ADVANTECH

PCM-3343 DM&P Vortex86DX–800MHz SOC PC/104 SBC, LVDS, TTL, dual LAN, CFC and On board memory
Startup Manual

Packing List

Before you begin installing your card, please make sure that the following items have been shipped:

1. 1 x PCM-3343 SBC
2. 1 x Startup manual
3. 1 x CD-ROM (Manual, Driver, Utility)
4. 1 x Cable 6P-6P-6P PS/2 KB & Mouse 20 cm (p/n: 1700060202)
5. 1 x PS2 Cable 6P (MINI-DIN)-6P (Wafer 2.0 mm) 6 cm (p/n: 1703060053)
6. 1 x USB cable 2port 2.0 mm pitch w/ bracket 26 cm (p/n: 1703100260)
7. 1 x RS232 x2 ports 2.0 mm pitch 22 cm (p/n: 1701200220)
8. 1 x RS-422/485 W/D-SUB COM 4P 15 cm (p/n: 1703040157)
9. 1 x VGA cable D-SUB 15P(F)/12P-1.25 mm 15 cm (p/n: 1700000898)
10. 1 x LAN cable RJ45/2*5P-2.0 15 cm (p/n: 1700017863)
11. 1 x PC/104 screw and copper post package (p/n: 9660104000)

Optional Accessories

1 x IDE cable 44P/44P/44P 35 cm (p/n:1701440350)

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

Note: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: www.adobe.com/Prodindex/acrobat/readstep.html (Acrobat is a trademark of Adobe).

For more information on this and other Advantech products, please visit our website at:

http://www.advantech.com

http://www.advantech.com/eplatform

For technical support and service, please visit our support website at:

http://service.advantech.com/support

This manual is for the PCM-3343 series Rev. A1

Specifications

Standard SBC Functions

- **Processor:** DM&P Vortex86DX SOC 800MHz
  – x86 Compatible Processor Core 6 stage pipeline
  – Floating point unit support
  – Embedded I / D Separated L1 Cache 16K I-Cache, 16K D-Cache
  – DMA Controller
  – Package Type 27x27, 581 Ball BGA
- **System Memory:** Supports On board DDR2 333 SDRAM Memory 256MB. Up to 512MB for optional
- **2nd Cache Memory:** 256 KB on the processor
- **BIOS:** Award integrated 16 Mbit ROM in SOC
- **Watchdog timer:** System reset; Software programmable from 30.5µ sec.to 512 sec. x 2 sets
- **Expansion Interface:** PC/104 (ISA)
- **Battery:** Lithium 3V/210 mAh
- **Enhanced IDE interface:** One channel supports up to two EIDE devices . Supports UDMA 33 mode

Note! When you use CF socket , IDE connector just can attach one IDE device.

- **CFC:** Solid State Disk (SSD) supports one 50-pin socket for CFC type I (type II optional) shared with primary IDE
- **External SPI on board Flash:** Optional onboard 4MByte SPI Flash Disk(Support by request for boot device or storage on DOS OS)
- **Serial ports:** Four serial RS-232 ports, one of them can be configured to RS-422/485 ports by jumper J2
  1. CN7 provides two RS-232 serial ports (COM3/4).
  2. CN12 provides two RS-232 serial ports (COM1/2).
  3. CN6 provides one RS-422/485 serial port adjusted by J2, and you just can select either COM2 (RS-232) on CN12 or RS-422/485 on CN6.

Note!

1. When RS-422/485 on CN6 is enable, COM2(RS-232) on CN12 will be disable.
2. When using PWM Brightness control, COM2 will be configured as PWM function using. You can select either COM2 or PWM Brightness control function.

Specifications

- **Keyboard/mouse connector:** Supports one standard PC/AT keyboard and a PS/2 mouse
- **USB:** Four USB 2.0 ports compliant universal serial bus ports
- **GPIO:** 16 bit general purpose Input/Output
- **I2C:** Compliant w/t V2.1, Some master code (general call, START and CBUS) not support

VGA/TTL Interface

- **Controller:** SMI SM712 2D graphic Chip
- **VRAM:** 4 MB internal memory
- **Graphic Engine:**
  – 62.5MHz single clock/cycle engine (EM+)
  – 86MHz single clock/cycle engine (EM4+)
  – Designed to accelerate DirectDraw
- **Output Interfaces:**
  – VGA: Supports up to 1024 x 768 @85Hz
  – LVDS: Supports up to 1024 x 768 @ 24-bit LVDS LCD Panel
  – TTL: Supports up to 1024 x 768 @ 24-bit TTL LCD Panel
  – Dual Display: CRT + LVDS and CRT+TTL, support extended mode and clone Mode

Note! TTL and LVDS interface are not recommended to use together at the same time.

