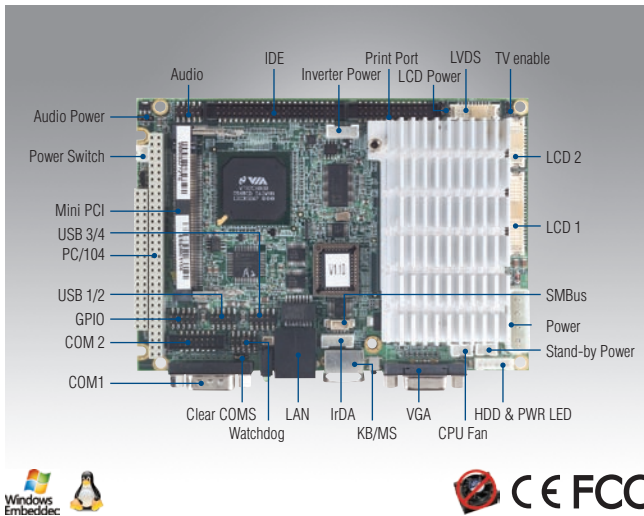


# PCM-9377

**3.5" SBC with VIA Mark,  
VGA/ LCD/ LVDS/ LAN/ USB**



## Features

- VIA® Mark 533/800 MHz Processor
- Supports 18-bit TTL/ 36-bit LVDS/VGA/TV-out
- Supports Mini PCI type III and PC/104 for expansion
- Supports up to 2 COM ports, 4 USB ports, 8-bit GPIO
- Supports Embedded Software API and Utility

