The DPC7146 NetLook development kit is a high performance solution for developing videoconferencing systems for PCs with a PCI-bus architecture. It is based on Philips' proven desktop video architecture, allowing quick time-to-market and low risk development.

DPC7146 NetLook™ Video-conferencing development kit

Rapid and low cost development of PCI-bus videoconferencing systems

Description

The DPC7146 NetLook videoconferencing development kit is a complete solution to help simplify the design of new videoconferencing systems for PCI-based PCs. The market has great potential, with leading research companies estimating up to 90% annual growth, but developing such systems is time-consuming and complex, with many pitfalls. This proven kit dramatically cuts development risks and allows you to reach the market fast.

As well as the board itself, the ready-to-use NetLook kit includes Philips' control and video capture software, and a camera. It also comes with the videoconferencing software VDOprofessional™ from VDOnet and iVisit™ from Boxtop, and standard device drivers for Microsoft Windows ensure compatibility with all major videoconferencing software. Together with a comprehensive set of software tools this allows rapid development of specific videoconferencing applications, so designers can focus on product differentiation, a key success factor in this market.

Emerging market with a huge potential

With almost every modern PC using the PCI-bus, the DPC7146 NetLook development kit allows OEMs to address the huge emerging market for PCI-based videoconferencing systems. It features an interface for the addition of a dedicated hardware CODEC, or an ISDN or POTS modem chipset. The Netlook kit is also highly suitable for software CODECs with existing network connections such as POTS and ISDN, corporate LANs or WANs. Videoconferencing via the internet is also possible, making the kit ideal for the huge installed base of existing PC set-ups using the fast PCI-bus and an existing POTS/ISDN connection, as well as for new designs.

Proven high performance video processing

The DPC7146 NetLook kit uses ICs from Philips' desktop video chipset, specifically designed for applications such as videoconferencing systems and already proven in a number of market-leading video processing systems. Philips ICs are also designed to integrate smoothly with each other, avoiding the need to design specific interfaces.

The SAA7111A is a true multi-standard decoder accepting S-video and CVBS inputs to PAL, NTSC and SECAM standards, making systems based on the DPC7146 NetLook suitable for use anywhere in the world. Both the decoder and SAA7185B digital encoder implement the full broadcast standards providing solid, stable and accurate pictures.

The SAA7146A PCI Bridge features high performance 2D scaling, resulting in very few artefacts even when pictures are reduced to icon size, making it ideal for windowing and high-end applications. It also has a hardware-accelerated vanity picture function and by performing most of the video processing on-board, the SAA7146A helps reduce load on the CPU, maintaining high overall system performance. In addition to the PCI-bus, it supports a variety of interfaces including an Intel/Motorola 8/16-bit DEBI (Digital Expansion Bus Interface) port, an I^2C bus connector, and a 4-bit general purpose interface. The DEBI port allows the addition of a hardware videoconferencing CODEC, or an ISDN or POTS modem chipset.

Let's make things better.

PHILIPS

Complete development kit

- DPC7146 video capture and playback card featuring a digital multistandard decoder, a PCI bridge, a digital video encoder and an audio DAC
- control, video capture and debugging software including device drivers for Windows 3.1/NT/95 and a sample video capture application
- complete documentation including the board's Gerber files, datasheets, etc.
- camera
- videoconferencing software VDOprofessional™ from VDOnet and iVisit™ from Boxtop

System requirements

- 486 66 MHz PC (Pentium 90 MHz recommended)
- PCI-compliant VGA or super VGA board
- Direct Draw
- sound card
- internet/ISDN/POTS/LAN/WAN access (depending on the medium used)

Note: these requirements are for Philips' software; 3rd party video-conferencing software may have additional or higher requirements.

