MOMENTUM DATA SYSTEMS

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PCI-1500

pnx1500 ネクスペリア PCI 開発環境

The PCI-1500 is a cost effective hardware platform for the development of pnx1500 software where the PC is used as the I/O subsystem during development.

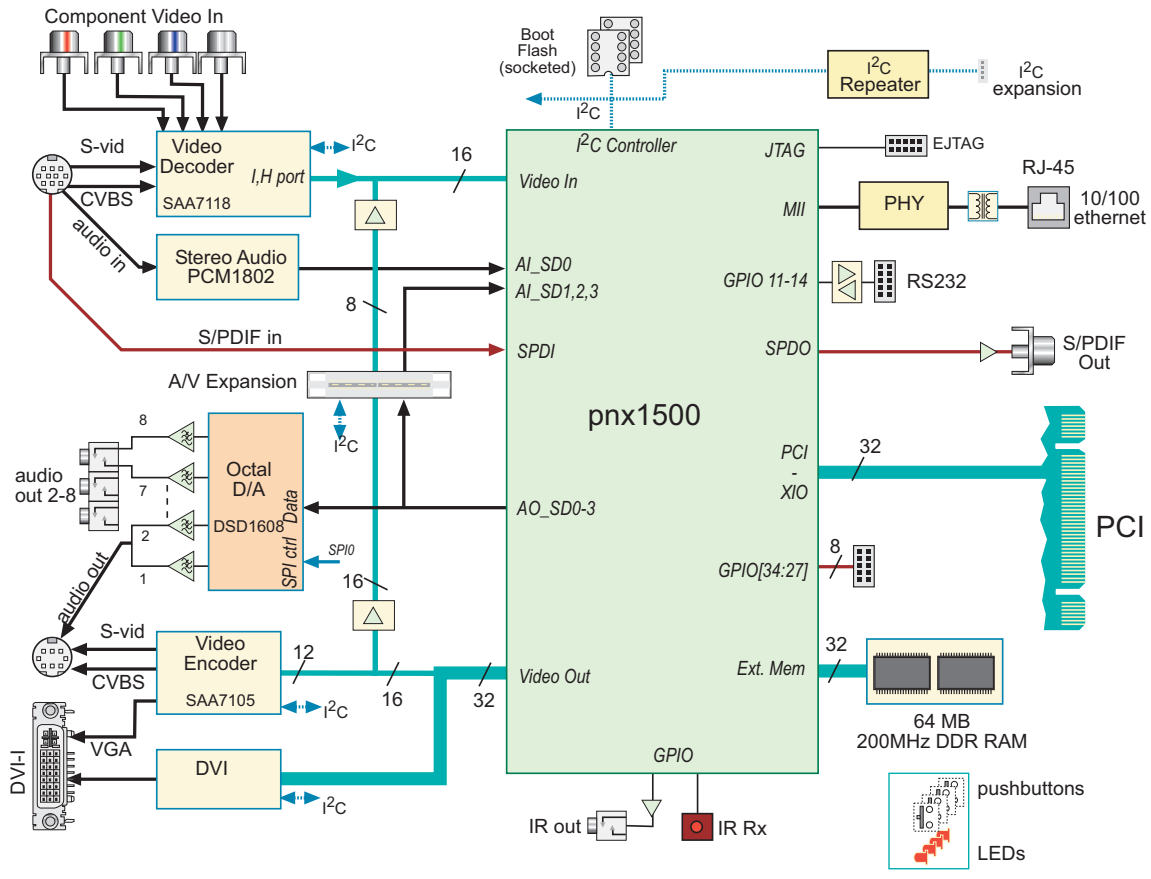
The 266 MHz Philips NEXPERIA™ pnx1500 (formerly called the TriMedia) is programmed in C/C++ and supported by library functions including audio and video compression, video processing and text/graphics overlay generation. The dual que built in Ethernet makes the pnx1500 ideal for high performance multi-media network applications that need QoS for real-time operation. To support that, FUSION® and TargetTCP® TCP/IP protocol suites are available for use with the pnx1500.

The card is also available with the Philips MPTK tools (formerly NDK) for compilation and debugging.

To help you get started, MDS offers NEXPERIA training classes to minimize the learning curve and engineering services help you get your application into production quickly.

