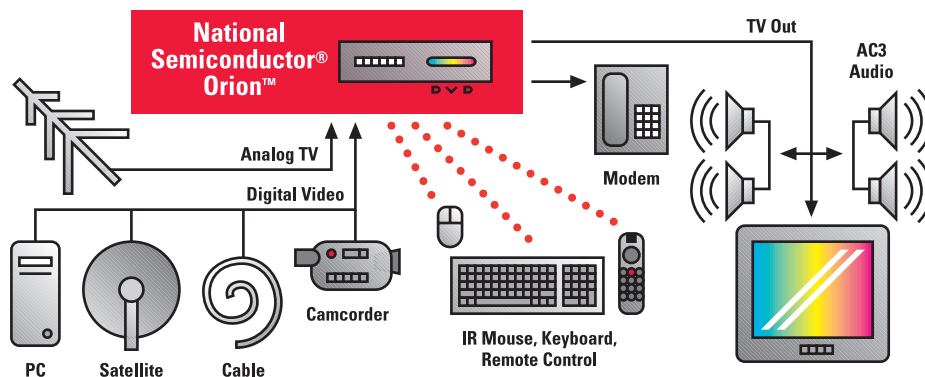


Orion™

Interactive Entertainment

Platform Overview



Applications

The Orion platform brings a wide range of new and exciting possibilities to hardware and software developers. Its full set of functions and peripheral interfaces make it ideal for the development of a variety of convergent information appliances such as:

- **Interactive DVD players providing simultaneous connectivity to the Internet**
- **Web browser set-top boxes featuring Internet services such as overlaid electronic program guides and Email print capabilities**
- **Digital receiver set-top boxes for cable and satellite services featuring interactive Web connectivity and time-delayed recording**
- **Clients for streaming video reception from an ATM network or LAN**

The development of information appliances just got easier. As part of its commitment to provide total system solutions for the emerging information appliance (IA) market, National Semiconductor has developed a reference platform that enables rapid time-to-market with the latest technology in consumer IAs. Introducing the Orion™ platform, an x86-based reference system that combines the necessary software and hardware functions to develop a wide variety of information appliances featuring full Internet access.

When it comes to the Internet, the x86 architecture means compatibility. More than 200 Web plug-ins and thousands of games have been written for the x86 processor core. The Orion platform is x86-based, with the features to ensure software and hardware compatibility — and a rich Internet experience for consumers everywhere. It's the perfect system for the development of interactive home entertainment appliances — from cable and satellite set-top boxes, NetTVs and DVD players to streaming video clients, personal Web browsers and more.

Product Overview

Orion is a ready reference platform that can be used to evaluate hardware and to develop application software for x86-based systems. It takes video MPEG2 transport streams, decodes and divides them into the video and audio subcomponents, and relays the results to a television. Orion's flexible design offers a variety of Internet connectivity options. While processing MPEG2 streams, and with the appropriate PCI or ISA modem card, Orion can simultaneously surf the Web using a traditional telephone line, DSL or cable modem.

Orion uses the National MediaGX™ processor, a highly integrated CPU featuring the ideal blend of power and frequency necessary to run information appliances of all kinds. For example, at a clock frequency of 200 MHz, the processor typically uses less than 4 watts, enabling fanless operation.

Orion also supports a host of other devices — infrared keyboard for Email, education or business software; USB devices such as cameras, joysticks and printers; and internal configuration options for built-in access to DVD-ROM, floppy disk drives and more.

National Semiconductor has designed Orion™ as a reference platform for manufacturers and developers.

For more information, visit the National Web site at www.national.com/orion

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Product Specifications

Hardware Features

- Small, consumer-friendly form factor consistent with set-top box market requirements
- Microprocessor system
 - National MediaGX™ processor (x86 architecture)
 - National Cx5530 southbridge
 - National PC97317 Super I/O
- Video and audio system
 - Philips TV tuner
 - C-Cube ZIVA MPEG2 video and audio decoder
 - IGS 5005 TV encoder and graphics processor
 - NTSC/PAL TV out
 - Dolby® AC-3 audio
- 3GB hard disk drive
- DVD-ROM drive
- SmartCard® reader
- Infrared keyboard and mouse
- Two USB, serial and parallel interface ports
- S-Video, (I/O), composite video (I/O), audio (line I/O) and super VGA ports
- Headphone jack and two microphone input ports
- PCI / ISA slot for modem, digital video broadcast receiver networking cards, or RF module for connectivity to other personal access devices
- Power supply

Pre-Loaded Software Features

- Microsoft® Windows® 98 software architecture using Direct Show, Internet Explorer® and other standard APIs
- Software Options available on request: Alternative OS and RTOS's (Windows NT, WinCE, QNX, VxWorks, Linux)

Availability

National Semiconductor's Orion platform is available today for demonstration and evaluation purposes. It can be sourced in production volumes through a third-party manufacturer. The design schematics and bill of materials are also available on request to companies interested in modifying the design to meet specific application and production requirements. For more information, contact your National Semiconductor sales office.



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