

MODEL _____

TPS-7500

POS CONTROLLER

INSTALLATION & SERVICE MANUAL



WARNING

- Do not perform any service procedures before reading this manual thoroughly.
- Keep this manual available at all times when servicing the terminal.

TriGem

MODEL TPS-7500

INSTALLATION & SERVICE MANUAL

Published by
TriGem Computer, INC.

Notice

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Revision Record

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A	02/99	First printing

ATTENTION

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

SICHERHEITSHINWEISE

Die Steckdose zum Anschluß dieser Registrierkasse muß nahe dem Gerät angebracht und leicht zugänglich sein. Öffnen des Gehäuses nur durch Service Personal.

SAFETY INDICATION

The socket for this Cash Register must be installed near the equipment and must be easily accessible. The housing may only be opened by service staff.

INDICATION POUR LA SECURITE

La prise de courant de cette ordinateur deit être installée près de l'équipement et doit être facile à accéder. La couverture ne peut être ouverte que par le personnel de service.

Important Safety Instructions

The following instructions pertain to the risk of fire, electric shock or bodily injury. Please read all of these instructions carefully.

- 1** Save these instructions for later use.
- 2** Follow all of the instructions and warnings marked on this product or included in this manual.
- 3** Do not use this computer on an unstable cart, stand or table. The product may fall, causing serious damage to the product.
- 4** Slots and openings in the cabinet and the back have been provided for ventilation. To ensure the reliable operation of your computer, and to protect it from overheating, these openings must not be blocked or covered. Don't use this product on a bed, sofa, rug or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
- 5** Never push objects of any kind into the computer through the cabinet openings, as they may touch dangerous voltage points or short out parts that could result in a fire or electrical shock. Never spill liquid of any kind on the product.
- 6** This computer should only be connected to the AC power source indicated on your computer system's information label. If you are not sure of the type of AC power available, consult your dealer or local power company. Only connect this computer to a power outlet that matches the power requirements of this computer.
- 7** Do not allow anything to rest on the power cord. Do not locate this product where people will walk on the cord.
- 8** If you have to use an extension cord with this computer, make sure that the total amperage rating of all equipment plugged into it does not exceed the amperage rating of the extension cord. Also, make sure that the total of all products plugged into the main AC power outlet does not exceed 15 amps.
- 9** Unplug your computer from the main electrical power outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

- 10** Do not use this computer near water.
- 11** This product is equipped with a 3-wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert or replace your obsolete outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.

Maintenance

If the product does not operate normally, adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and may require extensive repair work to restore the product to normal operation.

Unplug this product from the main power outlet and call for service under any of the following conditions:

- A** If the power cord or plug is damaged or frayed.
- B** If liquid has been spilled into the product.
- C** If the product has been exposed to rain or water.
- D** If the product has been dropped or the cabinet has been damaged.
- E** If the product exhibits a distinct change in performance, indicating a need for service.

Stop

If you ever have to remove the main system unit cover, observe the following precautions:

- A** The power supply cord must be unplugged before the main system unit cover is removed. (Separe le cordon d'alimentation et puis enleve le couvercle.)
- B** Once removed, the cover must be replaced and screwed in position before the power supply cord is plugged back in. (Apres le couvercle a enleve, visse le couvercle en place et remettre le cordon d'alimentation.)

Wichtige Sicherheitsvorschriften Unbedingt Beachten

Allgemeine Sicherheit

Die nachfolgenden Anweisungen betreffen die Gefahr von Verletzungen durch elektrische Spannung, Feuer und mechanische Einwirkung. Bitte lesen Sie diese Anweisungen sorgfältig.

- 1** Beachten Sie alle Hinweise, die am Gerät selbst angebracht oder in den zugehörigen Handbüchern vermerkt sind.
- 2** Stellen Sie das Gerät an einem sicheren, stabilen Arbeitsplatz auf.
- 3** Am Gerät angebrachte Öffnungen (Schlitze und sonstige Öffnungen) dienen der Belüftung des Gerätes. Um ein zuverlässiges Arbeiten des Geräts zu gewährleisten und um Überhitzung zu vermeiden, müssen diese Öffnungen unbedingt freigehalten werden. Betreiben Sie das Gerät nie auf Betten, Sofas oder anderen, weichen Unterlagen.
- 4** Stecken keine Gegenstände (Schraubenzieher, Büsroklemmen etc.) in die Öffnungen. Sie würden damit Kurzschlüsse herbeiführen, die zur Zerstörung des Geräts führen, sich der Gefahr eines Stromschlages aussetzen oder das Gerät in Brand setzen.
- 5** Das Gerät darf nur an vorschriftmäßige Steckdosen mit der auf dem Gerät angegebenen Netzspannung angeschlossen werden. Wenn Sie nicht sicher sind, welche Netzspannung richtig ist, wenden Sie sich an den Lieferanten des Gerätes oder an das zuständige Elektrizitätswerk. Bitten nur an genügend stark abgesicherte Steckdosen anschließen, die der Leistungsaufnahme des Gerätes entsprechen.
- 6** Auf das Netzanschlußkabel dürfen keine Gegenstände gestellt werden. Legen Sie das Netzkabel so, daß niemand darauf treten oder darüber stolpern kann.
- 7** Wenn Sie Verlängerungskabel benutzen, müssen Sie sicher sein, daß die gesamte Leistungsaufnahme nicht größer ist als das Verlängerungskabel zuläßt. Der gesamte Stromverbrauch aller angeschlossenen Geräte darf nicht mehr als 15 A betragen.

- 8** Wenn Sie das Gerät reinigen, muß das Netzkabel aus der Steckdose gezogen werden.
- 9** Das Gerät dürfen Sie nicht in der Näh von Wasserleitungen benutzen.

Wartung Des Computers

Wenn der Computer nicht ordnungsgemäß arbeitet, dürfen Sie nur die Einstellungen vornehmen, die im Handbuch genannt werden. Andere Einstellungen oder Veränd erungen können den Computer beschädigen oder zerstören. Umfangreiche und kostspielige Reparaturen würden notwendig werden, um das Gerät wieder betriebsfähig zu machen.

Ziehen Sie den Netzstecker aus der Steckdose und verständigen Sie den zuständigen Kundendienst bei folgenden Störungen:

- A** Netzkabel ist defekt oder stark abgenutzt.
- B** Flüssigkeit ist in das Gerät geschüttet worden.
- C** Das Gerät war Regen oder Leitungswasser aus-gesetzt.
- D** Das Gerät ist heruntergefallen oder das Gehäuse ist beschädigt.
- E** Das Gerät arbeitet nicht mehr richtig.

Achtung

Wenn Sie das Gerät Öffnen müssen (Abnahme der verschraubten Haube), ist unbedingt folgendes zu beachten:

- A** Das Netzkabel muß aus der Steckdose gezogen werden und zwar bevor Sie das Gerät Öffnen.
- B** Die Haube muß wieder montiert und verschraubt werden. Erst dann darf das Netzkabel wieder eingesteckt werden.

Safety Instruction

Ensure that the appropriate power cord is supplied with personal computer. If the power cord is not supplied with personal computer, use the correct listed cord sets as below:

Rating	Type	Note
125V, 10A Min. 18AWG/3	SVT Max. 4.5m long	- One end terminated with molded on cord connector body. - Attachment plug cap with a nema 5-15P.
250V, 6A Min. 18AWG/3	SVT Max. 4.5m long	- One end terminated with molded on cord connector body. - Attachment plug cap with a nema 6-15P.

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Chapter 1

Introduction

Features

Your profile system provides the following built-in features:

- Built-in type 7 Pentium® OverDrive™ processor socket
- Intel® Pentium® P54C(S)/133, 166 or 200 MHz, P55C-MMX™/166, 200 or 233 MHz, AMD K5™, or K6™/166 or 200 MHz, Cyrix M2/PR166 or PR200, IDT C6/180 or 200 MHz microprocessor support
- 256KB or 512KB of Pipeline Burst SRAM external(L2) cache (factory setting according to the system type)
- 16MB of internal memory, expandable to 256MB using DIMMs
- Two built-in PCI Bus Mastering Enhanced IDE connectors
- Two USB (Universal Serial Bus) connectors
- Two built-in serial ports and one built-in parallel port
- Built-in IBM PS/2 compatible keyboard and mouse ports
- Built-in microphone jack, audio line-in jack, and audio line-out jack
- Two 16-bit ISA bus slots and one 32-bit PCI slot on the riser card (one slot shared)

- Built-in video connector
- Support for Ultra DMA (ATA/33) hard disk drives for increased performance and data integrity
- SiS 5598B UMA (Unified Memory Architecture) graphics controller built in the SiS 5598 chip on the motherboard
- Built-in 16-bit CS 423X audio controller
- Support video shared memory from 1 MB to 4 MB through SETUP
- Supervisor and user passwords function
- Diskette drive write protection
- Plug-and-Play (PnP) compatible BIOS
- System and video BIOS shadow RAM
- Support for Advanced Power Management(APM)
- Bootable with CD-ROM drives
- DMI (Desktop Management Interface) 2.0 compliance (Requires DMI-enabled components)

Video and Audio Drivers

Your system has a SiS 5598B video controller and a Crystal 423X audio controller, which is prepared video and audio drivers respectively for the following operating systems:

- Microsoft Windows 3.1x
- Microsoft Windows 95
- Microsoft Windows NT
- OS/2

For information on installing video and audio drivers, see Chapter 6 and Chapter 7 respectively.

Optional Equipment

You can utilize the following options for the computer and easily upgrade your computer by installing memory modules, a microprocessor chip, a hard disk drive, or CD-ROM drive.

System Memory

You can expand the computer's memory up to 256MB by adding 8MB, 16MB, 32MB, 64MB, or 128MB EDO DRAM or SDRAM DIMMs.

Processor

You may replace the existing microprocessor with a new one to enhance the speed and performance of your computer. You can use an Intel Pentium P54C, P55C-MMX, AMD K5 or K6, Cyrix M2, or IDT C6 processor as compatible processors to upgrade your microprocessor.

Drives

The three drive bays in your system consist of:

- one 5.25-inch external bay for a CD-ROM drive
- one 3.5-inch external drive bay that is dedicated to a 3.5-inch diskette drive
- one 3.5-inch internal bay for a 3.5-inch hard disk drive

Option Cards

You can install a variety of option cards such as 3D graphics cards, LCD cards, fax/modem cards, or LAN cards in your system, but install only two option cards.

Battery

You can replace the battery on the motherboard with coin-cell CR2032-type one.

Names and Functions of the System

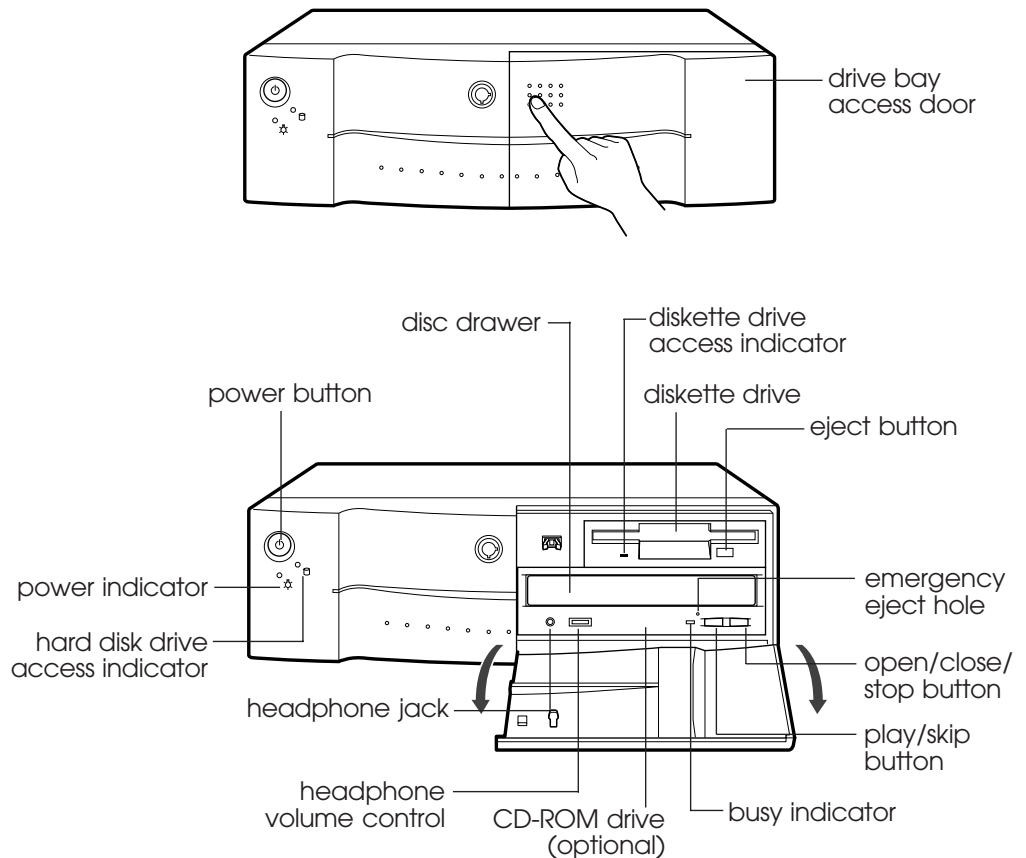
The following section describes names and functions of the system.

Front Panel

The illustration below shows the front panel of the system.

Note

The shape and type of the CD-ROM drive illustrated below may be different from those of your CD-ROM drive.



Power indicator ()

Lights up when the computer is on.

Hard disk drive access indicator ()

Lights up when the hard disk drive is reading data from or writing data to the drive.

Power button ()

Press to turn the computer on or off. Do not turn the power on or off with a disk in the drive. Data on the disk may be damaged.

3.5-inch diskette drive

Accepts 3.5-inch floppy diskettes.

CD-ROM drive (optional)

Used to play music CDs, photo CDs or video CDs, or to load software packages onto the hard disk drive.

Headphone jack

3.5 mm jack for monitoring the audio signal from audio CDs.

Busy indicator

The busy indicator lights during initialization and data-read operations.

Emergency eject hole

Insert a rod here to eject the drawer manually, or when there is no power.

Play/skip button

When the audio CD is in the disc drawer, pressing this button will start playing audio CDs from the first track on. If the audio CD is playing, pressing this button will skip to the next track of an audio CD.

Open/close/stop button

Press this button to open or close the CD tray. The button works only when power is applied to drive. If the audio CD is playing, pressing the button will stop it, and pressing it again will open the tray.

Disk drawer

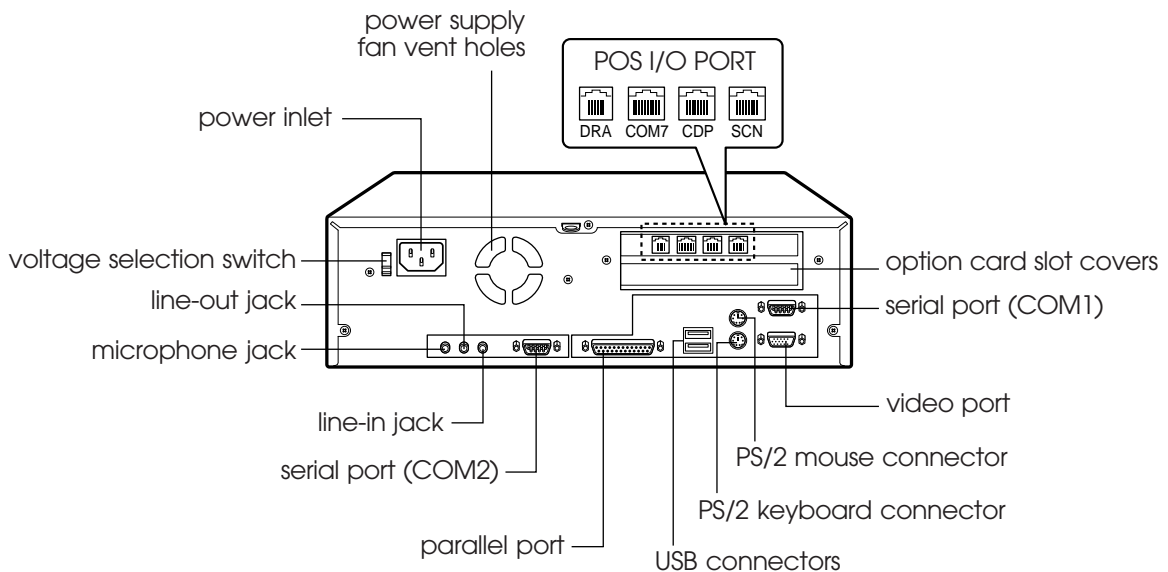
Accepts a CD-ROM disc on its tray.

Headphone volume control

Adjust the headphone sound level.

Back Panel

The illustration below shows the back panel of your system.



Voltage selection switch

Selects between 115 and 230 VAC operation. This switch must be set to match the AC power available at your location.

Caution

Set correctly the voltage selection switch. Otherwise, your system may be damaged. Make sure that this switch is set correctly for your location before turning on your computer.

Video port

Connect the cable from the monitor to the video port.

Option card slot covers

When these covers are removed, you can install option cards.

Power supply fan vent holes

Protects internal circuits from overheating.

Power inlet

Connect one end of the AC power cord to the power inlet.

Line-in jack

You can connect record/playback devices such as cassette players, CD players, and VCRs to the line-in jack. Connect the line-out cable from any of these devices to the line-in jack.

Line-out jack

Connect the audio cable from speakers or headphones to the line-out jack. Because the line-out jack is amplified, speakers with integrated amplifiers are not required.

Microphone jack

Connect the audio cable from the microphone to the microphone jack for integrating your own voice or musical input into a sound application.

Serial port (COM1/COM2)

You can connect serial devices such as a mouse, external modem, or serial printer to the serial port.

Parallel port (LPT1)

You can connect parallel devices such as a printer to the parallel port.

PS/2 keyboard connector

The PS/2 keyboard is connected to the connector.

PS/2 mouse connector

The PS/2 mouse is connected to the connector.

USB connectors

You can connect peripherals such as scanners, printers and joysticks to the USB (Universal Serial Bus) connectors. USB includes devices that in the past used serial ports, parallel ports, the keyboard port, the mouse port, and game ports as well as new kinds of devices. USB peripherals are hot-swappable enabling plug and play for your peripherals.

Chapter 2

Setting Up Your System

This chapter describes how to set up your system. Just follow the ten steps in this chapter.

1 *Selecting a Site*

Before you set up your computer, it is important to choose a safe, convenient site that provides the following:

- ❶ A large, sturdy desk or table strong enough to support the weight of your system and all of its components.
- ❷ A flat, hard surface. Soft surfaces like beds and carpeted floors attract static electricity, which can erase data on your disks, damage the computer's circuitry, and prevent proper ventilation.
- ❸ Good air circulation. Leave several inches of space around the computer so air can move freely.
- ❹ Moderate environmental conditions. Select a cool, dry area and protect your computer from extremes in temperature, humidity, dust, and smoke. Avoid direct sunlight or any other source of heat.
- ❺ Appropriate power sources. To prevent static charges, connect all your equipment to three-hole, grounded outlets. You need one outlet for the computer, one for the monitor, and additional outlet for a printer and any other peripherals.
- ❻ No electromagnetic interference. Do not place your system too close to any electrical device, such as a telephone, which generates an electromagnetic field.

2 Checking the Voltage Setting

A 100-watt power supply is integrated into the system to provide power for the motherboard, option cards, and peripheral devices. A switch on the system back panel can be used to set the power supply to operate at:

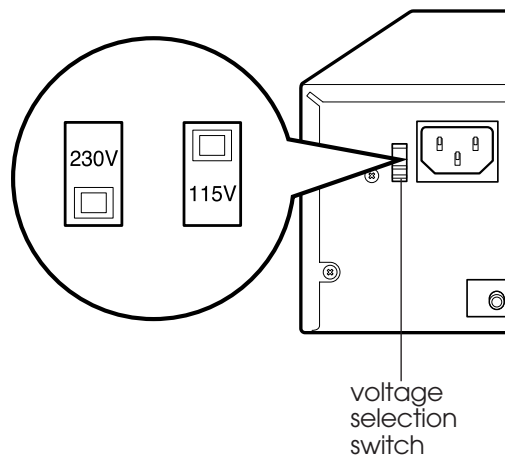
- 115 V AC, or
- 230 V AC

To verify that your system has the correct setting for your environment, check the voltage selection switch.

