



PDX-057T-D5A / PDX-057T-D5A-512
PDX-057T-D8A / PDX-057T-D8A-512

DM&P Vortex86DX Panel PC
with 5.7" VGA TFT LCD

User's Manual

(Revision 1.4A)

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◆ Safety Information

- ◆ Read these Safety instructions carefully.
- ◆ Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
- ◆ Do not expose your Panel PC to rain or moisture, in order to prevent shock and fire hazard.
- ◆ Keep PDX-057T away from humidity.
- ◆ Do not open the cabinet to avoid electrical shock. Refer to your nearest dealer for qualified personnel servicing.
- ◆ Never touch un-insulated terminals or wire unless your power adaptor is disconnected.
- ◆ Locate your Panel PC as close as possible to the socket outline for easy access and to avoid force caused by entangling of your arms with surrounding cables from the Panel PC.
- ◆ USB connectors are not supplied with Limited Power Sources.
- ◆ If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.

DO NOT ATTEMPT TO OPEN OR TO DISASSEMBLE THE CHASSIS (ENCASING) OF THIS PRODUCT. PLEASE CONTACT YOUR DEALER FOR SERVICING FROM QUALIFIED TECHNICIAN.

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Chapter 1

General Information

1.1 Product Description

PDX-057T is an ultra compact platform for the present demanding embedded and productive applications. It has new Vortex86DX SoC CPU which consumes only minimum power requirement when running at 933MHz, and DDR2 memory provides faster data transfer rate. By using 5.7" TFT LCD, PDX-057T becomes the perfect choice for a limited budget. In addition, the integrated 10/100M Ethernet port supplies the communication capability which makes PDX-057T can be more widely used when running with DOS, Linux, Windows CE, and Windows XP environment to become the perfect solution for system integration.

- 5.7" VGA TFT LCD
- 4-Wire Resistive Touch Panel
- DM&P Vortex86DX SoC 933MHz
- 256/512MB DDR2 system memory
- AMI BIOS
- 2 watchdog timer
- Compact Flash Type I/II / Micro SD
- 10/100Mbps Ethernet
- 2 USB 2.0 (host)
- 1 RS-232/485/422 ports
- Mini-PCI Socket
- Audio Out
- Single voltage +5V DC(5A Version)
- Multi voltage +8~+35V DC(8A Version)
- Fanless Design
- Operating temperature range of -20°C to +60°

1.2 Product Specification

| CPU Board Specifications | |
|--------------------------|--|
| CPU | DM&P Vortex86DX 933MHz |
| Cache | L1:16KB I-Cache, 16KB D-Cache L2: 128KB Cache |
| BIOS | AMI BIOS |
| Memory | 256/512MB DDR2 onboard |
| Watchdog Timer | Software programmable from 30.5u to 512 seconds x 2 sets |
| LAN | Integrated 10/100M Ethernet |
| Audio | CM119 Line-Out |
| Internal Drives | Compact Flash Type I/II slot Micro SD slot |
| I/O | RS-232/422/485 x 1 USB ports (Ver2.0) x 2 RJ-45 Port x 1 |
| Expansion Slot | Mini-PCI Socket x 1 |
| Mechanical & Environment | |
| Power Requirement | Single Voltage +5VDC (5A) Multi Voltage +8~+35VDC (8A) |
| Power Consumption | 1.3A@5VDC |
| Operating Temperature | -20 ~ +60 °C (-4 ~ +140 °F) |
| Storage Temperature | -30 ~ +70 °C (-22 ~ +158 °F) |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing |
| Dimensions | 152 x 112 x 33mm (5.98 x 4.41 x 1.3 inches) |
| Weight | 374g |
| Certification | CE, FCC, VCCI, Vibration |

| LCD Specifications | |
|---------------------------------|-----------------------------------|
| Display Type | 5.7" TFT LCD |
| Backlight Unit | LED |
| Display Resolution | 640(W) x 480(H) |
| Brightness (cd/m ²) | 500 nits |
| Contrast Ratio | 300:1 |
| Display Color | 262,144 |
| Dot Pitch (mm) | 0.06 x 0.18 |
| Viewing Angle | Vertical 100°, Horizontal 140° |
| Backlight Lifetime | 50,000 hrs |
| Touchscreen | |
| Type | Analog Resistive |
| Resolution | Continuous |
| Transmittance | 80% |
| Controller | USB interface |
| Software Driver | Linux/WinCE/WinXP |
| Durability | 1 million |

