

40 Gbps HDMI 2:2 Crosspoint Transceiver

FEATURES

- ▶ 2-input and 2-output (2:2) crosspoint HDMI transceiver
 - ▶ 8k30 RGB/YCbCr 4:4:4 10-bit video support
 - ▶ 4k120 RGB/YCbCr 4:4:4 10-bit video support
 - ▶ 8k60 YCbCr 4:2:0 10-bit high frame rate video support
- ▶ HDMI receivers
 - ▶ Up to 40 Gbps FRL and 18 Gbps TMDS link rate supports
 - ▶ eARC transmitter
 - ▶ EDID access in low power standby mode
 - ▶ EDID SRAM managed by internal MCU host processor
 - ▶ Fast switching between ports
- ▶ HDMI transmitters
 - ▶ Up to 40 Gbps FRL link rate support
 - ▶ Up to 18 Gbps TMDS video link rate support
 - ▶ eARC receiver
- ▶ HDCP
 - ▶ HDCP 1.4, HDCP 2.2, and HDCP 2.3 support
 - ▶ Independent HDCP on each transmitter and receiver port
 - ▶ Fully integrated HDCP 1.4, HDCP 2.2, and HDCP 2.3 repeater modes
 - ▶ On-chip key storage in OTP
- ▶ Audio
 - ▶ 8-channel, 192 kHz sample rate, 24-bit PCM audio support
 - ▶ 24.576 Mbps IEC61937 compressed audio support
 - ▶ eARC receiver or transmitter with multichannel PCM, HBR audio, and ARC support
- ▶ Video
 - ▶ Crosspoint matrix switch, video mirror, video split, and video merge modes
 - ▶ FRL to TMDS and TMDS to FRL mode conversion
 - ▶ Variable refresh rate (VRR), fast vactive (FVA), and auto low latency mode (ALLM) support
 - ▶ Dual path color space conversion
 - ▶ Dynamic HDR passthrough support including HDMI dynamic HDR metadata, HDR10+, and Dolby Vision
 - ▶ DSC 1.2a data passthrough and VTPG

APPLICATIONS

- ▶ TV
- ▶ Home theater
- ▶ Industrial switching

GENERAL DESCRIPTION

The ADV7672 is a High-Definition Multimedia Interface (HDMI[®]) transceiver with crosspoint matrix switch, video mirror, video split, and video merge capabilities.

The ADV7672 supports 40 Gbps fixed rate link (FRL) and 18 Gbps transition minimized differential signaling (TMDS) video rates and provides two independent HDMI receiver ports, two independent HDMI transmitter ports, two audio ports, and an enhanced audio return channel (eARC) interface.

Each HDMI receiver and transmitter supports 8k30 RGB/YCbCr 4:4:4 10-bit video, 4k120 RGB/YCbCr 4:4:4 10-bit video, and 8k60 YCbCr 4:2:0 10-bit high frame rate video.

Each audio port can be independently configured as either an audio extraction or audio insertion port. The audio ports support 8-channel, 192 kHz, 24-bit pulse coded modulation (PCM) and compressed audio formats including high bitrate formats.

The eARC interface can be configured as either an eARC transmitter or an eARC receiver. The eARC interface supports 8-channel, 192 kHz, PCM audio and high bit rate audio (HBR) compressed audio formats including Dolby[®] TrueHD and DTS-HD[®]. Audio return channel (ARC[™]) mode is also supported on the eARC interface.

The ADV7672 supports display stream compression (DSC) 1.2a data passthrough and high dynamic range (HDR) metadata passthrough for HDMI dynamic HDR, HDR10+, and Dolby Vision.

The ADV7672 implements the High-bandwidth Digital Content Protection (HDCP) 2.3 specification to protect the delivery of premium content. HDCP 2.3 is applied in transmitter, receiver, and repeater modes.

The ADV7672 is configured via I²C using a high level host controller interface (API).

The ADV7672 is provided in a 108-lead, lead frame chip scale package (LFCSP) with an exposed paddle and is specified over a 0°C to 70°C temperature range.

Customers that wish to sample or purchase the ADV7672 must be licensed HDMI 2.1 adopters listed at HDMI.org and licensed HDCP 2.x adopters listed at Digital-CP.com.

Analog Devices is in the process of updating documentation to provide terminology and language that is culturally appropriate. This is a process with a wide scope and will be phased in as quickly as possible. Thank you for your patience.

For more information about the ADV7672, contact your local Analog Devices, Inc., sales office at www.analog.com/sales.

Rev. SpA

DOCUMENT FEEDBACK

TECHNICAL SUPPORT

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