Warning

If you set the voltage selection switch incorrectly, your system may be damaged. Make sure this switch is set correctly for your location before turning on your computer.

Using your finger, push the voltage selection switch to the correct voltage position.

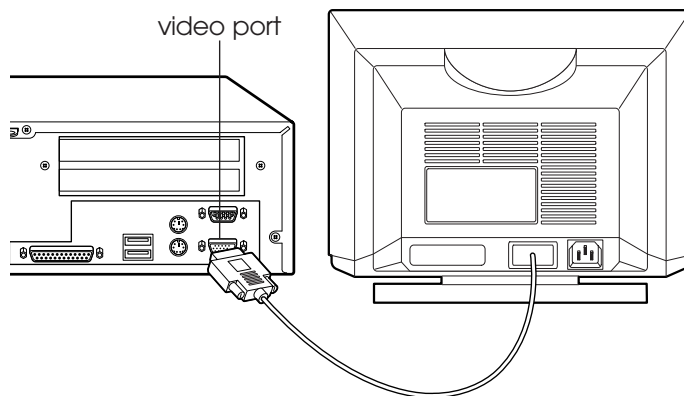


3 Connecting a Monitor

The way you connect your monitor to the computer depends on the type of monitor you have. If you have a VGA monitor, you can connect it to the computer's built-in VGA port.

To connect your VGA monitor to the VGA port on the back of the computer, follow these steps:

- 1 Make sure your monitor and computer are turned off.
- 2 Place your monitor on top of or near the computer. For easy access, turn the monitor and computer around so that the backs can face you.
- 3 If your monitor does not have an attached monitor cable, connect the cable to the monitor.
- 4 Locate the connector end of the monitor cable so it is lined up with the video port marked by on the computer. Then insert the plug into the port.

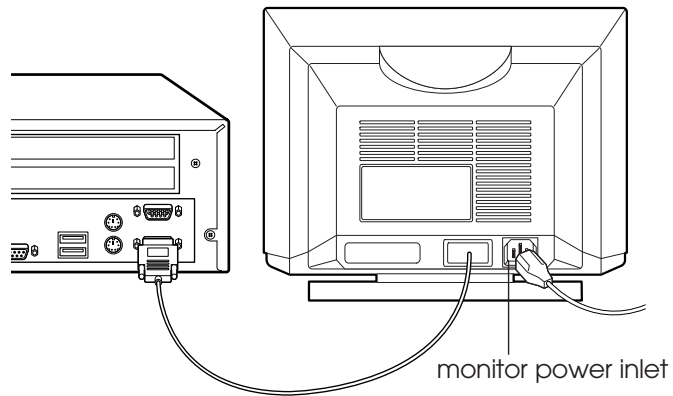


Caution

When inserting the plug, be careful not to bend the pins, or the connector may be damaged.

- 5 If the connector has retaining screws, be sure to tighten them.

- 6** Plug the monitor power cord into the monitor's power inlet.




- 7** Plug the other end of the power cord into a grounded electrical outlet.

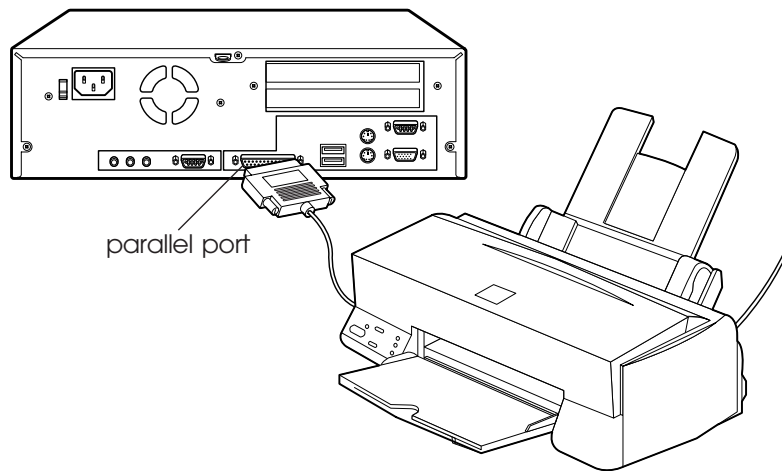
4 Connecting a Printer or Other Device

Your computer has a parallel interface and one or two serial interfaces. To connect a printer or other peripheral device to one of these interfaces, follow the instructions below.

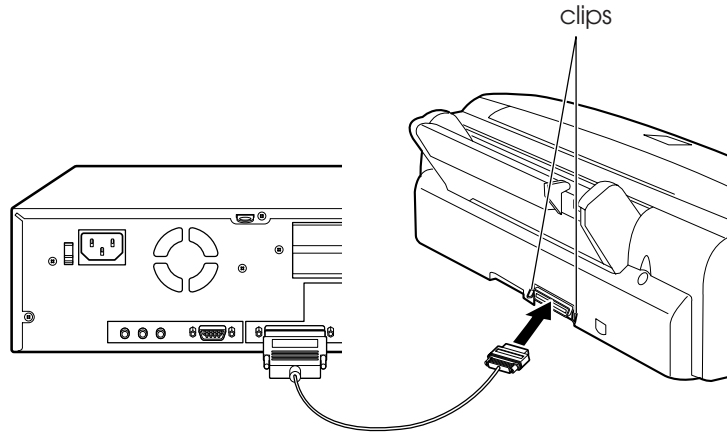
Using the Parallel Interface

Follow these steps to connect a parallel printer to your computer:

- 1 Make sure the printer and computer are turned off.
- 2 Locate the connector end of the printer cable so it is lined up with the parallel interface marked with  on the back of the computer and then plug it in. If the plug has retaining screws, tighten them.



- 3 Connect the other end of the cable to the printer. To secure the cable, squeeze the clips at each side of the printer port and push them into place.

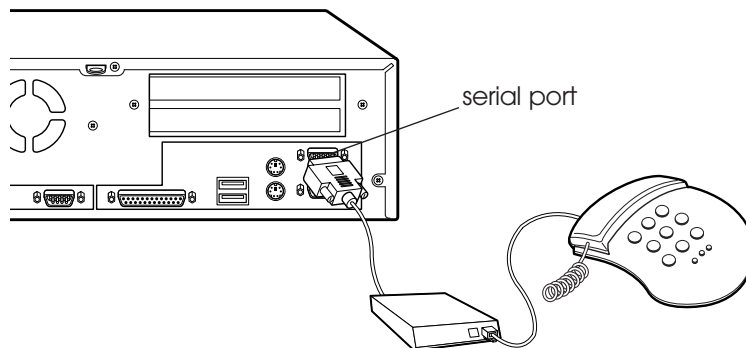


- 4 Plug the printer's power cord into an appropriate grounded electrical outlet.

Using the Serial Interface


If you have a printer, modem, or other peripheral device with a serial interface, you can connect it to the serial (RS-232C) port(s) on the back of the computer. The serial port uses a D-sub 9-pin connector, so make sure you have a compatible cable.

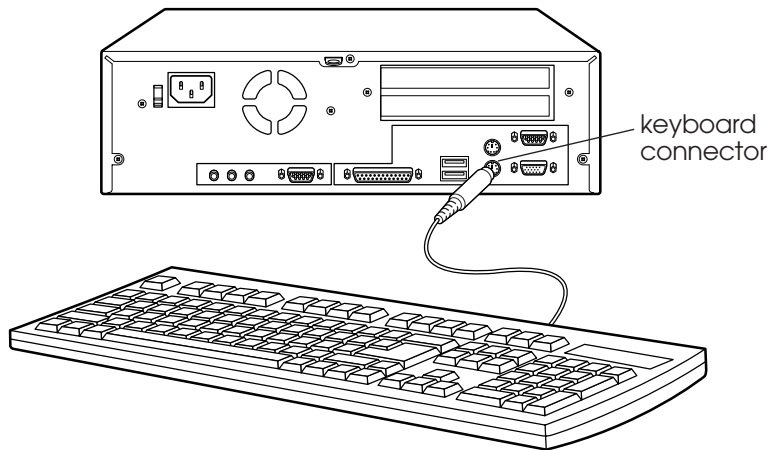
To connect a serial device, insert the connector from the serial device into the serial port marked  or .



5 Connecting the Keyboard

Follow these steps to connect the keyboard:

- 1 Make sure the computer is turned off.
- 2 Hold the keyboard cable connector with an arrow or other mark on the connector facing up and insert it into the keyboard connector marked with .




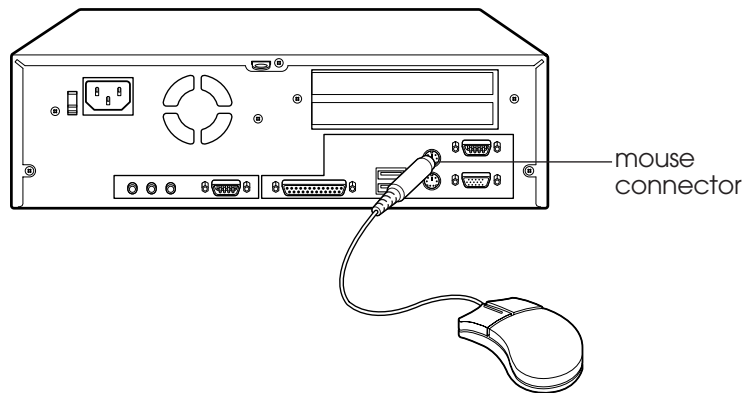
Caution

Although the connectors and ports for the keyboard and mouse are physically identical, they cannot be used interchangeably. Be sure to plug the keyboard into the keyboard port.

6 Connecting the Mouse

Your computer has an auxiliary port for an IBM PS/2 compatible mouse that uses a round, miniature DIN (6-pin) connector. If your mouse has this type of connector, you can connect it to the built-in mouse connector on your computer. If your mouse requires a different interface, you can connect it to the built-in serial port or USB connectors, or install an option card to provide the interface.




To connect a mouse to the built-in mouse connector, make sure your computer is turned off and then plug the connector into the mouse connector marked .

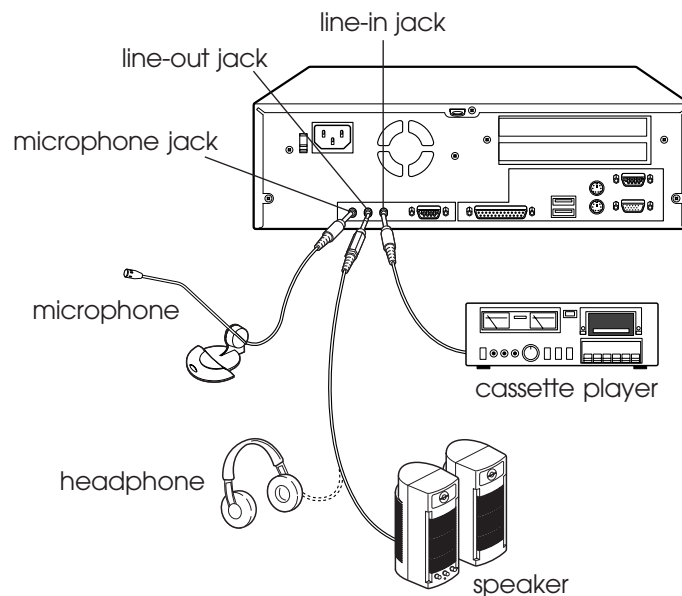


7 Connecting Audio Devices

Your computer has three integrated audio controller jacks (microphone jack, line-out jack, and line-in jack).


You can connect a microphone to the microphone jack, a speaker or headphone to the line-out jack, and a cassette player, CD player, or VCR to the line-in jack.

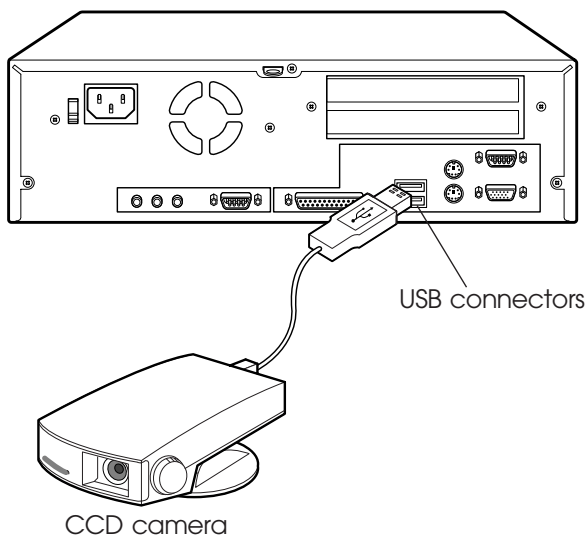
To connect audio devices to the three jacks, make sure your computer is turned off and then plug the connectors from the audio devices into the each connector marked with , , and  on the back of the computer.



8 Connecting USB devices

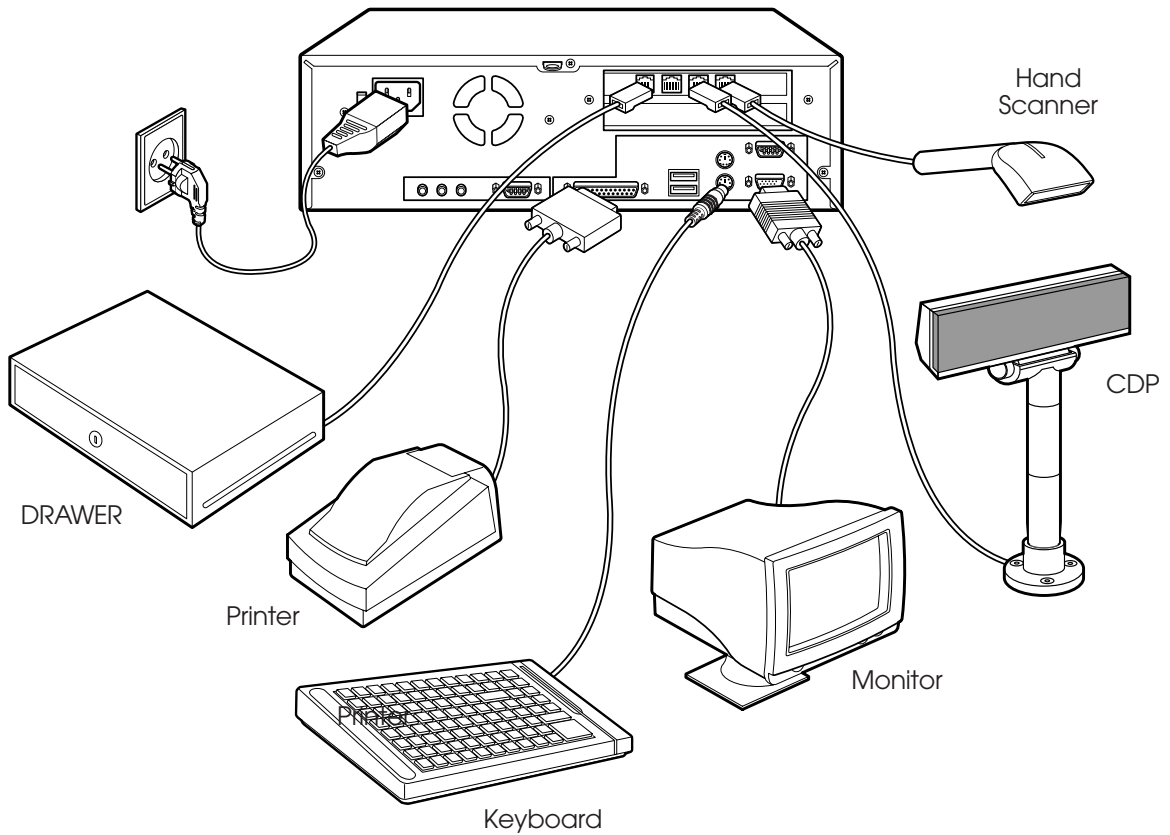
Your computer has two USB connectors on the back of the computer for attaching USB-compliant devices. If you have any USB devices, you can connect them to either of the USB connectors. USB devices are peripherals such as keyboards, mice, CCD cameras, printers, and computer speakers.

To connect any USB device to the USB connector, make sure your computer is turned off and then plug the cable connector from the USB device into the either of the USB connectors marked with .



9 Connecting the POS Devices

TPS-7500

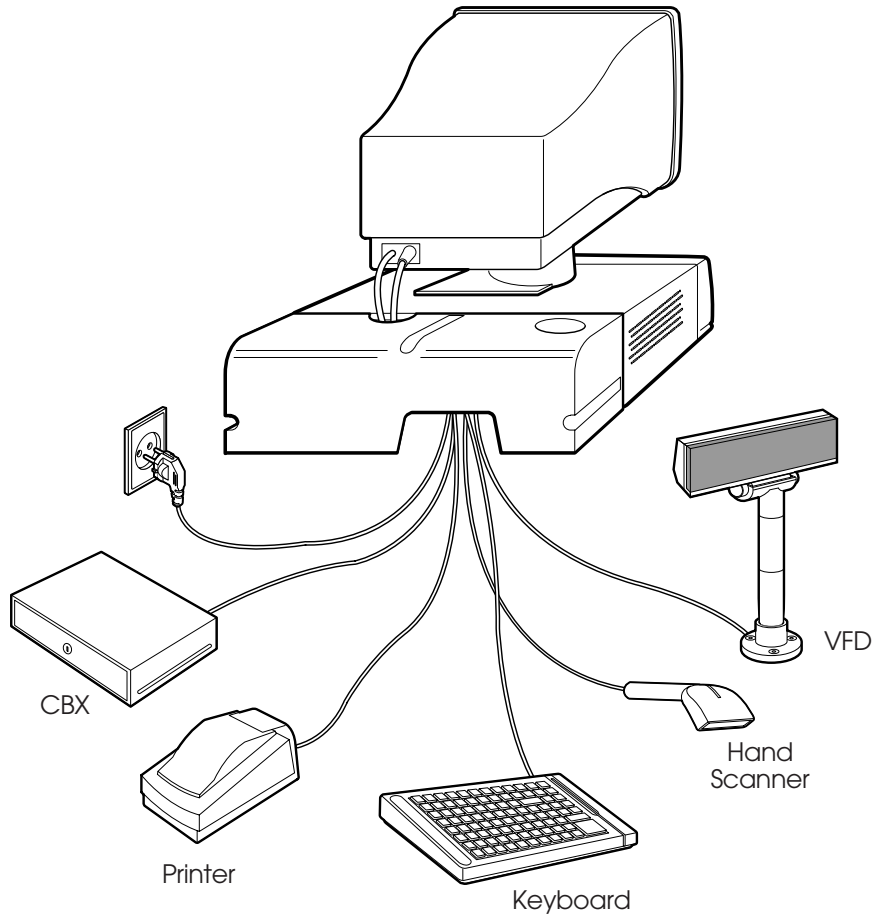


Notes

- To connect the POS device to your system, refer to the POS device manual.
- You must attach the EMI ring core to the cables of your POS devices.

Connecting Dust Rear Cover

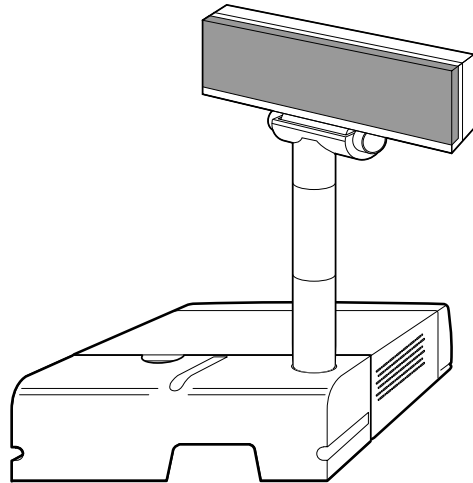
After installing all the peripherals, connect Dust Rear Cover included in this system. You can install it with 3 screws which is in the back of the cabinet.




