

Notebook Computer User's Guide

May 1998

5728891901

TNM3152

Federal Communications Commission (FCC) Statement

RADIO FREQUENCY INTERFERENCE STATEMENT

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

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

Any special accessories needed for compliance must be specified in the instruction manual.

Warning: A shielded-type power cord is required in order to meet FCC emission limits and also to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used.

Use only shielded cables to connect I/O devices to this equipment.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

Federal Communications Commission (FCC) Statement FCC Notice - Part 15

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

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

Use only shielded cables to connect I/O devices to this equipment.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

THIS DEVICE COMPLIES WITH PART 15 OF FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE. AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED. INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

FCC Notice - Part 68

This equipment also complies with Part 68 of the FCC Rules.

The FCC Registration Number and Ringer Equivalence Number (REN) is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

If your equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice isn't practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC. Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with this transmission equipment, please contact us for information on obtaining service or repairs.

The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

Safety And Maintenance Precautions

1. Read all of these instructions.
2. Save these instructions for future use.
3. Follow all warnings and instructions marked on the products.
4. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use this product near water.
6. Do not place this product on an unstable surface. If the product should fall, it may become seriously damaged and, more importantly, may cause injuries to the user.
7. Slots and openings in the cabinet and the back or bottom are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings should never be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surfaces. This product should never be placed near or over any object which produces heat. This product should not be placed in a built-in installation unless proper ventilation is provided.
8. This product should be operated from the type of power source indicated on the label. If you are not sure of the type of power available, consult your dealer or local power company.
9. Do not allow anything to rest on the power cord. Do not put this product where the cord could be stepped on.
10. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or cause short circuits, risking the possibility of a fire or electric shock. Never spill liquid of any kind onto this product.
11. Please turn off power of all equipment when it is not used for a long time.
12. For pluggable equipment, the socket-outlet should be installed near the equipment and should be easily accessible.
13. **CAUTION:** (English)
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

ATTENTION: (French)

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 équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

VORSICHT! (German)

Explosionsgefahr bei unsachgemäßen Austausch der Batterie Ersetz nur durch denselben oder einem vom Hersteller empfohlenem ähnlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

14. Do not attempt to service this product yourself. If you have the suspicion that the product is not in proper working order, unplug the unit and seek assistance from qualified service personnel, especially under the following conditions:
 - a. When the power cord or plug is damaged or frayed.
 - b. If liquid has been spilled onto the product, or if the product has been exposed to rain or water.
 - c. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in further damage or complications.
 - d. If the product has been dropped or the cabinet has been damaged.
 - e. If the product exhibits a distinct deterioration in performance, indicating a need for service.

**Canadian Department of Communication Radio
Frequency Interference Statement**

(English)

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

(French)

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

About This Guide

Congratulations on your purchase of this new notebook computer system! Your computer is designed to give you high integration and high performance/cost ratio. It also offers you real ease of use - it's easy to setup, easy to use, and easy to expand - the right choice for your requirements. This user's guide provides you with the following information:

Chapter 1: Getting Started gives you with information on what is provided with your notebook system, what and where are the functions of each LED, buttons, connectors, etc. Read this first to get familiar with your system. If you would like to learn about the basic operations, refer to *Chapter 2: Learning the Basics*. Battery power is one of the most important feature in a notebook system. Go to *Chapter 3: Using Your Battery* for more information on battery packs, how to install this, how to charge, etc. If you would like to connect optional devices onto your system, please read *Chapter 4: Connecting Optional Devices*.

Proceed to *Chapter 5: Setting Up Your BIOS* if changes in your BIOS are required. You can also find information on power management here. If you have re-installed the operating system of your notebook, refer to *Chapter 6: Installing Device Drivers* for the procedures on installing the required device drivers.

Chapter 7: Troubleshooting provides you solutions to most of the common problems encountered in using a notebook system.

Technical information are provided in the Appendices. *Appendix A: Specifications* provides the detailed specs of your system while *Appendix B: Connectors and Jumpers* gives you information on the hardware settings of your notebook.

Table of Contents

Chapter 1: Getting Started

Taking Some Precautions	1-1
Unpacking Your Notebook	1-2
Locations and Functions of Parts	1-3
Front and Right-Side Panel	1-4
Left-Side Panel	1-7
Rear Panel	1-9
Bottom Side	1-12
Powering On Your Notebook PC	1-13
AC Adapter Connection	1-13
Battery Power	1-14

Chapter 2: Learning The Basics

Opening the LCD Display	2-1
Handling the LCD Display With Care	2-1
Turning On/Off the System	2-2
Using Your Internal Keyboard	2-3
Hot Key Functions	2-4
Using Your Touch Pad and Click Buttons	2-7
Switching Display Mode	2-7
Entering TV Mode	2-8
Using Your 3.5" FDD Module	2-8
Internal Connection	2-9
External Connection	2-9
Using Your CD-ROM Drive Module	2-10
Inserting/Removing a CD-ROM Disk	2-10
Swapping With FDD Module	2-11
Handling CD-ROM Disks With Care	2-11

Using Your Hard Disk Drive	2-12
Replacing Hard Disk Drive Module	2-12

Chapter 3: Using Your Battery

Knowing Some Terms	3-2
Smart Battery Pack	3-2
Standard Battery Pack	3-3
Ni-MH Battery Pack	3-3
Li-Ion Battery Pack	3-4
Handling Your Battery Pack/s	3-5
Installing a (New) Battery Pack	3-6
Charging/Recharging the Battery	3-7
Familiarizing Battery Icon	3-8
Prolonging Battery Power	3-9

Chapter 4: Connecting Optional Devices

External Mouse & Keyboard	4-2
External VGA/SVGA Monitor	4-2
S-Video TV Set	4-3
Printer	4-3
Audio Peripheral Devices	4-4
Expansion Memory	4-5
PC Card	4-6
Fax/Modem Daughterboard	4-7
Replicator Device	4-9

Chapter 5: Setting Up Your BIOS

Entering System Setup	5-1
Main Menu	5-3
Primary Master, Secondary Master Sub-menus	5-4

Advanced Menu	5-6
I/O Device Configuration Sub-menu	5-8
Audio Options Menu Sub-menu	5-10
Security Menu	5-12
Power Menu	5-13
Boot Menu	5-16
Exit Menu	5-17

Chapter 6: Installing Device Drivers

Yamaha YMF715B Audio System	6-1
PCI Universal Serial Bus Driver	6-4
Intel 82371xB INF Update Installer	6-7
C&T 655555 Video Driver	6-9
TI 1250a PCMCIA Controller	6-13
Fax/Modem Device Driver	6-17
3-Mode Floppy Device Driver	6-19
(for Windows 95 Japanese version only)	
Formatting 3-mode Floppy Diskettes	6-21

