User Manual

PPC-3100

Intel Atom Processor- Based Panel PC with 10” Color TFT LCD Display

ADVANTECH

Enabling an Intelligent Planet

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 merchandise 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.

Part No. 200K300020 Edition 1

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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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Technical Support and Assistance

1. Visit the Advantech web site at www.advantech.com/support 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:
15. The power cord or plug is damaged.
16. Liquid has penetrated into the equipment.
17. The equipment has been exposed to moisture.
18. The equipment does not work well, or you cannot get it to work according to the user's manual.
19. The equipment has been dropped and damaged.
20. The equipment has obvious signs of breakage.
21. 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.
22. 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.
23. The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).
24. For use only with UL Listed Wall Mount Bracket with minimum weight/load 6 kg or equivalent.

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.

Contents

Chapter 1

General Information

This chapter gives background information on the PPC-3100.

Sections include:

- Specifications
- Dimensions

1.1 Introduction

Advantech PPC-3100 is an Intel Atom processor based Panel PC with a bright 10" LCD display. The powerful Atom CPU and Intel NM10 chipsets bring the most dynamic applications to life without sacrifices to any industrial reliability. The Internal Mini SATA interface can serve as an alternate HDD solution for OS booting and the Mini PCIe interface can be used by many expansion cards such as a wireless LAN card to extend device mobility. In order to satisfy customers' security concerns, PPC-3100 is also offered in a two Gigabit LAN port configuration. Four serial ports and four USB V2.0 ports give the PPC-3100 advanced application capability.

1.2 Specifications

1.2.1 General Specifications

- **Dimensions (W X H X D):** 275.00 x 220.00 x 64.30 mm (10.83" x 8.66" x 2.53")
- **Weight**: 2.6 kg (5.73 lb)
- **Power:**
  - DC Model: input voltage 12 ~ 30 V

1.2.2 Standard PC Functions

- **CPU:** Supports Intel® D2550 processor up to 1.86 GHz
- **BIOS:** AMI BIOS 16M bit SPI flash
- **Chipset:** Intel D2550/NM10
- **RAM:** One 204-pin sockets up to 4 GB DDR3 SDRAM
- **Serial ports:** Four serial ports, COM1, 3 and 4 are RS-232; COM2 is RS-232/422/485
- **Universal serial bus (USB) port:** Supports up to four USB V2.0 ports
- **Bus Expansion:** mini PCI-e *1
- **Storage interface:** SATA * 2 or SATA * 1 + MSATA * 1

1.2.3 Internal Graphics Specifications

- 640 MHz render clock frequency
- 2 display ports: LVDS and VGA
- Support Directx* 10.1 compliant Pixel Shader* v2.0 and OGL 3.0

1.2.4 Audio Functions

- **Chipset:** Realtek ALC892
- **Audio controller:** Supports host/soft audio from the Intel NM10 series chipset

1.2.5 Ethernet Interface

- 802.3x flow control support compliant
- IEEE 802.1p and 802.1q support
- 10/100/1000 IEEE 802.3 compliant

1.2.6 Touchscreen Specifications (Optional)

Table 1.1: Touchscreen Specifications

Type	Analog Resistive
Resolution	2048*2048
Light Transmission	81 ± 3%
Controller	COM
Power Consumption	+5.5 V @ 70 mA
Software Driver	Windows XP, Windows7
Durability (touches in a life-time)	36 million

1.2.7 Optional Modules

- **CPU:** Supports Intel Atom processor, D2550 1.86GHz
- **Memory:** Supports up to 4 GB DDR3 SDRAM [204-pin SODIMM socket x 1]
- **HDD:** Supports 2.5" SATA HDD
- **Touchscreen:** Analog resistive
- **Mini SATA:** One mini SATA slot

1.2.8 Environment

- **Temperature:** 0 ~ 50° C (32 ~ 122° F)
- **Relative humidity:** 10 ~ 95% @ 40° C (non-condensing)
- **Shock:** 10 G peak acceleration (11 msec duration)

