



# SiI 9030 PanelLink Transmitter



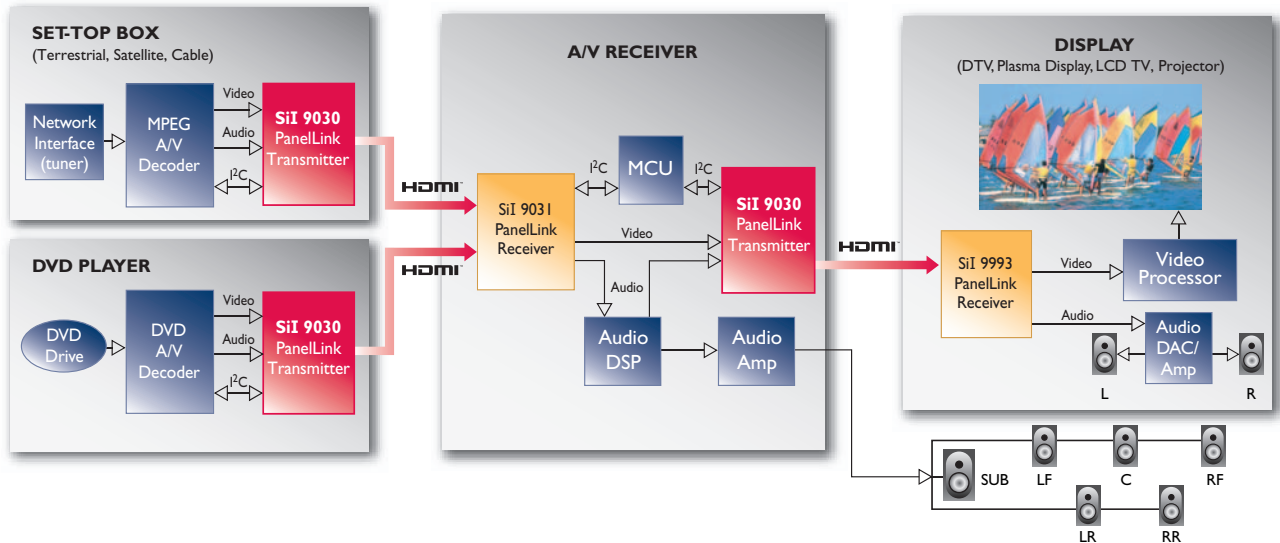
## Applications

- DVD Players
- DVD Recorders
- A/V Receivers
- Digital Set-top Boxes
- PVRs
- D-VHS Players

Silicon Image introduces the second generation of its PanelLink® product family with advances in performance and functionality well beyond other digital interface products on the market. With the first groundbreaking HDMI parts, PanelLink brought a new level of digital quality to mass-market home theater systems. The latest advances increase audio format support, video resolution and HDMI port count, while reducing overall system cost. PanelLink products are fully HDMI 1.0 compliant. As always, Silicon Image has built PanelLink silicon for rapid integration into consumer electronics system architectures.

The SiI 9030 is an advanced HDMI transmitter that fits directly into home theater products, such as DVD players/recorders, A/V receivers, digital set-top boxes, personal video recorders (PVRs) and D-VHS players. To improve manufacturers' time-to-market and reduce design time, the SiI 9030 is backward compatible with first-generation PanelLink transmitters. In addition to all the features in the original PanelLink transmitter, the SiI 9030 supports the DVD Audio standard including 7.1-surround audio at 96kHz and stereo audio at 192kHz. The SiI 9030 supports resolutions up to 1080p. To reduce system cost, the SiI 9030 has an additional I<sup>2</sup>C Master port to control the DDC bus.

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 SiI 9030 is pre-programmed with unique HDCP keys, providing the highest level of security while reducing manufacturing complexity and cost.