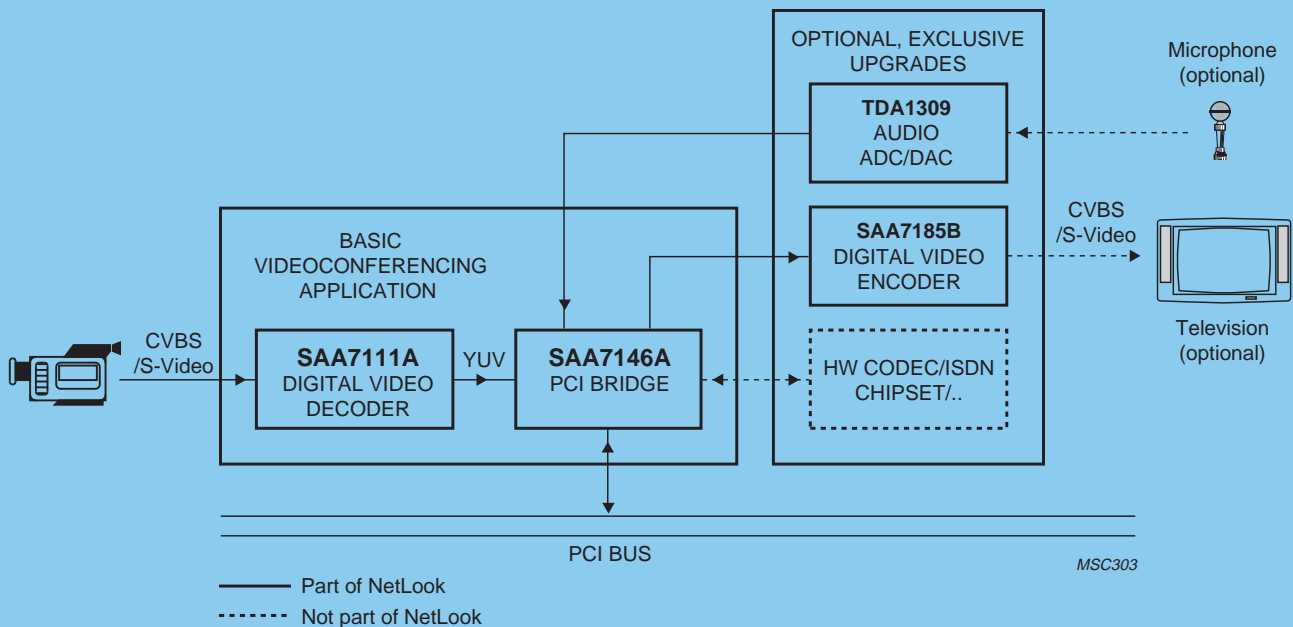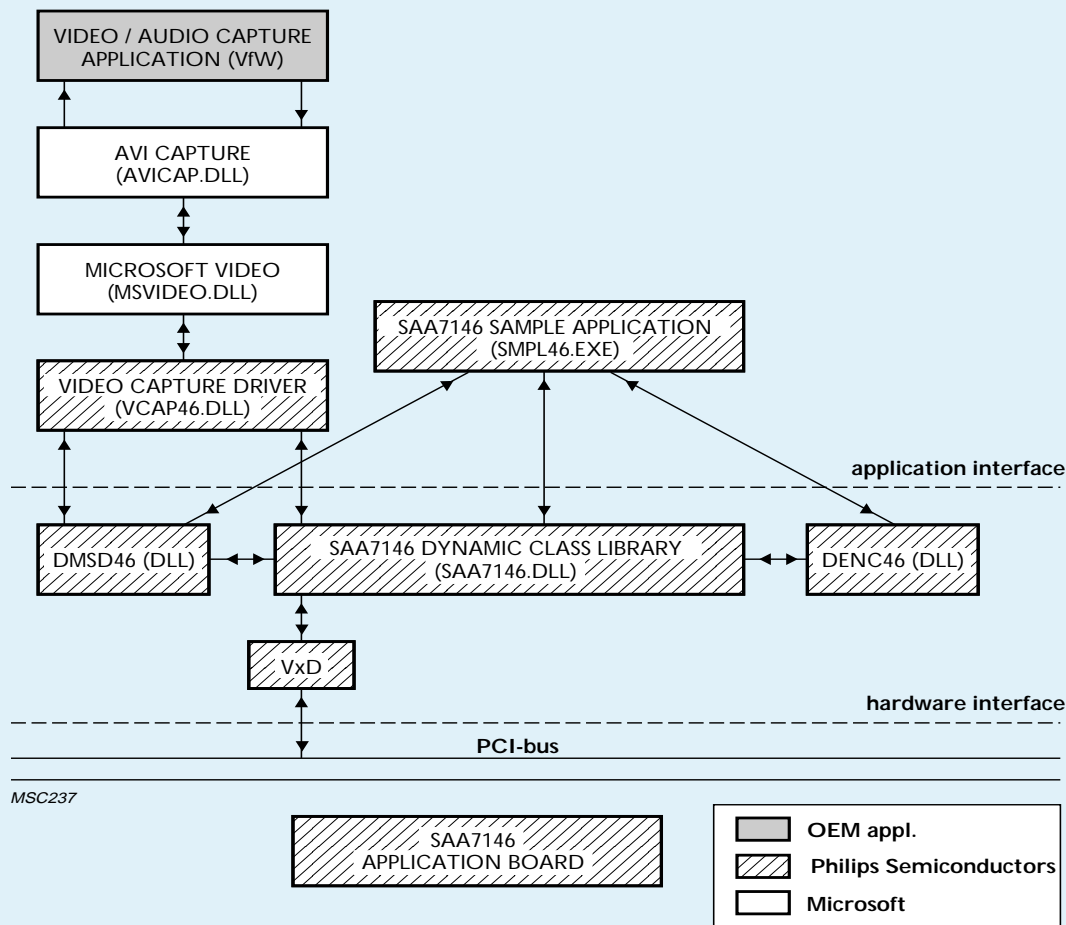# DPC7146 NetLook video conferencing development board

