

VastLane™ HDMI Transmitter

HDMI 1.3 Transmitter with Deep Color, High Bit-Rate HD Audio Support

Silicon Image introduces the latest high-performance HDMI transmitter in their VastLane product family. The SiI9134 supports HDMI 1.3 and provides advances in performance and functionality well beyond other digital interface products on the market. As a founding developer of the HDMI specification, Silicon Image continues to develop leading-edge products that deliver digital quality to mass-market home theater systems.

The SiI9134 is an advanced HDMI 1.3 transmitter designed for next generation Blu-Ray and HD-DVD players and recorders that require high-definition audio and Deep Color capabilities. SiI9134 supports up to 1080p resolution at 60Hz and 36-bit color depth and Dolby® True HD and DTS-HD high bit-rate audio formats to deliver a rich digital video and audio experience.

SiI9134 will fit directly into home theater products such as DVD players and recorders, A/V receivers, digital set-top boxes and personal video recorders (PVRs). The SiI9134 is backward compatible with first and second generation HDMI transmitters. To reduce system cost,

the SiI9134 includes an additional I²C master port to control the DDC bus.

In addition to supporting advanced HDMI 1.3 video features, the SiI9134 supports DVD audio with 7.1-surround at 192kHz, SACD audio standards, and stereo audio at 192kHz.

The built-in High-bandwidth Digital Content Protection (HDCP) encryption engine secures the digital link for transmission of valuable high-definition video and audio. Each SiI9134 is pre-programmed with unique HDCP keys, providing an extremely high level of security while reducing manufacturing complexity and cost.

SiI9134

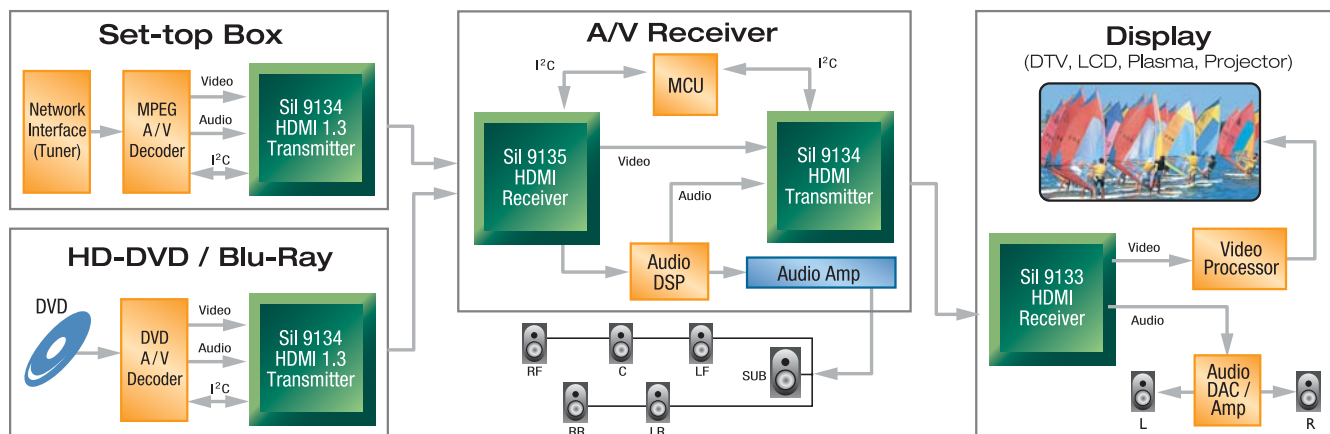
Applications

- DVD players and recorders
- A/V receivers
- Digital set-top boxes
- PVRs
- D-VHS

Key Features

- **Compatible with HDMI 1.3 specification**
- **Supports 1080p resolution at 60Hz and 36-bit color depth**
- **Built-in HDCP encryption engine**

SiI 9134 System Diagram



HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

Sil9134 Features

Sil9134 Starter Kit (CP9134HDMI)

Contents include:

Hardware

- CP9134 transmitter stand-alone board
- HDMI to HDMI cable

Software

- HDMI Gear software tool

Documentation

- User's guide
- Schematics
- Bill of materials (BOM)

