

# WORLD

Embedded PCs for Life Automation

ADVANTECH [www.advantech.com/epc](http://www.advantech.com/epc) E-mail: [EPC@advantech.com.tw](mailto:EPC@advantech.com.tw) Tel: 1-886-2-2218-4567 Fax: 886-2-2218-3875

## SUPER SMALL CARD SIZE PC IDEAL FOR EMBEDDED APPLICATIONS

*CPC-2245 Card-size PC*

Advantech's new card-size PC, the CPC-2245, is truly an all-in-one 486 processor-based single board computer. Even though the CPC-2245 is incredibly small (2.5" HDD class, 68 mm x 100 mm), it packs more features than many boards four to eight times its size. Combined with Advantech's Large Biscuit PCs (SBCs the size of 5.25" HDDs) and Small Biscuit PCs (SBCs the size of 3.5" HDDs), the CPC-2245 offers Advantech customers a complete solution for almost any form factor they desire.

### *Tiny, yet complete*

Besides the 486-based embedded processor, the CPC-2245 has a number of other features. There is VGA support with up to 4 MB of shared memory, two RS-232 COM ports, one bidirectional printer port, an IDE HDD interface and floppy disk controller, 10/100 Base-T Ethernet and 32 MB EDO RAM. There is also a slot for a CompactFlash™ card for up to 144 MB of Flash memory. For full featured VGA/LCD capability, there

See *PCM-2245* on page 2

### WHAT'S INSIDE

- Cover Story (p. 2)
- New Products (p. 3-4)
- Product Information (p. 5)
- Technology Service (p. 6)
- Application Story (p. 7)
- Marketing Kaleidoscope (p. 8)

*Dear Customer:*

To provide you with our product and marketing information on Embedded PCs and Panel PCs in a timely and efficient manner, we'll digitalize our printing World into an E newsletter. From February 2000, we'll launch the first issue of this online publication bi-weekly. Welcome to visit our website at [www.advantech.com.tw/epc/newsletter](http://www.advantech.com.tw/epc/newsletter) for faster service.

Best Regards,  
ECG Editing Team

• Pentium is a registered trademark of Intel Corporation  
• Celeron is a trademark of Intel Corporation  
• Other brands and names are the property of their respective owners



## New Product

### CPC-2245 from page 1

is a clip-on module (CPC-2520) which includes 2 MB of on-chip video memory. Ideal applications for such a small, easy to maintain device include small industrial controllers, human-machine interfaces (HMIs), security systems, internet gateways, instruments, medical equipment and building automation.

### Three Kinds of Applications

The CPC-2245 can either be used as a stand alone application, plugged into a carrier board and used as an embedded application or embedded into a user's system board for I/O expansion applications.

The CPC-2245 comes with a 4-pin power connector, it works well in stand alone applications when ISA, IDE, FDD and LPT interfaces are not needed. The CPC-2245 can be attached to the chassis by four screws and expand its I/O functions through a FPC or FFC cable. The CPC-2245 can also plug into a carrier board to work like a single board computer. The carrier board is a board with a SODIMM socket to accommodate the CPC-2245 and some standard I/O connectors such as a VGA, RJ-45 for LAN plus others. Advantech provides the CPC-2420 carrier board that has these standard I/O connectors. Used in conjunction with this carrier board, the CPC-2245 functions as a complete single board computer.



*CPC-2420 2.5" Mini Biscuit PC Carrier Board*

The CPC-2245 can also plug into a customer's client board. System designers only need to reserve a SODIMM socket and their own circuitry for their application.

