POC-174

Pentium®4-M processor-based
panel PC with 17" LCD flat panel display

User's Manual

Copyright notice

Part No. 2008174010

1st. Edition

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FCC Class B

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 residential environment. This equipment generates, uses and can radiate radio frequency energy. If not installed and used in accordance with this user's manual, it may cause harmful interference to radio communications. Note that even when this equipment is installed and used in accordance with this user's manual, there is still no guarantee that interference will not occur. If this equipment is believed to be causing harmful interference to radio or television reception, this can be determined by turning the equipment on and off. If interference is occurring, 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 the receiver
- Connect the equipment to a power outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Warning: *Any changes or modifications made to the equipment which are not expressly approved by the relevant standards authority could void your authority to operate the equipment.*

Caution! *Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.*

Packing List

Before installing your Point of Care Terminal, ensure that the following materials have been received:

- POC-174 series Point of Care Terminal
- User's manual
- Accessories for POC-174
  - Y-shaped adapter for PS/2 mouse and keyboard
  - Power cord (1.8 m) - USA type (other types are available on request)
  - Floppy disk with CD-ROM drive driver
  - "Drivers and Utilities" CD-ROM disc
  - Mounting kits and packet of screws
  - Heat sink (optional) (refer to Notes 1 and 2 below)

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

Note 1: *If the unit you have bought is basic (i.e. without a CPU, HDD, or SDRAM), you will find this optional item in the accessory box.*

Note 2: *If you install an Intel® processor yourself, you must install a heat sink above the CPU. This will avoid heat damage to the CPU.*

Additional Information and Assistance

1. Visit the Advantech websites at **www.advantech.com** or **www.advantech.com.tw** 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

Warning!

1. Input voltage rated 100-250 V_{AC}, 50/60 Hz, 4 A

2. Use a 3 V @ 195 mA lithium battery

3. Packing: please carry the unit with both hands, handle with care

4. Our European representative:

Advantech Europe GmbH
Kolberger Straße 7
D-40599 Düsseldorf, Germany
Tel: 49-211-97477350
Fax: 49-211-97477300

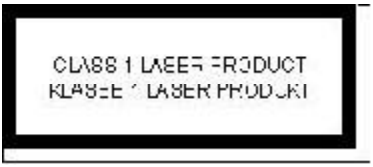
5. Maintenance: to properly maintain and clean the surfaces, use only approved products or clean with a dry applicator

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User's 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:
    a. The power cord or plug is damaged.
    b. Liquid has penetrated into the equipment.
    c. The equipment has been exposed to moisture.
    d. The equipment does not work well, or you cannot get it to work according to the user's manual.
    e. The equipment has been dropped and damaged.
    f. The equipment has obvious signs of breakage.
15. DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS MAY DAMAGE THE EQUIPMENT.
16. CAUTION: The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivlent type recommended by the manufacture. Discard used batteries according to the manufacturer’s instructions.

17.THE COMPUTER IS PROVIDED WITH CD DRIVES COMPLY WITH APPROPRIATE SAFETY STANDARDS INCLUDING IEC 60825.

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

Wichtige Sicherheishinweise

1. Bitte lesen sie Sich diese Hinweise sorgfältig durch.
2. Heben Sie diese Anleitung für den späteren Gebrauch auf.
3. Vor jedem Reinigen ist das Gerät vom Stromnetz zu trennen. Verwenden Sie Keine Flüssig-oder Aerosolreiniger. Am besten dient ein angefeuchtetes Tuch zur Reinigung.
4. Die NetzanschluBsteckdose soll nahe dem Gerät angebracht und leicht zugänglich sein.
5. Das Gerät ist vor Feuchtigkeit zu schützen.
6. Bei der Aufstellung des Gerätes ist auf sicheren Stand zu achten. Ein Kippen oder Fallen könnte Verletzungen hervorrufen.
7. Die Belüftungsöffnungen dienen zur Luftzirkulation die das Gerät vor überhitzung schützt. Sorgen Sie dafür, daB diese Öffnungen nicht abgedeckt werden.
8. Beachten Sie beim. AnschluB an das Stromnetz die AnschluBwerte.
9. Verlegen Sie die NetzanschluBleitung so, daB niemand darüber fallen kann. Es sollte auch nichts auf der Leitung abgestellt werden.
10. Alle Hinweise und Warnungen die sich am Geräten befinden sind zu beachten.

11. Wird das Gerät über einen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.
12. Durch die Lüftungsöffnungen dürfen niemals Gegenstände oder Flüssigkeiten in das Gerät gelangen. Dies könnte einen Brand bzw. elektrischen Schlag auslösen.
13. Öffnen Sie niemals das Gerät. Das Gerät darf aus Gründen der elektrischen Sicherheit nur von authorisiertem Servicepersonal geöffnet werden.
14. Wenn folgende Situationen auftreten ist das Gerät vom Stromnetz zu trennen und von einer qualifizierten Servicestelle zu überprüfen:
    a - Netzkabel oder Netzstecker sind beschädigt.
    b - Flüssigkeit ist in das Gerät eingedrungen.
    c - Das Gerät war Feuchtigkeit ausgesetzt.
    d - Wenn das Gerät nicht der Bedienungsanleitung entsprechend funktioni ert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.
    e - Das Gerät ist gefallen und/oder das Gehäuse ist beschädigt.
    f - Wenn das Gerät deutliche Anzeichen eines Defektes aufweist.
15. Bitte lassen Sie das Gerät nicht unbehehrt hinten unter -20° C (-4° F) oder oben 60° C (140° F), weil diesen Temperaturen das Gerät zerstören könten.

Der arbeitsplatzbezogene Schalldruckpegel nach DIN 45 635 Teil 1000 beträgt 70 dB(A) oder weiger.

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CHAPTER 1

GENERAL INFORMATION

This chapter gives background information on the POC-174 Point of Care Terminal.

- Introduction
- How to Use This Manual
- Specifications
- Dimensions

1.1 Introduction

The POC-174 is a multimedia Pentium® 4 Mobile processor-based computer that is designed to serve as a Point of Care terminal (POC.) It is a PC-based system with 17" color TFT LCD display, on-board PCI Ethernet controller, multi-COM port interfaces and a 16-bit stereo audio controller. With a built-in CD-ROM drive, floppy drive and PCMCIA expansion sockets, the POC-174 is as compact and user-friendly as a notebook computer.

For system integrators, this simple, complete, compact and highly integrated multimedia system lets you easily build a Point of Care Terminal into your applications. Common industrial applications include factory automation systems, precision machinery, and production process control. It is also suitable for many nonindustrial applications, including interactive kiosk systems, entertainment management, and car park automation. The POC-174 is a reliable, cost-effective solution to your application's processing requirements.

1.2 Specifications

General

- **Dimensions (W x H x D):** 437 x 377 x 131mm (17.20" x 14.84"x 5.15 ")
- **Weight:** 12 kg (26.5 lb)
- **Power supply:**
  AC model:
  180 watts
  Input voltage: 100~240 V_{AC}, 4 A max. @ 50 ~ 60 Hz
  Output voltages: +5 V @ 12 A, +12 V @ 12 A,
  +3.3 V @ 16.8 A, +5 Vsb @ 2.0 A, -12 V @ 0.8 A
  DC model:
  Input voltage: +24VDC, 7.5A max
  Output voltage: +5V@10A, +12V@4A, -12V@1A,
  +3.3V@8A, +5Vsb@0.75A
- **Cooling fan dimensions (L x W x H):**

  CPU fan: 60 x 60 x 10 mm (2.4" x 2.4" x 0.4")
- **Disk drive housing:** Space for one 2.5" HDD, one 12.7 mm compact CD-ROM drive, and one slim type 3.5" FDD
- **Front panel:**
  IP65/NEMA compliant
- **Whole System:**

  IPX1 compliant

Standard PC functions

- **CPU:** Intel® Pentium® 4 Mobile and Celeron™ up to 2.4 GHz
- **BIOS:** Award 256 KB Flash BIOS, supports Plug & Play, APM
- **Chipset:** Intel 845GV
- **2nd level cache:** On-die 512 KB
- **RAM:**
  Two 184-pin DIMM socket accepts up to 2 GB DDR333/266 DRAM
- **PCI bus master IDE interface:** Supports two connectors. Each connector has one channel and supports two IDE devices. Each channel supports PIO modes 0 ~ 4, DMA mode 0 ~ 2, and Ultra DMA 100 simultaneously. The secondary connector is designated for the CD-ROM drive. BIOS supports IDE CD-ROM boot-up
- **Floppy disk drive:** Supports up to two FDDs (720 KB / 1.44 MB). One built-in FDD included inside FDD housing
- **Parallel port:** One parallel port, supports SPP/EPP/ECP parallel mode. BIOS configurable to LPT1, LPT2, LPT3 or disabled
- **Serial ports:** Four RS-232 ports with optical isolation. All ports are compatible with 16C550 UARTs
- **Universal serial bus (USB) port:** Supports up to four USB ports (Two internal, two external)
- **PCI/ISA bus expansion slot:**
  Accepts one PCI bus card
- **Watchdog timer:** 62-level, interval 1 ~ 62 seconds.
  Automatically generates system reset or IRQ11 when the system stops due to a program error or EMI. Jumperless selection and software enabled/disabled
- **Battery:** 3.0 V @ 195 mA lithium battery

Flat panel interface

- **Chipset:** Intel 845GV
- **Display memory:** 64 MB shared memory
- **Display type:** Simultaneously supports CRT and flat panel displays (EL, LCD and gas plasma)
- **Display resolution:** Supports non-interlaced CRT and TFT LCD displays up to 1280 x 1024 @ 16 M colors

Audio function

- **Chipset:** Realtek ALC202
- **Audio controller:**
  16-bit codec, Full-Duplex stereo single-chip PCI audio solution
- **Speaker:** Full Alarm Volumn > 70 dB(A) 1 meter
- **Stereo sound:** 100% DOS GAME compatible (Sound Blaster or Sound Blaster Pro)
- **Audio interface:**
  Microphone-in, Line-in, Line-out and Game ports (MPU-401)

PCI bus Ethernet interface

- **Chipset:** Realtek RTL 8100BL PCI local bus Ethernet controller
- **Ethernet interface:** Full compliance with IEEE 802.3u 100Base-T and 10 Base-T specifications. Includes software drivers and boot ROM
- **100/10Base-T auto-sensing capability**

PCMCIA interface

- **Chipset:** RICOH 5C478II
- **Cardbus controller:** A PC card controller offers a single chip solution as a bridge between the PCI bus and the Cardbus
- **PCI bus interface:** Complies with PCI Local Bus Specification 2.2, and supports the 32-bit Cardbus (Card-32) and the 16-bit PC card (Card-16) without external buffers
- **Hot insertion and removal**

Touchscreen (optional)

Type	**Analog Resistive**
Resolution	Continuous
Light Transmission	75%
Controller	RS-232 interface (uses COM4)
Power Consumption	+5 V @ 200 mA
Software Driver	Supports DOS, Windows 3.1, Windows 95/98, Windows NT4.0
Durability (touches in a lifetime)	30 million

Note: The Point of Care Terminal with the optionally installed touchscreen will share COM4. Once the touchscreen is installed, COM4 cannot be used for other purposes.

Optional modules

- **CPU:** Intel® Pentium®4 Mobile and Celeron™ up to 2.2GHz
- **Memory:** 256/512 MB DDR333 DRAM
- **HDD:** 2.5" HDD
- **Touchscreen:** Analog resistive
- **CD-ROM drive:** Compact 24X CD-ROM or above
- **DVD-ROM drive:** Compact 6X DVD-ROM or above
- **CD-RW drive:** Compact 8X/4X/24X CD_RW or above
- **PCMCIA interface:** Complies with 1995 PCMCIA card standard. Supports two PCMCIA card/CardBus slots. Two sockets support both a 16-bit PCMCIA card and a 32-bit CardBus simultaneously. Hot insertion and removal

Note 1: The PCMCIA driver of Windows 95 which includes a PCMCIA interface is available on the "Drivers and Utilities" CD-ROM of your POC-153 package.

Environment

- **Temperature:** 0 ~ 40° C (32 ~ 104° F)
- **Relative humidity:**

10 degree° C to 40 degree° C / 20%RH to 90%RH operating

-20 degree° C to 50 degree° C/ 10%RH to 95%RH Storage

(Non-condensing)

- **Shock:** 50 G, half sine, 11 msec duration
- **Vibration:** 0.047 double amplitude displacement (5~32Hz) 2G Peak (32 -500 Hz)
- **Power MTBF:** 100,000 hrs
- **Altitudes:** Operational : 10,000 feet ; shipping : 40,000 feet

- **Certifications:**
  EMC: CE, FCC, VCCI, BSMI approved
  Safety: UL1950, UL2601-1, EN60950 and EN60601-1 approved.
  This device bears the CE label in accordance with the provisions of the EMC Directive 89/336/EMC and the Low Voltage Directive 73/23/EEC.

Cleaning/Disinfecting

During normal use of the POC-174 may become soiled and should, therefore, be cleaned regularly.

Agents: Green tinctured soap and Enzymatic detergents

Steps:

1. Wipe the POC-174 with a clean cloth that has been moistened in the cleaning solution.

2. Prepare agent per manufacturer's instructions or hospital protocol.

3. Wipe thoroughly with a clean cloth

Cautions:

Do not immerse or rinse the POC-174 and its peripherals. If you accidentally spill liquid on the device, disconnect the unit from the power source. Contact your Biomed regarding the continued safety of the unit before placing it back in operation.

Do not spray cleaning agent on the chassis.

Do not use disinfectants that contain phenol. Do not autoclave or clean the POC-174 or its peripherals with strong aromatic, chlorinated, ketone, ether, or Esther solvents, sharp tools or abrasives. Never immerse electrical connectors in water or other liquids.

1.3 LCD Specifications

Display type: 17" TFTLCD

Max. resolution: 1280 x 1024

Colors: 16.7 M (8 bits/color)

Dot size (mm): 0.264 x 0.264

Viewing angle: 140°

Luminance: 250 cd/m2

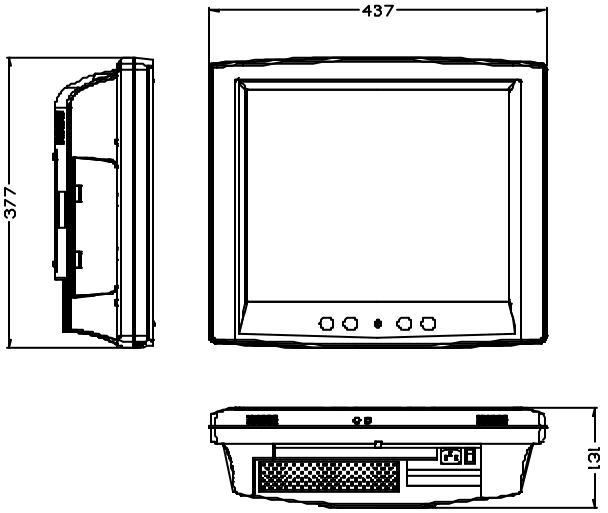
Contrast ratio: 400 : 1

LCD MTBF: 50,000 hours

Backlight lifetime: 50,000 hours

*The VR control is defined by hot key in DOS or BIOS mode as below: Ctrl-Alt-F3, CTRL-Alt-F4.

