



*instaport*™

## InstaPort™ Technology Brief

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### Introduction – What is InstaPort™ Technology?

As a wide range of HDMI-equipped DVD/Blu-ray players, set top boxes, PCs, mobile devices and game consoles proliferate the market, consumers are simultaneously connecting more source devices to their DTVs via HDMI ports. The viewer typically switches between these connected sources using the “source” button on the TV remote control. When consumers select a new input device, they expect that source material to appear on screen immediately. With HDMI, this is not always the case because when a new HDMI source is selected, the DTV and the source device perform an HDCP authorization routine which can sometimes take up to four to seven seconds.



InstaPort technology solves this problem. Typically, when a source device is connected to the TV, the HDCP authorization process is not initialized until that source is selected as the input to be displayed on the DTV. However, DTVs that support InstaPort technology perform the HDCP authorization routine immediately upon connecting the device. Then, when a user selects that source, it will begin to stream the content immediately—often within 1 second—without waiting for HDCP authentication.

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## How will consumers benefit from InstaPort technology?

InstaPort technology makes the home theater experience more enjoyable by allowing consumers to more quickly access their HDMI connected entertainment devices. Consumers will no longer be subject to a four to seven second delay when switching between the source devices connected to their DTVs.

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## What type of CE devices will benefit from InstaPort technology?

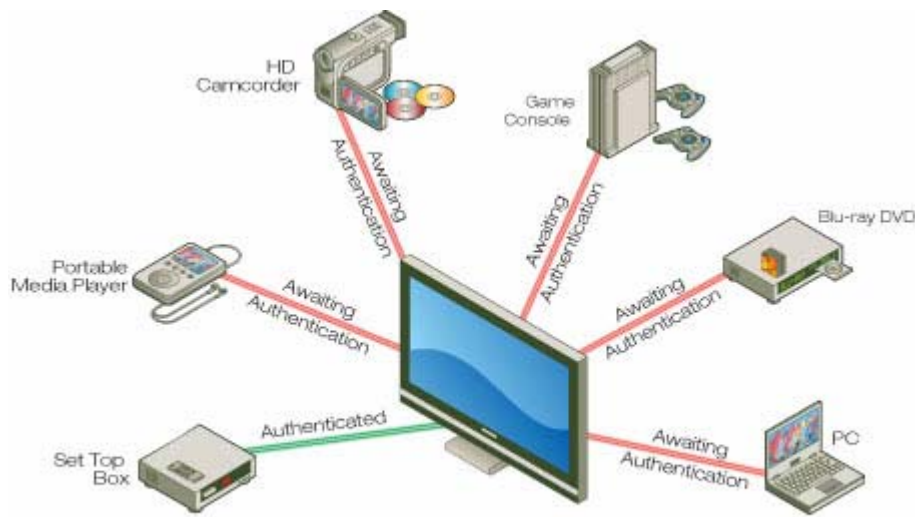
InstaPort technology is designed for DTVs, A/V receivers and HDMI switches that are equipped with multiple HDMI input ports. Many DTVs available today include anywhere from three to seven HDMI ports on the rear, side and/or front panel.

As popular HDMI-equipped source devices like the Roku Box, Apple TV, portable media players, and smart phones become mainstream additions to conventional devices like DVD/Blu-ray players and cable set top boxes, DTVs and A/V receivers will continue to increase the number of HDMI ports. InstaPort technology will become a check-list must-have for DTV buyers who plan to utilize multiple HDMI inputs.

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## Why is there an inherent delay in switching between HDMI ports?