Industry-Standard Compliance

- HDMI 1.3
- DVI 1.0
- EIA/CEA-861D
- HDCP 1.1

Power Management

- 1.8V core provides low-power operation
- Flexible power-down modes

Digital Video Output

- Integrated HDMI 1.3 TMDS core running at 225MHz
- Supports Deep Color 36-bit color depth and resolutions up to 1080p @ 60Hz or 720p/1080i @ 120Hz
- Flexible video interface supports DVD and HD MPEG decoders:
 - 12/24/30/36-bit RGB YCbCr 4:4:4
 - 16/20/24/30/36-bit YCbCr 4:2:2
 - 8/10/12-bit YCbCr 4:2:2 (ITU-R BT.601 & BT.656)
- Integrated YCbCr to RGB conversion
- 4:2:2 to 4:4:4 up-converter
- Programmable Data Enable (DE) generator
- 14-bit internal video processing and 14-bit to 12/10/8-bit dither

Digital Audio Output

- Supports Dolby® True HD and DTS-HD up to 24Mb/s through 4xI²S inputs
- DVD-Audio support through 4xI²S inputs
- Dedicated 8-pin interface to support Direct Stream Digital (DSD) Super Audio SACD
- Supports 2-channel audio at 192kHz and 8-channel audio at 192kHz
- Supports IEC60958 2-channel PCM or IEC61937 compressed audio (Dolby® Digital, DTS, etc.)
- Industry-standard S/PDIF output

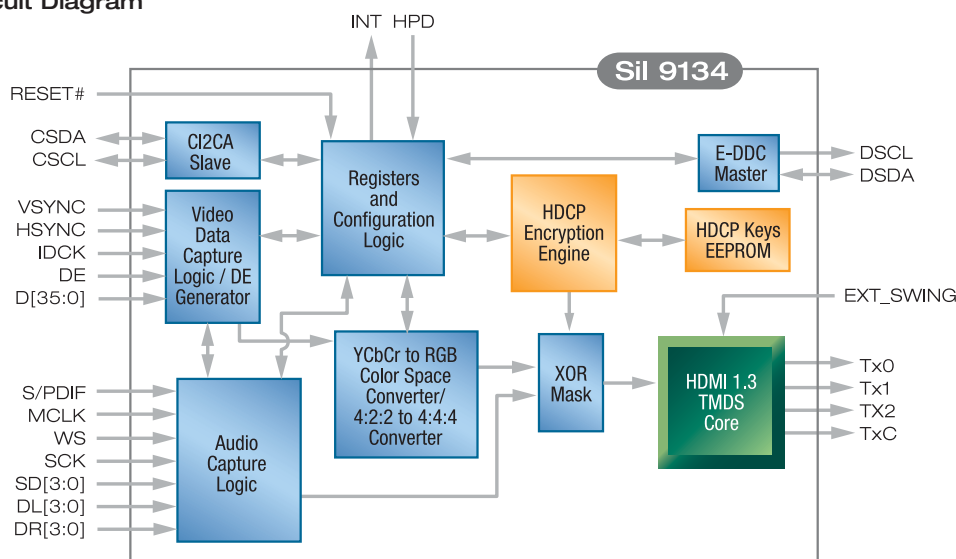
Content Protection

- Integrated HDCP cipher engine
- Pre-programmed HDCP keys:
 - Simplify manufacturing process
 - Provide extremely secure solution
 - Lower system, manufacturing costs
- Encrypts both video and audio

System Operation

- Register-programmable via slave I²C interface
- Master I²C simplifies system design
- Flexible interrupt registers with interrupt pin
- Monitor detection supported through hot plug and receiver detection
- Device address can be altered with CI2CA pin

Sil 9134 Circuit Diagram



Silicon Image, Inc.

1060 E. Arques Avenue
Sunnyvale, CA 94085

T 408.616.4000
F 408.830.9530

www.siliconimage.com

Simply Stored. Connected. Beautiful.

© 2006 Silicon Image, Inc. All rights reserved. Silicon Image, the Silicon Image logo, Sil and Sil9134, VastLane and the VastLane logo, and TMDS are trademarks or registered trademarks of Silicon Image, Inc. in the United States and other countries. HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of, and are used under license from, HDMI Licensing, LLC. Other trademarks are property of their respective holders. Product specifications are subject to change without notice.