



## Applications

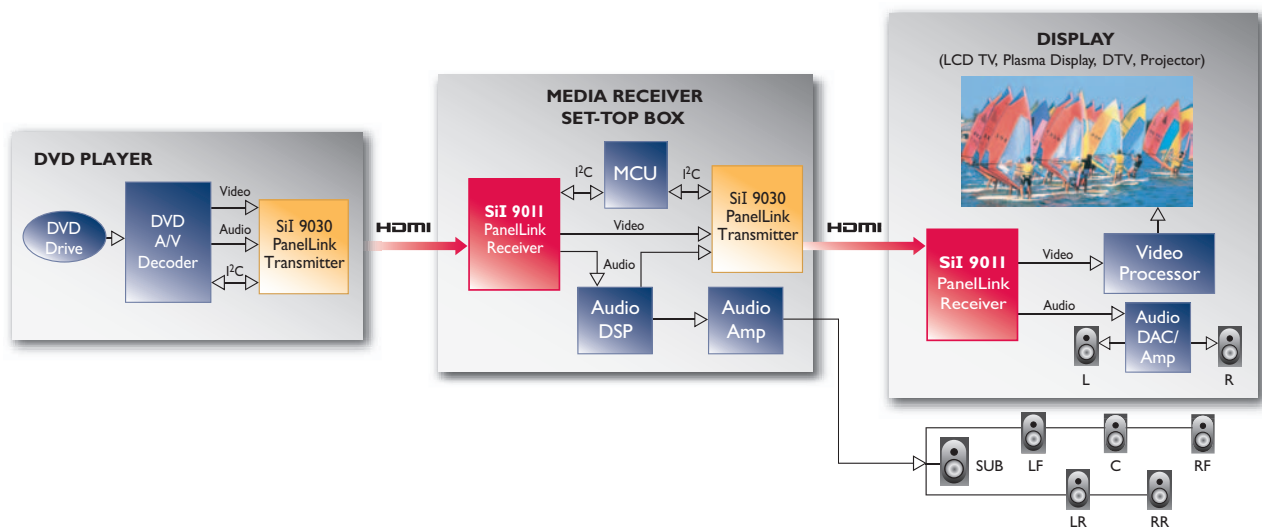
- LCD TVs
- Plasma TVs
- HDTVs
- A/V Receivers
- Media Receiver Set-Top Boxes

## SiI 9011 PanelLink Receiver

Silicon Image introduces the latest addition to its PanelLink® 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 and video resolution while reducing overall system cost. As always, Silicon Image has built PanelLink silicon for rapid integration into consumer electronics system architectures.

The SiI 9011 is a low-cost, fully HDMI-compliant receiver that fits directly into home theater products such as LCD TVs, plasma TVs and HDTVs. The new receiver is capable of supporting bandwidths up to 165MHz and video resolutions up to 1080p and UXGA. To improve manufacturers' time-to-market and reduce design time, the SiI 9011 is software backward-compatible with the SiI 9021, SiI 9031 and SiI 9993. The SiI 9011 supports the DVD-Audio standard, including 7.1-surround audio at 96kHz and stereo audio at 192kHz. The SiI 9011 also supports HDCP Repeater functionality for applications such as media receiver set-top boxes and A/V receivers.

The built-in High-bandwidth Digital Content Protection (HDCP) decryption engine secures the digital link for transmission of valuable high-definition video and audio. Each SiI 9011 is pre-programmed with unique HDCP keys, providing the highest level of security while reducing manufacturing complexity and cost. A new built-in HDCP self-test engine simplifies manufacturing testing.



## SiI 9011 Features

### PanelLink Receiver

#### Industry-Standard Compliance

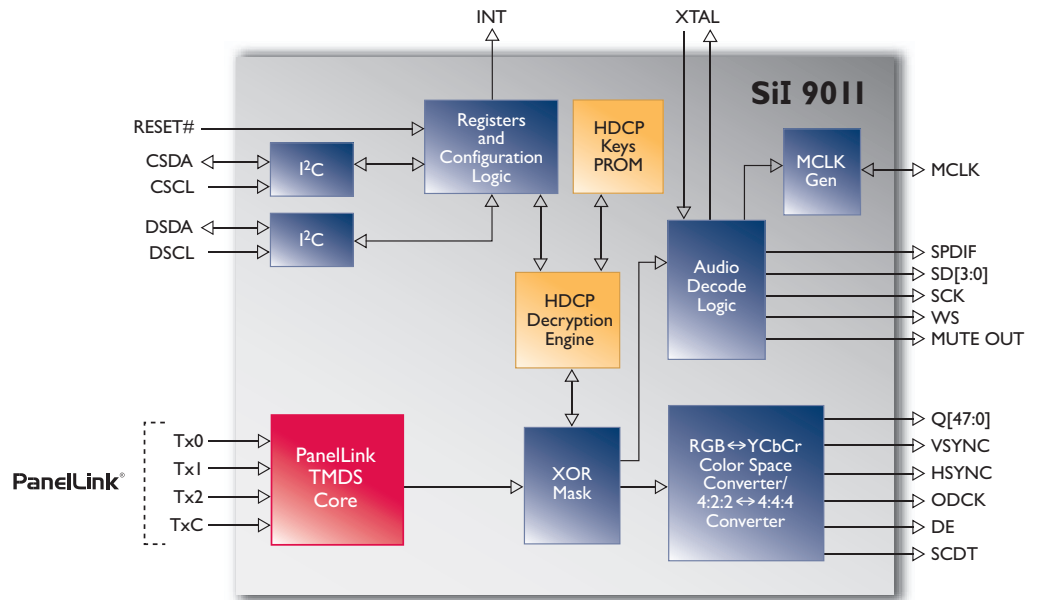
- HDMI 1.1
- DVI 1.0
- EIA/CEA-861B
- HDCP 1.1

#### Digital Video Output

- Integrated PanelLink® core
- Supports DTV (480i/576i/480p/576p/720p/1080i/1080p) and PC (VGA/XGA/SXGA/UXGA) resolutions up to 165MHz
- Flexible digital video interface
  - 24/48-bit RGB/YCbCr 4:4:4
  - 16/20/24-bit YCbCr 4:2:2
  - 8/10/12-bit YCbCr 4:2:2 (ITU-R BT.656)
  - 12-bit digital media interface
- Integrated RGB↔YCbCr color space conversion
- 4:2:2↔4:4:4 converter

#### Digital Audio Output

- Industry-standard SPDIF and 3-wire output
- Supports high-end audio including DVD-Audio
  - 2-ch. 32-192kHz or
  - 8-ch. 32-96kHz
- Programmable 3-wire output supports numerous low-cost I²S audio DACs
- Supports IEC60958 2-channel PCM
- Capable of carrying IEC61937 compressed audio (Dolby Digital, DTS, etc.)



#### Content Protection

- Integrated HDCP cipher engine
- Pre-programmed HDCP keys
  - Simplify manufacturing process
  - Most secure solution available
  - Lower system, manufacturing costs
- New built-in HDCP self-test
- Supports HDCP repeater capability
- Decrypts both video and audio

#### System Operation

- Register-programmable via slave I²C interface
- Auto video mode simplifies design
- Auto audio mode allows more robust system
- Flexible interrupt registers with interrupt pin

#### Power Management

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

## Silicon Image's SiI 9011 Starter Kit (CP9011HDMI)

#### Contents include:

##### Hardware

- SiI 9011 Receiver Reference Board
- HDMI to HDMI cable

##### Software

- HDMIGear Receiver Software Tool

##### Documentation

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

Part Number - SiI9011CTU - Production HDCP keys

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