Ethernet Interface

- Supports Dual 10/100 Mbps Ethernet networking
  – LAN1 Controller: Integrated Vortex86DX SOC 10/100 Mbps Ethernet
  – LAN2 Controller: Realtek RTL 8100CL 10/100 Mbps Ethernet

OS support

This board supports Win XP, Window WP Embedded, Win CE , Linux.

Supports Embedded Software API: Watchdog, GPIO, Brightness control, I2C,and backlight on/off.

Supports Embedded Software Utility: BIOS flash, eSOS, Embedded Security ID, and Flash Lock.

Software Ordering Information:

2070009536: CE 6.0 Pro PCM-3343 V1.3 ENG

2070009528: XPE WES2009 Vortex86DX V4.0 ENG

2070009529: XPE WES2009 Vortex86DX V4.0 MUI24"

205E343000: SUSI 3.0 SW API for PCM-3343 Window XP/XPE

For further information about OS support in your PCM-3343, visit the following . Advantech web resource: www.advantech.com or please contact your technical support center.

Specifications

Mechanical and Environmental

- **Dimensions:** 96 x 90 mm (3.8" x 3.5") Mechanical Drawing (dxf file) is available
- **Power Supply Type:** AT
- **Power Requirement:** +5 V ± 5%, +12 V ± 5% (Optional), (5 V only,12 V optional for PC104 add on card and LCD inverter)
- **Power Consumption:** (Vortex86DX 800MHz, 512MB DDRII 667)
  – Power on Load: +5 V @ 1.05 A, +12 V @ 0.01A
  – Max load: +5 V @ 1.04 A, +12 V @ 0.01A
  – Idle mode: +5 V @ 0.83 A, +12 V @ 0.01A
- **Power Consumption Conditions:**
  – Test software: Passmark Burnin Test Pro6.0
  – Power on - Boot: Measure the maximum current value of between system power on and boot-up to O.S.
  – Max. load: Measure the maximum current value which system under maximum load on running Passmark Burnin Test (CPU: Top speed, RAM &Graphic: Full loading)
  – Idle mode: Measure the current value when system in DOS mode and without running any program
- **Operating temperature:** 0 ~ 60° C (32 ~ 140° F) (operation humidity: 40° C @ 85% RH Non-Condensing)
- **Weight:** 0.097 kg (0.214lb) (reference weight of total package)

Jumpers and Connectors

The board has a number of connectors and jumpers that help to configure the system to suit your application requirements. The tables below list the functions of each connectors and jumpers.
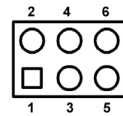
Label	Function
J1	LVDS Panel Power Select
J2	COM2 RS-232/RS422/RS485 Select
CN1	SPI Connecter
CN2	LVDS Panel Connecter
CN3	LCD Panel Connecter
CN4	PS2 Keyboard/Mouse Connecter
CN5	Power In Connecter
CN6	RS422/RS485 Connecter
CN7	COM3/4 Connecter
CN8	PC104 Connecter
CN9	GPIO Connecter
CN10	IDE Connecter
CN11	LAN2 Connecter
CN12	COM1/2 Connecter
CN13	USB1/2 Connector
CN14	Inverter Connector
CN15	System Reset Connector
CN16	-12 V / -5 V Power In Connector
CN17	JTAG Connector
CN18	PWR / HDD LED Connector
CN19	LAN1 LED Connecter
CN20	I2C Connecter
CN21	LAN2 LED Connecter
CN22	VGA Connector
CN23	CF Socket
CN24	LAN1 Connecter
CN25	USB3/4 Connecter

Jumpers and Connectors

LVDS Panel Power Select (J1)

Setting	Function
1-2	3.3 V (default)
2-3	5 V

COM2 RS232/RS422/RS485 Select (J2)

Setting	Function
1-2	RS-232 (Default)
3-4	RS-485
5-6	RS-422

Software Installation

The CD disc contains a driver installer program that will guide you through the installation of various device drivers needed to take full advantage of your CPU card.
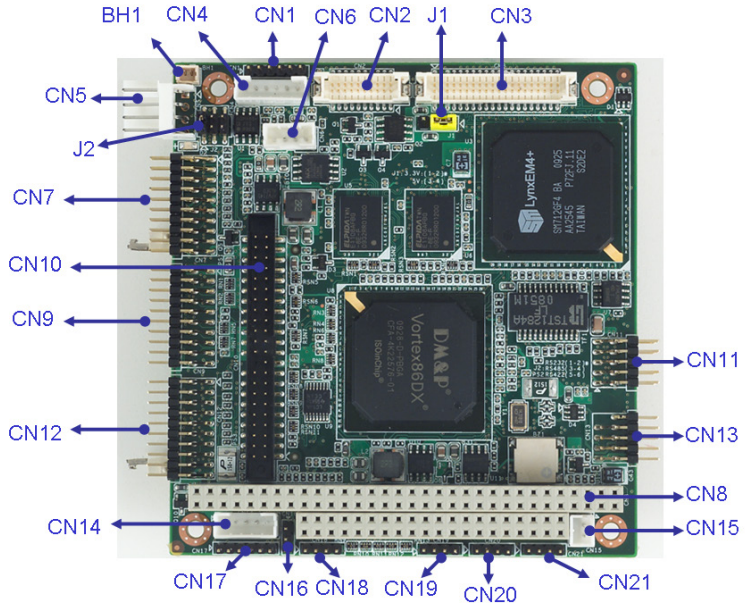
Caution

