



# ANALOG DEVICES

## 12-Bit Deep Color Quad HDMI 1.3 Receiver

### ADV7614

#### FEATURES

- Ultralow jitter digital PLL
- Quad HDMI Rx
  - 4:1 multiplexed HDMI receiver
  - HDMI 1.3, DVI 1.0
  - 225 MHz HDMI receiver
  - HDMI repeater support
  - High-bandwidth digital content protection (HDCP 1.3)
  - 36-/30-/24-bit Deep Color support
  - HDMI 1.3-compatible audio interface
  - Programmable/adaptive equalizer for cable lengths up to 30 meters
  - Internal EDID RAM
  - EDID with HDMI cable power support
  - CEC support
- Audio support
  - S/PDIF (IEC90658-compatible) digital audio output
  - Super audio CD (SACD) with DSD output interface
  - Compressed SACD with DST output interface
  - High bit rate (HBR) audio
    - Dolby TrueHD
    - DTS-HD master audio
    - DTS-HD high resolution audio
  - 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 1.3-compatible 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, and is specified over the -40°C to +70°C temperature range.

For more information on the ADV7614, contact a local Analog Devices, Inc., sales office or email [ATV\\_VIDEORX\\_INFO@analog.com](mailto:ATV_VIDEORX_INFO@analog.com).

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