1.2.9 Certifications:

- **EMC:** CE, FCC, BSMI, CCC
- **Safety:** CE, CB, UL, BSMI, CCC, VCCI

1.3 Dimensions

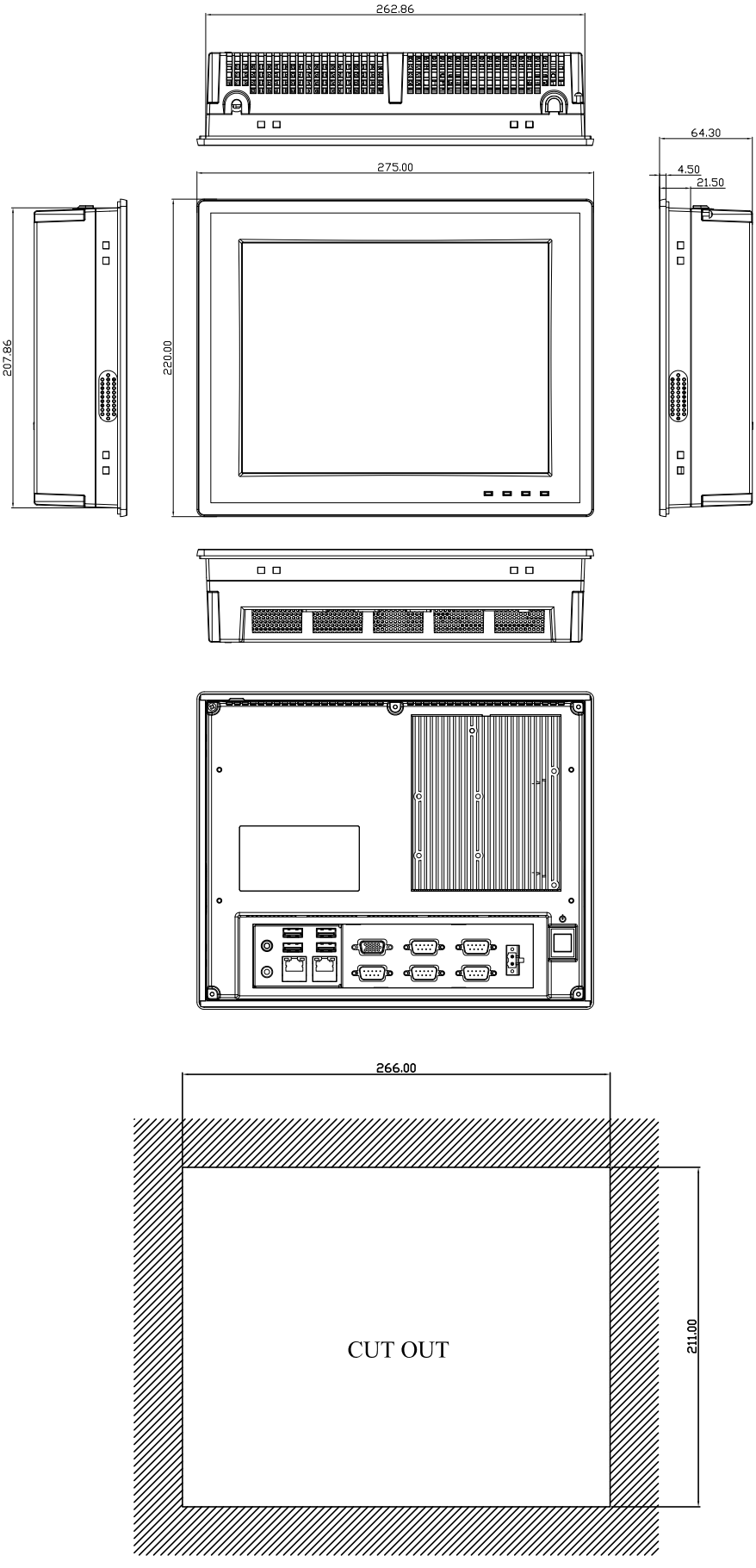


Figure 1.1 Dimensions of PPC-3100

Chapter 2

System Setup

This chapter gives system setup information for the PPC-3100.

Sections include:

- **A Quick Tour**
- **Installation Procedures**
- **Running the BIOS Setup**
- **Installing System software**

2.1 A Quick Tour of the Panel PC

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

When placed upright on the desktop, the front panel of the panel PC appears as shown in Figure 2.1 and Figure 2.2.

Note! *Front panel with USB interface doesn't meet IP65.*

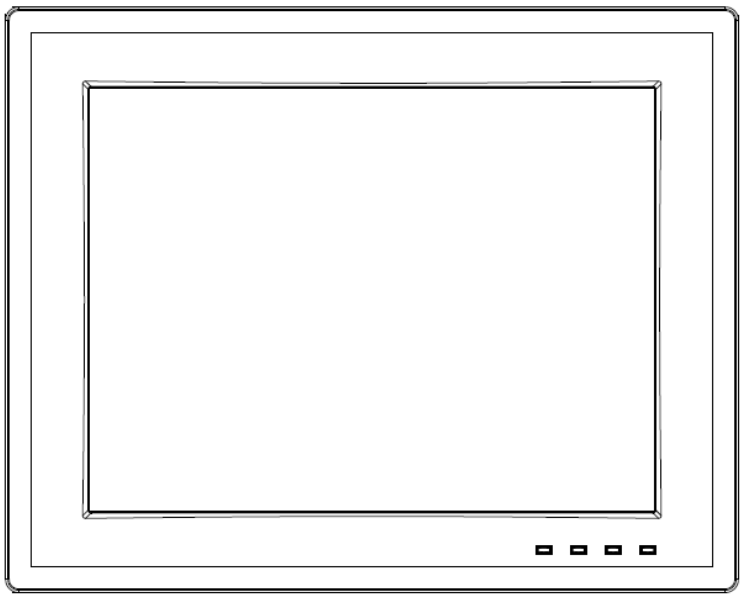


Figure 2.1 Front Panel of PPC-3100

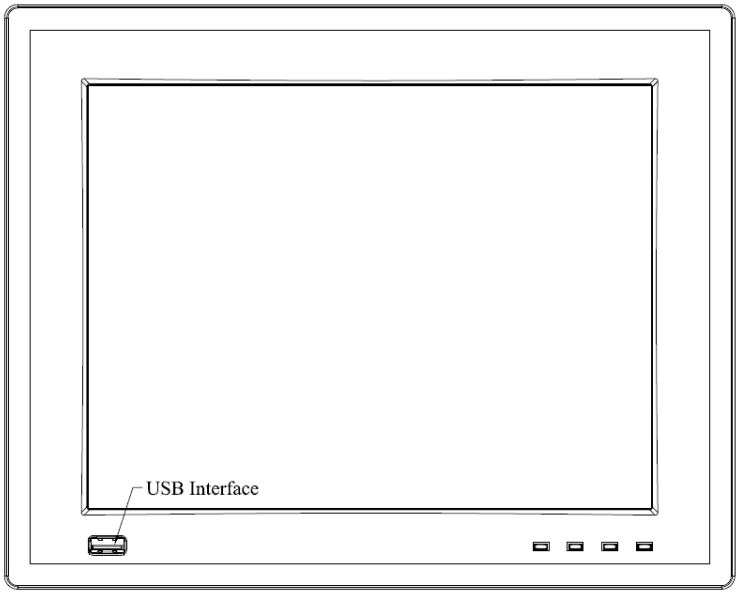


Figure 2.2 Front panel with USB connector (optional)

There are two antenna holes on the top of panel PC, as shown in Figure 2.3.