The computer is provided with a battery-powered Real-time Clock circuit. There is a danger of explosion if the battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions.
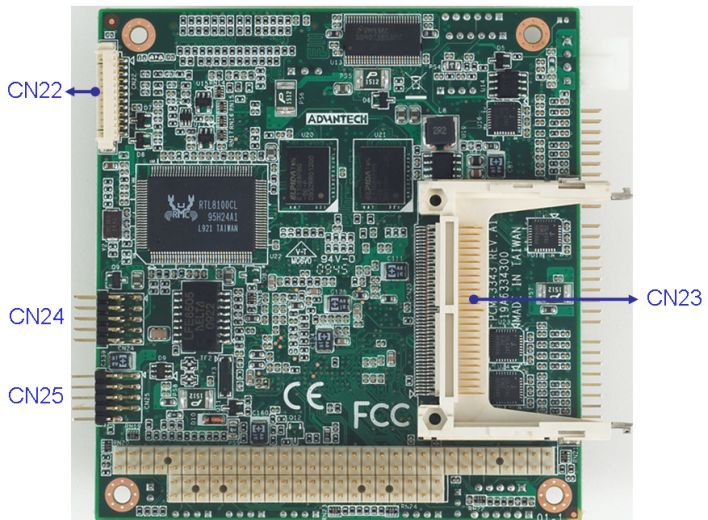
Safety Information

The device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference;

2. This device must accept any interference received, including interference that may cause undesired operation.
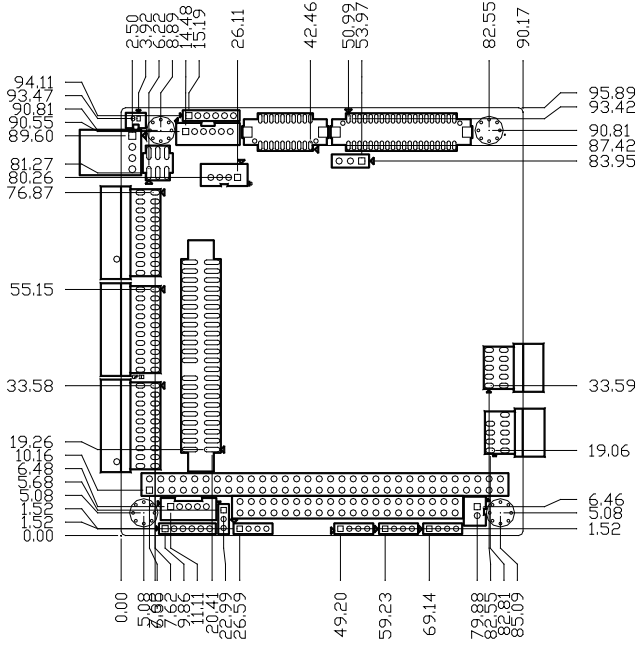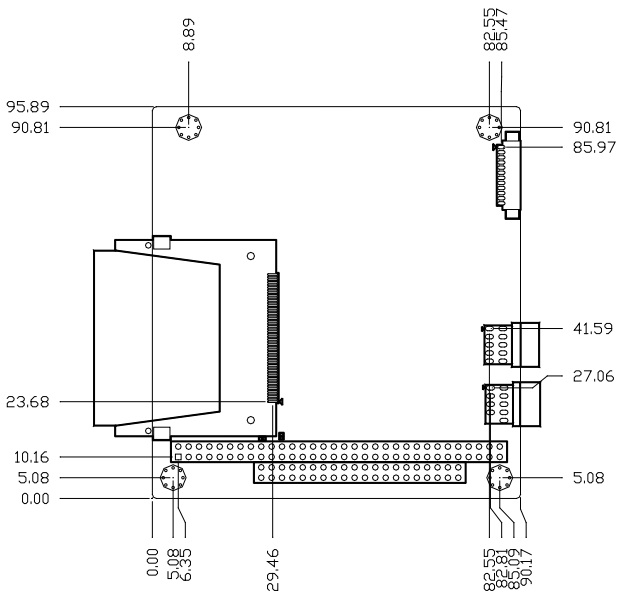
PCM-3343 Location Connectors & Jumpers (Component Side)

PCM-3343 Location Connectors & Jumpers (Solder Side)

PCM-3343 Mechanical Drawing (Component Side)

PCM-3343 Mechanical Drawing (Solder Side)