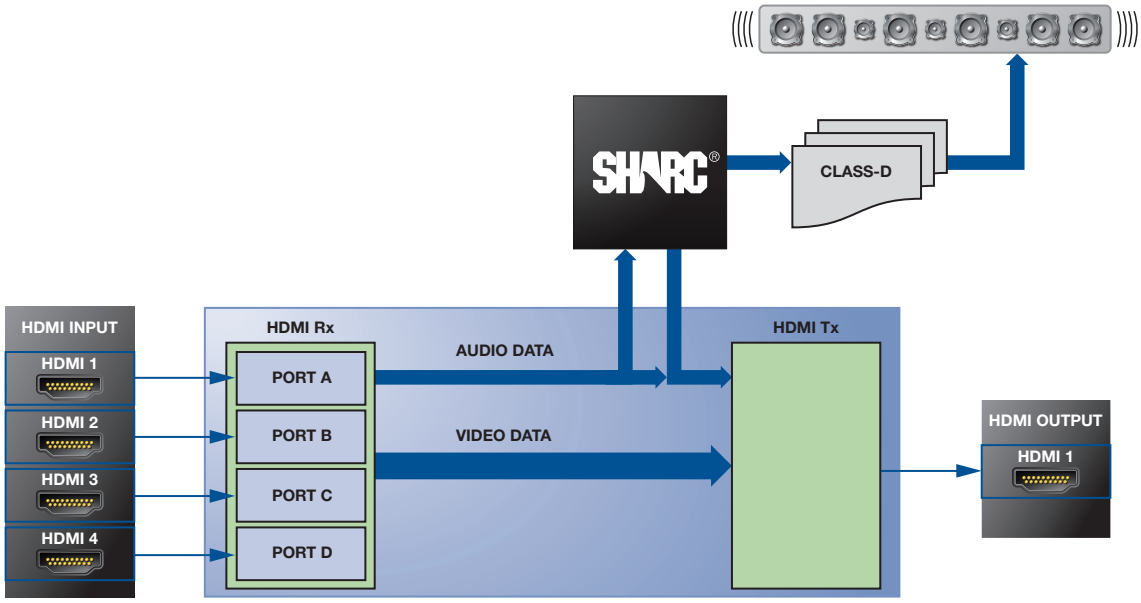
ADV7623 Block Diagram



Typical ADV7623 System Implementation



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