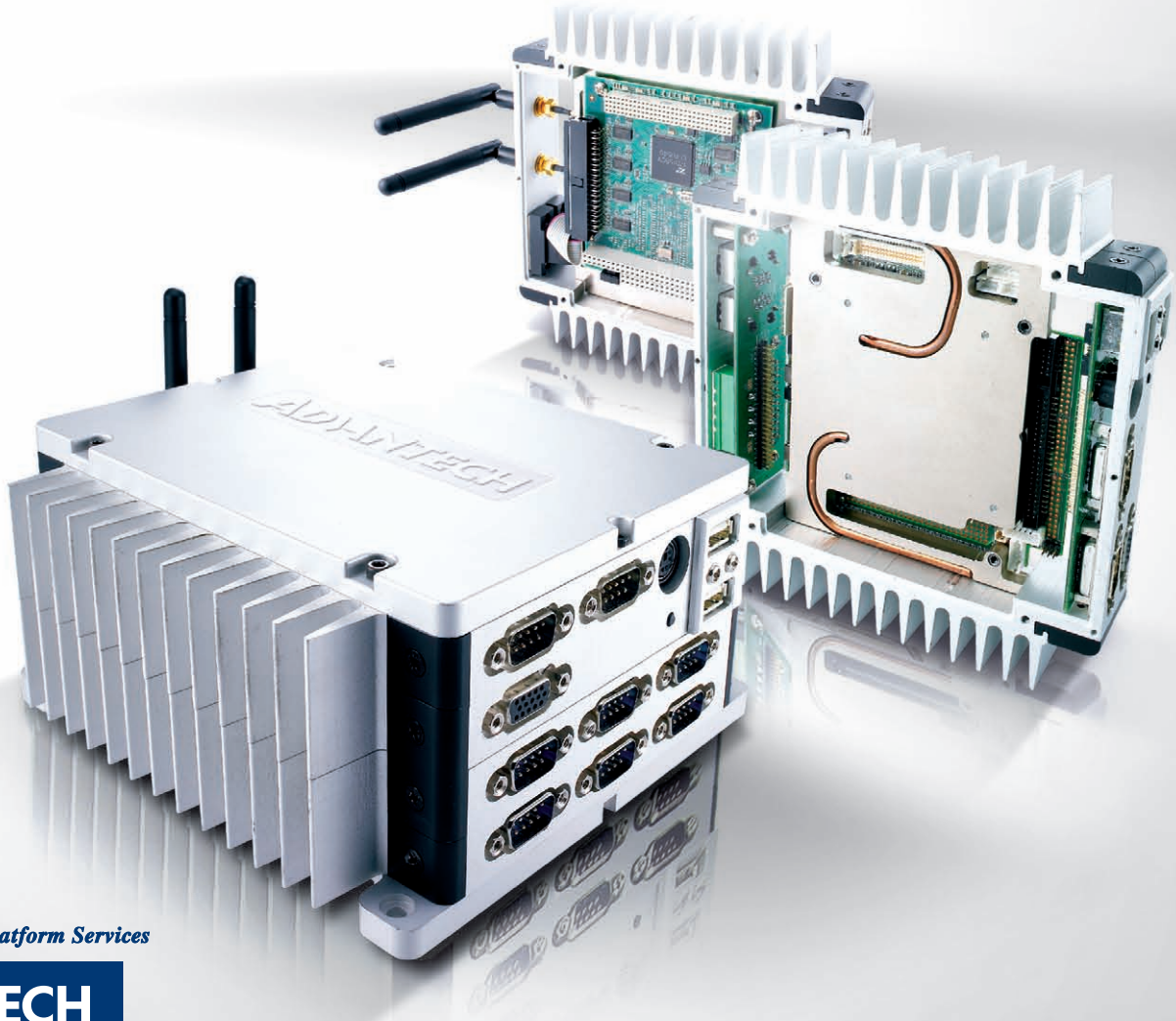
Ruggedized Solutions

Advantech Stackable Systems & SBCs with Rugged Features for Total Solutions



- Outdoor
- Military
- Transportation
- Avionics



Trusted ePlatform Services

ADVANTECH

CE FC

Phoenix Extended Temperature Sorting

Phoebus -40°~85°C Design-in

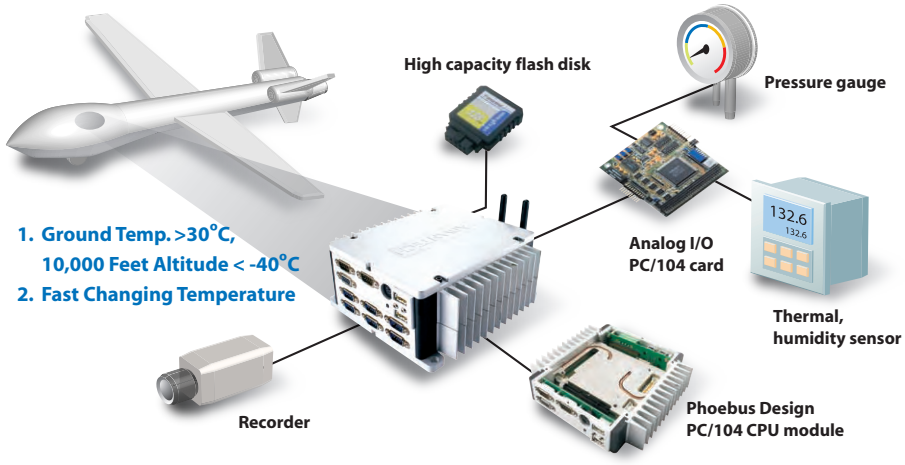
www.advantech.com

Rugged Solution Application Scenarios

Advantech's ARK-4000 series of PC/104-based embedded box computers feature industrial grade components that have passed strict testing and quality assurance standards for higher reliability and longer operating life. Many industrial applications require shock/vibration resistant computers that can operate in extended temperature ranges and remote, inhospitable environments. This series of embedded box computers combine these crucial features in highly modular and space-efficient aluminum enclosures.



