

Nexperia PNX8550

For building a new generation of advanced, connected analog/digital and digital TV products, the Nexperia PNX8550 delivers comprehensive analog TV processing, SD or HD source decoding, and advanced picture enhancement features — all on a single chip.



Key features

- Multicore design includes a 266-MHz MIPS32 CPU and dual 240-MHz TriMedia™ media processing cores
- Descrambles and PID filters multiple (DVB, ATSC) transport streams
- Conditional access for DVB, MULTI2 descrambling, 3DES and DES (EBC or CBC) encryption
- Simultaneous demux and decoding of two SD (MPEG2 MP@ML) or one HD (MPEG-2 MP@HL) streams
- Extensive picture enhancements include integrated video temporal noise reduction, video measurement, histogram correction, and more
- High-quality image scaling, advanced de-interlacing up to HD resolution
- Primary video output up to 81 Mpix/sec (up to 1920x1080 60I or 1368x720 60P displays); secondary analog output with integrated PAL/NTSC DENC
- Simultaneous decode of multiple compressed audio streams such as Dolby® Digital (AC-3), AAC, MPEG2 L1 or L2, MP3, and more
- Extensive on-chip connectivity; peripheral expansion through PCI/XIO

Home entertainment engine for advanced analog/digital and digital TV products



The Philips Nexperia™ PNX8550 is a highly integrated media processor for building mid- to high-end analog/digital and digital TV receivers with advanced TV and connectivity features. On a single chip, PNX8550 integrates conditional access, MPEG-2 transport stream demux, video decoding, high-quality video enhancement, audio decode and mixing, graphics generation, image composition, and display. It supports simultaneous input and processing of two SD or one HD MPEG streams and two independent outputs for a primary TV screen and a secondary analog device such as VCR. Dual-stream processing also enables support for double window applications such as picture-in-picture and side-by-side pictures.

In basic or advanced configurations, PNX8550 offers extensive video quality enhancement of analog or digital sources including industry standards such as Digital Natural Motion™ or proprietary algorithms. It supports a wide variety of display types, sizes, and aspect ratios, including HD progressive output for driving wide-XGA class plasma or LCD displays.

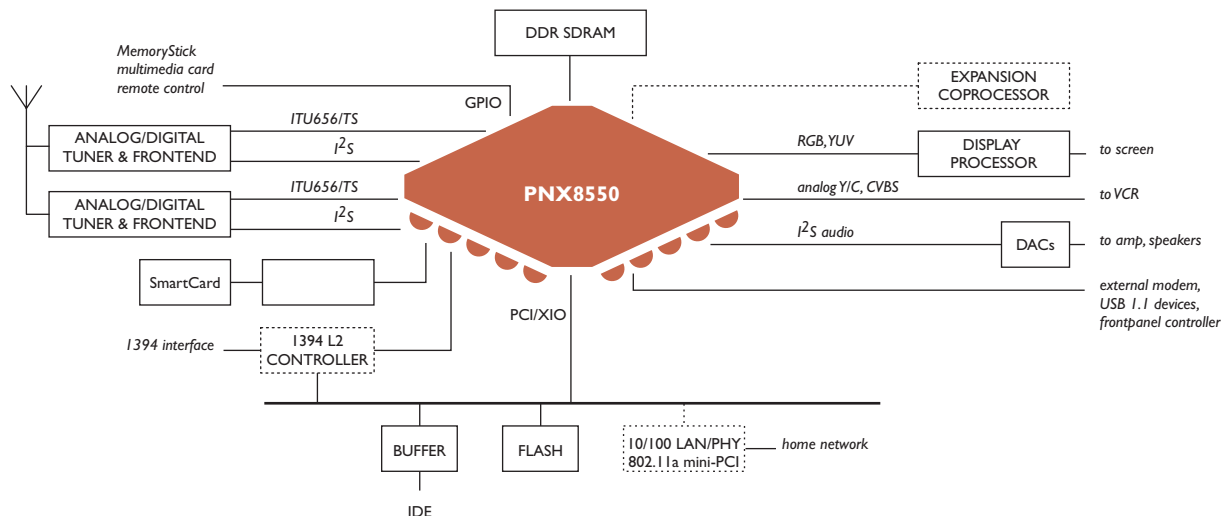
Nexperia Home architecture

The PNX8550's highly integrated Nexperia Home architecture enables support for basic and advanced TV applications and product configurations. Powerful MIPS32 and TriMedia processor cores work together with on-chip units to efficiently handle media processing functions in hardware and software. The MIPS32 PR4450 core controls and balances all on-chip functions; two TriMedia TM3260 cores handle real-time media tasks, many advanced video enhancements, and all audio operations. On-chip I/O and coprocessing units perform or assist in core video functions such as media I/O, video decoding, scaling, video quality enhancements, display composition, and preparing media streams for display. High-speed data and control buses connect CPUs and on-chip units with each other and with main memory. Support for PCI, XIO, USB, and I394 connectivity standards make a wide variety of connectivity features possible.

PHILIPS

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Advanced TV features

A variety of PNx8550 configurations support many advanced TV features and services:

- Add an optical or hard-disk drive to enable personal video recording or time shift record/playback.
- Configure a portable Flash reader to support MemoryStick™ and similar formats.
- Add a return channel and software for interactive TV features like web browsing, shopping, e-mail, chat rooms, and MHP/OCAP applications.
- Add an H.32x codec for videoconferencing

Use of this product in any manner that complies with the MPEG-2 Standard is expressly prohibited without a license under applicable patents in the MPEG-2 patent portfolio, which license is available from MPEG LA, L.L.C., 250 Steele Street, Suite 300, Denver, CO 80206.

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Complete Software Development Kit (SDK)

For PNx8550 application development, the NH-8550 SDK includes reference hardware, a programmable remote control, audio/video streaming software, operating systems, sample and demo applications, and documentation. It is available to Partners through the Nexperia Home Partner Program.

Philips Semiconductors

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