PCM-3343

PC/104 SBC, DM&P Vortex86DX-933 MHz, LCD/LAN/PC104/CFC/On board memory

Preliminary

Features

- Ultra low power, fan-less DM&P Vortex86DX- 933MHz and 256MB on-board DDR2 memory
- CRT+LCD dual video outputs, 24-bit LVDS/TTL support
- Integrate Floating-point Unit
- Support 2 LAN ports
- Supports Embedded Software API and Utility

Software APIs: Watchdog, I²C, Brightness, GPIO, Backlight On/Off

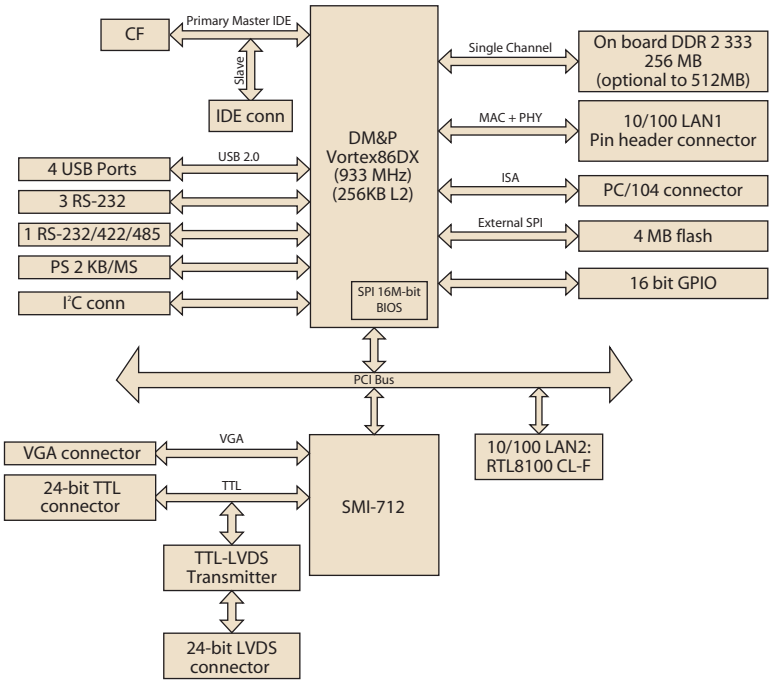
Utilities: BIOS flash, eSOS, Flash Lock, Embedded Security ID

Specifications

Processor System	CPU	DM&P Vortex86DX- 933MHz	
	Max. Speed	933 MHz	
	L1 Cache	16KB I/D-Cache	
	L2 Cache	256 KB	
	Chipset	DM&P Vortex86DX- 933MHz	
	BIOS	Award integrated 16 Mbit ROM in SOC	
Memory	Technology	DDR2 333MHz SDRAM	
	Max. Capacity	512 MB	
	Socket	On board 256 MB	
Storage	CompactFlash	Compact Flash socket(Type I/II),shared with primary IDE	
	SPI Flash	Optional onboard 4MB SPI Flash Disk	
I/O Interface	IDE	1	
	RS-232	3	
	RS-232/422/485	1	
	K/B	1	
	Mouse	1	
	USB	4 x USB 2.0	
	GPIO	16-bit general purpose input/output	
Expansion Slot	PC/104	1	
Ethernet	Speed	10/100 Mbps	
	Controller	LAN1: FE LAN on EVA-X5800 LAN2: FE LAN RTL8100C-LF (GbE LAN RTL8110SCL optional)	
	Interface	2 x pin header	
Display	Controller	SMI SM712	
	VRAM	4 MB internal memory	
	TTL LCD (optional)	Supports 1024 x 768 @ 24bit TFT LCD Panel	
	LVDS	Supports 1024 x 768 @ 24bit LVDS LCD Panel	
	Dual Simultaneous Display	CRT + TTL, CRT + LVDS	
Environment	Temperature	Operating	Non-Operating
		0 ~ 60° C (32 ~ 140° F) (operation humidity: 40° C @ 85% RH Non-Condensing)	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Power	Power Type	AT	
	Power Supply Voltage	5V only to boot up (12 V is optional for LCD inverter and add on card)	
	Power Consumption Typical (Win. Idle Mode)	0.72 A @ 5 V	
	Power Consumption Max (Passmark burn in)	0.94 A @5 V	
	Battery	3 V/310 mAH	
Watchdog Timer	Output	System reset	
	Interval	Software programmable from 30.5μ sec.to 512 sec. x 2 sets	
Physical Characteristics	Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")	
	Weight	0.097 kg (0.214lb)	

Last updated : 24-Nov-2009

Board Diagram



Ordering Information

Model	CPU	L2 Cache	Memory	CRT	LVDS	TTL	LAN	USB 2.0	RS-232	RS-232 /422/485	IDE	KB/MS	Expansion	Operation Temp
PCM-3343L-256A1E	DM&P Vortex86DX	256 KB	Onboard 256M	-	-	-	1 FE	2	2	-	1	Yes	PC/104	0 ~ 60° C
PCM-3343F-256A1E	DM&P Vortex86DX	256 KB	Onboard 256M	Yes	Yes	-	2 FE	4	3	1	1	Yes	PC/104	0 ~ 60° C
PCM-3343Z-256A1E	DM&P Vortex86DX	256 KB	Onboard 256M	Yes	Yes	-	2 FE	4	3	1	1	Yes	PC/104	-20 ~ 80° C
PCM-3343Z2-256A1E	DM&P Vortex86DX	256 KB	Onboard 256M	Yes	Yes	-	2 FE	4	3	1	1	Yes	PC/104	-40 ~ 85° C

Packing List

Part No.	Description	Quantity
	PCM-3343 SBC	
	Startup Manual	
	Utility CD	
1700017863	LAN Cable	1
1700000898	VGA cable	1
1703100260	USB 2port cable	1
1701200220	2 ports RS-232 COM cable	1
1703040157	RS-422/485 Cable	1
1703060053	PS2 Keyboard/Mouse Cable	1
1701440350	IDE Cable	1
1700060202	CABLE 6P-6P-6P PS/2 KB & MOUSE 20cm	1

Value-Added Software Services

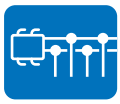
Software API: An interface that defines the ways by which an application program may request services from libraries and/or operating systems. Provides not only the underlying drivers required but also a rich set of user-friendly, intelligent and integrated interfaces, which speeds development, enhances 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

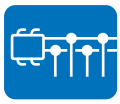
GPIO

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.

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.

Display

Brightness Control

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

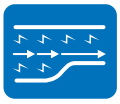
Backlight

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

Power Saving

CPU Speed

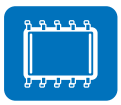
Make use of Intel SpeedStep technology to reduce power power consumption. The system will automatically adjust the CPU Speed depending on system loading.



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.

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