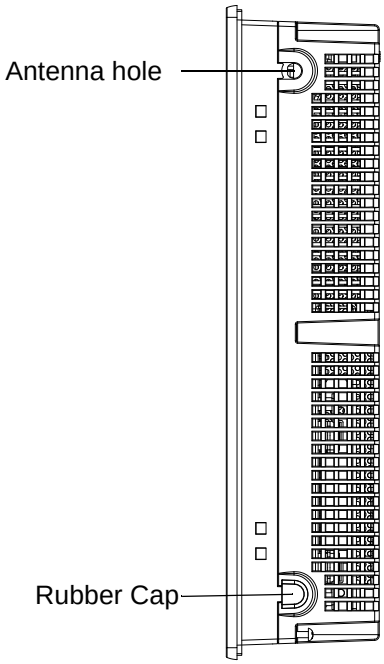


Figure 2.3 Side View of the Panel PC

Viewed from the rear. It is located on the back of the Panel PC as shown in Figure 2.4. The I/O section includes various I/O ports, including serial ports, USB ports, the Ethernet ports, DIO, the audio jacks, and so on.

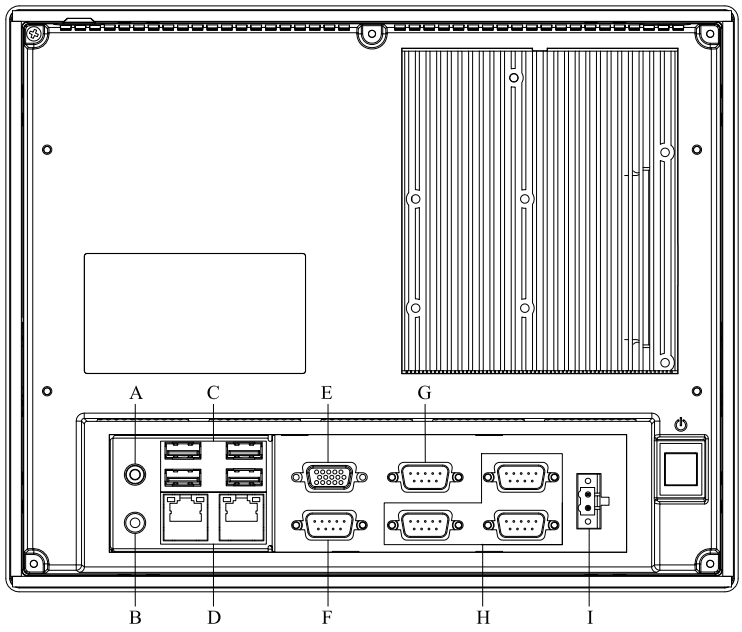
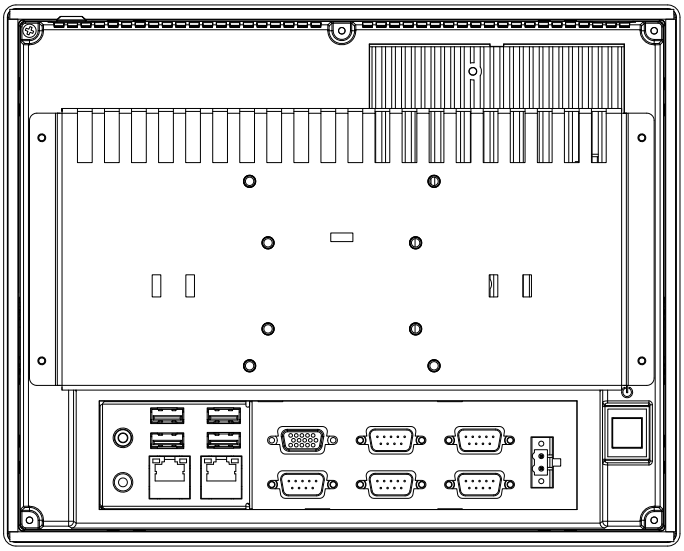


Figure 2.4 I/O Peripheral Connectors Panel of AC Input Model

A: Mic in
B: Line out
C: USB 2.0 x 4
D: 10/100/1000 Mbps Ethernet x 2
E: VGA Port
F: DIO Port
G: RS232/422/485 x 1
H: RS232 x 3
I: DC inlet

Optional VESA bracket provides VESA mounting holes (75x75mm, M4 type screw, 10mm depth).



VESA Mount screw: M4 x 6-10mm

Figure 2.5 Rear View of the Panel PC with VESA Bracket

Caution! *Use recommended mounting apparatus to avoid risk of injury.*

2.2 Preparing for First-time Use

Before commencing set up of the panel PC system, the following items should be available:

- Keyboard
- Mouse (for system software installation)

2.3 Installation Procedures

2.3.1 Connecting the Power Cord

The panel PC can be powered through an DC outlet (12 ~ 30 V). Be sure to handle the power cords by holding the plug ends only. Follow these procedures in order:

1. Connect the female end of the power cord to the DC inlet of the panel PC.
2. Connect the 3-pin male plug of the power cord to an electrical outlet.