Chapter 7: Troubleshooting

AC Adapter/Battery Pack	7-1
CD-ROM Disk	7-2
Floppy Disk	7-3
Keyboard/Mouse/Touch Pad	7-4
LCD Display/VGA Monitor	7-4
Others	7-5
Printer	7-6

Appendix A: Specifications

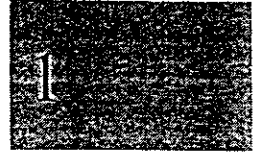
Standard Features	A-1
Motherboard	A-2
CPU (Central Processing Unit)	A-2
Power Management	A-3
Memory	A-3
Built-in I/Os	A-3
Mass Storage	A-4
Power Supply	A-5
AC Power	A-5
Smart Battery Pack	A-5
Keyboard	A-6
Fax/Modem Optional Daughterboard	A-6
Compatibility	A-7
Operation	A-8
Data Format	A-8
Line Operating Speed	A-8
Environmental Specifications	A-8
Ambient Temperature	A-8
Humidity	A-8
System Unit Dimensions	A-8

Appendix B: Connectors And Jumpers

Motherboard Layout	B-2
Front Side	B-2
Rear Side	B-3
Quick Reference	B-3
Motherboard Connectors and Jumpers	B-5
CPU Switch Setting Summary	B-11

Chapter 1: Getting Started

Before using your notebook, go over this chapter to know what are provided with it, what functions are available and where these are located.



Taking Some Precautions

Like any other delicate electronic device, you should take safety precautions in using your notebook system. Please read through the following:

1. Although your notebook computer system is a portable unit, you should place this, as much as possible, on a flat, sturdy surface where you plan to work. There should be *enough ventilation to provide proper heat dissipation*.
2. The entire system, and any other peripheral devices connected to it, should be *kept away from direct sunlight* or any other sources of extreme heat. Direct sunlight could cause internal overheating, or blemish the exterior of your notebook computer.
3. Keep your notebook away from devices that generate radio frequency interference. Also, *keep your notebook at least three feet away from sources of strong magnetic fields*, as these may destroy data on your diskettes and hard disks.
4. Do not attempt to clean your notebook system or LCD (Liquid Crystal Display) with liquid cleansers or aerosol cleaners. Use a damp cloth for cleaning.
5. Learn more about your battery pack before using this. (Refer to *Chapter 3: Using Your Battery*, for more details.)

Please also read the Safety and Maintenance Precautions provided at the first few pages of this guide.

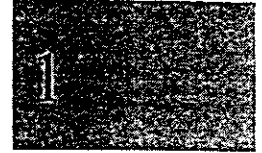
Locations and Functions of Parts

In order to provide the best performance in a slim system, this notebook computer integrates the following:

- Motherboard incorporating the latest mobile technology
- Internal keyboard with a touch pad and two click buttons
- Dedicated CD-ROM drive module in the swappable bay
- IDE hard disk with the user friendly Windows 95 operating system environment already installed
- Color LCD (Liquid Crystal Display) screen that provides radiation free and flicker-free, clear and crisp text and images
- Dedicated 3.5" floppy disk drive module that can be used externally by connecting the bundled FDD cable to the printer port, or internally by installing this to the swappable bay

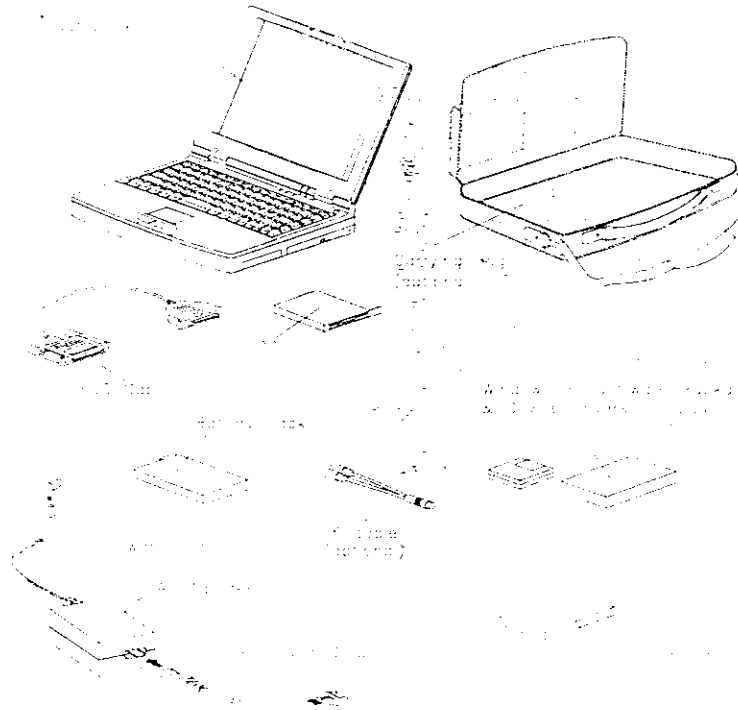
Your system's swappable bay can accommodate either a CD-ROM drive (default) for multi-media functions, or a floppy drive for expandability purposes.

This system is indeed your best partner in whatever tasks you are undertaking. Get familiar with the locations and functions of parts before you proceed so that you can maximize its usage.



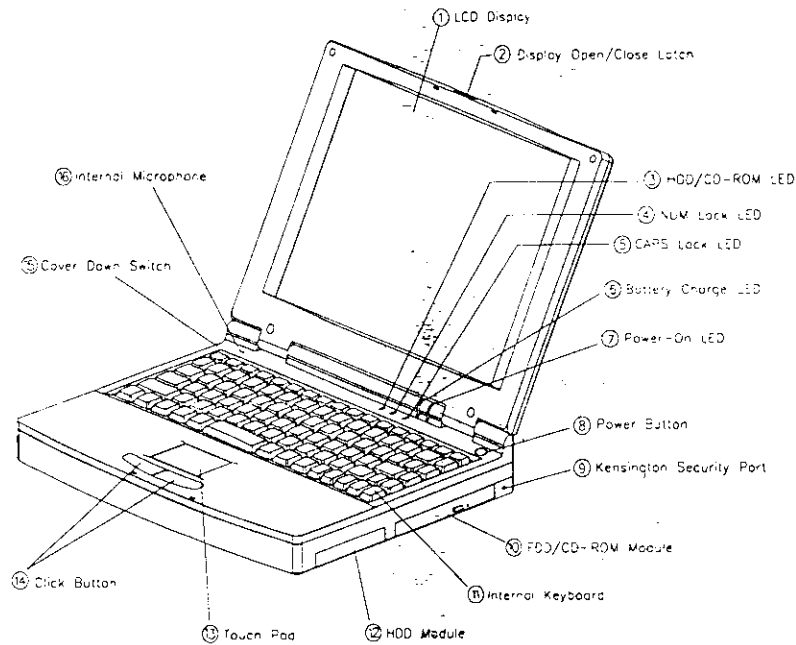
Unpacking Your Notebook

After removing your notebook from the box, please check to see if there is anything missing:



If any item is missing, please contact your dealer for assistance.