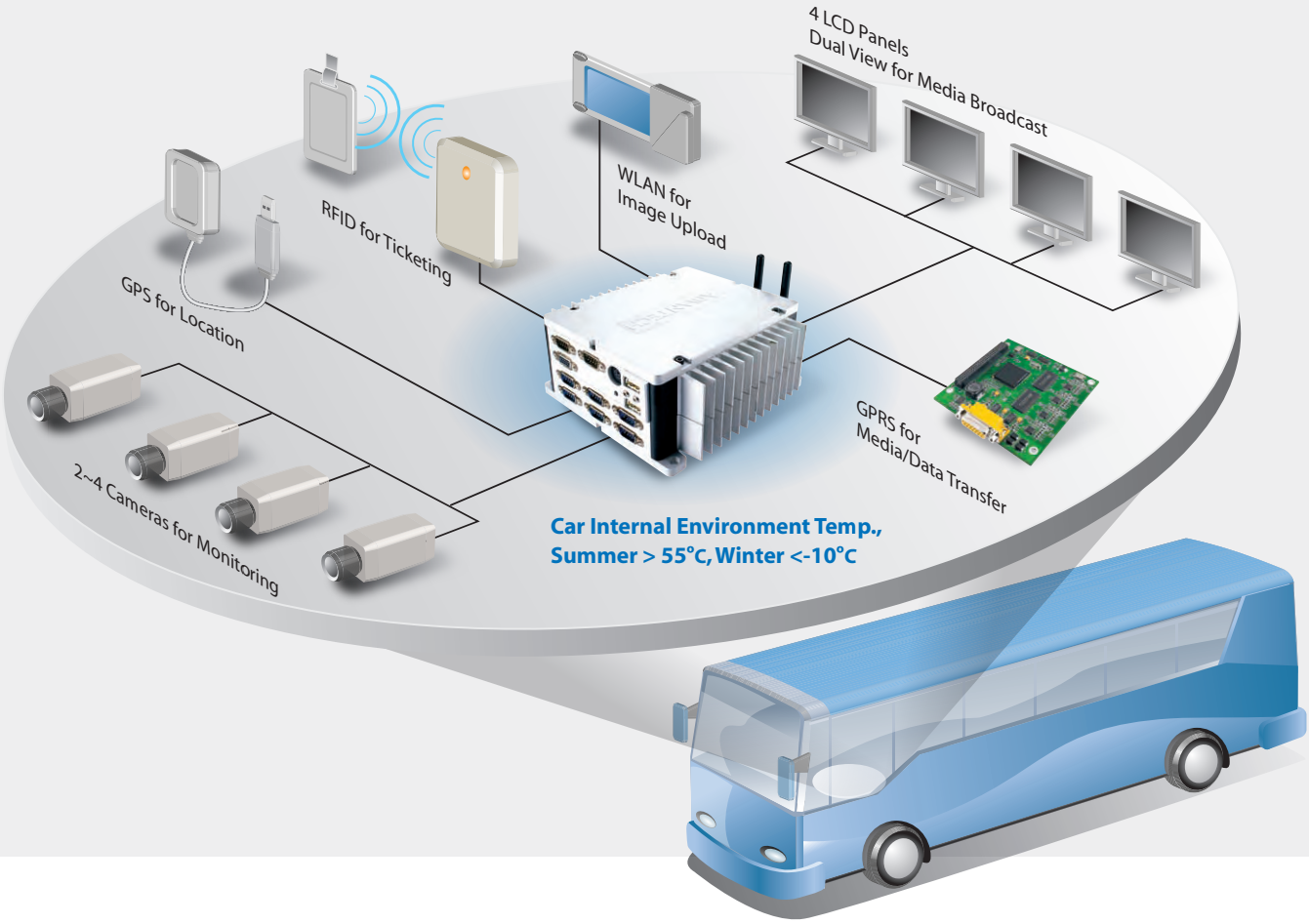
❖ Unmanned Aerial Vehicles

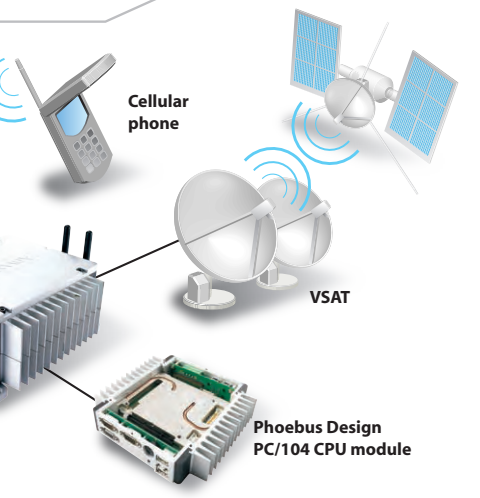


❖ Communication Systems

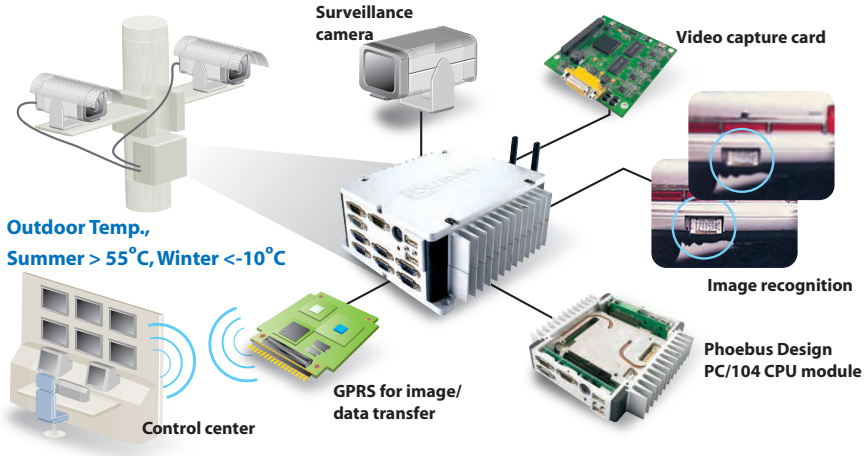


❖ Transportation Control





❖ ITS Applications



Leading Edge Solution for Rugged Environments

❖ Extra Services to Support Operation in Harsh Environments

Advantech offers a range of services that enable solutions to operate in harsh conditions. Extended Temperature Testing (ETT) services include Advantech's Phoenix operation and Phoebus Design for dynamic and static testing. A PCB and component conformal coating service provides electrical insulation and added protection from dust, moisture, fungus, corrosion and vibration, and a glued DRAM service increases resistance to vibration. These services combined with additional ones such as component qualification and in-process manufacturing test services, deliver increased support for outdoor, transportation, remote monitoring and other mission critical applications where the cost of failure is high.