Video front-end

This consists of the SAA7111A multistandard video decoder which accepts signals in all TV standards (PAL, SECAM and NTSC) from a CVBS or S-Video source. It converts the analog signal to digital and decodes it for further processing stages.

Colour decoded video streams are fed to one of the two video inputs of the SAA7146A in 8-bit (D1) or 16-bit (D2) format. The SAA7146A interfaces video functions to the PCI-bus and has a range of other interfaces to provide flexible connection to other video and audio ICs. It includes a hardware vanity picture feature, an on-board 2D high performance scaler to allow electronic zooming and also a binary ratio scaler. An I^2C interface is used to control the decoder with the SAA7146A PCI Bridge normally acting as I^2C-bus master.

Video back-end

Video playback to TV uses the SAA7185B encoder and a standard application uses Direct Mode (DM), where video data are fed directly to the encoder. For additional functionality, the SAA7146A supports line and field memory access via VMI connectors, using additional Line Memory Mode or Field Memory Mode modules. Encoded video signals are available as CVBS or S-Video signals.

MSC303

- ——— Part of NetLook
- - - - - - Not part of NetLook

Diagram boxes:
- VIDEO / AUDIO CAPTURE APPLICATION (VfW)
- AVI CAPTURE (AVICAP.DLL)
- MICROSOFT VIDEO (MSVIDEO.DLL)
- VIDEO CAPTURE DRIVER (VCAP46.DLL)
- SAA7146 SAMPLE APPLICATION (SMPL46.EXE)
- DMSD46 (DLL)
- SAA7146 DYNAMIC CLASS LIBRARY (SAA7146.DLL)
- DENC46 (DLL)
- VxD
- PCI-bus
- SAA7146 APPLICATION BOARD

application interface

hardware interface

MSC237

Legend:
- OEM appl.
- Philips Semiconductors
- Microsoft

ISA/68000 bus interface

This high-speed ISA/68000 bus interface can be used to connect a hardware videoconferencing CODEC, ISDN chip or any other ISA/68000 style device.

Connectors for video and ISA/68000 bus signals

These VMI connectors allow additional boards to be connected and provide access to most video and DEBI data signals during development.

Audio processing (optional)

The kit also features an audio analog-to-digital converter. Manufacturers of videoconferencing systems can thus develop audio wave drivers which allow the transfer of audio data to the PCI-bus, a unique capability of the SAA7146A PCI Bridge.