Connecting CDP

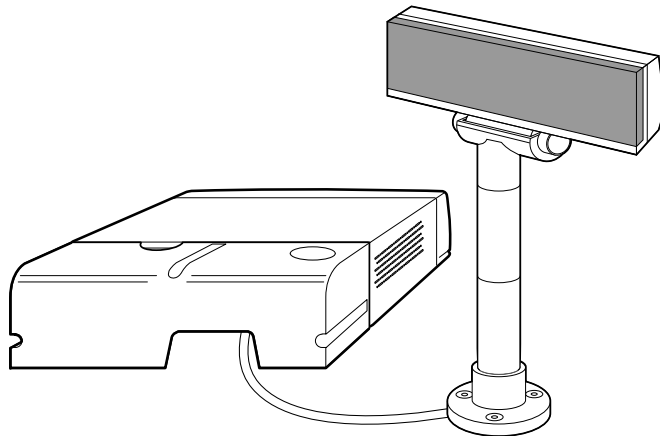
Connecting and Using CDP to Cabinet

Connect the Customer Display included in the system at the height you want as you can see in the following figure.



Connecting to the remote site.

When installing CDP remotely, install it with the support of  type (including screws for fixing), not connecting to Dust Rear Cover.

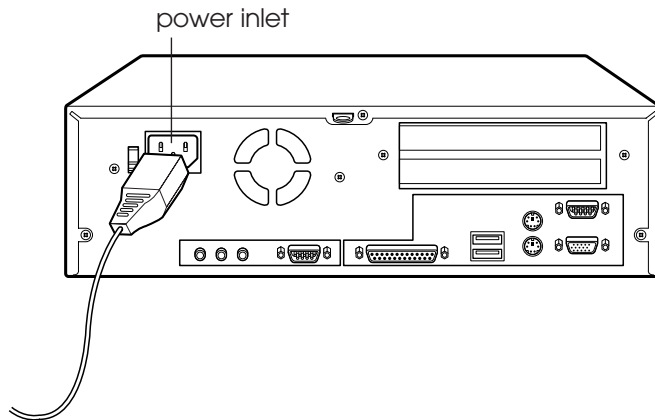


10 Connecting the Power Cord

Before you plug the power cord into the wall socket, make sure you set the voltage selection switch to the correct position.

Follow these steps to connect the power cord:

- 1 Plug the power cord into the power inlet on the back panel.



Warning

- *To avoid generating an electric shock, be sure to plug the cord into the computer before plugging it into the wall socket.*
- *Do not attempt to modify or use the supplied AC power cord if it is not the exact type required.*

- 2 Plug the other end of the power cord into an appropriate grounded electrical outlet.

11 *Turning On and Off the Computer*

Follow the instructions below to turn on the computer or to turn it off.

Turning On the Computer

After setting up your system, you are ready to turn on the computer. Follow these steps:

- 1** Turn on the monitor, printer, and any other peripheral devices connected to the computer.
- 2** Press the power button located on the left side of the front panel to turn on the computer.

The power indicator on the left side of the front panel will light up. After a few seconds, the computer will count the amount of system memory, and then perform its power-on self test. This is a series of checks the computer runs when it is turned on to make sure everything is working correctly.

- 3** When the system has successfully finished its power-on self test, you will see the following prompt in a second:

Hit DEL if you want to run SETUP

Do not press any key yet. See Chapter 4 for information on SETUP.

- 4** After the system loads Windows 95 installed in it, you should register with Microsoft. Enter your personal information and the Windows 95 Certificate of Authenticity number (attached to the Windows 95 User's Guide). After setting up Windows 95, you will see the Welcome to Windows 95 screen and desktop window.

Turning Off the Computer

To turn off the computer, follow these steps:

- 1** Before turning off the computer, first save your information unsaved and close any application programs you use.
- 2** If you use Windows 95 as an operating system, click the Start button, and select Shut Down from the Start menu.
- 3** When "Shut Down Windows" dialog box is displayed, select "Shut down the computer?" and click Yes to shut down the system.
- 4** If the Power Management / APM option in SETUP is enabled, the computer will be turned off without the power button pressed.

If the Power Management / APM option is disabled, when you see the message "It's now safe to turn off your computer", turn off the system by pressing the power button.

- 5** Turn off the monitor and any other peripheral devices.

Chapter 3

Using Your Computer

Installing Windows 95 or Other Operating Systems

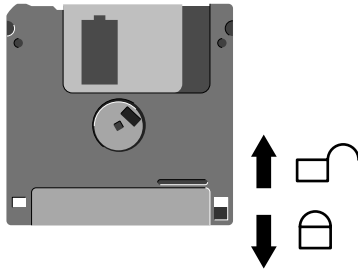
After you connect the components of your system and run the SETUP program, you must install the operating system on your computer. If you are installing Windows 95, follow the instructions in your Windows 95 manual. If you want to install another operating system such as OS/2 Warp or UNIX, see the manual that came with that system for instructions on installation and use. The procedures in this manual assume that you are using Windows 95 with your computer.

Using a Diskette Drive

Write-protecting Diskettes

You can write-protect a diskette to prevent its data from being altered. When a diskette is write-protected, you can read it and copy data from it, but you cannot store new data on it, delete any files it contains or format the disk.

The write-protect device on a 3.5-inch diskette is a small switch on the back of the diskette in the lower right corner. To write-protect a 3.5-inch diskette, slide the switch toward the edge of the diskette until it clicks into position, exposing a hole in the corner.



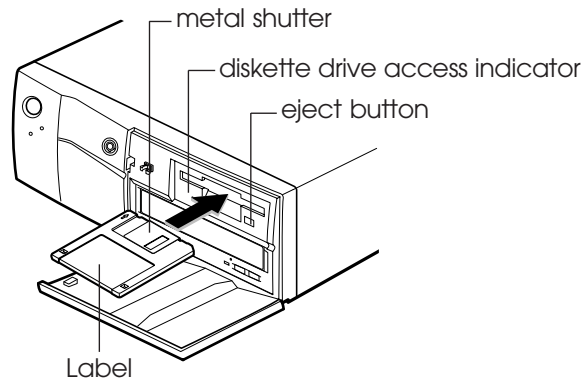
To enable you to write data on diskettes, slide the switch toward the center of the diskette until it clicks into position and the hole is covered.

Note

Some program diskettes have no switch so they are permanently write-protected. This protects them from being accidentally erased or altered.

Inserting and Removing Diskettes

To use the disk drive, open the drive bay access door and insert the diskette with the label facing up and the metal shutter leading into the drive. Slide the diskette into the drive until it clicks into place.



When you want to remove the diskette, make sure the drive light is off; then press the eject button. When the diskette pops out, remove it.

Caution

Never remove a diskette or reset or turn off the computer while a diskette drive light is on. You could lose data. Also, remove all diskettes before you turn off the computer.

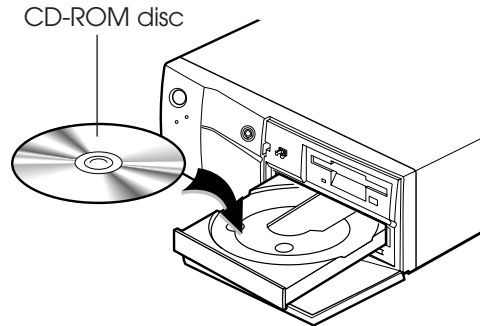
Formatting Diskettes

Before you can store data on a new diskette, you must format it using the Format option in the "My Computer" program group in Windows 95. Formatting prepares the diskette so that the operating system can write data on it. You need to do this only once, before you use the diskette for the first time.

You can also reformat previously used diskettes to store new data. This process erases all the data on the diskette, so be sure you do not want to save any of the files on a used diskette before you reformat it. See your operating system manual for instructions on formatting diskettes.

Using the CD-ROM Drive

To insert a CD-ROM (Compact Disc-Read Only Memory) disc into the CD-ROM drive, first turn on your system. Then open the drive bay access door and press the open/close/stop button to open the CD tray. When the CD tray pops out the busy indicator light will flash. Put the CD-ROM disc in the tray with the label side up. Press the open/close/stop button again or gently push the tray in to close it.



As soon as an audio CD is inserted into the CD-ROM drive, the CD Player will be automatically run and start playing the audio CD.

When you want to remove the CD-ROM from the CD-ROM drive, make sure the busy indicator is off. Press the open/close/stop button. When the CD tray pops out, remove the CD-ROM and then press the button again to close the tray.

Note

When your system is turned off, you may need to open the CD tray. To do so, insert a fine rod such as an opened paper clip into the emergency eject hole as far as it will go. When the tray is slightly open, carefully pull it out.

A CD-ROM can not write data on unlike diskettes or hard disks, but has much large storage capacity. The total capacity of CD-ROMs depends on data type or storage method, but has the size of more than 600 MB.

A CD-ROM drive can play music CDs as well as read software program CDs, single and multi-session photo CDs, and video CDs.

You can play ordinary music CDs if you plug speakers or headphones into the line-out jack on the back of the system or if you plug headphones into the headphone jack of the CD-ROM drive.

Note

The system calls the CD-ROM drive D: because the hard disk drive in the system has one hard disk drive partition.

Using the Hard Disk Drive

Using a hard disk drive is similar to using a diskette. However, the hard disk has more advantages than the diskette, as the following describes:

- ① The computer can perform all disk-related operations faster.
- ① You can store frequently used programs and data files on the hard disk, eliminating the inconvenience of swapping diskettes to access different files.

The added storage capacity makes it easy to move back and forth between different programs and data files. However, because it is so easy to add programs and files to your hard disk, you may find yourself trying to organize hundreds of files.

Most operating systems let you keep related files together in folders and subfolders (or directories and subdirectories) so they are easy to find and use. See your operating system manual for instructions on managing your files and folders.


The hard disk is very reliable, but it is necessary to back up your hard disk files using an effective data storage back-up system in case some data is accidentally lost. You should make copies of all your operating system and application program diskettes before you install the programs to the hard disk. Also after creating data files on the hard disk, be sure to copy them whenever you revise them to keep your backup files up-to-date.



Follow these precautions to protect your hard disk drive from damage and to prevent data from being lost:

- ① Never attempt to open the hard disk drive.
- ① Never turn off or reset the computer when the hard disk access light is on. This light indicates that the computer is copying data to or from the hard disk. If you interrupt this work, you can lose data.

Using Special Keys on the Keyboard

Keys on the keyboard that are described in the following table serve special functions when your computer is running your operating system or application programs.

Key	Purpose
Tab	Moves the cursor one tab to the right in normal mode and one tab to the left in Shift mode.
Caps Lock	Changes the letter keys from lowercase to uppercase; changes back to lowercase when pressed again. The numeric/symbol keys on the top row of the keyboard and the symbol keys in the main part of the keyboard are not affected.
Shift	Produces uppercase characters or the top symbols on the keys when used with the main character keys. Produces lowercase characters when the Caps Lock function is on.
Ctrl	Works with other keys to perform special (control) functions.
Alt	Works with other keys to enter alternate character codes or functions.
Backspace	Moves the cursor back one space, deleting the character to the left of the cursor.
Enter	Ends a line of keyboard input or executes a command.
Insert	Turns the insert function on and off.
Delete	Deletes the character marked by the cursor.
Home, End, PgUp, PgDn, →, ←, ↑, ↓	Control cursor location.
Esc	Controls the current command line or operation.
Num Lock	Changes the function of the numeric/cursor keys from entering numbers to positioning the cursor.
	Changes the numeric/cursor keys on the numeric keypad to MouseKeys. To enable the function of the key, set the Mouse tab in 'Accessibility Options' in Control Panel.
F1-F12	Perform special functions within application programs.
Print Screen	Outputs the screen display captured on the clipboard. When used with alt key, this key captures active window.
Sys Rq	Generates the System Request function in some application programs (used with Alt).
Scroll Lock	Controls scrolling in some applications.





Key	Purpose
Pause	Suspends the current operation.
Break	Stops the current operation (used with Ctrl).
	Displays the Start Menu from the Start button on the taskbar.
	Displays the shortcut menus for a file or folder, or an empty space on the taskbar or desktop. This key corresponds to the right mouse button. The menu that appears shows commands different from according to Windows 95 or application programs on Windows 95.

The Caps Lock, Num Lock, and Scroll Lock keys work as toggles; press the key once to turn on a function and again to turn it off. When the function is enabled, the corresponding light in the keyboard is on.

The numeric/cursor keys on the numeric keypad of your keyboard can be used as MouseKeys to move a mouse pointer. To use the numeric keys as MouseKeys, first you should set the Mouse tab in 'Accessibility Options' of the Control Panel.

Using the Mouse

Generally a mouse functions as follows:

Action	Figure	Mean
Click		Press and release the left mouse button once.
Click the right button		Press and release the right mouse button once. If you point to the mouse pointer on files, folders, the taskbar, or the empty area on the desktop and press the right mouse button, the corresponding shortcut menu will be displayed.
Double-click		Quickly press and release the left mouse button twice.
Drag and drop		While pressing and holding down the left or right mouse button, move it to another location and then release the mouse button. You can use drag and drop instead of menus to easily copy, move, delete, or print files or folders. See "drag and drop" in the Help index for more information.

When using Windows 95, you can change mouse button configuration using the Mouse of the Control Panel. If you are left-handed, you can change configuration from right-handed to left-handed. See “mouse buttons, reversing” in the Help index for more information.

If you installed Internet Explorer 4.0 using Microsoft Internet Explorer 4.0 CD provided, you can change mouse click setting in the desktop window. In other word, you can change the setting for pointing to an item to be selecting it and for one clicking on an item to be opening it, See Help index for more information.

Resetting the Computer

You may occasionally want to clear the computer's current settings or its memory without turning it off. For example, if an error occurs and computer does not respond to your keyboard entries, you can reset it to reload your operating system and try again. However, resetting erases any data in memory that you have not saved. So reset only if necessary.

If you want to reset the computer, the operating system must be on your first boot device. The first boot device of the system is set to C: (hard disk drive) in the Setup Program.

If you are using Windows 95 as your operating system, use one of the following two methods.

- Select Shut Down|Restart the computer? from the Start menu.
- Hold down Ctrl and Alt and press Del and once again.

If the computer problem is not resolved by resetting the computer, you need to turn off the system by pressing the power button and then turning the system on again.

Chapter 4

Using the SETUP Program

About the SETUP Program

You can use the SETUP program to change the computer's configuration information when you installed or removed system options.

The SETUP program is stored in your motherboard's read-only memory (ROM), so you can run the program any time you turn on or reset the computer. You don't need to insert a diskette or access a hard disk.

The configuration you define through SETUP is stored in a special area of memory called CMOS RAM. The battery on the motherboard backs up this memory, so the memory is not erased when you turn off or reset the computer. Whenever you reboot the computer, it checks the settings, and if it discovers a difference between the information in the CMOS RAM and its actual hardware configuration, it prompts you to run SETUP.

You may see a message such as the following:

```
106: CMOS Checksum Bad  
Press F1 to Resume
```

If this happens, just press F1 to run SETUP and then correct the setting.

Starting the *SETUP* program

To start *SETUP*, turn on the computer. After the computer completes its self-test, as soon as you see the message, press the Del key:

Hit DEL if you want to run *SETUP*

If you do not press Del quickly, the computer starts loading the operating system and you will not be able to run *SETUP*. If happens, reset the computer again by pressing Ctrl, Alt, and Del before seeing the “OS load in progress Starting Windows 95” message.

When you enter the *SETUP* program, you see the System Setup window.

SETUP is composed of four windows that contain several icons. An information line at the bottom of the menu displays simple explanations for each option.

Selecting Options

You can use the keyboard or mouse to select the options.

The mouse functions in *SETUP* are click (change or select both global and current fields) or double click (perform an operation in selected field).

The table lists keyboard functions in *SETUP*:

Key	Function
Tab	Changes or selects a global field.
→, ←, ↑, ↓	Change or select the current field.
Enter	Performs an operation in the current field.
+	Increases a value.
-	Decreases a value.
Esc	Abort any window function.
PgUp	Returns to the previous screen.
PgDn	Advances to the next screen.
Home	Returns to the beginning of the text.
End	Advances to the end of the text.
Alt-H	Accesses a help window. It describes the keys available in <i>SETUP</i> .

Key	Function
Alt-Spacebar	Exits System Setup.
Alphabetic keys	A to Z are used in the keyboard.
Numeric keys	0 to 9 are used in either the numeric keys along the top of the keyboard or the numeric keypad.

Setup

The Setup menu has 6 icons, each of which contains a submenu.

Standard Setup

If you select the Standard icon, you will see the submenu.

Pri Master/Pri Slave/Sec Master/Sec Slave

Select one of these IDE drive icons to configure the hard disk drive named in the options. If you let BIOS automatically configure the drive, select Auto from the drive parameters screen. When you select one of these icons, the parameters are listed: Type, LBA/Large Mode, Block Mode, 32Bit Mode, and PIO Mode.

Type

The drive parameters and settings are:

Parameter	Description
Type	The number for a drive with certain identification parameters.
Cyl	The number of cylinders on the disk.
Hd	The number of read/write heads in the drive.
WP	The write precompensation cylinder.
Sec	The number of sectors per track on the disk.
Size	The total amount of storage capacity on the disk (selected automatically). Actual size when formatted may be slightly different than the size listed on the drive label.
User	If the parameters for your hard disk drive do not match any of the types listed, or your hard disk drive is a non-IDE one, select User to define your own type. You must type the correct drive parameters on the window that you selected.

Parameter	Description
Auto	If your drive(s) is an IDE drive and you select Auto, BIOS will automatically detect your IDE drives including ATAPI CD-ROM drives during bootup and display Auto Detection Status window. Click OK to accept parameters on the window. If Auto is set for Type, LBA/Large Mode, Block Mode, and PIO Mode are automatically set.
CD-ROM	If a CD-ROM drive is connected to the IDE connector, select CDROM. You can load your operating system from the CD-ROM drive. You can also choose Auto and it lets BIOS automatically set the correct drive parameters.

LBA/Large Mode

If the drive has a capacity greater than 540MB, set this option to On. The settings are On and Off.

Block Mode

To enable multiple sector read/write on IDE drives, set this option to On. The settings are On and Off.

32Bit Mode

If you set this option to On, it enables 32-bit data transfers to IDE data port in IDE drives. If you set this option to Off, it enables 16-bit data transfer. The settings are On and Off.

PIO Mode

This option sets how fast transfers on the IDE interface occur. Select Auto to allow BIOS to determine the PIO (Programmed I/O) mode. If this option is set to Auto, transfers occur at the drive's maximum speed. If you select a PIO mode that is not supported by the IDE drive, the drive will not work properly. If you are sure that you know the drive's PIO mode, select PIO mode 0-5. The settings are Auto, 0, 1, 2, 3, 4, and 5.

Date/Time

Use the Date/Time option to change the date or time. Enter the correct time or date using + or - key. You can only reset the number of seconds to 00.

Floppy A and B

Select Floppy A or Floppy B to specify the diskette drive type. The settings available for each option are Not Installed, 360KB 5 ¼, 1.2MB 5 ¼, 720KB 3 ½, 1.44MB 3 ½, and 2.88MB 3 ½.

Advanced Setup

The Advanced Setup menu is displayed by choosing the Advanced icon from the Setup menu.

Quick Boot

This option determines whether you run the self test more faster or not. If you select Enabled, the computer runs its self test without performing more than 1MB of memory test, floppy seek test, and keyboard test. The settings are Enabled and Disabled.

Boot Up Sequence

This option sets the order in which the computer checks the drives when it looks for the operating system after BIOS POST completes. The settings are C:, A:, CDROM, CDROM, A:, C:, and A:, C:, CDROM.

Boot Up Num Lock

This option determines the beginning state of the NumLock feature on your keyboard, when system is turned on or reset. The settings are On and Off.