1.4 Dimensions



Unit: mm

Figure 1-1: Dimensions of the POC-174

Note: The color LCD display installed in the POC-174 is of high-quality and reliable. However, it may contain a few defective pixels which do not always illuminate. With current technology, it is impossible to completely eliminate defective pixels. Advantech is actively working to improve this technology.

CHAPTER 2

SYSTEM SETUP

- A Quick Tour of the POC-174
- Installation Procedures
- Running the BIOS Setup Program
- Installing System Software
- Installing the Drivers

2.1 A Quick Tour of the POC-174

Before you start to set up the POC-174, 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 POC-174 upright on the desktop, its front panel appears as shown in Figure 2-1.

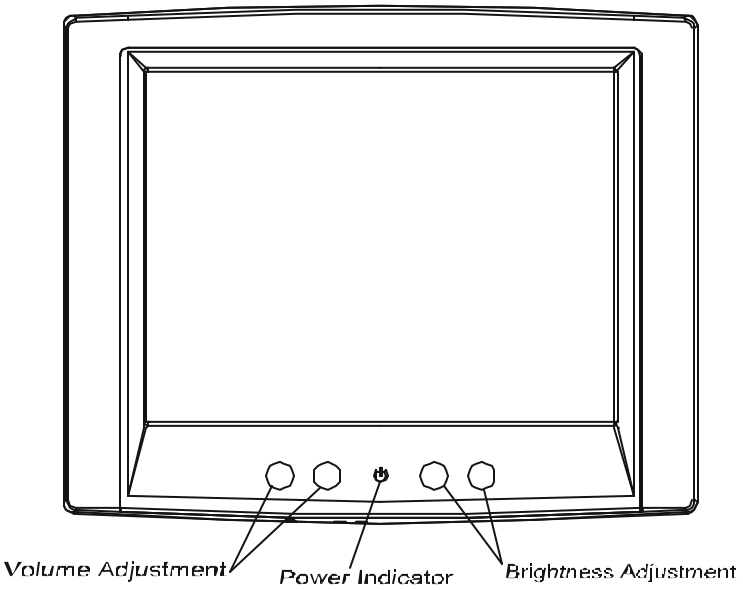


Figure 2-1: Front view of the Point of Care Terminal

When you look at the left side of the panel PC, you will see the floppy disk drive, CD-ROM drive and PCMCIA expansion sockets, as shown in Fig. 2-2.

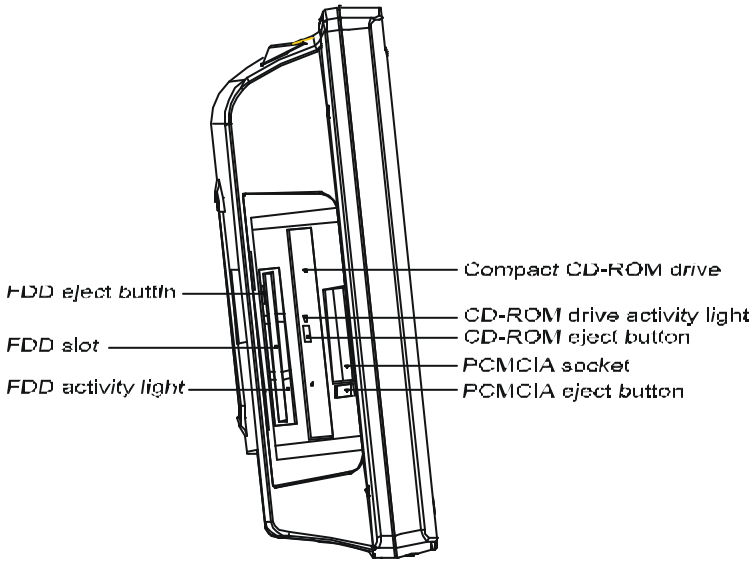


Figure 2-2: Left side view of the Point of Care Terminal

When you turn the Point of Care Terminal around and look at its rear cover, you will find the PCI/ISA expansion slot located on the left side. This slot is covered by a side panel cover. The sunken I/O section is at the bottom of the panel PC, as shown in Fig. 2-3. (The I/O section includes various I/O ports, including serial ports, parallel port, the Ethernet port, USB ports, the microphone jack, and so on.)

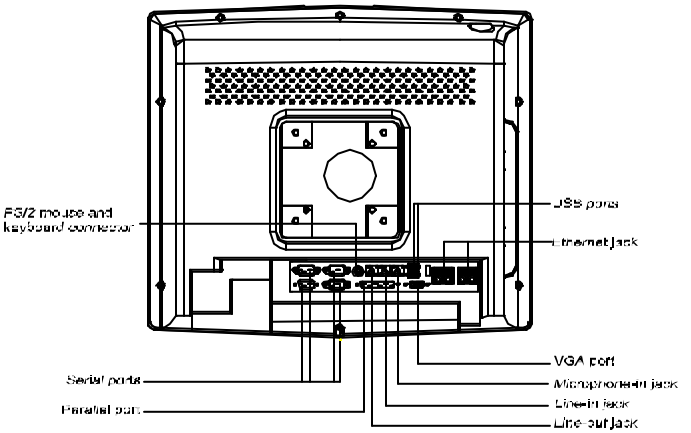


Figure 2-3: Rear view of the Point of Care Terminal

Figure 2-4 shows the I/O section and power switch of the POC-174.

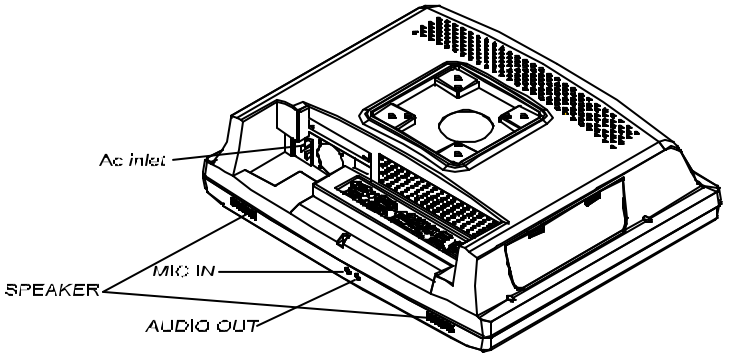


Figure 2-4: Rear and side view of the Point of Care Terminal

2.2 Installation Procedures

2.2.1 Connecting the power cord

The POC-174 can only be powered by an AC electrical outlet (100 ~ 240 volts, 50 ~ 60 Hz). Be sure to always 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 AC inlet of the panel PC. (See Fig. 2-5.)
2. Connect the 3-pin male plug of the power cord to an electrical outlet.

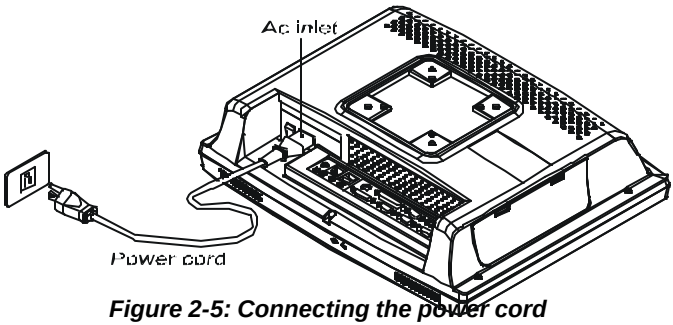
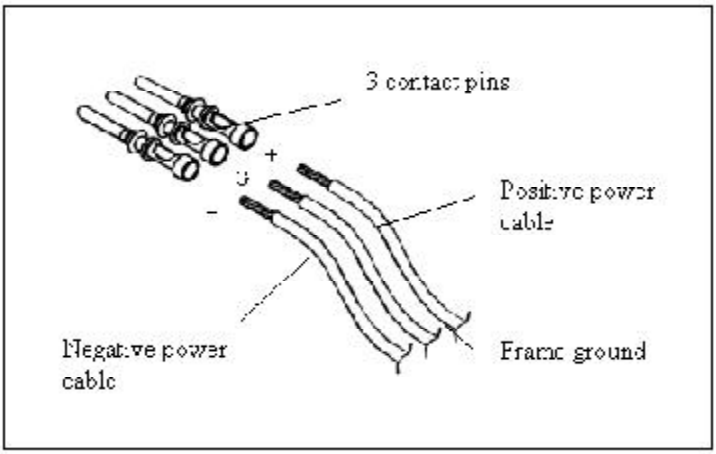


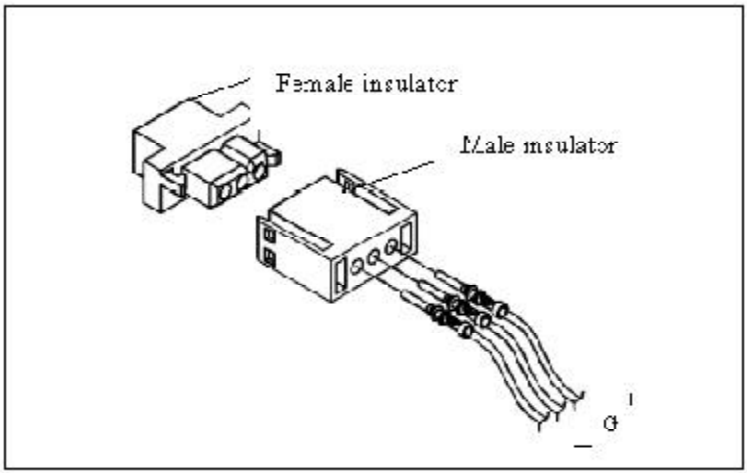
Figure 2-5: Connecting the power cord

2.2.2 Installing the DC power insulator with hood

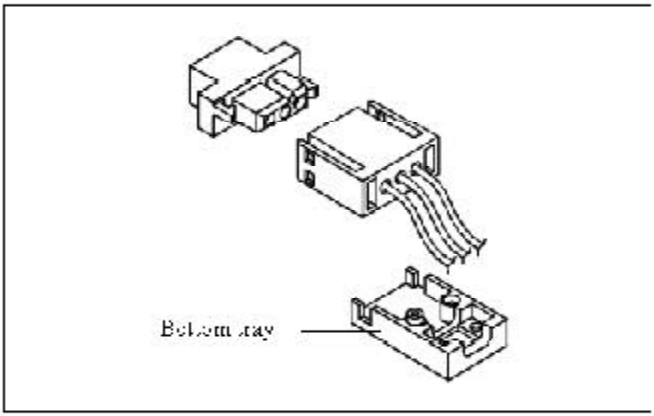
The POC-173 can also be powered by DC electrical outlet (24 V_{DC} or 12 V_{DC}, which depends on the power type). Follow the procedure in order to install the DC power insulator with hood then make sure to connect the insulator with the system.



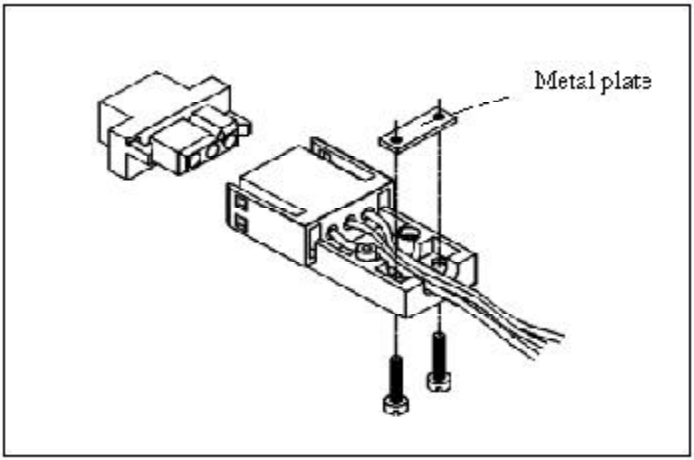
STEP 1. Connect the three contact pins individually to the negative and positive power cables of the power adaptor, as well as to the frame ground cable. Solder firmly.



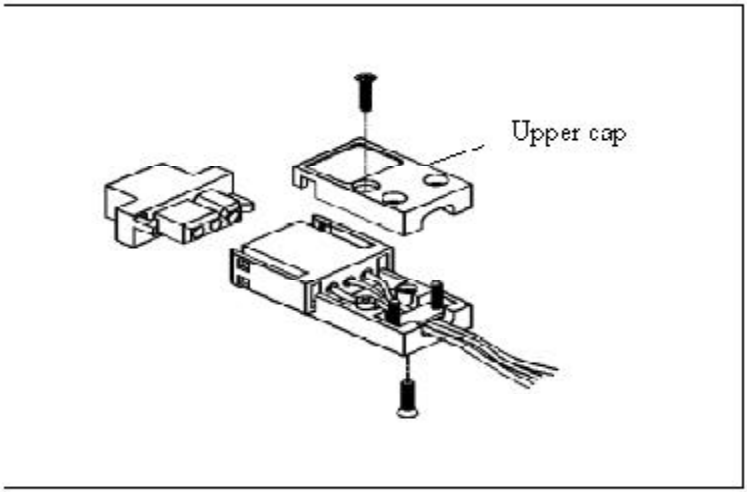
STEP 2: Align the soldered pins and their cables with the corresponding polarization marks on the front part of the male insulator (+ / G / -). Now plug the pins separately into the holes of the male insulator. Pin 1 should go into the positive DC power input (+), pin 2 connects to the frame ground (G), and pin 3 should be plugged into the negative DC power input (-).



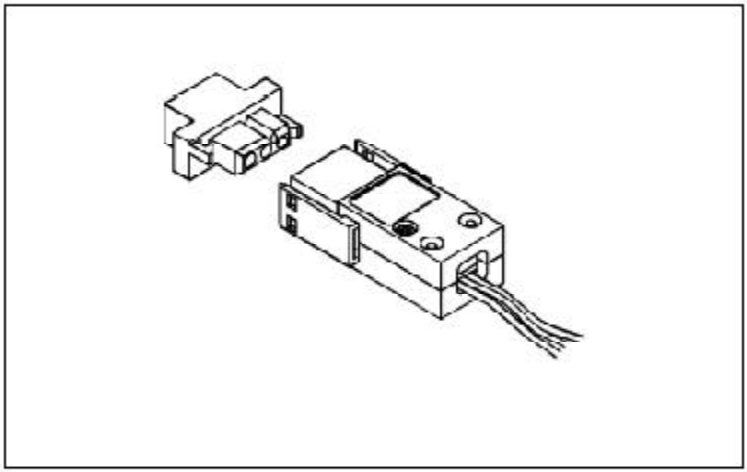
STEP 3: Mount the front part of the male insulator onto the bottom tray.



STEP 4: Use the metal plate and the two screws to secure the cables to the bottom tray. Please refer to the illustration above.



STEP 5: Attach the upper cap to the bottom tray and secure it with the screws.



STEP 6: Now that you have completed the assembly of the male insulator, plug it into the female insulator.

2.2.3 Connecting the keyboard and mouse

1. Connect the Y-shaped adapter to the PS/2 mouse and keyboard port on the I/O section of the POC-173. (See Fig. 2-6.)
2. Connect the PS/2 mouse and keyboard to the Y-shaped adapter. (See Fig. 2-6.)

If you use a serial mouse and your POC-173 has a touchscreen, you can connect the mouse to any COM port except COM4.