Phoebus -40˚~85˚C Design-in

Phoenix Extended Temperature Testing

❖ Wideband Extended Temperature Testing (ETT) Solutions

Phoebus -40˚~85˚C Design-in

Phoebus Design uses pre-qualified components to design SBCs that operate in extreme temperatures. Each board undergoes 5 days of extreme temperature testing to ensure the selected SBC continues to operate and boot-up properly at -40 ~ 85° C. SBCs with Phoebus Design operate perfectly in environments where heat, extreme cold or thermal shock are frequent.

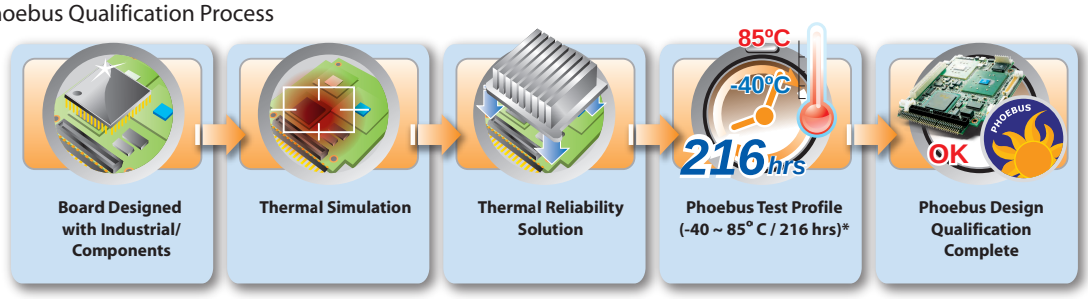
Phoenix Extended Temperature Sorting

Phoenix Extended Temperature Testing has two grades: Phoenix Gold and Phoenix Platinum. During Phoenix Extended Temperature Testing, selected SBCs undergo 12 cycles of dynamic burn-in tests for a total of more than 16 hours. The temperature profile is -20 ~ 80° C for Phoenix Gold and -40 ~ 85° C for Phoenix Platinum. Advantech ensures that each SBC delivers 100% performance under each temperature profile. SBCs that have passed Phoenix Extended Temperature Testing are perfect for applications in environments with fast changing temperature.

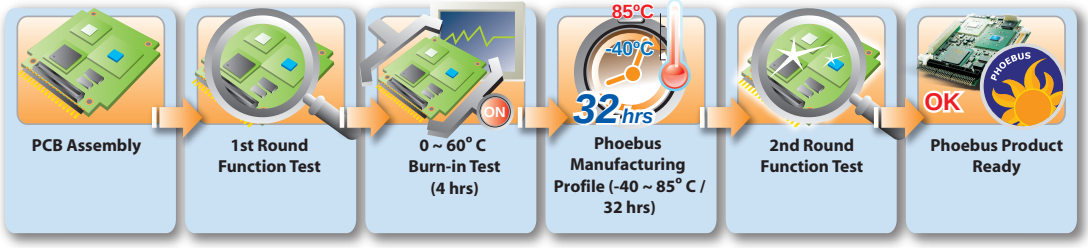
Phoebus Testing Process

Advantech's Phoebus testing guarantees that boards will operate continuously under extreme temperatures (-40 ~ 85° C) for at least 8 hours.

• Phoebus Qualification Process



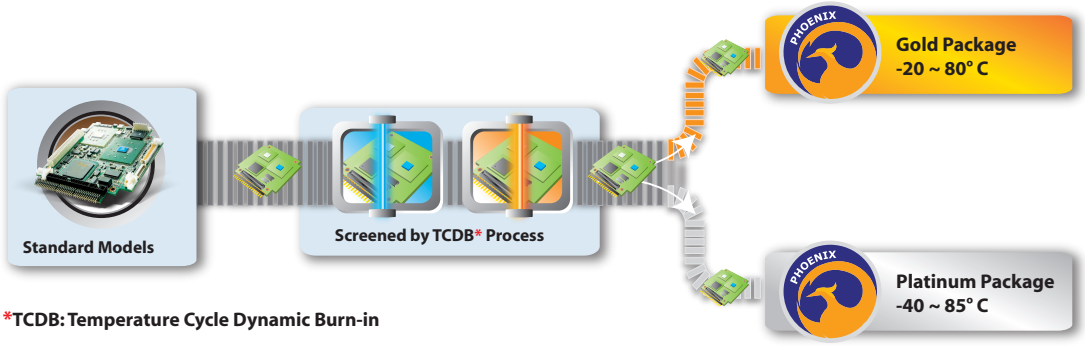
• Phoebus Product Manufacturing Process



*Visit ***http://www.advantech.com.tw/epc/RuggedizedSolutions/*** for detailed information on the Phoebus Test Profile

Phoenix Testing Process

Advantech's Phoenix testing process ensures SBCs undergo 12 cycles of dynamic burn-in tests for a total of more than 16 hours. SBCs must receive a 100% pass rate to be certified as a Phoenix Operation board.