Floppy Drive Swap

If you are using two diskette drives, you can easily switch between drives A and B. For example, if you are using a 1.44MB diskette drive as drive A and a 1.2MB diskette drive as drive B, you can switch the drives vice versa by enabling the option. When you set the option, you must switch between the settings for both drives from the Floppy A and Floppy B options in the Standard Setup menu. The settings are Disabled and Enabled.

PS/2 Mouse Support

If you enable this option, you can use a PS/2 mouse. The settings are Disabled and Enabled.

Primary Display

This option lets you define the type of adapter you are using for your primary display. The settings are Absent, VGA/EGA, CGA40X25, CGA80X25, and Mono.

Password Check

This option sets the type of password protection. The settings are Setup and Always. If you select Setup, every time you run SETUP, the computer checks your password. Once you set password, you should enter your password whenever you run SETUP.

If you select Always, every time you run SETUP or turn on or reset the computer, it checks your password.

OS/2 Compatible Mode

If your system has more than 64MB of main memory and OS/2 operating system installed, set this option to Yes. The settings are Yes and No.

External Cache

The option sets the type of caching algorithm for L2 external cache memory. The settings are Disabled and WriteBack.

C000 / C400, 16K Shadow

These options allow you to shadow the contents of video ROM listed in the screen to the system's RAM. The settings available for each of these options are Disabled and Enabled.

C800 / CC00 / D000 / D400 / D800 / DC00, 16K Shadow

These options allow you to shadow the contents of the adapter ROM listed in the screen to the system's RAM. The settings available for each of these options are Disabled and Enabled.

Chipset Setup

If you select the Chipset icon from the Setup main menu, the Chipset Setup menu is displayed.

On Chip VGA

Set this option to Enabled to enable the built-in VGA display adapter on the motherboard. The settings are Enabled and Disabled. If this option is set to Disabled, the VGA Shared Memory Size and the VGA Frequency options will not appear.

VGA Shared Memory Size

This option specifies the size of the shared main memory the system uses for the built-in video controller. Larger memory allows more colors and a higher resolution to be selected. It is only available when the On Chip VGA option is enabled. The settings are 1MB, 2MB, 3MB, and 4MB.

Resolutions supported

Resolution	Video memory			
	1MB	2MB	3MB	4MB
640X480X8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
640X480X16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
640X480X24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
800X600X4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
800X600X8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
800X600X16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
800X600X24	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1024X768X4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1024X768X8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1024X768X16	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1024X768X24	X	X	<input type="radio"/>	<input type="radio"/>
1280X1024X4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1280X1024X8	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1280X1024X16	X	X	<input type="radio"/>	<input type="radio"/>

VGA Frequency

This option sets the VGA frequency when the built-in VGA adapter is enabled. It is only available when the On Chip VGA option is enabled. The settings are 40MHz, 45MHz, 50MHz, 55MHz, 60MHz, 65MHz, and 70MHz.

Floppy Access Control

This option sets read/write access for the diskette drive. The settings are Normal and Read Only. Normal means read/write access for drives.

If you select Read Only for this option, you can read a diskette and copy data from it, but you cannot store new data on it or delete any files it contains.

Power Control Setup

If you select the Power Ctrl icon from the Setup main menu, the Power Control Setup menu is displayed.

Power Management / APM

Set the option to Enabled to enable the power management and APM (Advanced Power Management) features. Only when this option is set to Enabled, you can use all options in the Power Control Setup menu. The settings are Disabled and Enabled.

Green PC Monitor Power State

This option specifies the power state that the green PC-compliant video monitor enters when BIOS places it in a power saving state after the specified period of display inactivity has expired. The settings are Standby, Suspend, and Off.

Video Power Down Mode

This option specifies the power conserving state that the DPMS (Display Power Management Signaling) compliant video subsystem enters after the specified period of display inactivity has expired. The settings are Disabled, Standby, and Suspend.

Standby Time Out (Minute)

This option specifies the length of the period of system inactivity while in full power on state for going into standby state. When the specified period expires, the computer enters standby state. The settings are Disabled, 5Min, 10Min, 15Min, 20Min, 25Min, and 30Min.

Suspend Time Out (Minute)

This option specifies the length of the period of system inactivity while in standby state for going into suspend state. When the specified period expires, the computer enters suspend state, beeping twice. The settings are Disabled, 5Min, 10Min, 15Min, 20Min, 25Min, and 30Min.

IRQ3, 4, 5, 7, 9, 10, 11, 13, 14, 15

When these options are set to Monitor, they enable event monitoring on the specified IRQ line. If these options are set to Monitor and the computer is in a power saving state, BIOS watches for activity on the specified IRQ line. If any activity occurs, the computer enters the full on power state. If activity occurs on the specified IRQ line, BIOS reloads the standby and suspend timeout timers. The settings available for each of these options are Ignore and Monitor.

PCI/PnP Setup

If you select the PCI/PnP icon from the Setup main menu, the PCI/PnP Setup menu is displayed.

Plug and Play Aware O/S

The option enables the computer to boot with an operating system capable of managing Plug and Play option cards. Set it to Yes if the operating system (such as Windows 95) installed in the computer follows the Plug and Play specification. Windows 95 is PnP-aware. The Windows 95 operating system detects and enables all other PnP-aware adapter cards. Set the option to No if the operating system (such as DOS, OS/2, Windows 3.X or Windows NT) does not use PnP. You must set this option correctly, or PnP-aware adapter cards installed in the computer will not be configured properly. The settings are Yes and No.

PCI Latency Timer (PCI Clocks)

This option sets the length of time (measured in the number of PCI clock cycles) that a PCI device on the PCI bus can hold the bus when another device has requested the bus. The clock choices include every 32nd value between 32 and 248 clocks. The settings are 32, 64, 96, 128, 160, 192, 224, and 248.

PCI VGA Palette Snoop

The option controls the ability of a primary PCI graphics controller to share a common palette with an ISA video adapter card. The settings are Disabled and Enabled.

DMA Channel 0, 1, 3, 5, 6, 7

These options allow you to specify the bus type used by each DMA channel for legacy (non-Plug and Play) ISA option cards. The settings available for these options are PnP and ISA.

IRQ 3, 4, 5, 7, 9, 10, 11, 14, 15

These options allow you to specify the bus type used by each IRQ for PCI or ISA option cards. If these interrupts are available for use by a PCI/PnP option card, the interrupts are assigned for the computer to use. If the computer contains an ISA agent that uses one of these interrupts, select ISA for that interrupt. The settings available for these options are PCI/PnP and ISA.

Reserved Memory Size

This option specifies the size of the memory area reserved for legacy ISA adapter cards (non-Plug and Play ISA adapter cards). If this option is set to Disabled, the Reserved Memory Address option will not appear. You should enable this option only when you are using a non-Plug and Play ISA adapter card that requires non-ROM memory space. For example, video capture cards that have video buffer memory. The settings are Disabled, 16k, 32k and 64k.

Reserved Memory Address

This option specifies the beginning address (in hex) of the reserved memory area. The specified ROM memory area is reserved for use by legacy ISA adapter cards. The settings are C0000, C4000, C8000, CC000, D0000, D4000, D8000, and DC000.

Peripheral Setup

The Peripheral Setup menu is displayed if you select the Peripheral icon from the Setup main menu.

OnBoard SOUND

Set this option to Enabled to enable the onboard audio subsystem in the system. The settings are Enabled and Disabled.

OnBoard FDC

Set this option to Enabled to enable the built-in diskette drive controller. If you install another FDC card, disable this option. The settings are Auto, Disabled, and Enabled.

OnBoard Serial Port 1 and 2

These options specify the base I/O port addresses of built-in serial ports 1 and 2 (optional). The settings available for these options are Auto, Disabled, 3F8, 2F8, 3E8, and 2E8.

OnBoard Parallel Port

It specifies the base I/O port address for the built-in parallel port. The settings are Auto, Disabled, 378, 278, and 3BC.

Parallel Port Mode

This option specifies the parallel port mode. ECP and EPP are both bidirectional data transfer modes that adhere to the IEEE P1284 specifications. The settings are as follows:

Setting	Description
Normal	Normal means the parallel port operates in the standard AT-compatible parallel port mode.
EPP	The parallel port can be used with devices that adhere to the Enhanced Parallel Port (EPP) specification. EPP uses the existing parallel port signals to provide asymmetric bidirectional data transfer driven by the host device.
ECP	The parallel port can be used with devices that adhere to the Enhanced Capabilities Port (ECP) specification. ECP uses the DMA protocol to achieve data transfer rates of 2.5 Megabits. ECP provides symmetric bidirectional communication.

Parallel Port IRQ

This option specifies the IRQ (Interrupt Request Line) used by the parallel port. It is only available when the OnBoard Parallel Port option is not set to Auto. The settings are IRQ5 and IRQ7.

Parallel Port DMA Channel

This option sets the DMA channel used by the parallel port. It is only available if the setting for the Parallel Port Mode option is ECP. The settings are 0, 1, and 3.

OnBoard PCI IDE

The option allows you to set the built-in IDE controller you want to use. The settings are Disabled, Primary, Secondary, and Both.

Utility

There are 2 icons in the Utility menu.

Detect IDE

If an IDE-type hard disk drive, a CD-ROM drive, or a floptical drive is connected to the primary or secondary IDE controller, this option allows for automatic detection of the hard disk drive or CD-ROM drive type. Once BIOS detects the type of the hard disk or CD-ROM drive installed, it will display the relative information.

After BIOS detects all IDE drives, the hard disk drive type will be forced to be User and the CD-ROM drive type will be forced to be CDROM.

Color Set

This option allows you to change the color of the System Setup screen. The settings are Sky, Army, Pastel, and LCD.

Security

Three icons appear in the Security menu.

Supervisor / User

These two options make it possible to restrict access to the SETUP program and to restrict who can boot the computer by enabling you to set passwords for two different access modes: Supervisor mode and User mode.

A Supervisor password and a User password can be set for the SETUP program and for booting the computer.

Supervisor mode has full access to all the SETUP options whereas User mode has limited access to the options. Setting separate Supervisor and User passwords enables a system supervisor to restrict who can change critical SETUP values.

When you run SETUP by entering your User password, you can change the three items only: Advanced, User, and Color Set.

If you set both the Supervisor and User passwords, you must set the Supervisor password first. Once both are set, you can enter either the Supervisor password or the User password to access SETUP or the computer.

The system can be configured so that all users can enter a password every time you turn on or reset the system, or run SETUP, using Supervisor password only or both passwords.

The table shows the effects of setting the Supervisor and User passwords.

Supervisor and User password functions

Password set	Password during boot	Password to enter SETUP	Supervisor mode	User mode
Neither	None	None	Can change all options	Can change all options
Supervisor and User set	Supervisor or User	Supervisor or User	Can change all options	Can change a limited number of options
Supervisor only	Supervisor	Supervisor	Can change all options	-

Setting a Password

Follow these steps to set your password:

- 1** When you see "Enter New Password" in the Supervisor or User window, type the letter you want to use using the keyboard or click it using the mouse. You can type up to six characters using the keys listed in the window. The screen displays an asterisk for each character you type. After typing the password, press Enter.
- 2** When you see "Confirm New Password", type your password again and press Enter. If the password you type is different from your password, the screen displays the message "Enter New Password". As you see the following message, press Enter.

Supervisor Password Installed

or

User Password Installed

- 3** When you exit the SETUP program, save your new settings. When you turn on or reset your computer or run SETUP (depending on the setting in Password Check of the Advanced Setup menu), you will see the password prompt.

Note

Be sure to remember the password you enter or write it down. If you cannot remember it, you will not be able to access the computer the next time you turn it on or run SETUP. However, if you forgot your password, there is a way to use your system again. See "Accessing Your Current Password" for more information.

Deleting or Changing a Password

If you want to delete the current password, follow these steps:

- 1** Select the Supervisor or User icon from the Security menu.
- 2** When you see "Enter Current Password", type the current password and press Enter. If you select the User icon, the message does not appear.
- 3** When you see "Enter New Password", just press Enter to delete your current password.

- 4** When you see "Confirm New Password", press Enter again.
- 5** When you see the following message, press Enter.

Both Passwords Uninstalled
or
User Password Uninstalled

To change the current password, type your new password before pressing Enter on steps 3 and 4.

Accessing Your Current Password

If you forget your current password and cannot use your computer or run SETUP, follow these steps:

- 1** Turn off the computer and disable the password function by setting jumper J4 to the disable position (1-2).
- 2** Turn on the computer. You will not see the prompt that asks you to enter your password when you turn on the computer or run SETUP.
- 3** If you want to set a new password, turn off the computer and enable the password function by setting jumper J4 to the enable position (2-3).
- 4** Turn on the computer. As soon as the "Hit Del if you want to run SETUP" message appears on the screen, press the Del key.

If you set a new password, the prompt that asks you to enter the password will appear on the screen when you turn on or reset the computer or run SETUP.

If you did not set a new password, you would immediately use your system.

If you attempt to set a new password after you set jumper J4 to 1-2 to disable your password, the password will not be saved to CMOS RAM.

Anti-Virus

If this icon is set to Enabled, the following warning message will appear when any program or virus issues the FORMAT, DISKCOPY, or SYS commands or attempts to write to the boot sector of the hard disk drive. You may have to type N several times to prevent the boot sector write. The settings are Enabled and Disabled.

```
Boot Sector Write!!!  
Possible VIRUS: Continue (Y/N)?
```

At this time, if you want to complete the running of the program regardless of the message above, press Y. If you see the message above in spite of having not run programs described above, any virus may attempt to write to the boot sector. Select N to prevent the virus from writing to the boot sector.

Notice that if you want to install MS-DOS, Windows 95, Windows NT, or OS/2, you should set this option to Disabled.

Default

The Default menu has 2 icons that allow you to select a group of settings for all System Setup options. You can use these icons to quickly set system configuration parameters and you can select a group of settings when the system has configuration-related problems. Each System Setup option has 2 default settings: original and optimal. These settings are applied to all System Setup options.

Original

Selecting the Original icon returns to the system configuration values present in SETUP when you first started this SETUP session. When you see the message "Restore old values?", select Yes to restore the settings.

Optimal

This icon allows you to load the optimal default settings for the BIOS. The Optimal default settings are best values to optimize system performance. If NVRAM (Non-Volatile Random Access Memory) is corrupted, the Optimal settings are loaded automatically. When you see the message "Load optimal values?", select Yes to load optimal values.

Exiting the SETUP Program

When you exit the SETUP program after you make your selections for all System Setup options, you can either save the settings you changed or exit the program without saving any changes.

If you press Alt-Spacebar to exit SETUP, you will see the Exit Setup window. To save the settings and exit, select "Save changes and Exit". The system reboots with your new settings.

If you want to exit SETUP without saving your settings, select "Do not save changes and Exit". The system reboots with your original settings.

To return to the System Setup window to make corrections, select "Continue".

Regardless of quitting with or without saving your changes, the SETUP program resets the system and the computer performs its power-on self tests.

If your computer detects a problem in your SETUP configuration, you may see an error message and a prompt to run SETUP when it is rebooting.

Chapter 5

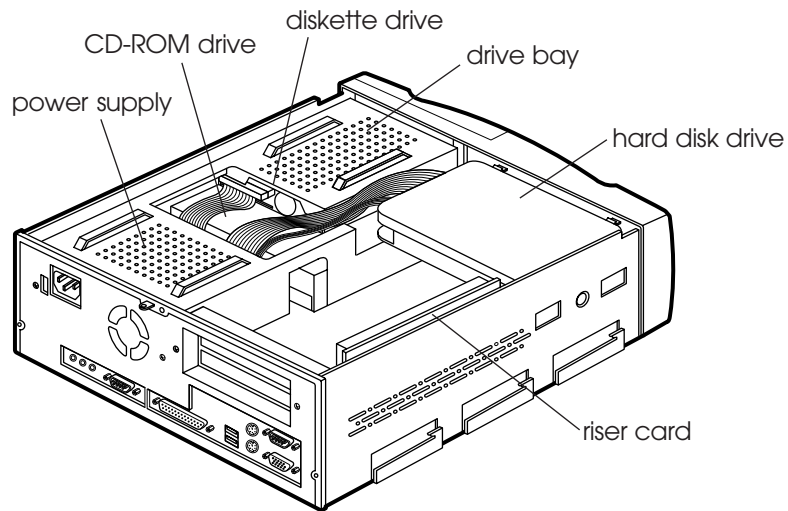
Installing and Removing Options

This chapter describes how to do the following:

- Remove and replace the computer's cover
- Install and remove an option card
- Change jumper settings on the motherboard
- Install and remove memory modules (DIMMs)
- Replace the microprocessor chip
- Replace the hard disk drive
- Replace the CD-ROM drive
- Replace the battery

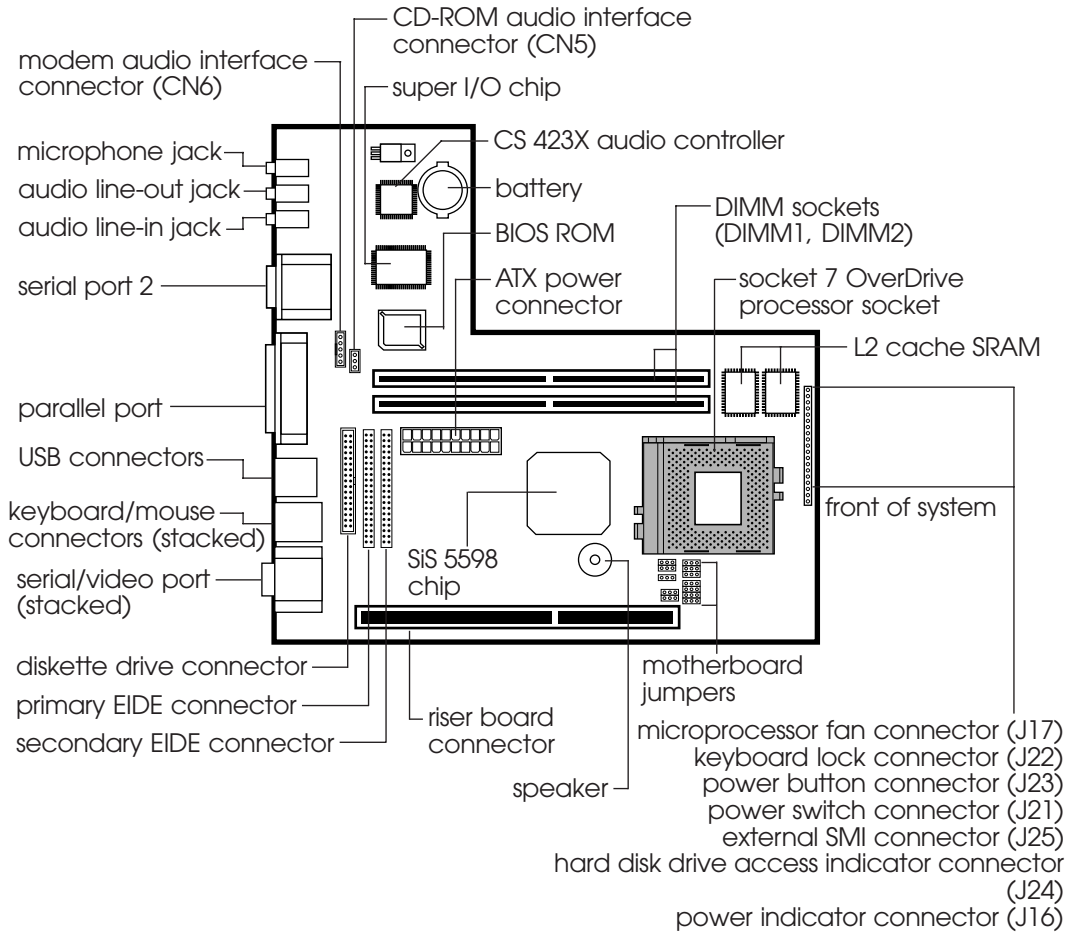
Locating the Internal Components

The illustration below shows the components inside your computer when you remove the computer's cover.



Motherboard Features

The illustration below shows the motherboard features.



