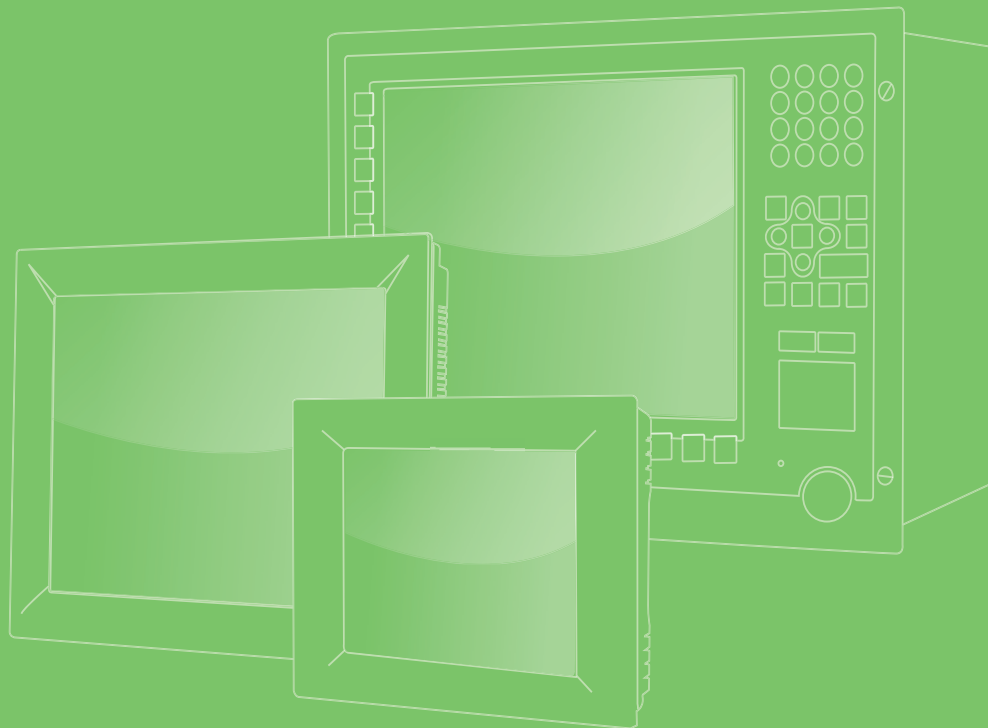# User Manual

PPC-4150W

Intel® Atom D2550 processor based microcomputer, with 15.6" color TFT LCD display

Copyright

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Product Warranty (2 years)

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.

2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.

3. If your product is diagnosed as defective, obtain an RMA (return merchandize authorization) number from your dealer. This allows us to process your return more quickly.

4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.

5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Declaration of Conformity

CE

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from Advantech. Please contact your local supplier for ordering information.

CE

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

FCC Class B

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Technical Support and Assistance

1. Visit the Advantech web site at http://support.advantech.com where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
   - Product name and serial number
   - Description of your peripheral attachments
   - Description of your software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wording of any error messages

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
    - The power cord or plug is damaged.
    - Liquid has penetrated into the equipment.
    - The equipment has been exposed to moisture.
    - The equipment does not work well, or you cannot get it to work according to the user's manual.
    - The equipment has been dropped and damaged.
    - The equipment has obvious signs of breakage.
15. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.
16. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

Safety Precaution - Static Electricity

Follow these simple precautions to protect yourself from harm and the products from damage.

- To avoid electrical shock, always disconnect the power from your PC chassis before you work on it. Don't touch any components on the CPU card or other cards while the PC is on.
- Disconnect power before making any configuration changes. The sudden rush of power as you connect a jumper or install a card may damage sensitive electronic components.

Battery Information

Batteries, battery packs and accumulators should not be disposed of as unsorted household waste. Please use the public collection system to return, recycle, or treat them in compliance with the local regulations.

Chapter 3   Jumper Configuration 21

Chapter 4   Software Configuration 25

Chapter **1**

General Information

This chapter gives background information on the PPC-4150W panel PC.

Sections include:

- ■ **Introduction**
- ■ **Specifications**
- ■ **Dimensions**

1.1 Introduction

The Advantech PPC-4150W is an Intel Atom processor based panel PCs with 15.6"
color LCD. Powerful D2550 and Intel NM10 chipset not only meets the requirements
of most applications, but also ensures operational reliability under all environments.
The built-in Mini SATA interface can be used as a backup HDD solution for OS
bootup; the Mini PCIe card interface supports various expansion cards (e.g. wireless
LAN) to increase the device mobility. For safety consideration, the PPC-4150W pro-
vides 2 Giga LAN configuration. In addition, 4 serial ports and 5 USB V2.0 interfaces
make the product suit for all kinds of advanced applications.

1.2 Specifications

1.2.1 General Specification

Product	PPC-4150W
LCD Specification	15.6'' LCD
Display Type	15.6" TFT LCD (LED backlight)
Max. Resolution	1366 x 768
Color	16.7M
dot matrix	252 (per one triad) x 252 um
Viewing Angle	85 (left), 85 (right), 80 (top), 60 (bottom) (Typ.)
Brightness	300 cd/d2 (Typ.)
Contrast	500 (Typ.)
LCD Operation Temperature	0 ~ 60° C (32 ~ 140° F)
Backlight Lifecycle	50, 000 hours
Weight	5.46 Kg (12.04 lb)
Dimensions	419.7 x 269 x 59 (mm) (16.52" x 10.59" x 2.32")
CPU	D2550 1.86G 1M
Chipset	Intel Atom D2550 + NM10
Memory	One 204 pin slot, up to 4 G DDR3 SDRAM
Storage	Support one 2.5" SATA HDD
Network(LAN1, LAN2)	2 x Gigabit Ethernet ports
I/O Ports	4 x COM port: 1 x RS-232/422/485; 3 x RS232 5 x USB2.0 2 x Gigabit Ethernet ports 1 x VGA port, 1 x DIO port 1 x Line-out port,1 x Mic-in port, 2 x 1 W speaker (built-in) 1 x Phoenix power port, 1 x Power switch
Expansion Slot	1 x PCIe x1 (standard) 1 x PCI (in the accessory box)
Additional Expansion Slot	1 x Mini PCIe long card slot and 1 x mSATA card slot
System	Win XPE / WES 7 / WIN CE 7.0 / Linux

1.2.2 Power Specifications

Power	36 W (test system: Windows7 32bit)
(D2550-NM10)	33 W (test system: Windows XP 32bit)
Output Voltage	12 - 30 Vdc, 5 ~ 2 A

> **Note!** *The above test conditions are detailed in Note 1.*

1.2.3 Touchscreen Specifications

Type	4-wire projective captive touchscreen (multi-touch function is only supported in Win 7 or WES 7P OS)
Light Transmission	88%+/-5%
Controller	USB interface

1.2.4 Environment Specifications

Operation Temperature	0 ~ 50°C (32 ~ 122°F)
Storage Temperature	-20 ~ 60°C (-4 ~ 140°F)
Relative Temperature	10 ~ 95% @ 40°C (non-condensing)
Shock	10 G peak acceleration (11 msec duration)
Vibration	5 ~ 500 Hz 1 G RMS

1.2.5 Certification Specifications

EMC	BSMI, CE, FCC Class B
Safety	CB, CCC, UL

1.2.6 IP

Front Panel IP Grade	IP65

Note 1:

PPC-4150W's power test conditions are as follows:

Test Software	Test Configuration	Test System
Burn-in 7.0	Memory: Transcend DDR3 1333 SODIMM 4 GB x 1 HDD: Seageat 500G 2.5" SATA II IO: COM Port RS232 loopback x4, USB2.0 device x3, USB mouse x1	Windows 7 32bit
		Windows XP 32bit