### Other Exciting CPC-2245 Features

Besides being small and highly integrated, there are many other reasons to choose the CPC-2245 as your application solution. One is that it provides a very stable system that can be installed in any environment where vibration is a concern. The 32 MB DRAM and CompactFlash™ disk emulated hard disk are mounted on the board directly. This avoids system faults because of bad connections or hard disk mechanical limitations. Another reason is that the CPC-2245 is easy to install and upgrade. Since it adopts a 144-pin SODIMM socket as an I/O connection, it can be installed or removed as easily as a RAM module. In the future, the card-size PC can be upgraded from 486 to Pentium® level without changing the user's carrier board. Also, because of its form factor, users can replace a damaged card within 30 seconds. Finally, system designers are freed from worrying about any PC related technology. They only need to put on some standard I/O connectors and design their own circuitry for their application. Advantech provides the CPC-2400 development board to help customers evaluate and develop their own carrier board solutions.



*CPC-2400 2.5" Mini Biscuit PC development Board*

### Advantech Welcomes your Inquiries

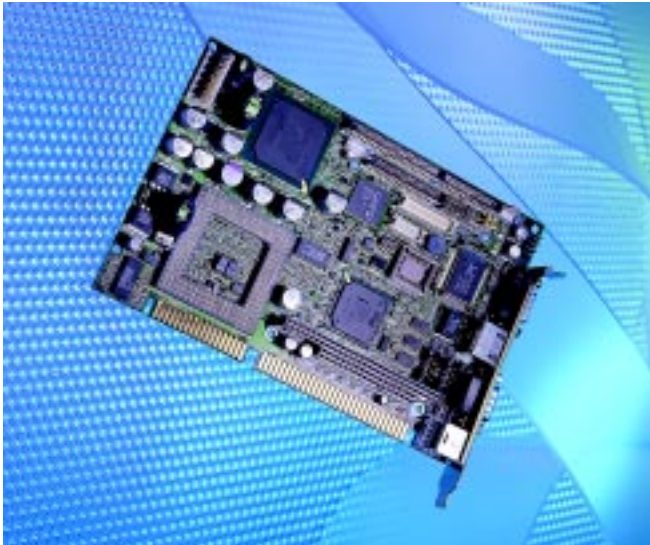
If interested in purchasing or finding out more information about the CPC-2245 or any other Advantech products, please contact Advantech or check out our web site at <http://www.advantech.com/epc> for more detailed specifications and price information.





### PCA-6770 Provides ISA Bus Data & Graphics Solution

The PCA-6770 series all-in-one industrial grade solution CPU card uses Intel's® highly acclaimed Celeron™ processor, together with the Intel® 440BX PCI chipset.



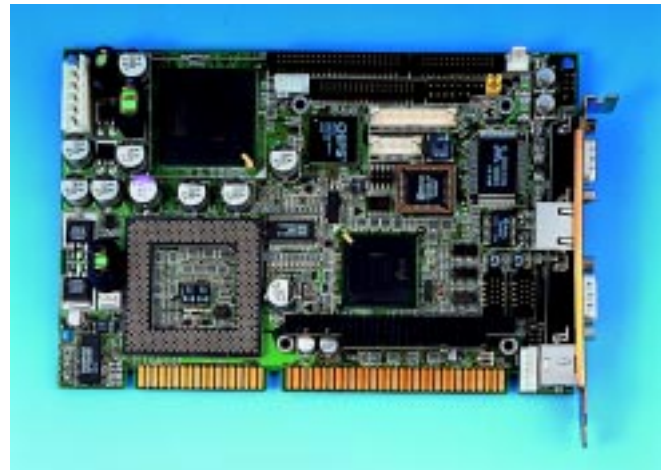
*PCA-6770 Socket 370 Half-size SBC*

The CPU provides 128 KB on-CPU L2 cache, eliminating the need for external SRAM chips. It has one PCI EIDE interface (for up to two devices) and a floppy disk drive interface (for up to two devices). Other features include two RS-232 serial ports (16C550 UARTs with a 16-byte FIFO or compatible), one enhanced parallel port (supports SPP/EPP/ECP) and two USB (Universal Serial Bus) ports. The PCI enhanced IDE controller supports Ultra DMA/33 and PIO Mode 4 operation. This provides data transfer rates as fast as 33 MB/sec. System BIOS supports boot-up from an IDE CD-ROM and LS-120. A backup of CMOS data is stored in the Flash memory, which protects data even after a battery failure. Also included is a 62-level watchdog timer, which resets the CPU or generates an interrupt if a program cannot be executed normally. This enables reliable operation in unattended environments.