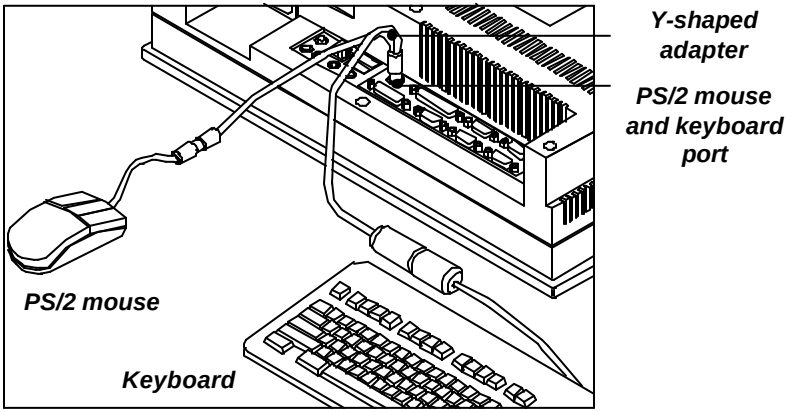


Figure 2-6: Connecting the keyboard and mouse

2.2.4 Switching on the power

Switch on the power switch on the rear cover. (See Fig. 2-4.)

2.2.5 Connecting the COMP ports (COM 1, 2, 3)

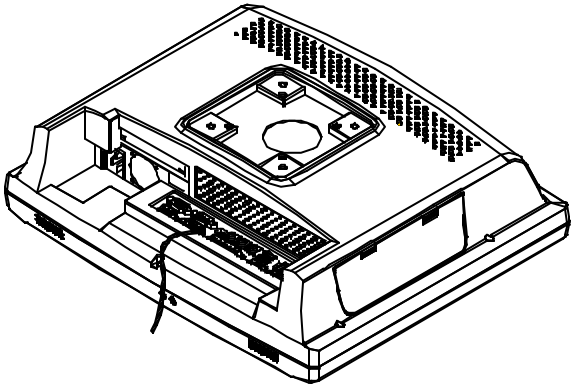


Figure 2-7: Connecting the COM ports (COM 1, 2, 3)

Warning!

1. Screw the protective Earth Conductor (Yellow and green wire) on the nut beside the COM D-Sub connector. (See Fig 2-7)

2. Connect the COM device to POC-174

2.3 Running the BIOS Setup Program

Your POC-174 is likely to have been properly set up and configured by your dealer prior to delivery. You may still find it necessary to use the BIOS (Basic Input-Output System) setup program to change system configuration information, such as the current date and time or your 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 you specify 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 when you turn off or reset the system. Whenever you turn on the power, 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 an error occurs, an error message will be displayed on screen, and you will be prompted to run the setup program.

If you want to change the setup of BIOS, refer to Chapter 5 for more detailed information.

2.4 Installing System Software

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

Note: Some distributors and system integrators may have already pre-installed system software prior to shipment of your panel PC.

If required, insert your operating system's installation or setup diskette into the diskette drive until the release button pops out. (See Fig. 2.2.)

The BIOS supports system boot-up directly from the CD-ROM drive. You may also insert your system installation CD-ROM into the CD-ROM drive. (See Fig. 2.2.) Refer to Chapter 9 if you wish to change the BIOS settings.

Power on or reset the system by pressing the "Ctrl"+"Alt"+"Del" keys simultaneously. The Point of Care Terminal will automatically load the operating system from the diskette or CD-ROM.

If you are presented with the opening screen of a setup or installation program, follow the instructions on screen. The setup program will guide you through preparation of your hard drive, and installation of the operating system.

If you are presented with an operating system command prompt, such as A:\>, then you must partition and format your hard drive, and manually copy the operating system files to it. Refer to your operating system user's manual for instructions on partitioning and formatting a hard drive.

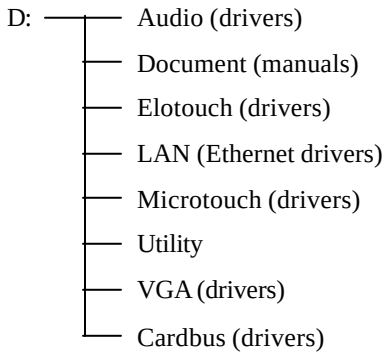
Note: The color LCD display installed in the Point of Care Terminal is high-quality and reliable. However, it may contain a few defective pixels which do not always illuminate. With current technology, it is impossible to completely eliminate defective pixels. Advantech is actively working to improve this technology.

2.5 Installing the Drivers

After installing your system software, you will be able to set up the Ethernet, SVGA, audio, PCMCIA and touchscreen functions. All the drivers except the CD-ROM drive driver are stored in a CD-ROM disc entitled "Drivers and Utilities." The CD-ROM drive driver is stored in a floppy disk. Both the CD-ROM and the floppy disk can be found in your accessory box.

To set up the CD-ROM function, insert the floppy disk with the

For your reference, the directory of drivers on the "Drivers and Utilities" CD-ROM is:



CD-ROM drive driver into the floppy disk drive and type "install" after the following prompt is displayed on screen:

```
A: > INSTALL
```

Press "Enter", and the installation process will be completed in a few seconds.

The standard procedures for installing the Ethernet, SVGA, audio, PCMCIA and touchscreen drivers are described in Chapters 6, 7, 8, 9 and 10 respectively.

The utility directory includes multimedia programs. Refer to the README.TXT file inside the VGA folders for more detailed information.

The various drivers and utilities in the CD-ROM disc have their own text files which help users install the drivers and understand their functions. These files are a very useful supplement to the information in this manual.

Note: *The drivers and utilities used for the POC-174 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 and utlities.*

CHAPTER 3

HARDWARE INSTALLATION AND UPGRADING

- Overview of Hardware Installation and Upgrading
- Disassembling the Point of Care Terminal
- Installing the 2.5" Hard Disk Drive (HDD)
- Installing the Central Processing Unit (CPU)
- Installing the SDRAM Memory Module
- Installing the Floppy Disk Drive (FDD) and Slim CD-ROM Drive
- PCI Bus Expansion

3.1 Overview of Hardware Installation and Upgrading

The Point of Care Terminal consists of a PC-based computer that is housed in a plastic rear panel and a metal shielding case. Your HDD, DDR DRAM, power supply, CPU, and so on are all readily accessible by removing the rear panel and shielding case. Any maintenance or hardware upgrades can be easily completed after removing the rear panel and shielding case.

Warning!

Do not remove the plastic rear cover until you have verified that no power is flowing within the panel PC. Power must be switched off and the power cord must be unplugged. Every time you service the panel PC, you should be aware of this.

3.2 Disassembling the Panel PC

The following are standard procedures for disassembling the Point of Care Terminal before you upgrade your system. All procedures are illustrated in Fig. 3-1.

1. Unscrew the screws that secure the plastic rear cover, and then remove the cover.
2. Unscrew the screws that secure the CPU cover.
3. Remove the floppy drive, HDD, and CD-ROM cables; then remove the side panel.
4. Unscrew the screws of the shielding case, and remove it.

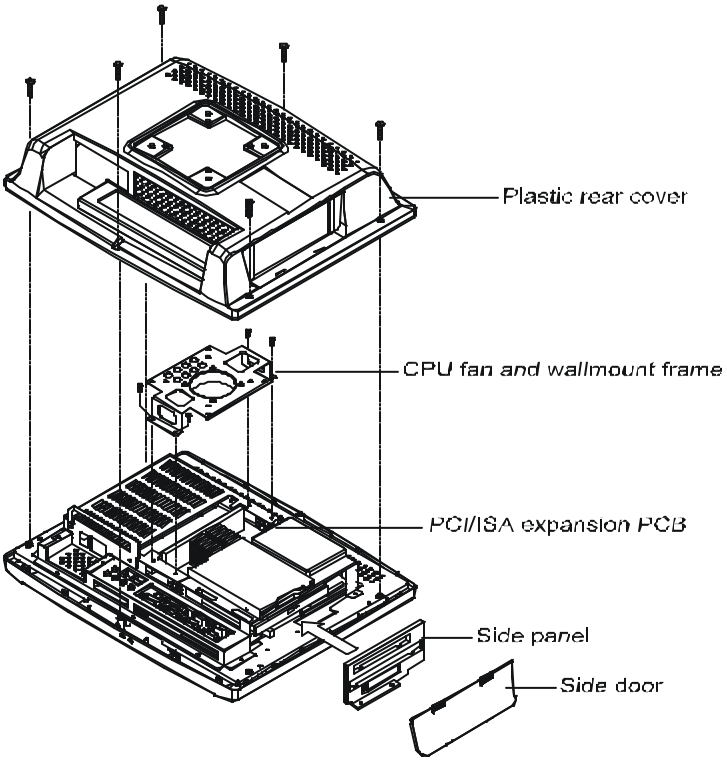


Figure 3-1: Disassembling the plastic rear cover of the POC-174

3.3 Installing the 2.5" Hard Disk Drive (HDD)

You can attach one enhanced Integrated Device Electronics (IDE) hard disk drive to the Point of Care Terminal's internal controller which uses a PCI local-bus interface. The advanced IDE controller supports faster data transfer and allows the IDE hard drive to exceed 60 GB. The following are instructions for installation:

1. Detach and remove the plastic rear cover and side panel.
2. There is a metal plate which holds the HDD to the upper right-hand side of the metal shielding case. (See Fig. 3-2.) Remove the two screws on the metal plate.
3. Pull the metal plate toward the outside of the unit, and remove it from the two lugs of the shielding case.
4. Place the HDD on the metal plate, and tighten the four screws from the bottom of the metal plate.
5. The HDD cable (1 x 44-pin to 1 x 44-pin) is next to the metal plate. Connect the HDD cable to the HDD. The other end of the HDD cable is connected to the PC board (CN16). Make sure that the red/blue wire corresponds to Pin 1 on the connector, which is labeled on the board. Plug the other end of the cable into the IDE hard drive, with Pin 1 on the cable corresponding to Pin 1 on the hard drive.

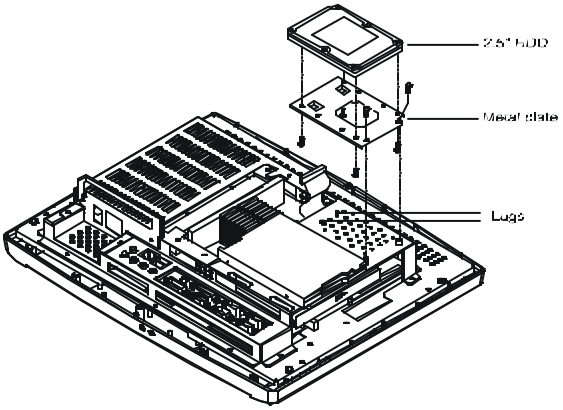


Figure 3-2: Installing the primary 2.5" HDD

3.4 Installing the Central Processing Unit (CPU)

The Point of Care Terminal's central processing unit (CPU) can be upgraded to improve system performance. The Point of Care Terminal provides one 478-pin ZIF (Zero Insertion Force) socket (Socket 478). The CPU must come with an attached heat sink and CPU fan to prevent overheating.

Warning! *The CPU may be damaged if operated without a heat sink and a fan.*

Caution! *Always disconnect the power cord from your panel PC when you are working on it. Do not make connections while the power is on as sensitive electronic components can be damaged by the sudden rush of power. Only experienced electronics personnel should open the panel PC.*

1. Detach and remove the plastic rear cover.
2. Remove the four screws of the CPU cover, and remove the cover.
3. Detach the CPU fan power cable from the CPU fan.
4. There is a metal plate which holds the FDD and slim CD-ROM drive to the metal shielding case. There are two screws ("A") on this metal plate. Loosen these two screws.
5. Remove the plastic side cover of the FDD.
6. Push the FDD and slim CD-ROM drive toward the outside of the panel PC, as far as they will go. This will expose the entire CPU assembly underneath.
7. Locate the ZIF socket and open it by first pulling the lever sideways away from the socket, then upwards at an angle of 90 degrees.

8. Insert the CPU with the correct orientation. The notched corner of the CPU (with the white dot) should point towards the end of the lever. The end of the lever is the blank area where one hole is missing from the corner of the square array of pin holes. An arrowhead printed on the motherboard points to the end of the lever. (See Fig. 3-3 overleaf.)
9. Slide the CPU in gently. It should insert easily. If not, pull the lever up a little more and make sure the pins of the CPU correspond with the holes of the socket. DO NOT USE EXCESSIVE FORCE!
10. Press the lever down. The plate will slide across slightly.
11. Place the heat sink on top of the CPU and fasten it with the heat sink clip (shown in Fig.3-3).
12. Move the FDD and slim CD-ROM drive back to their original position.
13. Put back the plastic side cover of the FDD.
14. Tighten the two screws ("A") on the metal plate.
15. Connect the CPU fan power cable to the 3-pin connector (FAN1).
16. Put back the CPU cover, and secure the four screws on it.

Note: *To remove the CPU, follow steps 1 through 7 above. You should then be able to freely lift out the CPU chip.*

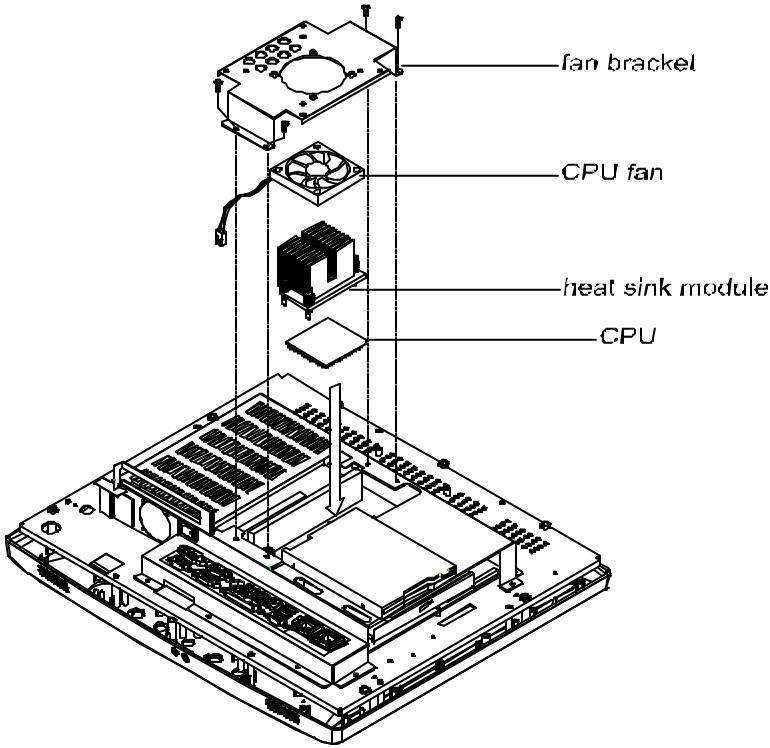


Figure 3-3: Installing the CPU

CHAPTER 4

JUMPER SETTINGS AND CONNECTORS

This chapter tells how to set up the Point of Care Terminal hardware, including instructions on setting jumpers and connecting peripherals, switches and indicators. Be sure to read all the safety precautions before you begin the installation procedures.

