SOCKET 370 CELERON™ PENTIUM® II SUPERCHARGES 5.25'' BISCUIT PC

PCM-9570 5.25'' Pentium® II Processor Biscuit PC

A dvantech's newest edition to its 5.25" Biscuit PC family is the PCM-9570. This new SBC is the first of its size at Advantech to support Pentium® II-level processors. This much power, on such a compact, embedded board, opens up nearly unlimited application possibilities for Advantech's customers.

Socket 370 Compactness

The PCM-9570 uses Socket 370, verses the earlier slot 1, in its design. By doing this, it is able to preserve vertical space above the board for PCI or other expansion cards or for a reduction in overall chassis size. In addition, because the form factor of the PCM-9570 is the same as that for the Pentium® MMX™ processor-based PCM-5862E Biscuit PC, you would be able to use this more powerful board in place of your earlier Pentium® MMX™ based board with very little need to consider size or chassis modifications.

Chipset Supports Expansion

The chipset on the PCM-9570 is Intel's 440BX. This chipset is special because it accommodates either a 66 MHz or 100 MHz Front Side Bus (FSB). This feature makes the board inherently easy to upgrade. Any Intel® Celeron™ processor,

On-line Shop
OPEN!

Powered by Microsoft® Windows®CE

Intel®
Applied Computing Platform Provider

from 300A to 466 MHz, can be used, including the 500 MHz model projected to be released in Q4 1999. All of the above run at 66 MHz FSB with an on-processor cache of 128 KB. Another model(s) which may be released in 2000 are Pentium® III processors designed for Socket 370. These processors will run at a FSB of 100 MHz with 256 KB of on-processor cache. If these processors are actually produced as expected, Intel's 440BX chipset, and thus Advantech's PCM-9570, will be able to accommodate all of them.

Great Video Features

Besides the long-term processor upgradability of the PCM-9570, it also offers great video features. A VGA chip from Trident drives the graphics features of this board, which include x2 Accelerated Graphics Port (AGP), a 3D graphics engine, on-chip SDRAM of 2.5 MB (with an ordering option of up to 4 MB) and panel support. With 2.5 MB SDRAM, a monitor can display over 16 million colors at both a resolution of 1024 x 768 and 800 x 600.

PCM-9570

Other On-board Features

The PCM-9570 also has many other important on-board features and functions. 100Base-T Ethernet allows the application to perform high-speed network functions. An on-board socket for a CompactFlash Solid State Disk enables use of up to 40 MB of Flash memory. For Windows® CE or other small-footprint applications, this amount of storage space may completely obviate the need for a larger (and much more problem prone) mechanical hard disk drive). As for standard memory, the PCM-9570 hosts two sockets for SO DIMM RAM, allowing for plenty of room for memory expansion. This board also supports all of the standard I/O ports and connectors, including 1 IrDA port, 2 USB ports, 1 FDD, 1 IDE with Ultra DMA/33, 1 parallel port and 4 serial ports. The overall board also supports ATX power. In addition to the above, the PCM-9570 also comes with an optional panel link for long distance LCD signal transmission.

PCM-9570 with Optional Panel Link Module

Additional I/O Expansion Possibilities

Besides the standard PCM-9570 with the above mentioned features, Advantech is also offering the PCM-9570S. This board is identical to the PCM-9570 except for an additional Ultra II SCSI port. The feature allows data transmissions of up to 80 MB/sec. This speed, in conjunction with the power of a Pentium® II processor, opens up a whole new world of high-speed, computationally intensive embedded applications.

Full Range of Solutions

The PCM-9570 represents Advantech's most advanced and powerful 5.25" Biscuit PC SBC to date, but not the only. Advantech's family of 5.25" and 3.5" Biscuit PCs includes ones powered by Pentium® and Pentium® MMX-level processors (including Intel, AMD and Cyrix), as well as 486- and 386-level processors. These earlier model SBCs have all or some of the following on-board features: 10/100Base-T Ethernet, VGA/LCD, LVDS, audio, video-in/TV-out, SSD sockets for DOC 2000, CompactFlash, and/or others, etc. This Biscuit PC family offers a spectrum of power, features, and price ranges from which to choose from. If you are interested in the PCM-9570 in particular, or any of the earlier models, please contact Advantech today for more detailed specifications and price information.