1.3 Dimensions
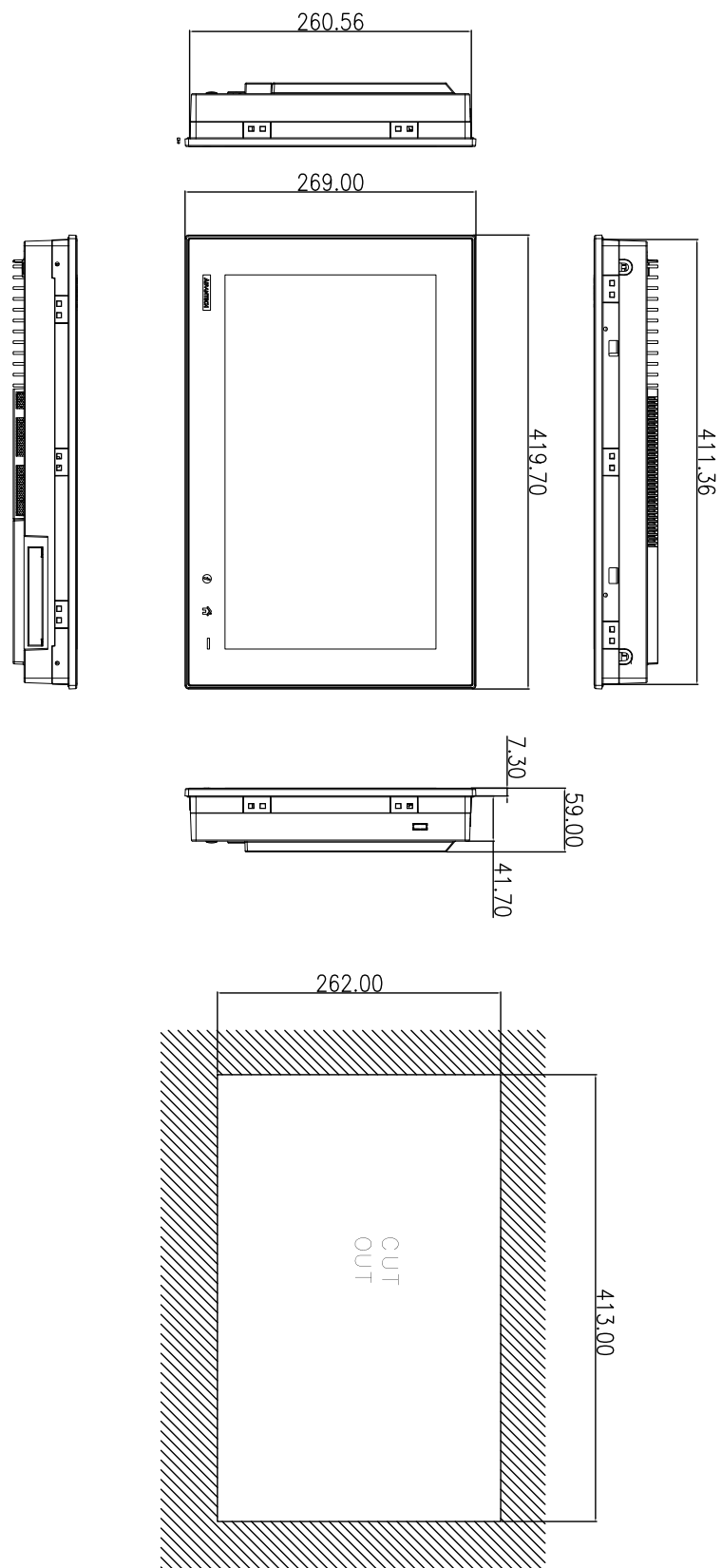
Figure 1.1 PPC-4150W dimensions

Note!

Supports VESA 100 x 100 mm; please use M4 screw, 6 mm depth (maximum). Use suitable mounting apparatus to avoid risk of injury.

Chapter 2

System Installation & Setup

Sections include:
- Quick Installation Guide
- Inslation Procedures
- Install Memory
- Install HDD
- Install Mini SATA
- Install Wireless LAN
- Install Expansion Card
- AT/ATX Function Switch
- Grounding Installation
- Hook Installation
- Independent Quick Installation

2.1 Quick Start Guide

Before you start to set up the panel PC, take a moment to become familiar with the locations and purposes of the controls, drives, connectors and ports, which are illustrated in the figures below.

When you place the panel PC upright on the desktop, its front panel appears as shown in Figure 2.1.

Figure 2.1 Front panel

1. I Key
2. Home Key
3. Power status indicator, off (S5): orange, on (S0): blue

Figure 2.2 Side view

1. Quick installation clip
2. Antenna hole (two)
3. Panel Mount Bracket holes (ten)
4. Side USB 2.0 interface
5. CPU cooler

I/O interfaces:
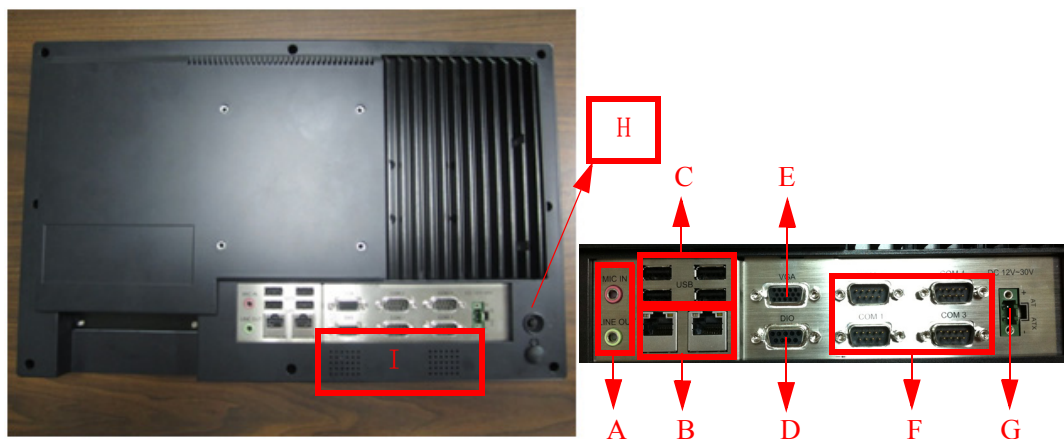
Figure 2.3 Location of I/O interfaces

A: Line out/Mic in

B: 2 x Giga Ethernet ports

C: 4 x USB 2.0

D: DIO

E: VGA

F: COM 1, 3, 4 ports, COM2 RS232/422/485 port

G: DC power port (12 - 30 V)

H: Power button

I: Speaker

J: Grounding screw (refer to Fig 2.4)

K: PCI/PCIE x1 Expansion slot (refer to Fig 2.5)

Figure 2.4 Grounding screw

Figure 2.5 PCI expansion slot

2.2 Installation Procedures

2.2.1 Connecting the Power Cable

The panel PC has DC power socket (12 ~ 30 V). When connecting the power cable, please hold the plug end. Please follow the procedures below:

1. Connect the female end of the power cable to panel PC's DC socket.
2. Connect the male end of the power cable to power outlet.
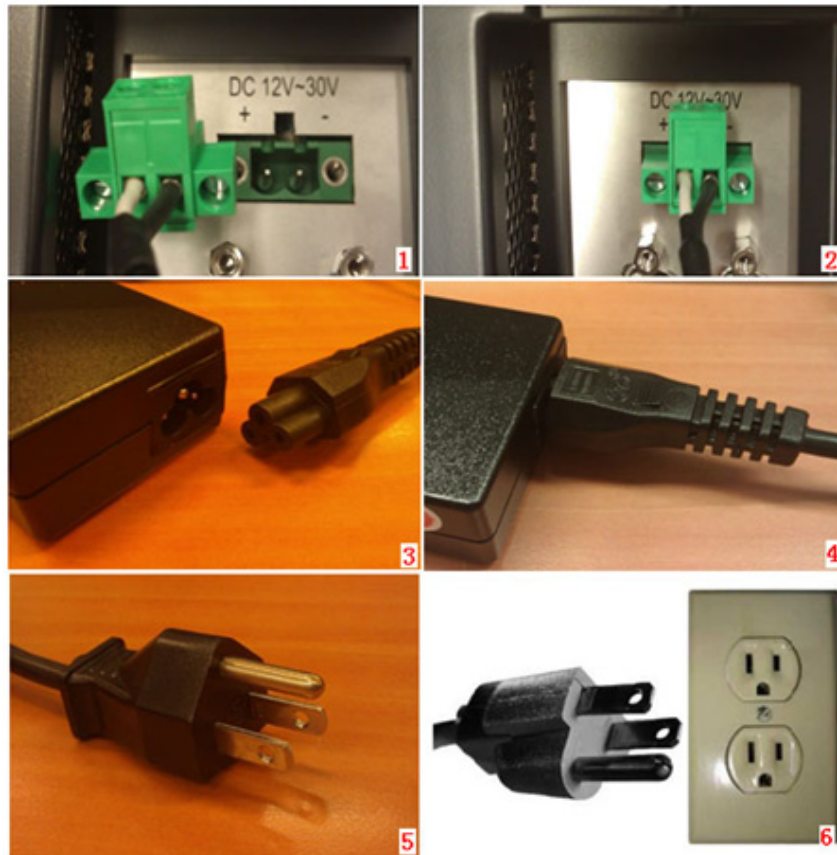
Figure 2.6 Connect power cable

2.2.2 Connect Keyboard and Mouse

Connect the keyboard and mouse to panel PC's I/O interfaces.