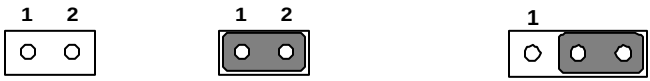
- Jumpers and Connectors
- CPU Installation
- CMOS Clear for External RTC (JP8)
- COM-port Interface
- Internal -12 V Source Selection Setting (JP1)
- VGA Interface
- Watchdog Timer Configuration

4.1 Jumpers and Connectors

4.1.1 Setting jumpers

You can configure your Point of Care Terminal to match the needs of your 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) that slides over the pins to connect them. To “close” a jumper, you connect the pins with the clip. To “open” a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either pins 1 and 2 or pins 2 and 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 you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

4.1.2 Jumpers and switches

The motherboard of the Point of Care Terminal has a number of jumpers that allow you to configure your system to suit your applications. The table below lists the function of each of the board's jumpers and switches.

Table 4-1: Jumpers and their functions

Label	Function
JP1	Isolated COM2 RS-232/422/485 setting
JP4	CMOS clear for external RTC
JP5	COM1 Pin 9 output type setting
JP6	COM3 Pin 9 output type setting
JP7	COM2 Pin 9 output type setting
JP8	COM4 Pin 9 output type setting
JP10	Watchdog timer action
SW1	Panel type setting

4.1.3 Locating jumpers and switches

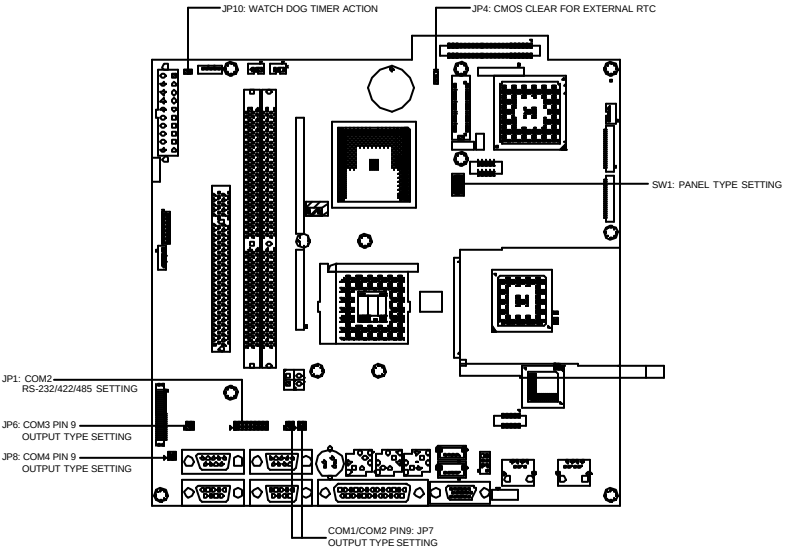


Figure 4-1: Locating jumpers on the POC-174 motherboard

4.1.4 Connectors

Onboard connectors link the Point of Care Terminal to external devices such as hard disk drives or floppy drives. The table below lists the function of each of the board's connectors.

Table 4-2: Panel PC connectors

Label	Function
CN16	USB3 / USB4 internal connector
CN17	FDD connector
CN18	CPU +12 V power connector
CN20	IR connector
CN21	Front Panel control connector
CN22	Flat Panel display LVDS connector
CN23	USB5 / USB6 internal connector 1
CN24	Flat Panel display LVDS connector 2
CN26	ATX power connector
CN27	CD-ROM connector
CN29	Inverter power connector
CN31	EIDE hard disk drive connector
FAN1	CPU fan power connector
FAN2	System fan power connector
PCI1	PCI Bus expansion connector

4.1.5 Locating connectors

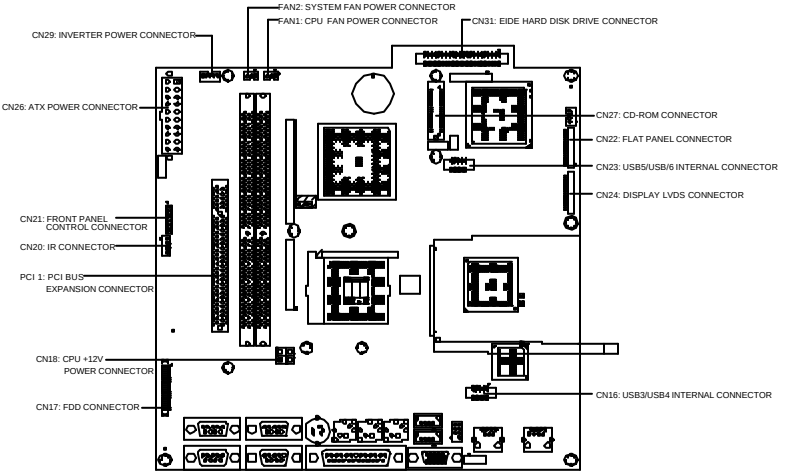


Figure 4-2: Locating connectors on the POC-174 motherboard

4.2 CPU Installation

You can install an Intel® Pentium® 4 Mobile or Celeron™ CPU without setting any frequency ratio or voltage.

4.3 CMOS Clear for External RTC (JP4)

Warning: *To avoid damaging the computer, always turn off the power supply before setting "Clear CMOS". Set the jumper back to "Normal operation" before turning on the power supply.*

Table 4-3: Clear CMOS / External RTC (JP8)

Normal operation (default)	Clear CMOS
	

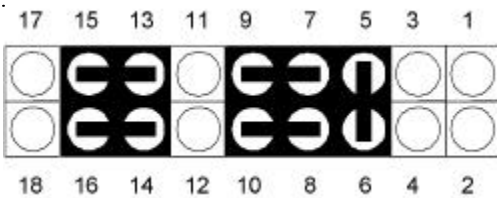
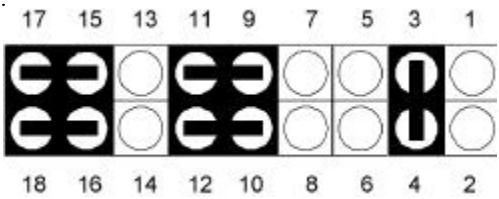
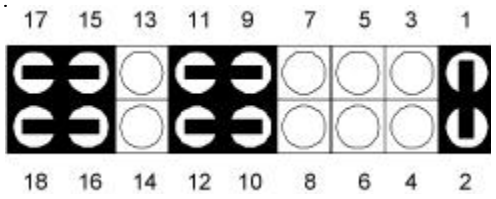
4.4 COM-port Interface

The Point of Care Terminal provides four serial ports (COM1, 3, 4: RS-232; COM2: RS-232/422/485) in one COM port connector.

4.4.1 COM2 RS-232/422/485 setting (JP1)

COM2 can be configured to operate in RS-232, RS-422, or RS-485 mode. This is done via JP1).

Table 4-4: COM2 RS-232/422/485 setting (JP3, JP4)

RS-232 (default)

RS-422

RS-485


The IRQ and the address ranges for COM1, 2, 3, and 4 are fixed. However, if you wish to disable the port or change these parameters

later you can do this in the system BIOS setup. The table overleaf shows the default settings for the panel PC's serial ports.

COM1 and COM2 are one set. You can exchange the address range and interrupt IRQ of COM1 for the address range and interrupt IRQ of COM2. After exchanging, COM1's address range is 2F8 ~ 2FF and its request IRQ is IRQ3: and COM2's address range is 3F8 ~ 3FF and its interrupt IRQ is IRQ4.

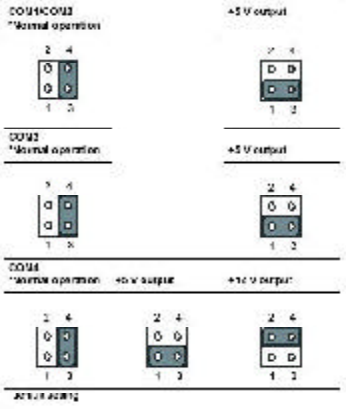
COM3 and COM4 are another set. Their selectable function is the same as the COM1/COM2 set.

Table 4-5: Serial port default settings

Port	Address Range	Interrupt
COM1	3F8 ~ 3FF	IRQ4
COM2	2F8 ~ 2FF	IRQ3
COM3	3E8 ~ 3EF	IRQ10
COM4	2E8 ~ 2EF	IRQ5

4.4.2 COM1/COM2/COM3/COM4 pin 9 output type setting (JP5, JP7, JP6, JP8)

Table 4-6: COM1 / COM2 pin 9 output type setting (IJP4)

RI (COM1,2) (default)	+5V 0.25A (COM1,2)
	

* default setting

Note: Pins 1 and 2 are for COM1.
Pins 3 and 4 are for COM2.

4.5 VGA Interface

The Point of Care Terminal's AGP VGA interface can drive conventional CRT displays. It is also capable of driving a wide range of flat panel displays, including electroluminescent (EL), gas plasma, passive LCD and active LCD displays. The board has two connectors to support these displays simultaneously: one for standard CRT VGA monitors, and one for flat panel displays.

CRT display port information can be found in Section 3.9 this manual.

Pin assignments for the flat panel display connector, backlight connector and other related connectors are shown in Appendix D.

4.5.1 LCD panel power setting

The Point of Care Terminal's AGP SVGA interface supports 5 V and 3.3 V LCD displays. The LCD cable already has a built-in default setting. You do not need to adjust any jumper or switch to select the panel power.

4.5.2 Panel type select (SW1)

SW1 is a 4-pin dip switch for selecting panel type and display mode. A 1280 x 1024 TFT LCD is used in the POC-174, so the switch is preset according to the table below. The switch is already defaulted for the POC-174's LCD, so it should not be modified. If you require modification for a special purpose, we recommend that you consult your distributor or our sales repreentative for detailed information.

Table 4-7: Panel type select

Panel type	Pin 1	Pin 2	Pin 3	Pin 4
1024 x 768 (36-bit)	OFF	ON	ON	ON
1280 x 1024 (48-bit)	OFF	OFF	ON	ON

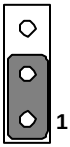
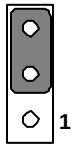
4.6 Watchdog Timer Configuration

An onboard watchdog timer reduces the chance of disruptions which EMP (electromagnetic pulse) interference can cause. This is an invaluable protective device for standalone or unmanned applications. Setup involves one jumper and running the control software. (Refer to Appendix B.)

4.6.1 Watchdog activity selection (JP10)

When the watchdog timer activates (i.e. CPU processing has come to a halt), it can reset the system or generate an interrupt on IRQ11. This can be set via jumper JP7 as shown below:

Table 4-8: Watchdog activity selection (JP7)

System reset (default)	IRQ11
	

CHAPTER 5

PCI BUS ETHERNET INTERFACE

This chapter provides information on Ethernet configuration.

- Introduction
- Installation of Ethernet Driver
  - for Windows 95
  - for Windows 98
  - for Windows NT
  - for Windows 2000/ME/XP
- Further Information

5.1 Introduction

The POC-174 is equipped with a high performance 32-bit Ethernet chipset which is fully compliant with IEEE 802.3 100 Mbps CSMA/CD standards. It is supported by major network operating systems. It is also both 100Base-T and 10Base-T compatible. The medium type can be configured via the RSET8139.exe program included on the utility disk.

The Ethernet port provides a standard RJ-45 jack. The network boot feature can be utilized by incorporating the boot ROM image files for the appropriate network operating system. The boot ROM BIOS files are combined with system BIOS, which can be enabled/disabled in the BIOS setup.

5.2 Installation of Ethernet Driver

Before installing the Ethernet driver, note the procedures below. You must know which operating system you are using in your POC-174, and then refer to the corresponding installation flow chart. Then just follow the steps described in the flow chart. You will quickly and successfully complete the installation, even if you are not familiar with instructions for Windows.

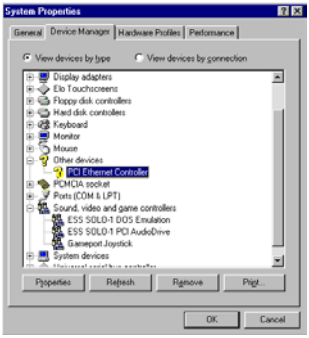
Important: The following windows illustrations are examples only. You must follow the flow chart instructions and pay attention to the instructions which then appear on your screen.

Note 1: The CD-ROM drive is designated as "D" throughout this chapter.

Note 2: <Enter> means pressing the "Enter" key on the keyboard.

5.2.1 Installation for Windows 95

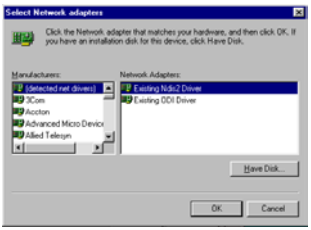
1.
a. Select "Start", "Settings", "Control Panel", "System".
b. Click the "Device Manager" and "Other Devices" items.
c. Remove the "PCI Ethernet Controller" item.



2.
a. Select "Start", "Settings", "Control Panel", and "Network" icons.
b. Click the "Add" button.

3.
a. Select "Adapter", and then click the "Add" button.

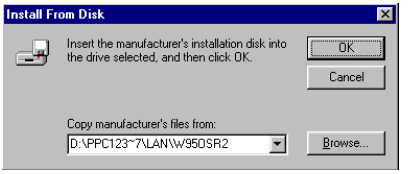
4.
a. Press the "Have Disk..." button.



5.

a. Type the path "D:\ PPC123~7\LAN\ W95OSR2"

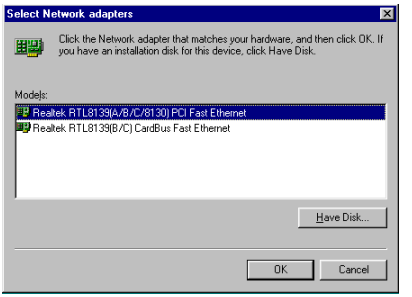
b. Click the "OK" button.



6.

a. Choose the highlighted "Realtek RTL8139(A/B/C/ 8130)PCI Fast Ethernet".

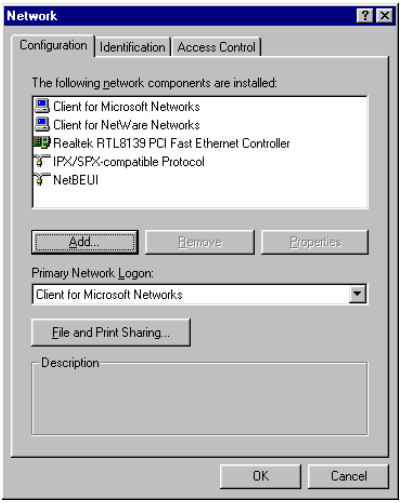
b. Press the "OK" button.



7.

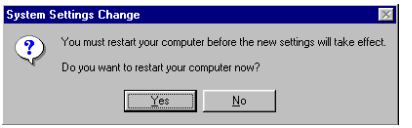
a. Press the "Add..." button to select suitable services or protocol.

b. Press the "OK" button to finish network configuration.