Front and Right-Side Panel



(1) *LCD Display*

12.1" SVGA TFT large screen display provides radiation free and flicker-free, clear and crisp text and images on screen.

(2) *Display Open/Close Latch*

To open and use your system, slide this latch towards the right and lift up the LCD display.

(3) *HDD/CD-ROM LED*

Lights up when the hard disk or the CD-ROM drive module is in use.

(4) *Num Lock LED*

If this LED is lit, the keys in the numeric keypad (at the right side of the keyboard) are used to enter numbers or mathematical symbols. If not, the keys are used as cursor keys. Press <Num Lock> key to toggle between the two options.

(5) *Caps Lock LED*

If this LED is lit, alphabetical keys entered are displayed in uppercase. If not, these are entered in lowercase. Use <Caps Lock> key to toggle between uppercase and lowercase.

(6) *Battery Charge LED*

Lights up when the battery power is being charged.

(7) *Power-On LED*

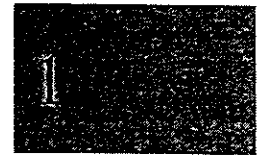
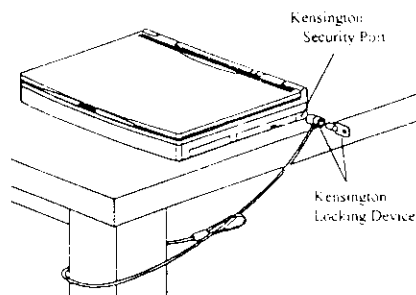
Lights up when your notebook is turned on.

(8) *Power Button*

Press this button to turn on your system. Pressing this again while your notebook is on will turn it off.

(9) *Kensington Security Port*

This port allows you to connect a Kensington locking device (not provided with your system) that wraps a 6-foot galvanized steel cable around a table, desk drawer handle, or any



immovable object. By turning the key to secure the lock, your system is protected from being easily stolen. This figure shows how this is used. Note that you can purchase Kensington locking devices from your local computer stores.

(10) *FDD/CD-ROM Module*

This is also called a swappable bay wherein you can connect either a dedicated CD-ROM drive module or a dedicated floppy drive module. Refer to *Chapter 2: Learning the Basics*, for more details on how to swap devices.

☛ **Note:** Be sure to turn off the power of your notebook computer before swapping CD-ROM drive module with the floppy drive module, or vice versa.

(11) *Internal Keyboard*

An input device where you type-in your data, and send commands and instructions to your system.

(12) *HDD Module*

This module contains a 2.5" high-capacity IDE hard disk drive to store your programs and data.

(13) *Touch Pad*

Allows you to move the cursor or select items easily by moving or clicking your fingers on this pad.

(14) *Two Click Buttons*

Selects an item in the same way as mouse buttons. These are used together with the touch pad.

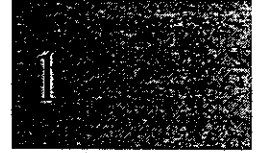
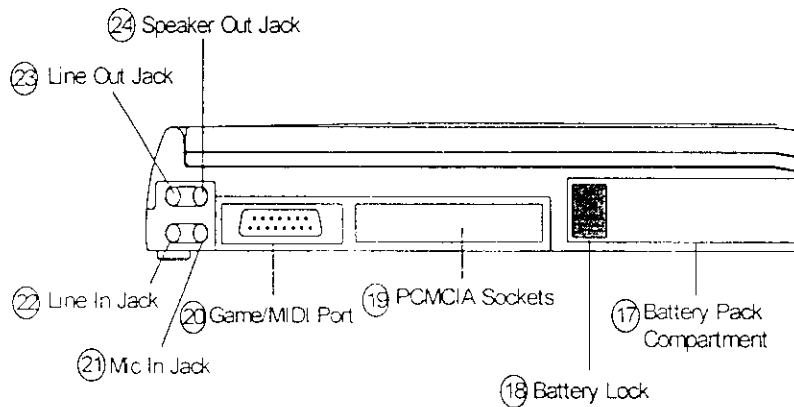
(15) Internal Microphone

This built-in internal condenser microphone allows you to input voice data into your system.

(16) Cover Down Switch

This is a microswitch used by your system to detect when the LCD display is closed. If the LCD display is closed while your system is on, this switch enables the system to automatically enter suspend mode. Opening the LCD display resumes system operations if your system is set to "Save-To-RAM" suspend mode. If your system is set to "Save-To-Disk" suspend mode, you have to press the power button to restore your system's operations.

- ☞ **Note:** Pressing this switch without closing the LCD display has the same effect as closing the LCD display; that is, the system enters suspend mode. If your system is set to "Save-To-RAM" suspend mode, you can wake it up by pressing this switch again or by pressing any key.

**Left-Side Panel**

(17) *Battery Pack Compartment*

This is where you insert your battery pack if you are using battery to power your notebook system.

(18) *Battery Lock*

Battery lock ensures that the battery pack is properly inserted into the system, thus, prevents system malfunction.

- ☞ **Note:** Do not open this lock if your system is using battery power. Doing so might result to data loss.

If you are using AC power instead, you can safely change battery even if your notebook is turned on.

(19) *PCMCIA Sockets*

Allows you to insert up to two Type II PC cards or a single Type III PC card in these two sockets. Type III PC card can only be installed in the lower socket. Refer to *Chapter 4: Connecting Optional Devices* for details on how to install PCMCIA cards.

- ☞ **Note:** The Game/MIDI Port and PCMCIA Sockets are covered by a door on the left-side panel of your notebook computer.

(20) *Game/MIDI Port*

Allows connection of a joystick and/or MIDI device to your notebook computer.

- ☞ **Note:** The Game/MIDI Port and PCMCIA Sockets are covered by a door on the left-side panel of your notebook computer.

(21) Mic In Jack

Allows you to connect an external condenser or dynamic microphone.

(22) Line In Jack

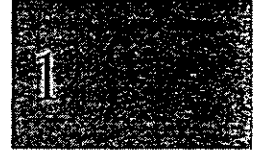
This jack receives signals from the audio output of peripheral devices such as CD/cassette player.

