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User's Manual

Panel PC 2901150

Version 1.3

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Safety Instructions

The safety recommendations outlined in this section are to be read, understood and followed before operating the product. Keep this information in a safe place for future reference. Failure to comply with any of the following safety procedures could result in serious hazard.

➢ Do not operate product for any purposes other than its intended use.

➢ This product is intended for indoor use only.

➢ Do not operate product if power cord is damaged in anyway.

➢ Do not insert objects into openings.

➢ Do not immerse product in water or permit liquids to spill inside.

➢ Turn off power when unattended or not in use. Unplug product before moving it or when it is not in use for an extended period of time. The socket-outlet shall be installed near the equipment and shall be easily accessible.

➢ Do not alter or extend electric plug. Plug is configured for appropriate electrical supply.

➢ Do not overload electrical outlets beyond their capacity as this can result in a fire.

Life Expectancy of Constituent Parts

This section describes the life expectancy of constituent parts (backlight, power supply, internal cooling fan and touch screen) which make up to 2901150.

- **TFT Display Backlight**

Display brightness decreases over time with use. The expected operating lifetime of the backlight time to reach 50% initial brightness) is 30,000 hours (assuming continuous lit state at 25 degrees C). Actual lifetime before replacement is about 30,000 hours, although this depends on operating conditions.

- **Power Supply**

Assuming continuous use at 25 degrees C, the expected life of the power supply is approximately 50,000 hours. This may be lower given use at higher temperatures.

- **Internal Cooling Fan**

The 2901150 is equipped with a built-in +12V cooling fan, the life expectancy of this fan under continuous use is approximately 50,000 hours (average time before the rate of rotation is reduced by approximately 30%). Although the rate of rotation will continue to go down, the fan should not just suddenly stop.

- **Touch Screen**

The operating lifetime of the touch screen is approximately 1 million operations (as tested by mechanical manipulation under 100g of force at a rate of two presses per second).

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Chapter 1

Introduction

The 2901150 is an industrial grade Panel PC which provides convenient expandability through one 32-bit PCI slot. The rear design of 2901150 enhanced the disassembly process when required. It also supports various mounting solution like wall mount, panel mount or desktop for different application.

The 2901150 has a 15" display and an optional touch screen that operate under all types of working environment. It offers OSD (On Screen Display) on the front panel for user's operation.

The 2901150 support various types of GAI's CPU cards, ranging from 586 to Intel Core 2 Duo, is compatible with 2901150. It also comes with a reliable power supply and two 4cm high efficient cooling fan to enhance system stability.

● The 2901150 is IBM PC/AT compatible and can draw from a large body of hardware and software resources worldwide.

● 150W power supply with NEMKO, IEC, UL, CE, CSA, TUV approved

● The user can select the operating system he wants to use just like an ordinary personal computer. An operating system such an MS-DOS, Windows can be selected to suit the application.

● The 2901150 features an all-in-one flat display.

● Keyboard less operations are possible through the use of a touch screen. In addition to a watchdog timer indispensable in FA applications.

You can select from a broad range of variations to arrive at the optimum configuration for your application and budget.

1.1   Major Features

The 2901150 comes with the following features:
➢ Aluminum front panel
➢ 15" TFT color panel display
➢ Provides full/half-size SBC, Pentium 4 CPU, Function Keys (optional)
➢ Built-in touch screen, 3907665 VGA interface baord, OSD, 1107701 backplane, 180W P/S
➢ Display, LAN controller (by SBC)
➢ Two COM, one parallel, two USB ports, PC/104, one PCI expansion slot
➢ One 2.5" HDD, one 3.5" HDD/FDD, and one slim CD-ROM spaces
➢ Two 4cm ball bearing cooling fans

1.2   Specifications

■ **System Board:** Industrial full/half-size SBC

■ **CPU:** Provides Intel Pentium 4 CPU (by SBC)

■ **Memory:** by SBC

■ **Backplane:** 1107701 backplane

■ **PCI Slot:** One PCI expansion slot

■ **OSD:** 3907665 VGA to Panel transfer card, supporting OSD function

■ **Function Keys:** Provides Function Keys in the front panel (optional)