Hardware Features

- All major pnx1500 peripheral interfaces implemented, including Ethernet
- CVBS, S-video, and component video input, CVBS, S-video, DVI-I (component video and digital) output allows operation with almost any video source and display
- 2 channel analog audio in, 8 channel analog audio out supports 96 kHz sample rates
- S/P DIF input and outputs for digital audio
- Ethernet with optional FUSION® or TargetTCP® Protocol Suite allows development of embedded applications directly from your PC
- RS232 port allow control of external 'dumb' devices or as a debug interface
- 64MB of 200 MHz DDR memory (DDR400)
- Infra-red receiver and transmitter
- Controlled impedance expansion connector for daughter card with custom A/V input or output, compatible with cards developed for MDS IREF (pnx1300) boards.



PCI-1500：最新ネクスペリア搭載ネットワーク付きマルチメディア開発環境

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仕様:

プロセッサ: 266MHz Philips NEXPERIA PNX1500™

メモリ： 64MB DDR at 200MHz clock (400 MHz data rate)

ビデオデコーダ ：Philips SAA7118 PAL/NTSC/SECAM

- Four analog video inputs per ADC, four ADCs
- Features are programmable via I^2C bus interface

ビデオエンコーダ ：Philips SAA7105 Digital Video Encoder

- Three DACS, two times oversampled with 10-bit resolution
- Features are programmable via I^2C bus interface

オーディオ ：TBD

- TBD

ビデオクロック：

- Normal mode: Video decoder drives pixel clock into pnx1500, all other clocks generated by pnx1500 internal PLL/DDS units
- Bypass mode: Video decoder drives pixel clock into pnx1500, video encoder clock, and audio AD and D/A clocks

イーサネット：pnx1500 with external PHY

- Full duplex support at both 10 and 100 Mbps
- 6 status LEDs

汎用I/O：

- 8 quasi-bidirectional lines brought out to IDC style expansion header

IrRx デバイス：

- Sharp GP1UM28YK IR Receiver

IR Xmit

- 1/8" mini phono jack, 10 mA current drive

ブートフラッシュ ：

- two 8 pin serial EEPROM
- jumper selection simplifies 'factory' vs. 'normal' operation scenarios

JTAG

- JTAG connector for use with MDS NEXPERIA/TriMedia JTAG emulator or other NEXPERIA/TriMedia compatible JTAG emulators
- 14 pin EJTAG pinout

オーディオ/ビデオ入力

- 10 pin mini-Din with stereo audio, SPDIF in, CVBS and S-video (kit includes breakout cable)
- Four RCA jacks for component input (RGB, Sync)

オーディオ/ビデオ出力

- 8 pin mini-Din with stereo audio (channels 1 and 2), CVBS and S-video (kit includes breakout cable)
- DVI-I (digital and analog) connector. Kit includes VGA adapter. Note that only analog or digital mode can be used at a time.
- Three 1/8 stereo jacks for audio channels 2-8
- RCA jack (internal) for S/P DIF out

RS-232

- 10 pin IDC (kit includes IDC to 9 pin Dsub adapter)

イーサネット

- RJ-45 jack

サイズ ：

- Full size PCI card

電源

- Uses PCI +5V, +/- 12V
- On board supply for 3.3V and Vcore and V_{DDR} generation

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メディアプロセッサツールキット (MPTK)

NEXPERIA™ Development systems from MDS include the core MPTK components. Optional high level libraries complement the basic functions and provide a total set of software to reduce development time and cost.

Please note that while the MPTK is similar in concept to the pnx1300 NDK tools, it is a completely different software package and no upgrade from the NDK to MPTK is available.

MPTK Core Components

Tool Chain:

- C/C++ compiler
- linker with dynamic loader/overlay support to minimize memory footprint
- cycle accurate machine simulator
- code profiler
- debugger for use with NEXPERIA/TriMedia compatible JTAG emulator (JTAG not needed for PCI1500)

RTOS:

- pSOS+m™ version 2.5 Real Time OS includes single and multi-processor support

MPTK/IADK Core Libraries:

- TriMedia Streaming Software Architecture (TSSA) library components
- audio I/O, video I/O, synchronous serial, interface (SSI), image co-processor, I2C, board support, variable-length decoder, 2D graphics

Optional IADK Libraries

The libraries are offered by Philips Semiconductor, please consult the MDS website for further details and availability:

- Dolby Digital Decode (AC3 decode)
- Basic A/V decode (MPEG2)
- Basic A/V encode (MPEG2)
- MPEG4 A/V Decode
- Other libraries in development

MDS PCI-1500 CD

The -KIT version of the board includes the MDS CD of example programs and documentation. The source to the full board support package (BSP) is also provided, which can serve as an excellent starting point for developing custom BSPs.