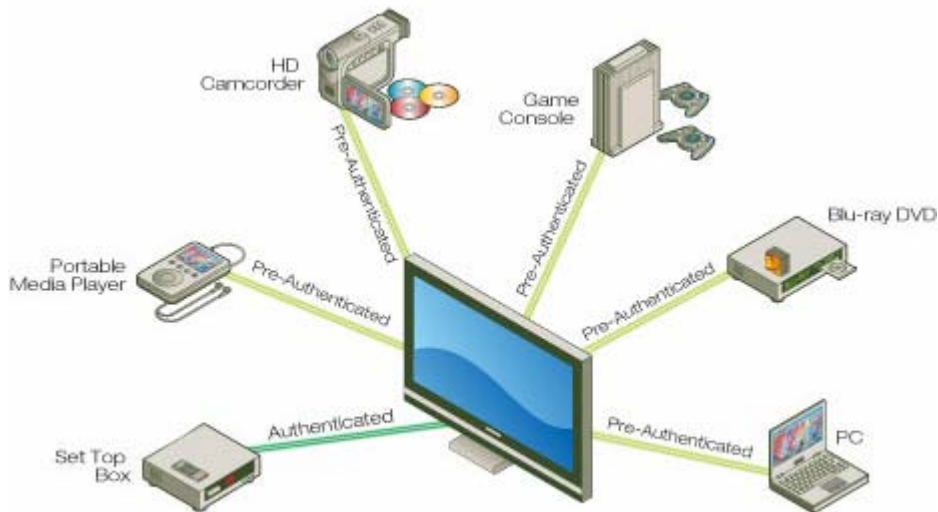
HDMI uses HDCP encryption to secure the transmission of premium, high-definition digital content over a serial digital interface. When a device is selected as the HDMI input source, the HDMI transmitter exchanges secure keys with the HDMI receiver to authenticate the connection. Content begins streaming to the DTV only after the source and sink devices are validated and a secure connection is established. Depending on the manufacturers' implementations of this firmware and key handshake, it can take anywhere from 4 to 7 seconds.



Without InstaPort only one source is authenticated at a time. The others must be authenticated before viewing.

### How does InstaPort technology solve the delay problem?

InstaPort technology allows the DTV to perform simultaneous background HDCP authentication with all connected source devices as soon as they are connected to the DTV. When a new input source is selected by the viewer, the HDCP authentication has already been performed and the newly selected source can begin streaming content immediately. The time required to switch between HDMI inputs is reduced to less than one second.



With InstaPort, all connected sources are pre-authenticated and ready to view.

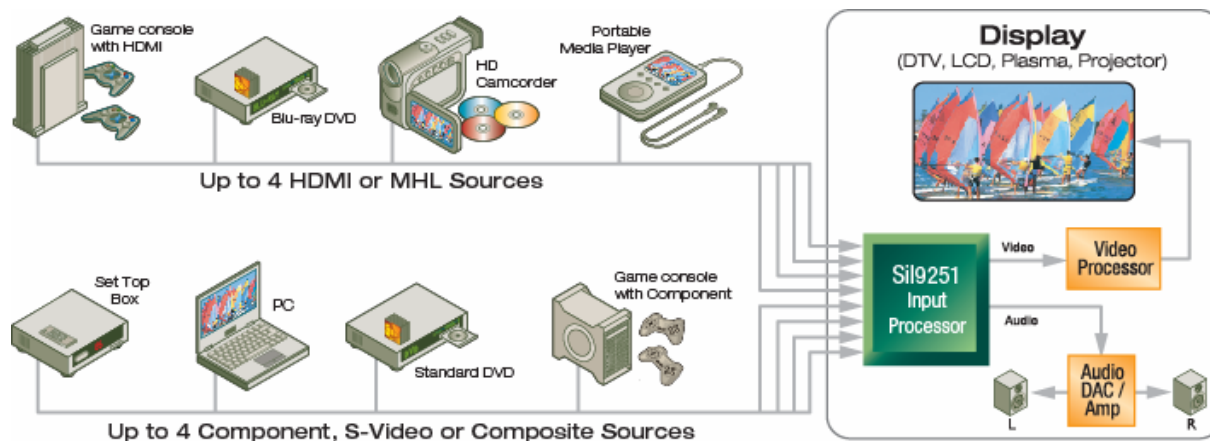
## Is InstaPort technology compatible with legacy HDMI source devices?

Yes, in fact many older HDMI-equipped source devices take longer to authenticate than newer devices. InstaPort technology in the DTV can make port switching times more uniform across all connected HDMI source devices.