1.3 Inspection standard for TFT-LCD Panel

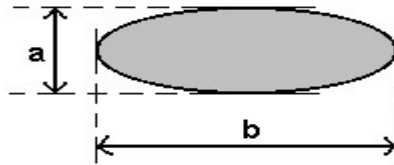
| DEFECT TYPE | | | LIMIT | | | | Note | |
|-------------------|--|------------------|--|--------------------|--------------------|--------------------|--------------------|-------|
| VISUAL DEFECT | INTERNAL | SPOT | $\varphi < 0.15\text{mm}$ | | Ignore | | Note1 | |
| | | | $0.15\text{mm} \leq \varphi \leq 0.5\text{mm}$ | | $N \leq 4$ | | | |
| | | | $0.5\text{mm} < \varphi$ | | $N=0$ | | | |
| | | FIBER | $0.03\text{mm} < W \leq 0.1\text{mm}, L \leq 5\text{mm}$ | | $N \leq 3$ | | Note1 | |
| | | | $1.0\text{mm} < W, 1.5\text{mm} < L$ | | $N=0$ | | | |
| | | POLARIZER BUBBLE | $\varphi < 0.15\text{mm}$ | | Ignore | | Note1 | |
| | $0.15\text{mm} \leq \varphi \leq 0.5\text{mm}$ | | $N \leq 2$ | | | | | |
| | $0.5\text{mm} < \varphi$ | | $N=0$ | | | | | |
| Mura | It' OK if mura is slight visible through 6%ND filter | | | | | | | |
| ELECTRICAL DEFECT | BRIGHT DOT | A Grade | | | B Grade | | | |
| | | C Area | O Area | Total | C Area | O Area | Total | Note3 |
| | | $N \leq 0$ | $N \leq 2$ | $N \leq 2$ | $N \leq 2$ | $N \leq 3$ | $N \leq 5$ | Note2 |
| | DARK DOT | $N \leq 2$ | $N \leq 3$ | $N \leq 3$ | $N \leq 3$ | $N \leq 5$ | $N \leq 8$ | |
| | TOTAL DOT | $N \leq 4$ | | | $N \leq 5$ | $N \leq 6$ | $N \leq 8$ | Note2 |
| | TWO ADJACENT DOT | $N \leq 0$ | $N \leq 1$ pair | $N \leq 1$ pair | $N \leq 1$ pair | $N \leq 1$ pair | $N \leq 1$ pair | Note4 |
| | THREE OR MORE ADJACENT DOT | NOT ALLOWED | | | | | | |
| | LINE DEFECT | NOT ALLOWED | | | | | | |

(1) One pixel consists of 3 sub-pixels, including R,G, and B dot.(Sub-pixel = Dot)

(2) LITTLE BRIGHT DOT ACCEPTITABLE UNDER 6 % ND-Filter

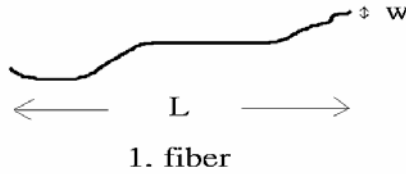
(3) If require G0 grand (Total dot $N \leq 0$), please contact region sales.

[Note1] W : Width[mm], L : Length[mm], N : Number, ϕ : Average Diameter

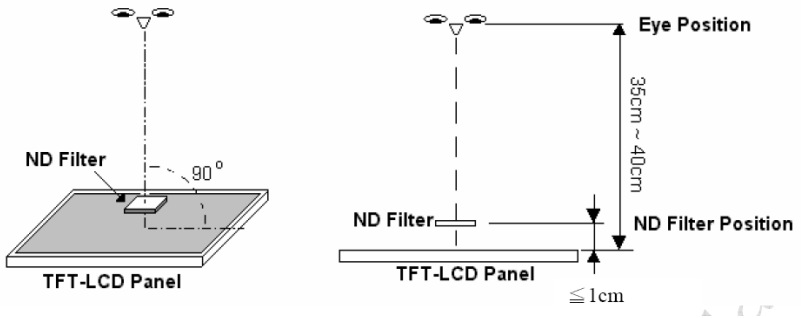


$$\phi = (a + b) / 2$$

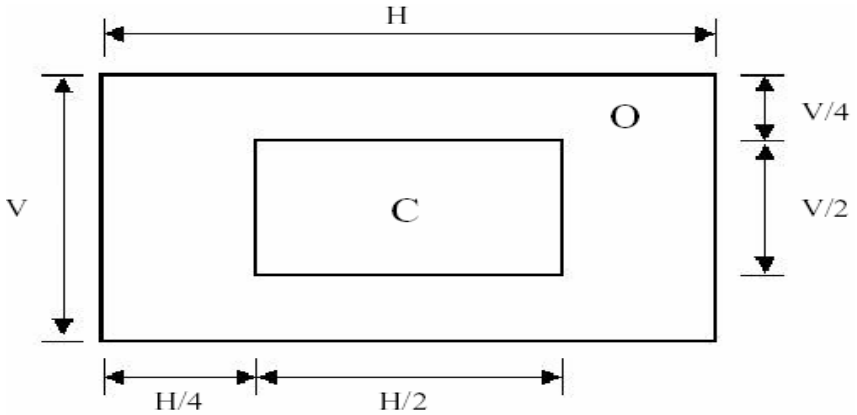
1. (White, black) Spot
2. Polarizer Bubble



[Note2] Bright dot is defined through 6% transmission ND Filter as following.