■ **Touch Screen:** 15" resistive touch screen

■ **VGA:** by SBC

■ **LAN:** by SBC

■ **HDD/FDD/CD-ROM:** One 2.5" HDD, one 3.5" HDD/FDD and one slim CD-ROM spaces

■ **Parallel:** One enhanced bi-directional parallel port supporting SPP/ECP/EPP

■ **Serial Port:** Two serial ports

■ **PC/104:** PC/104 Bus connector for 16-bit ISA Bus

■ **USB:** Two USB ports

■ **Keyboard:** PS/2 6-pin Mini DIN

■ **Mouse:** PS/2 6-pin Mini DIN

■ **BIOS:** by SBC

■ **Watchdog Timer:** by SBC
■ **Thermal System:** Two 4cm ball bearing cooling fans
■ **Power Supply:** 180W Pentium 4 ATX power supply
■ **Temperature:** 0~45°C (operating); -20~+70°C (storage)
■ **Dimensions:** 43.0 x 8.2 x 32.1 cm

1.3　Backplanes

All backplanes designed by 4-layer PCB with Ground and Power planes for reduced noise and make lower impedance. All backplanes come with complete test.

Part Number	Number of slots Part Number			Size (cm)
	ISA	PCI-ISA	PCI	
1107701	0	1	2	26.42 x 4.5
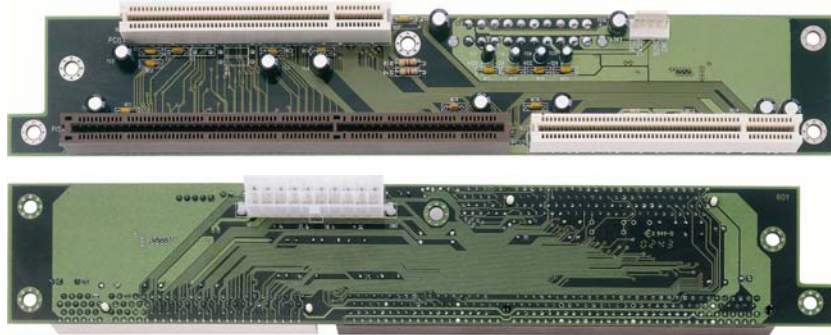
1.4　Control Keys

2901150 provides Function Keys and OSD Control Keys.

● **Function Keys Define (optional)**

● **OSD Control Keys Define (optional)**

3

- Menu: Menu/Item select
- Down: Cursor down control
- Up: Cursor up control
- Return: Return to menu