Figure 2.6 Connecting the Power Cord

2.3.2 Connecting the Keyboard and Mouse

Connect the mouse and keyboard to the I/O section of PPC. If using a serial mouse and the panel PC has a touchscreen, it is possible to connect the mouse to any COM port.

2.3.3 Switching on the Power

Switch on the power switch, which is located inside the bottom side cover.

2.4 Running the BIOS Setup Program

The panel PC will be properly set up and configured by the dealer prior to delivery. However, it may be necessary to use the panel PC's BIOS (Basic Input-Output System) setup program to change the system configuration information, such as the current date and time, or the type of hard drive. The setup program is stored in read-only memory (ROM). It can be accessed either when you turn on or reset the panel PC, by pressing the 'Del' key on your keyboard immediately after powering on the computer.

The settings specified with the setup program are recorded in a special area of memory called "CMOS RAM". This memory is backed up by a battery so that it will not be erased after turning off or resetting the system. Whenever the power is turned on, the system reads the settings stored in CMOS RAM and compares them to the equipment check conducted during the power on self-test (POST). If a problem occurs, an error message will be displayed on screen, and the computer prompts the user to run the setup program.

2.5 Installing System Software

Recent releases of operating systems from major vendors include setup programs which load automatically and guide you through hard disk formatting and operating system installation. The guidelines below will help determine the steps necessary to install the operating system onto the panel PC hard drive.

Note! *Some distributors and system integrators may have already pre-installed system software prior to shipment.*

2.6 Installing the Drivers

After installing your system software, you will be able to set up the Chipset, Ethernet, VGA, audio and touchscreen functions. All the drivers are stored in a CD-ROM disc labeled "Drivers and Utilities". The CD-ROM can be found in your accessory box.

Figure 2.7 Drivers and Utilities on the CD-ROM

Note! *The drivers and utilities used for the PPC-3100 panel PCs are subject to change without notice. If in doubt, check Advantech's website or contact our application engineers for the latest information regarding drivers utilities.*

Chapter 3

Using the Panel PC

This chapter explains onboard devices and peripheral I/O ports available on the PPC-3100.

Sections include:

- **Serial COM Ports**
- **VGA Port**
- **USB Ports**
- **Audio Interface**
- **Ethernet**
- **Touchscreen (Optional)**

3.1 Introduction

This chapter describes basic features and procedures for using the panel PC. Topics covered include: I/O ports and the touchscreen.

This product is a high performance panel PC, please keep upright (see Fig. 3.1).

3.2 Serial COM Ports

There are four serial COM ports on the rear. It is simple to attach a serial device to the panel PC, such as an external modem or mouse. Follow these instructions:

1. Be sure the panel PC and any other peripheral devices that are connected to the panel PC are turned off.
2. Attach the interface cable of the serial device to the panel PC's serial port. (See Figure 3.1.) If necessary, attach the other end of the interface cable to the serial device. Fasten any retaining screws.
3. Turn on any other peripheral devices which are connected to the panel PC, and then turn on the panel PC.
4. Refer to the manual(s) which accompanied any serial device(s) for instructions on configuring the operating environment to recognize the device(s).
5. Run the BIOS setup program and configure the jumper settings to change the mode of the COM ports.

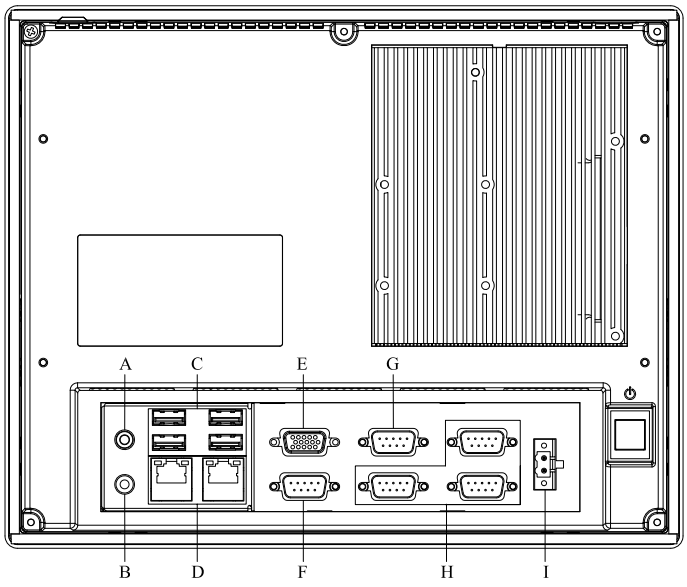


Figure 3.1 I/O Ports

3.3 VGA Port

An external VGA-compatible device may be connected to the system through the 15-pin external port located on the bottom of the system unit.

The panel PC simultaneously supports an external CRT monitor in addition to the built-in LCD display.

1. Be sure the panel PC is turned off.
2. Connect the external monitor to the system. (See Figure 3.1.)
3. Turn on the panel PC and the external monitor.

3.4 USB Ports

An external USB device may be connected to the system through the 4-pin USB ports located on the rear side and left side of the system unit.

1. Connect the external device to the system. (See Figure 3.1)
2. The USB ports support hot plug-in connections. Install the device driver before using the device.

3.5 Audio Interface

The audio interface includes two jacks: Microphone in and Line out. (See Figure 3.1) Their functions are:

- Microphone in: Use an external microphone to record voice and sound.
- Line out: Output audio to external devices such as speakers or earphones.