[Note3]

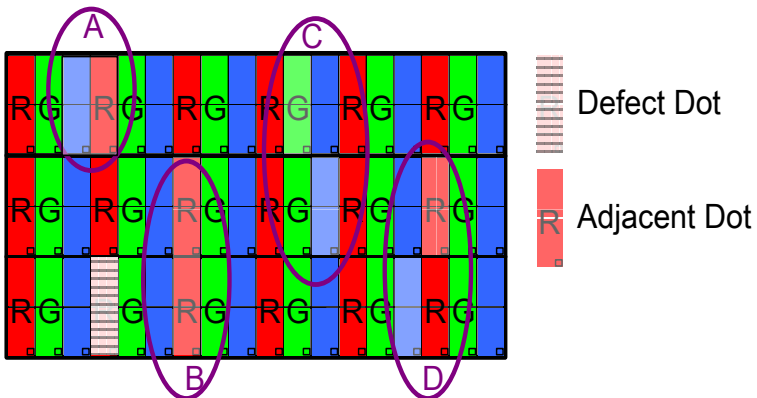


C Area: Center of display area

C Area: Outer of display area

[Note4]

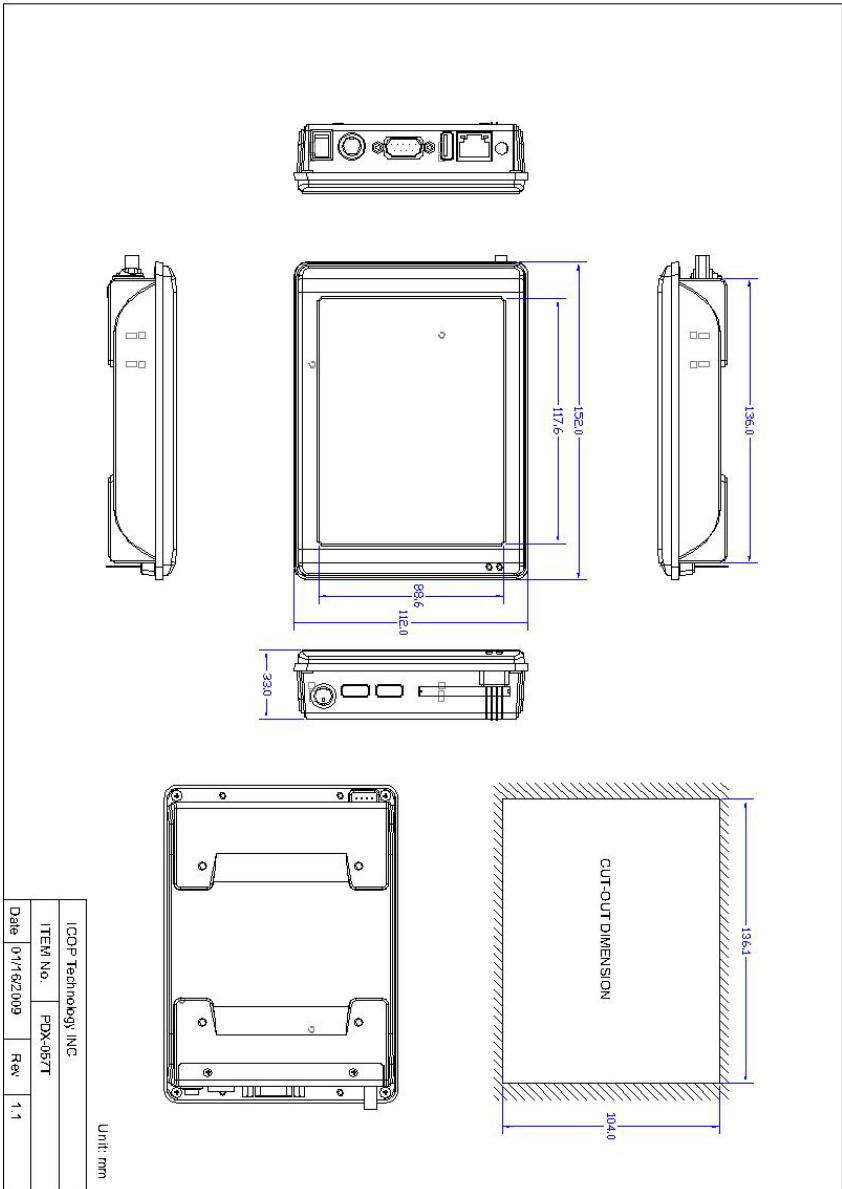
Judge defect dot and adjacent dot as following. Allow below (as A, B, C and D status) adjacent defect dots, including bright and dart adjacent dot. And they will be counted 2 defect dots in total quantity.