Videoconferencing development software

Developed to assist customers' software application and driver development, the software kit provides developers with source code for a sample video capture application. This code can be easily adapted to a specific application allowing very easy product differentiation and quick development times, the two most critical

factors for success in this market. The application software interfaces to DLLs which have been optimized for Windows and are ready to use. Furthermore, the kit includes virtual device drivers (VxD) and a debug utility, as well as a register editor and universal I^2C transceiver. The software capture drivers are designed for Microsoft's Video for Windows architecture, and are modular and expandable. The modules include:

- **Dynamic class library:** contains all of the classes required to control the kit.
- **DMSD46.DLL, DENC46.DLL:** these DLLs include controls for the SAA7111A and SAA7185B respectively.
- **Virtual device driver:** the SAA714x VxD performs kernel level operations and is responsible for providing services to the DLLs.
- **Video capture device driver:** provides low-level video capture services for Windows multimedia applications featuring real-time video capture, video preview and video overlay.
- **Audio capture device driver:** this driver supports a configurable capture buffer size and is capable of capturing 16-bit stereo audio in an AVI file.
- **Debug utility:** allows the user to identify quickly, view and edit configuration information and registers for all PCI devices in the system, and access other devices connected to the PCI Bridge.

Philips Semiconductors – a worldwide company

Argentina: see South America

Australia: 34 Waterloo Road, NORTH RYDE, NSW 2113,
Tel. +61 2 9805 4455, Fax. +61 2 9805 4466

Austria: Computerstr. 6, A-1101 WIEN, P.O. Box 213, Tel. +43 160 1010,
Fax. +43 160 101 1210

Belarus: Hotel Minsk Business Center, Bld. 3, r. 1211, Volodarski Str. 6,
220050 MINSK, Tel. +375 172 200 733, Fax. +375 172 200 773

Belgium: see The Netherlands

Brazil: see South America

Bulgaria: Philips Bulgaria Ltd., Energoproject, 15th floor,
51 James Bourchier Blvd., 1407 SOFIA,
Tel. +359 2 689 211, Fax. +359 2 689 102

Canada: PHILIPS SEMICONDUCTORS/COMPONENTS,
Tel. +1 800 234 7381

China/Hong Kong: 501 Hong Kong Industrial Technology Centre,
72 Tat Chee Avenue, Kowloon Tong, HONG KONG,
Tel. +852 2319 7888, Fax. +852 2319 7700

Colombia: see South America

Czech Republic: see Austria

Denmark: Prags Boulevard 80, PB 1919, DK-2300 COPENHAGEN S,
Tel. +45 32 88 2636, Fax. +45 31 57 0044

Finland: Sinikalliontie 3, FIN-02630 ESPOO,
Tel. +358 9 615800, Fax. +358 9 61580920

France: 51 Rue Carnot, BP317, 92156 SURESNES Cedex,
Tel. +33 1 40 99 6161, Fax. +33 1 40 99 6427

Germany: Hammerbrookstraße 69, D-20097 HAMBURG,
Tel. +49 40 23 53 60, Fax. +49 40 23 536 300

Greece: No. 15, 25th March Street, GR 17778 TAVROS/ATHENS,
Tel. +30 1 4894 339/239, Fax. +30 1 4814 240

Hungary: see Austria

India: Philips INDIA Ltd, Band Box Building, 2nd floor,
254-D, Dr. Annie Besant Road, Worli, MUMBAI 400 025,
Tel. +91 22 493 8541, Fax. +91 22 493 0966

Indonesia: see Singapore

Ireland: Newstead, Clonskeagh, DUBLIN 14,
Tel. +353 1 7640 000, Fax. +353 1 7640 200

Israel: RAPAC Electronics, 7 Kehilat Saloniki St, PO Box 18053,
TEL AVIV 61180, Tel. +972 3 645 0444, Fax. +972 3 649 1007

Italy: PHILIPS SEMICONDUCTORS, Piazza IV Novembre 3,
20124 MILANO, Tel. +39 2 6752 2531, Fax. +39 2 6752 2557

Japan: Philips Bldg 13-37, Kohnan 2-chome, Minato-ku, TOKYO 108,
Tel. +81 3 3740 5130, Fax. +81 3 3740 5077

Korea: Philips House, 260-199 Itaewon-dong, Yongsan-ku, SEOUL,
Tel. +82 2 709 1412, Fax. +82 2 709 1415

Malaysia: No. 76 Jalan Universiti, 46200 PETALING JAYA, SELANGOR,
Tel. +60 3 750 5214, Fax. +60 3 757 4880