***TCDB: Temperature Cycle Dynamic Burn-in**

ARK-4100 Series

Rugged & Modular PC/104-based Embedded Box Computers

❖ Total Rugged Solutions for Extreme Environments

The ARK-4100 series is specially designed to offer very specific features. Their high vibration and extreme temperature resistance, combined with stackable and modular expansion capability make these systems ideal for transportation and communication applications. These systems can operate reliably in the most remote and inhospitable environments known.

Copper Heatpipes

- Quickly conducts heat to side fins
- Embedded fanless solution

Standalone I/O Daughter Board

- Maximum I/O options
- Reduces system redesign effort
- Shorter time-to-market



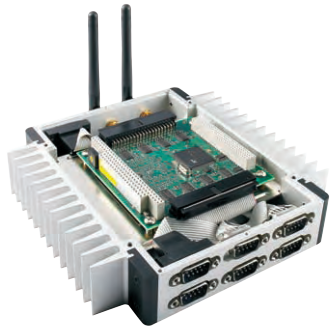
Aluminum Fins

- Quickly dissipate heat
- Reliable fanless solution

Stackable & Modularized Design

- Compact size
- Maximum ruggedness
- Easy system upgrades & expansion

❖ Stackable & Modularized Design



Modularity
Stacking I/O Module

A modularized design enables quick adaptation to other configurations for lower overall cost. Special brackets enable these aluminum enclosures to be stacked, making this the most flexible rugged solution on the market. Each enclosure houses up to two PC/104 boards. The Core Stacking Module uses Advantech's standard PC/104 and PC/104+ CPU boards with onboard flash and SDRAM memory, which along with strong enclosure construction and fixings ensures the system has excellent anti-vibration characteristics. What is more, the unique removable heatsink and daughter board means that customers can completely replace the system retaining just the chassis.

❖ Standalone I/O Daughter Board

Different from other similar systems, the interfaces are established via front and rear I/O boards. This permits the standard mechanical module to be installed, and with a small change to the I/O board the system can be customized. This makes internal wiring simpler because individual connectors no longer have to be screwed into the housing; instead, entire wiring sets can be prefabricated. Even subsequent conversion is possible without a great deal of effort. This design is future-proof when the system has to be upgraded, saving a significant amount of time and cost. Moreover, for any additional modules, Advantech also accepts small-quantity orders and modification requests.



❖ Fanless System



Fanless
Thermal fins and embedded heatpipes

Advantech provides embedded platform products and services to system integrators that go into the most remote, hostile or extreme environments on earth. These embedded platforms are made to work reliably and consistently 24/7, without exception. Each system is housed in a specially cast and milled solid aluminum block with thermal fins that help dissipate heat. Another unique feature is the specially designed fanless thermal solution that uses embedded heatpipes to conduct system heat to the thermal fins. These two features allow the system to pass the -40 ~ 75° C Phoebus temperature test profile, guaranteeing system performance in harsh environments.

ARK-4100 Product Line-up

ARK-4170



- Intel Celeron ULV 400 MHz
- Two serial ports and two USB 1.1 ports
- VGA, LAN, LPT and KB/MS ports
- Onboard 1 GB Flash and 512 MB Industrial DDR SDRAM
- Embedded Windows XP solution
- Operation temperature: -40 ~ 75° C
- ARK-4170Y-AJ0A1E Windows XP Embedded
- ARK-4170Y-BJ0A1E Windows CE
- ARK-4170Y-1J0A1E Onboard 1 GB Flash and 512 MB Memory

ARK-4180



- Intel ULV Celeron M 1.0 GHz CPU
- Two serial ports and six USB 2.0 ports
- VGA, LAN, Audio, LPT and KB/MS ports
- Embedded 1 GB Industrial CF and 512 MB Industrial DDR SDRAM
- Embedded Windows XP solution, Windows CE optional
- Operation temperature: -40 ~ 75° C
- ARK-4180Y-AS0A1E Windows XP Embedded
- ARK-4180Y-1S0A1E Embedded 1 GB CF and 512 MB memory

ARK-4153



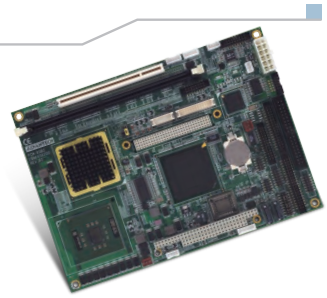
- AMD Geode LX800
- Four serial ports and four USB 2.0 ports
- VGA, dual LAN, LPT and KB/MS ports
- Onboard Flash 128 MB (1 GB Optional) and 256 MB Industrial DDR SDRAM
- Embedded Windows CE solution
- Operation temperature: -40 ~ 75° C
- ARK-4153Y-AL0A1E Windows CE
- ARK-4153Y-1L0A1E Onboard 128 MB Flash and 256 MB memory

Storage Accessories

CompactFlash Card (-40 ~ 85° C)	Hard Disk Drive	Flash Disk Drive [shock/vibration protection]
PCM-3835-00A1E	**9696045000E**	**9696045000E**
IDE Flash Disk Module/CompactFlash Card	PC104+/2.5" HDD board	PC104+/2.5" HDD board
• 96FMCFI-128M-ET-TR 128M CF Card • 96FMCFI-256M-ET-TR 256M CF Card • 96FMCFI-512M-ET-TR 512M CF Card • 96FMCFI-1G-ET-TR 1G CF Card • 96FMCFI-2G-ET-TR 2G CF Card • 96FMCFI-4G-ET-TR 4G CF Card	• 96ND40G-I-SG5K3 -30~85° C 40GB HDD • 96ND20G-I-SG5K -20~75° C 20GB HDD • 96ND40G-I-SG5K2 -20~75° C 40GB HDD	• 96FD25-2G-IG-PQ 0~70° C 2GB Flash Disk Drive • 96FD25-2G-IG-PQ1 0~70° C 2GB Flash Disk Drive • 96FD25-8G-SG-AP 0~70° C 8GB Flash Disk Drive