1.5   Dimensions
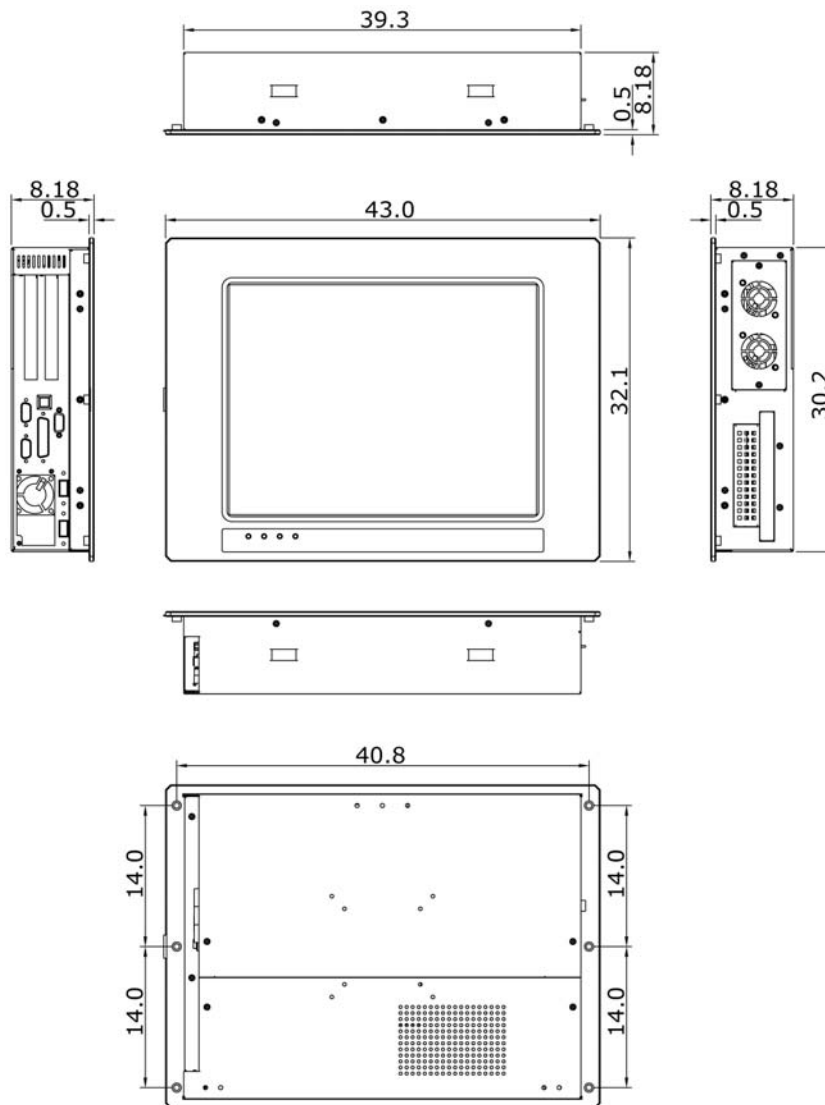
Chapter 2

Unpacking

2.1 Opening the Delivery Package

The 2901150 is packed in an anti-static bag. The board has components that are easily damaged by static electricity. Do not remove the anti-static wrapping until proper precautions have been taken. Safety Instructions in front of this manual describe anti-static precautions and procedures.

2.2 Inspection

After unpacking the Panel PC, place it on a raised surface and carefully inspect the board for any damage that might have occurred during shipment. Ground the board and exercise extreme care to prevent damage to the board from static electricity.

Integrated circuits will sometimes come out of their sockets during shipment. Examine all integrated circuits, particularly the BIOS, processor, memory modules, ROM-Disk, and keyboard controller chip to ensure that they are firmly seated. The 2901150 delivery package contains the following items:

- 2901150 Panel PC x 1
- Power Cable x 1
- Touch Screen Drive Diskette x 1 (optional)
- Drive CD Disk x 1
- SBC Manual x 1
- User's Manual x 1

It is recommended that you keep all the parts of the delivery package intact and store them in a safe/dry place for any unforeseen event requiring the return shipment of the product. In case you discover any missing and/or damaged items from the list of items, please contact Global American Inc. immediately.

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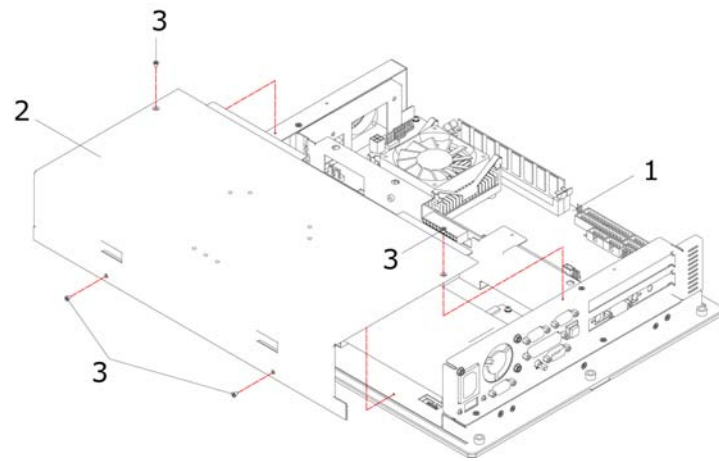
Chapter 3