# PanelLink®

## SiI 9030 Features PanelLink Transmitter

### Industry-Standard Compliance

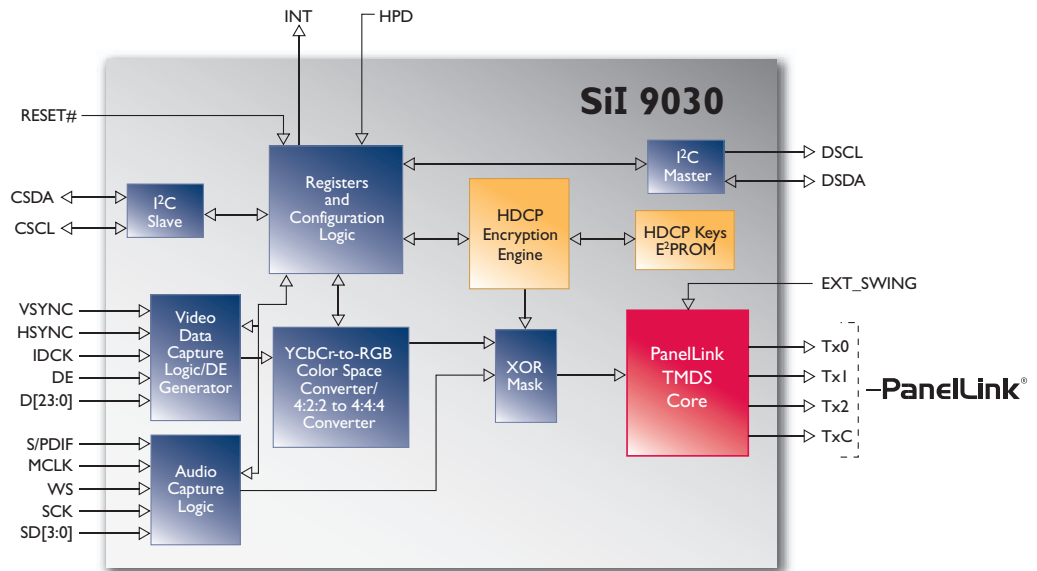
- HDMI 1.0
- DVI 1.0
- EIA/CEA-861B
- HDCP 1.1

### Digital Video Output

- Integrated PanelLink® core
- Supports DTV (480i/576i/480p/576p/720p/1080i/1080p) and PC (VGA/XGA/SXGA/WSXGA) resolutions
- Flexible video interface supports DVD and HD MPEG decoders
  - 12/24-bit RGBYCbCr 4:4:4
  - 16/20/24-bit YCbCr 4:2:2
  - 8/10/12-bit YCbCr 4:2:2 (ITU-R BT.601 & BT.656)
- Integrated YCbCr ↔ RGB color space conversion
- 4:2:2 ↔ 4:4:4 up-converter
- Programmable Data Enable (DE) generator

### Digital Audio Output

- DVD-Audio support thru 4xI<sup>2</sup>S inputs
- Supports 2-channel 192kHz or 8-channel 96kHz
- Supports IEC60958 2-channel PCM or IEC61937 compressed audio (Dolby Digital, DTS, etc.)
- Industry-standard S/PDIF input



### Content Protection

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

### System Operation

- Register-programmable via slave I<sup>2</sup>C interface
- Master I<sup>2</sup>C simplifies system design
- Flexible interrupt registers with interrupt pin
- Monitor detection supported through hot plug and receiver detection

### Power Management

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

## Silicon Image's SiI 9030 Starter Kit (CP9030HDMI)

### Contents include:

#### Hardware

- SiI 9030 Transmitter Stand Alone Board
- HDMI to HDMI cable

#### Software

- HDMIGear Software Tool

#### Documentation

- User's Guide
- Schematics
- Bill of Materials (BOM)

**Part Number - SiI9030CTU: 25-112MHz (use for 720p/1080i applications)**  
**SiI9030CTU-7: 25-150MHz (use for WSXGA/1080p applications)**

**Silicon Image**

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