Motherboard and Riser Card Connectors and Sockets

The system provides motherboard and riser card connectors and sockets. See the illustration in "Motherboard Features" for the location of motherboard and riser card connectors and sockets.

The table below lists motherboard and riser card connectors and sockets supported.

Motherboard and riser card connectors and sockets

Connector or socket	Description
CN1	Microphone jack
CN2	Audio line-out jack
CN3	Audio line-in jack
CN4	MIDI/game port connector (15-pin)
CN5	CD-ROM audio interface connector (3-pin)
CN6	Modem audio interface connector (3-pin)
CN10	Primary EIDE connector (40-pin)
CN11	Diskette drive connector (34-pin)
CN12 <i>n</i>	USB connectors (4-pin)
CN13	Mouse/keyboard connectors (6-pin / 6-pin)
CN14	Serial/video port connectors (9-pin / 15-pin)
CN15	Secondary EIDE connector (40-pin)
CN18	Power input connector (20-pin)
CN21	Serial port 2 connector (9-pin)
CN47	Parallel port connector (25-pin)
CN1	Riser card connector (188-pin)
CN2 and CN3* (on riser card)	PCI expansion card connectors on riser card (120-pin)
CN4* (on riser card)	ISA expansion card connector on riser card (98-pin)
DIMM <i>n</i>	DIMM sockets (168-pin)

Connector or socket	Description
J16	Power indicator connector (3-pin)
J17	Microprocessor fan connector (3-pin)
J21	Power switch connector (2-pin)
J22	Keyboard lock connector (2-pin)
J23	Power button connector (2-pin)
J24	Hard disk drive access indicator connector (2-pin)
J25	External SMI (System Management Interrupt) connector (2-pin)

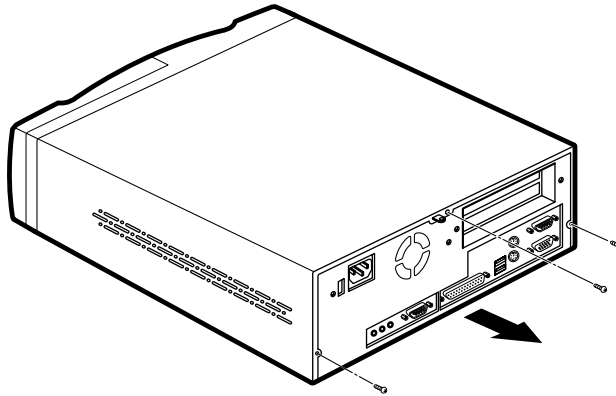
** Connectors CN4 and CN3 on the riser card share a single card-slot opening, so only one of the two connectors can be used.*

Removing the Cover

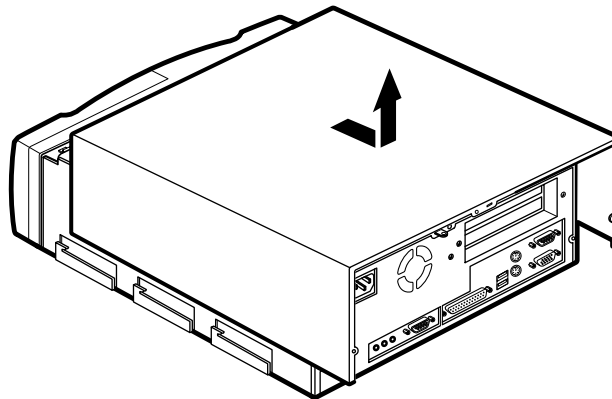
If you want to access internal components in your computer, remove its cover as the following:

- 1** Turn off the computer and then peripheral devices including the monitor and printer.
- 2** Disconnect the computer's power cable from the electrical outlet and from the back panel. Then disconnect any cables that are connected to the computer.
- 3** Turn the computer around so you are facing the back panel.

- 4 Remove the three screws securing the cover to the system.



- 5 Grasp the sides of the cover and pull it straight toward you until its padlock ring hole exits the padlock ring. Then lift the cover straight upward.



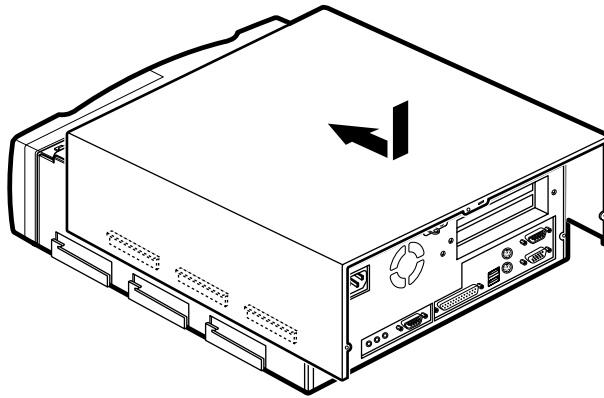
Warning

Be sure to ground yourself by touching the back panel of the computer every time you remove the cover. If you are not properly grounded, you could generate an electric shock when you touch a component.

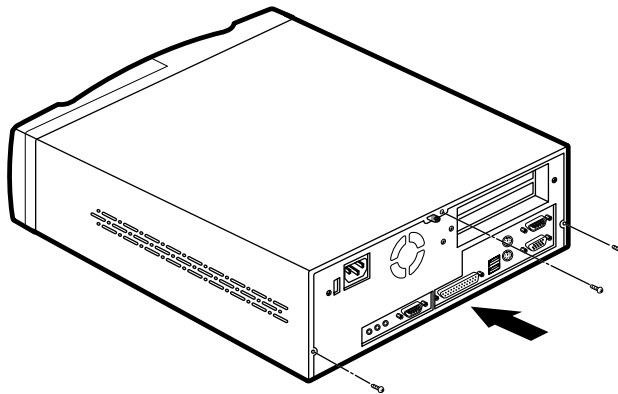
Replacing the Cover

Follow these steps to replace the computer's cover:

- 1** Locate the computer so the back of the computer faces you.
- 2** Locate the cover so its screw holes face you, lay the cover straight down over the system and slide it completely toward the front of the computer until its padlocking hole passes the padlock ring.



- 3** Tighten the three screws on the back panel, as shown below.



- 4** Reconnect the computer to the monitor, keyboard, mouse, printer, and any other peripheral devices you have.

Option Cards

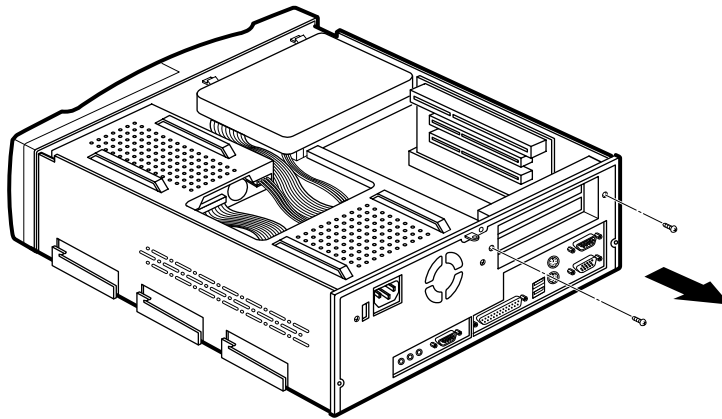
Your system contains the riser card that has one 16-bit ISA option slot and two 32-bit PCI bus option slots. A total of two option slots can be populated with full-length option cards, since one PCI and ISA slot share the same chassis I/O panel.

You can simply install PnP-compliant PCI or ISA option cards without setting jumpers or switches or performing other configuration tasks by plug and play capacity. If you turn on the computer after adding PnP-compliant cards, the BIOS will automatically configure interrupts, I/O space, and other parameters.

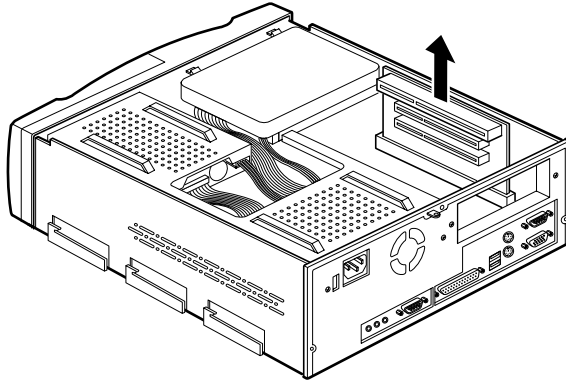
Installing an Option Card

Follow these steps to install an option card:

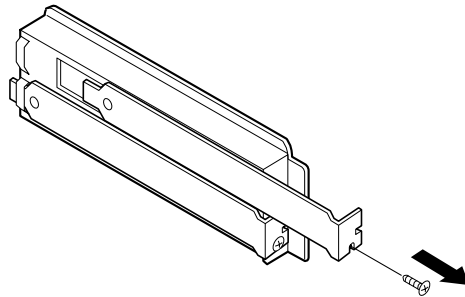
- 1** Remove the computer's cover as described in "Removing the Cover".
- 2** Remove the two screws from the back of the system securing the option card bracket to the system and lift the bracket out of the system.



- 3** Pull straight up the riser card to remove the riser card from the motherboard.

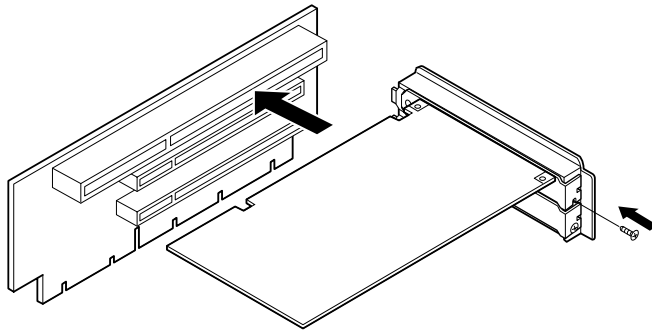


- 4** Remove the retaining screw from the metal option slot cover you want to use. Lift out the slot cover.

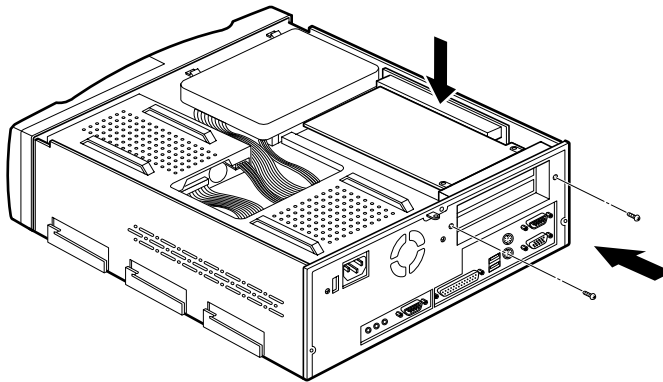


- 5** Adjust, if necessary, any jumpers or switches on the option card you want to install according to instructions in the board manual.

- 6** Hold the card along the top corners and firmly push it in the connector on the riser card to insert it fully. Then guide the option card into the option card bracket. Secure the end of the card to the bracket using the retaining screw.



- 7** Push completely the riser card including the option card and the option card bracket in the riser card connector on the motherboard. Tighten the two screws on the back of the system.

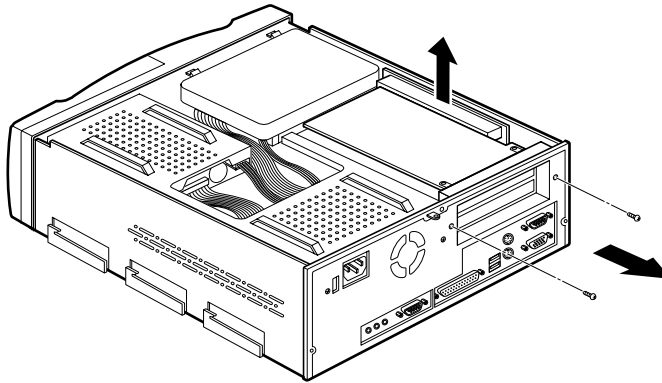


- 8** Replace the computer's cover as described in "Replacing the Cover".

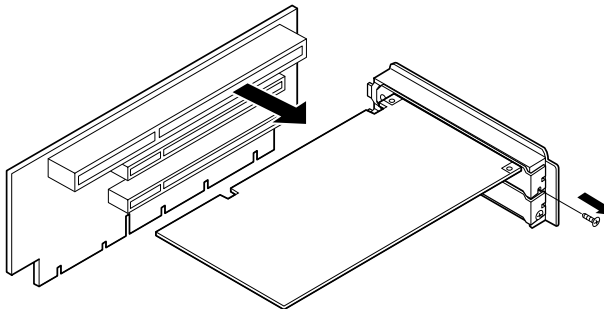
Removing an Option Card

If you have installed an option card in your computer, you may need to remove the option card to access components on the motherboard—to change the settings of the jumpers, replace the microprocessor, or add memory modules, for example. Follow these steps to remove an option card:

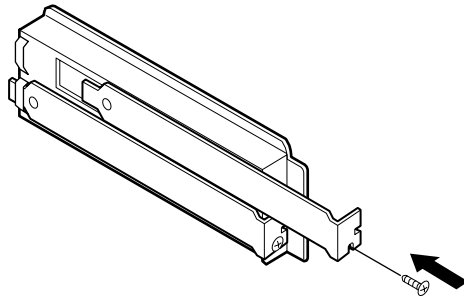
- 1** Remove the computer's cover as described in "Removing the Cover".
- 2** Remove the two screws from the back of the system securing the option card bracket to the system. Then pull the riser card including option cards and the bracket straight up.



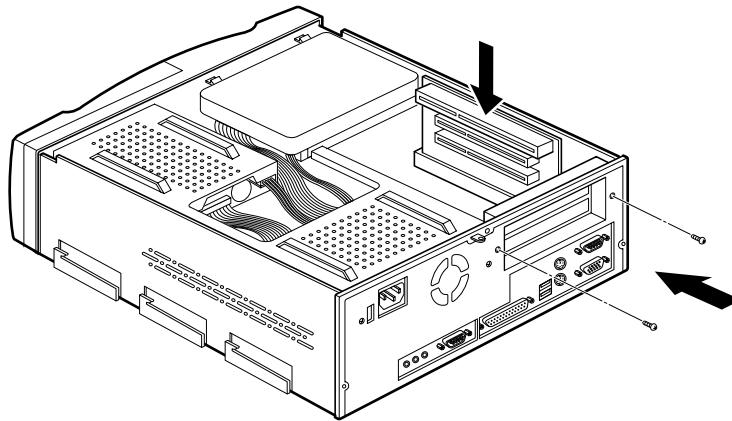
- 3** Remove the screw securing the option card you want to remove to the option card bracket and then pull the option card from the riser card.



- 4** Install an option slot cover over the vacant slot of the option card bracket using the retaining screw.



- 5** Firmly push the riser card (that includes option cards and the bracket if there are another option card in the riser card) straight in the riser card connector on the motherboard. Then secure the option card bracket to the system using the two retaining screws.



- 6** Replace the computer's cover as described in "Replacing the Cover".

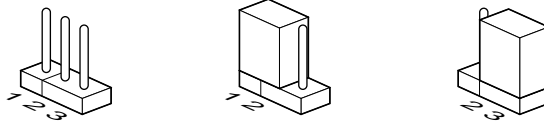
Changing the Jumper Settings

A jumper is a small electrical connector that controls one of computer's functions. The jumper settings in your motherboard are preset at the factory; however, you can do the following by changing the standard settings.

- Reset CMOS RAM to the default values
- Configure the motherboard for another processor

The jumper may be placed either on pins 1 and 2 or pins 2 and 3. The number 1 is printed with the shape of square around pin 1 on the motherboard so that you can identify each pin number based on the location of pin 1. To move a jumper from one position to the other, pull it off its pins and gently move it to the desired position using needle-nose pliers or tweezers.

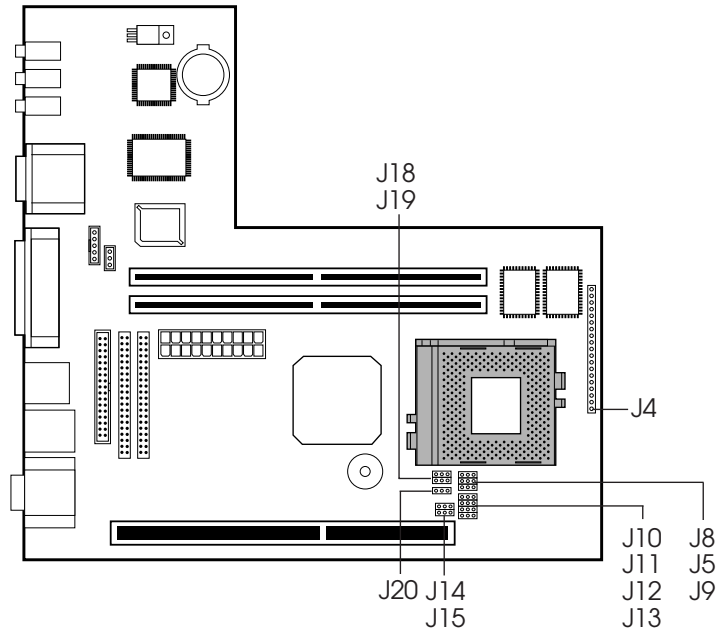
open (unjumpered)



Caution

Make sure you turn off the system before changing jumper settings. Otherwise, your system may be damaged.

The illustration below shows the locations of the jumpers on the motherboard in your system.



Note

To change jumper settings refer to the label in the system.

Memory Modules

The two sockets are arranged in two banks of one socket each. The sockets are marked with DIMM1 and DIMM2 on your motherboard. You can increase the amount of memory in your motherboard up to 256MB by installing DIMMs with a capacity of 8MB, 16MB, 32MB, 64MB, or 128MB.

- You should use only 3.3V, 168-pin, 64-bit, unbuffered EDO (Extended Data Out or Hyper Page) DRAM or SDRAM (Synchronous DRAM) DIMMs that operate at an access speed of 70ns or faster.
- It is possible to have SDRAM in one bank and EDO DRAM in the other.
- Memory modules should be installed in the DIMM1 socket first.
- Your system cannot support parity or ECC (Error Checking and Correction) DIMMs.
- The memory size or type is automatically detected by the BIOS.

The table shows all the possible DIMM configurations you can use. Do not install DIMMs in any configuration that is not listed on the table.

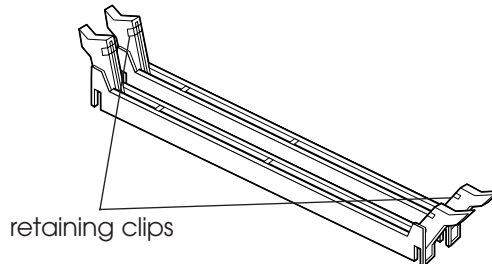
DIMM configurations

DIMM1	DIMM2	Total memory	DIMM1	DIMM2	Total memory
8MB	-	8MB	64MB	8MB	72MB
8MB	8MB	16MB	64MB	16MB	80MB
16MB	-		64MB	32MB	96MB
16MB	8MB	24MB	64MB	64MB	128MB
16MB	16MB	32MB	128MB	-	
32MB	-		32MB	128MB	8MB
32MB	8MB	40MB	128MB	16MB	144MB
32MB	16MB	48MB	128MB	32MB	160MB
32MB	32MB	64MB	128MB	64MB	192MB
64MB	-		64MB	128MB	128MB

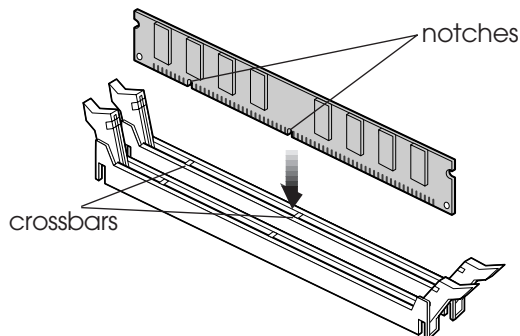
Installing Memory Modules

Follow these steps to install DIMMs:

- 1** Remove the computer's cover as described in "Removing the Cover".
- 2** If there are any option cards that block your access to the DIMM sockets, remove the option cards as described in "Removing an Option Card".
- 3** The DIMM sockets are located beside the power supply, one 16MB DIMM may be inserted in the DIMM1 socket or not. See the illustration in "Motherboard Features" for the location of the DIMM sockets.
- 4** If any DIMM is not installed in the DIMM sockets, install a DIMM in the DIMM1 socket first. Release the plastic retaining clips at each end of the socket by pressing the clips outward until they snap open.