**Software APIs:**

- SMBus
- H/W Monitor
- Watchdog
- GPIO
- Backlight On/Off

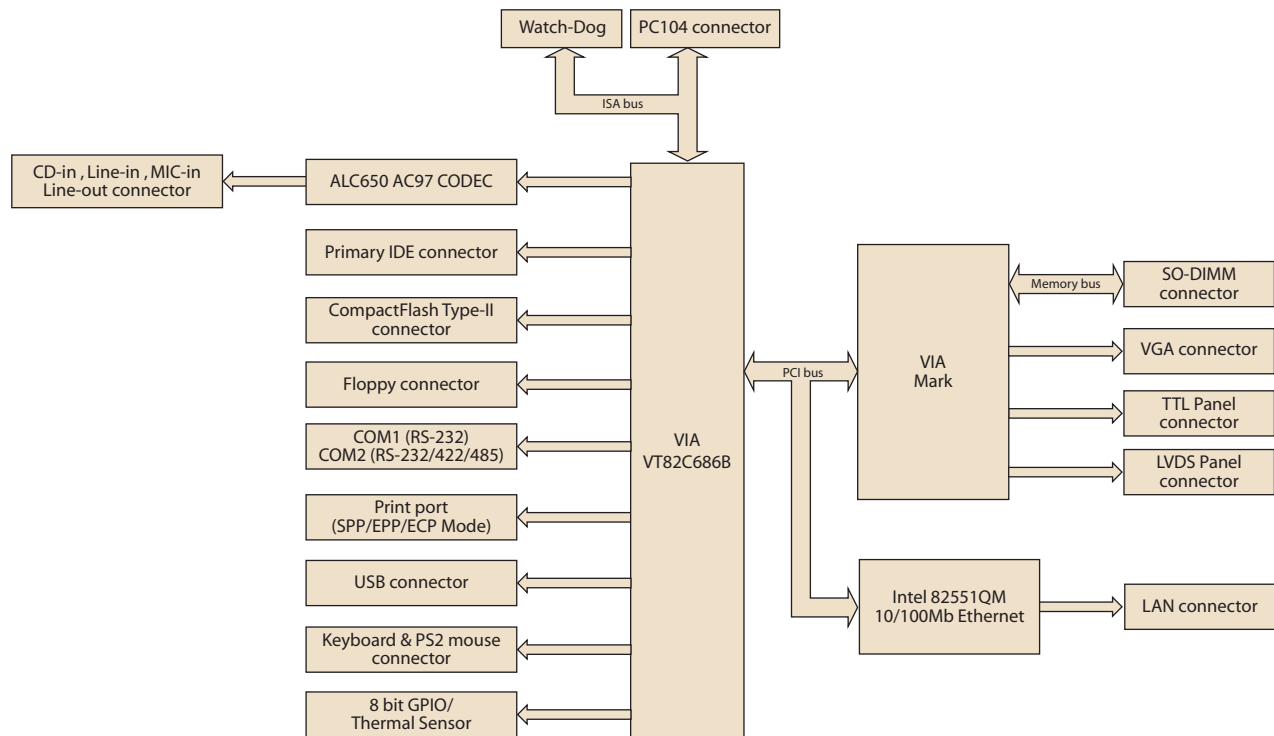
**Utility:**

- BIOS flash
- Monitoring

## Specifications

General	CPU	Embedded VIA Mark CoreFusion 533/800 MHz processor, 128 MB L1 cache memory on die	
	2nd Cache Memory	64 KB on the processor	
	System Chipset	VIA Mark processor	
	BIOS	AWARD 2 Mbit Flash BIOS	
	System Memory	SDRAM 144-pin SODIMM x1, Max. 512 MB with both PC100 and PC133 memory type	
	Power Management	ACPI supported	
	SSD	Supports CompactFlash Card Type I/II	
	WatchDog Timer	1 ~ 62 sec, 62-level time intervals system reset or IRQ11.	
	Expansion Interface	PC/104 & Mini PCI type III	
	Battery	Lithium 3 V/196 mAH	
Coastline I/O	VGA	1	
	COM	1	
	RJ-45	1	
	K/B, Mouse	1	
Internal I/O	LPT	1	
	FDD	1	
	RS-232	-	
	RS-232/422/485	1	
	K/B	-	
	Mouse	-	
	USB	4 x USB1.1	
	Audio	AC97 CD-in, Line-in, Line-out, MIC-in	
	IrDA	115 kbps, SIR, IrDA 1.0 compliant	
	GPIO	8-bit general purpose input output	
SMBus	Supported		
Ethernet	Chipset	Intel 82551QM	
	Speed	10/100 Mbps	
	Interface	RJ-45 connector	
	Standard	IEEE 802.3u (100 Mbps) protocol compatible	
Display	Chipset	VIA Mark processor	
	Memory Size	8/16/32 MB frame buffer using system memory	
	Resolution	Support for all resolutions up to 1600 x 1200.	
	Panel type	CRT panel	
		LCD panel	Support for 18, 24, 36-bit TTL TFT LCD panels
Mechanical and Environmental	Panel type	LVDS Interface 2-Channel (2 x 18-bit) LVDS interface	
		TV-Out (optional) Supports both NTSC/PAL, S-video and Composite Video via PCM-232 TV-out module (with optional BIOS)	
	Dual Simultaneous Display	CRT+ LVDS, CRT+ TTL, CRT+TV-out (w/PCM-232)	
	Dimension (L x W)	146 mm x 105 mm (5.7" x 4")	
	Weight	0.85 kg (weight of total package)	
Power	Operating Temperature	0 ~ 60° C (32 ~ 140° F)	
	Operating Humidity	10% ~ 90% Relative Humidity, non condensing	
	Power Supply Voltage	AT/ATX, +5 V ±5%, +12V ±5%, or supports single +5 V power only	
	Power Consumption	Max (Test in HCT): 3.0 A @ +5 V (with 256 MB DRAM, VIA Mark 800) Typical (WinXP Idle Mode): 2.21A @ +5 V (with 256 MB DRAM, VIA Mark 800)	

## Board Diagram



## Ordering Information

Part No.	CPU	CRT	LVDS	TTL	LAN	USB	RS-232	RS-232/422/485	LPT	GPIO	PC/104	Thermal	Operating Temp.
PCM-9377F-M0A1E	VIA Mark 533	1	1	1	1 FE	4	1	1	1	8-bit	1	Passive	0 ~ 60° C
PCM-9377F-Q0A1E	VIA Mark 800	1	1	1	1 FE	4	1	1	1	8-bit	1	Passive	0 ~ 60° C

## Packing List

Description	Part No.
1 x PCM-9377 SBC	
1 x Mini jumper pack	(p/n: 9689000002)
1 x Startup manual	
1 x Utility CD	
1 x Audio cable	(p/n: 1703100152)
1 x IDE 44 pin cable	(p/n: 1701440351)
1 x USB 2 port cable	(p/n: 1703100121)
1 x Keyboard/mouse cable	(p/n: 1700060202)
1 x Serial cable	(p/n: 1701140201)
1 x Printer port cable	(p/n: 1700260250)

## Optional Accessories

Part No.	Description
PCM-232-00A1E	TV out module
<b>FDD cable Kit</b>	
9681000044	1 x 26-34 pin FDD adapter
1701260125	1 x slim FDD cable
1701340700	1 x 34pin flat cable for FDD
<b>Embedded OS</b>	
2070000449	Image Win CE 5.0 Core Eng V1.1 PCM-9373/72 (19 MB)
2070000450	Image Win CE 5.0 Pro Eng V1.1 PCM-9373/72 (30 MB)
2070000451	Image Win CE5.0 ProPlus Eng V1.1 PCM-9373/72 (32 MB)
2070000607	Image XPE SP2 V2.10 (ENG) (430 MB)
2066002300	SUSI Library V1.0

# 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.