2.2.2.1 Power ON

The power button is located in the right bottom side of the panel PC.

Note! *Power cable and adapter are optional.*

2.3 Install Memory Card

1. Loosen the screws as indicated in the red circle. (See Fig 2.6)
2. Press the red areas to pull out the card holder (See Fig 2.8 ~ 2.10) and open the rear cover.

Figure 2.7

Figure 2.8

Figure 2.9

Figure 2.10

3. Remove the screws as indicated in the red circle. (See Fig 2.11), and take out the CPU cooler.

> *Note!* *The black and grey lumps as indicated in the red circle of Fig 2.12 are cooler pads, which must be removed by professional personnels to avoid improper use.*
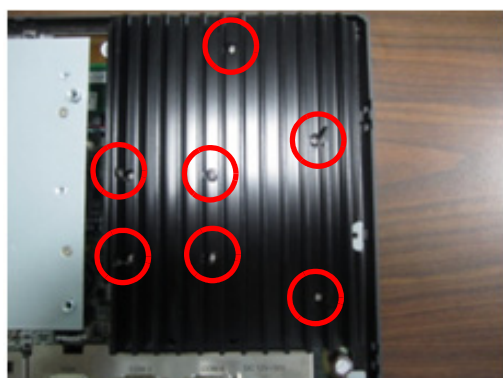
Figure 2.11
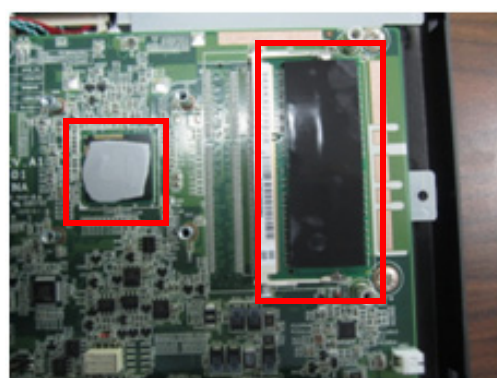
Figure 2.12

> *Note!* *CPU cooler pad surface is isolated by anodization treatment to avoid static electricity (CPU contact side excluded).*

2.4 Install the HDD

1. Please follow the procedures in Section 2.3 to open the rear cover and remove the screws as indicated in the red circles in Fig 2.13.
2. Take down the HDD bracket from the reinforced board. (See Fig 2.14)
3. Install the HDD (see Fig 2.15), and take out the 4 screws from the accessory box to fix the HDD.
4. Lock the HDD bracket, and take out the HDD cable from the accessory box and connect it to the mainboard. (See Fig 2.16 ~ 2.18)
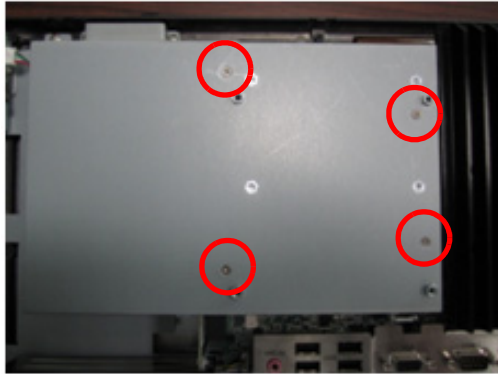
Figure 2.13

Figure 2.14
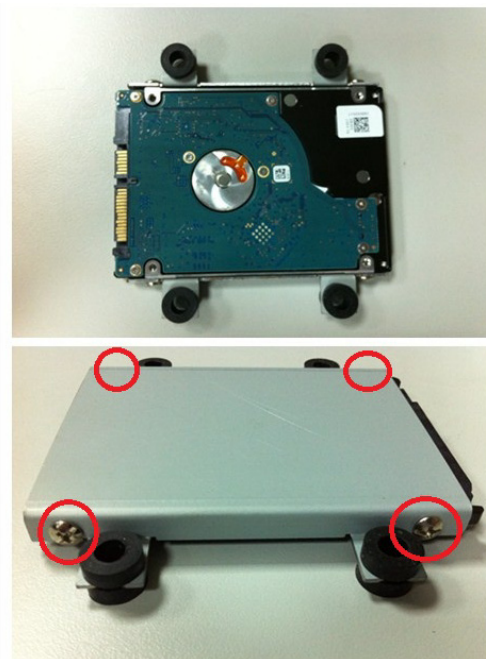
Figure 2.15

Figure 2.16
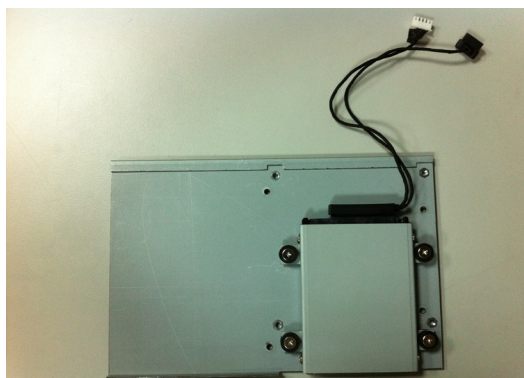
Figure 2.17

Figure 2.18

2.5 Install Mini SATA

1. Please follow the procedures in Section 2.3 and 2.4 to open the rear cover and reinforced board. (See Fig 2.19)
2. Plug the MiniSATA into the mainboard interface, and take out the 2 M2.5x4 screws from the accessory box to fix it.
3. Return the rear cover and reinforced board.

Figure 2.19

Figure 2.20

2.6 Install Wireless LAN Card

1. Please follow the procedures in Section 2.3 and 2.4 to open the rear cover and reinforced board. The wirless LAN card can be installed to the locations as indicated in Fig 2.21 and 2.22; for the wireless short card, you need to take out one hexagonal screw from the accessory box to fix it.

Figure 2.21   **Figure 2.22**

2. Take down the antenna bracket in the left top and right top corners of the machine. (See Fig 2.23)
3. Connect the wireless LAN card module cable to the antenna bracket, please note the installation direction of cable end and screws/cushions. (See Fig 2.24)
4. Lock the bracket, and connect the cable to the wireless LAN card. (See Fig 2.25)
5. Take down the two plugs in the left and right sides of the rear cover. (See Fig 2.26)
6. Return the rear cover and install the antenna of the wireless LAN card module. (See Fig 2.27)

   Note!   *For wireless LAN card module, you can choose Advantech Product:*
   (Part No. PPC-6150-WLANE).

Figure 2.23
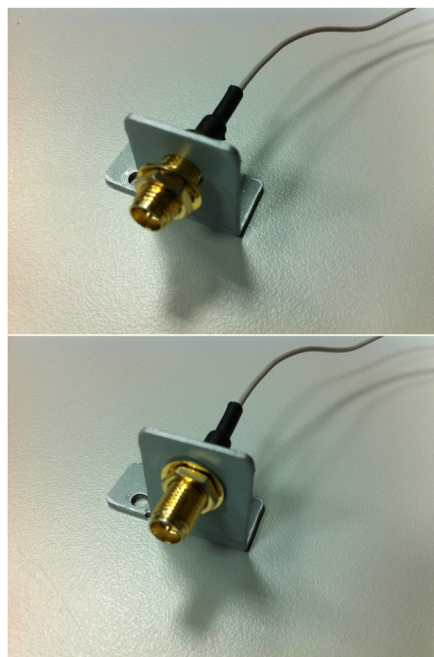
Figure 2.24
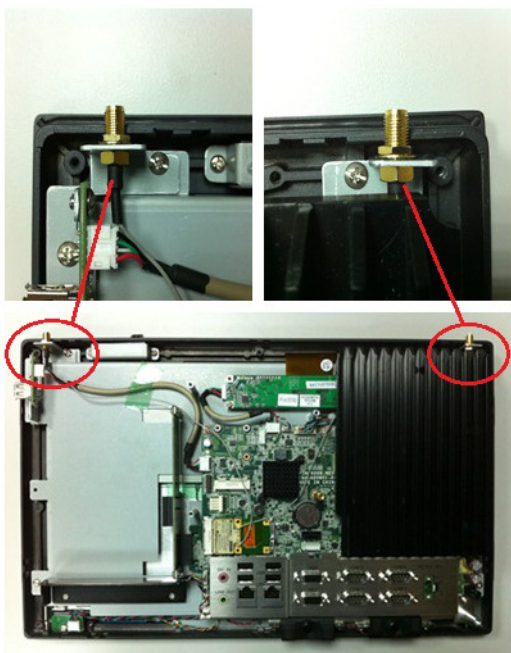
Figure 2.25
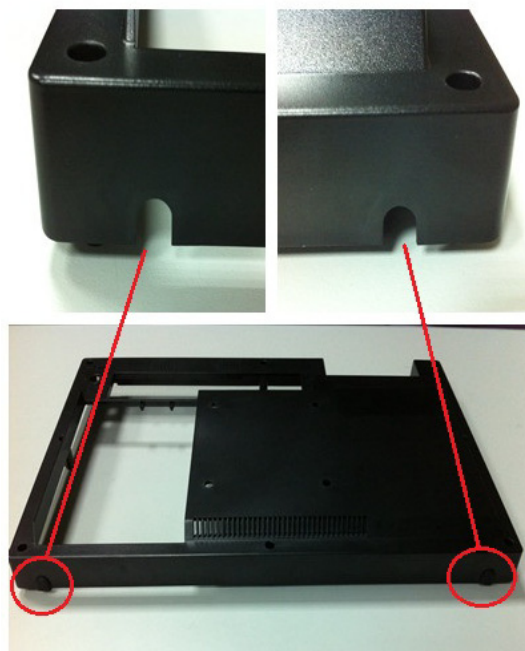
Figure 2.26