- 5** Orient a DIMM to the socket so the two notches in the DIMM connector are aligned with the crossbars in the socket.
- 6** Press the DIMM straight into the socket until the retaining clips snap into place around the ends of the DIMM.

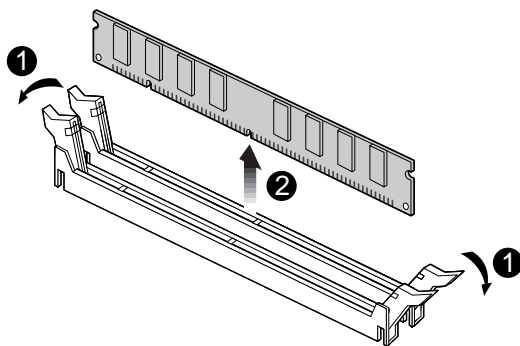


- 7** Repeat steps 4 to 6 if you install a DIMM in the other DIMM socket.
- 8** If you had removed option cards that block your access to the DIMM sockets, replace them as described in "Installing an Option Card".
- 9** Replace the computer's cover as described in "Replacing the Cover".
- 10** Be sure to run the SETUP program so that your computer can automatically update its memory configuration with the new memory.

Removing Memory Modules

If you need to remove memory modules from your computer, follow these steps:

- 1** Remove the computer's cover as described in "Removing the Cover".
- 2** If there are any option cards that block your access to the DIMM sockets, remove the option cards as described in "Removing an Option Card".
- 3** Release the plastic retaining clips at each end of the socket you are removing from by pressing the clips outward until they snap open. Lift the DIMM out of the socket.



- 4** If you had removed option cards that block your access to the DIMM sockets, replace them as described in "Installing an Option Card".
- 5** Replace the computer's cover as described in "Replacing the Cover".
- 6** Be sure to run the SETUP program so that your computer can automatically update its memory configuration.

Microprocessor Chip

You can install an Intel Pentium processor, an Intel Pentium processor with MMX technology, Cyrix M2, IDT C6 or an AMD K5 or K6 processor in the 321-pin ZIF (Zero Insertion Force) Socket 7 on your motherboard that is backwards compatible with ZIF Socket 5 processors.

Note

Before you install a new processor, check to see if you need to change any jumpers on the motherboard. You should change any jumpers according to your processor type. Refer to "Changing the Jumper Settings" and the label for jumper settings inside the system for more information on jumper settings.

Warning

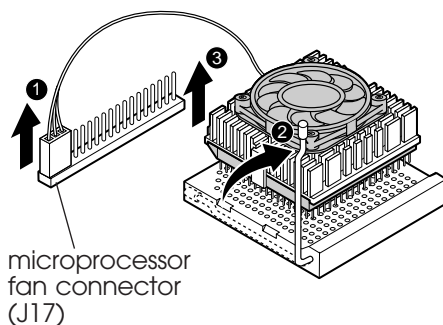
A microprocessor you plan to install should have a cooling fan containing a heat sink attached to it to prevent overheating. If there is no fan circulating air on the microprocessor and heat sinks, the processor and heat sinks may overheat and cause damage to both the processor and motherboard.

Replacing the Microprocessor Chip

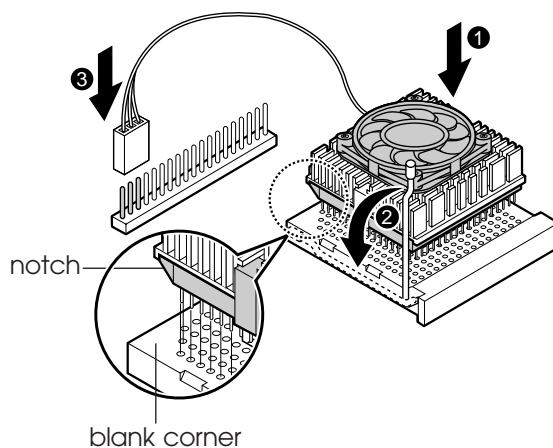
Follow these steps to install a new microprocessor:

- 1** Remove the computer's cover as described in "Removing the Cover".
- 2** If there are any hard disk drive or option cards that block your access to the microprocessor socket, remove them as described in "Removing an Option Card" or "Replacing the Hard Disk Drive".
- 3** The processor socket is located under the hard disk drive. See the illustration in "Motherboard Features" for the location of the processor socket.

- 4 If there is a processor chip on the ZIF socket, you must remove it from the socket. When you remove the processor chip, first unplug the connector from the microprocessor fan connector (J17). Pull the ZIF handle upward until clicking. This releases the chip from the socket. Then carefully pull the chip straight up from the socket.



- 5 Locate the new processor you are installing over the socket so that the notched corner on the processor (pin 1) can be aligned with the blank corner on the socket. Then gently push the microprocessor straight into the socket until its pins are completely inserted into the hole of the socket.



Note

If you install the processor chip in the wrong orientation, you may burn the chip and void your warranty.

- 6** Press the ZIF handle back to close the ZIF socket.
- 7** Connect a fan connector cable from the microprocessor fan to the microprocessor fan connector (J17) located beside the processor socket.
- 8** If necessary, you may need to change the jumper settings. Refer to "Changing the Jumper Settings" and the label for jumper settings inside the system for more information on jumper settings.
- 9** If you had removed any hard disk drive or option cards that block your access to the microprocessor socket, replace them as described in "Installing an Option Card" or "Replacing the Hard Disk Drive".
- 10** Replace the computer's cover as described in "Replacing the Cover".
- 11** Be sure to run the SETUP program so that your computer can automatically update its configuration.

IDE Drives

Your system has two built-in PCI EIDE interfaces (primary and secondary). Each interface supports up to two IDE drives (master and slave).

The BIOS in the motherboard supports bootup from an IDE CD-ROM drive. You can boot the system from the IDE CD-ROM drive by setting the Boot Up Sequence option of the Advanced Setup menu in SETUP to CDROM, A:,C:.

The hard disk drive controller on the motherboard supports Ultra DMA/33, a DMA data transfer protocol for hard disk drives. This allows DMA commands to transfer data at a maximum burst rate of 33MB/sec. Both the controller and the hard disk must be capable of supporting Ultra DMA/33 in order to enable this feature.

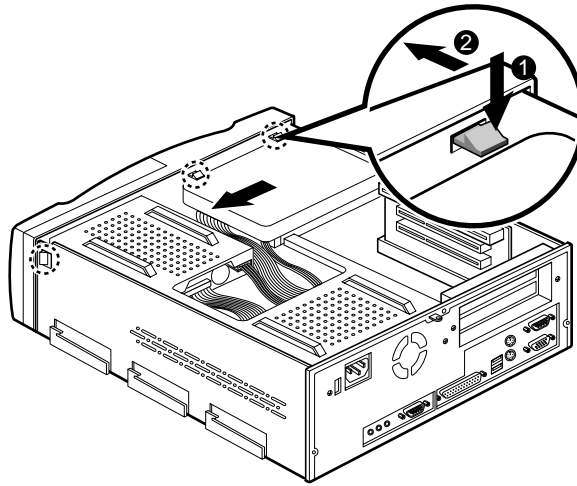
Replacing the Hard Disk Drive

If you want to replace your hard disk drive with a new one, replace the hard disk drive in your system according to the instructions below.

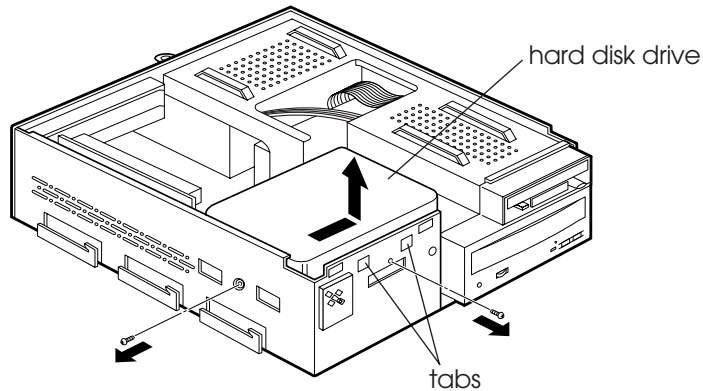
Before you replace the hard disk drive, make sure jumpers of a new hard disk drive are set correctly for the drive to work properly with your computer. Most hard disk drives have jumpers. If your system comes with a hard disk drive installed, these jumpers will be set for you.

To replace the hard disk drive in your system, follow these steps:

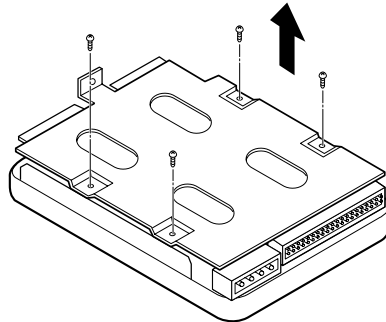
- 1** Remove the computer's cover as described in "Removing the Cover".
- 2** Remove the bezel from the system by pressing the three tabs inward and disconnect all cables from the hard disk drive.



- 3** Remove the two screws securing the hard disk drive bracket to the system. Then grasp the hard disk drive, slide it inward the system until the two tabs on the mounting plate exit the holes on the front panel and lift it out of the computer.

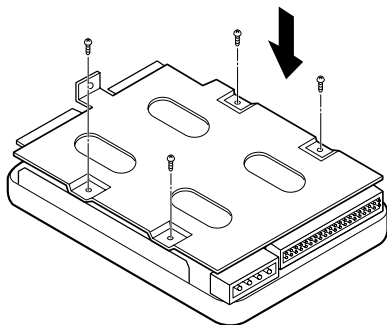


- 4** Remove the four screws that secure the hard disk drive to the mounting plate.

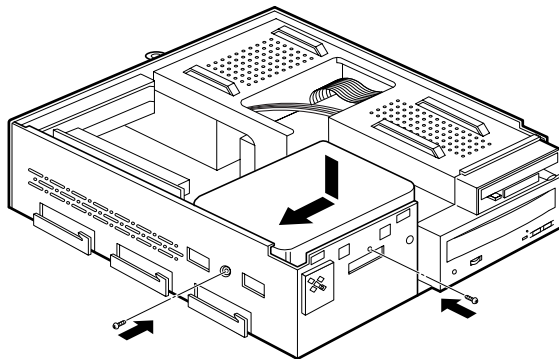


- 5** Remove the new hard disk drive from its protective wrapper and place it on an antistatic surface.
- 6** Adjust any jumpers or switches according to the manufacturer's instructions in your hard disk drive manual. Jumpers of your new hard disk drive must be set as the primary master drive.

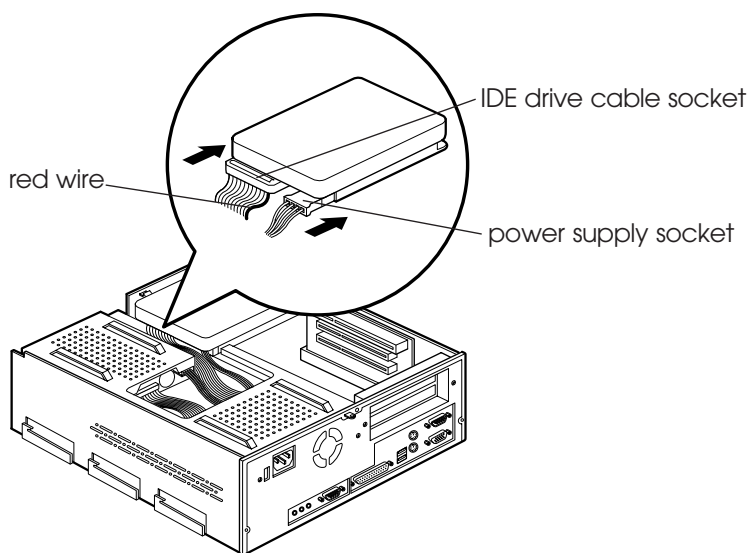
- 7** Turn the hard disk drive so the components are facing up. Place the mounting plate so its screw hole tab is facing up and to the opposite side of the drive connectors, and align the four holes on the plate with the four holes on the drive. Secure the mounting plate to the drive using the four screws.



- 8** Locate the hard disk drive assembly so the hard disk drive faces up and then slide the drive until its two tabs are completely inserted into the two holes on the front panel. Tighten the two screws to secure the hard disk drive to the system.



- 9** Connect a power cable to the power supply socket on the back of the drive. Connect one end of the free connectors on the IDE drive cable to IDE drive cable socket on the back of the drive.



Caution

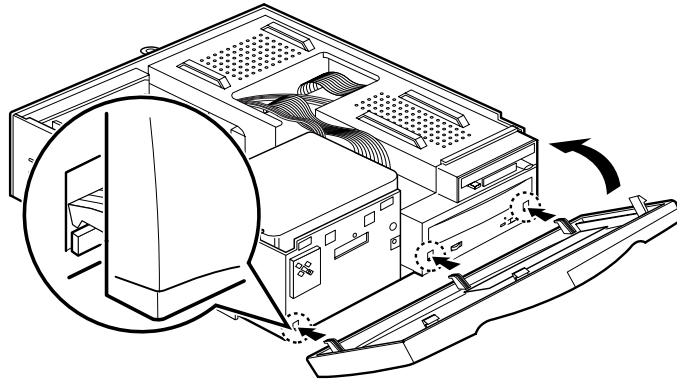
When you insert the connector into the IDE drive cable socket if you do not correctly match the red wire on the cable with pin 1 on the drive, you could severely damage your hard disk drive.

- 10** If it is not already connected, connect the other end of the IDE drive cable to the primary EIDE connector (CN10) on the motherboard.

Caution

When you insert the connector into the IDE connector on the motherboard if you do not correctly match the red wire on the cable with pin 1 on the primary IDE connector, you could severely damage your hard disk drive.

- 11** Insert the three tabs on the bottom of the bezel into the three holes in the bottom of the front chassis and then push the top of the bezel until the three tabs on the top of the bezel is inserted into the three holes on the top of the chassis.

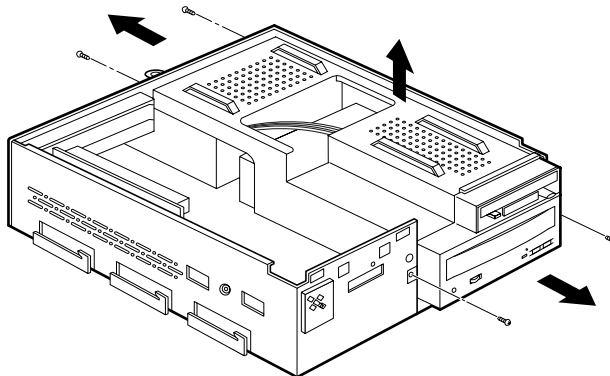


- 12** Replace the computer's cover as described in "Replacing the Cover". Connect the computer and peripherals to their power sources and turn on peripherals.
- 13** Insert the diskette labeled "CD-ROM Setup Boot Disk" for Windows 95 into drive A and turn on the computer.
- 14** Enter the SETUP program to update the system's configuration. After updating the SETUP settings, reboot the system.
- 15** If the hard disk drive is not partitioned and logically formatted, partition and logically format the drive using the FDISK in the "CD-ROM Setup Boot Disk" and FORMAT (under D:\WIN95 in the Windows 95 CD) commands.
- 16** Install your operating system on the hard disk drive.

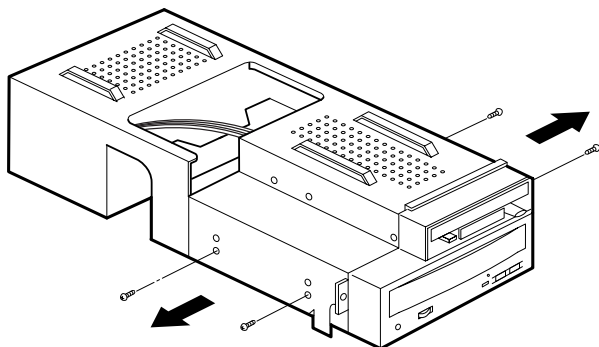
Replacing the CD-ROM Drive

If you want to replace the CD-ROM drive in your system, follow these steps to replace the CD-ROM drive:

- 1** Remove the computer's cover as described in "Removing the Cover".
- 2** Remove the bezel and the hard disk drive as described in "Replacing the Hard Disk Drive".
- 3** Disconnect the diskette drive cable attached to the diskette drive, all cables attached to the CD-ROM drive, and the power connector cable attached to the motherboard.
- 4** Remove the four screws on the front and the back that secure the drive bracket to the system and then lift the drive bracket out of the computer.



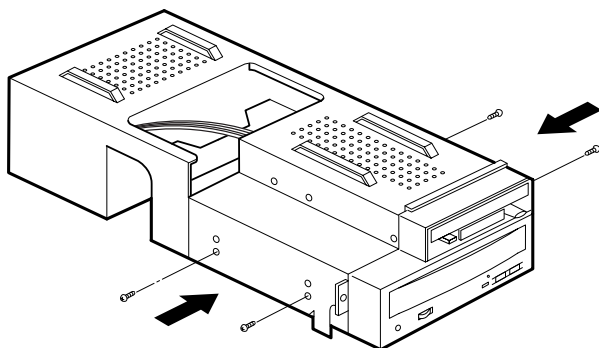
- 5** Remove the screws that secure the CD-ROM drive to the drive bracket and lift out the drive.



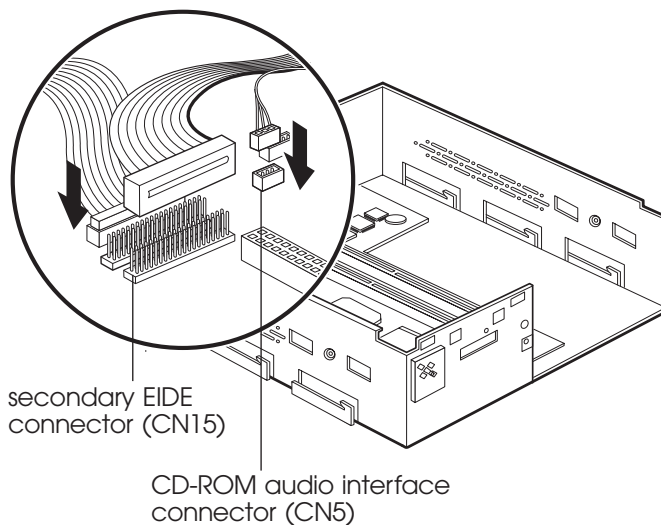
- 6** Remove the new CD-ROM drive from its protective wrapper and place it on an antistatic surface.

- 7** Adjust any jumpers or switches according to the manufacturer's instructions in your CD-ROM drive manual.

- 8** Slide your new CD-ROM drive into the bracket so the holes on the drive bracket are aligned with the holes on the CD-ROM drive. Tighten the screws provided with the drive to secure the drive to the bracket.



- 9 If it is not connected, connect the CD-ROM audio cable to the CD-ROM audio interface connector (CN5) on the motherboard. If the IDE drive cable is not already connected to the motherboard, connect one end of the IDE drive cable to the secondary EIDE connector (CN15) on the motherboard.