#### High Performance with rock-solid features list

The PCA-6770 offers high performance operation without sacrificing reliability. This was accomplished by integrating proven components in a combination

that proved very effective. At the heart of the PCI-6770 is the Intel 440BX System Chipset. This is the most popular, mature, tried and proven chipset in the industry. Intel also maintains a 5-year supply guarantee for this chipset, one of the most dedicated product support programs in the industry. The PCA-6770 supports Socket 370 for Intel® Celeron™ processors. Celeron™ 300A/333/350/400/433 MHz are all supported. By utilizing Socket 370, vertical space above the board is reduced thus allowing more space for other expansion cards and a reduction in overall chassis size. The PCA-6770 series offers several impressive industrial features such as a VGA (AGP) controller, a 10/100Base-T networking controller, two SODIMM slots for a total of 256 MB RAM memory. In addition, the PCA-6770 series supports a solid state disk (SSD) using CompactFlash™ that is less vulnerable to the hazards of an industrial computing environment. All these features plus a 100 MHz Front Side Bus (FSB) make the PCA-6770 an ideal choice for graphics and data intensive applications such as communications or graphics servers.



*PCA-6770*

#### Call Advantech Today

If you are interested in the PCA-6770 CPU card or any other system solution, please call your nearest Advantech sales location or check out our web site at <http://www.advantech.com/epc> for more information.



### PCA-6752 provides Super7™ CPU card/AGP Graphics/Ultra DMA 66 and more!

Advantech continues to expand its product line by integrating new technology into our products and by offering customers multiple combinations of features in a single product. The new PCA-6752 is a perfect example of this. Packed with innovation, the PCA-6752 provides reasonably priced all-in-one functionality and high performance operation. Several models of the PCA-6752 are offered as well as the associated chassis, power supply and backplane to give customers a "best fit" solution for their particular application.

#### MVP4 for Super7™

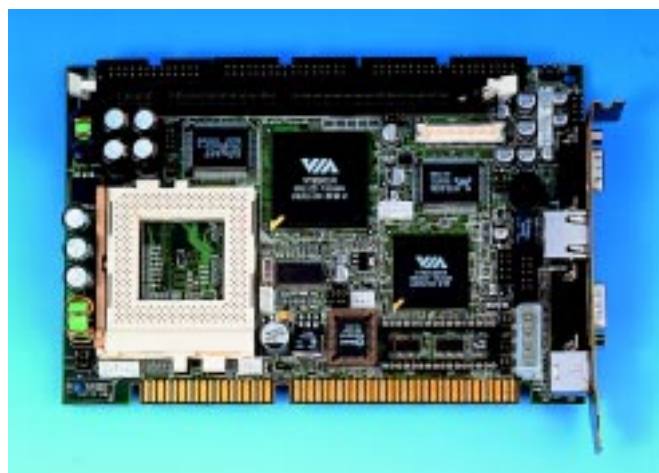
Leading the list of features is the Apollo MVP4 chipset for Super7 provided on the PCA-6752/N. This chipset is comprised of a (VT82C501) north bridge with a Super South bridge (VT82C686) chipset. This chipset provides an integrated 2D/3D AGP graphics engine with DVD hardware acceleration, Super I/O, advanced sound and Hardware Monitoring features. This integration is a cost effective way to increase the number of features offered.



*PCA-6752 Super7 Half-size SBC*

All PCA-6752 models support Super7 for Intel® P54/P55C, AMD K5/K6/K6-2/K6-3, Cyrix MI/MII and IDT Winchip CPUs. With a 100 MHz bus and AGP support, the Super7 platform offers great performance at a

reduced cost compared to Slot 1 solutions. The AGP interface is a dedicated port between the PC's graphics controller and system memory. The AGP interface also greatly increases the bandwidth available for graphics data. All this means AGP gives a more robust, scalable solution that provides superior video performance without taxing overall system stability and performance. This is becoming more important with today's increasingly detailed 3D graphics applications.