Figure 2.27

2.7 Installing the Riser Card

1. Remove the rear cover of the Panel PC. Then remove the screws and shield as indicated in the red circle in Fig 2.28 and install the expansion card.
2. The original machine provides PCIE riser card (PCM-939) (see Fig 2.29), and PCI riser card (PCM-938) is provided in the accessory box for additional use (See Fig 2.30).
3. The installation of expansion card is shown as Fig 2.31 and Fig 2.32.

> **Note!** *The maximum dimension of the expansion card is 167.65 mm x 106.7 mm.*
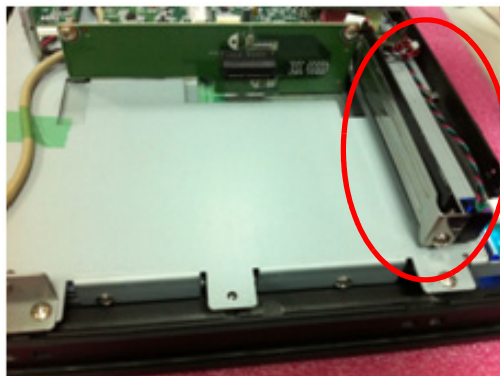
Figure 2.28

Figure 2.29

Figure 2.30

Figure 2.31

Figure 2.32

2.8   AT/ATX Function Switch

Switch is built in the machine, by which you can choose AT/ATX function without removing the rear cover.
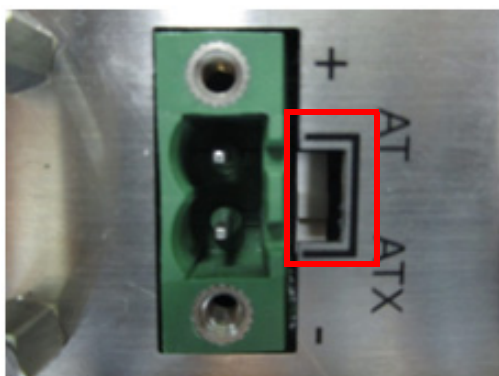
Figure 2.33 ATX mode
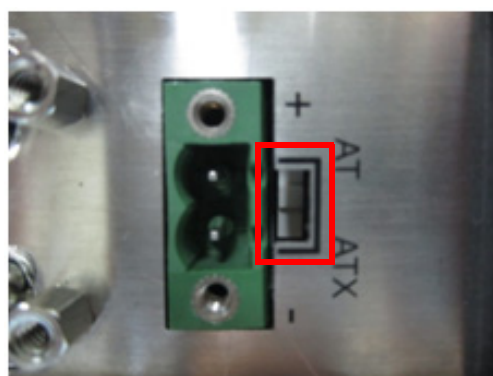
Figure 2.34 AT mode

2.9 Grounding Installation

Loosen the screws, take down the plastic cover, plug in the grounding cable, and then fix the screws. (See Fig 2.35 ~ Fig 2.38)

Figure 2.35

Figure 2.36

Figure 2.37

Figure 2.38

Note! *The grounding cable is not provided in the accessory box.*

2.10 Hook Installation

Follow the figures below:

PPC-4150W Panel Installation Guide

Wallmount Installation Bracket

Put the machine into the cabinet, and prepare wallmount installation bracket

Put the plastic plug into the hook to hold the machine

Screws

Lock the screws and fix the machine
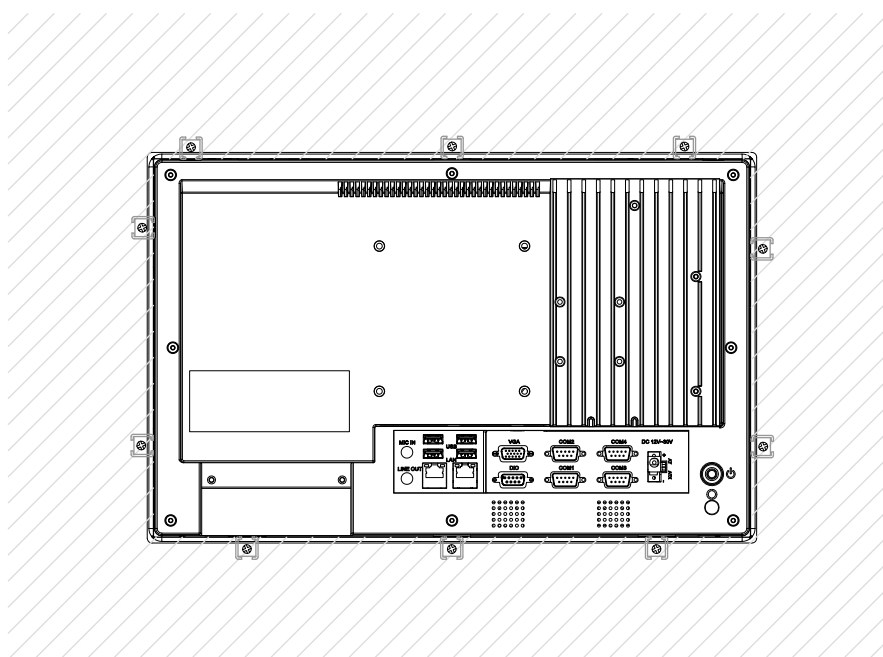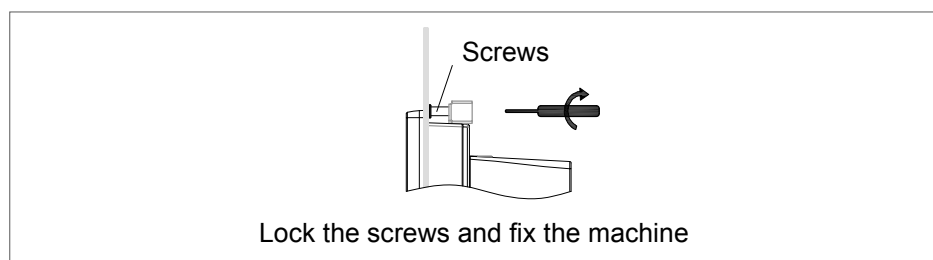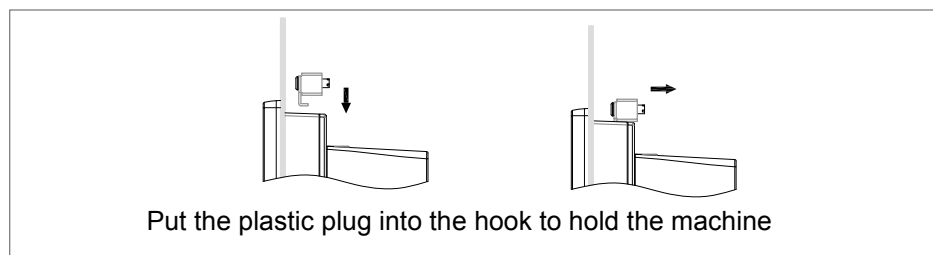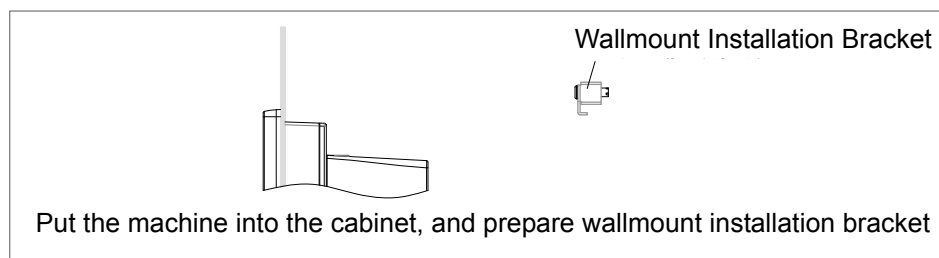
Figure 2.39 Hook Installation

