



Product Brief

HDMI Receiver IP Core

HDMI 1.3 Receiver IP Core

For Integration into System-on-Chip Products

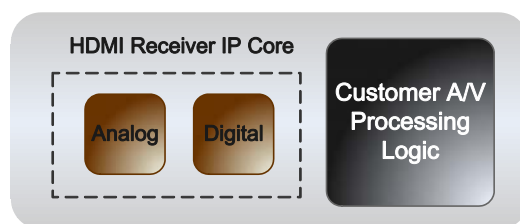
Analogix offers its silicon-proven HDMI IP cores (digital logic and analog PHY) for integration into customer's system-on-chip products to reduce overall BOM costs while consuming less board space than discrete HDMI chip solutions. HDMI 1.3 receiver IP core is ideal for DTVs and HDTVs, including LCDs, DLPs, plasma TVs and high-end CRTs, as well as projectors and A/V receivers. The IP core provides full support for HDCP 1.2 decryption, incorporates the Analogix proprietary WideEye™ architecture for long, low-cost cables and contains the Built-In Self Test (BIST) function.

Analogix HDMI 1.3 Receiver IP core contains an advanced audio interface and a flexible video interface with color space conversion, fully backward compatible with DVI receivers. It supports all relevant formats for compressed and lossless audio by flexible S/PDIF, I²S and one bit audio interfaces. In both RGB and YCbCr modes, its video interface provides Deep Color support up to 36 bits-per-pixel. The IP core can be easily integrated into DTV architectures.

Applications

- LCD/DLP/Plasma TVs
- HDTVs
- High-End CRT TVs
- Deep Color Displays
- A/V Receivers
- Projectors

Typical Application Diagram



ASIC System-on-chip
with Integrated HDMI Receiver IP Core

Related IP Cores

- HDMI 1.3/1.2 Transmitter
- CoolHD™ - Low Power Transmitter
- DisplayPort™ Transmitter
- SERDES (6.25Gbps or less)
- Ethernet PHY

Features

Highlights

- HDMI 1.3/DVI 1.0 Compliant
- HDMI CEC Support
- HDCP 1.2 Decryption Engine
- EIA/CEA-861-D
- Deep Color support up to 36 bits-per-pixel
- Proven in TSMC 0.18um/65nm process
- Max 635mW power consumption (on 0.18um)
- Analogix proprietary WideEye™ architecture for long, low-cost cable
- TMD5 clock rate up to 250MHz
- Built-In Self Test (BIST)
- Programmable power management
- Programmable Data Enable (DE)
- Deep Sleep mode for low power

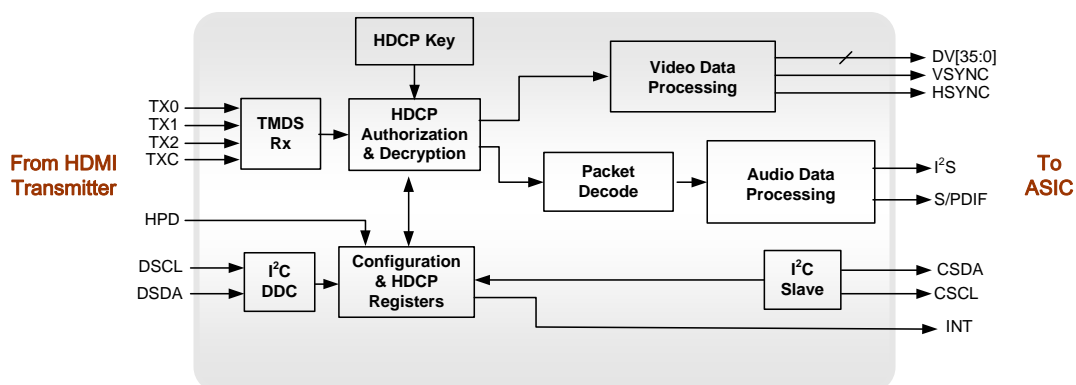
Video Interface

- 24/30/36-bit RGB/YCbCr 4:4:4 (Deep Color)
- 16/20/24-bit YCbCr 4:2:2
- 8/10/12-bit YCbCr 4:2:2 (ITU BT-601 and -656)
- 12/15/18-bit DDR RGB/YCbCr 4:4:4
- xvYCC extended color space
- Color space conversion
- 4:4:4-to-4:2:2 and 4:2:2-to-4:4:4 conversion

Digital Audio Interface

- Up to 192kHz audio sampling rate
- S/PDIF, 8 Channel I²S
- 8 Channel One Bit Audio
- Dolby® TrueHD and DTS-HD Master Audio™ High Bit Rate (HBR) support
- 2/8 Channel Dolby Digital®, DTS, DVD-Audio and PCM support
- IEC60958 or IEC61937 compatible

Block Diagram



Worldwide Locations

Analogix is positioned to support customers worldwide with headquarters in Santa Clara, CA and design engineering and product support in Beijing, China. Analogix also has sales support offices in Taiwan and Japan. For more information: www.analogix.com.