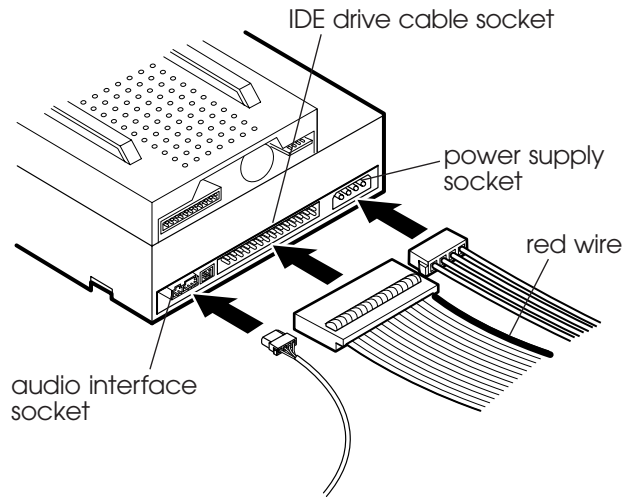
Caution

When you insert the connector into the IDE connector on the motherboard if you do not correctly match the red wire on the cable with pin 1 on the IDE connector, you could severely damage your CD-ROM drive.

Warning

If you connect the CD-ROM drive to the primary EIDE connector (CN10) as a slave, it sometimes cannot work.

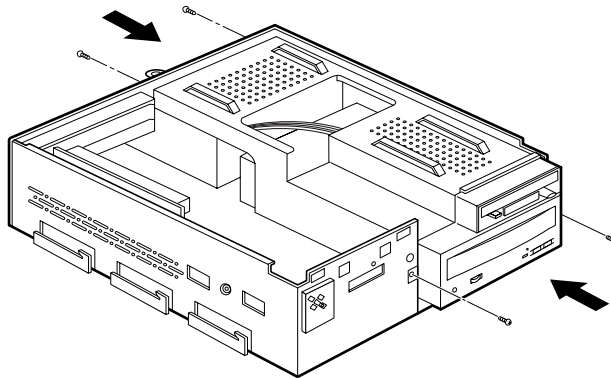
- 10** Connect the power cable from the power supply, the IDE drive cable and the CD-ROM audio cable from the motherboard to the power supply socket, the IDE drive cable socket and the audio interface socket of the CD-ROM drive respectively.



Caution

When you insert the connector into the IDE drive cable socket if you do not correctly match the red wire on the cable with pin 1 on the drive, you could severely damage your CD-ROM drive.

- 11** Secure the drive bracket to the system using the four screws.

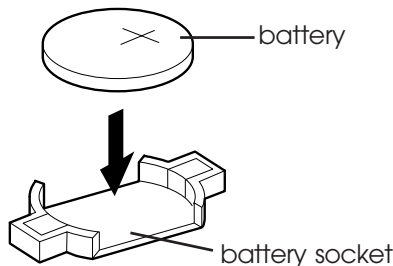


- 12** Connect the power cable from the power supply to the power connector (CN18) on the motherboard. Connect the diskette drive cable from the diskette drive connector (CN11) on the motherboard to the diskette drive cable socket of the diskette drive.
- 13** Replace the hard disk drive and the bezel as described in "Replacing the Hard Disk Drive".
- 14** Replace the computer's cover as described in "Replacing the Cover".
- 15** Enter the SETUP program to update the system's configuration.

Replacing the Battery

The battery in the system is a 3 V, coin-cell CR2032-type battery. To replace the battery, follow these steps:

- 1** Run the SETUP program and make a printed copy of the SETUP screens.
- 2** Remove the computer's cover as described in "Removing the Cover".
- 3** If there any option cards, remove them as described in "Removing an Option Card".
- 4** Remove the hard disk drive as described in "Replacing the Hard Disk Drive".
- 5** Remove the drive bracket as described in "Replacing the CD-ROM Drive".
- 6** The battery socket is located under the power supply. See the illustration in "Motherboard Features" for the location of the battery socket.
- 7** Pry the battery out of its socket with your fingers to remove the battery.



- 8** Insert the new battery with the "+" side facing up into the battery socket.
- 9** Replace the drive bracket as described in "Replacing the CD-ROM Drive".
- 10** Replace the hard disk drive as described in "Replacing the Hard Disk Drive".
- 11** Replace option cards as described in "Installing an Option Card".
- 12** Replace the computer's cover as described in "Replacing the Cover".
- 13** Run the SETUP program and set the date and time again. Restore any system configuration information that was lost while replacing the battery according to the copy made in step 1.

After Installing Options

Be sure to run the SETUP program to update the configuration of the system after installing or removing system options such as hard disk drives, CD-ROM drives, memory modules, or option cards.

Chapter 6

Installing the Video Drivers

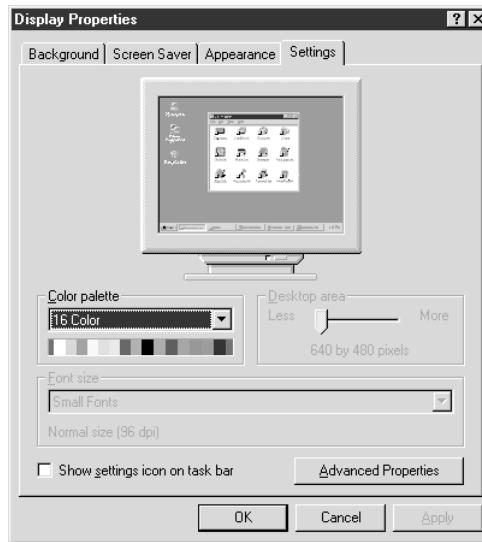
The graphic/video controller is built in the SiS5598 chip in your system. If you need to install the video drivers for your operating system, contact your system manufacture/vendor for drivers support.

Installing the Video Drivers for Microsoft Windows 95

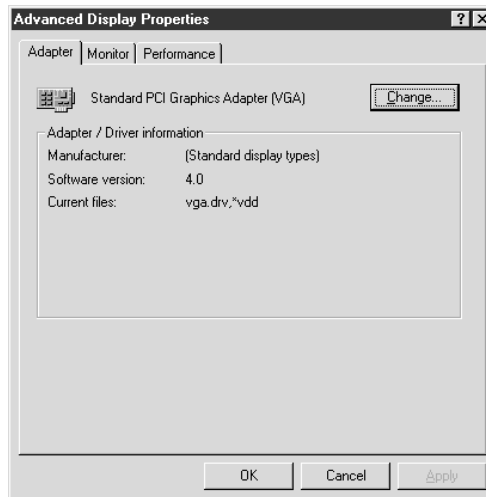
Follow these steps to install the video drivers for Windows 95:

- 1** Click the Start button, point to Settings, and click Control Panel.
- 2** Double-click the Display icon.
- 3** When the Display Properties window appears, click the Settings tab, and then click Advanced Properties.

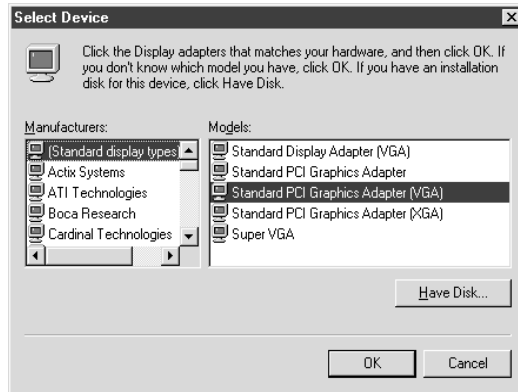
- 4 When the Advanced Display Properties window appears, click Change.



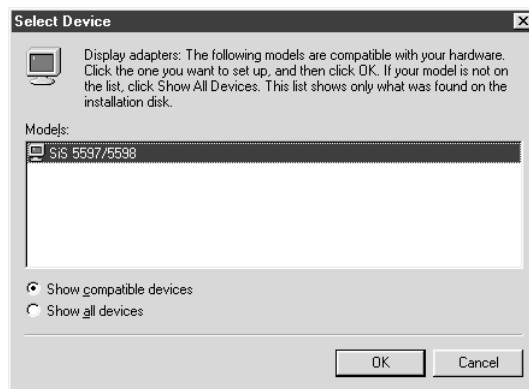
- 5 When the Select Device window appears, click Have Disk.



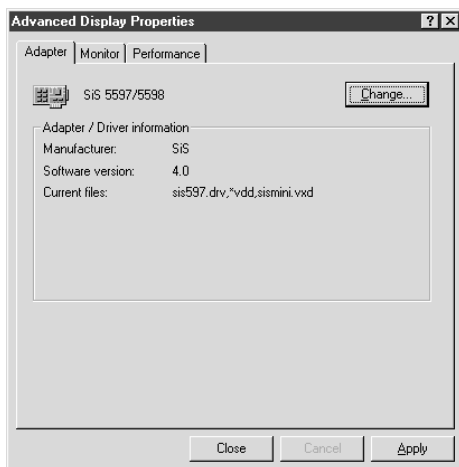
- 6 Insert the driver CD into the CD-ROM drive, click Browse, select D:\VIDEO\WIN95, and click OK twice.



- 7 When the Select Device window appears again, and SiS 5597/5598 is displayed, click OK. The files are copied from the driver CD to the hard disk drive.



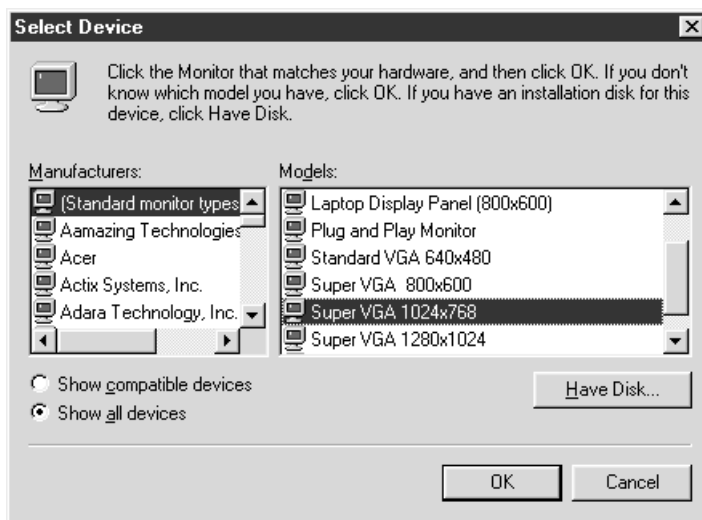
- 8 When the installation is complete, click Close or Apply to exit the Advanced Display properties window. Then click Close or Apply to exit the Display Properties window.



- 9 Remove the driver CD from the CD-ROM drive and click Yes to restart your system for the new settings to take effect.
- 10 After you restart Windows 95, change the display resolution and color depth. Click the Start button, point to Settings, and click Control Panel.
- 11 Double-click the Display icon.
- 12 When the Display Properties window appears, click the Settings tab.

- 13** Select the color depth from the Color palette and the resolution from the Desktop area and then click OK.

If the Display Properties dialog box appears and prompts you for your monitor type, click Yes. Select the monitor manufacturer and model from the Select Device dialog box and click OK.



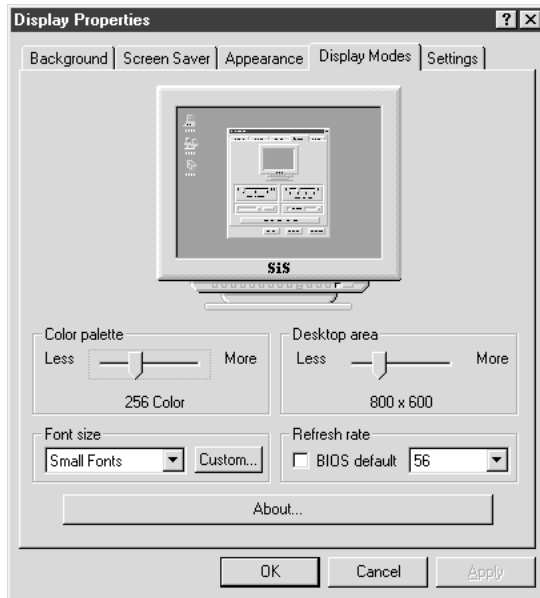
When the message “Windows will now adjust your display settings.” appears, click OK.

- 14** Remove the driver CD from the CD-ROM drive and click Yes for the new settings to take effect.

If you changed color and/or font size, the system would reboot. If you changed resolution only, the screen will be changed to the new settings.

Using Display Modes

- 1 Click the right mouse button in empty area of the desktop and select Properties.
- 2 When the Display Properties window appears, click the Display Modes tab.



- 3 Select desired values in Desktop area, Color palette, Font size, and Refresh rate to change resolution, color, font size, and refresh rate.
- 4 After completing your settings, click OK or Apply to complete the whole installation.
- 5 When the Display Modes dialog box appears, select OK.
- 6 If you did not change color and/or font size, select Yes when the Display Modes dialog box appears again. If you changed color and/or font size, the system would reboot.

Chapter 7

Installing the Audio Drivers

The Crystal 423X audio controller is built in the motherboard. If you need to install the audio drivers, contact your system manufacture/vendor for drivers support.

Installing the Audio Drivers for Microsoft Windows 95

Follow these steps to install the audio drivers for Windows 95:

- 1** Start the Windows 95 operating system.
- 2** Insert the driver CD into the CD-ROM drive.
- 3** From the Start menu, select Run. Click Browse, select D:\AUDIO\WIN95\ENGLISH\SETUP.EXE, click Open, and click OK.

- 4 At the Crystal Semiconductor dialog box, click Install Driver.



- 5 When the Complete Installation dialog box appears, remove the driver CD and click Restart.

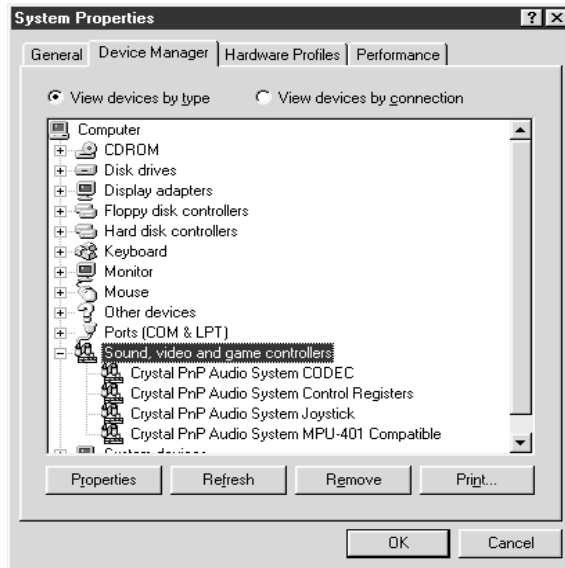


- 6 If the Update Device Driver Wizard window appears, reinsert the driver CD and click Next.



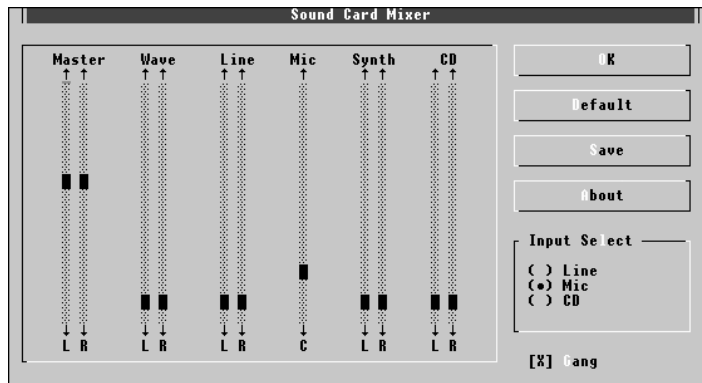
- 7** Click Other Locations. When the Select Other Location dialog box appears, click Browse, select D:\AUDIO\WIN95\ENGLISH, and click OK.
- 8** When the Select Other Location dialog box appears again, click OK and when the Update Device Driver Wizard window appears again, click Finish.
- 9** When the Insert Disk dialog box appears, click OK.
- 10** If the Copying Files dialog box appears prompting for the location of additional files, click Browse, select D:\AUDIO\WIN95\ENGLISH\CWB3DSND.EXE, and click OK. When the Copying Files dialog box appears again, click OK.
- 11** When the Insert Disk dialog box appears prompting for inserting the Windows 95 CD-ROM, remove the driver CD, insert the Windows 95 CD, and click OK.
- 12** When the Insert Disk dialog box appears prompting for inserting the Crystal Driver Disk, remove the Windows 95 CD, insert the driver CD into the CD-ROM drive, and click OK.

If you select Settings\Control Panel from the Start menu and select System icon, the System Properties window will appear. If you select the Device Manager tab at this window after installing the audio drivers, you will see an additional line for the audio drivers, "Sound, video and game controllers" in the Device Manager window. Double clicking on the "Sound, video and game controllers" entry in the Device Manager window, will expand the line to list the Crystal codec Logical Devices installed as shown below.



CWB MIX.EXE

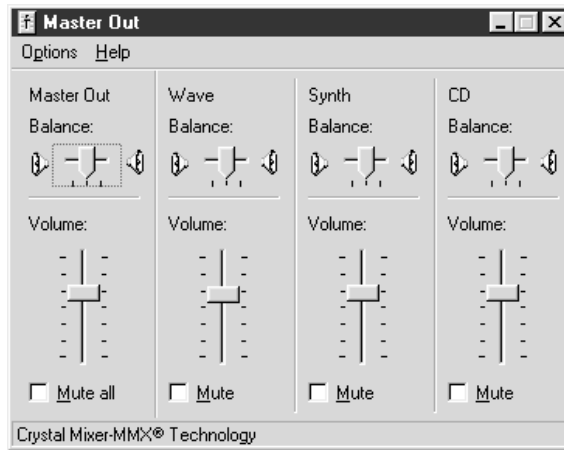
CWB MIX.EXE is a DOS-based, graphic user interface and command-line mixer utility. This sets the volume levels of various audio channels. The Gang option in the lower right corner is used for changing the left and right volume of each audio channel simultaneously. After changing the volume value for each channel, click the OK button.



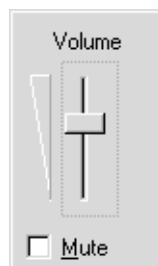
MMX™ Technology Enabled Mixer

If the microprocessor in your system is an MMX technology enabled processor, the input and output mixer panel will be displayed with "Crystal Mixer-MMX® Technology" in the low left hand corner. "Crystal Mixer" will appear on non-MMX™ Technology systems.

The Master Out window runs every time you start your computer where it appears in the notification area of the task bar. This is activated by double clicking with the left mouse button on the logo in the notification area.



Clicking the logo once will display the following window.



Chapter 8

Installing the USB Supplement

Your system comes with the Windows 95 OSR2.1 CD that includes the Microsoft® USB Supplement for Windows® 95. If you (re)install Windows 95 and there are USB devices connected to your system, you must install the Microsoft USB Supplement for Windows 95.

Installing the USB Supplement for Windows 95

Follow these steps to install the USB Supplement:

- 1** Insert the Microsoft Windows 95 OSR2.1 CD into your CD-ROM drive.
- 2** Click the Start button and then click Run.
- 3** Click Browse, select D:\OTHER\USB\USBSUPP.EXE, and click Open. Then click OK.
- 4** When prompted with "Install Microsoft USB Supplement to your system?" click Yes.
- 5** At the license agreement screen, review the agreement and then click Yes to continue.

The installation program runs the ScanDisk utility to check the hard disk drive for errors, and then copies the USB Supplement files to the drive. When all files are copied, the following message is displayed:

Microsoft USB Support Installed! Setup will now restart your system to complete setup. Please close any applications now.

- 6** Close any open applications, remove the Windows 95 CD from your CD-ROM drive, and then click OK to restart the system.
- 7** If special drivers came with your USB drivers, install them. See the USB device manual that came with the USB device for information on the drivers.

Appendix A

Specifications

Chipset

Core Chipset

SiS5598 chip with VGA controller, keyboard controller, USB controller, and RTC embedded in single chip

Audio chipset

Crystal 423X

CPU and Memory

64-bit CPU

- Intel Pentium P54C(S)/133, 166 or 200 MHz microprocessor
- Intel Pentium P55C-MMX/166, 200 or 233 MHz microprocessor
- AMD K5 or K6/166 or 200 MHz microprocessor
- Cyrix M2/PR166 or PR200 microprocessor
- IDT C6/180 or 200 MHz microprocessor

External microprocessor clock speed is 60 or 66 MHz.