(23) Line Out Jack

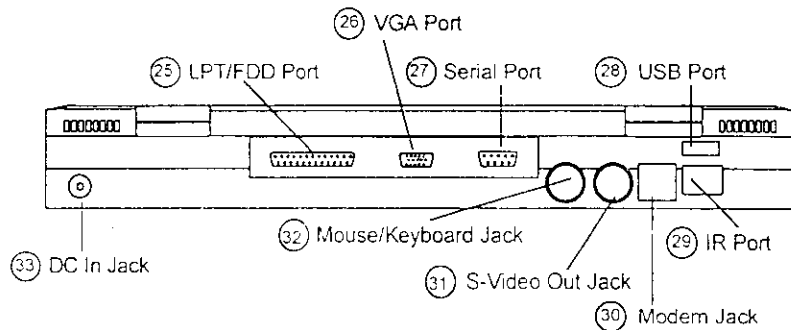
This jack is for connection to the audio input of an amplifier system or other audio peripheral devices.

(24) Speaker Out Jack

This jack is for connection to an external active speaker system. If an external speaker system is connected, the internal speakers are automatically disabled.



Rear Panel

*(25) LPT/FDD Port*

Provides connection to a printer using a parallel cable with male DB25 (25-pin) D-sub connector. This port also allows you to connect the dedicated 3.5" floppy disk drive module (as an external drive)

using the special FDD cable that comes with your notebook.

- ☛ Notes: (1) The dedicated 3.5" floppy drive module can either be installed internally or connected to this port through a proprietary FDD cable. CD-ROM, however, can only be installed internally.
- (2) The LPT/FDD Port, VGA Port, and Serial Port is covered by a back cover on the rear of your notebook computer.

(26) *VGA Port*

The 15-pin mini-D-sub VGA connector allows connection of an external VGA/SVGA monitor to your system. A video cable is required, which is usually supplied with the monitor. You can select display output by pressing <Fn> & <F7> simultaneously. Refer to *Chapter 2: Learning the Basics* for more details.

- ☛ Note: The LPT/FDD Port, VGA Port, and Serial Port is covered by a back cover on the rear of your notebook computer

(27) *Serial Port*

Also known as COM port. This 9-pin D-sub connector (DB9) allows connection of a serial device to your system. You shall require a serial cable, which is usually supplied with the serial device.

☛ **Notes:** (1) There are two physical serial ports. Serial Port 1 is dedicated to normal RS232 port. Serial Port 2 is for connection to the optional fax/modem daughterboard or IR interface, depending on the setting selected for Serial Port 2 Mode in Advanced Menu. Refer to *Chapter 5: Setting Up Your BIOS*, for more details.

(2) The LPT/FDD Port, VGA Port, and Serial Port is covered by a back cover on the rear of your notebook computer.

(28) *USB Port*

Allows connection of external USB (Universal Serial Bus) devices to your system.

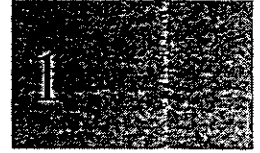
(29) *IR Port*

Allows you to send and receive data through infrared (IR) communications. This must be performed within a distance of 50 cm and an angle of 15 degrees. Note that external lightings may affect communication processes.

☛ **Note:** There are two physical serial ports. Serial Port 1 is dedicated to normal RS232 port. Serial Port 2 is for connection to the optional fax/modem daughterboard or IR interface, depending on the setting selected for Serial Port 2 Mode in Advanced Menu. Refer to *Chapter 5: Setting Up Your BIOS*, for more details.

(30) *Modem Jack (optional)*

Allows connection to a standard telephone cord. This is optional and is available only if the proprietary fax/modem daughterboard is installed.



(31) *S-Video Out Jack*

Allows connection to a TV set that can accept S-video signals from the system. You can select display output by pressing the <Fn> & <F8> simultaneously. Refer to *Chapter 2: Learning the Basics* for more details.

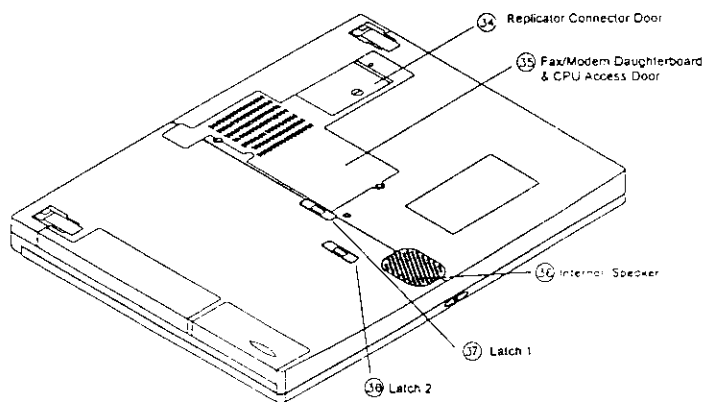
(32) *Mouse/Keyboard Jack*

Allows you to connect external PS/2 mouse, keyboard, or both, to your notebook system. You shall require a Y-cable (optional item) if you would like to connect both keyboard and mouse.

(33) *DC In Jack*

This is where you connect the AC adapter to your notebook computer.

Bottom Side



(34) *Replicator Connector Door*

By sliding this door open, you can install your notebook into the port replicator. More information on the port replicator is available in *Chapter 4: Connecting Optional Devices*.

(35) *Fax/Modem Daughterboard & CPU Access Door*

This is where you install the optional fax/modem daughterboard and the CPU.

(36) *Internal Speaker*

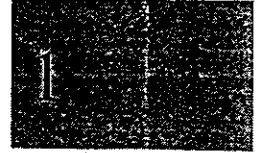
This built-in 1W stereo speaker provides you with superb industry standard compatible audio.

(37) *Latch 1*

Latch used to open/lock the module (FDD or CD-ROM) inside the swappable bay.

(38) *Latch 2*

Latch used to open/lock the 2.5" HDD module.



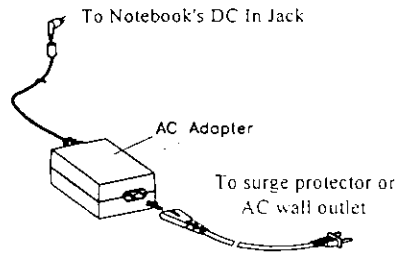
Powering On Your Notebook PC

Your notebook PC derives power from either AC adapter or battery.

AC Adapter Connection

We strongly suggest that you use a *multiple-outlet surge protector* (sometimes called a "power strip") so as to prevent damage to your system caused by electrical surges in the power line.

