



# 12-Bit Deep Color Quad HDMI Receiver

ADI Confidential

ADV7614

## FEATURES

- Ultralow jitter digital PLL
- 4:1 multiplexed HDMI receiver
  - HDMI 1.3a support
    - 36-/30-/24-bit deep color support
    - Flexible audio interface (DSD, DST, Dolby TrueHD, DTS-HD master audio, and DTS-HD high resolution audio)
  - 225 MHz HDMI receiver
  - HDMI repeater support
  - High-bandwidth digital content protection (HDCP 1.3)
  - Programmable/adaptive equalizer for cable lengths up to 30 meters
  - Internal EDID RAM
  - EDID with HDMI cable power support
  - CEC support
  - On-board audio mute controller
- General
  - Highly flexible output interface
  - 12-/10-/8-bit 4:4:4 or 12-/10-/8-bit 4:2:2 pixel output interface
  - STDI function support standard identification
  - Any-to-any 3 × 3 color space conversion matrixes
  - Free-run time generator
  - 2 programmable interrupt request output pins
  - Color controls
- Low standby power

## APPLICATIONS

- Advanced TVs
  - AVR video receivers
  - PDP HDTVs
  - LCD TVs (HDTV ready)
  - OLED HDTVs
- LCD/DLP front projectors
- HDMI switchers

## GENERAL DESCRIPTION

The ADV7614 is a high quality, single-chip integrated 4:1 multiplexed High-Definition Multimedia Interface (HDMI®) receiver.

The ADV7614 incorporates a quad input HDMI receiver that supports all HDTV formats up to 1080p and displays resolutions up to UXGA (1600 × 1200 at 60 Hz). The reception of encrypted video is possible with the inclusion of HDCP. The HDMI receiver also includes programmable/adaptive equalization that ensures robust operation of the interface with cable lengths up to 30 meters.

The ADV7614 provides complete audio support for eight channels of I<sup>2</sup>S audio, Sony/Philips digital interface format (S/PDIF) digital audio output, and super audio CD (SACD) and compressed SACD support with direct stream digital (DSD) and direct stream transfer (DST) output interfaces, respectively. The HDMI receiver also supports high bit rate (HBR) audio streaming to allow recovery (and downstream processing) of compressed lossless audio formats, including Dolby® TrueHD and DTS®-HD master audio or DTS-HD high resolution audio. In addition, it also provides an advanced audio functionality, such as a mute controller that prevents audible extraneous noise in the audio output.

Fabricated in an advanced CMOS process, the ADV7614 is provided in a space-saving, 260-ball 15 mm × 15 mm CSP\_BGA surface-mount, RoHS-compliant package. The ADV7614 is specified over the -40°C to +70°C temperature range.

For more information on the ADV7614, please contact your local FAE or sales office.

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### Rev. SpB

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**NOTES**

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

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