1. Connect the audio device to the system. (See Figure 3.1)
2. Install the driver before using the device.

3.6 Ethernet

External devices on the network may be connected to the system through the external Ethernet port located on the bottom of the system unit.

1. Be sure the panel PC is turned off.
2. Connect the external device(s) to the panel PC.
3. Turn on the panel PC and the external device(s).

3.7 Touchscreen (Optional)

The touchscreen is connected to the internal USB port. Its function is similar to that of a mouse. PPC-3100 supports resistive touchscreen.

It is necessary to install the touchscreen driver before it will function. The touchscreen drivers for various operating systems are stored on the CD-ROM disc inside the accessory box.

Chapter 4

Hardware Installation

This chapter gives instructions for installing hardware devices on the PPC-3100.

Sections include:

- **Jumpers and Connectors**
- **Disassembling the Panel PC**
- **Installing the Central**
- **Processing Unit (CPU)**
- **Installing the DDR3 SDRAM Memory Module**

4.1 Jumpers and Connectors

The panel PC consists of a PC-based computer that is housed in a metal shielding case with a plastic cover on the rear and bottom. All the computer devices, like the CPU, HDD, SDRAM, and power supply are all readily accessible after removing the rear panel or the HDD cover. Any maintenance or hardware upgrades can be easily completed after removing the rear panel and/or HDD cover.

Warning! *Do not remove the plastic rear cover until verifying that no power is flowing within the panel PC. Power must be switched off and the power cord must be unplugged. Each time the panel PC is serviced, users should be aware of this condition.*

4.2 Disassembling the Panel PC

The following are standard procedures for disassembling the panel PC before upgrading the system. All procedures are illustrated in Figure 4.1.

1. Unfasten the screws securing the rear plastic cover and remove it.

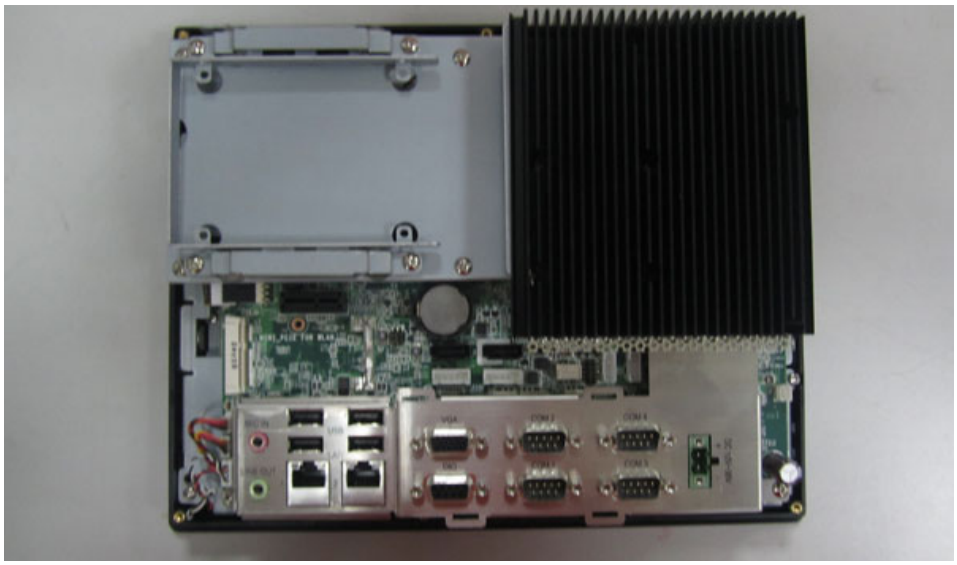


Figure 4.1 The Rear Cover

4.3 Installing the 2.5" Hard Disk Drive

One enhanced Serial ATA (SATA) hard disk drive may be attached to the panel PC. The following instructions are for installing the HDD:

1. Remove the rear cover as Figure 4.1.
2. Unfasten the screws and remove HDD bracket from system.(see Figure4.2)

Figure 4.2 The PPC HDD

3. Put HDD on HDD bracket and insert HDD cable on HDD(see Figure4.3), then fasten 4 HDD screws on the opposite side(see Figure 4.4).

Figure 4.3 Insert SATA HDD Cable on HDD

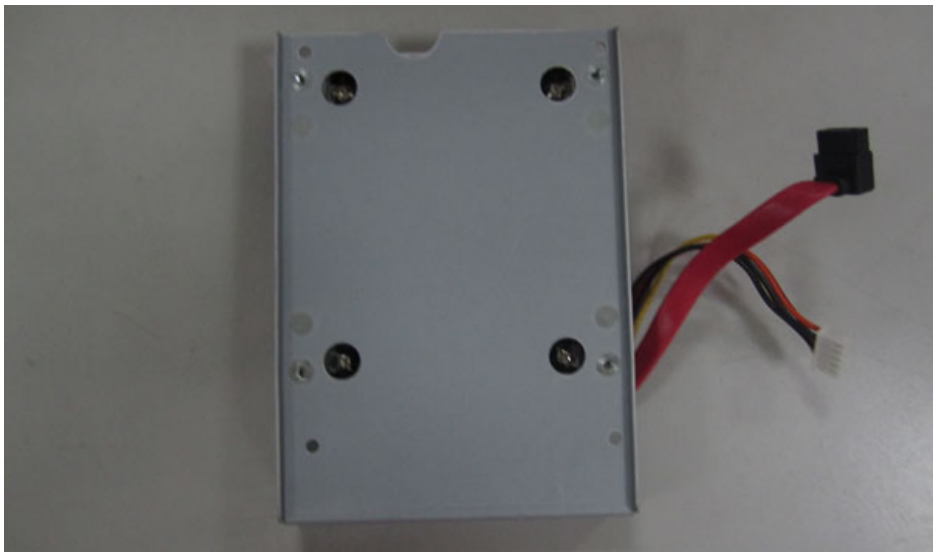


Figure 4.4 Fasten HDD Screws on the Opposite Side

4. Assemble HDD bracket on system, and connect HDD cable on the mother board(see Figure 4.5). Then assemble the rear cover complete HDD installation.