Mexico: 5900 Gateway East, Suite 200, EL PASO, TEXAS 79905,
Tel. +9-5 800 234 7381

Middle East: see Italy

Netherlands: Postbus 90050, 5600 PB EINDHOVEN, Bldg. VB,
Tel. +31 40 27 82785, Fax. +31 40 27 88399

New Zealand: 2 Wagener Place, C.P.O. Box 1041, AUCKLAND,
Tel. +64 9 849 4160, Fax. +64 9 849 7811

Norway: Box 1, Manglerud 0612, OSLO,
Tel. +47 22 74 8000, Fax. +47 22 74 8341

Philippines: Philips Semiconductors Philippines Inc.,
106 Valero St. Salcedo Village, P.O. Box 2108 MCC, MAKATI,
Metro MANILA, Tel. +63 2 816 6380, Fax. +63 2 817 3474

Poland: Ul. Lukiska 10, PL 04-123 WARSZAWA,
Tel. +48 22 612 2831, Fax. +48 22 612 2327

Portugal: see Spain

Romania: see Italy

Russia: Philips Russia, Ul. Usatcheva 35A, 119048 MOSCOW,
Tel. +7 095 755 6918, Fax. +7 095 755 6919

Singapore: Lorong 1, Toa Payoh, SINGAPORE 1231,
Tel. +65 350 2538, Fax. +65 251 6500

Slovakia: see Austria

Slovenia: see Italy

South Africa: S.A. PHILIPS Pty Ltd., 195-215 Main Road Martindale,
2092 JOHANNESBURG, P.O. Box 7430 Johannesburg 2000,
Tel. +27 11 470 5911, Fax. +27 11 470 5494

South America: Al. Vicente Pinzon, 173, 6th floor,
04547-130 SÃO PAULO, SP, Brazil,
Tel. +55 11 821 2333, Fax. +55 11 821 2382

Spain: Balmes 22, 08007 BARCELONA,
Tel. +34 3 301 6312, Fax. +34 3 301 4107

Sweden: Kottbygatan 7, Akalla, S-16485 STOCKHOLM,
Tel. +46 8 632 2000, Fax. +46 8 632 2745

Switzerland: Allmendstrasse 140, CH-8027 ZÜRICH,
Tel. +41 1 488 2686, Fax. +41 1 481 7730

Taiwan: Philips Semiconductors, 6F, No. 96, Chien Kuo N. Rd., Sec. 1,
TAIPEI, Taiwan Tel. +886 2 2134 2865, Fax. +886 2 2134 2874

Thailand: PHILIPS ELECTRONICS (THAILAND) Ltd.,
209/2 Sanpavuth-Bangna Road Prakanong, BANGKOK 10260,
Tel. +66 2 745 4090, Fax. +66 2 398 0793

Turkey: Talatpasa Cad. No. 5, 80640 GÜLTEPE/ISTANBUL,
Tel. +90 212 279 2770, Fax. +90 212 282 6707

Ukraine: PHILIPS UKRAINE, 4 Patrice Lumumba str., Building B, Floor 7,
252042 KIEV, Tel. +380 44 264 2776, Fax. +380 44 268 0461

United Kingdom: Philips Semiconductors Ltd., 276 Bath Road, Hayes,
MIDDLESEX UB3 5BX, Tel. +44 181 730 5000, Fax. +44 181 754 8421

United States: 811 East Arques Avenue, SUNNYVALE, CA 94088-3409,
Tel. +1 800 234 7381

Uruguay: see South America

Vietnam: see Singapore

Yugoslavia: PHILIPS, Trg N. Pasica 5/v, 11000 BEOGRAD,
Tel. +381 11 625 344, Fax.+381 11 635 777

For all other countries apply to: Philips Semiconductors,
International Marketing & Sales Communications, Building BE-p,
P.O. Box 218, 5600 MD EINDHOVEN, The Netherlands, Fax. +31 40 27 24825

Internet: http://www.semiconductors.philips.com

Printed in The Netherlands

Date of release: February 1998   Document order number:

9397 750 03141

Let's make things better.