Included is the “Getting Started” guide which provides extremely useful information to get up and running quickly.

While the pnx1500 has built in Ethernet, there is no default Ethernet stack included in the Philips toolset. Instead there are two evaluation versions of popular commercial TCP/IP stacks. The Blunk Microsystems TargetTCP® evaluation is include on the MPTK disk. MDS includes the FUSION® evaluation on the PCI-1500 CD. Both stacks include enough capability to evaluate basic TCP, DNS, and DHCP client operations in your own applications. To use one of these stacks in your product a (royalty free) license must be purchased.

FUSION Protocol Suite

The following protocols are available:

Core Protocols

- TCP/IP (includes TCP, UDP, IP, ARP, RARP, ICMP and TFTP)
- DHCP client and server
- PPP client and server
- BOOTP client
- PPP over Ethernet (PPPoE)
- RTP/RCP
- T/TCP (Transaction TCP)

Application Protocols

- FTP client and server
- Telnet server
- DNS Server and Resolver
- SNTP client and server

Routing Protocols

- IGMP v2
- RIP/RIP-2
- OSPF v2
- NAT

Network Management

- SNMP v1/v2 with MIB Code Generator
- SNMP v3 with MIB Code Generator

Web Services

- Embedded Micro-Browser
- Web Server
- SMTP
- POP3

XML Toolkit

- XML MicroParser
- XML Schema Compiler
- SOAP

Blunk Protocol Suite

The following protocols are available:

Core Protocols

- TCP/IP (includes TCP, UDP, IP, ARP,RARP, ICMP, TFTP, AutoIP)
- DHCP client
- PPP (with CHAP, CHAT, and PAP)

Application Protocols

- FTP client and server
- Telnet server
- DNS Resolver
- RARP server

Routing Protocols

- IGMPv2

Network Management

- SNMP v1/v2 with MIB Code Generator

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Ordering Information (order code is in *Italics*)

PCI-1500-DK-FULL Full Development Kit includes:

- PCI-1500 board with 266MHz pnx1500™, 64MB 200MHz DDR RAM
- Philips MPTK Core Components. Includes compiler tools and basic TSSA software library components
- Documentation on CDROM.
- MDS board manual and examples on CD.
- Audio, video, and IR xmit cables
- RS232 adapter
- DVI-I to VGA adapter
- Standard 90 Day Getting Started Support

PCI-1500-KIT Development board

- PCI-1500 board with 266MHz pnx1500™, 64MB 200MHz DDR RAM
- Audio, video, and IR xmit cables
- RS232 adapter
- DVI-I to VGA adapter
- MDS board manual and examples on CD
- Standard 90 Day Startup Support

PCI-1500-BO Board without accessories, software, support

- PCI-1500 board with 266MHz pnx1500™, 64MB 200MHz DDR RAM

IADK optional libraries

- Please see the MDS web site

FUSION TCP/IP Protocol Suite

- Evaluation version included on MDS CD
- Please contact MDS for ordering information to convert evaluation license to a product license.
- Each component is sold separately as source code. Some components require others to be used. Customer must execute Unicoi Software License Agreement prior to ordering.
- All source licenses normally include a bundled 90 day support contract, a 1 year support contract. also available on request.

TargetTCP Protocol Suite

- Evaluation version included on MPTK CD
- Please contact Blunk Microsystems directly to convert evaluation license to a product license.

NEXP-TRN

- 4 day intensive training on NEXPERIA/TriMedia pnx150x Processor

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PCI-1500-STD-TRI 90 Day Getting Started Support (inc. with PCI-1500-DK-FULL and PCI-1500-KIT)

- Help with installation of hardware/software.
- Problems in installation.
- How to use/run hardware or software that comes with the PCI-1500. This excludes example programs because they are provided as-is, without support.
- General questions on background information (MPEG, industry standards like CCIR 601 or CCIR 656, video formats, HDTV)

Please see the MDS website for a copy of the Support data sheet, which has full details.

Please note there is a public support forum for NEXPERIA/ TriMedia via Yahoo eGroups.

Related items

Please visit `http://www.mds.com` for more information on these and other software products to speed your design to market.

S004-W-SFX QEDesign2000™ Advanced DSP Filter Design Software for Windows

PEG-BASE Pegasus Software Development Environment

Custom software and hardware engineering services are available.

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このPCI-1500 data sheet（1a Jul 03）は草案であり、内容は予告なく変更される場合があります。

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