

WORLD

Embedded PCs for Life Automation

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WIN CE EMBEDDED SOLUTION NOW OFFERED BY ADVANTECH



Advantech is proud to formally announce its solution for Win CE-based embedded PC systems. We are now able to help customers use the Win CE operating system on our Biscuit, POS and Slot PCs. In conjunction with this announcement, Advantech is also offering a limited time promotional sale. From now until the end of December 1998, for only US\$499, Advantech will be selling a compact chassis and palm-size Biscuit PC with an SSD chip onboard which will be loaded with an optimized ver-

sion of Win CE. This system level solution can significantly reduce systems integration time, and can expand the programming options available to the system integrator. Besides this system-level solution, Advantech is able to offer solutions for some of our selected CPU cards and boards as well.

Benefits of Win CE

One of the most important benefits of using Win CE is the ability to extend the Windows-family platform to a device that is

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embedded, meaning that one can write or use applications for the device, yet not be tied to that device, as system integrators were in the past with traditional embedded devices which used proprietary closed architecture. Future modification is also much easier. This extra power is gained without having to sacrifice too much precious memory. Our customized version of Win CE only needs about 6 MB of space, often eliminating the need for an HDD. One drawback, though, is that it is very hardware dependent, but this is a problem which Advantech has already taken care of for its customers in its system-level solution.

Advantech's System-level Solution

Advantech's special limited-time US\$499 system solution includes the MBPC-200 MicroBox Chassis (190 x 114 x 39.5 mm). The palm-size Biscuit PC can be either the PCM-4823 (with Ethernet) or PCM-4825 (with audio). Both boards come with VGA/LCD interface and a 12 MB DOC 2000 Flash disk on board. The DOC 2000 comes pre-loaded with a hardware optimized version of Win CE.

Advantech's Board-level Solutions

Advantech also has made available evaluation versions of 12 MB DOC 2000 Flash modules loaded with Win CE for its boards and cards. Complementary products currently supported are the PCM-4823/4825, PCM-4862/5862/5862E, POS-460/560, and the PCA-6145B. If the customer is interested in actually using Win CE after the evaluation period, Advantech can help the customer with Microsoft licencing procedures.

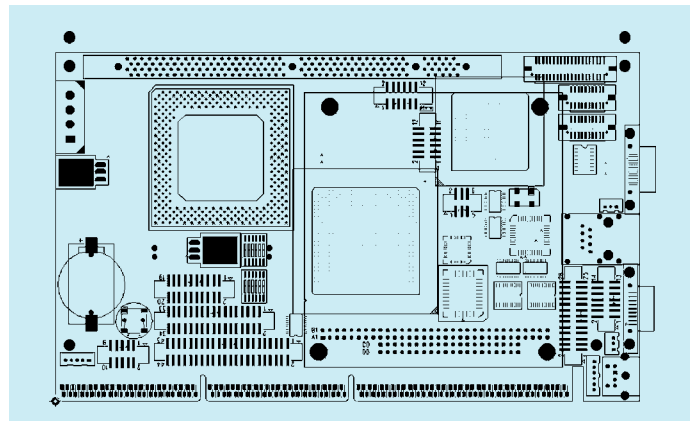
Why Win CE?

Advantech has created these solutions due to industry trend, customer demand, and embedded application demand, since more and more embedded PC applications are being written to exploit the features of Win CE. Because of Advantech's success in optimizing Win CE for our cards and boards, cost, development, and time barriers for Win CE use are lowered for our customers. As Jeff Chen, Director of Advantech's Embedded PC Group says, "Once you pick up one of these hot models, you get Win CE support and a total solution - you only need to focus on application programming." This US\$499 offer is only valid through Dec.31, 1998, so don't hesitate. For additional and more updated information, check out our web site at:

<http://www.advantech.com/epc>

Advantech's Half-size CPU Card PCI Solution

The trend in recent years for both SBCs and CPU cards, in both the consumer and industrial fields, is to move from using ISA-bus cards to using PCI-bus cards. A 1997 Embedded PC survey reported that in 1997, 17% of IPC used PCI-bus, whereas 37% of IPCs would use PCI-bus by 1999. In addition, Intel and Microsoft's PC'98 standard for desktops and notebooks no longer supports the ISA bus. This is happening because PCI is higher performance (32-bits at 33 MHz, vs 8-/16-bits at 8 MHz for ISA), has a smaller size slot than ISA, and now is nearly the same price as ISA.