Stackable CPU Modules for Phoebus Design-in

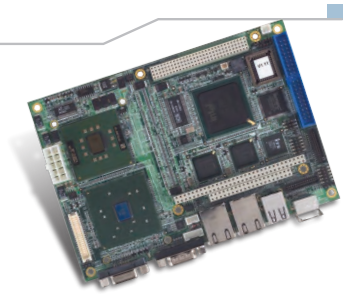
PCM-4582FY



Rugged EBX CPU board

- Operating temperature: -40 ~ 85° C, fanless solution
- Embedded Intel Pentium M 1.4 GHz/C-M 1.0 GHz/ C-M 600 MHz (512K L2) with LAN/Audio/LVDS/3 USB 2.0/4 COMs
- Support for PC/104-Plus bus
- Supports up to 1000Base-T Ethernet
- Supports up to two channel 48-bit LVDS interface
- Supports Enhanced Intel Speedstep Technology

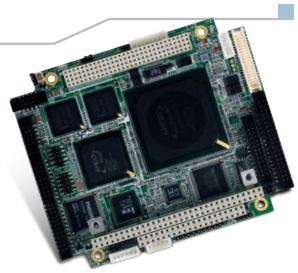
PCM-4386FY



Rugged EPIC CPU board

- Operating temperature: -40 ~ 85° C
- Celeron M 600 MHz/Celeron M 1.0 GHz with VGA/36bit LVDS/Ethernet/4 USB/ 4 COM/8 GPIO
- Supports USB-DOM (USB interface Flash memory module)

PCM-4153FY



Rugged PC/104-Plus CPU board

- Operating temperature: -40 ~ 85° C
- AMD low power LX800/500 MHz processor
- Supports three RS-232, one RS-232/422/485 and four USB 2.0 ports, Audio
- Supports dual 10/100Base-T Ethernet
- Supports 18/24 bit TTL and VGA
- Onboard 128 MB Flash (1 GB optional) and 256 MB memory

PCM-4141FY

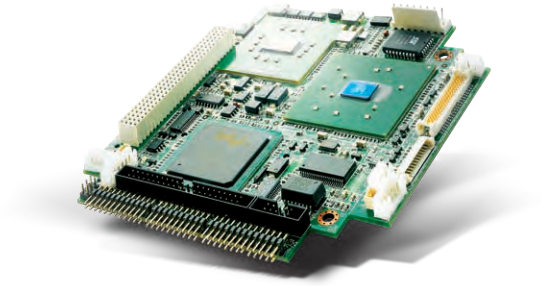


Rugged PC/104 CPU board

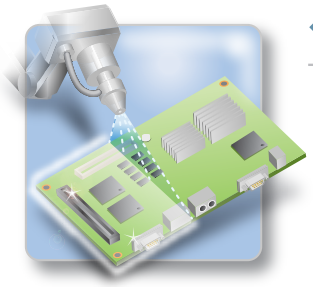
- Operating temp: -40 ~ 85° C
- STPC Atlas 120 MHz Processor
- Supports three RS-232, one RS-232/422/485 and two USB 1.1 ports
- Onboard 128 MB Flash and 64 MB memory

Value Added Services for Ruggedized Solutions

❖ Ruggedized Solutions Extend Application Range



Advantech's ruggedized services are a way to extend support to a broader range of new application environments. As embedded applications continue to grow, having the ability to reliably operate in these new environments is becoming increasingly important. This goes way beyond the usual military and harsh industrial environments that first come to mind. Outdoor traffic control, in-vehicle computing, and on-robot embedded computing are just a few of the expanding range of applications that demand embedded computing performance with increased durability and reliability.



❖ Conformal Coating Service

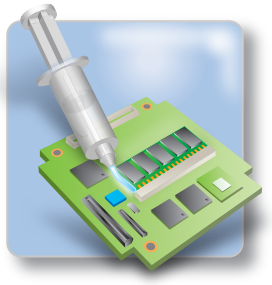
Solution for Preventing Corrosion and Moisture

A conformal coating service is offered to protect the PCB and components from dust, moisture, fungus, corrosion and vibration. The coating can be brushed or sprayed onto the PCB, depending on application needs. A conformal coating can help minimize electromigration between metal conductors. In addition, the use of a conformal coating can protect circuits and components from direct contact that can lead to abrasions or electrical short circuits.

❖ Glued DRAM Service

Solution for Resisting Vibration and Shock

These days DRAM modules are more sensitive to contact problems, so Advantech offers a glued DRAM service to keep memory secure in environments prone to shock and vibration. Related services also include soldered CPUs and onboard memory as well as strengthened connectors designed to function in harsh environments. Most importantly, Advantech fully tests these systems before and after component installs, guaranteeing customers receive a solution ready for the most demanding embedded applications.



❖ Industrial Strength Memory and CompactFlash Card (-40 ~ 85° C)

Advantech offers total industrial solutions; all memory modules are bundle tested for extended temperature operation with SBC's for extra reliability.



- **96SDI-1G400NN-AP** 1G SO-DDR400
- **96SDI-256M400NN-AP** 256M SO-DDR400
- **96SDI-512M400NN-AP** 512M SO-DDR400
- **96SD2I-1G533NN-TR** 1G SO-DDR2-533
- **96SD2I-512M53NN-AP** 512M SODDR2-533
- **96SD2I-256M53NN-AP** 256M SODDR2-533



- **96FMCFI-4G-ET-AP** 4G CF Industrial Grade
- **96FMCFI-2G-ET-AP** 2G CF Industrial Grade
- **96FMCFI-1G-ET-AP** 1G CF Industrial Grade
- **96FMCFI-512M-ET-AP** 512M CF Industrial Grade
- **96FMCFI-256M-ET-AP** 256M CF Industrial Grade
- **96FMCFI-128M-ET-AP** 128M CF Industrial Grade

❖ Customization Service

Today's embedded world changes quickly, so system integrators constantly need to take advantage of new products that can be easily maintained and upgraded. The design of the ARK-4000 series gives customers a competitive advantage in a volatile and fluctuating marketplace. Modular architectures enable system integrators to design future-proof products while using the customization process to reach the marketplace ahead of the competition. This means that system integrators can focus on adding value to their innovations without incurring the massive overheads required to bring a product to market "in-house."