*PCA-6752*

Since AGP reduces the need for video memory, it can also help to lower the development cost of new products.

Also, the Ultra DMA 66 EIDE interface doubles the current burst data transfer rate found on most systems to 66.6 MB/s. This high speed interface allows host computers to send and retrieve data faster, improving system performance greatly.

#### Application possibilities unlimited

The PCA-6752's features make it an ideal system for applications that require LAN and very responsive LCD graphics capabilities. It is also for customers who want to stick with the Pentium® name for a cost effective high performance solution. For pricing and order information about this product or any other Advantech product, call an Advantech representative or check out our web site at <http://www.advantech.com/epc>





## Advantech Offers Millennium DiskOnChip® Promotion

Advantech is introducing the DiskOnChip® Millennium to all our customers with special pricing on the exciting new Millennium DOC 2000 8 MB. The Millennium series, fully substitutable for all previous DiskOnChip® products, is the world's first monolithic solid state disk. It combines a disk controller with flash memory on a single die and is available in a standard 32-pin DIP.

The Millennium's integration of a flash disk on a single monolithic die has helped lower production cost and ensure high reliability to levels of vibration and temperature extremes conventional magnetic disk drives could not withstand. Advantech is now passing on these improvements to our customers. Once again, all these DiskOnChip products are fully interchangeable, there is no need to redesign your previous DOC



*The new Millennium series DiskOnChip*

investments. All DiskOnChip are ideal for applications where weight, space and power consumption are critical.

### Advances Benefit Users

Customers always benefit from these advances. This is reflected in the SSD industry. The reason for these favorable circumstances is mainly due to the increased size of the "base unit" of manufacturing. This "base unit" is defined as the smallest unit of Silicon wafer chip that is produced for a certain product. Not long ago, we saw the 2 MB standard or 2 MB base unit prevail. Presently, we are seeing products with 8 MB

and some 16 MB standards. Next year is likely to see the full transition from mostly 8 MB to 16 MB as the standard base unit size.

### Advantech Offering More Value

Due to the above reasons, the DOC-2/4/8 will be phased out soon, the PCD-2000-080A (Millennium DOC-2000 8 MB) will be the entry model of DiskOnChip for the Year 2000. Advantech will offer the PCD-2000-080A with a special introduction price, which is about the same as the PCD-2000-0400 current price. This allows customers to get the Millenniums 8 MB capacity at the old 4 MB price. Advantech pushes hard to give our customers the newest technology, at yesterday's prices!

### Advantech Keeping Customers Informed

The following tables announce the last-buy dates for certain DOC models as well as the new replacement models. Please note that the largest capacity has been upgraded to 288 MB from 144 MB. We also suggest you to be aware of the December 20th, 1999 deadline for purchasing these soon to be phased-out models.

#### Last-buy date for these models : Dec. 20, 1999

PCD-2000-0200	DiskOnChip 2000 2 MB
PCD-2000-0400	DiskOnChip 2000 4 MB
PCD-2000-0800	DiskOnChip 2000 8 MB
PCD-2000-4000	DiskOnChip 2000 40 MB
PCD-2000-7200	DiskOnChip 2000 72 MB

#### *Last-Buy Date/Models V*

#### The New replacement models now available

PCD-2000-080A	Millennium DOC-2000 8 MB
PCD-2000-3200	DiskOnChip 2000 32 MB
PCD-2000-4800	DiskOnChip 2000 48 MB
PCD-2000-8000	DiskOnChip 2000 80 MB
PCD-2000-0288	DiskOnChip 2000 288 MB

#### *New Replacement Models*

### Place Your Orders Today!

Ordering the Millennium DOC-8 MB to replace the DOC-2/4/8 is a good deal. Take advantage of this offer soon. Go to our Website at <http://www.advantech.com.tw> to find out more.