Figure 4.5 Assemble HDD Module on System

4.4 Installing the DDR3 SDRAM Memory Module

The panel PC system provides one 204-pin SODIMM sockets and it is possible to install 4 GB of DDR3 SDRAM memory.

1. Remove rear cover, and remove heat sink(see Figure 4.6)

Figure 4.6 Placing the Memory Module in the SODIMM Socket

2. Insert memory on memory slot, and stick a thermal pad on it(see Figure 4.7). Then assemble heat sink back on system and assemble rear cover.

Figure 4.7 Stick the Thermal Pad on the Memory

4.5 Installing the mini SATA

1. Remove rear cover and remove HDD bracket(see Figure 4.1 & 4.2)
2. Assemble mini SATA on left slot CN17.(see Figure4.8)

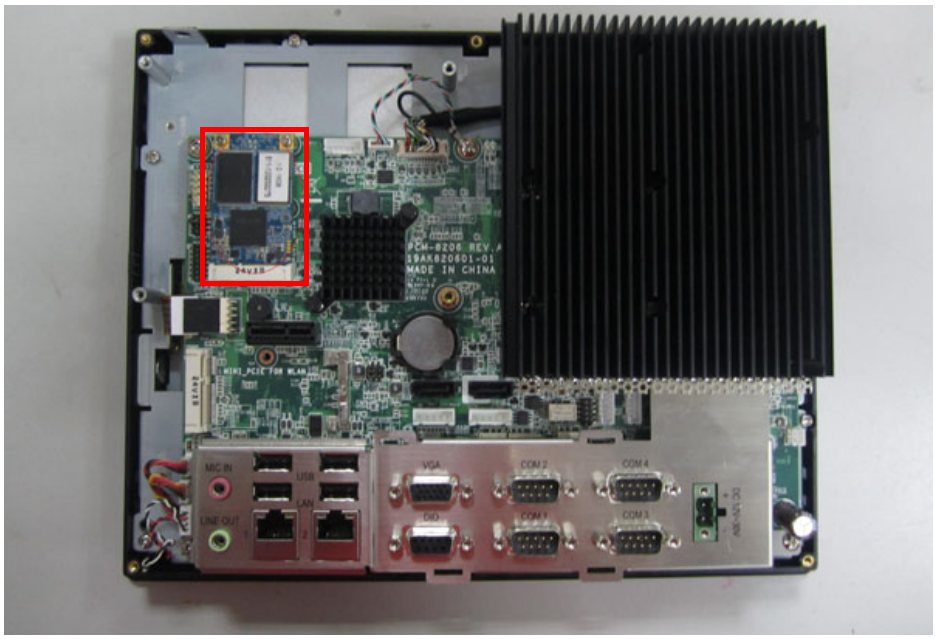


Figure 4.8 Installing the mini SATA

Chapter 5

Jumpers and Connectors

This chapter gives information on setting jumpers and using the connectors on the PPC-3100 motherboard.

Sections include:

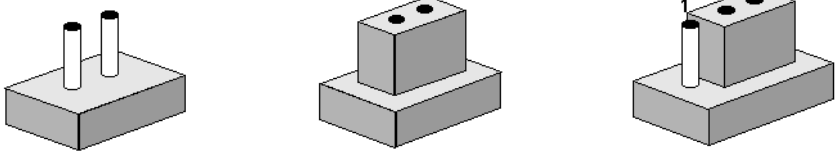
- **Setting Jumpers**
- **Jumpers and Connectors locations**
- **Connectors**

5.1 Jumpers and Connectors

This chapter supplies more detailed information about the internal jumper settings and an outline of the I/O ports available on the PPC-3100.

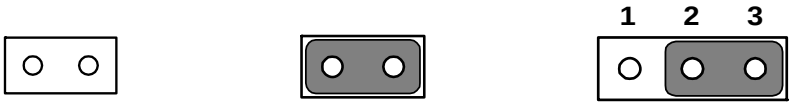
5.1.1 Setting Jumpers

The Panel PC can be configured to match the needs of each application by setting jumpers. A jumper is the simplest kind of electrical switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover), which slides over the pins to close the circuit and connect them. To ”close” a jumper, connect the pins with the clip. To “open” a jumper, remove the clip. Sometimes a jumper has three pins, labeled 1, 2, and 3. In this case, it is possible to connect either pins 1 and 2 or pins 2 and 3 to each other.



Open Closed Closed 2-3

The jumper settings are schematically depicted in this manual as follows:



Open Closed Closed 2-3

A pair of needle-nose pliers may be helpful when working with jumpers. If there are any doubts about the best hardware configuration for a particular application, contact the local distributor or sales representative before making any changes. An arrow is printed on the motherboard to indicate the first pin of each jumper.

5.1.2 Jumpers

The motherboard of the panel PC has a number of jumpers that help configure the system. It also has LED indicator lights that display the system operation status. The table below lists the function of each jumper and LED.