## What Silicon Image products feature InstaPort technology?

### Input Processors

Silicon Image's SiI9251 input processor includes four HDMI 1.3 inputs plus four analog inputs, with InstaPort technology supported on the HDMI ports. By managing all of the input interfaces into the DTV, input processors give manufacturers the ability to add new features to their HDTV platforms quickly and cost-effectively without requiring a lengthy and costly redesign of their proprietary video processor. Input processors also offer innovations in legacy analog video inputs with high-quality 12-bit state-of-the-art ADCs and AVI interfaces, new MHL™ technology interfaces to connect HD mobile devices and Silicon Image's new InstaPort technology for instant switching between input ports.

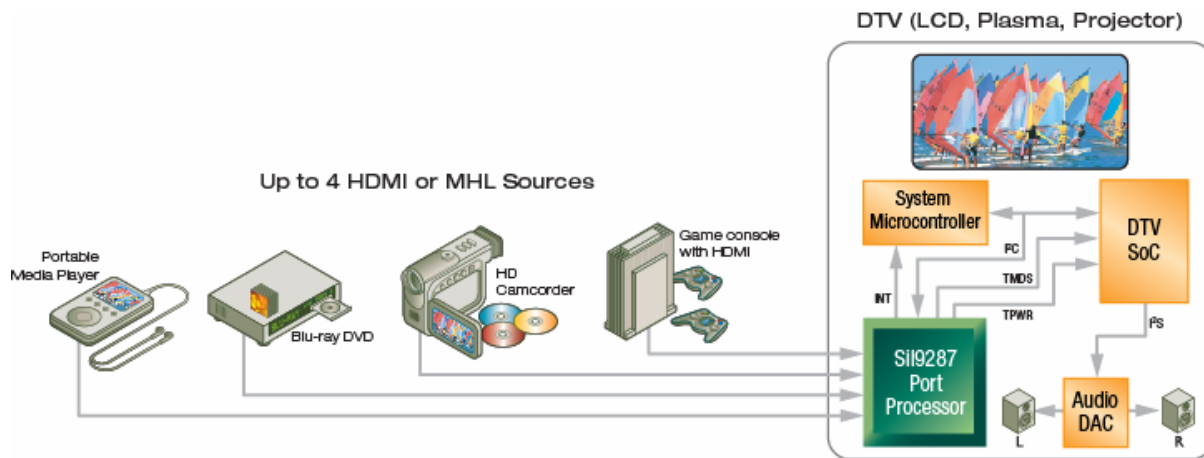


### Port Processors

Silicon Image's SiI9287 port processor includes four HDMI 1.3 inputs that support InstaPort technology. Port processors are the natural evolution of the HDMI receiver and provide new connectivity features for the DTV while requiring minimal software overhead from the DTV's main processor. Port processors are available with output buses in various configurations to allow

easy connection to the many DTV SoCs. This allows manufacturers to differentiate their products by focusing their R&D efforts on video processing or other proprietary advantages.

The SiI9287 also supports Silicon Image's MHL technology. MHL-equipped mobile devices can be connected directly to an SiI9287-equipped DTV without a dock or dongle, with complete auto discovery of HDMI or MHL source devices in the hardware.



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## About Silicon Image, Inc.

Silicon Image, Inc. is a global leader in driving the architecture and semiconductor implementation for the secure storage, distribution and presentation of high-definition content in the consumer electronics, personal computing, and mobile device markets. With a rich history of technology innovation that includes creating industry standards such as SATA, DVI and HDMI, Silicon Image partners with the world's leading entertainment creators and electronics manufacturers to deliver digital HD content to consumers anytime, anywhere, on any device. Silicon Image is also a leading provider of semiconductor intellectual property solutions for high-definition multimedia and data storage applications. Additionally, Simplay Labs, LLC, a wholly-owned subsidiary of Silicon Image, offers robust testing tools, technologies, support services, consulting and product certification to electronics manufacturers to maximize performance, interoperability and ensure the highest-quality HD experience to consumers. With engineering, sales and customer support facilities located throughout North America, Asia and Europe, Silicon Image (NASDAQ: SIMG) is globally headquartered in Sunnyvale, California. For more information, please visit [www.SiliconImage.com](http://www.SiliconImage.com).



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