The AC adapter provided with your system is an automatic voltage switching adapter. To use AC power, plug the DC terminal of the DC power cord into the *DC In Jack* on the system's rear panel. Next, connect the AC plug of the AC adapter into the surge protector or AC wall outlet.



- ▲ **Warning:**
- (1) Please make sure that the voltage selectors on all your devices are set to the correct voltage.
 - (2) If you are using a surge protector, allow the surge protector to have a wall outlet all to itself.
 - (3) The AC adapter of your notebook must be plugged into a grounded outlet.

Battery Power

If you are using your notebook on the road, you shall need battery to power this everywhere you go. Before taking this out with you, make sure that the battery pack is fully charged. Put the battery inside the *Battery Pack Compartment* and close the *Battery Lock* afterwards.

For more information on battery packs, how to install, and tips on using your battery, please refer to *Chapter 3: Using Your Battery*.

You are now ready to power on your notebook system. Simply press the *Power Button*. Your notebook will automatically enter Windows 95 environment.

Chapter 2:

Learning The Basics

If you are new to notebook computing, this chapter familiarizes you with the basics of notebook PC operations.

Opening the LCD Display

Everytime you use your notebook system, you have to open the LCD display. Procedures as follows:

1. Slide the *Display Open/Close Latch* of the LCD display towards the right to release, as shown in the direction of the arrow.
2. Lift up the display panel.

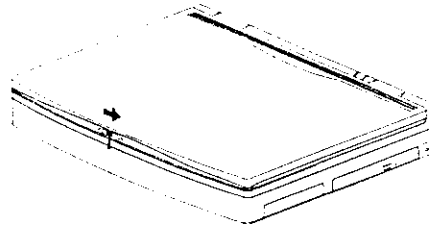
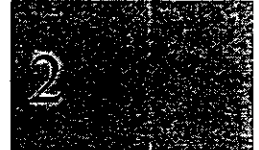


Figure 2-1: Opening the LCD Display

Handling the LCD Display With Care

- Do not press or apply any force on the display surface, this may damage the display.
- Always set the display brightness at mid level. Setting this to the highest level reduces the life of the backlight and consumes more power. To increase display brightness, press $\langle \text{Fn} \rangle + \langle \text{F9} \rangle$; to decrease brightness, press $\langle \text{Fn} \rangle + \langle \text{F10} \rangle$.
- When you open the LCD display, set it at an angle best for your viewing (usually, slanting back, within 20

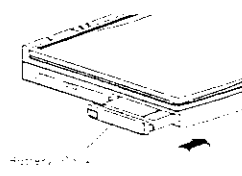
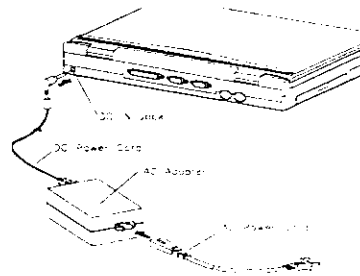


degrees perpendicular). Sit directly in front of the notebook computer to operate it. Note that the display is not as visible when viewed from above or from a side angle due to the nature of the liquid crystal. Also, avoid direct sunlight.

- If you use your notebook in an environment where the temperature is very low, the display may become dark. This is also due to the nature of the LCD display's backlight.
- When dust accumulates on the display surface, or on the LCD screen, wipe it off carefully with a dry, soft cloth.

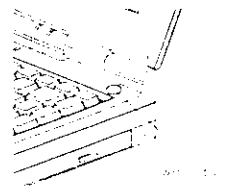
Turning On/Off the System

If you are using AC adapter to power your notebook, connect the AC adapter to the DC In Jack on the rear panel of the system. Then, connect the AC power cord to an AC wall outlet or surge protector.



If you are using battery power, make sure that a battery is installed inside. The *Battery Pack Compartment* is located at the left-side panel. Refer to *Chapter 3: Using Your Battery* for more information on battery packs.

To turn on your notebook, open the LCD display and press the *Power Button* located on the upper right corner of the internal keyboard. The











Power-On LED will be lit. The system will automatically enter Windows 95 environment after the self-diagnostic test is performed successfully.

If the system encountered some problems during self-diagnostic test, you will be prompted to modify settings in BIOS. Proceed to *Chapter 5: Setting Up Your BIOS* for more details.











To turn off your notebook, just press the *Power Button* after shutting down your operating system.

Using Your Internal Keyboard

The keyboard works like a typewriter. There are, however, a number of keys that are specific to a computer keyboard that you won't find on a typewriter. The following describes what you can do with these special keys:

- Pressing the  key tells the system you have finished entering a command, and you want it to execute it. You will often use this key to confirm the information you have provided. In word processing programs, this key starts a new paragraph. In a dialog box, pressing this key is equivalent to clicking the outlined button.
- In many programs, the  key returns you to the previous screen, or exits the program.
- The  key moves cursor to the next field or menu item.
- The     arrow keys move the cursor in the direction of the arrow.
- The  (Windows) key displays the Microsoft Windows 95 Start menu.



- Pressing the  (Application) key opens a shortcut menu for the current program. You can use shortcut menus to save keystrokes.
- Holding down the  key while pressing another key generates a control code. Different software programs have different control codes.
- Pressing  key with the decimal number of an ASCII code returns the value of that code. The function of this key depends on the software being used.
- Pressing the  key with another key enters the corresponding uppercase, if Caps Lock is disabled. It enters the lowercase if Caps Lock is enabled. This key is also used to enter the special character printed on the upper portion of the corresponding keycap.
- The function keys,  through , are shortcuts for various operations. Different programs use these functions for different operations.
- The  key allows you to perform "Hot Key" functions when pressed with a pre-defined function key. Refer to the next section for more information.
- Holding these three keys    simultaneously displays the close program window. You can close a specific program, or shut down your system.

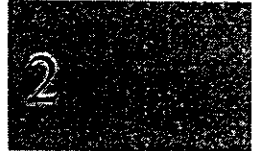
Hot Key Functions

Hot keys, also known as system control keys, are preset combinations of key strokes. When a hot key is pressed, the system will activate the corresponding event.

Usually, the same results can be obtained in a separate procedure, such as through BIOS setup.

Hot key functions are activated by pressing <Fn> key and a function key. The following table shows the available hot key functions:


Hot key	Function	Description
<Fn> + <F1>	Suspend	The system enters "Suspend Mode". You can wake up/resume system operations by pressing any keys in the keyboard or by pressing the <i>Cover Down Switch</i> . This function is available only if power management in your BIOS is enabled.
<Fn> + <F2>	Battery Icon	The system displays a 64x64 pixel pop-up icon at the bottom right corner of the screen. This icon shows the current power status (AC power or battery) and percentage of battery capacity. This icon will disappear automatically after 10 seconds, or when this hotkey is pressed again.
<Fn> + <F3>	VGA Standby	Puts the VGA subsystem in standby mode. Press any key to turn it on.
<Fn> + <F5>	Volume Down	Turns the speaker volume down.