System memory

Expandable to 256MB using 8MB, 16MB, 32MB, 64MB, or 128MB DIMMs; DIMMs must be 64-bit, unbuffered EDO DRAM or SDRAM type with 70ns or faster access mode.

ROM

128KB Flash EPROM; upgradable using a floppy disk-based program; BIOS supports MMX, PnP, APM, PCI, and DMI.

Shadow RAM

Shadowable system and video BIOS ROM into RAM; shadow RAM address control selectable through SETUP

Cache

Pipeline burst SRAM (PBSRAM) chips for 256KB or 512KB SRAM (second level or external cache) which support write back policy (Factory setting according to the system type)

Math coprocessor

Math coprocessor built into the microprocessor

Clock/Calendar

Real-time clock, calendar and CMOS RAM for configuration; backup provided by the battery

Controllers

Diskette

Supports two drives in any of five formats:

5.25-inch, high-density, 1.2MB;

5.25-inch, double-density, 360KB;

3.5-inch, high-density, 1.44MB;

3.5-inch, double-density, 720KB;

3.5-inch, high-density, 2.88MB;

Diskette drive controller on motherboard

Hard disk / CD-ROM

Supports up to four IDE drives with two built-in controllers; two built-in PCI bus Enhanced IDE interfaces on the motherboard; supports for Ultra DMA/33 feature for hard disk drives; supports PIO Modes 3 and 4 devices and ATAPI devices on both IDE interfaces

Video

PCI bus UMA VGA controller built into the SiS 5598 chip on the motherboard; the amount of video memory selectable through SETUP; supports resolution up to 1024X768 in 256 colors with 1MB of video memory (default setting) and resolution up to 1024X768 in 64,000 colors with 2MB of video memory; supports Microsoft Video for Windows, DCI drivers, DirectDraw drivers, and DirectMPEG drivers

Audio

Crystal 423X audio controller on the motherboard; includes integrated 3D sound technology; compatible with the Microsoft Sound System standard and the Sound Blaster and Sound Blaster Pro interfaces

Interfaces

Video

PCI bus VGA interface on the motherboard for VGA, XGA, Super VGA, or Extended VGA compatible monitor; 15-pin, D-sub connector

Serial

One or two RS-232C, programmable, asynchronous interface; port assignments selectable through SETUP; 9-pin, D-sub connector (Factory setting according to the system type)

Parallel

One standard 8-bit parallel, bi-directional SPP, EPP, or ECP; port assignments selectable through SETUP; 25-pin, D-sub connector

USB

Two 4-pin USB (Universal Serial Bus) compliant connectors; 48 MHz clock speed

MIDI/game

15-pin, D-sub connector; 14.3 MHz audio clock speed

Mouse

6-pin, mini DIN connector for PS/2 compatible mouse interface

Keyboard

6-pin, mini DIN connector for PS/2 compatible keyboard interface

Option slots

Three standard input/output expansion slots; one 16-bit ISA compatible slots, 8 MHz bus speed and two 32-bit PCI bus slots, 30/33 MHz bus speed; only one of connectors CN4 (ISA) and CN3 (PCI) on the riser card at a time can be used for option cards; supports Plug-and-Play

Primary and secondary EIDE

Two 40-pin connectors on PCI local bus; read/write access controllable through SETUP

Diskette drive

34-pin connector; read/write access controllable through SETUP

Speaker

Internal buzzer

Power Supply

Type

72W(peak 115W), fan cooled, switch selectable voltage

Input ranges

100 VAC to 125 VAC, 4.0 Amps, 50/60Hz and

200 VAC to 240 VAC, 2.0 Amps, 50/60Hz

Maximum outputs

+5 VDC at 8 Amps, +12 VDC at 1.5 Amps,

-12 VDC at 0.3 Amps, +3.3 VDC at 3 Amps

Frequency

Minimum 47Hz, Maximum 63Hz

Note

Depending on your computer model, your power supply's specifications may vary. For detailed information about specifications of your power supply, refer to the label that attached on the power supply chassis in your system.

Mass Storage

Three drive bay maximum

CD-ROM drives

5.25-inch IDE CD-ROM drive

Hard disk drives

3.5-inch IDE hard disk drive

Diskette drives

3.5-inch diskette drive, high-density, 1.44MB storage capacity

DMA Channels

DMA	Data width	System resource
Channel 0	8-bits	Reserved
Channel 1	8-bits	Audio
Channel 2	8-bits	Diskette drive controller
Channel 3	8-bits	Parallel port (for ECP or EPP)
Channel 4	-	Cascade for DMA controller
Channel 5	16-bits	Reserved
Channel 6	16-bits	Reserved
Channel 7	16-bits	Reserved

* *System resources can be changed.*

Interrupts

IRQ	System resource
0	Timer output 0 (output buffer full)
1	Keyboard (output buffer full)
2	Cascade interrupt from slave PIC
3	Serial port 2
4	Serial port 1
5	User available
6	Diskette drive controller
7	Parallel port 1
8	RTC (Real TimeClock)
9	User available
10	User available
11	User available (POS I/O CARD)
12	PS/2 mouse
13	Math coprocessor
14	Primary IDE controller
15	Secondary IDE controller

* *System resources can be changed.*

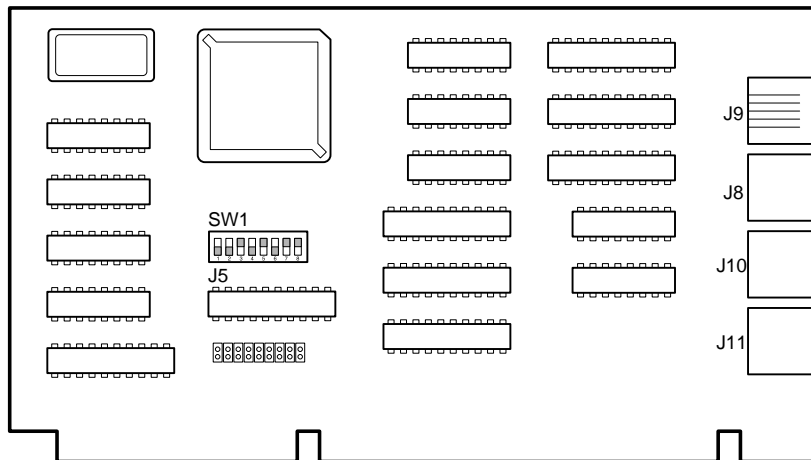
Appendix B

Specification and Setting of I/O Card for POS

Specification

● Model	DSMP4S
● IRQ	2, 3, 4, 5, 7, 10, 11, 12, 15
● Data Bit	5, 6, 7, 8
● Stop Bit	1, 1.5, 2
● Parity	none, even, odd, space, mark
● UART	16C554
● Speed	50-115.2K bps

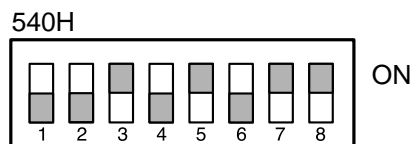
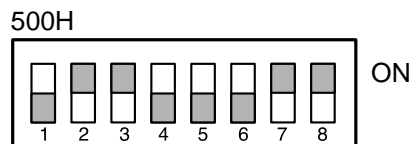
Board Layout



Installing Hardware

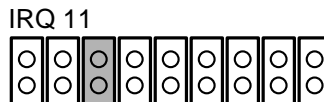
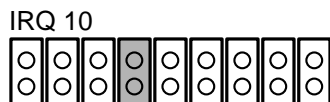
1 Setting Address (SW1)

Set Base Address with Dip Swith (Default is 540H)



2 Setting IRQ (J5)

Set Interrupt by using mini jumpers (Default is No. 11)



Scanner Address : 540H

CAP Address : 548H

COM7 Address : 550H





Drawer Address

- /DR1 Set : 568H
- /DR1 Reset : 560H
- /SE1 Read : 570H

Software Driver

If you have any question, consult to our POS team
(TEL: 82-2-3774-3975, E-mail:kijeon@trigem.com)

Pin Assignment

Drawer (J11)		Serial Port (J10)		CDP (J8)		Scanner (J9)	
 DRA		 COM7		 CDP		 SCN	
Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	N.C	1	DCE	1	RXD	1	RXD
2	N.C	2	RXD	2	TXD	2	TXD
3	/SE1	3	TXD	3	CTS	3	CTS
4	/DR1	4	DTR	4	RTS	4	RTS
5	Vpp	5	GND	5	GND	5	GND
6	GND	6	DSR	6	+5VDC	6	+DC
		7	RTS	7	+12VDC	7	+12VDC
		8	CTS				
		9	RI				
		10	N.C				

The right end of the figure is No. 1 pin.

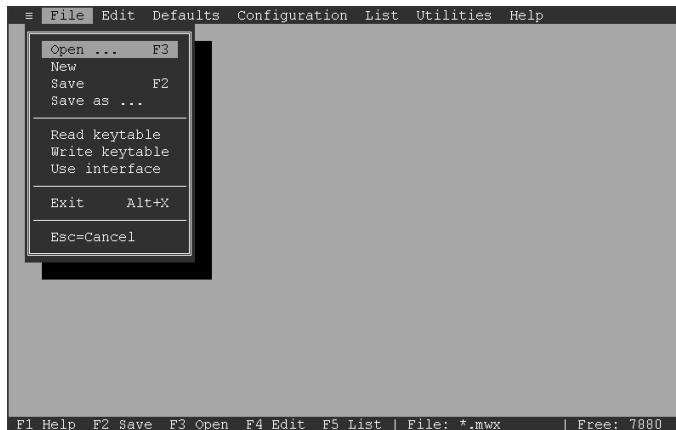
On failure during installation

- ① Check that DSMP4S is installed in the system normally.
- ① Check that Address Switch is set to 540H exactly.
- ① Check that Interrupt jumper is set to 11 exactly.

Setting POS PLU Key Board

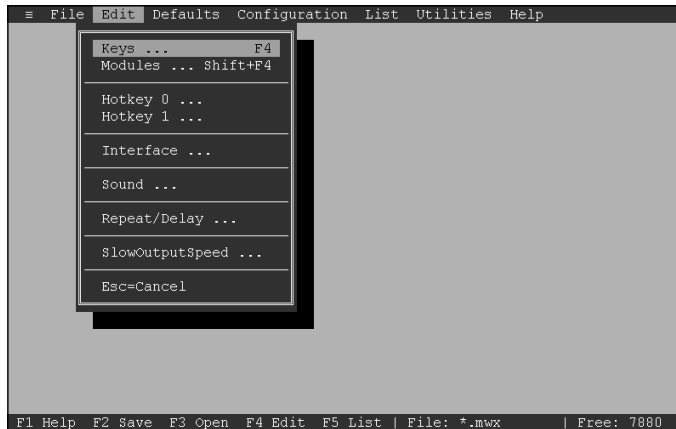
TPSKBO.EXE program (path C:\TPSKBD\)

File menu



- ① **Open:** Opens file
Read in the saved keyboard setting data.
- ① **Save:** Saves in a file
Save the keyboard setting data whose setting is completed.
Note) It is recommended that you should save the date in the file without fail after setting.
- ① **Read keytable:** Reads from the keyboard
This function reads the current setting from the keyboard directly, not from a file.
- ① **Write keytable:** Save in the keyboard
This function saves the completed setting into the keyboard directly, not in a file.

Edit menu



① **Keys:** Keyboard Setting

This is the menu for setting each keyboard setting. When moving into this menu, there appears keyboard Matrix of 12*7 size. Go to a key number that you want to set (e.g., A01 A02) and press Enter. Then there appears 'Edit key' Popup which is used for setting a key value.

() 'Edit key' Popup

1. Assignment:

Enter here any key value which you want to be output (e.g. A, B, c, d, {Shift}, and so on)

2. Key attributes:

- Keyclick : Sets if it makes beeps when a key is pressed.
- Autorepeat : Sets if it uses the autorepeat function of the keyboard.
- Protected : Disables the function to change the keyboard setting with OnLine Program mode.
- Slow output : Slows down the output speed of the string when the key setting is set to string.

3. Level selection: Sets the value of the assignment after selecting any level that you want to set.

(*) Normal level :

() SHIFT level : Level which sets the value output when a key is pressed with Shift key.

() CTRL level : Level which sets the value output when a key is pressed with Ctrl key.

() ALT level : Level which sets the value output when a key is pressed with Alt key.

() Standard key : Level which set only special function keys listed in the attached (e.g. {Alt}), and the setting of other keys and combination keys is set in the above levels. (e.g. {Alt+A})

Note

You should not set the Standard Level setting with other level above mentioned.

That is, the above mentioned Normal level, SHIFT level, CTRL level, and ALT level can be set in a key altogether, but in case of Standard key level, any value of other level should not be set to the same key.

- **Modules:** In this menu, there are several functions which set various peripherals related to the card setting. You can use only MSR (card) settings in the bottom of the Popup screen.

[X] Track1 [Header] .. [Terminator]

[X] Track2 [Header] .. [Terminator]

[X] Track3 [Header] .. [Terminator]

[BadReadString]

The above [X] is to set if the track is used, and [Header] and [Terminator] are to set the values added to the first part and the last part of the actual card data which is read in. You can identify the card data which comes in the keyboard buffer in program based on this value.

The settings in the last [BadReadString] comes into the keyboard buffer on failure due to misreading the card.

- **Edit-Sound:**

Sets the volume and duration of the beep of the key which is set in [Keyclick] of the Key section in page 24.

- **Edit-Repeat/Delay:**

Sets the speed of the key on which AutoRepeat function is set in Key section in page 24.

COPY2MWX.EXE Program (Path C:\TPSKBD\)

This program is to write .MWX file saved in TPSKBD program into the keyboard directly on DOS command line,

(for example, c:\tpskbp) COPY2MWX KBD84.MWX)

Attached : Acronym in Menu

Acronym	Meaning	Acronym	Meaning
F1...F12	Function keys F1...F12	LEFT	Left arrow Key
N0...N9	Number keys in numeric block	RIGHT	Right arrow Key
SPACE	Space bar (end of row only)	UP	Up arrow key
BACKSPACE	Backspace key (BS allowed)	DOWN	Down arrow key
PAUSE	Pause Key	RETURN	Return key
BREAK	Break Key	ENTER	Enter key
INS	Insert Key	PLUS	Plus key in numeric block
DEL	Delete Key	MINUS	Minus key in numeric block
PGUP	PgUp Key	STAR	* (Mult) key in numeric block
PGDN	PgDn Key	DIV	/ (Div) key in numeric block
HOME	Home Key	DELAY	0.5 second delay
END	End Key	RESET	Reset function
SYS	SysRq function on	NUL	NULL byte
SYSBREAK	SysRq function off	SHIFT	Shift key
NUM	NumLock key	CTRL	Ctrl key
SCROLL	ScrollLock Key	ALT	Alt key
CAPS	Caps Lock Key	ALTGR	AltGr key
PRTSC	Print screen Key	LWIN	left Windows key
ESC	Escape Key	RWIN	right Windows key
TAB	Tab Key	APP	Application key

Appendix C

Compliance Statements

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Warning

The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification of this device and may cause interference levels that exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

For Canadian Users

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radio électriques dépassant les limites applicables aux appareils numériques de Class A prescrites dans le règlement sur le brouillage radio électrique édicté par le Ministère des Communications du Canada.

Battery Warning Instruction

Caution

If battery is incorrectly replaced there poses a danger of explosion. Replace battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Attention

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

Vorsicht

Explosionsgefahr bei unsachgemäß em Austausch der Batterie. Ersatz nur durch denselben oder einen vom Hersteller empfohlenen ähnlichen Typ. Entsorgung gebraushter Batterien nach Angaben des Herstellers.

Fuse Warning Instruction

Caution

For continued protection against risk of fire, replace only with same type and rating of fuse. Disconnect input power before servicing. Only connect this equipment to an earthed socket outlet.

Vorsicht

Vor jeder service-arbeit netzstecker ziehen! Apparatet ma kun tilkobles jordet stikkontakt.

Attention

Debrancher avant d'ouvrir. Apparatet skall anslutas till jordat nätuttag.

Atencion

Desconecte fuerza electrica antes del servicio. Laite on liitettävä suojakosketinistoraasian.

Laser Product

Class 1 Laser Product

This equipment complies with European Standard EN60825 [harmonized with International Electrotechnical Commission (IEC) Publication 825].

This equipment is classified as a Class 1 LASER product and there is no hazardous LASER radiation with the safety protection.

Caution

The laser used in the CD-ROM drive can damage your eyes. Do not attempt to open the cover.

To reduce the risk of electric shock, do not remove cover (or back).

No user-serviceable parts inside.

Refer servicing to qualified service personnel.

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Do not open the top cover of the drive and never touch the internal parts in order to avoid EXPOSURE TO INVISIBLE LASER RADIATION.

When the power switch is On, do not place your eyes close to the front panel opening door and other openings to look into the inside of the drive.

Achtung

Um die Gefahr eines elektrischen Schlages zu Verminde, Entfernen Sie nicht das Gehäuse.

Keine durch den Anwender zu reparierende Teile im innern.

Überlassen Sie den Service qualifiziertem Service-Personal.

Da der im CD-ROM Laufwerk benutzte Laser gefährlich für die Augen ist, sollten Sie keineswegs versuchen das Gehäuse zu Öffnen.

Lassen Sie den Service nur durch qualifizierte Servicestellen durchfuhern.

Attention

Pour réduire les risques de décharges, ne démontez pas le capot (ou le panneau arrière) du lecteur.

Aucune des pièces internes ne doit être manipulée par l'utilisateur.

Toute intervention doit être effectuée par un personnel qualifié.

Le rayon laser utilisé dans le lecteur CD-ROM est invisible à l'œil nu. N'essayez donc pas de démonter le boîtier. Pour toute intervention, adressez-vous à un personnel qualifié.

Warning

To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

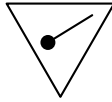
Avertissement

Pour réduire les risques d'incendie ou de choc électrique, n'exposez pas cet appareil à la pluie ou à l'humidité.

Warnung

Um die Gefahr eines Feuers oder eines elektrischen Schlages zu vermeiden, setzen sie dieses Gerät niemals Regen oder Feuchtigkeit aus.

Use of controls or performance of procedures other than those specified herein may result in hazardous radiation exposure.



PRODUCT COMPLIES WITH DHHS
RULES 21 C.F.R. SUB-CHAPTER J,
IN EFFECT AT THE DATE OF MANUFACTURE.

CLASS 1 LASER PRODUCT
LASER KLASSE 1
LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT
APPAREIL A LASER DE CLASSE 1
EN60825

CAUTION - INVISIBLE
LASER RADIATION WHEN OPEN
DO NOT STARE INTO BEAM OR VIEW
DIRECTLY WITH OPTICAL
INSTRUMENTS

VORSICHT - UNSICHTBARE
LASERSTRAHLUNG, WENN ABDECKUNG
GEÖFFNET
NICHT IN DEN STRAHL BLICKEN
AUCH NICHT MIT OPTISCHEN
INSTRUMENTEN

ADVARSEL - USYNLIG
LASERSTRÅLING VED ÅBNING.
SE IKKE IND I STRÅLEN - HELLER
IKKE MED OPTISKE INSTRUMENTER.

ADVARSEL - USYNLIG
LASERSTRÅLING NÅR DEKSEL ÅPNES.
STIRR IKKE INN I STRÅLEN ELLER SE
DIREKTE MED OPTISKE
INSTRUMENTER.

WARNING - OSYNLIG
LASERSTRÅLNING NÅR DENNA DEL ÄR
ÖPPNAD.
STIRRA EJ IN I STRÅLEN OCH BETRAKTA
EJ STRÅLEN MED OPTISKA INSTRUMENT

VARO! NÄKYMÄTÖNTÄ
AVATTAESSA
OLET ALTTIINA LASERSÄTEIL YLLE.
ÄLÄ TUIJOTA SÄTEESEEN ÄLÄKÄ
KATSO SITÄ OPTISEN LAITTEEN LÄPI.

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Seoul, 150-010 Korea

Phone: 82-2-3774-3978 Fax: 82-2-780-4860

<http://www.trigem.com>

Note: Design and specifications are subject to change without notice.

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