Hardware Installation

This chapter tells how to install components into the Panel PC system. External Interface please refers to SBC's manual.
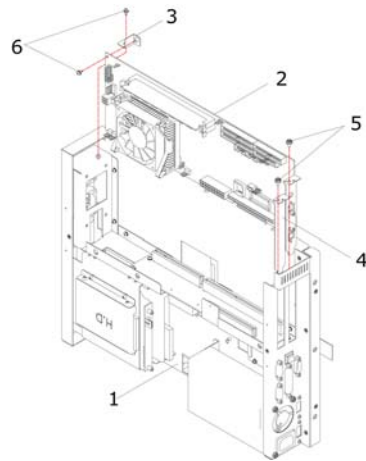
3.1   Open the Cover and Remove SBC
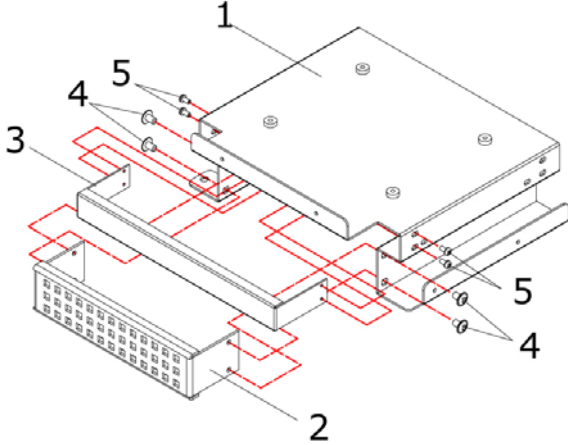
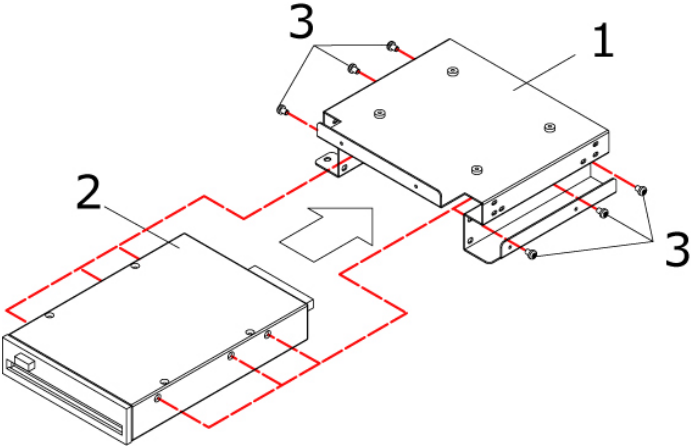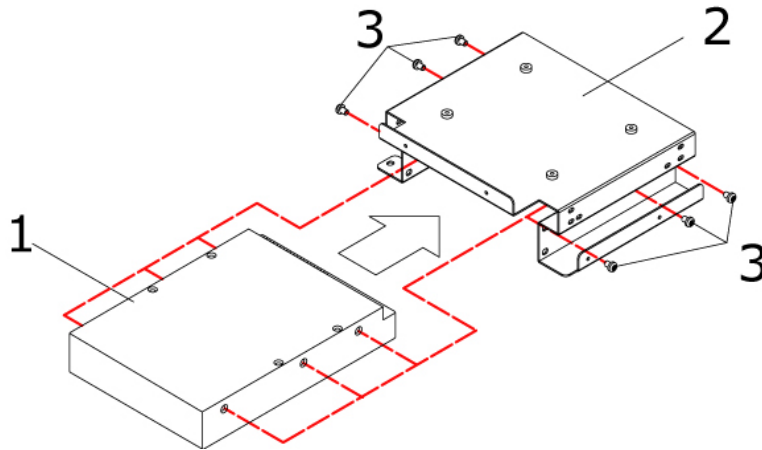1.   Please loose screw and open the cover.
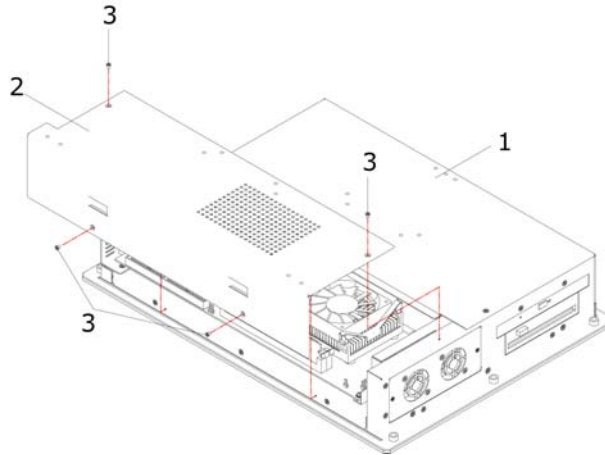
2. Remove the SBC.

3.2   About Drive Bay

1.   Install a CD-ROM drive. Insert the CD-ROM drive into the upper slim type drive bay. Carefully push the CD-ROM drive into the bay until its screw holes align with the holes on the bay as shown. Then secure the CD-ROM with two screws on each side of the bay.