(1) The defects that are not defined above and considered to be problem shall be reviewed and discussed by both parties.

(2) Defects on the Black Matrix, out of Display area, are not considered as a defect or counted.

1.4 Product Dimension



1.5 Ordering Information

| Part Number | Description |
|------------------|--|
| PDX-057T-D5A-512 | 5.7" Panel PC w/512MB DDR2/2USB/Line-Out/LAN/COM/CF/MicroSD/Power Adapter |
| PDX-057T-D8A-512 | 5.7" Panel PC w/512MB DDR2/2USB/Line-Out/LAN/COM/CF/MicroSD/8-35 DC support |
| PDX-057T-D5A | 5.7" Panel PC w/256MB DDR2/2USB/Line-Out/LAN/COM/CF/MicroSD/Power Adapter |
| PDX-057T-D8A | 5.7" Panel PC w/256MB DDR2/2USB/Line-Out/LAN/COM/CF/MicroSD/8-35VDC support |

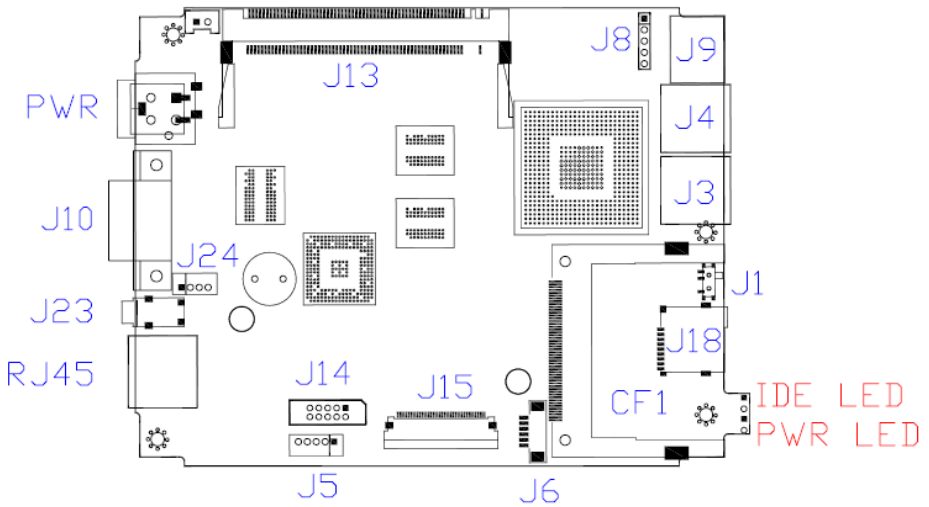
1.6 Packing List

| Part Number | Package |
|------------------|--------------------|
| PDX-057T-D5A-512 | ◆ PDX-057T-D5A-512 |
| | ◆ Power-20W-3PIN |
| PDX-057T-D8A-512 | ◆ PDX-057T-D8A-512 |
| PDX-057T-D5A | ◆ PDX-057T-D5A |
| | ◆ Power-20W-3PIN |
| PDX-057T-D8A | ◆ PDX-057T-D8A |

Chapter 2

System Installation

2.1 CPU Board Outline



2.2 Connector Summary

Summary Table

| Nbr | Description | Type of Connections | Pin nbrs. |
|---------|-------------------------|-------------------------------|-----------|
| J1 | CF Master/Slave Switch | Slide Switch | On/OFF |
| J3 | USB | External USB Connector | 6-pin |
| J4 | USB | External USB Connector | 6-pin |
| J5 | USB (Touchscreen) | 2.0mm 5-pin wafer | 5-pin |
| J6 | J-TAG | 1.25mm 6-pin wafer | 6-pin |
| J8 | PS/2 Keyboard | 2.54mm 5-pin box header | 5-pin |
| J9 | PS/2 Keyboard/Mouse | External Mini DIN Socket | 6-pin |
| J10 | COM2(RS232/422/485) | External D-Sub Male Connector | 9-pin |
| J14 | VGA | 2.0mm 10-pin box header | 10-pin |
| J15 | LCD | 0.5mm FPC/FFC Connector | 40-pin |
| J18 | Micro SD Card Socket | Micro SD socket | 9-pin |
| J24 | Audio Mic-In | 2.0mm 4-pin wafer | 4-pin |
| RJ45 | Ethernet | External RJ45 Connector | 8-pin |
| PWR | Power Connector (5A) | External Mini DIN Socket | 3-pin |
| PWR | Power Connector (8A) | External Power Plug | 2-pin |
| J23 | Audio Line-Out | 1.25mm Phone Jack | |
| CF1 | CF Card Socket | CF Type I/II Socket | |
| J13 | Mini-PCI Socket | Expansion Mini-PCI Socket | |
| J18 | Micro SD Card Socket | Micro SD socket | |
| PWR-LED | Power Active LED (Blue) | LED-DIP | |
| IDE-LED | IDE Active LED (Yellow) | LED-DIP | |

