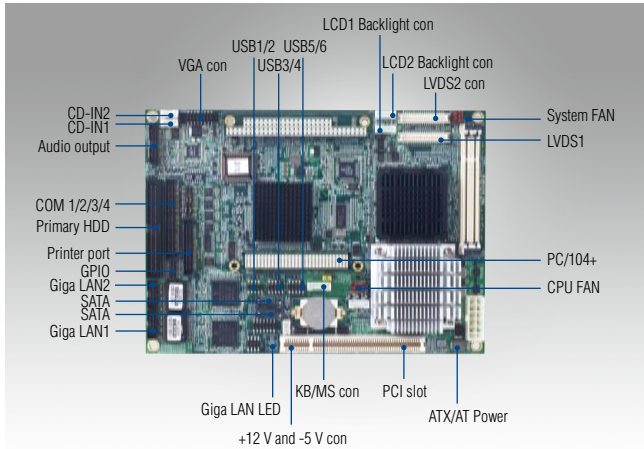


PCM-9584

Intel® Pentium® M Processor EBX SBC
with Audio, CRT, 2 LVDS (36-bit, 48-bit),
2 GbE LAN, PC/104-Plus



Features

- Intel® Pentium® M/Celeron® M processor
- Dual LVDS (48-bit LVDS/36-bit LVDS)/ CRT
- 2 Ethernet up to 10/100/1000 Mbps
- 6 x USB 2.0 ports, 4 COM ports, 2 x SATA ports
- PC/104-Plus, One PCI Slot, One Mini- PCI slot, 8-bit GPIO
- Supports embedded software APIs and utilities

Software APIs:



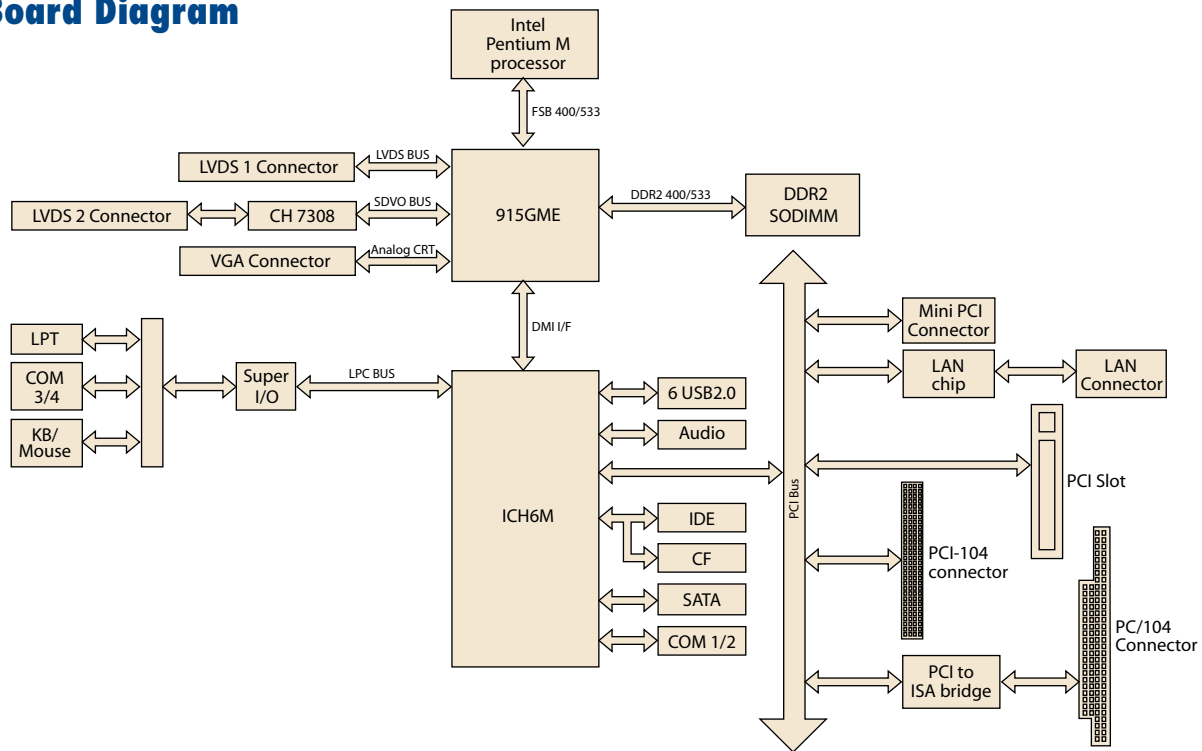
Utilities:



Specifications

Processor System	CPU	Pentium M 1.4 GHz	Celeron M 1 GHz	Socket Type
	Front Side Bus	400/533 MHz	400/533 MHz	400/533 MHz
	L2 Cache	2 MB	512 KB	Depends on CPU
	Chipset	Intel 915GME + ICH6M		
	BIOS	Award 4-Mbit		
Memory	Technology	DDR2 400/533 MHz		
	Max. Capacity	4 GB		
	Socket	2 x 200-pin SODIMM		
Display	Chipset	Intel 915GME chip integrated. (Extreme Graphics 2)		
	VRAM	DVM T 3.0 supports up to 128 MB		
	Graphics Engine	Mobile Intel GMA 900 3D/2D engine		
	LVDS	1 x 36-bit LVDS1, 1 x 48-bit LVDS2		
	CRT	Up to 1600 x 1200 at 85-Hz and 2048 x 1536 at 75-Hz		
Ethernet	Dual Display	CRT + 48-bit LVDS, 36-bit LVDS1 + 48-bit LVDS2, CRT + 36-bit LVDS		
	Speed	10/100/1000 Mbps on LAN1, LAN2		
	Controller	2 x BroadCOM BCM5721		
Audio	Connector	Box header		
	Chipset	Realtek ALC650 AC97		
WatchDog Timer	Amplifier	Speaker out, CD-Input, Line-in, Line-out, Mic-in		
		APA4863RI-TRG		
Storage	CompactFlash	255-level interval timer, Programmable 1 – 255 sec, jumperless selection, generates system reset		
	SATA	Card Type I, Type II (shared 2nd IDE Channel) / USB-DOM (Option)		
	IDE	2, 150 MB/s		
	Floppy	1 x EIDE (UDMA 100) 1 x FDD (Optional)		
Internal I/O	Serial	3 x RS-232, 1 x RS-232/422/485		
	Ethernet	LAN x 2 (RJ-45 connector through the cable)		
	KB/Mouse	1		
	CRT	1		
	USB	6 x USB 2.0		
	IDE	1		
	Parallel(LPT)	1		
	FDD	Share with LPT (Optional)		
	GPIO	8-bit general purpose input/output		
Expansion	PC/104-Plus slot	1		
	MiniPCI socket	1		
	PCI Slot	1		
Power	Power Type	AT / ATX		
	Power Supply Voltage	AT +5 V ±5%, +12 V ±5% ATX +5 V ±5%, +12 V ±5%		
	Power Consumption (Typical)	Suspend: 1.86 A @ 5 V, 0.48 A @ 12 V (Pentium M with 1.4 GHz) Suspend: 1.87 A @ 5 V, 0.75 A @ 12 V (Pentium M with 2.0 GHz)		
	Power Consumption (Max, test in HCT)	2.42 A @ 5 V, 1.01 A @ 12 V (Pentium M with 1.4 GHz) 2.43 A @ 5 V, 1.65 A @ 12 V (Pentium M with 2.0 GHz)		
	Power Management	APM, ACPI		
	Battery	Lithium 3 V / 196 Mah		
Environment	Operating	0 – 60° C (32 – 140° F)		
	Non-Operating	95% @ 60° C Relative Humidity		
Physical Characteristics	Dimensions (L x W)	203 x 146 mm (8" x 5.75")		
	Weight	0.85 kg (1.87 lb) (with Heatsink)		

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	CRT	LVDS1	LVDS2	Giga LAN	Audio	USB 2.0	RS-232	RS-232/422/485	LPT	CF	USB-DOM	KB/MS	PCI Slot	Mini PCI	Thermal Solution	Operating Temp.
PCM-9584F-00A2E	Socket 479	-	Yes	36-bit	48-bit	1	Yes	6	3	1	1	Yes	1	1	1	1	Active	0 ~ 60° C
PCM-9584FG-00A2E	Socket 479	-	Yes	36-bit	48-bit	2	Yes	6	3	1	1	Yes	1	1	1	1	Active	0 ~ 60° C
PCM-9584FG-S0A2E	Celeron M 1.0 GHz	512 KB	Yes	36-bit	48-bit	2	Yes	6	3	1	1	Yes	1	1	1	1	Passive	0 ~ 60° C
PCM-9584FG-S4A2E	Pentium M 1.4 GHz	2 MB	Yes	36-bit	48-bit	2	Yes	6	3	1	1	Yes	1	1	1	1	Passive	0 ~ 60° C
PCM-9584Z-1GS0A2E	Celeron M 1.0 GHz	512 KB	Yes	36-bit	48-bit	2	Yes	6	3	1	1	Yes	1	1	1	1	Passive	-20 ~ 80° C

Note: For wide temperature, please contact sales rep.