The motherboard of the PPC-3100 has a number of jumpers that allow you to configure your system to suit your applications.

CN15	Panel Resolution Selection
JP1	ATX/AT Mode Selection and clean CMOS Select

Table 5.1: CN15 Panel Resolution Selection

Description	For Select Panel Resolution and enable T/S
Setting	**Function**
(1-2)	1024x768
(3-4)	800x600 (default)
(5-6)	Reserved
(7-8)	T/S Disable

Table 5.2: JP1 ATX/AT Mode Selection and clean CMOS Select

Description	For ATX/AT Mode Select and CMOS clean
Setting	**Function**
(1-3)	Clear CMOS
(2-4)	AT Power
(3-5)	Normal (default)
(4-6)	ATX Power (default)

5.1.3 Jumper and Connector Locations

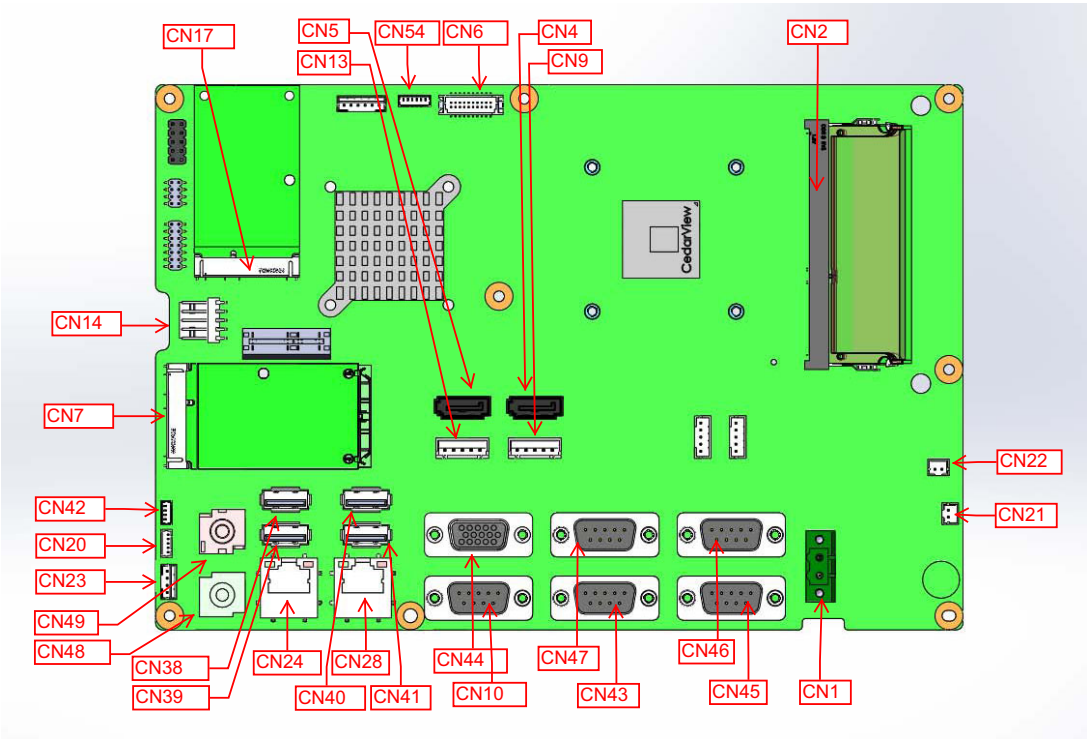


Figure 5.1 Jumpers & Connectors on PPC-3100 Motherboard

5.1.4 Connectors

Onboard connectors link the panel PC to external devices such as hard disk drives. The table below lists the function of each of connectors.

Table 5.3: Connector Table:	
CN1	DC_IN
CN2	DIMM1
CN4	SATA0
CN5	SATA1
CN6	LVDS
CN7	MINI PCIE
CN9	SATA0 POWER
CN10	GPIO
CN11	USB4
CN12	USB5
CN13	SATA1 POWER
CN14	TOUCH
CN17	MINI_SATA
CN18	KB/MS
CN20	FRONT LAN AND SATA LED
CN21	POWER BUTTON
CN23	AUDIO SPEAK OUT
CN24	LAN1
CN28	LAN2
CN36	TOUCH
CN38	USB0
CN39	USB1
CN40	USB2
CN41	USB3
CN42	FRONT LED SMBUS
CN43	COM1
CN44	VGA
CN45	COM3
CN46	COM4
CN47	COM2
CN48	LINE OUT
CN49	MIC IN
CN54	LED backlight

Table 5.4: CN1 DC_IN	
Pin	**Pin Name**
1	DC_IN
2	GND

Table 5.5: CN2 DIMM1	
Pin	Standard connect

Table 5.6: CN4 SATA0	
Pin	Standard connect

Table 5.7: CN5 SATA1	
Pin	Standard connect

Table 5.8: CN6 LVDS	
Pin	**Pin Name**
1	GND
2	GND
3	D0-
4	D3-
5	D0+
6	D3+
7	D1-
8	GND
9	D1+
10	DDC_DATA
11	D2-
12	GND
13	D2+
14	DDC_CLK
15	CLK-
16	GND
17	CLK+
18	RSV
19	VDD
20	VDD