2.11 Solo Quick Installation

Users can independently complete the panel wallmount installation by quick installation Guide. Please follow the procedures below:

1. Loosen the two screws at the bottom side, see the figure below.
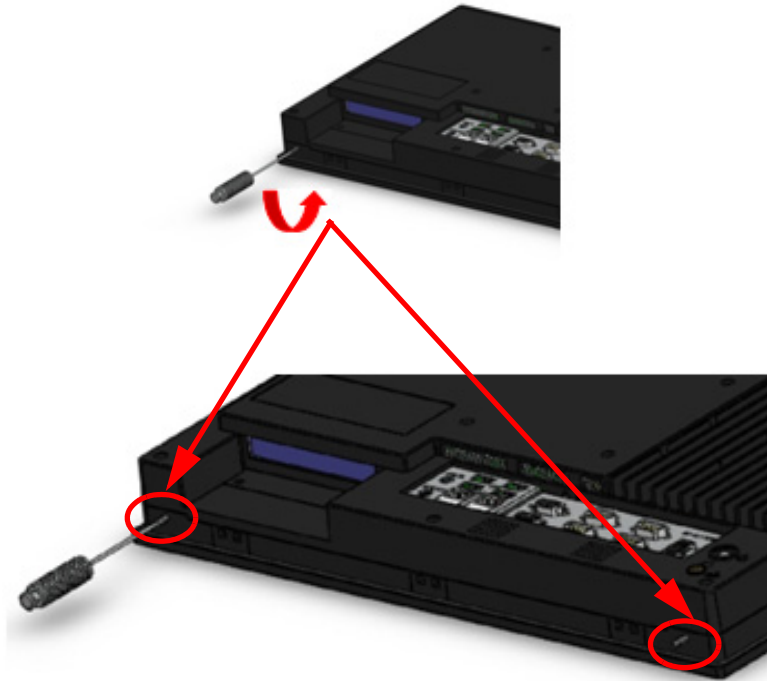
2. Push the machine into the opened wall gap, the spring hook will lock the machine into the wall.
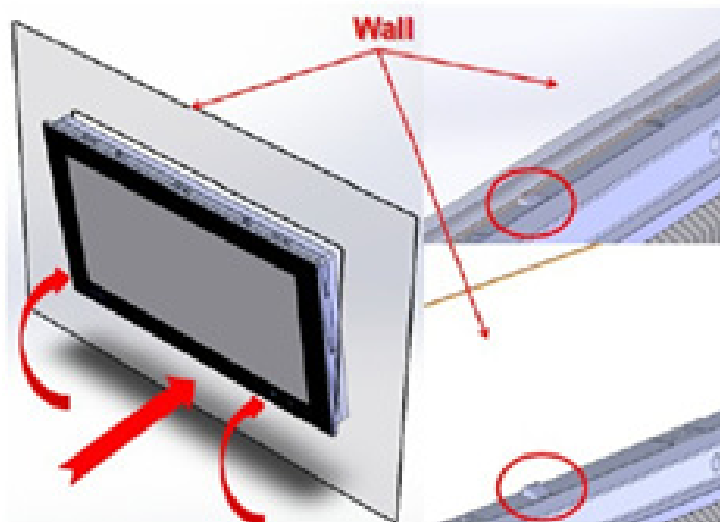
3. Wallmount installation completes as shown in the figure below. Then in the rear side of the machine, lock the hook screw and fix the machine according to Section 2.10 "Hook Installation".
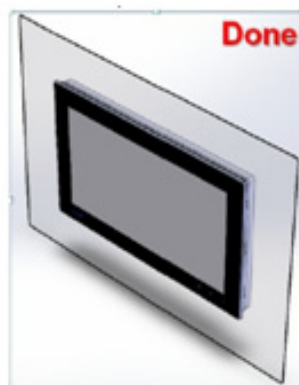
Note!

It is recommend that the mount thickness is smaller than 2 mm (0.079") according to quick installation guide. For other situations, the recommended thickness is less than 6 mm (0.236").

2.12 Cradle Installation Description

Note!

For the cradle, you can choose Advantech product (Part No. PPC-4150W-STANDE). Please refer to the included description for the installation method.
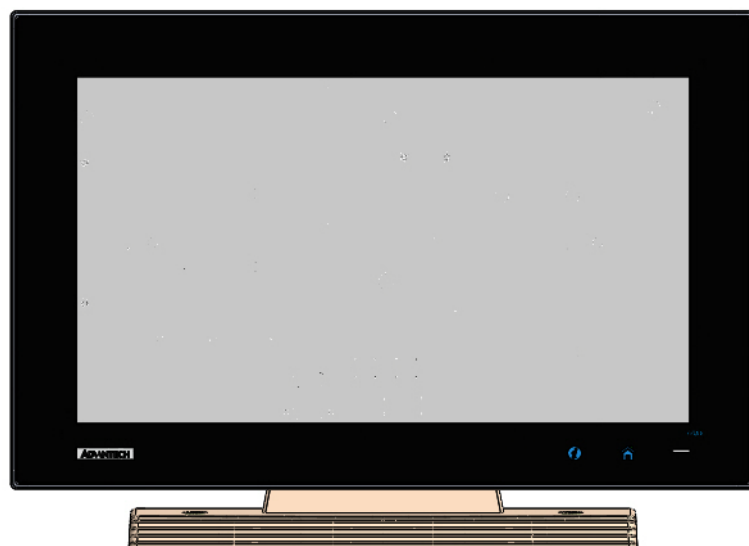
Chapter 3

Jumper Configuration

Sections include:
- Jumper & Connectors
- Peripheral COM Port & DIO Switch and Pin Definitions

3.1 Jumper & Connectors
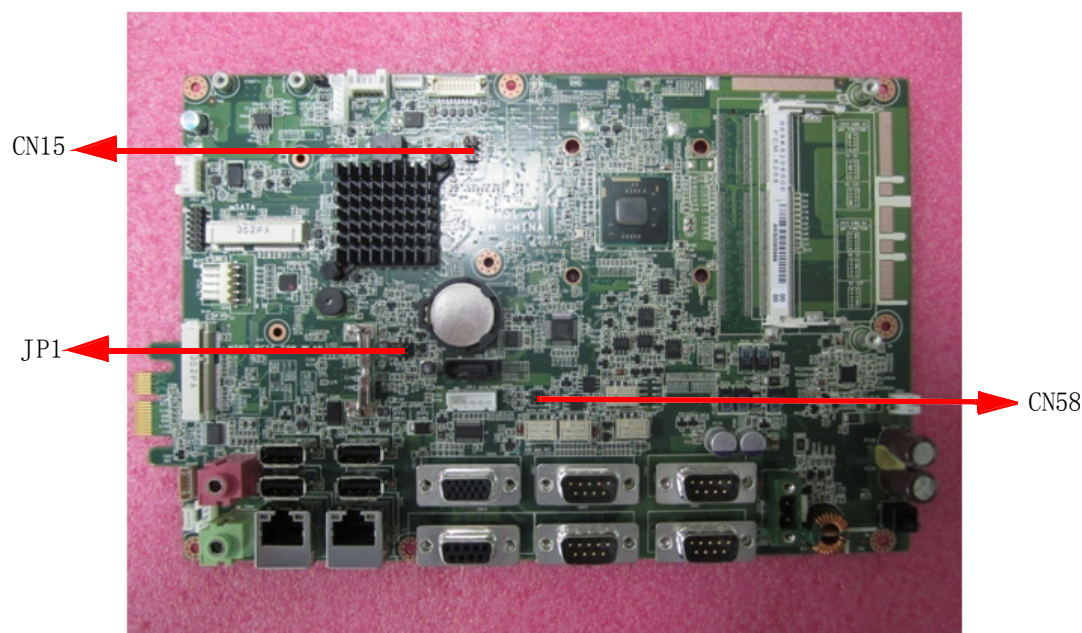
Figure 3.1 PCM-8208 front view

Interface	Function
JP1	Clear CMOS
CN58	RS422 120 ohm resistor selection (COM2)

JP1	Image	Clear CMOS
(1-3)	P3	Clear CMOS
(3-5)	P4	Clear CMOS (Default)
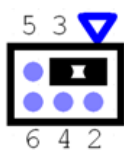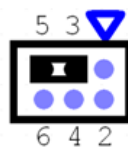
P3   **P4**