Enhanced Half-size Pentium®-level CPU Card Now Available

Advantech's PCA-6154/L half-size Pentium® MMX™ CPU card with VGA, Ethernet and SSD has just been revised from version A301 to A302. Two significant alterations have been made. The first is the addition of two jumpers to allow the user to enable or disable either the on-board VGA or LAN features (not possible on earlier version). The second addition is the freeing up of IRQ15. Now, the system integrator has one more IRQ with which to work. These two significant changes give the user more options and freedom in designing his or her application.

New Version 386-based Biscuit PC Soon Available

Advantech's PCM-3864 ver.B1 will soon be replaced by the newer PCM-3864 ver.B2. This change is taking place primarily because the manufacturer of clock generator has phased out this particular clock. Therefore, Advantech has had to replace it with another equivalent clock generator. None of the other functions have been affected in any way, though. Samples will be available in July, while by October, no more B1 boards will be available.

Revised 386-based CPU Card Maintains Low-cost Embedded Solution

Advantech's PCA-6135 has just been revised to replace a phased out clock generator. This new clock generator produces all three of the frequencies produced by its predecessor, namely, 14.318 MHz, 24.0 MHz and 40.0 MHz. By replacing this phased out component, Advantech is demonstrating its commitment to continue to provide its customers with a low-cost, highly embedded 386-based solution. Call Advantech today if this 386-based embedded CPU card solution fits your application needs.

New Multimedia POS Offers Low-Cost Solution

Advantech has added a new product in its POS-562 Multimedia POS Control Board line, the POS-562S. The original, full-featured POS-562 offers a Pentium® MMX™ processor-based POS control board with on-board VGA/LCD, audio, Ethernet, SSD socket, and LVDS. The POS-562L features all of these functions as well, minus audio. The POS-562S, on the other hand, offers all of the features of the POS-562 minus both audio and LVDS. Removing both of these features generates a significant cost savings. Eventually, the POS-562S will completely replace the POS-562L, thus offering the customer a simpler and much more price competitive board, or the full-featured POS-562. Call Advantech to inquire about the great savings!

Economical POS-562S Multimedia POS Contol Board

Modification Makes PC/104 CPU Module Even More Versatile

The PCM-3345, Advantech's tiny, 486-based PC/104 CPU module, has undergone an engineering change which has made it even more versatile and easy to integrate into your embedded applications. The change from the ver. A1 to ver. A2 modules was the relocation of the power socket and its realignment, from the original perpendicular (180°) alignment to the new parallel (90°) alignment. Besides this change, there have been no modifications or alterations to the functionality of the module. This new ver.A2 module will be available by the end of the summer. For special stock clearance prices on the A1 version, contact your local Advantech representative today.

Advantech's LCD Service Policy

As a one-stop solution provider, Advantech offers a large selection of embedded, industrial and automation products ranging from SBCs, PC/104 modules, SSDs, chassis, workstations, logic controllers, data acquisition and control products, etc. But besides these products, Advantech also provides its customers with quality service and support. One type of support is LCD servicing.

LCD Services

In order to provide our customers with better pre- and post- sales services and system integration assistance, Advantech helps customers integrate their own LCDs into Advantech's SBCs. This integration includes "lighting,"

LCD Service Center

making connections between LCD interfaces and LCD panels and controlling contrast, brightness, V_{EE} source and LCD inverter, as well as all other factors that affect the successful installation of LCD panels. Because there is such a variety of LCDs and difference specifications and standards to go with them, the BIOS needs to be modified or rewritten for nearly every type of LCD. Advantech has a large library of BIOS modified specifically for dozens of brands and sizes of LCD. If the BIOS for the user's particular LCD is not within the current library, Advantech is able to custom write BIOS to fit the specifications for nearly any particular LCD. As yet another, even simpler and less expensive option, the customer can chose to use Advantech's own LCD kit. The PNL-6682TI is a Toshiba industrial grade 10.4" TFT LCD kit. This kit includes all necessary cables, inverters, adapters, and BIOS that you would need to use to integrate it with any of Advantech's SBCs.

