



## Product Brief

### HDMI Transmitter IP Core

## HDMI 1.3 Transmitter IP Core

### For Integration into System-on-Chip Products

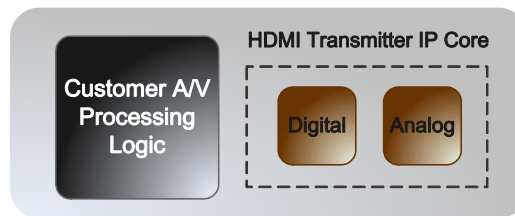
Analogix offers its silicon-proven HDMI IP cores (digital plus analog PHY) for integration into customer's system-on-chip products to reduce overall BOM costs while consuming less board space than discrete HDMI chip solutions. HDMI 1.3 transmitter IP core is ideal for DVD, Blu-Ray Disc players, set-top boxes, A/V receivers. The IP core provides full support for HDCP 1.2 encryption. It also contains the Built-In Self Test (BIST) function.

Analogix HDMI 1.3 Transmitter IP core (digital plus analog PHY) contains an advanced audio interface and a flexible video interface. It supports all relevant formats for compressed and lossless audio by flexible S/PDIF, I<sup>2</sup>S and one bit audio interfaces. Its video interface provides Deep Color support up to 36 bits-per-pixel. Integrated color space conversion allows direct connection to all major DVD and set-top box MPEG decoders.

### Applications

- DVD Players and Recorders
- Blu-Ray Disc Players
- Portable Media Players
- PVRs
- Digital Set-Top Boxes
- A/V Receivers
- Game Systems
- MIDs and UMPCs

### Typical Application Diagram



### Related IP Cores

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

### Features

#### Highlights

- HDMI 1.3/DVI 1.0 Compliant
- HDCP 1.2 Encryption Engine
- HDMI CEC Support
- EIA/CEA-861-D
- Proven in TSMC 0.18um process
- Max 440mW power consumption
- TMDS clock rate up to 250MHz
- Deep Color support up to 36 bits-per-pixel
- Built-in Self Test (BIST)
- Programmable power management
- Programmable Data Enable (DE)
- Deep Sleep mode for low power

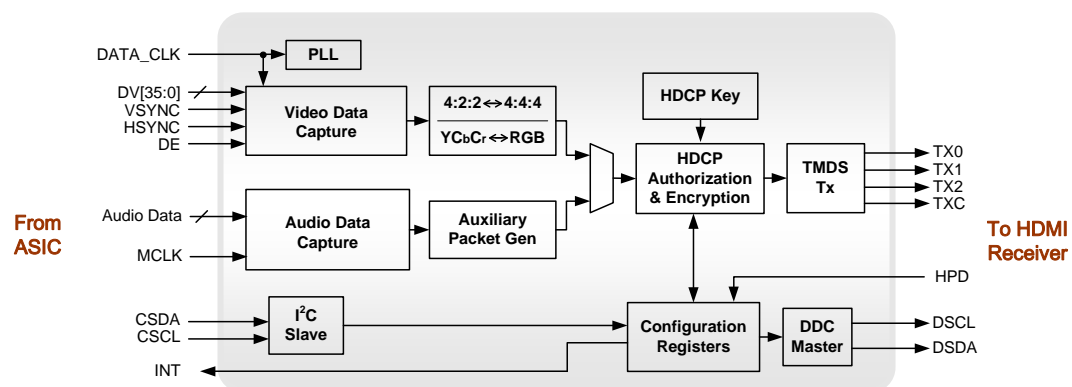
#### Video Interface

- 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 I<sup>2</sup>S
- 8 Channel One Bit Audio
- Dolby<sup>®</sup> TrueHD and DTS-HD Master Audio<sup>™</sup> High Bit Rate (HBR) support
- 2/8 Channel Dolby Digital<sup>®</sup>, 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](http://www.analogix.com).