2.3 Connector Pin Assignments

J1: CF Master/Slave Switch

| Pin # | Signal Name |
|-------|-------------|
| On | Master |
| OFF | Slave |

J3: USB

| Pin # | Signal Name | Pin # | Signal Name |
|-------|-------------|-------|-------------|
| 1 | VCC | 2 | USBD2- |
| 3 | USBD2+ | 4 | GND |
| 5 | GND | 6 | GND |

J4: USB

| Pin # | Signal Name | Pin # | Signal Name |
|-------|-------------|-------|-------------|
| 1 | VCC | 2 | USBD3- |
| 3 | USBD3+ | 4 | GND |
| 5 | GND | 6 | GND |

J5: USB (Touchscreen)

| Pin # | Signal Name |
|-------|-------------|
| 1 | VCC |
| 2 | USBD1- |
| 3 | USBD1+ |
| 4 | GND |
| 5 | GND |

J6: J-TAG

| Pin # | Signal Name |
|-------|-------------|
| 1 | VCC |
| 2 | GND |
| 3 | TCK |
| 4 | TDO |
| 5 | TDI |
| 6 | TMS |

J8: PS/2 Keyboard

| Pin # | Signal Name | Pin # | Signal Name |
|-------|-------------|-------|-------------|
| 1 | KBCLK | 2 | KBDAT |
| 3 | NC | 4 | GND |
| 5 | VCC | | |

J9: PS/2 Keyboard/Mouse

| Pin # | Signal Name | Pin # | Signal Name |
|-------|-------------|-------|-------------|
| 1 | KBCLK | 2 | MSCLK |
| 3 | GND | 4 | KBDATA |
| 5 | MSDATA | 6 | VCC |
| 7 | GND | 8 | GND |
| 9 | GND | | |

J10: COM1 RS232/422/485 (Change setting by BIOS)

| Pin # | Signal Name | Pin # | Signal Name |
|-------|------------------------|-------|------------------------|
| 1 | DCD1 / 422TX- / RS485- | 2 | RXD1 / 422TX+ / RS485+ |
| 3 | TXD1 / 422RX+ | 4 | DTR1 / 422RX- |
| 5 | GND | 6 | DSR1 |
| 7 | RTS1 | 8 | CTS1 |
| 9 | RI1 | | |

J14: VGA

| Pin # | Signal Name | Pin # | Signal Name |
|-------|-------------|-------|-------------|
| 1 | R OUT | 2 | GND |
| 3 | G OUT | 4 | GND |
| 5 | B OUT | 6 | GND |
| 7 | HSYNC | 8 | GND |
| 9 | VSYNCD | 10 | GND |

J15: LCD

| Pin # | Signal Name |
|-------|-------------|
| 1 | 3.3V |
| 2 | 3.3V |

| | |
|----|-------|
| 3 | HSYNC |
| 4 | 5V |
| 5 | 5V |
| 6 | 5V |
| 7 | 3.3V |
| 8 | VSYNC |
| 9 | DE |
| 10 | GND |
| 11 | GND |
| 12 | GPIOB |
| 13 | B5 |
| 14 | B4 |
| 15 | B3 |
| 16 | GND |
| 17 | B2 |
| 18 | B1 |
| 19 | B0 |
| 20 | GND |
| 21 | G5 |
| 22 | G4 |
| 23 | G3 |
| 24 | GND |
| 25 | G2 |
| 26 | G1 |
| 27 | G0 |
| 28 | GND |
| 29 | R5 |
| 30 | R4 |
| 31 | R3 |
| 32 | GND |
| 33 | R2 |
| 34 | R1 |
| 35 | R0 |
| 36 | GND |
| 37 | GND |
| 38 | CLK |
| 39 | GND |
| 40 | L/R |

J24: MIC-IN

| Pin # | Signal Name |
|-------|-------------|
| 1 | MICVREF |
| 2 | GND |
| 3 | GND |
| 4 | MIC-IN |

PWR: Power Connector (5A)

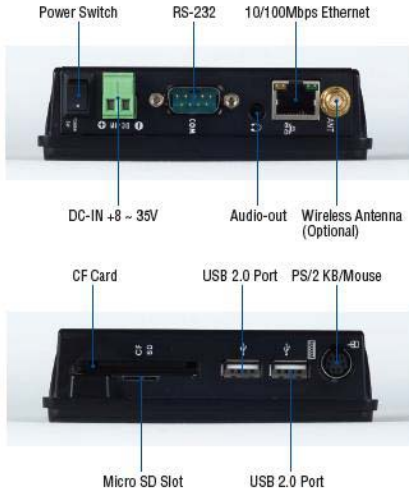
| Pin # | Signal Name |
|-------|-------------|
| 1 | +5V |
| 2 | GND |
| 3 | NC |
| 4 | GND |