LCD Service Policy

If a customer wishes to use his or her own or a third party's LCD in combination with an Advantech SBC (be it full- or half-size card, 5.25" or 3.5" Biscuit PC board, or PC/104 CPU module), Advantech is more than willing to be of assistance. New customers will be charged a reasonable fee, and will be required to send one of their particular LCDs to Advantech. It is suggested that this LCD be kept at Advantech for six months, where it will be used for integration testing and debugging purposes in combination with the customer's choice of Advantech SBC. The customer is also required to set aside one LCD at their company for similar testing and result confirmation purposes. After the six month period, the customer's LCD will be returned to him, along with sample LCD cabling, if so desired. During those six months of testing, though, Advantech would not be held accountable for any unfortunate damage that may or may not occur to the LCD during testing.

Advantech's Own LCD Kit

One-stop Service Center

These LCD BIOS, cabling, configuration and integration services are very important to our embedded systems integrator customers. Other important services and solutions which Advantech provides include Windows CE customization (for Advantech SBCs), BIOS modification and I/O connector and cabling customization, as well as chassis adjustment. Visit Advantech EPC's website at **http://www.advantech.com/epc** or call Advantech today to see how we can help you with your embedded PC applications.

Internet Technical Support Service

For the past year, Advantech has maintained and expanded on its online Support Service Site. This site is accessible either thorough Advantech's main web site (**http://www.advantech.com**) or directly (**http://support.advantech.com**). With this site, Advantech is striving to provide its customers with easily accessible information, as well as possibly a first-stop site for troubleshooting problems.

Extensive Source of Information

This site provides users with a full range of technical information concerning each of Advantech's products. This information can be arranged in the following six categories: Technical Notes, BIOS, Utility Disks, Product User Manuals, FAQ and Y2K.

Advantech's Online Support Site

-*Technical Notes*

This category contains all of the recorded applications or modifications made on each particular product in order to meet a customer's specific need or product bug.

-*BIOS*

This category includes all standard BIOS and some special BIOS for Advantech's products, including notes on its Y2K compatibility.

-*Utility Disk*

This category contains all standard shipping driver disks and some other useful utilities and drivers.

-*Product User Manuals*

This category contains PDF files of nearly all of Advantech's product user manuals.

-*FAQ*

This category includes a collection of dozens of FAQ and common questions and answers about Advantech's products and services.

Advantech Service and Support Personnel

-*Y2K*

This part of the service support site provides the user with Advantech's policy, Q&A, and product solutions for the Y2K problem.

Searchable Solutions

This site also allows the user to search for information by several different methods: by product (sorting by each product model), by customer (sorting by customer name), by function (sorting by different functions) and by keyword (sorting by any keyword, such as "IRQ12").

Your One-stop Solution Spot

This constantly expanding and improving site will continue to strive to provide Advantech's valuable customers with the most up-to-date and useful solutions to their integration and troubleshooting difficulties. Feel free to visit this site yourself. If anything in your opinion seems to be missing, please inform Advantech immediately by email through this website. Through this valuable user feedback, Advantech will be more effectively able to meet the service and support requirements of all of its customers. Thank you for your continued cooperation and patience.

Celeron™ vs. Socket 7

The lead story of this issue of _EPC World_ highlights Advantech Embedded PCs' new Socket 370 Celeron™/ Pentium® III Biscuit PC, the PCM-9570. This board, being different from the previous Pentium® and Pentium® MMX™-class SBCs, brings home the debate on the merits of using a Celeron-based board design (utilizing either Slot 1 or Socket 370) verses a Pentium® MMX™/AMD/IDT K6-based board design (utilizing Socket 7).

	Socket 7	Socket 370
Pentium	yes	no
Celeron / PIII	no	yes
2nd Cache Memory	External, 512 KB	On-processor, 128 KB (Celeron), 256 KB (Pentium III)
2nd Cache Memory Performance	66 MHz	Same speed as CPU
Multimedia Instruction Set	0 (Pentium), 57 (Pentium MMX)	57 (Celeron), 57+70 (Pentium III)

Socket 7 vs. Socket 370 Comparison Table

Architecture

While Socket 7 boards were built for Pentium® processors, Socket 370 boards are being built for the next generation of chips: the Pentium® II and Pentium® III processors. These new chips have on-processor 2nd Level Cache memory (unlike the Pentium®). Because the cache memory is on the chip itself, it is able to operate at the same speed as the CPU. The cache of the earlier Pentium®, on the other hand, could only run at a speed of 66 MHz. In addition, once Socket 370 Pentium® III processors become available, their expanded multimedia instruction set will enhance the performance of multimedia applications.