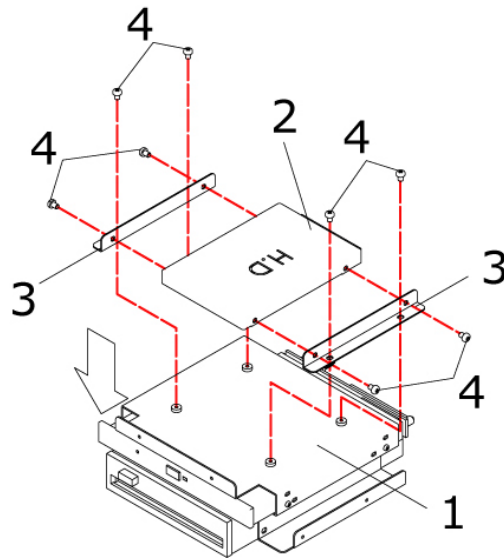2.   Install a FDD or 3.5″ HDD drive.

3. Install a slim type CD-ROM drive
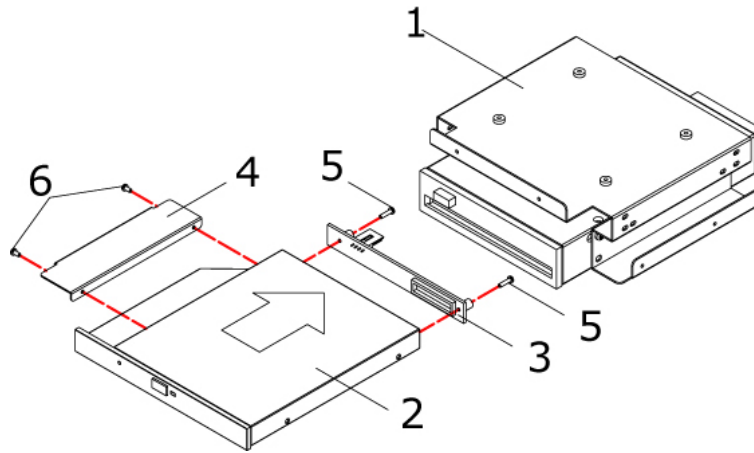
4. Install CD-ROM in three-in-one drive bay.
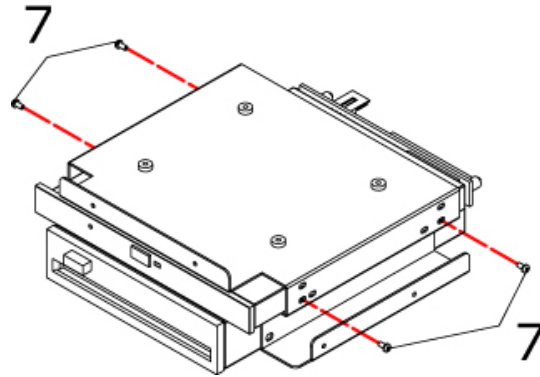
5. Install 2.5″ HDD.

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Chapter 4

Touch Screen Driver Installation

This chapter contains the detailed information of Touch Screen driver installation procedures. The utility disk that came with the delivery package contains an auto-run program that invokes the installation programs for the Touch Screen driver. The following sections describe the installation procedures of driver based on Win 2000 operating systems. It is recommended that you install the drivers matching the sections listed in this chapter.

4.1　Touch Screen Driver Installation

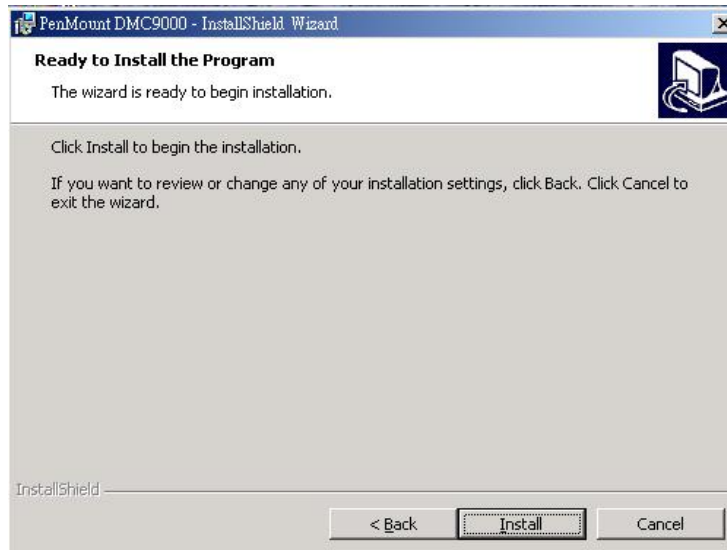### 4.1.1　Installing Touch Screen Driver in Win 95 and 98