## Using Online Technical Support

In order to provide the best service to our customers, Advantech has completely reorganized our support web site <http://www.advantech.com/support> by creating a more user-friendly interface that includes an efficient database infrastructure. With a new powerful search engine, a discussion forum that lets you network with others and a one stop entrance that helps guide you immediately when you enter the site, our support site is a resource dedicated to our customers' needs.

### Step 1. Identify Product Group

Advantech Products are separated into 4 groups, these include IA (Industrial Automation), EPC (Embedded PCs), IC (Industrial Computers) and PPC (Panel PCs). Please make sure of the group your product belongs to first.

### Step 2. Specify your requirement

Advantech supplies much valuable knowledge and information that can assist in your product selection. These resources are located in individual databases, so choosing the correct database can save you time and help you find the product or solution you need faster.



Advantech Technology Service Homepage

### -Troubleshooting Guide

The Troubleshooting Guide focuses on generally more complex and detailed problems that need greater explanation. The solutions here would be described in more detail. Just follow the procedures step-by-step and your problem should be on its way to being resolved soon.

### -Knowledge Base

The problem scope in Knowledge Base would be smaller. This could be regarded as our Advantech Support's FAQ (Frequently Asked Questions). Finding relevant information in the Knowledge Base can solve most queries.

### -LCD Support List

LCD technology and know-how is constantly changing and becoming more competitive in our business. More detailed information is required from the user to gain access. Users are given a password for permission to use information and have access to downloads. If further assistance is needed, Advantech recommends you to contact our local branch office or distributor.

### -Y2K Information

This section includes Advantech's company policy, business system compliance, Advantech products for year 2000 compliance and common FAQs. You can learn more about Advantech's Y2K efforts via browsing this section.

### -Education/Training

This includes distant learning, topics and content, worldwide training schedules and locations, plus much more.

### -Reference Information

Valuable information related to Advantech products is collected and stored in this database.

### -Application Notes

Documents about Advantech products are issued here. Improving your technical skill level and discovering new technology is not hard to do anymore.

### -Glossary

A commonly used glossary of Advantech products is explained here.

### Step 3. Looking for solutions

Advantech databases employ hierarchical indexes, just select the "best fit" word for what you want to find level by level.

### Step 4. Make use of our Search function.

Our search engine is another convenient way to find your solution. Type in a keyword that best describes what you are looking for, and search results appear.

### Step 5. Fill Out a Technical request Form

If your problem or request can not be solved by our Support web site, fill out the question form and submit it to us, we will do our best to answer your needs as quickly as possible.



## Stylish SYS315 makes Dialog and Data Exchange Instantaneous

Advantech's PCA-6145L 486 Half-size CPU card makes a vital contribution to the state-of-the-art SYS315® sketchpad/phone by France's ADL Systeme. The SYS315® makes the dialog and exchange of written data completely possible in real time over an ordinary STN or ISDN phone line.

### Real-Time Multitasking Capability

The SYS315 is a powerful and flexible system. It supports hands-free dialing and monitoring, an answering machine for voice and data, fax, Internet mail and an electronic phone book. It has an extra-flat 15" LCD color display (1024 x 768 resolution) and capacitive technology screen for smooth, natural writing. There is a 2.1 GB HDD and one FDD as well as connections for a Postscript printer, scanner, serial port and XGA video link. It is easy to see why the SYS315 has drawn great praise whenever it has been displayed to the public. The ability to combine current phone line technology, ergonomically attractive and stylish design and the latest computer technology is what makes the SYS315 truly unique.



### Advantech gives product and solutions advice

Advantech helped ADL Systeme by offering system advice from its vast engineering experience in integrating similar embedded systems. This customer-centered approach focuses on customers' needs and provides them with solutions that fit their particular application best. Advantech could also provide a good international corporate image and brand recognition

plus a very cost competitive solution. Solving customers' needs ultimately helps them understand how individual Advantech products fit into their total solution. The SYS315's PCA-6145L is a good example of this.

### PCA-6145L the right choice

The PCA-6145L is a full-function CPU card which integrates the VGA LCD panel, Ethernet and other enhanced I/O interfaces on a half-size CPU card.