Performance

As for performance, the Socket 7 has obvious future limitations. Not so for the Socket 370. With the current Pentium® II-level processors, speeds of up to 466 MHz with 66 FSB are achievable. By next year, though, if Intel follows through with its expected development plans of a Socket 370 Pentium® III, the performance gap between the Socket 7 and Socket 370 will be even more apparent. These new Pentium®

III processors will have 256 KB of on-chip cache, operate at an FSB speed of 100 MHz (fully supported by Advantech's PCM-9570 - see story on page 1). Initial processor speeds will be 500 MHz, and will increase from there in the year 2000.

Industry Trend

The final, and maybe most compelling reason to choose Celeron's Socket 370 over Socket 7 is the overriding trend in the PC industry. Even though Socket 7 has stuck around longer than it originally might have done without the efforts of AMD and Cyrix, its future looks awfully dim. Cyrix now has completely left the market for Socket 7 processors, concentrating instead on specialized information appliance embedded chips like its GXM processor. AMD, on the other hand, has had problems supplying enough chips to meet the market's demand, among other problems. Intel, on the other hand, has continued to produce ever faster models of its Pentium® II and Pentium® III processors. It has also offered an option to its cumbersome Slot 1, namely, the Socket 370. The momentum in the industry is clearly behind Intel and its Socket 370 solution.
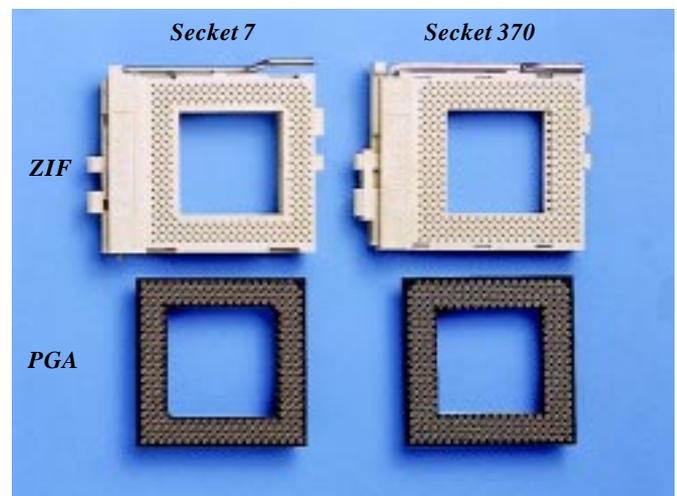
ZIF/PGA type Socket 7 & Socket 370

Advantech's Socket 370 Solution

Currently, Advantech Embedded PCs offers the PCM-9570 as its Socket 370 Pentium® II solution. Future embedded SBCs will also employee this Socket 370 solution in 3.5" CPU cards to meet the demands of the market. Call Advantech today if you need the power of a Socket 370 solution behind your application.

Not So Fast! Advantech is Watching...

Advantech is doing its part to help the police enforce speed limits and preserve public order and safety by supplying an essential part of a laser speed detection device.

Laser Speed & Image Detection System

The product can be used in either manual or automatic mode by law enforcement officers to detect the speed of approaching or receding vehicles. By using state-of-the-art laser technology and by taking several readings per second, this system is able to achieve an accuracy of ±1.6 km/hr. Once a speeding vehicle has been identified, a crystal clear image is produced on the spot or stored for future processing (up to 7500 frames on a 2 GB HDD). Optional features include a connection to an automatic data backup system and an automatic vehicle register inquiry system.
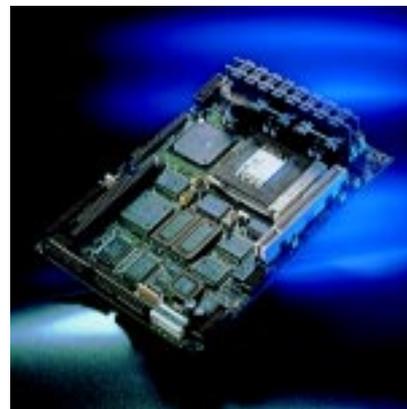
User Friendly Device

This device can be used manually or automatically. In manual mode, it can be either mounted on a tripod by the side of the road or mounted to the top of a police vehicle. In automatic mode, it can be easily set up, even by untrained personnel. Since images are either stored, downloaded, or printed on the spot with cost-effective thermal paper, there is no need to bother with troublesome and expensive film servicing and developing. Overall, the ease-of-use, in combina-

tion with the speed and accuracy of this unit, makes it an ideal addition for law enforcement agencies worldwide.