Packing List

Part No.	Description	Quantity
	PCM-9584 SBC	1
9689000002	Mini Jumper Pack	1
2006958402	Startup Manual	1
2066958402	Utility	1
1700001112	ATX Power Cable	
	Heat sink 50 x 50 x 30 mm x1 (PCM-9584FG-S0A2E, PCM-9584FG-S4A2E only)	
	Cooler 50 x 50 x 22 mm x1 (PCM-9584FG-00A2E only)	

Optional Accessories

Part No.	Description
PCM-10586-9584E	Wiring kit for PCM-9584
1703100260	USB cable (26 cm)
1703100121	USB cable (12 cm)
PCM-110-00A3E	1-slot PCI riser card for 5.25" biscuits
PCM-120-00A3E	2-slot PCI riser card for 5.25" biscuits
PCM-200-00A2E	PCI-104 to PCI bus module

Embedded OS

Embedded OS	Part No.	Description
Win XPE	2070008810	Image XPE FP2007 PCM-9584 V3.01 ENG
	2070009372	Image XPE WES2009 PCM-9584 V4.0 ENG ECG
	2070009373	Image XPE WES2009 PCM-9584 V4.0 MUI24 ECG

Value-Added Software Services

Software API: An interface that defines the ways by which an application program may request services from libraries and/or operating systems. Provides not only the underlying drivers required but also a rich set of user-friendly, intelligent and integrated interfaces, which speeds development, enhances security and offers add-on value for Advantech platforms. It plays the role of catalyst between developer and solution, and makes Advantech embedded platforms easier and simpler to adopt and operate with customer applications.

Software APIs

Control



GPIO

General Purpose Input/Output is a flexible parallel interface that allows a variety of custom connections. It allows users to monitor the level of signal input or set the output status to switch on/off a device. Our API also provides Programmable GPIO, which allows developers to dynamically set the GPIO input or output status.



SMBus

SMBus is the System Management Bus defined by Intel® Corporation in 1995. It is used in personal computers and servers for low-speed system management communications. The SMBus API allows a developer to interface a embedded system environment and transfer serial messages using the SMBus protocols, allowing multiple simultaneous device control.



I2C

I2C is a bi-directional two wire bus that was developed by Philips for use in their televisions in the 1980s. The I2C API allows a developer to interface with an embedded system environment and transfer serial messages using the I2C protocols, allowing multiple simultaneous device control.

Display



Brightness Control

The Brightness Control API allows a developer to interface with an embedded device to easily control brightness.



Backlight

The Backlight API allows a developer to control the backlight (screen) on/off in an embedded device.

Monitor



Watchdog

A watchdog timer (WDT) is a device that performs a specific operation after a certain period of time if something goes wrong and the system does not recover on its own. A watchdog timer can be programmed to perform a warm boot (restarting the system) after a certain number of seconds.



Hardware Monitor

The Hardware Monitor (HWM) API is a system health supervision API that inspects certain condition indexes, such as fan speed, temperature and voltage.



Hardware Control

The Hardware Control API allows developers to set the PWM (Pulse Width Modulation) value to adjust fan speed or other devices; it can also be used to adjust the LCD brightness.

Power Saving



CPU Speed

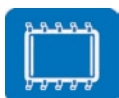
Make use of Intel SpeedStep technology to reduce power consumption. The system will automatically adjust the CPU Speed depending on system loading.



System Throttling

Refers to a series of methods for reducing power consumption in computers by lowering the clock frequency. These APIs allow the user to lower the clock from 87.5% to 12.5%.

Software Utilities



BIOS Flash

The BIOS Flash utility allows customers to update the flash ROM BIOS version, or use it to back up current BIOS by copying it from the flash chip to a file on customers' disk. The BIOS Flash utility also provides a command line version and API for fast implementation into customized applications.



Embedded Security ID

The embedded application is the most important property of a system integrator. It contains valuable intellectual property, design knowledge and innovation, but it is easily copied! The Embedded Security ID utility provides reliable security functions for customers to secure their application data within embedded BIOS.



Monitoring

The Monitoring utility allows the customer to monitor system health, including voltage, CPU and system temperature and fan speed. These items are important to a device; if critical errors happen and are not solved immediately, permanent damage may be caused.



eSOS

The eSOS is a small OS stored in BIOS ROM. It will boot up in case of a main OS crash. It will diagnose the hardware status, and then send an e-mail to a designated administrator. The eSOS also provides remote connection: Telnet server and FTP server, allowing the administrator to rescue the system.



Flash Lock

Flash Lock is a mechanism that binds the board and CF card (SQFlash) together. The user can "Lock" SQFlash via the Flash Lock function and "Unlock" it via BIOS while booting. A locked SQFlash cannot be read by any card reader or boot from other platforms without a BIOS with the "Unlock" feature.