PWR: Power Connector (8A)

| Pin # | Signal Name |
|-------|-------------|
| 1 | + 8 ~ 35V |
| 2 | GND |

2.4 External I/O Overview

PDX-057T-D8A / PDX-057T-D8A-512




PDX-057T-D5A / PDX-057T-D5A-512




(Note1: COM1 RS232/422/485 is selected by BIOS setting)

2.5 External I/O Pin Assignment

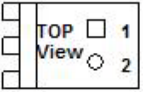
Power Switch

|  | Pin # | Status |
|---|-------|--------|
| | | ON |
| | O | OFF |

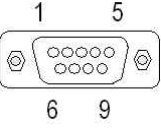
Power Connector (5A)

|  | Pin # | Signal Name |
|---|-------|-------------|
| | 1 | +5V |
| | 2 | GND |
| | 3 | NC |


Power Connector (8A)

|  | Pin # | Signal Name |
|---|-------|-------------|
| | 1 | +8 ~ 35V |
| | 2 | GND |


J10: COM1 RS232/422/485 (Change setting by BIOS)

|  | Pin # | Signal Name | Pin # | Signal Name |
|---|-------|--------------------|-------|--------------------|
| | 1 | DCD1/422TX-/RS485- | 2 | RXD1/422TX+/RS485+ |
| | 3 | TXD1 / 422RX+ | 4 | DTR1 / 422RX- |
| | 5 | GND | 6 | DSR1 |
| | 7 | RTS1 | 8 | CTS1 |
| | 9 | RI1 | | |

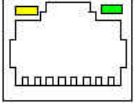
Audio Line-Out

|  <p>Line-out</p> | Pin # | Signal Name |
|---|---------|-------------|
| | 1 | GND |
| | 2 | LOUTL |
| | 3 | Open Touch |
| | 4 | Open Touch |
| 5 | VREFOUT | |

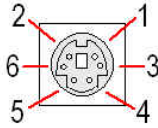
USB

|  | Pin # | Signal Name |
|---|-------|-------------|
| | 1 | VCC |
| | 2 | USB0- |
| | 3 | USB0+ |
| | 4 | GND |
| | 5 | GGND |
| 6 | GGND | |

RJ45

|  | Pin # | Signal Name | Pin # | Signal Name |
|---|-------|-------------|-------|-------------|
| | 1 | FTXD+ | 2 | FTXD- |
| | 3 | FRXIN+ | 4 | NC |
| | 5 | NC | 6 | FRXIN- |
| | 7 | NC | 8 | NC |

PS/2 Keyboard/Mouse

|  | Pin # | Signal Name |
|---|-------|-------------|
| | 1 | KBCLK |
| | 2 | PMCLK |
| | 3 | GND |
| | 4 | KBDAT |
| | 5 | PMDAT |
| 6 | SB5V | |

2.6 System Mapping

System Mapping

Memory Mapping

| Address | Description | Usage |
|---------------------|--|-------|
| 0000:0000-9000:FFFF | System RAM | * |
| A000:0000-A000:FFFF | EGA/VGA Video Memory | * |
| B000:0000-B000:7FFF | MDA RAM, Hercules graphics display RAM | * |
| B000:8000-B000:FFFF | CGA display RAM | * |
| C000:0000-C000:7FFF | EGA/VGA BIOS ROM | * |
| C000:8000-C000:FFFF | Boot ROM enable. | * |
| D000:0000-D700:FFFF | Expansion ROM space. | |
| D800:0000-DB00:FFFF | SPI FLASH Emulation Floppy A Enable | |
| DC00:0000-DF00:FFFF | Expansion ROM space. | |
| E000:0000-E000:FFFF | USB Legacy SCSI ROM space. | * |
| F000:0000-F000:FFFF | Motherboard BIOS | * |

I/O Mapping

| I/O Address | Owner | Usage |
|---------------|--------------------------|-------|
| 0000h - 000Fh | DMA 8237-1 | * |
| 0010h - 0017h | COM 9 | |
| 0018h - 001Fh | Empty | |
| 0020h - 0021h | PIC 8259-1 | * |
| 0022h - 0023h | 6117D configuration port | * |
| 0024h - 002Dh | Empty | |
| 002Eh - 002Fh | Forward to LPC BUS | * |
| 0030h - 003Fh | Empty | |
| 0040h - 0043h | Timer counter 8254 | * |
| 0044h - 0047h | Empty | |
| 0048h - 004Bh | PWM counter 8254 | * |
| 004Ch - 004Dh | Empty | |
| 004Eh - 004Fh | Forward to LPC BUS | * |
| 0050h - 005Fh | Empty | |
| 0060h | Keyboard data port | * |