Advantech's Contribution

Advantech's contribution to this speed detection system consists of the PCM-5862L, a 5.25" Pentium® MMX processor-based SBC with on-board VGA/LCD and Ethernet. When this board was chosen by the system integrator in question in 1997, it was one of the strongest, most feature-laden embedded boards of its kind on the market. A Pentium® MMX™ processor provided the speed and power necessary for the thousands of measurements and computations performed each second by the device, while on-board VGA/LCD and Ethernet eliminated the need for costly and cumbersome expansion boards.

Why Advantech?

There were four main reasons why Advantech's SBC was chosen for this device. The first was that Advantech provided a lot of helpful technical advice and support during product development, especially with LCD integration (see related story on page 4). The second reason was Advantech's good brand name. Because this was a government subcontracting assignment, this point was quite important. The third main reason why Advantech was chosen was because of the inherent competitiveness of its product. The fourth and final main reason was the high degree of quality of the PCM-5862L. These four reasons convinced this Korean system integrator to choose Advantech of several other potential product solution providers.

Let Advantech Be Your Solution Provider

Visit Advantech Embedded PCs' web site at **http://www.advantech.com/epc** for more application stories. Also, feel free to contact Advantech if you think that we may be of service to you.

Review: Web Phone Hardware/Software Total Solution Seminar

A seminar on web phone hardware/software integration was held on June 30 at the World Trade Center in Taipei, Taiwan. It was hosted by Advantech, in conjunction with Taiwan's Market Intelligence Center and Acer Computers. The overall goal of this seminar was to create new business opportunities centered around web phones with manufacturers of telephones and switchers, and with other telecommunication industry representatives. It also outlined the benefits which could be derived from web phones, such as overall savings for users and capabilities for internet browsing, information retrieval, emailing, video conferencing, online shopping, etc. The first speaker from the Market Intelligence Center spoke about market trends and future business opportunities, while the second speaker from Acer addressed the group on the network-based communication system they offered for web phones. The speaker from Advantech explained Advantech's PC-based solutions for web phones.

Advantech's hardware solution, in combination with Acer's IP solution, provides the ideal solution for the web phone business.

Review: China Windows® CE Seminar

Between March 8 and May 13, Advantech held a series of joint seminars across China, in conjunction with Microsoft and ITE. In all, over 2000 attendees participated. These seminars presented the Advantech-Microsoft combination as an ideal solution for nearly all Windows® CE embedded computing applications. In fact, Microsoft's alliance with Advantech is its absolute first with an embedded PC manufacturer. Besides the presentations by speakers from Microsoft, ITE and Advantech, application demonstrations were also shown by application engineers from Advantech Headquarters.

Based on a flood of positive feedback, these seminars succeeded in presenting Advantech as a Windows® CE platform solution provider. In addition, it demonstrated that there was a great deal of good, potential business in this field.

ACL EPC Contact Window Chart

EPC

MarCom
- USA/Europe
  Sophie Chang
- Asia
  Tina Chang

AE
- AAE/AAC/ADL
  Chi Lin
- Branch Offices
  Michael Feng
- Distributor
  Grace Lee
- ATW / China
  Motthew Wood
  Yungnan Chen

PM
- Biscuit PC
  Charles Kang
- POS
  Charles Kang
- Slot PC
  Jimmy Hsu
- PC/104
  Jimmy Hsu
- ODM/SSD
  Vincent Lee

PSM Region
- America
  Thomas Chou
- Europe
  Isaac Hsu
- AKR/ASG
  ADCL/AIT
  Lichen Hong
- Japan
  Alex Lai

Sales Region
- ROW/S.Europe
  Daniel Yang
- SA
  Teresa Chiu
- E.Europe
  Barry Liaw
- SA
  Dolly Wei

Sales Support
- AAC/AAE/ASG
  Amy Yen
- ADL/AIT/AIE
  Javian Tsai
- ADCL
  Jean Lu
- AJP
  Claire Ching
- AKR/AFR
  Lydia Kung
- AUK/ Dist
  Caroline Ching