1. Insert Utility CD Disk to your CD ROM drive. The main menu will pop up as shown below.

2. The screen displays copying "installation wizard" and "PenMount Utilities Installation" screen plus "welcome" message appear, click "Next".
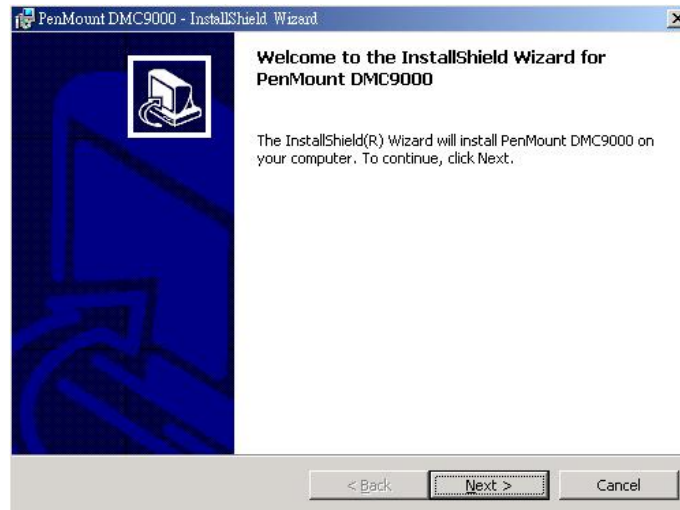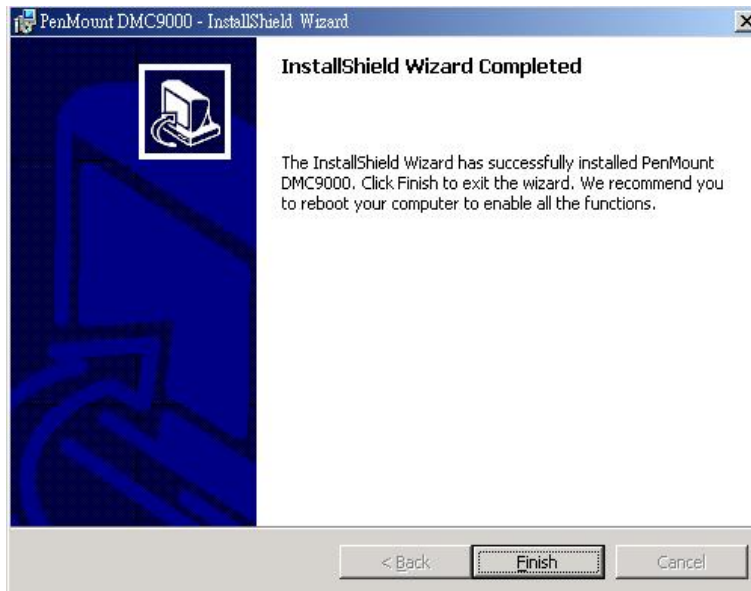
3. The next screen is "Software License Agreement", select "I accept" and click "Next".

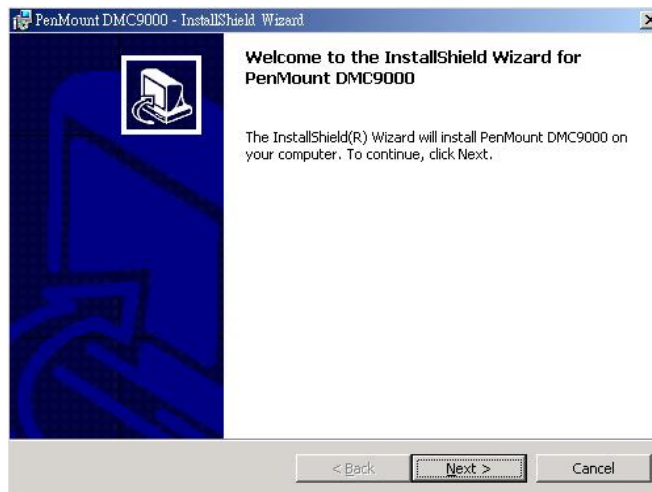4. The next screen is "Ready to Install the Program", click "Install".