| | | |
|---------------|---|---|
| 0061h | Port B + NMI control port | * |
| 0062h - 0063h | 8051 download 4K address counter | * |
| 0064h | Keyboard status port | * |
| 0065h | WatchDog0 reload counter | * |
| 0066h | 8051 download 8bit data port | * |
| 0067h | WatchDog1 reload counter | * |
| 0068h - 006Dh | WatchDog1 control register | * |
| 006Eh - 006Fh | Empty | |
| 0070h - 0071h | CMOS RAM port | * |
| 0072h - 0075h | MTBF counter | * |
| 0076h - 0077h | Empty | |
| 0078h - 007Ch | GPIO port 0,1,2,3,4 default setup | * |
| 007Dh - 007Fh | Empty | |
| 0080h - 008Fh | DMA page register | * |
| 0090h - 0091h | Empty | |
| 0092h | System control register | * |
| 0093h - 0097h | Empty | |
| 0098h - 009Ch | GPIO direction control | * |
| 00A0h - 00A1h | PIC 8259-2 | * |
| 00A2h - 00BFh | Empty | |
| 00C0h - 00DFh | DMA 8237-2 | * |
| 00E0h - 00FFh | Empty | |
| 0100h - 0101h | GPCS1 default setting address | * |
| 0170h - 0177h | IDE1 (IRQ 15) | * |
| 01F0h - 01F7h | IDE0 (IRQ 14) | * |
| 0220h - 0227h | COM8 Forward to LPC BUS | |
| 0228h - 022Fh | COM7 Forward to LPC BUS | |
| 0238h - 023Fh | COM6 Forward to LPC BUS | |
| 0278h - 027Fh | Printer port (IRQ 7, DMA 0) | |
| 02E8h - 02EFh | COM4 (IRQ 11) | * |
| 02F8h - 02FFh | COM2 (IRQ 3) | * |
| 0338h - 033Fh | COM5 Forward to LPC BUS | |
| 0376h | IDE1 ATAPI device control write only register | * |
| 03E8h - 03Efh | COM3 (IRQ 10) | * |
| 03F0h - 03F7h | Floppy Disk (IRQ 6, DMA 2) | |
| 03F6h | IDE0 ATAPI device control write only register | * |
| 03F8h - 03FFh | COM1 (IRQ 4) | * |
| 0480h - 048Fh | DMA High page register | * |
| 0490h - 0499h | Instruction counter register | * |
| 04D0h - 04D1h | 8259 Edge,/ level control register | * |

| | | |
|---------------|--|---|
| 0CF8h - 0CFFh | PCI configuration port | * |
| D400h - D4FFh | on board LAN | * |
| FC00h - FC05h | SPI Flash BIOS control register | * |
| FC08h - FC0Dh | External SPI BUS control register (output pin configurable GPIO3[0-3]) | * |

IRQ Mapping

| IRQ# | Description | Usage |
|-------|----------------------------|-------|
| IRQ0 | System Timer | * |
| IRQ1 | Keyboard Controller | * |
| IRQ2 | Cascade for IRQ8 - 15 | |
| IRQ3 | Serial Port 2 | * |
| IRQ4 | Serial Port 1 | * |
| IRQ5 | USB | * |
| IRQ6 | USB | * |
| IRQ7 | USB | * |
| IRQ8 | Real Time Clock | * |
| IRQ9 | USB / Ethernet 10/100M LAN | * |
| IRQ10 | Serial Port 3 | * |
| IRQ11 | Serial Port 4 | * |
| IRQ12 | Mouse | * |
| IRQ13 | Math Coprocessor | * |
| IRQ14 | Hard Disk Controller#1 | * |
| IRQ15 | Hard Disk Controller#2 | * |

DMA Mapping

| DMA# | Description | Usage |
|------|------------------------|-------|
| DMA0 | | |
| DMA1 | | |
| DMA2 | Floppy Disk Controller | |
| DMA3 | | |
| DMA5 | | |
| DMA6 | | |
| DMA7 | | |

2.7 Watchdog Timer

There are two watchdog timers in PDX-057T, we also provide DOS, Linux and WinCE example for your reference. For more technical support, please visit: <http://www.dmp.com.tw/tech> or download the PDF file: <http://www.dmp.com.tw/tech/vortex86dx/>

Chapter 3

Driver Installation

VGA

The Vortex86DX processor also use external Display chip “Volari™ Z9s” which is an ultra low powered graphics chipset with total power consumption at around 1-1.5 W.

LAN

The Vortex86DX processor also integrated 10/100Mbps Ethernet controller that supports both 10/100BASE-T and allows direct connection to your 10/100Mbps Ethernet based Local Area Network for full interaction with local servers, wide area networks such as the Internet.

I/O and IRQ settings can be done by software with the supplied utility software, or it can be set for Plug and Play compatibility. The controller supports: Half / Full-Duplex Ethernet function to double channel bandwidth, auto media detection.