PCN-6351 NLX Half-size CPU Card

Advantech's Solution

Currently, Advantech provides a full-size CPU card solution that supports both ISA and PCI by employing the PICMG standard. For half-size CPU cards, Advantech will employ NLX form factor cards, on which ISA and PCI-buses are both supported and physically separated. This reduces signal interference more than PISA (another PCI-ISA solution). NLX is also an alliance standard supported by Intel and IBM. Furthermore, supporting both PCI and ISA is better than a PCI-only solution because this ISA-to-PCI transition phase will last several years. NLX form factor boards can also preserve your previous ISA investments and provide one with the upward growth potential made possible with a PCI bus.

Advantech's NLX Boards and Backplanes

By the first quarter of 1999, Advantech will begin to sell its new PCN-6351 NLX Half-size Pentium MMX-based CPU Card. This card, besides fitting half-size CPU card dimen-

sions, will also include several features on board, such as 100Base-T Ethernet, VGA and LCD interfaces, as well as sockets for Solid State Disks. Besides this high-powered, compact CPU card, Advantech also offers NLX backplanes in two sizes: 4 slot (1 NLX, 2 PCI, 1 ISA) and 6 slot (1 NLX, 3 PCI, 2 ISA). The 4-slot backplane is the PCA-6106NP2, while the 6-slot backplane is the PCA-6106NP3.

Total System Solution

Besides offering half-size CPU cards and NLX-based backplanes, Advantech also provides chassis in which to install everything. Our IPC-644 is perfect for our 4-slot card, while the IPC-6806S is perfect for all of our 6-slot CPU cards.

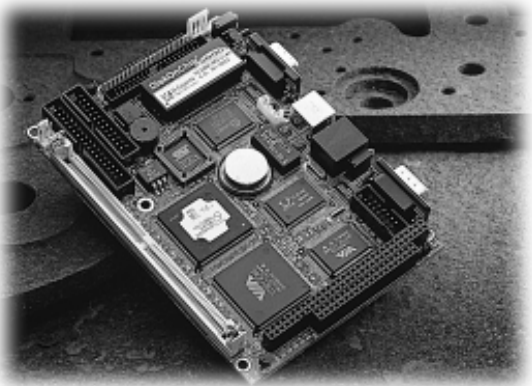
Call Advantech Today

If any of these components or combination of components interest you, please don't hesitate to call your nearest Advantech sales representative.

Product Update

Version B of Popular Palm-size Biscuit PC Ready by January

Advantech's popular PCM-4823 486 SBC with VGA/LCD and Ethernet palm-size Biscuit PC will have a version B released in January 1999. It will support a watchdog timer and an option for a connector for a +5 V CPU fan. The watchdog timer improves system stability by reducing the chance of disruptions caused by electromagnetic pulses (EMP).



Embedded Systems Solution

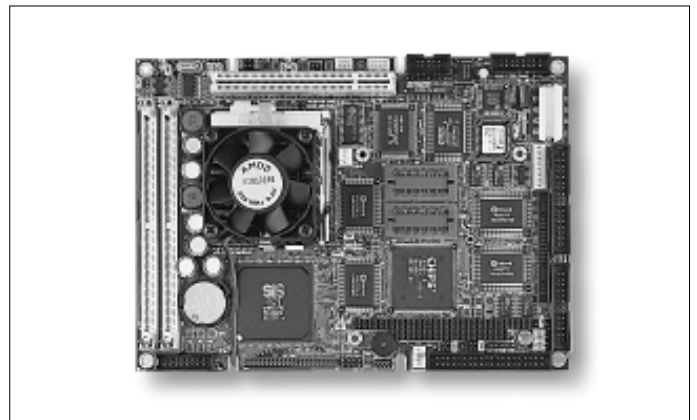
The system integrator can program the timer to automatically reset the system if problems like this arise. Contact an Advantech representative for more detailed information about this product update.

Advantech's New Biscuit PC is the Stablest Ever

Advantech's PCM-5862E/L Pentium® MMX SBC with Audio, VGA/LCD and 100Base-T Ethernet is the stablest multimedia Biscuit PC so far. Because of this unit's variable voltage capability, it was able to support every brand and speed of CPU that we tested on it.

Key to Stability

This unprecedented stability is due to its flexible switching power supply. In previous models, only 4 voltage levels were selectable. Now, 15 levels are available, ranging from 2.1 V to 3.5 V in 0.1 V increments. This feature allows for freer selection by the user of CPU brands and speeds. Temperature should be lower as well because of the appropriate use of CPU voltage settings.



PCM-5862E/L

Passes with Flying Colors

This board proved stable when tested with over two dozen different brands and speeds of CPU. It was stable with every speed of Pentium and Pentium MMX of 100 MHz or more, as well as AMD K5's and K6's (even K6II-300!). Stability was even maintained with Cyrix's MX and MII models and IDT's C6 CPUs.