❖ Customization Process

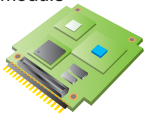
The customization process starts by having the customer choose an appropriate PC/104 or EPIC CPU module. Each module consists of a cast aluminum enclosure, two PC/104 modules and a specially designed heatsink. Multiple design configurations are available to customize the system, from a wide range of standard PC/104 I/O modules to customized upper covers, chassis and daughter boards, giving customers a total turnkey solution to perfectly match their applications.

Customization Process

1 Choose PC/104 or EPIC CPU module



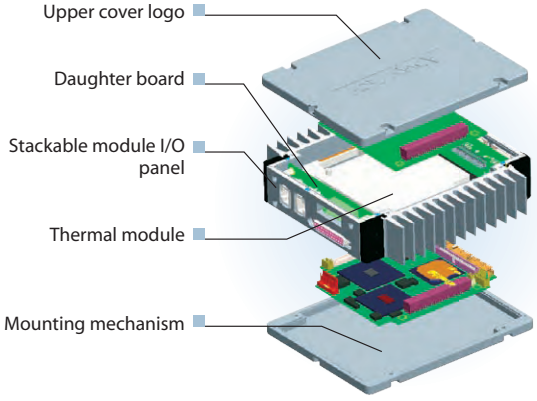
2 Select PC/104 I/O module



3 Customize I/O stackable module



4 Customize



Application Ready Platforms



Phoenix Product Selection Guide

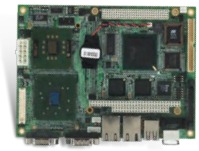
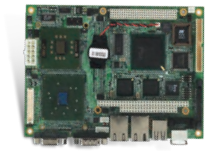






Model Name / Specification	SOM-4486	SOM-4481	SOM-4455	PCM-4153	PCM-3386
Form Factor	SOM-ETX	SOM-ETX	SOM-ETX	PC/104-Plus	PCI-104
Front Side Bus Speed	400 MHz	400 MHz	500 MHz	500/433 MHz	400 MHz
CPU Level	Celeron M	Pentium M/Celeron M	AMD LX 800	AMD LX800	Celeron M
CPU Socket	Onboard	Socket 478/Onboard	Onboard	Onboard	Onboard
CPU Frequency	1 GHz (C-M) 600 MHz (C-M)	Up to 2.0 GHz/Socket 478 1.4 GHz/CPU on board	500 MHz	Up to 500 MHz	Up to 1.0 GHz
System Chipset	Intel 852GM	Intel 855GME	AMD CS5536	AMD CS5536	852 GM
Max. DRAM	1 GB	1 GB	1 GB	256 MB onboard	1 GB
Memory Chip Type	DDR DRAM	DDR DRAM	DDR DRAM	DDR SDRAM	DDR SDRAM
2nd Cache Memory	--	1 MB (P-M), 512 KB (C-M)	128 KB	On CPU	--
BIOS	Award 4 Mbit	Award 4 Mbit	Award 4 Mbit	Award 4 Mbit	Award 4 Mbit
Watchdog Timer	256 levels timer interval	256 levels timer interval	256 levels timer interval	255 levels	1 ~ 255 level
SSD	--	--	CFC	Up to 1 GB flash onboard	CFC
VGA/LCD	Yes/36-bit LVDS	Yes/36-bit LVDS	Yes/18-bit TTL or LVDS	Yes/18/24-bit TTL	Yes/2 Channel 36-bit LVDS
Ethernet	1 port 10/100 Mbps	1 port 10/100 Mbps	1 port 10/100 Mbps	2 x port 10/100 Mbps	1 port 10/100 Mbps
Audio	Yes	Yes	Yes	Yes	Yes
Hard Disk Drive	2 x EIDE	2 x EIDE	1 x EIDE (2 x EIDE & 2 SATA for A2)	1 x EIDE	1 x EIDE
Floppy Disk Drive	2 x Drive	2 x Drive	2 x Drive	--	1 x Drive
Parallel	1 x SPP/EPP/ECP	1 x SPP/EPP/ECP	1 x SPP/EPP/ECP	1 x SPP/EPP/ECP	1 x SPP/EPP/ECP
Serial	2 x RS-232	2 x RS-232	2 x RS-232	1 x RS-232/422/485 3 x RS-232	2 x RS-232
USB	4 x USB 2.0	4 x USB 2.0	4 x USB 2.0	4 x USB 2.0	6 x USB 2.0
IrDA	115 kbps	115 kbps	115 kbps	115 kbps	--
Expansion Bus	PCI/ISA	PCI/ISA	PCI/ISA	PC/104-Plus	PCI-104
Power Management	APM/ACPI	APM/ACPI	APM/ACPI	APM 1.2	ACPI/APM 1.2
Dimensions (mm)	95 x 114	95 x 114	95 x 114	96 x 115	108 x 115
Embedded OS	WIN CE/XP embedded	WIN CE/XP embedded	WIN CE/XP embedded	WIN CE (optional)	WIN CE/ XP Embedded (optional)
TV-out	--	--	--	--	--
Phoenix Gold -20 ~ 80°C	SOM-4486Z-M0A3E SOM-4486Z-S0A3E	SOM-4481Z-R0A3E SOM-4481Z-S0A3E SOM-4481Z-S4A3E	Available in September 2007	PCM-4153Z-L0A1E	PCM-3386Z-S0A2E
Phoenix Platinum -40 ~ 85°C	SOM-4486Z2-M0A3E SOM-4486Z2-S0A3E	SOM-4481Z2-R0A3E SOM-4481Z2-S0A3E SOM-4481Z2-S4A3E	Available in September 2007	PCM-4153Z2-L0A1E	--