AUDIO

CM119 is a highly integrated single chip USB audio controller specifically for VoIP (Voice over internet protocol) application. All essential analog modules are embedded in CM119, including dual DAC and earphone driver, ADC, microphone booster, PLL, regulator, and USB transceiver. 8 GPIO pins can constitute a 24 key matrix directly support keypad control function without MCU.

Many features are programmable with jumper pins or external EEPROM. Vender can customize unique USB VID/PID to EEPROM for VoIP software authentication. Moreover, individual unique phone number for each device is possible via serial number stored in external EEPROM.

Operating system support

The PDX-057T provides the VGA and LAN drivers for Linux, Windows CE 5.0, CE 6.0, Windows XP Professional, and Windows Embedded standard (XPE / WES2009). **(Linux can use with Compact Flash card only.)**

Please get the drivers from DMP official website: <http://www.dmp.com.tw/tech/vortex86dx/> .

PDX-057T also supports most of the popular Linux distributions, for more detail information, please visit DMP official website: <http://www.dmp.com.tw/tech/vortex86dx/>.

3.1. PDX-057T Development Note

<Primary /Secondary IDE: Master or Slave>

Micro SD: Primary Master

CF Slot: Secondary IDE: Master or Slave (User can use slide switch (in side of CF slot) to adjust Master or Slave

<Window CE6.0 development guide>

Windows Embedded CE 6.0 BSP, trial CE image and development notes, please visit technical website to get more information: <http://tech.icop.com.tw/>

<Linux installation note>

Please forced the IDE setting in BIOS to PIO mode before install Linux on PDX-057T as follows:

1-Go to the advanced BIOS setting and make the "Onboard IDE Operate Mode" is "Legacy Mode"

2-Go to the PCI/PnP and make the "PCI IDE BusMaster" is "Disable"

< XP professional /Home /Embedded and Windows 2000 installation note >

1-Please visit technical website to get more information: <http://tech.icop.com.tw/>

<Enhance CF to run the UDMA2/4>

1-Please select ICOP "ICF Card" to supporting UDMA 2/4 Mode.

<How to boot up from the Micro SD card>

1-Get into the BIOS setup Utility

2-Go to the Advanced

3-Choose Primary IDE Pin Select: SD card

4-Press "F10" to save configuration changes and exit setup

<Backlight On/Off through GPIO control>

Sample Code:

```
#include "stdafx.h"
```

```
unsigned char inportb(short addr)
```

```
{  
    unsigned char cValue;  
    __asm  
    {  
        mov dx, addr  
        in  ax, dx  
        mov cValue, al  
    }  
  
    return cValue;  
}
```

```
void outportb(int addr, unsigned char val)
```

```
{  
    __asm  
    {  
        push edx  
        mov  edx, DWORD PTR addr  
        mov  al,  BYTE PTR val  
        out dx, al  
        pop edx  
    }  
}
```

```

void BackLightON()
{
    // Set register 4AH bit1 to 0 to enable GPIOB
    outputb(0x3d4, 0x4a);
    unsigned c = inport(0x3d5) & 0xfd;
    outputb(0x3d4, 0x4a);
    outputb(0x3d5, c);
    // Set register 48H bit1
    outputb(0x3d4, 0x48);
    c = inport(0x3d5) | 0x02;
    outputb(0x3d4, 0x48);
    outputb(0x3d5, c);
}

```

```

void BackLightOFF()
{
    // Set register 4AH bit1 to 0 to enable GPIOB
    outputb(0x3d4, 0x4a);
    unsigned c = inport(0x3d5) & 0xfd;
    outputb(0x3d4, 0x4a);
    outputb(0x3d5, c);
    // Clear register 48H bit1
    outputb(0x3d4, 0x48);
    c = inport(0x3d5) & 0xfd;
    outputb(0x3d4, 0x48);
    outputb(0x3d5, c);
}

```

Note:

- 1-Wi-Fi module is optional: <http://www.icop.com.tw/pddetail.aspx?id=67&pid=4>
- 2 -PDX-057T COM1: support RS232/422/485, please contact your regional sales.
- 3 -PDX-057T series (CPU Speed: 933MHZ): Support Linux, Windows CE 5.0, CE 6.0, Windows XP Professional, and Windows Embedded standard (XPE). **(Linux can use with Compact Flash card only.)**

3.2. BIOS Default setting

If the system cannot be booted after BIOS changes are made, Please follow below procedures in order to restore the CMOS as default setting.

- Press “End” Key, when the power on



- Press to enter the AMI BIOS setup
- Press “F9” to Load Optimized Defaults
- Press “F10” to Save configuration changes and exit setup

Warranty

This product is warranted to be in good working order for a period of one year from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster. Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, originality to use this product. Vendor will not be liable for any claim made by any other related party. Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.