<Fn> + <F6>	Volume Up	Turns the speaker volume up.
<Fn> + <F7>	Display Switching	Switches display mode to LCD, external monitor, or both. Refer to <i>Switching Display Mode</i> section of this chapter for more information.
<Fn> + <F8>	TV Out	Enters or leaves TV mode. Refer to <i>Entering TV Mode</i> section of this chapter for more information.
<Fn> + <F9>	Brightness Down	Decreases LCD display's brightness.
<Fn> + <F10>	Brightness Up	Increases LCD display's brightness.
<Fn> + <F11>	Contrast Down	Decreases display contrast of a DSTN LCD. This is not applicable for TFT LCD.
<Fn> + <F12>	Contrast Up	Increases display contrast of a DSTN LCD. This is not applicable for TFT LCD.

Using Your Touch Pad and Click Buttons

The touch pad is an interface that allows you to move the cursor or select items easily by moving your fingers on it. This, together with the click buttons, have the same functions as a standard PS/2 mouse pointing device.

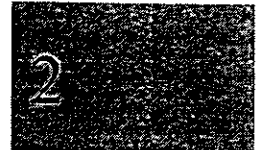
Most of the software programs use the built-in *Touch Pad* and *Click Buttons* to control the action on the screen. Put your index finger or middle finger on the touch pad and move it to control the pointer on the screen. When you are instructed to "click" an object, move the finger to place the pointer directly on the item and press the left click button once to select it. To "double click" an item, press the left click button twice in quick sequence. The function of the right button depends on the application program you are using. In Windows 95 environment, pressing the right button has the same function as the  (Application) key.

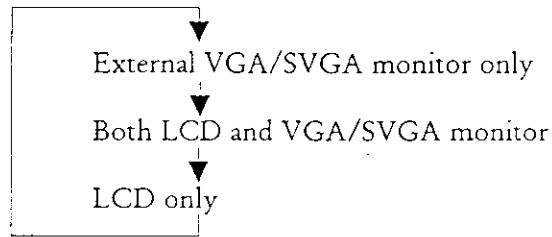
You can connect an external PS/2 mouse to the *Mouse/Keyboard Jack* of your system. Refer to *Chapter 4: Connecting Optional Devices* for more information.


Switching Display Mode

You can connect an external VGA to your notebook system. *Chapter 4: Connecting Optional Devices* tells you how to do the connection.

When an external VGA monitor is connected to your system, you are given the choice of where the display output shall be: LCD, external monitor, or both of these. To select, activate the *Display Switching* hot key, and the display output shifts from LCD to monitor in the following sequence:






-  **Note:** If an external VGA/SVGA monitor is connected to the system, powering on your notebook computer will start up with both LCD and the external VGA/SVGA monitor. If you would like to have the display output sent to your LCD only, activate *Display Switching* hotkey.

Entering TV Mode

You can connect an S-type TV set to your system. Connect an end of the S-video cable to the TV, and the other end to *S-video Out Jack* at the back of your notebook. Then, activate *TV Out* hot key. The output of the display will be sent to the TV set.

If you would like to switch the display back to your LCD or monitor, deactivate *TV Out* hotkey. The display output then returns to the LCD or monitor.

-  **Note:** When TV Mode is enabled, LCD and/or VGA/SVGA monitor display is automatically disabled.

Using Your 3.5" FDD Module

A dedicated 3.5" floppy drive module is provided with your system, together with the proprietary FDD cable. There are two ways to connect your floppy drive to your system.

Internal Connection

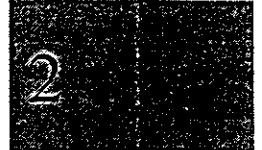
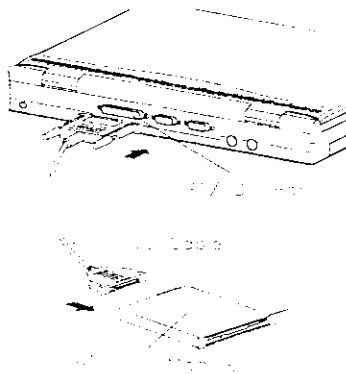
Your floppy drive module can be connected to your system internally through the swappable bay. During shipment, the CD-ROM drive module is installed in the swappable bay. To replace with the FDD module instead, do the following:

1. Perform shut down operation then turn off your system. Disconnect power cord and all signal cables. Remove the battery pack.
2. Place your notebook with its bottom up on a flat surface.
3. Slide *Latch 1* with one hand and pull out the CD-ROM drive with the other hand.
4. Find a sturdy surface to place the module removed.
5. Insert the 3.5" FDD module into the swappable bay and push it until it clicks into place.

External Connection

To connect your floppy drive externally, connect one end of the FDD cable to the *LPT/FDD Port*, and the other end to the 3.5" FDD module.

This type of connection allows you to use both the FDD module and CD-ROM drive module at the same time. In such case, be sure to install the CD-ROM drive module into the swappable bay.



Your 3.5" FDD module uses a 3.5" high capacity dual or single sided floppy disk. To insert a floppy disk into the drive, hold the disk with the label and the arrow facing up. Then, slide the disk into the drive firmly until the Eject button pops out. To remove a floppy disk, press the Eject button on the FDD module.

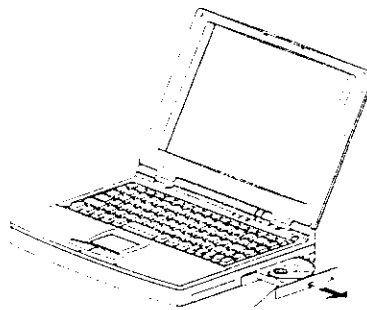
- ☞ **Note:** When the LED indicator of the floppy drive module is flashing, DO NOT: press the Eject button; turn the power off; close the display; put the system in suspend mode; nor reset your system. Doing so may damage your floppy disk drive or result to data loss.

Using Your CD-ROM Drive Module

Your system comes bundled with a CD-ROM drive module installed in the swappable bay. CD-ROM (Compact Disk Read-Only Memory) drive module provides access to large amounts of information stored on CD-ROM disks. As the name implies, CD-ROM disks allow you to read the contents only, you cannot save information on these.

Inserting/Removing a CD-ROM Disk

To insert a CD-ROM disk, you need to turn on your notebook first. Then, press the Eject button of the CD-ROM drive to open the CD drawer. Hold the CD by the edge with the title facing up and place it into the CD drawer.