	PCM-3380	PCM-3353	PCM-3341	PCM-4386	PCM-4380
	PCI-104	PC/104-Plus	PC/104	EPIC	EPIC
	400 MHz	--	133 MHz	400 MHz	400 MHz
	Pentium M/Celeron M	AMD LX800	ST ATLAS	Celeron M	Pentium M/ Celeron M
	Onboard	Onboard	Onboard	Onboard	Onboard
	Up to 1.6 GHz	500 MHz	133 MHz	Up to 1.0 GHz	Up to 1.4 GHz
	855 GME	AMD CS5536	STPC ATLAS	Intel 852 GM, ICH4	Intel 855GME, ICH4
	1 GB	1 GB	32 MB onboard	1 GB (1 x SODIMM)	1 GB (1 x SODIMM)
	DDR SDRAM	DDR SDRAM	SDRAM	DDR DRAM	DDR DRAM
	On CPU	On CPU	--	--	On CPU
	Award 4 Mbit	Award 4 Mbit	Award 2 Mbit	Award 4 Mbit flash BIOS	Award 4 Mbit flash BIOS
	1 ~ 255 level	1~63 Sec. system reset or IRQ	1~63 Sec. system reset or IRQ	255 levels	255 levels
	CFC	CFC	CFC	CFC/USB-DOM	CFC/USB-DOM
	Yes/2 Channel 36-bit LVDS	Yes/18/24-bit TTL and 24-bit LVDS	Yes/18-bit TTL	Yes/2 x Channel 36-bit LVDS	Yes/2 x Channel 36-bit LVDS
	1 port 10/100 Mbps	1 port 10/100 Mbps	1 port 10/100 Mbps	2 x 10/100 Mbps or 10/100/1000 Mbps	2 x 10/100 Mbps or 10/100/1000 Mbps
	Yes	Yes	--	Optional	Optional
	1 x EIDE	1 x EIDE	1 x EIDE	1 x EIDE	1 x EIDE
	1 x Drive	--	1 x Drive	--	--
	1 x SPP/EPP/ECP	1 x SPP/EPP/ECP	1 x SPP/EPP/ECP	1 x SPP/EPP/ECP	1 x SPP/EPP/ECP
	2 x RS-232	1 x RS-232/422/485 3 x RS-232	1 x RS-232/422/485 3 x RS-232	1 x RS-232/422/485 3 x RS-232	1 x RS-232/422/485 3 x RS-232
	6 x USB 2.0	4 x USB 2.0	2 x USB 1.1	4 x USB 2.0	4 x USB 2.0
	--	115 kbps	115 kbps	--	--
	PCI-104	PC/104-Plus	PC/104	PC/104-plus	PC/104-plus
	ACPI/APM 1.2	APM 1.2	APM 1.1	ACPI/APM 1.2	ACPI/APM 1.2
	108 x 115	96 x 115	96 x 90	115 x 165	115 x 165
	WIN CE/ XP Embedded (optional)	WIN CE/ XP Embedded (optional)	WIN CE (optional)	WIN CE/ XP Embedded (optional)	WIN CE/ XP Embedded (optional)
	--	--	--	--	--
	PCM-3380Z-M0A2E PCM-3380Z-S0A2E PCM-3380Z-S2A2E	PCM-3353Z-L0A1E	PCM-3341Z-01A1E	PCM-4386Z-S0A1E	--
	--	PCM-3353Z2-L0A1E	--	PCM-4386Z2-S0A1E	PCM-4380Z2-S0A1E PCM-4380Z2-S4A1E

Phoenix Product Selection Guide







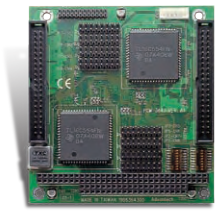
Model Name / Specification	PCM-9587	PCM-9586	PCM-9584	PCM-9581	PCM-9579
Form Factor	EBX	5.25"	EBX	5.25"	EBX
Front Side Bus Speed	100/133 MHz	400 MHz	533 MHz	400 MHz	100/133 MHz
CPU Level	Celeron M	Celeron M	Pentium M/ Celeron M	Pentium M/ Celeron M	LV Pentium III/ ULV Celeron
CPU Socket	Onboard	Onboard	Socket 479/Onboard	Socket 479/Onboard	Onboard
CPU Frequency	Up to 1.0 GHz	Up to 1.0 GHz	Up to 2.0 GHz	Up to 1.8 GHz	Up to 933 MHz
System Chipset	Intel 852GM, 6300ESB	Intel 852GM, ICH4	Intel 915GM, ICH6M	Intel 855 GME, ICH4	VIA VT8606, VT82C686B
Max. DRAM	1 GB (1 x DIMM)	2 GB (2 x DIMM)	2 GB (2 x SODIMM)	2 GB (2 x DIMM)	512 MB (1 x DIMM)
Memory Chip Type	DDR SDRAM	DDR SDRAM	DDR2 SDRAM	DDR SDRAM	SDRAM
2nd Cache Memory	--	--	On CPU	On CPU	On CPU
BIOS	Award 4 Mbit flash BIOS	Award 4 Mbit flash BIOS	Award 4 Mbit flash BIOS	Award 4 Mbit flash BIOS	Award 2 Mbit flash BIOS
Watchdog Timer	255 levels	255 levels	255 levels	255 levels	62 levels
SSD	CFC	CFC	CFC, USB-DOM	CFC	CFC
VGA/LCD	Yes/2 x Channel 36-bit LVDS/DVI	Yes/2 Channel 36-bit LVDS/DVI	Yes/Dual LVDS 36-bit LVDS/48-bit LVDS	Yes/2 Channel 36-bit LVDS/DVI	Yes/2 x Channel 36-bit TTL/LVDS
Ethernet	10/100 Mbps or 10/100/1000 Mbps	10/100 Mbps or 10/100/1000 Mbps	2x 10/100 Mbps or 10/100/1000 Mbps	10/100 Mbps or 10/100/1000 Mbps	10/100 Mbps
Audio	Yes	Yes	Yes	Yes	Yes
Hard Disk Drive	1 x EIDE 2 x SATA	2 x EIDE	1 x EIDE 2 x SATA	2 x EIDE	2 x EIDE
Floppy Disk Drive	2 x Drives	2 x Drives	--	2 x Drives	2 x Drives
Parallel	1 x SPP/EPP/ECP	1 x SPP/EPP/ECP	1 x SPP/EPP/ECP	1 x SPP/EPP/ECP	1 x SPP/EPP/ECP
Serial	1 x RS-232/422/485 3 x RS-232	1 x RS-232/422/485 3 x RS-232	1 x RS-232/422/485 3 x RS-232	1 x RS-232/422/485 3 x RS-232	1 x RS-232/422/485 3 x RS-232
USB	4 x USB 2.0	6 x USB 2.0	6 x USB 2.0	6 x USB 2.0	4 x USB 1.1
IrDA	--	115 kbps	--	115 kbps	--
Expansion Bus	PCI, Mini PCI, PC/104-plus	PCI, Mini PCI	PCI, Mini PCI, PC/104-plus	PCI, Mini PCI	PCI, Mini PCI, PC/104-plus
Power Management	ACPI/APM 1.2	ACPI/APM1.2	ACPI/APM1.2	ACPI/APM1.2	ACPI/APM 1.1
Dimensions (mm)	146 x 203	146 x 203	146 x 203	146 x 203	146 x 203
Embedded OS	XP Embedded	WinCE/XP Embedded	WinCE/XP Embedded	WinCE/XP Embedded	WinCE/XP Embedded
TV-out	Optional	TV-out	--	TV-out	Optional
Phoenix Gold -20 ~ 80°C	PCM-9587Z-M0A1E PCM-9587Z-S0A1E	PCM-9586Z-M0A1E PCM-9586Z-S0A1E	PCM-9584Z-S0A1E PCM-9584Z-S4A1E	PCM-9581Z-M0A1E PCM-9581Z-S1A1E PCM-9581Z-S4A1E	PCM-9579Z-J0A1E PCM-9579Z-M0A1E
Phoenix Platinum -40 ~ 85°C	--	PCM-9586Z2-M0A1E PCM-9586Z2-S0A1E	PCM-9584Z2-S0A1E	PCM-9581Z2-M0A1E PCM-9581Z2-S1A1E PCM-9581Z2-S4A1E	--