Go with Advantech

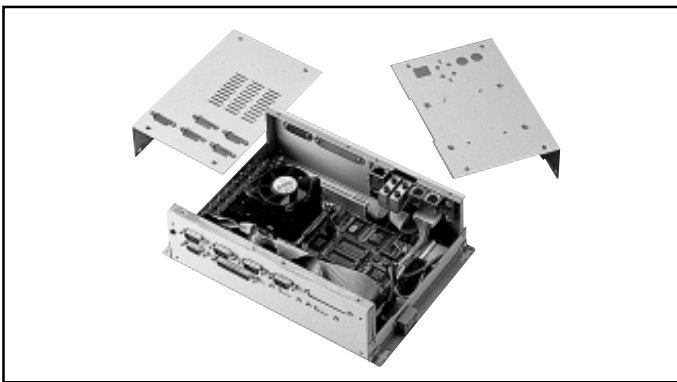
This new PCM-5862E/L Biscuit PC offers the customer the power, flexibility, and stability that he demands. Advantech continually strives to further improved the capabilities and reliability of its products. Contact your Advantech distributor or representative today.

New MicroBox Chassis is Here

Advantech's new MBPC-300 MicroBox Chassis has been designed especially for our 5.25" Biscuit PC family of SBCs. This family consists of the Pentium MMX CPU based PCM-5862/L, PCM-5862E/L and PCM-5864 (in the near future), as well as our 486 CPU based PCM-4862. Optional features on many of these boards include Ethernet, audio, and Flash disk sockets, to name just a few.

About the MicroBox

The MicroBox MBPC-300 is a compact industrial-strength Biscuit PC chassis with dimensions of only 67.5 mm x 233 mm x 151 mm (2.65" x 8.78" x 5.94"). Inside the box, there is enough space for stacking two PC/104 modules and room for an optional 2.5" HDD. There are connectors on both the side and the top. In addition, Advantech will soon offer an optional 80 W power module.



MBPC-300 MicroBox Chassis

Application Possibilities

The compact size and rugged design of this MicroBox, in conjunction with the power and versatility of Advantech's full-size Biscuit PC family of SBCs, allow for a virtually limitless range of application options. Such options include wallmount PC controllers, embedded PC controllers, unattended controllers, and compact industrial PCs. The MicroBox is ideal for both industrial and public environments.

One Stop Shop

The MBPC-300 MicroBox Chassis, in conjunction with Advantech's 5.25" Biscuit PCs and a soon to be available 80 W power module, provides the customer with a total system solution. We already provide compact MicroBox chassis and power supplies for our 3.5" Biscuit PC product line, so now customers will have an even greater range of total system types and sizes to choose from.

Advantech's Future is Looking Bright

A European company has taken one of Advantech's versatile SBCs, the PCA-6154 Half-size Pentium MMX CPU Card with VGA/LAN/SSD, and has made it the heart of one of its new automatic photo printing machines. Our card gives operators of this machine the power, speed and control ability of a typical PC.



Why Advantech?

Advantech's CPU board was chosen for this application because it has both Ethernet and VGA capabilities already on board. In addition, the PCA-6154 is both CE and year 2000 compliant. During the research and development phase, Advantech was instrumental in customizing the BIOS for the customer. Besides this, Advantech's European distributor provided a great deal of local service and support.

Future Prospects

During the initial sale of the PCA-6154 to this customer, a good business relationship was established, and Advantech will most probably supply the card or the board for this company's next generation of automatic photo printing machines. They will need assistance with WinCE, for which Advantech is steadily becoming a solution supplier (see story on front page).

A Capable and Reliable Partner

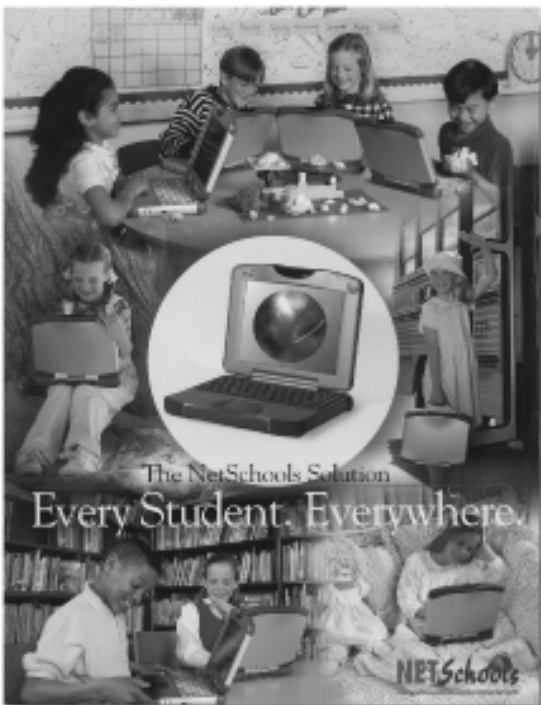
With Advantech's broad range of CPU card and board sizes and speeds, you're sure to find one which fits your particular application needs. BIOS customization, Y2K compliance, and both pre- and post-sales service and support make Advantech a capable and reliable partner with which to develop your individual applications. Call Advantech today.

