

**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.

**Rev. SpB**

Information furnished by Analog Devices is believed to be accurate and reliable. However, no responsibility is assumed by Analog Devices for its use, nor for any infringements of patents or other rights of third parties that may result from its use. Specifications subject to change without notice. No license is granted by implication or otherwise under any patent or patent rights of Analog Devices. Trademarks and registered trademarks are the property of their respective owners.

**NOTES**

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

HDMI, the HDMI Logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.