PC/104 Peripheral Modules for Phoenix Operation

Phoenix Gold

PCM-3643

4/8 RS-232 COM Port Module



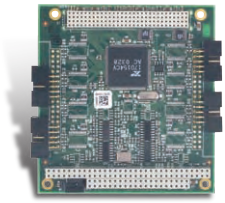
- 8 port RS-232 support
- RS-232:TX, RX, RTS, CTS, DSR, DCD, DTR, RI
- IRQ selected for each serial port
- Share IRQ (4/8 ports share same IRQ)
- Full duplex serial communication
- -20 ~ 80° C

- PCM-3643Z-04A1E
- PCM-3643Z-08A1E

Phoenix Gold

PCM-3644

RS232/422/485 COM Port Module



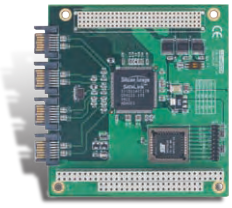
- 4 x RS-232/422/485 and 4 x RS-485 peripheral expansion application
- 32 bit PCI bus 2.2 Target Signaling Compliance with Plug and Play (PnP) features
- 3.3 V & 5 V Universal PCI
- Shared IRQ settings for each port
- -20 ~ 80° C

- By request

Phoenix Gold

PCM-3621

4 SATA PC/104-plus Module



- Supports 4 SATA devices
- Standalone PCI to Serial ATA host controller chip
- Programming Interface for Bus Master
- Provides 8 bits General Purpose I/O (GPIO)
- -20 ~ 80° C

- PCM-3621Z-00A1E

Phoenix Platinum

PCM-3110C

1-slot PCMCIA Module



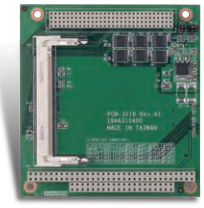
- Supports Type I, II, III PCMCIA cards
- 16-bit data bus
- Busy status LED
- -40 ~ 85° C

- By request

Phoenix Gold

PCM-3116

2-slot Mini PCI Module



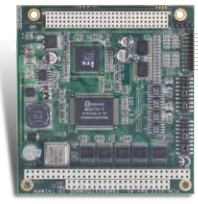
- Supports 2 miniPCI devices
- High performance (PC/104-Plus)
- Compliant with PCI v2.1
- -20 ~ 80° C

- PCM-3116Z-00A1E

Phoenix Gold

PCM-3117

PCI to ISA Bridge Module



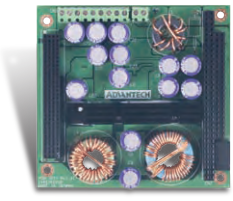
- Compatible with PC/104 and PC/104+
- PCI-104 CPU module (PCM-3380) be able to control PC/104 peripheral (ISA bus)
- Supports 1 x RS-232/422/485 and 1 x RS-232
- -20 ~ 80° C

- PCM-3117Z-00A1E

Phoenix Platinum

PCM-3910

DC to DC Power Supply PC/104-plus Module



- 50 W output
- 10 V to 24 VDC input range
- Reverse input protection
- 5 V, 12 V, -5 V and -12 V outputs
- -40 ~ 85° C

- PCM-3910Z-00A1E
- PCM-3910Z2-00A1E

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Osaka	81-6-6267-1887

Korea

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Thailand

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India

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Melbourne	61-3-9797-0100

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Germany

München	49 89-12-599-0

France

Paris	33-1-4119-4666

Hungary

Budapest	36-1-264-3333

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Arezzo	39-0575-98661

Benelux & Nordics

Breda	31-76-523-1270

UK

Ascot	44-1344-989-500

Russia

Moscow	7-495-232-1692

Americas

USA

Irvine, CA	1-949-789-7178

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