5. Once the Install Shield Wizard finishes updating your system, it will prompt you to restart the computer. Click "Finish" to exit the wizard.
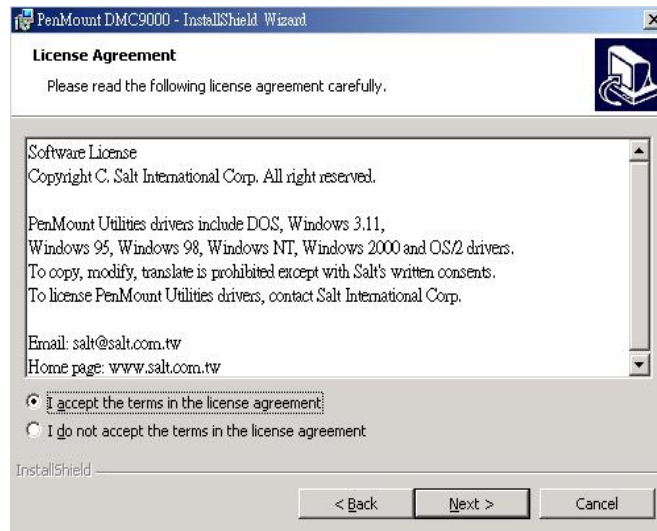
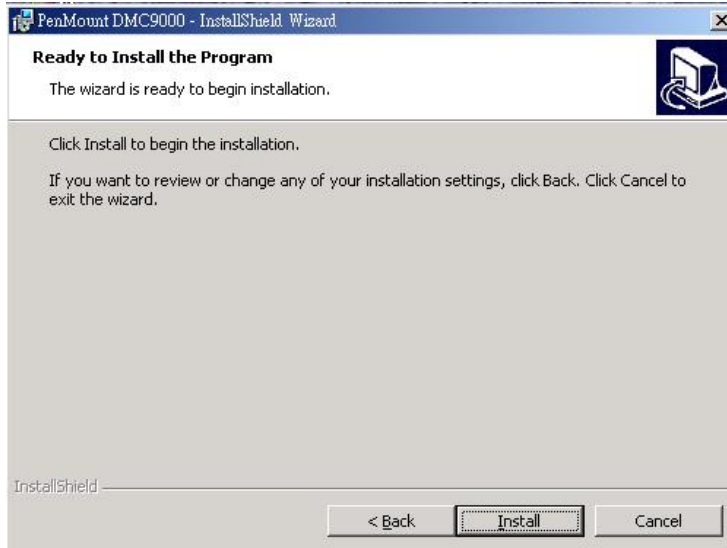## 4.1.2 Installing Touch Screen Driver in Win 2000

1.   Insert Utility CD Disk to your CD ROM drive. The main menu will pop up as shown below.

2.   The screen displays copying "installation wizard" and "PenMount Utilities Installation" screen plus "welcome" message appear, click "Next".
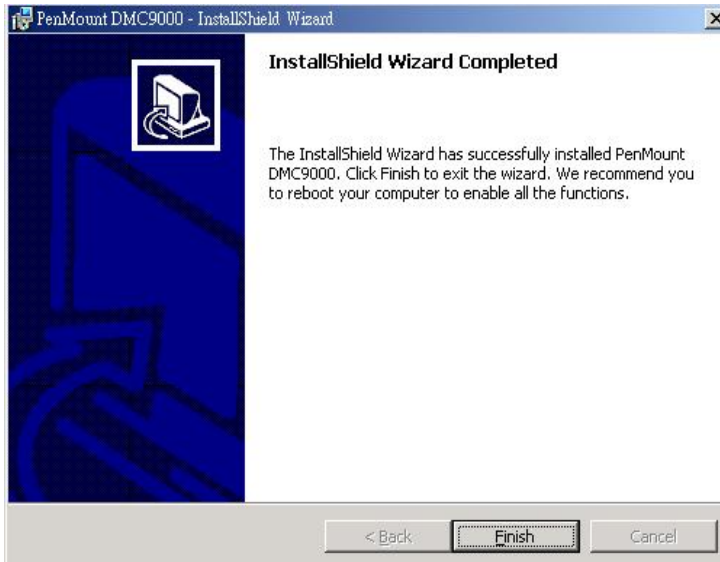

3.   The next screen is "Software License Agreement", select "I accept" and click "Next".

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4. The next screen is "Ready to Install the Program", click "Install".