*PCA-6145L 486 Half-size SBC*

This card uses a 80486 DX, DX2, DX4 CPU or 5x86 series and can have up to 32 MB DRAM and EDO RAM. It also provides an optional 128 KB cache RAM.

The PCA-6145B/6145L offers power management to minimize power consumption. It complies with the "Green Function" standard and supports three power saving features: doze, sleep, and suspended mode. The VGA controller is a VL bus C&T65545, which comes equipped with a windows accelerator.

The PCA-6145B/6145L also offers several industrial features such as a 62-level watchdog timer with jumperless setup, supports M-systems DiskOnChip™ Flash Disk and a face-up PC/104 connection for additional functions with PC/104 modules. Furthermore, the board's BIOS can be custom designed which can help solve potential compatibility problems.

### Let Advantech Be Your Solution Provider

Visit Advantech Embedded PCs' web site a for more application stories. Also, welcome to visit [www.adl-systeme.com](http://www.adl-systeme.com) for more information of ADL SYSTEME products.





## Advantech is your Embedded "Total Solution" Provider

When Advantech calls itself a "total solution" provider, it does so with the intention it will give our customers a better understanding of the services and products we provide. Let us once again explain what we mean by this. Let's first point out that Advantech manufactures total solution Panel PCs and POS ready to use products. We design and manufacture our own CPU board assemblies in our own factories and configure the operating software based on the customers' order. For example, being a certified Windows® CE provider, Advantech can design a CE image for individual customers that is custom made for their specific applications. We only subcontract out service items which are not part of our core business to provide customers with one-stop shopping convenience. This experience means we better understand what obstacles customers must overcome when they come to us for embedded solution assistance.

Advantech also maintains strategic relationships with many key component suppliers. Advantech is an Intel® Applied Computing Platform Provider and is also one of M-Systems largest channels for DiskOnChip™ Solid State Disk (SSD) for the Asia Pacific region. Relationships and services like these let Advantech provide a One-stop solution center for embedded applications.

## 2 year Warranty Policy

Advantech recently announced it has extended its warranty policy from 1 year to 2 years for selected products. Due to the confidence Advantech has in the quality and reliability of our products as well as

the improvements and increased efficiency of our RMA process, Advantech wants to let our customers benefit from these gains. This 1 year warranty extension represents Advantech's continued commitment to providing our customers with the highest level of product support. Advantech stands by their products and customers every step of the way. Please consult with your local Advantech sales representative for further information concerning which products this affects. We welcome any suggestions or comments from you that can help us improve the overall value of the products and services we provide.

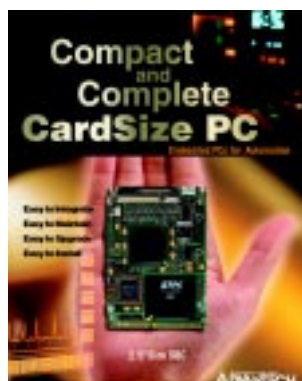
## "Dynamic Burn-In" QA Testing Now Offered

Using our experience gained from making products made for military and aerospace use, Advantech is able to transfer much of this technology into our everyday products. Our "Dynamic Burn-In" program is one such program. Dynamic Burn-In is a method of Quality Assurance testing that pre-tests a CPU board to temperature extremes. For critical applications where the "cost of failure" is extremely high, this program can 100% test a product against temperature extreme failures. The additional charge for this service for many customers is a small price to pay for the peace of mind they gain knowing the product they or their customers are using, has been tested in similar demanding conditions. Based on the Environment Stress Guideline (ESS) and Advantech's experience, Products are tested in temperature ranges from -10° C ~ 60° C for standard testing and from -20° C ~ 80° C for special customer request. To find out more about Advantech's "Dyanamic Burn-In" program, go to our Web site at <http://www.advantech.com/support/> to learn more.

## Card Size PC Promotion Kit



Advertisement



Brochure



Poster