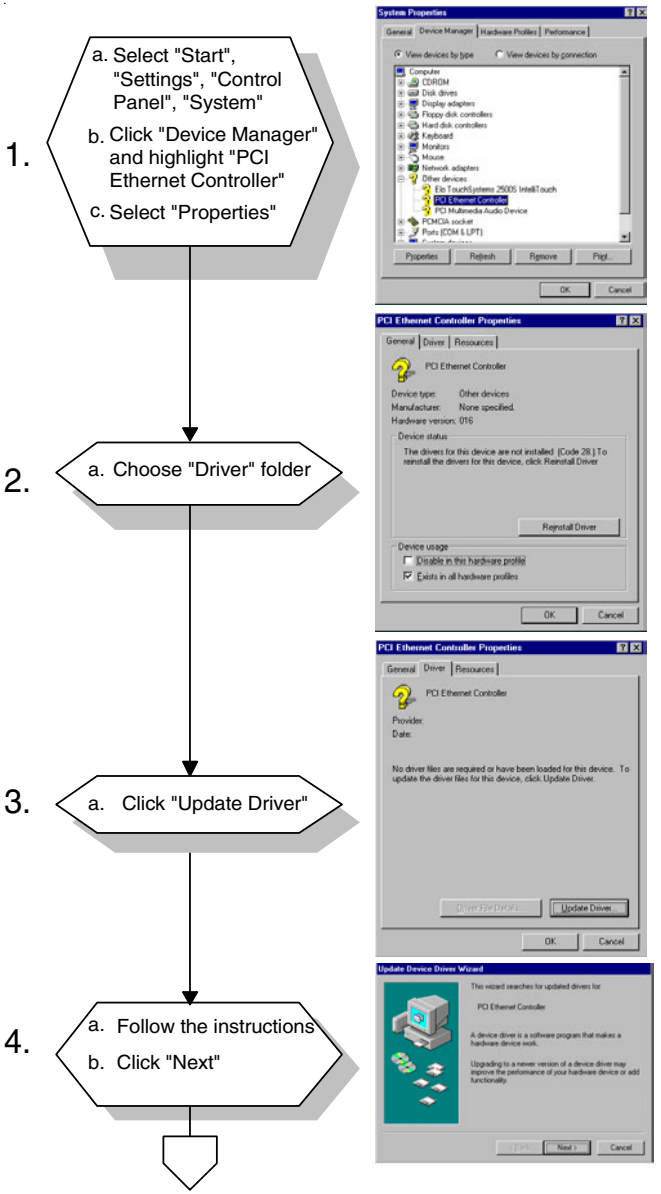
8.

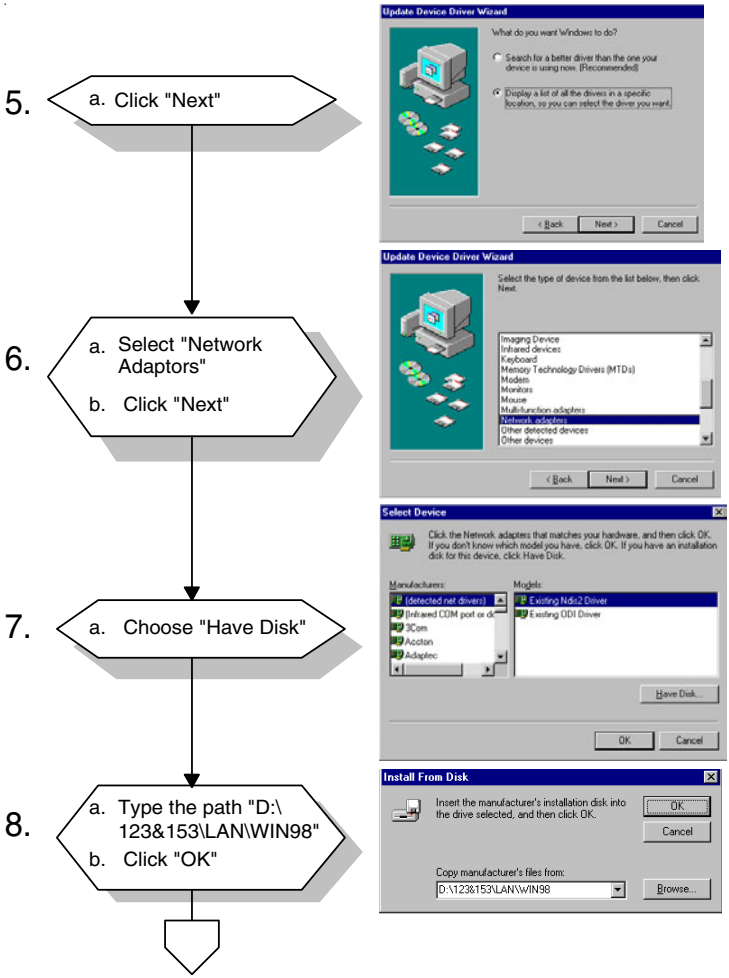
a. Press the "Yes" button to start your computer.

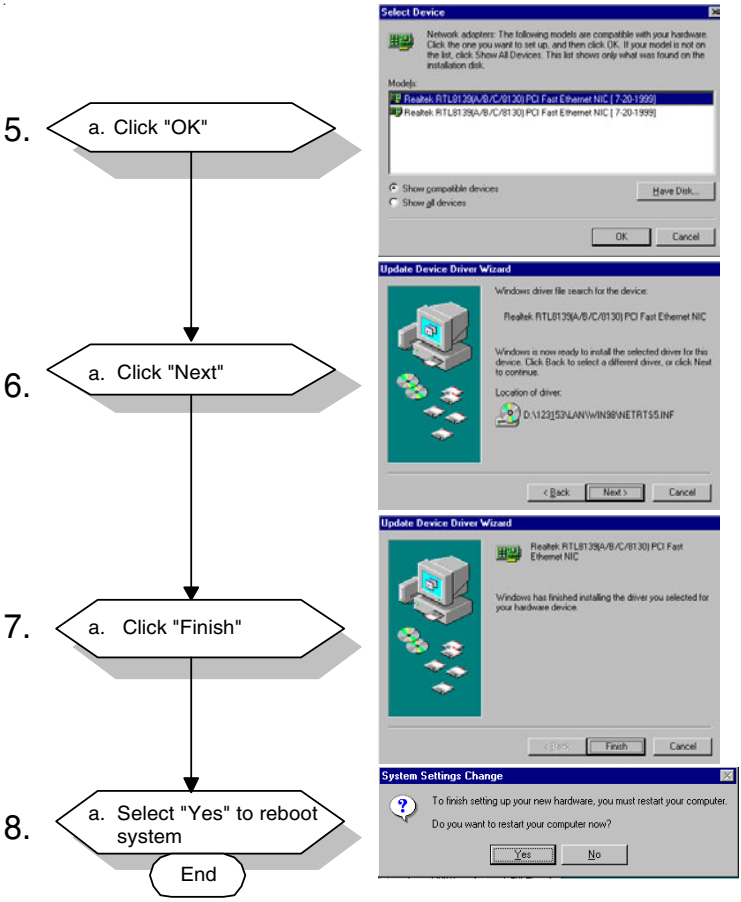


end

5.2.2 Installation for Windows 98

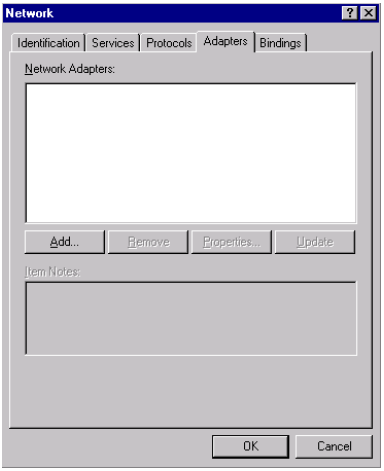



5.
a. Click "Next"
6.
a. Select "Network Adaptors"
b. Click "Next"
7.
a. Choose "Have Disk"
8.
a. Type the path "D:\123&153\LAN\WIN98"
b. Click "OK"
Update Device Driver Wizard
What do you want Windows to do?
Search for a better driver than the one your device is using now. (Recommended)
Display a list of all the drivers in a specific location, so you can select the driver you want.
< Back
Next >
Cancel
Update Device Driver Wizard
Select the type of device from the list below, then click Next.
Imaging Device
Infrared devices
Keyboard
Memory Technology Drivers (MTDs)
Modem
Monitors
Mouse
Multi-function adapters
Network adapters
Other detected devices
Other devices
< Back
Next >
Cancel
Select Device
Click the Network adapters that matches your hardware, and then click OK. If you don't know which model you have, click OK. If you have an installation disk for this device, click Have Disk.
Manufacturers:
Models:
(detected net drivers)
3Com
Accton
Adaptec
Existing Ndis2 Driver
Existing ODI Driver
Have Disk...
OK
Cancel
Install From Disk
Insert the manufacturer's installation disk into the drive selected, and then click OK.
OK
Cancel
Copy manufacturer's files from:
D:\123&153\LAN\WIN98
Browse...

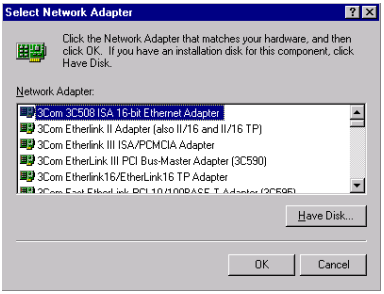

5.
a. Click "OK"
6.
a. Click "Next"
7.
a. Click "Finish"
8.
a. Select "Yes" to reboot system
End
Select Device
Network adapters: The following models are compatible with your hardware. Click the one you want to set up, and then click OK. If your model is not on the list, click Show All Devices. This list shows only what was found on the installation disk.
Models:
Realtek RTL8139(A/B/C/8130) PCI Fast Ethernet NIC [7-20-1999]
Realtek RTL8139(A/B/C/8130) PCI Fast Ethernet NIC [7-20-1999]
Show compatible devices
Show all devices
Have Disk...
OK
Cancel
Update Device Driver Wizard
Windows driver file search for the device:
Realtek RTL8139(A/B/C/8130) PCI Fast Ethernet NIC
Windows is now ready to install the selected driver for this device. Click Back to select a different driver, or click Next to continue.
Location of driver:
D:\123153\LAN\WIN98\NETRTS5.INF
< Back
Next >
Cancel
Update Device Driver Wizard
Realtek RTL8139(A/B/C/8130) PCI Fast Ethernet NIC
Windows has finished installing the driver you selected for your hardware device.
< Back
Finish
Cancel
System Settings Change
To finish setting up your new hardware, you must restart your computer.
Do you want to restart your computer now?
Yes
No

5.2.3 Installation for Windows NT

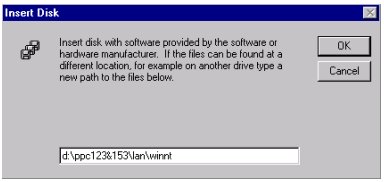
1.
a. Select "Start", "Settings", "Control Panel", and then double click the "Network" icon.
b. Choose the "Adapters" label.
c. Click the "Add" button.

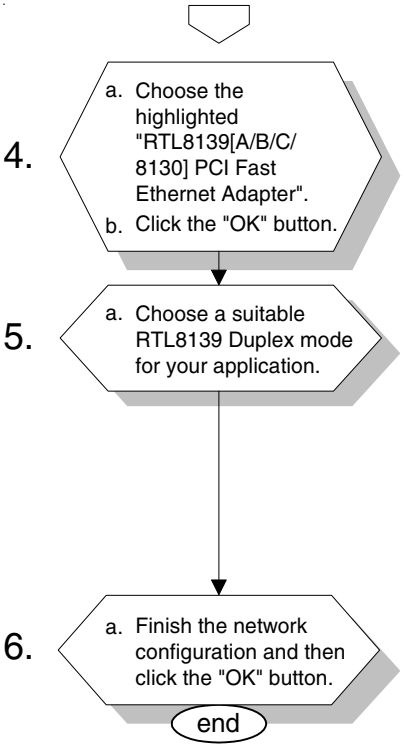


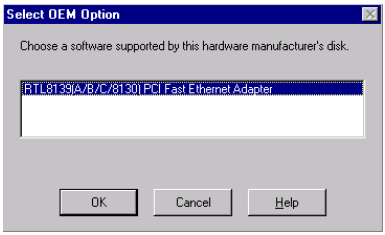
2.
a. Press "Have Disk...".



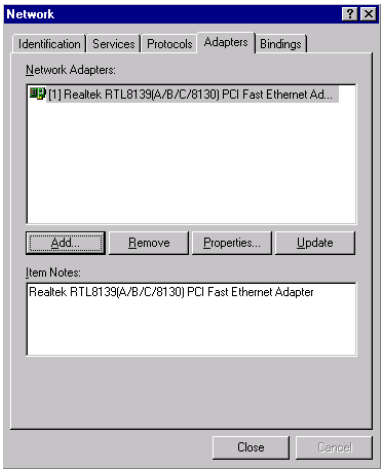
3.
a. Type the path: D:\PPC123&153\LAN\WINNT
b. Press the "OK" button.




4.
a. Choose the highlighted "RTL8139[A/B/C/8130] PCI Fast Ethernet Adapter".
b. Click the "OK" button.
5.
a. Choose a suitable RTL8139 Duplex mode for your application.
6.
a. Finish the network configuration and then click the "OK" button.
end


Select OEM Option
Choose a software supported by this hardware manufacturer's disk.
RTL8139(A/B/C/8130) PCI Fast Ethernet Adapter
OK
Cancel
Help


Duplex mode
RTL8139 Duplex Mode
10 Full Duplex
Choose the proper Duplex Mode from the list.
OK
Cancel
Help


Network
Identification
Services
Protocols
Adapters
Bindings
Network Adapters:
[1] Realtek RTL8139(A/B/C/8130) PCI Fast Ethernet Ad...
Add...
Remove
Properties...
Update
Item Notes:
Realtek RTL8139(A/B/C/8130) PCI Fast Ethernet Adapter
Close
Cancel

5.2.4 Installation for Windows 2000/ME/XP

After finishing the Windows 2000/ME/XP installation, the system will automatically detect the Ethernet hardware and install the Ethernet driver from the drivers database from Windows 2000/XP or Windows ME when the system reboots.

Users are not required to install the Ethernet driver themselves.

5.3 Further Information

Realtek website: **www.realtek.com.tw**

Advantech websites: **www.advantech.com**
www.advantech.com.tw

CHAPTER 6

AGP SVGA Setup

- Introduction
- Installation of SVGA Driver
  - for Windows 95/98/ME
  - for Windows NT
  - for Windows 2000/XP
- Further Information

6.1 Introduction

The POC-174 has an onboard AGP flat panel/VGA interface. The specifications and features are described as follows:

6.1.1 Chipset

The POC-174 uses an Intel 845GV chipset from Intel for its AGP/SVGA controller. It supports many popular LCD, EL, and gas plasma flat panel displays and conventional analog CRT monitors. The Intel 845GV VGA BIOS supports monochrome LCD, EL, color TFT and STN LCD flat panel displays. In addition, it also supports interlaced and non-interlaced analog monitors (color and monochrome VGA) in high-resolution modes while
maintaining complete IBM VGA compatibility. Digital monitors (i.e. MDA, CGA, and EGA) are NOT supported. Multiple frequency (multisync) monitors are handled as if they were analog monitors.

6.1.2 Display memory

With onboard 64 MB display memory, the VGA controller can drive CRT displays or color panel displays with resolutions up to 1280 x 1024 at 16 M colors.

6.1.3 Display types

CRT and panel displays can be used simultaneously. The POC-174 can be set in one of three configurations: on a CRT, on a flat panel display, or on both simultaneously. The system is initially set to simultaneous display mode. If you want to enable the CRT display only or the flat panel display only, contact Silicon Motion Inc. or our sales representative for detailed information.

6.2 Installation of SVGA Driver

Complete the following steps to install the SVGA driver. Follow the procedures in the flow chart that apply to the operating system that you you are using within your POC-174.