PHILIPS

SUNSTAR 商斯达实业集团是集研发、生产、工程、销售、代理经销 、技术咨询、信息服务等为一体的高科技企业，是专业高科技电子产品生产厂家，是具有 10 多年历史的专业电子元器件供应商，是中国最早和最大的仓储式连锁规模经营大型综合电子零部件代理分销商之一, 是一家专业代理和分銷世界各大品牌 IC 芯片和電子元器件的连锁经营綜合性国际公司，专业经营进口、国产名厂名牌电子元件，型号、种类齐全。在香港、北京、深圳、上海、西安、成都等全国主要电子市场设有直属分公司和产品展示展销窗口门市部专卖店及代理分销商,已在全国范围内建成强大统一的供货和代理分销网络。 我们专业代理经销、开发生产电子元器件、集成电路、传感器、微波光电元器件、工控机/DOC/DOM 电子盘、专用电路、单片机开发、MCU/DSP/ARM/FPGA 软件硬件、二极管、三极管、模块等，是您可靠的一站式现货配套供应商、方案提供商、部件功能模块开发配套商。商斯达实业公司拥有庞大的资料库，有数位毕业于著名高校——有中国电子工业摇篮之称的西安电子科技大学（西军电）并长期从事国防尖端科技研究的高级工程师为您精挑细选、量身订做各种高科技电子元器件，并解决各种技术问题。

微波光电部专业代理经销高频、微波、光纤、光电元器件、组件、部件、模块、整机；电磁兼容元器件、材料、设备；微波 CAD、EDA 软件、开发测试仿真工具；微波、光纤仪器仪表。欢迎国外高科技微波、光纤厂商将优秀产品介绍到中国、共同开拓市场。长期大量现货专业批发高频、微波、卫星、光纤、电视、CATV 器件： 晶振、VCO、连接器、PIN 开关、变容二极管、开关二极管、低噪晶体管、功率电阻及电容、放大器、功率管、MMIC、混频器、耦合器、功分器、振荡器、合成器、衰减器、滤波器、隔离器、环行器、移相器、调制解调器；光电子元器件和组件：红外发射管、红外接收管、光电开关、光敏管、发光二极管和发光二极管组件、半导体激光二极管和激光器组件、光电探测器和光接收组件、光发射接收模块、光纤激光器和光放大器、光调制器、光开关、DWDM 用光发射和接收器件、用户接入系统光光收发器件与模块、光纤连接器、光纤跳线/尾纤、光衰减器、光纤适 配器、光隔离器、光耦合器、光环行器、光复用器/转换器；无线收发芯片和模组、蓝牙芯片和模组。

更多产品请看本公司产品专用销售网站：
商斯达中国传感器科技信息网：http://www.sensor-ic.com/
商斯达工控安防网：http://www.pc-ps.net/
商斯达电子元器件网：http://www.sunstare.com/
商斯达微波光电产品网:HTTP://www.rfoe.net/
商斯达消费电子产品网://www.icasic.com/
商斯达实业科技产品网://www.sunstars.cn/ 　微波元器件销售热线：
　　地址：深圳市福田区福华路福庆街鸿图大厦 1602 室
　　电话：0755-82884100 83397033 83396822 83398585
　　传真：0755-83376182 　（0）13823648918 　MSN: SUNS8888@hotmail.com
　　邮编：518033 　E-mail:szss20@163.com 　　QQ: 195847376
　　深圳赛格展销部：深圳华强北路赛格电子市场 2583 号 电话：0755-83665529 　 25059422
　　技术支持：0755-83394033 13501568376
欢迎索取免费详细资料、设计指南和光盘 ；产品凡多，未能尽录，欢迎来电查询。
　　北京分公司：北京海淀区知春路 132 号中发电子大厦 3097 号
　　　　TEL：010-81159046 82615020 13501189838 FAX：010-62543996
　　上海分公司：上海市北京东路 668 号上海赛格电子市场 D125 号
　　　　TEL：021-28311762 56703037 13701955389 FAX：021-56703037
　　西安分公司：西安高新开发区 20 所(中国电子科技集团导航技术研究所)
　　　　　　西安劳动南路 88 号电子商城二楼 D23 号
　　　　TEL：029-81022619 13072977981 FAX:029-88789382