Press the Eject button again, or gently push the front of the CD drawer to close it.

To remove, press the Eject button to open the CD drawer. Lift the CD by its edge and place it in its protective sleeve or case. Press the Eject button again, or gently push the front of the CD drawer to close it.

- ☞ **Note:** When the *HDD/CD-ROM LED* is flashing, **DO NOT:** turn the power off; close the display; put the system in suspend mode; nor reset your system. Doing so may cause loss of, or damage to, your hard disk data.

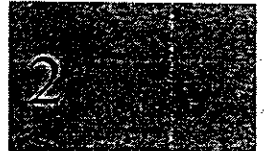
Swapping with FDD Module

During shipment, the CD-ROM drive module is installed in the swappable bay. To swap with the FDD module, do the following:

1. Perform shut down operation then turn off your system. Disconnect power cord and all signal cables. Remove the battery pack.
2. Place your notebook with its bottom up on a flat surface.
3. Slide *Latch 1* with one hand and pull out the FDD module with the other hand.
4. Find a sturdy surface to place the module removed.
5. Insert the CD-ROM drive module into the swappable bay and push it until it clicks into place.

Handling CD-ROM Disks With Care

- Dust and smudges on the side of the CD without the title or label may cause the drive to read the CD incorrectly. Use a clean, dry, non-abrasive cloth to wipe it clean.



- Do not force the CD drawer open by hand.
- Do not place objects (other than CD-ROM disks) in the CD-ROM drawer.
- Do not touch the pickup lens of the CD-ROM drive module.
- To prevent accidents or collection of dusts, be sure to close the CD drawer when not in use.
- Do not scratch or write on disks. Also, do not put tape on disks.
- Keep the disks away from direct sunlight or from any source of liquid.

Using Your Hard Disk Drive

Your notebook computer is supplied with a number of system programs installed on the hard disk. It is essential that you make backup copies of these system programs.

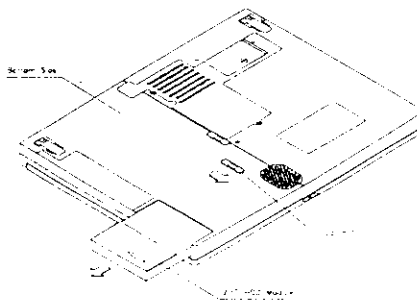
- ☞ **Note:** When the *HDD/CD-ROM LED* is flashing, **DO NOT:** turn the power off; close the display; put the system in suspend mode; nor reset your system. Doing so may cause loss of, or damage to, your hard disk data.

Replacing Hard Disk Drive Module

It is not recommended for you to change your hard disk drive module. However, if the need arises, follow the procedures below:

1. Perform shut down operation then turn off your system. Disconnect power cord and all signal cables. Remove the battery pack.

2. Place your notebook with its bottom up on a flat surface.
3. Slide *Latch 2* with one hand and pull out the 2.5" HDD module from your system with the other hand.
4. Install the new 2.5" HDD module into the same compartment and push it in place.



Chapter 3:

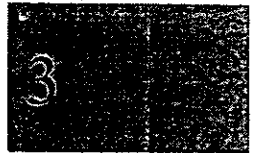
Using Your Battery

Batteries are important part of your notebook system. This chapter provides you with useful information on using your battery packs.

Your notebook uses a smart and standard large capacity battery pack that provides long hours of running time. The length of running time is dependent on system configuration, operating conditions, application programs used, environmental temperature and the type of battery used. The type of battery packs accepted by your system is Ni-MH (Nickel Metal Hydride).

During shipment, the smart battery pack is in a discharged state, and, is not installed in the main unit. After unpacking, you should first charge the battery pack for at least three hours, then discharge it by running the machine on battery power until it shuts off automatically. You may need to repeat this process, known as charge cycling, for several times. This process conditions the battery, calibrates its fuel gauge, removes the negative effects of long term storage and optimizes its performance.

- **WARNING:** Do not remove or install a battery pack with the notebook computer turned on. Make sure that the power switch is turned off.



Knowing Some Terms

Smart Battery Pack

Smart battery pack is a type of battery with a built-in microprocessor. Batteries behave very differently during charge and discharge, depending on its age, the surrounding temperature, and the current it is receiving or being taken away from it. As such, a multi-dimensional model that references its temperature and current is required to accurately determine its status. This is what the microprocessor does, which is specific to the chemistry of the cells that are contained inside the battery pack.

Aside from the above function, the microprocessor can also communicate with the device's or charger's host controller. It communicates data such as capacity or time remaining to end of discharge/charge, alarms and warnings, battery chemistry and manufacturer's information. These data allow users to have better estimation of the time remaining in using the battery pack.

Communication between battery and computer system is achieved through the so-called System Management Bus (SMBus). This bus is a technology developed by chipmaker Intel and battery manufacturers for use in smart batteries.

Smart battery pack has a fuel gauge (four LED indicators) and a button on the top surface of the battery. You can determine the remaining capacity in percentage by pressing the button. However, if the fuel gauge is not providing accurate information, try to charge and

discharge the battery several times. New battery requires repeated charging and discharging processes before its performance can be optimized. If the fuel gauge continues to provide inaccurate information, this means that your battery is worn, and you need to change this.

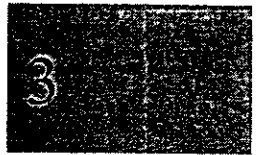
In plain words, a smart battery pack enables you to know how much energy is left in your battery, and therefore, determines the approximate run-time of your notebook.

Standard Battery Pack

Standard refers to the packing size and dimension of computer battery packs produced by different battery manufacturers. This eliminates the need to depend on single source. Also, using standard battery pack provides convenience since this is also available commercially in different countries. Furthermore, you have the option of choosing either Ni-MH or Li-Ion battery.

The size and dimension of standard battery pack is 149.50 mm (L) x 89.30 mm (W) x 20 mm (H).

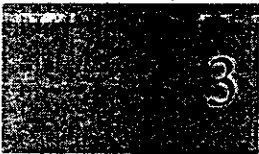
- **WARNING:** Not all standard battery packs are made of the same battery chemistry, consult your dealer or the manufacturer for the model and brand of battery that is supported by your system. USING WRONG BATTERY PACK MAY DAMAGE YOUR NOTEBOOK.



Ni-MH Battery Pack

Ni-MH is the chemical symbol of Nickel Metal Hydride. This type of battery is one of the most advanced rechargeable battery systems that are available commercially. Features of Ni-MH batteries are as listed:

- Fast charge
- Safe, reliable and environmental friendly
- Performs at extreme temperatures (though not recommended, since this reduces battery life)
- Long cycle life (cycle life refers to the number of times the battery is charged and discharged)

 Note: Tips on how to handle your battery are provided in this chapter. Follow these tips to prolong the life cycle of your battery pack.

