



HDMI® 1.4 Port Processor

Featuring 3D over HDMI®, HDMI Ethernet Channel, Audio Return Channel, Content Type, plus Innovative InstaPort™ Technology

The SiI9389 is a second-generation port processor offering comprehensive HDMI® 1.4 features for DTVs and AVRs. Transform the home viewing experience with InstaPort™ technology for single-second switching and 3D for cinema and games, while simplifying home connectivity by eliminating the need for separate Ethernet or S/PDIF cables.

HDTVs are evolving by adding 3D video and IP content and services. Bringing 3D video to the home enhances the consumer home theater experience while HDMI Ethernet Channel enables new applications to run over TCP/IP and UPnP protocols. Both combine to create a new personal entertainment experience.

The Silicon Image family of port processors enable OEMs to differentiate with innovative features offering consumers real value. The SiI9389 port processor outputs to the HDMI interface, requiring no change to the system architecture while providing the flexibility to introduce features as the market demands.

The SiI9389 switches between five HDMI 1.4 input ports. All ports support 3D Video and Content Type, which specifies the video type in the HDMI data stream. HDMI Ethernet Channel, a high-speed, 100 Mb/sec full-duplex

networking data channel and S/PDIF Audio Return Channel, are supported on any one port. All HDMI 1.4 signals, including audio, video, EDID, HDCP and CEC are fully supported.

The SiI9389 includes Silicon Image's InstaPort technology which can dramatically reduce switching time between different sources to as low as a single second.

The SiI9389 port processor is complemented by the SiI9334 HDMI transmitter for source devices with the same rich HDMI 1.4 feature set.

SiI9389

Applications

- LCD, plasma, OLED and front and rear projection DTV

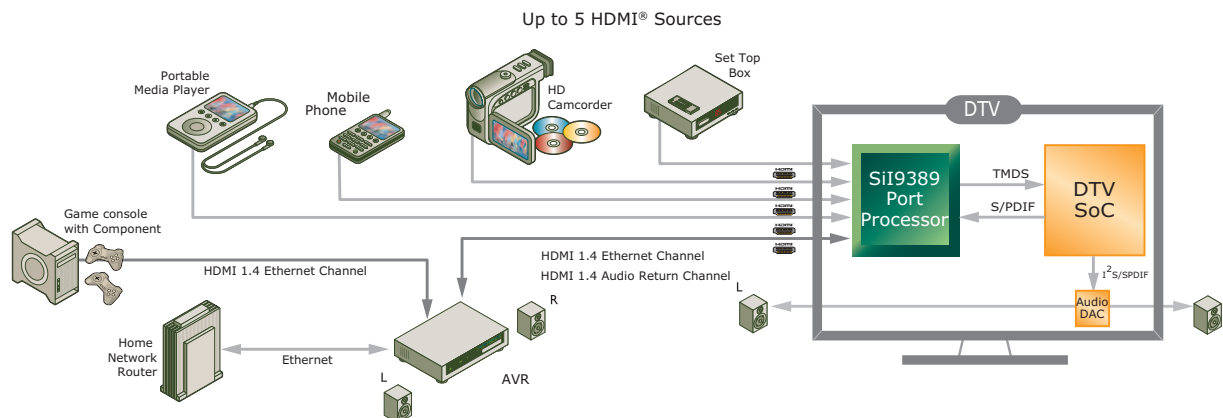
Key Features

- Five HDMI input ports
- 3D over HDMI
- HDMI Ethernet Channel
- Audio Return Channel with S/PDIF input
- Content Type
- InstaPort™ technology
- Built-in HDCP decryption engines
- TMDs Core @225MHz

HDMI®
HIGH-DEFINITION MULTIMEDIA INTERFACE

instaport™

SiI9389 System Diagram



Sil9389 Features

Sil9389 Starter Kit (CP9389HDMI)

Contents include:

Hardware

- Sil9389 sink board
- HDMI Ethernet cable

Software

- SilMon receiver software tool

Documentation

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

Industry-Standard Compliance

- HDMI 1.4
- DVI 1.0
- EIA/CEA-861E
- HDCP 1.1

HDMI Inputs

- Five HDMI 1.4 input ports:
 - 3D Video formats (1080i @ 50/59.94/60Hz, 1080p @ 23.98/24Hz, 720p @ 50/ 59.94 /60Hz) on all ports
 - HDMI Ethernet Channel/Audio Return Channel on any one port
 - Content Type on all ports
- 36 bit color depth resolutions up to 1080p @ 60Hz or 720p/1080i @ 120Hz
- InstaPort fast HDMI port switching
- Shared EDID NVRAM for HDMI andVGA ports
- DDC/EDID for VGA
- Integrated CEC Consumer Electronics Control

System Operation

- Register-programmable via slave I²C interface

Content Protection

- Integrated HDCP cipher engine
- Built-in HDCP BIST (self-test)
- Pre-programmed HDCP keys

Power Management

- Low standby power mode with auxiliary power mode for CEC and EDID support
- Network "On", TV "Standby" power mode enables networking functionality while the TV display is not powered
- < 2.0W power consumption

Package

- 100-pin, 14mm X 14mm, 0.5mm pitch QFP



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