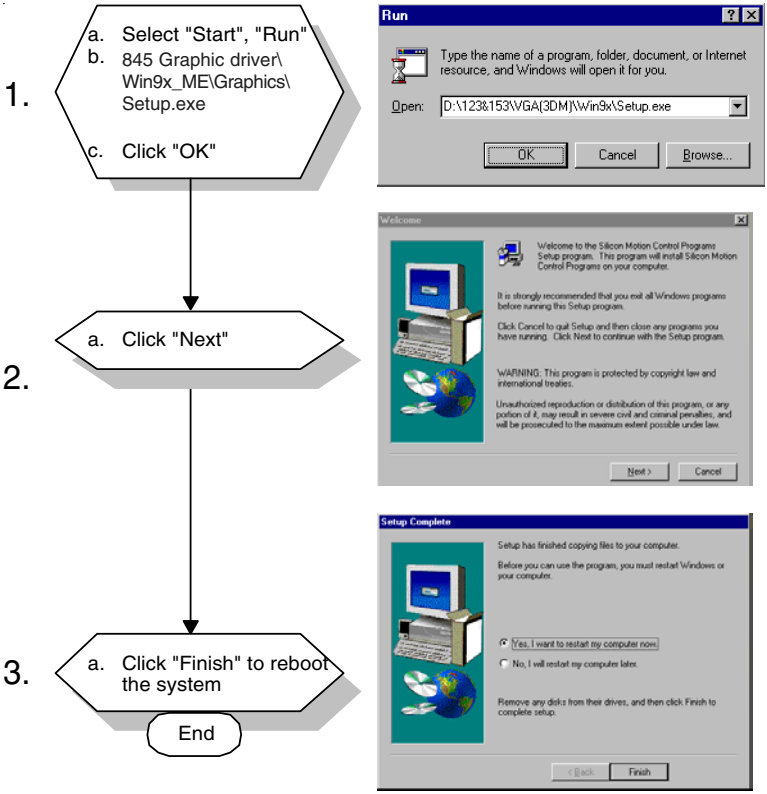
Important: The following windows illustrations are examples only. You must follow the flow chart instructions and pay attention to the instructions which appear on your screen.

Note 1: The CD-ROM drive is designated as "D" throughout this chapter.

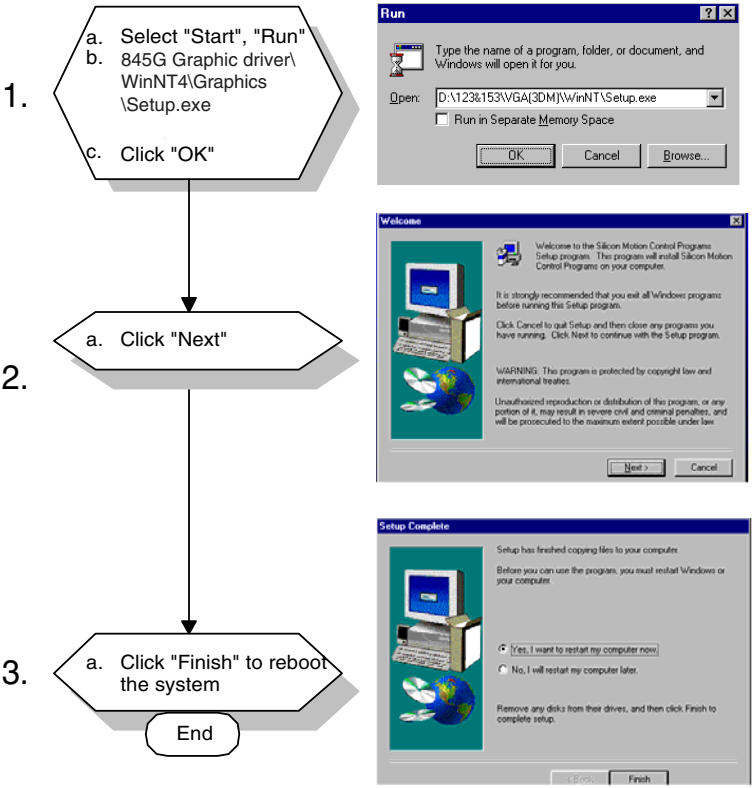
Note 2: <Enter> means pressing the "Enter" key on the keyboard.

Note 3: Before you install the graphic driver of POC-174, please ensure you have installed the INF driver of the Intel 845GV chipset.You can find this driver in the CD-ROM.

6.2.1 Installation for Windows 95/98/ME

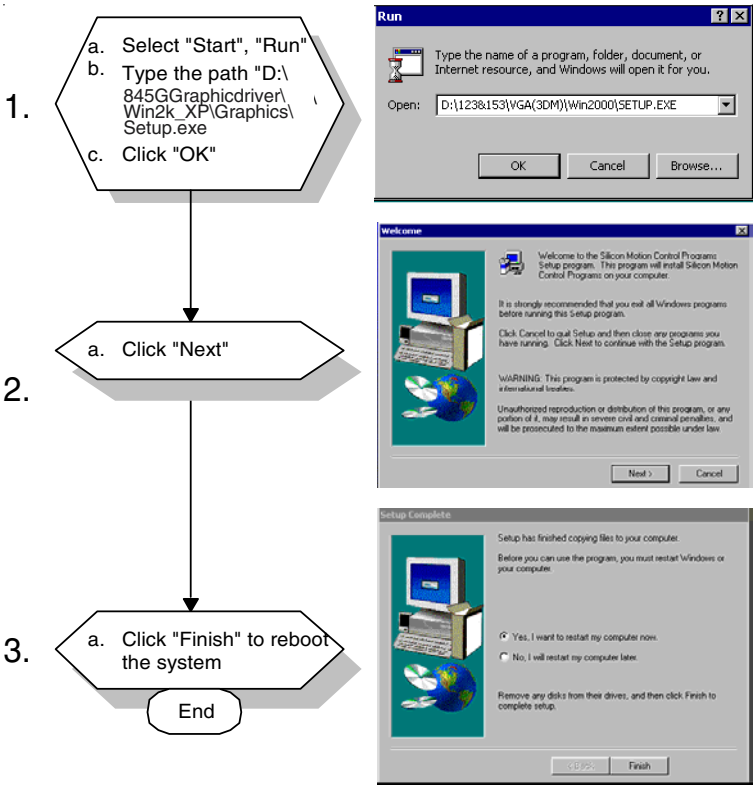


6.2.2 Installation for Windows NT



Note: Service Pack X (X=3, 4, 5, 6...) must be installed first before you install the Windows NT VGA driver.

6.2.3 Installation for Windows 2000/XP



6.3 Further Information

For further information about the AGP/SVGA installation in your POC-174, including driver updates, troubleshooting guides and FAQ lists, visit the following web resources:

Silicon Motion website: **www.siliconmotion.com**

Advantech websites: **www.advantech.com**
www.advantech.com.tw

CHAPTER 7

Audio

- Introduction
- Installation of Audio Driver
  - for Windows 95/98
  - for Windows NT
  - for Windows 2000/ME/XP

7.1 Introduction

The POC-174's onboard audio interface provides high-quality stereo sound and FM music synthesis (ESFM) by using the ALC202 audio controller from Realtek. The audio interface can record, compress, and play back voice, sound, and music with a built-in mixer control. The POPC-174's onboard audio interface also supports the Plug and Play (PnP) standard and provides PnP configuration for audio, FM, and MPU-104 logical devices. It is compatible with Sound Blaster, Sound Blaster Pro version 3.01, voice, and music functions. The ESFM synthesizer is register compatible with the OPL3 and has extended capabilities.

7.2 Installation of Audio Driver

Before installing the audio driver, please take note of the procedures detailed below. You must know which operating system you are using in your POC-174, and then refer to the corresponding installation flow chart. Just follow the steps in the flow chart. You can quickly and successfully complete the installation, even though you are not familiar with instructions for Windows.

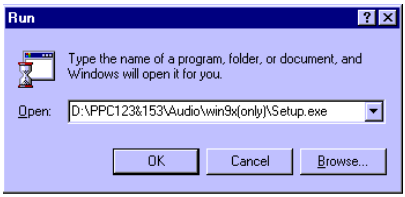
Important: The following windows illustrations are examples only. You must follow the flow chart instructions and pay attention to the instructions which then appear on your screen.

Note 1: The CD-ROM drive is designated as "D" throughout this chapter.

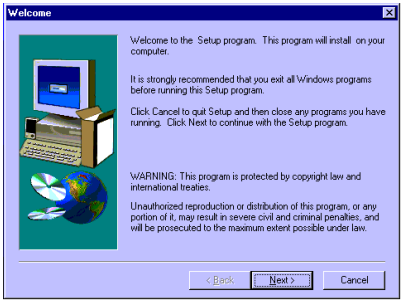
Note 2: <Enter> means pressing the "Enter" key on the keyboard.

7.2.1 Installation for Windows 95/98

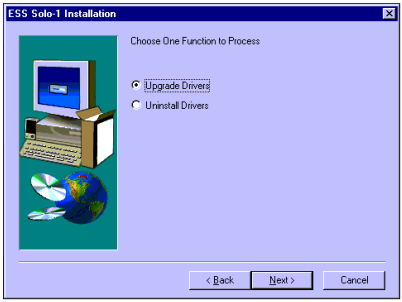
1. a. Select "Start", "RUN".
   b. Enter the driver ALC202\win95\Setup.exe



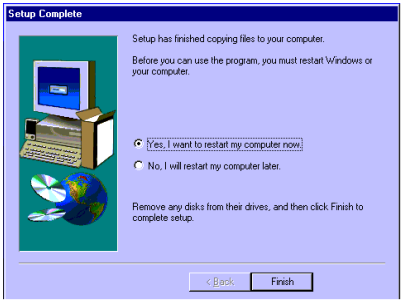
2. a. Click "Next" to continue the installation.



3. a. Select "Upgrade Drivers".
   b. Click "Next".



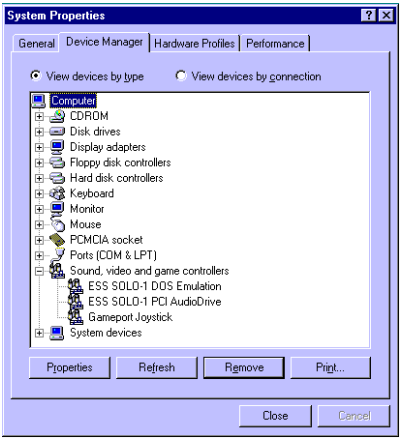
4. a. When installation is completed, click "Finish" to restart your computer.



5.

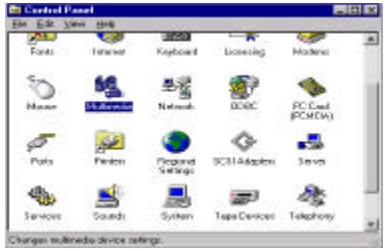
a. After installation, select "Start", "Settings", "Control Panel", "System".
b. Click the "Device Manager" tab to see the result of your installation.

End

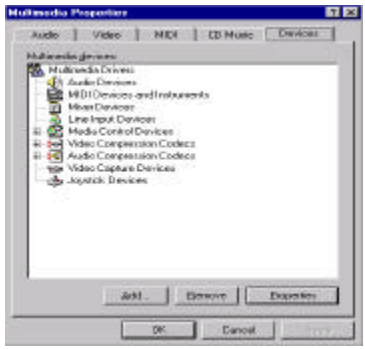


7.2.2 Installation for Windows NT

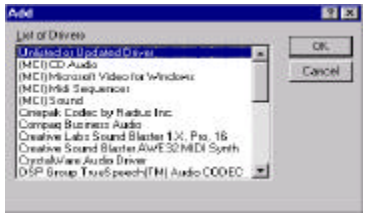
1. a. Select "Start", "Settings", "Control Panel".
   b. Double Click the "Multimedia" icon.



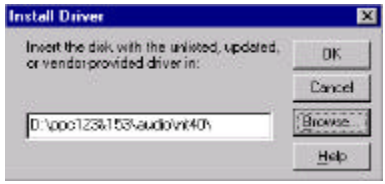
2. a. Select the "Devices", item.
   b. Click the "Add..." button.

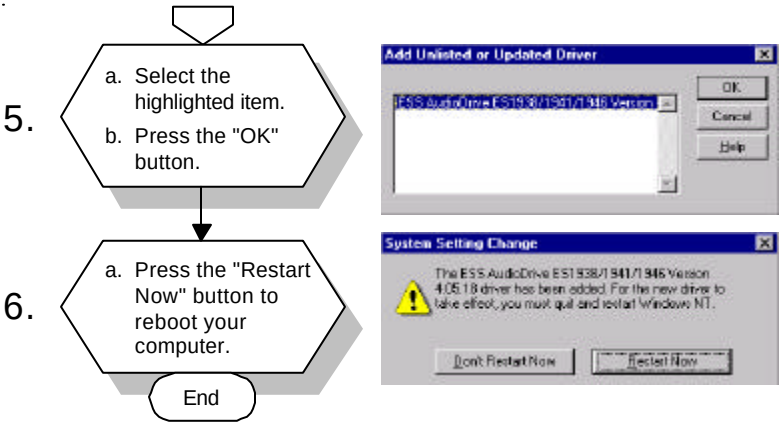


3. a. Choose the "Unlisted or Updated Driven" item.
   b. Click the "OK" buttom.



4. a. Type the path "D:\ ALC202\Winnt\ Setup.exe
   b. Click the "OK" buttom.





7.2.3 Installation for Windows 2000/ME

After finishing the Windows 2000/XP or Windows ME installation, the system can automatically detect the audio hardware and install the driver from the driver database in Windows 2000/XP or Windows ME when the system reboots.

It is not necessary to install the audio driver manually.

CHAPTER 8

PCMCIA

- Introduction
- Installation of PCMCIA Driver
  - for Windows 95

8.1 Introduction

The POC-174 is equipped with a high performance PCMCIA interface which complies with the 1995 PCMCIA card standard by using the RICOH Cardbus controller. The panel PC supports two PCMCIA card/cardbus slots. Two sockets support both a 16-bit PCMCIA card and a 32-bit Cardbus simultaneously, with hot insertion and removal.

8.2 Installation of PCMCIA Driver

The PCMCIA driver for Windows 95 is included in the "Drivers and Utilities" CD-ROM included with your POC-174. The installation procedure is shown in the next section in this chapter.

Other operating systems such as Windows 98 and Windows NT also support PCMCIA drivers. However, the drivers for these operating systems are not included in the "Drivers and Utilities" CD-ROM. Installation for these operating systems is not explained in this manual.

Important: The following windows illustrations are examples only. You must follow the flow chart instructions and pay attention to the instructions which appear on your screen.

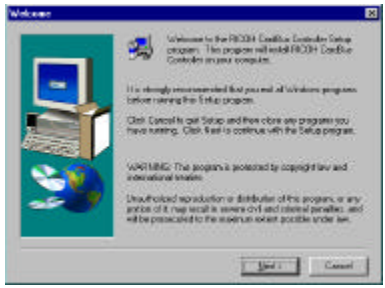
Note 1: The CD-ROM drive is designated as "D" throughout this chapter.

Note 2: <Enter> means pressing the "Enter" key on the keyboard.