CN58	Image	RS422 120 ohm resistor selection (COM2)
(1-2)	P5	Break 120 ohm resistor
(3-4)	P6	Add 120 ohm resistor
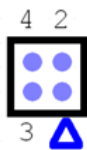
P5   **P6**

3.2 External COM PORT & DIO Switch and PIN Definition

DIO   COM
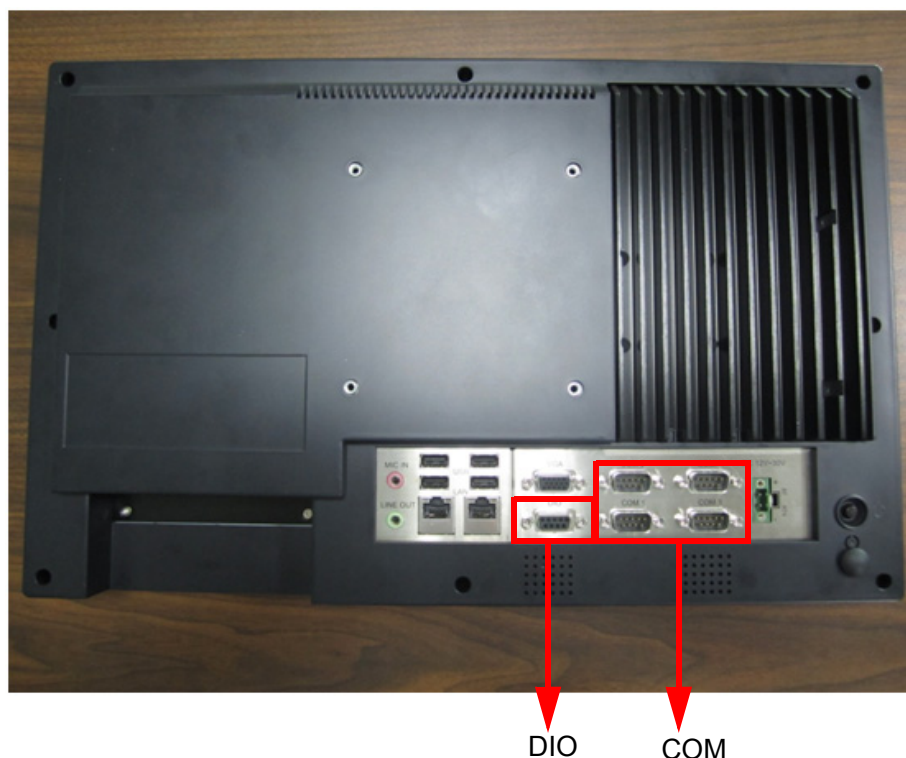
Figure 3.2 COM ports

COM1 (RS232, pin9 supports 5 V/12 V output)
COM2 (RS232/422/485, pin9 supports 5 V/12 V output)
COM3 (RS232)
COM4 (RS232)

COM1:

Pin9 is set as RI signal in COM port by default, and selected as charged pins by BIOS (5 V/12 V) (see Section 4.2.4), which can be used by the peripherals.

Voltage (V)	Maximum (A)
5 V +/-10%	0.5
12 V +/-10%	0.25

COM2:

The operation mode can be either RS232/422/485, selected by BIOS. (For details, please refer to "COM2 Mode Selection" in "BIOS Configuration" chapter. Pin9 can be charged as COM1.

DIO:

Operation voltage 5 V.
8 bit parallel input and output port.
Control signal is SMBUS.

COM Port Pin Definition

Port	Function		
Pin	RS232	RS422	RS485
1	DCD	422_TXD-	485_Data-
2	RXD	422_TXD+	485_Data+
3	TXD	422_TXD+	
4	DTR	422_TXD-	
5	GND	GND	
6	DSR		
7	RTS		
8	CTS		
9	RIC		
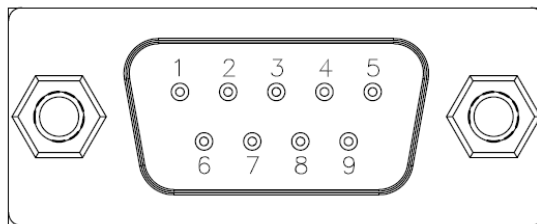
DIO Pin Definition

Port	Function
Pin	DIO
1	GPIO0
2	GPIO1
3	GPIO2
4	GPIO3
5	GND
6	GPIO4
7	GPIO5
8	GPIO6
9	GPIO7
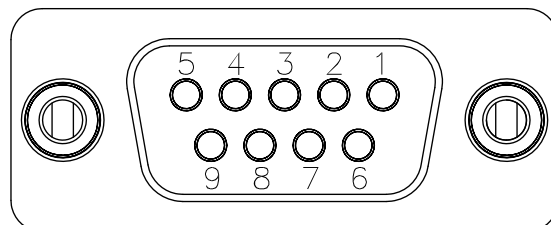
Chapter 4

Software Configuration

Sections include:
- Install Drivers
- BIOS Setup Program

4.1 Install Divers

When first using the system, users need to set up corresponding drivers, in order to ensure all functions are normal. Please take out the CD-ROM from the accessory box and open it in the system, the below folder will be shown:

Figure 4.1 Divers in the CD-ROM

Windows 7: All drivers needed to install for Windows 7.

Windows XP: All drivers needed to install for Windows XP.

PPC HotKeyUtility: The utility for front bezel i Key and Home Key. For the specific operation method, please refer to the "User Manual" folder.

User manual: E-record of the user manual for this machine.

Please follow the instructions to install the drivers. The drivers in the accompanied CD-ROM may not be the latest version, if needed, please find it at:

http://www.advantech.com/

4.2 BIOS Setup

4.2.1 Enter BIOS

Start the computer and press "Delete" key to enter BIOS.

Press "F4" to save and exit after any configuration, or the configuration won't be saved in BIOS.

```
            Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
  Main  Advanced  Chipset  Boot  Security  Save & Exit

  BIOS Information                                           Set the Date. Use Tab to
  BIOS Vendor                    American Megatrends         switch between Data elements.
  Core Version                   4.6.5.1   0.13
  Compliancy                     UEFI 2.3; PI 1.2
  Project Version                PCM 8206TS01
  Build Date and Time            06/26/2013 17:13:04

  System Date                    [Thu 06/27/2013]
  System Time                    [20:22:16]

  Access Level                   Administrator


                                                            →←: Select Screen
                                                            ↑↓: Select Item
                                                            Enter: Select
                                                            +/-: Change Opt.
                                                            F1: General Help
                                                            F2: Previous Values
                                                            F3: Optimized Defaults
                                                            F4: Save & Exit
                                                            ESC: Exit



            Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

4.2.2 Display Brightness Adjustment

1. Select "Host Bridge" under "Chipset".

```
              Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
          Main  Advanced  Chipset  Boot  Security  Save & Exit

       ▶ Host Bridge                                       Host Bridge Parameters




                                                           →←: Select Screen
                                                           ↑↓: Select Item
                                                           Enter: Select
                                                           +/-: Change Opt.
                                                           F1: General Help
                                                           F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           ESC: Exit




              Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```
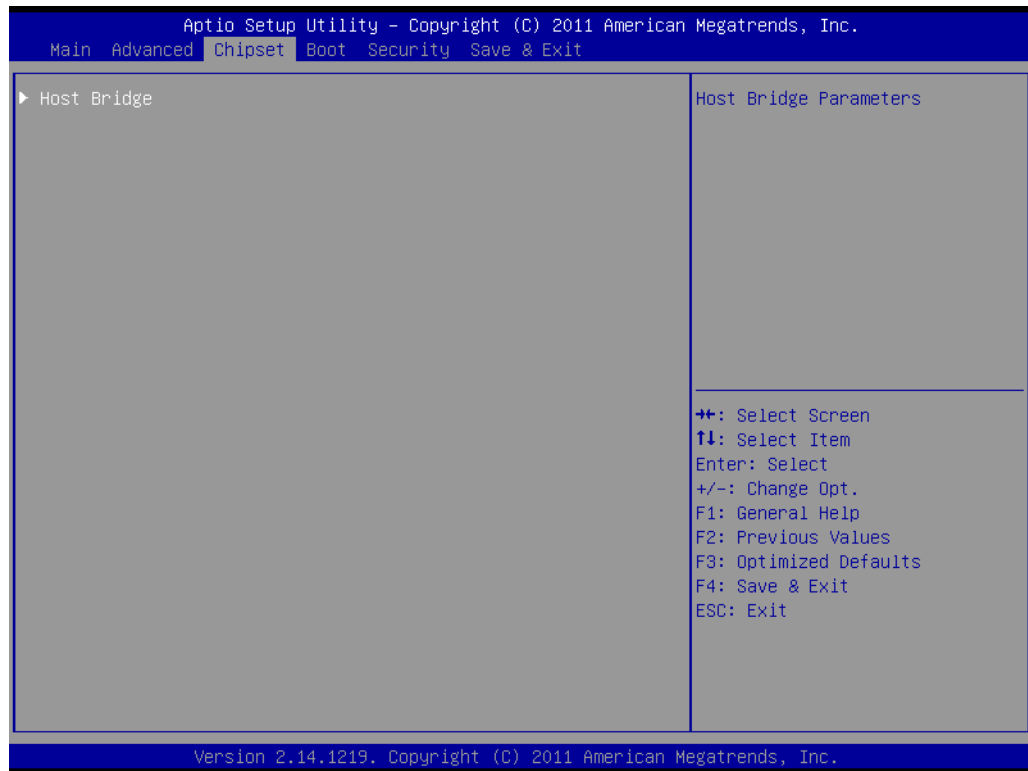
2. Then select "Intel IGD Configuration".

```
              Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
                      Chipset

       ▶ Intel IGD Configuration                           Config Intel IGD Settings.

       ******* Memory Information *******
       Memory Frequency                 1067 MHz(DDR3)
       Total Memory                     2048 MB




                                                           →←: Select Screen
                                                           ↑↓: Select Item
                                                           Enter: Select
                                                           +/-: Change Opt.
                                                           F1: General Help
                                                           F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           ESC: Exit




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```

3.   Manual Adjustment Mode

"LCD Brightness Control" is configured as "Manual Mode" by default.

Select "Brightness Manual Control" under "Brightness Control", and there will be 6 options:

```
                  Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
                   Chipset

       Intel IGD Configuration                             Fixed Brightness 100%, 80%,
       Display on DOS                    [LFP]             60%, 40%, 20%, 10%
       Fixed Graphics Memory Size       [256MB]
       LCD Brightness Control           [Manual Mode]
       Brightness Manual Control        [ 80%]


                         ┌──── Brightness Manual Control ────┐
                         │  100%                             │
                         │  80%                              │
                         │  60%                              │
                         │  40%                              │
                         │  20%                              │            Select Screen
                         │  10%                              │            Select Item
                         └───────────────────────────────────┘       er: Select
                                                                    : Change Opt.
                                                             F1: General Help
                                                             F2: Previous Values
                                                             F3: Optimized Defaults
                                                             F4: Save & Exit
                                                             ESC: Exit




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```

Note!   *If you want to adjust brightness through AP in the OS, it will keep AP configuration mainly, and BIOS configuration will not be saved.*

4.2.3 COM2 Mode Selection (RS232/422/485)

1. Select "Super IO Configuration" under "Advanced".

```
                  Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
    Main   Advanced   Chipset   Boot   Security   Save & Exit

                                                              System Super IO Chip
                                                              Parameters.
    Legacy OpROM Support
    Launch PXE OpROM                    [Disabled]

    ▶ ACPI Settings
    ▶ CPU Configuration
    ▶ IDE Configuration
    ▶ USB Configuration
    ▶ Super IO Configuration
    ▶ H/W Monitor

                                                              →←: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit


                  Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

2. Select "Serial Port 2 Configuration" and then select the operation mode of COM2 by "Serial Port2 Mode".

```
                  Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
         Advanced

    Serial Port 2 Configuration                               Allows BIOS to Select mode for
                                                              Serial Port2.
    Device Settings                      IO=2F8h; IRQ=3;

    Serial Port2 Mode                    [RS232]
    Serial Port2 Pin9 Select             [RI]



                          ┌───── Serial Port2 Mode ─────┐
                          │ RS232                        │
                          │ RS422                        │      →←: Select Screen
                          │ RS485                        │      ↑↓: Select Item
                          └──────────────────────────────┘      Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit


                  Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

4.2.4 COM1 & COM2 Pin9 Function Selection

1. Select "Super IO Configuration" under "Advanced".

```
                  Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
        Main  Advanced  Chipset  Boot  Security  Save & Exit

                                                            System Super IO Chip
        Legacy OpROM Support                                Parameters.
        Launch PXE OpROM                  [Disabled]

      ▶ ACPI Settings
      ▶ CPU Configuration
      ▶ IDE Configuration
      ▶ USB Configuration
      ▶ Super IO Configuration
      ▶ H/W Monitor

                                                            ⇄: Select Screen
                                                            ↑↓: Select Item
                                                            Enter: Select
                                                            +/-: Change Opt.
                                                            F1: General Help
                                                            F2: Previous Values
                                                            F3: Optimized Defaults
                                                            F4: Save & Exit
                                                            ESC: Exit



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```

2. Select the needed COM port (serial Port 1/2 Configuration), then select Pin9 function by "Serial Port1/2 Pin9 Select".

```
                  Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
        Advanced

        Serial Port 2 Configuration                         Allows BIOS to Select Pin9
                                                            function for Serial Port2.
        Device Settings                   IO=2F8h; IRQ=3;

        Serial Port2 Mode                 [RS232]
        Serial Port2 Pin9 Select          [RI]




                      ┌─── Serial Port2 Pin9 Select ───┐
                      │ RI                              │
                      │ +5V                             │       : Select Screen
                      │ +12V                            │       : Select Item
                      └─────────────────────────────────┘      ter: Select
                                                            +/-: Change Opt.
                                                            F1: General Help
                                                            F2: Previous Values
                                                            F3: Optimized Defaults
                                                            F4: Save & Exit
                                                            ESC: Exit



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```

4.2.5 Wake Up by LAN

1. Select "ACPI Settings" under "Advanced".

```
         Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
   Main  Advanced  Chipset  Boot  Security  Save & Exit

                                                       System ACPI Parameters.
   Legacy OpROM Support
   Launch PXE OpROM                    [Disabled]

 ▶ ACPI Settings
 ▶ CPU Configuration
 ▶ IDE Configuration
 ▶ USB Configuration
 ▶ Super IO Configuration
 ▶ H/W Monitor

                                                       →←: Select Screen
                                                       ↑↓: Select Item
                                                       Enter: Select
                                                       +/-: Change Opt.
                                                       F1: General Help
                                                       F2: Previous Values
                                                       F3: Optimized Defaults
                                                       F4: Save & Exit
                                                       ESC: Exit

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```

2. Set "Power Saving" as "Disabled", and set "Power On by PCIE Wake#" as "Enabled".

```
         Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
      Advanced

   ACPI Settings                                       Enable and Disable PCI Express
                                                       Wake# event.
   ACPI Sleep State                    [S1 (CPU Stop Clock)]
   Restore AC Power Loss               [Power Off]

   Power Saving                        [Disabled]
   Power On by RTC Alarm               [Disabled]
   Power On by PCIE Wake#              [Enabled]
   Power On by RI#                     [Disabled]

                                                       →←: Select Screen
                                                       ↑↓: Select Item
                                                       Enter: Select
                                                       +/-: Change Opt.
                                                       F1: General Help
                                                       F2: Previous Values
                                                       F3: Optimized Defaults
                                                       F4: Save & Exit
                                                       ESC: Exit

         Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

3.   Then save the configuration and exit the OS.
4.   Right click "Computer" and click "Manage", then open "Computer Management".
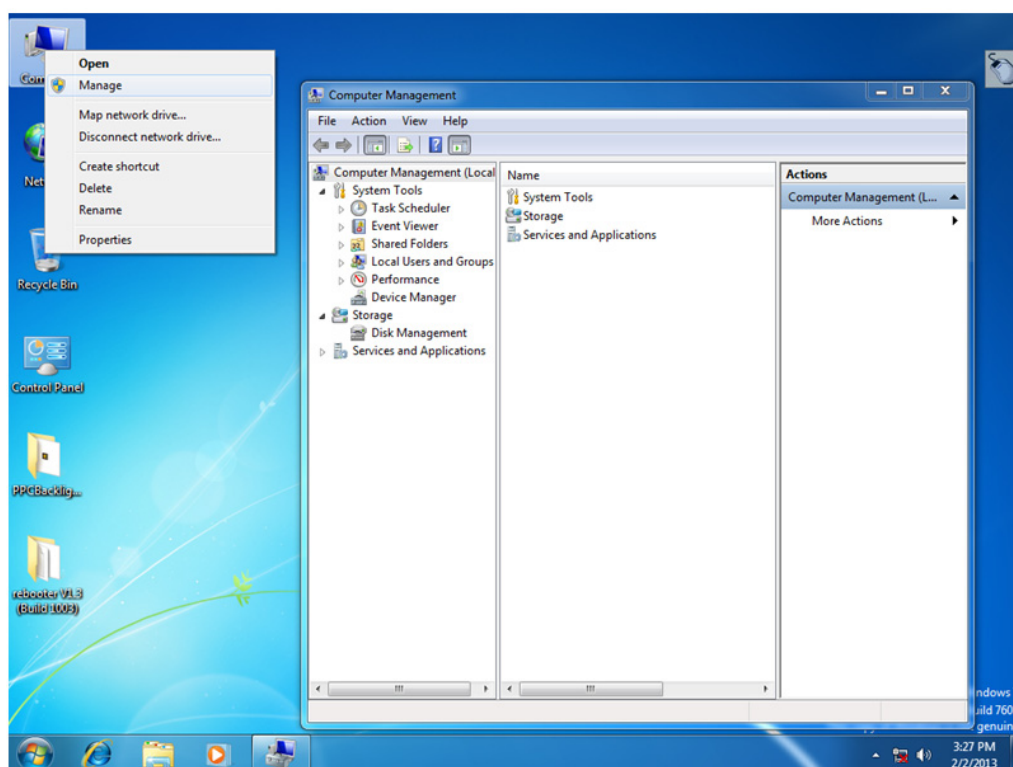
5.   Click "Network adapters" in "Device Manage", then right click and select the needed LAN port, then select "Properties" and open "Realtek PCIe GBE Family Controller Properties".
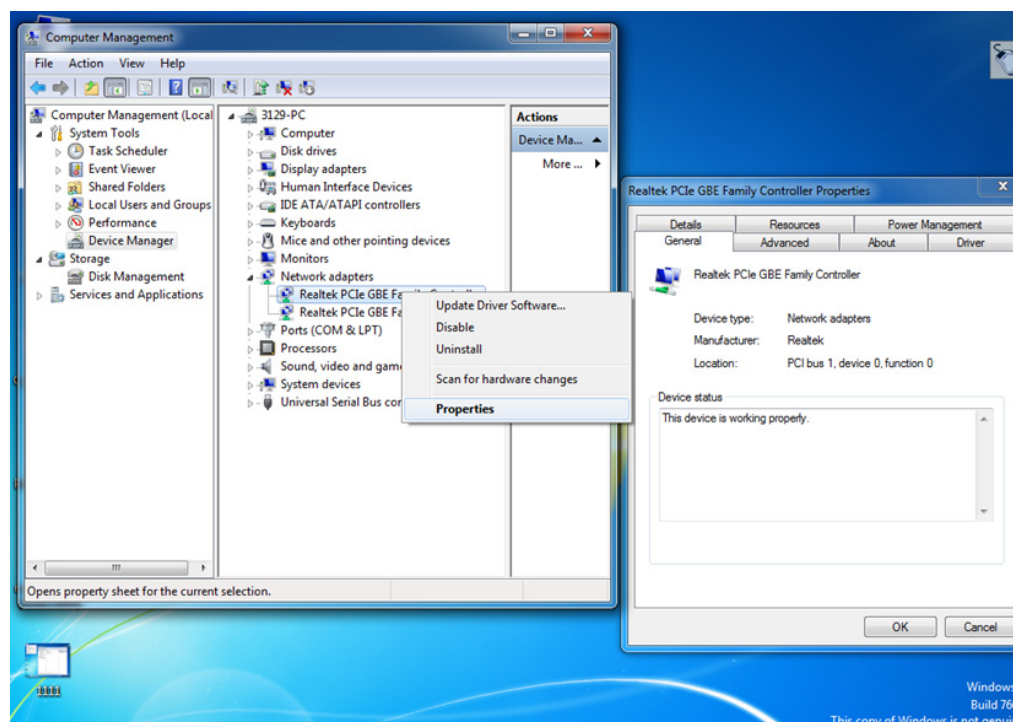
6. Select "Realtek PCIe GBE Family Controller Properties" under "Power Management", and check "Allow this device to wake the computer".
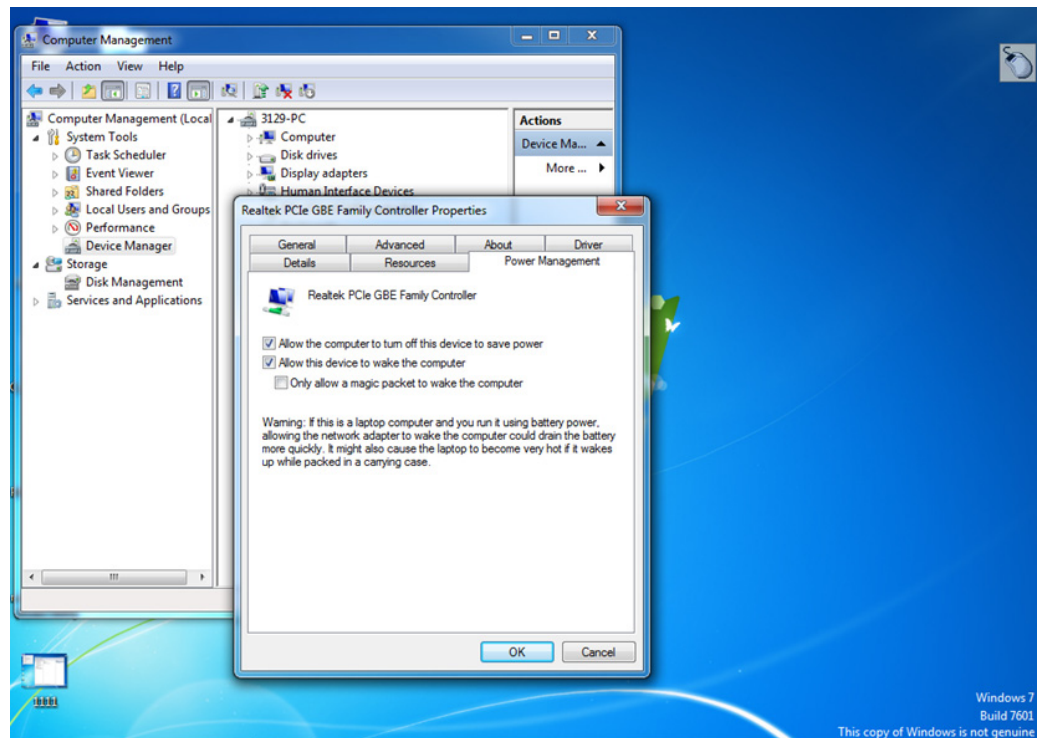
4.2.6 Windows XP Installation Directions

Due to the touchscreen limitation, before installing Windows XP in PPC-4150W, users need to close PCI function first, and reopen it after the driver is installed. Windows XP doesn't support 4-wire touch, but only one-wire touch.

a. If PCI function is not closed, Windows XP system installation will stop during the process but not complete.

b. If PCI function is not opened after Windows XP system is installed, the touchscreen would not work normally even though touchscreen XP driver is installed.

Please see the below procedures for operation details:

1. Press "Delete" key to enter BIOS setup screen when booting up.

2. Select "USB Configuration" under "Advanced".

```
          Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
    Main  Advanced  Chipset  Boot  Security  Save & Exit

                                                          USB Configuration Parameters
    Legacy OpROM Support
    Launch PXE OpROM                [Disabled]

  ▶ ACPI Settings
  ▶ CPU Configuration
  ▶ IDE Configuration
  ▶ USB Configuration
  ▶ Super IO Configuration
  ▶ H/W Monitor

                                                          ↔: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F2: Previous Values
                                                          F3: Optimized Defaults
                                                          F4: Save & Exit
                                                          ESC: Exit

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```

3. Set "PCT function" as "Disabled", and then press F4 to save and exit.

```
          Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
      Advanced

    USB Configuration                                     PCT function : Disabled/Enabled

    USB Devices:
          1 Drive, 2 Keyboards, 1 Mouse

    Legacy USB Support                [Enabled]
    EHCI Hand-off                     [Disabled]
    Right side USB                    [Enabled]
    PCT function                      [Disabled]

    USB hardware delays and time-outs:
    USB transfer time-out             [20 sec]
    Device reset time-out             [20 sec]
    Device power-up delay             [Auto]                ↔: Select Screen
                                                            ↑↓: Select Item
    Mass Storage Devices:                                   Enter: Select
    KingstonDataTraveler 2.01.00      [Auto]                +/-: Change Opt.
                                                            F1: General Help
                                                            F2: Previous Values
                                                            F3: Optimized Defaults
                                                            F4: Save & Exit
                                                            ESC: Exit

          Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

4. Install Windows XP as normally.
5. When the installation completes, please enter BIOS setup screen and set "PCT function" as "Enabled", then press "F4" to save and exit, and finally enter OS to install the touchscreen driver.

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