Networked Schools Bring the Future to the Classroom

Advantech is pleased to be a part of the solution for a computer-based pilot program developed in the US for several school systems by a US-based company. Providing a part of the "brainpower" involved in this project: Advantech's embedded Biscuit PC, the PCM-4823.

PC's are Making Books Obsolete

This company has created a system in which books have become virtually obsolete. Instead, students, armed with



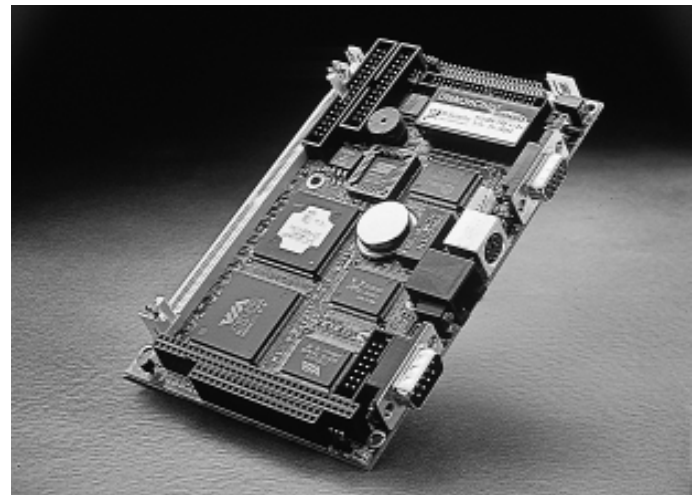
their own personal notebook PC's, are connected to a main server via an access point from which all student materials can be downloaded for realtime lesson use or for later use at home as part of their homework assignments.

How This Solution Works

Each "wired" classroom includes four access nodes, each of which is located on a ceiling corner of the room. To access this node, students merely have to have their machines turned on and pointed roughly towards the access point, which houses the CPU and IRDA, or *infrared data acquisition device*.

Solution Makes Computing-sense for Students

The advantages of implementing such a system are several: besides not having to carry around heavy books, students are now provided with electronic materials which the school provides; additionally, more control can be exercised over course content and syllabi. Students benefit by not only being able to easily access materials, but they also develop vital computing skills.



Advantech's PCM-4823 Provides the "Brainpower"

Advantech's half-size biscuit PCM-4823 - with a robust 5x86-133 CPU and Ethernet on board - is embedded in each access node. Together with its extremely small size (perfect for such a limited space as the IRDA access node), and its low cost, Advantech's PCM-4823 suits the job perfectly.

Further Possibilities for the PCM-4823

Advantech's participation in future educational projects is guaranteed with the continued success in application opportunities such as this one. Extended application possibilities also exist in other environments as well. For instance, the PCM-4823 can be installed in IRDA devices in offices to save on wiring, and on factory floors where wiring can be dangerous and expensive.

Team Up with Advantech

By buying Advantech products, the customer not only has access to a wide range of product lines, but also a 15-year reservoir of knowledge and experience with industrial computers and systems integration. Advantech is willing and able to assist with BIOS customization, LCD services, and OEM/ODM orders. Call today to see how we can help you.

Intel Guarantees Chip Availability for Several Years

Intel's Embedded Microcomputer Division has guaranteed that its chips will remain available in embedded PC channels for several years. This is due to the fact that the lifecycle for embedded PC products is much longer than for desktop PCs (up to 10 years, vs. only 1-3 for consumer PCs). This guarantee holds true not only for processors, but for chipsets, Ethernet, and VGA/LCD chips as well, among others. This guarantee also carries over to Advantech customers, since many Advantech products use several Intel chips. In fact, one of our products (PCA-6152) uses Intel chips for all its major functions. If, in the future, Intel decides to discontinue a particular product, then its stringent End-of-Life Corporate Policy guarantees two years of support from the date of the End-of-Life announcement.

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Comdex Asia '98

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Automation with PCs
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