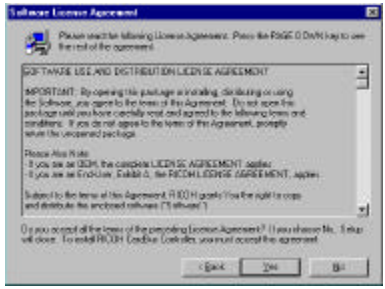
8.2.1 Installation for Windows 95

1. a. In "Start", "Run", Cardbus\win95osr2\ Setup.exe"

2. a. Click "Next".

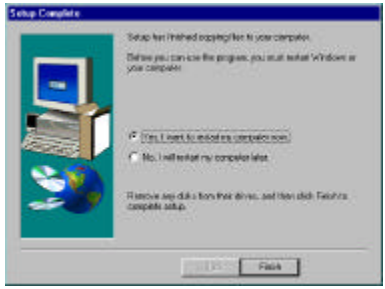


3. a. Click "Yes".



4. a. Click "Finish" to reboot the system.

End



CHAPTER 9

Touchscreen

- Introduction
- Installation of Driver for Resistive Touchscreen
  - for Windows 95
  - for Windows 98/ME
  - for Windows NT
  - for Windows 2000
  - for Windows XP

9.1 Introduction

9.1.1 General information

The POC-174's optional touchscreen incorporates advanced second-generation 5-wire resistive technology. They allow 75% light transmission respectively. The resistive and capacitive models have an antiglare surface. All models provide greatly enhanced visual resolution. They also have new improved scratch-resistant features.

The touchscreen is manufactured from UL-recognized components. When properly installed, the touchscreen's ball impact resistance meets the UL 1950 standard. Its fire resistance meets the UL-746C, 19 mm (0.75") flame test standard. Systems incorporating the touchscreen, controllers, and cables have been approved to FCC Class A and Class B standards.

For more detailed information, please visit the following websites:

Resistive models: **www.elotouch.com**

9.1.2 General specifications

Please refer to Chapter 1, Section 1.2 of this manual.

9.1.3 Environmental specifications

Temperature: -0° ~ 40° C (operating)
-20° ~ 60° C (storage)

Relative humidity:
90 RH at 35° C (operating)
90 RH at 35° C for 240 hours, non-condensing (storage)

Chemical resistance: The active area of the touchscreen is resistant to the following chemicals when exposed for a period of one hour at a temperature of 21° C (71° F):

- Acetone
- Methylene chloride
- Methyl ethyl ketone
- Isopropyl alcohol
- Hexane
- Ammonia-based glass cleaners
- Turpentine
- Mineral spirits
- Foods and beverages

9.2 Installation of Driver for Touchscreen

The touchscreen driver for Windows 95/98 contains a native, 32-bit driver and a 32-bit control panel program for the POC-174 system.

To facilitate installation of the touchscreen driver, you should read the instructions in this section carefully before you attempt installation.

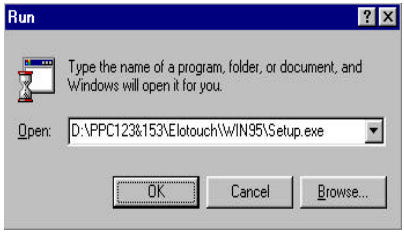
Important: The following windows illustrations are examples only. You must follow the flow chart instructions and pay attention to the instructions which then appear on your screen.

Note 1: The CD-ROM drive is designated as "D" throughout this chapter.

Note 2: <Enter> means pressing the "Enter" key on the keyboard.

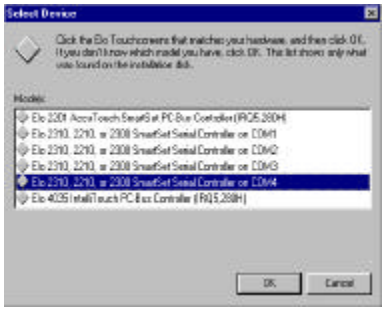
9.2.1 Installation for Windows 95

1. a. Insert the "Drivers and Utilities" CD.
   b. Click the "Start" button, and then "Run".
   c. Type the path "D:\Elotouch\Win9x_ME\Setup.exe".

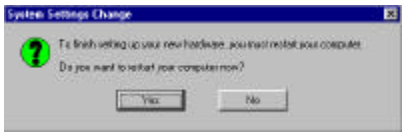


2. a. Click "Yes".

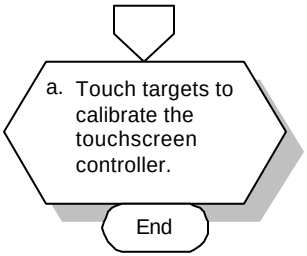
3. a. Select the "Smart serial Controller on COM4" item.
   b. Press the "OK" button.



4. a. Click the "Yes" button to restart your computer.



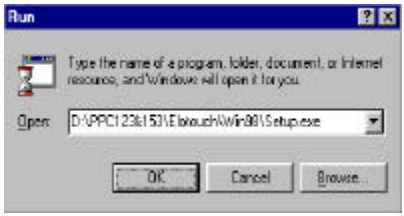
5.


a. Touch targets to calibrate the touchscreen controller.
End

9.2.2 Installation for Windows 98/ME

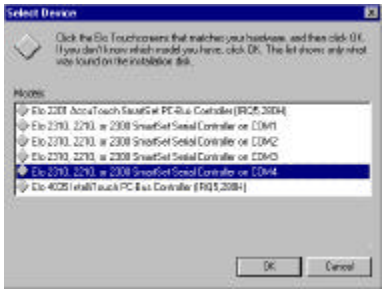
If you want to use the touchscreen driver CD-ROM accompanying your panel PC, refer to the following flow chart instructions.

1. a. Insert the "Drivers and Utilities" CD.
   b. Click the "Start" button, and then "Run".
   c. Type the path "D:\Elotouch\Win9x_ME\Setup.exe"



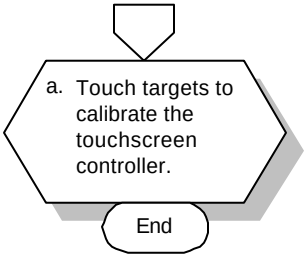
2. a. Click "Yes".

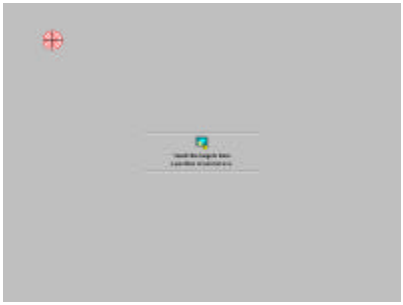
3. a. Select the "Smart serial Controller on COM4" item.
   b. Press the "OK" button.



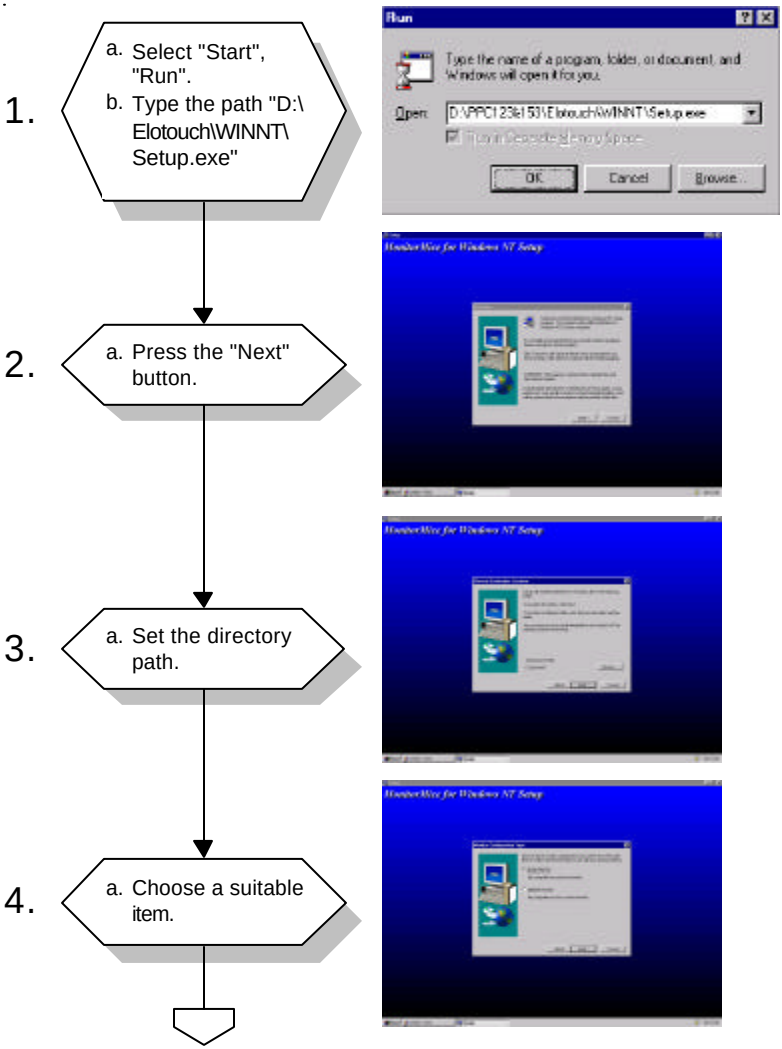
4. a. Click the "Yes" button to restart your computer.

5.

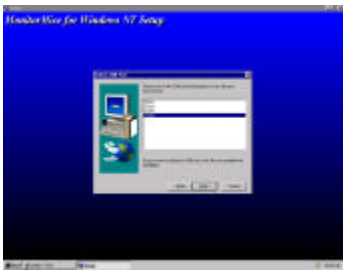

a. Touch targets to calibrate the touchscreen controller.
End



9.2.3 Installation for Windows NT



5. a. Choose COM4.
   b. Press "OK".



6. a. Click "OK" to reboot the system.

7. a. Calibrate the touchscreen.

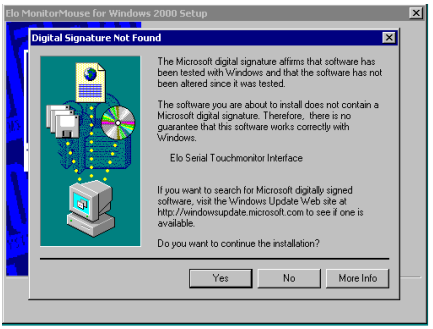
End

9.2.4 Intallation for Windows 2000

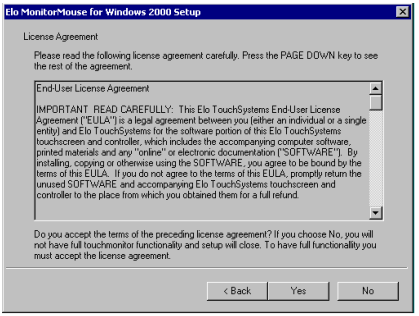
1. a. Select "Start", "Run"
   b. Type the path "D:\Elotouch\Win2k\Setup.exe"
   c. Click "OK"

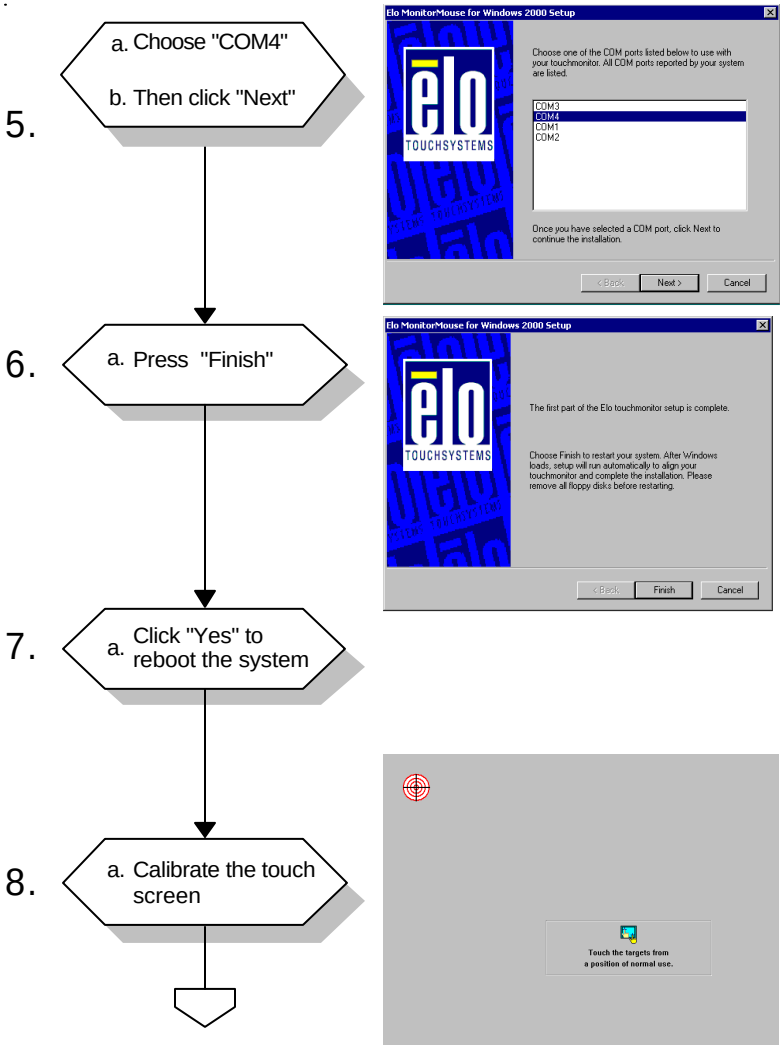
2. a. Press "Next"

3. a. Click "Yes"

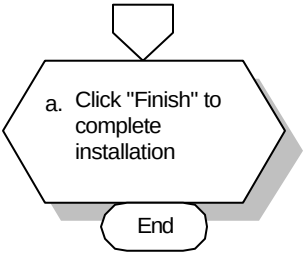


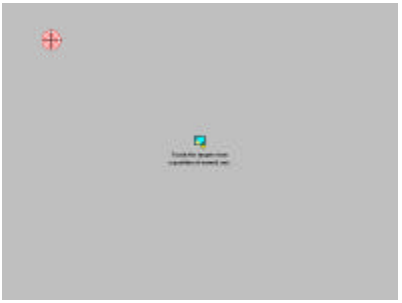
4. a. Select "Yes" to accept agreement




5.
a. Choose "COM4"
b. Then click "Next"
Elo MonitorMouse for Windows 2000 Setup
Choose one of the COM ports listed below to use with your touchmonitor. All COM ports reported by your system are listed.
COM3
COM4
COM1
COM2
Once you have selected a COM port, click Next to continue the installation.
< Back
Next >
Cancel
6.
a. Press "Finish"
Elo MonitorMouse for Windows 2000 Setup
The first part of the Elo touchmonitor setup is complete.
Choose Finish to restart your system. After Windows loads, setup will run automatically to align your touchmonitor and complete the installation. Please remove all floppy disks before restarting.
< Back
Finish
Cancel
7.
a. Click "Yes" to reboot the system
8.
a. Calibrate the touch screen
Touch the targets from a position of normal use.

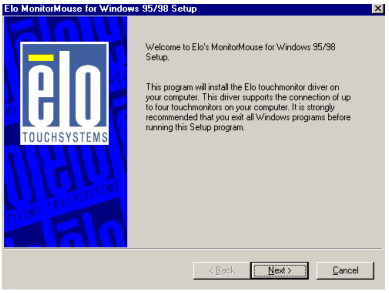
9.