5. Once the Install Shield Wizard finishes updating your system, it will prompt you to restart the computer. Click "Finish" to exit the wizard.
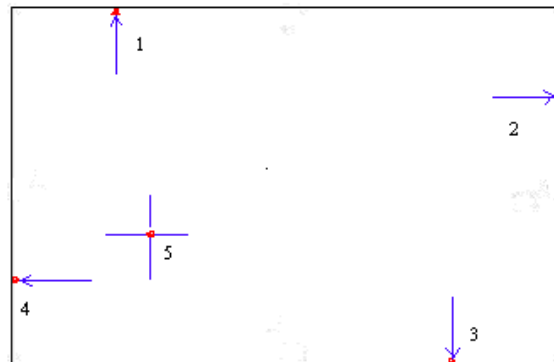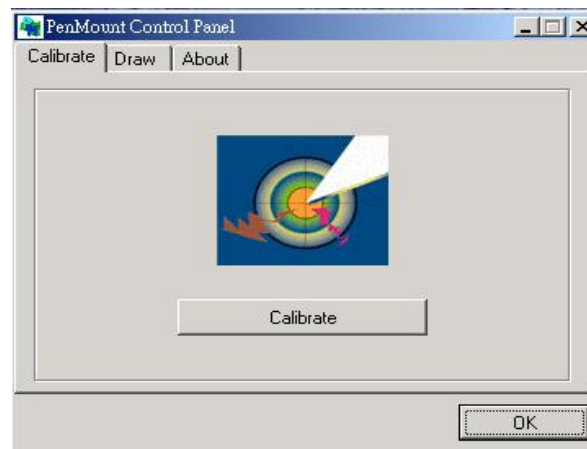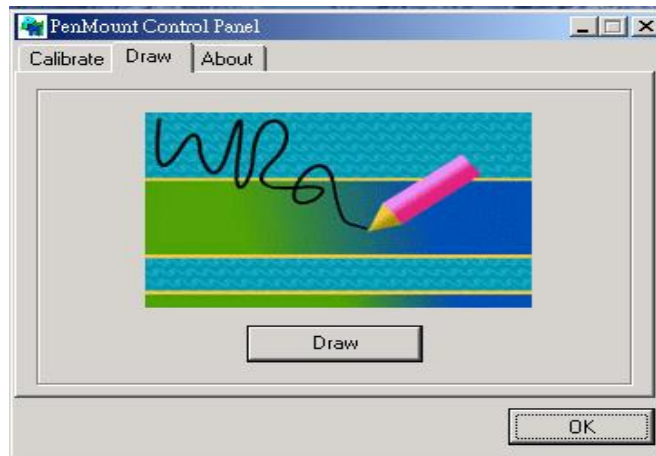
4.2 Driver Functions

4.2.1 PenMount Control Panel

● **Calibrate**

To adjust the display with touch screen, click "Calibration" and follow the calibrate point to do calibration, there are five points on screen for calibration.

● **Draw**

Test or demonstrate PenMount touch screen operation, also the touch location is shown on the display, touch "DRAW" to start.

● **About**

It shows information about PenMount controller and this driver.

4.2.2 PenMount Monitor

The PenMount monitor icon is shown in the menu bar of Windows 2000 system when turn on PenMount monitor from PenMount Utilities.

```
 Control Panel
 ─────────────
 Beep
 Right Button
 ─────────────
 Exit
```

There are several functions on PenMount monitor:

● **Right Click Button**

      When select this function, there is a mouse icon shown in the right-button place of screen. It shows 'left button' being as default for normal use, touch this mouse icon to change the next touch to be 'Right Button' function. After one touch, the mouse icon will change to 'Left Button' automatically. If user needs to use right button again, user has to touch the mouse icon again for changing the button function.

● **Beep**

      Turn on or off beep sound.

● **Exit**

      Close the PenMount Monitor function.

Any advice or comments about our products and service, or anything we can help you with please don't hesitate to contact with us. We will do our best to support your products, projects and business.

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