Table 5.9: CN7 MINI PCIE	
Pin	Standard connect

Table 5.10: CN9 SATA0 POWER	
Pin	Pin Name
1	+3.3V
2	GND
3	+5V
4	GND
5	+12V

Table 5.11: CN10 GPIO

Pin	Pin Name
1	GND
2	GPIO4
3	GPIO0
4	GPIO5
5	GPIO1
6	GPIO6
7	GPIO2
8	GPIO7
9	GPIO3
10	+5V

Table 5.12: CN11 USB4

Pin	Standard connect

Table 5.13: CN12 USB5

Pin	Standard connect

Table 5.14: CN13 SATA1 POWER

Pin	Pin Name
1	+3.3V
2	GND
3	+5V
4	GND
5	+12V

Table 5.15: CN14 TOUCH

Pin	Pin Name
1	Y+
2	X+
3	SENSE
4	Y-
5	X-

Table 5.16: CN17 MINI_SATA

Pin	Standard connect

Table 5.17: CN18 KB/MS

Pin	Standard connect

Table 5.18: CN20 FRONTLAN AND SATA LED	
Pin	**Pin Name**
1	GND
2	LAN2_LED0
3	LAN1_LED0
4	SATA0_a_LED#
5	+V5

Table 5.19: CN21 POWER BUTTON	
Pin	**Pin Name**
1	PWRBTN#
2	GND

Table 5.20: CN23 AUDIO SPEAK OUT	
Pin	Standard connect

Table 5.21: CN24 LAN1	
Pin	Standard connect

Table 5.22: CN28 LAN2	
Pin	Standard connect

Table 5.23: CN36 TOUCH COLAY WITH CN14	
Pin	**Pin Name**
1.2	Y+
3.4	Y-
5.6	X+
7.8	X-

Table 5.24: CN38 USB0	
Pin	Standard connect

Table 5.25: CN39 USB1	
Pin	Standard connect

Table 5.26: CN40 USB2	
Pin	Standard connect

Table 5.27: CN41 USB3	
Pin	Standard connect

Table 5.28: CN42 FRONT LED SMBUS	
Pin	**Pin Name**
1	+V5
2	SMB_CLK
3	SMB_DAT
4	GND

Table 5.29: CN43 COM1	
Pin	**Pin Name**
1	DCD#
2	RX
3	TX
4	DTR#
5	GND
6	DSR#
7	RTS#
8	CTS#
9	RI#

Table 5.30: CN44 VGA	
Pin	**Pin Name**
1	R
2	G
3	B
4.11	NC
5.6.7.8.10	GND
9	+V5
12	DDAT
13	HS
14	VS
15	DCLK

Table 5.31: CN45 COM3	
Pin	Pin Name
1	DCD#
2	RX
3	TX
4	DTR#
5	GND
6	DSR#
7	RTS#
8	CTS#
9	RI#

Table 5.32: CN46 COM4	
Pin	**Pin Name**
1	DCD#
2	RX
3	TX
4	DTR#
5	GND
6	DSR#
7	RTS#
8	CTS#
9	RI#

Table 5.33: CN47 COM2			
Pin	**Pin Name**		
	RS232	RS422	RS485
1	DCD	422_TXD-	485_Data-
2	RXD	422_TXD+	485_Data+
3	TXD	422_RXD+	
4	DTR	422_RXD-	
5	GND	GND	
6	COM3_DSR		
7	COM3_RTS		
8	COM3_CTS		
9	RIC		

Table 5.34: CN48 LINE OUT	
Pin	Standard connect

Table 5.35: CN49 MIC IN	
Pin	Standard connect

Table 5.36: CN54 LED BACKLIGHT	
Pin	**Pin Name**
1.2	+V12
3.4	GND
5	BKL_EN
6	BRIGHT

Note! *CN19 COM1/COM2 RI Type Select is by BIOS.*

COM2 Selection by BIOS: ,"BIOS Setup" -> "Advanced" -> "Super IO Configuration" -> "Serial Port2 Configuration" -> "Serial Port2 Mode" -> "RS232/RS422/RS485".

COM port Pin 9 electric current: 5V/12V, 10% 0.75A (max).

COM Port Pin 9 selection: ,"BIOS Setup" -> "Advanced" -> "Super IO Configuration" -> "Serial Port1/2 Configuration" -> "Serial Port1/2 Pin9 Selet" -> "RI/5V/12V".

CN4 SATA and CN17 Mini SATA share with same bus, can only use one at same time.

CN17 can only support Mini SATA, Mini SATA priority is higher than SATA, so if you need use CN4 SATA, please remove CN17 Mini SATA card first.

Chapter 6

Driver Installation

This chapter gives information on installing drivers for the PPC-3100.

Sections include:

- **Driver Installation**
- **Updating Drivers**

6.1 Introduction

A Driver CD is supplied inside the accessory box. Customers may need to use an external USB CD-ROM related device to load the CD and install the drivers for the PPC-3100.

6.1.1 Driver Installation

Before installing the Ethernet driver, note the procedures below. It is necessary to know which operating system is installed on the PPC-3100. Then refer to the corresponding installation flow chart. Follow the steps described in the flow chart to complete the installation quickly. There are Drivers and documents included on the CD for the chipset, LAN, Audio, Touchscreen, VGA, and USB, as well as a PDF copy of this user manual.

Note!

1. *The CD-ROM drive is designated as "D" throughout this chapter.*
2. *<Enter> means pressing the "Enter" key on the keyboard.*

6.2 Updating Driver Search on the Advantech Website

For further information about installing drivers on the PPC-3100, and to access driver updates, troubleshooting guides and FAQ lists, visit the following web resources:

Advantech websites:

www.advantech.com

www.advantech.com.tw

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