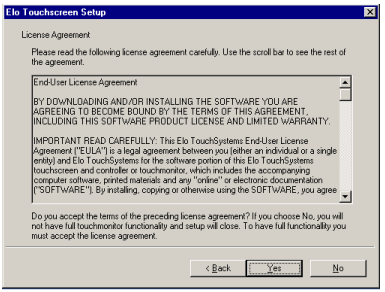
9.2.5 Installation for Windows XP

1. a. Select "Start", "Run"
   b. Type the path"D:\ Elotouch\WinXP\ Setup.exe"
   c. Click "OK"

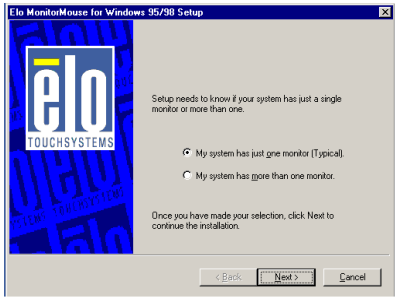


2. a. Click "Next"

3. a. Click "Yes" to accept the agreement.



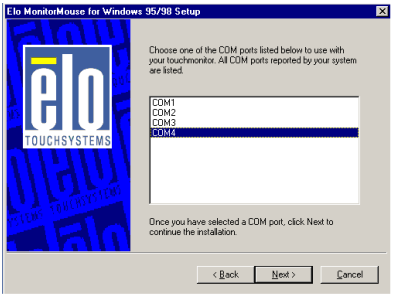
4. a. Press "Next"



5.

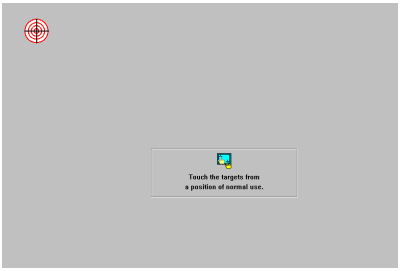
a. Choose "COM4"

b. Press "Next"



6.

a. Calibrate the touch screen



7.

a. Click "Finish" to complete the installation

End

APPENDIX A

Programming the Watchdog Timer

The POC-174 is equipped with a Watchdog Timer that resets the CPU or generates an interrupt if processing comes to a standstill for any reason. This feature ensures system reliability in industrial standalone or unmanned environments.

A.1 Programming the Watchdog Timer

To program the watchdog timer, you must write a program which writes I/O port address 443 (hex). The output data is a time interval value. The value range is from 01 (hex) to 3E (hex), and the related time interval is from 1 sec. to 62 sec.

Data	Time Interval
01	1 sec.
02	2 sec.
03	3 sec.
04	4 sec.
•	•
•	•
•	•
3E	62 sec.

After data entry, your program must refresh the watchdog timer by rewriting the I/O port 443 (hex) while simultaneously setting it. When you want to disable the watchdog timer, your program should read I/O port 443 (hex).

The following example shows how you might program the watchdog timer in BASIC:

```
10      REM  Watchdog timer example program
20      OUT &H443, data REM  Start and restart the
        watchdog
30      GOSUB 1000 REM  Your application task #1,
40      OUT &H443, data REM  Reset the timer
50      GOSUB 2000 REM  Your application task #2,
60      OUT &H443, data REM  Reset the timer
70      X=INP (&H443) REM, Disable the watchdog timer
80      END

1000    REM  Subroutine #1, your application task
•       •
•       •
•       •
1070    RETURN
2000    REM  Subroutine #2, your application task
•       •
•       •
•       •
2090    RETURN
```

APPENDIX B

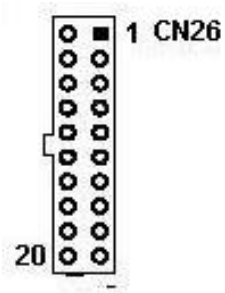
Pin Assignments

- AT Power Connector (CN26)
- TV Output Connector (CN25) (Reserved)
- Inverter Power Connector (CN29)
- Internal Speaker Connector (CN15) (Reserved)
- Front Panel Control Connector (CN21) (Reserved)
- IR Connector (CN20)(Reserved)
- Floppy Drive Connector (CN17)
- EIDE Hard Disk Drive Connector (CN31)
- CD-ROM Connector (CN27)
- CPU Fan Power Connector (FAN1)
- System Fan Power Connector (FAN2)
- PCI/ISA Expansion Connector (SLOT1)
- Internal COM4 and PS/2 connector (CN19)
- COM2

B.1 AT Power Connector (J1)

Table B-1: AT power connector (CN26)

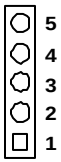
Pin	Signal
1	3.3 V
2	3.3 V
3	GND
4	5 V
5	GND
6	5 V
7	GND
8	POK
9	5 VSB
10	12 V
11	3.3 V
12	-12 V
13	GND
14	PSON
15	GND
16	GND
17	GND
18	-5 V
19	5 V
20	5 V



B.2 TV Output Connector (CN25) (Reserved)

Table B-2: TV output connector (CN25)

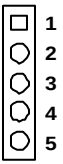
Pin	Signal
1	Y
2	C
3	GND
4	GND
5	CVBS



B.3 Inverter Power Connector (CN29)

Table B-3: Inverter power connector (CN29)

Pin	Signal
1	+12 V
2	GND
3	ENABKL
4	Brightness Adj.
5	+5 V



B.4 Internal Speaker Connector (CN15) (*Reserved)

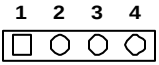


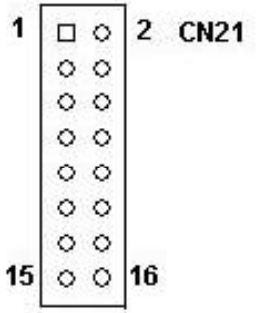
Table B-4: Internal speaker connector (CN15)

Pin	Signal
1	Speaker out_R -
2	Speaker out_R +
3	Speaker out_L +
4	Speaker out_L -

B.5 Front Panel Control Connector (CN21) (Reserved)

Table B-5: Front panel control connector (CN21) (*Reserved)

Pin	Signal
1	Vcc
2	GND
3	PWR LED
4	GND
5	HDD LED
6	NC (Reserved)
7	NC (Reserved)
8	NC (Reserved)
9	NC (Reserved)
10	NC (Reserved)
11	NC (Reserved)
12	NC (Reserved)
13	Power SW+
14	Power SW-
15	Reset SW
16	GND



B.6 IR Connector (CN20) (Reserved)

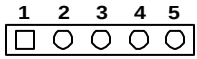


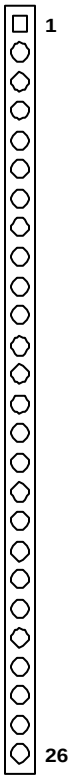
Table B-6: IR connector (CN20) (Reserved)

Pin	Signal
1	V_{CC}
2	NC
3	IR_IN
4	GND
5	IR_OUT

B.7 Floppy Drive Connector (CN17)

Table B-7: Floppy drive connector (CN17)

Pin	Signal	Pin	Signal
1	V_{cc} (+5 V)	14	STEP
2	INDEX	15	GND
3	V_{cc} (+5 V)	16	WRITE ENABLE
4	DRIVE SELECT	17	GND
5	V_{cc} (+5 V)	18	WRITE DATA
6	DISK CHANGE	19	GND
7	NC	20	TRACK 0
8	NC	21	GND
9	NC	22	WRITE PROTECT
10	MOTOR ON	23	GND
11	NC	24	READ DATA
12	DIRECTION	25	GND
13	DENSITY SELECT	26	SIDE 1 SELECT



B.9 EIDE Hard Disk Drive Connector (CN31)

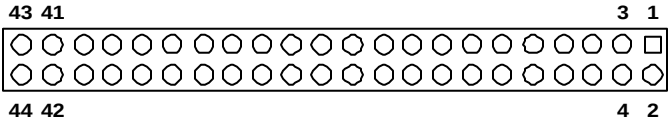


Table B-9: EIDE hard disk drive connector (CN31)

Pin	Signal	Pin	Signal
1	IDE RESET #	2	GND
3	DATA 7	4	DATA 8
5	DATA 6	6	DATA 9
7	DATA 5	8	DATA 10
9	DATA 4	10	DATA 11
11	DATA 3	12	DATA 12
13	DATA 2	14	DATA 13
15	DATA 1	16	DATA 14
17	DATA 0	18	DATA 15
19	SIGNAL GND	20	N/C
21	HDD DREQ	22	GND
23	IO WRITE	24	GND
25	IO READ	26	GND
27	HD READY	28	CABLE SELECT
29	HDACK 0 #	30	GND
31	IRQ14	32	N/C
33	ADDR 1	34	N/C
35	ADDR 0	36	ADDR 2
37	HDD SELECT 0 #	38	HDD SELECT 1 #
39	IDE ACTIVE 0 #	40	GND
41	Vcc	42	V_{CC}
43	GND	44	N/C

low active

B.10 CD-ROM Connector (CN27)

Table B-10: CD-ROM connector (CN27)

Pin	Signal	Pin	Signal
1	Audio_L	2	Audio_R
3	GND	4	GND
5	IDE RESET #	6	DATA8
7	DATA7	8	DATA9
9	DATA6	10	DATA10
11	DATA5	12	DATA11
13	DATA4	14	DATA12
15	DATA3	16	DATA13
17	DATA2	18	DATA14
19	DATA1	20	DATA15
21	DATA0	22	HDD DREQ
23	GND	24	IO READ
25	IO WRITE	26	GND
27	HD READY	28	HD ACK 0 #
29	IRQ 15	30	NC
31	ADDR1	32	NC
33	ADDR0	34	ADDR2
35	HDD SELECT 0 #	36	HDD SELECT 1 #
37	V_{CC} (+5 V)	38	V_{CC} (+5 V)
39	GND	40	GND

low active

B.11 CPU Fan Power Connector (FAN1)

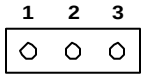


Table B-11: CPU fan power connector (FAN1)

Pin	Signal
1	GND
2	+12 V
3	FAN_DET

B.12 System Fan Power Connector (FAN2)

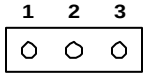
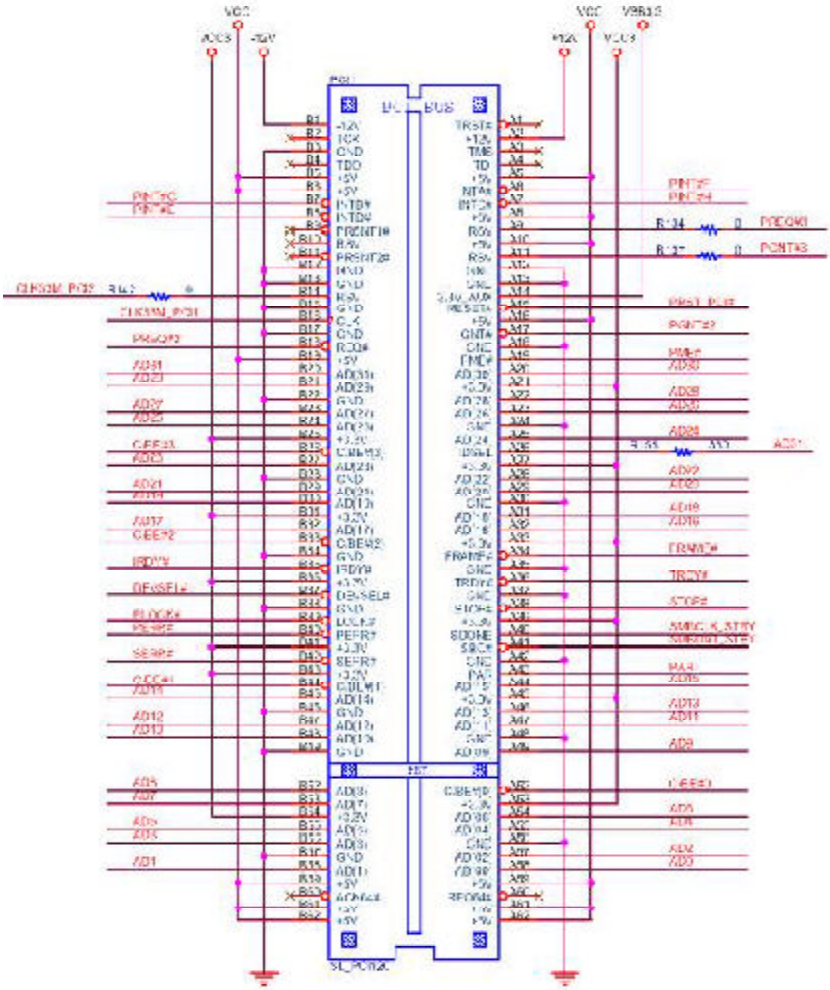


Table B-12: Fan power connector (FAN2)

Pin	Signal
1	GND
2	+12 V
3	FAN_DET

B.13 PCI Bus Expansion Connector (SLOT1)

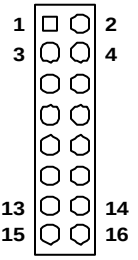


Note: *This PCI slot uses standard PCI Bus V2.2. If you wish to use this slot, you can connect the add-on cards directly without any issues.*

B.14Touchscreen Connector (CN19)

Table B-13: Internal COM4 and PS/2 Connector (CN19)

Pin	Signal	Pin	Signal
1	NRLSD	2	NDSR
3	NRX	4	NRTS
5	NTX	6	NCTS
7	NDTR	8	NRI
9	GND	10	GND
11	MSDAT	12	EXT MSDAT
13	MSCLK	14	EXT MSCLK
15	Vcc	16	Vcc



B.15 COM2

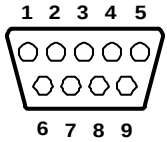


Table B-14: COM2

Pin	Signal RS-232	RS-422	RS-485
1	DCD	TX-	DATA-
2	RX	TX+	DATA+
3	TX	RX+	---
4	DTR	RX-	---
5	GND	GND	---
6	DSR	---	---
7	RTS	---	---
8	CTS	---	---
9	RI	---	---

APPENDIX C

Mounting Instructions

- VESA Mounting

C.1 VESA Mounting

C.1.1 Introduction

The POC-174 provides standard VESA mounting to help system integrators conveniently integrate the panel PC into their system.

To mount a suitable panel, refer to the following dimensions diagram.

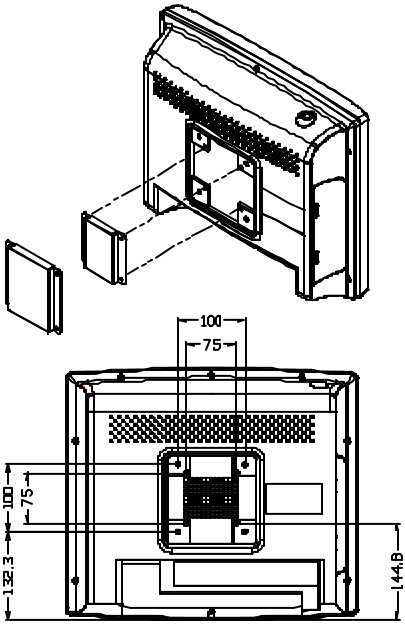


Figure C-1: VESA Mounting (75 x 75mm, 100 x 100mm)