Handling Your Battery Pack/s

- Keep the battery terminals clean. Before installing a new or recharged battery pack, wipe the positive and negative terminals with a dry cloth.
- Do not subject the battery pack to excessive heat, extreme temperatures, nor to strong mechanical shock.
- Do not disassemble or open the battery pack.
- Do not leave your notebook computer plugged in once the battery is already fully charged.

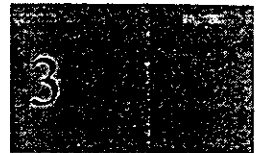
⚠ **WARNING:** Excess recharging of batteries causes an overall decrease in battery life. Remove battery from system when you are not using it.

- Once a month, you should perform charge cycling¹ to optimize your battery's performance, and eliminates battery's memory effect².
- Battery pack will slowly lose its charge even when the power is turned off. This is known as self-discharge³.
- Operating time of a new battery pack or one that has not been in use for a long period may be short even after you

¹ Charge cycling is the process of fully charging and discharging the battery. This process conditions the battery, calibrates its fuel gauge, and eliminates memory effect.

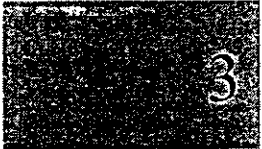
² Memory effect, also known as voltage depression, is a characteristic of all types of batteries. Memory effect results from repeated partial discharge and causes temporary performance loss and decrease in capacity. This can be corrected or reversed through charge cycling.

³ Self-discharge causes temporary capacity loss. The rate of self-discharge is dependent on the type of battery, length of time and storage temperature. This loss of useful capacity is reversible by charge cycling.



have fully charged it; or, the fuel gauge may not read correctly. In either case, perform charge cycling to condition the battery and optimize its performance.

- When a battery pack can no longer provide normal operating time after long service, replace it with a new one. (If the fuel gauge still provides inaccurate data after repeated charge cycling processes, this is an indication that the battery is worn.)
- Dispose of worn battery pack/s in accordance with the laws and regulations of your local community. Negligent handling of a battery pack can lead to fire hazard as a result of overheating, explosion, or ignition.

 *** WARNING:** Never dispose of batteries in fire, these could explode.

- If you will not use your battery pack for a long period of time, either remove it from battery pack compartment or charge it from time to time (every two weeks is recommended).
- Store batteries in a dry place at normal room temperature. Exposure to extreme temperatures are detrimental to battery's performance and life cycle.

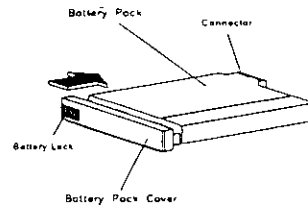
Installing a (New) Battery Pack

Steps 1 to 3 of the procedure below shows how to install the battery pack cover to a new battery pack, while steps 4 and 5 informs how to install the battery pack to your notebook system.

1. Turn off the power button and disconnect the power cord and other cables connected to the notebook computer.

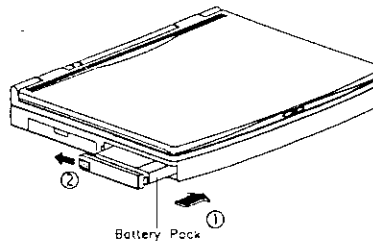
- On the left-side panel of the system, slide the battery lock forward to release and remove the battery pack compartment cover out of the main unit.

- With the battery label facing up, attach the cover into the battery pack until it locks properly. (The battery lock should be on the same side as the battery's connector.)



- Insert the battery pack (with the cover attached) into the battery compartment until it clicks into place.

- Slide the battery lock backward to lock the battery pack into the compartment.



Charging/Recharging the Battery

The smart battery pack is a rechargeable battery pack which supplies your notebook with DC power for several hours without AC adapter. After using up all the DC power (or if the battery pack is new) you can recharge (or charge) your battery pack by connecting the AC adapter. It takes several hours to fully charge a battery pack. While charging/recharging, the *Battery Charge LED* lights up.

- ☛ **Note:** After connecting AC adapter, you can charge/recharge your battery pack only if your notebook computer is turned off; or, if your notebook computer is placed in suspend mode.

To know when you should charge your battery pack, check

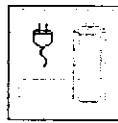
its remaining capacity by pressing $\langle \text{Fn} \rangle + \langle \text{F2} \rangle$. An icon pops up at the bottom right corner of the screen. This icon shows battery capacity and type of power currently used. It is strongly recommended for you to use up (or discharge) all battery power before charging it.

Familiarizing Battery Icon

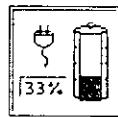
Battery icon is a helpful and important feature. This icon is a "pop-up" icon invoked by pressing the hotkey $\langle \text{Fn} \rangle + \langle \text{F2} \rangle$. Information provided in this icon helps you know which power you are using and how much battery power is left in your system.

When you pressed the battery icon hotkey, the pop-up icon appears at the bottom right corner of the screen. This icon disappears automatically after 10 seconds or when this hotkey is pressed again. Sometimes, it may take a few more seconds for this icon to appear, specially when you have just inserted the battery pack into your system.

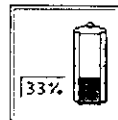
The following shows the icons and corresponding descriptions:



This icon indicates that you are currently using AC adapter to power your notebook, no battery is installed in the battery compartment.



This icon indicates that you are currently using AC adapter to power your notebook, and that the remaining capacity of the battery pack installed in your system is 33%.



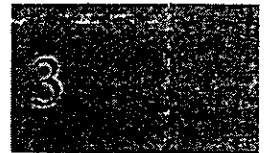
This icon indicates that you are using battery power, AC adapter is not attached. The remaining capacity of your battery is 33%.

The remaining capacity of the battery in percentage reflects the current (at the time the hotkey is pressed) condition. If this is less than 10%, start saving your files and perform shut down operations.

You are strongly recommended to check your battery capacity often to prevent data loss resulting from sudden power off.

Prolonging Battery Power

- If the power management feature is disabled, turn off your notebook when not in used.
- Enable the power management feature to put your system in suspend mode after being unused for a preset period of time. (Refer to *Chapter 5: Setting Up Your BIOS, Power Menu* topic for more information.)
- Close the LCD display when you are not using your system. Your system will automatically turn off the LCM's backlight; opening the LCD again will turn it back on. If power management is enabled, closing the LCD display puts your system in suspend mode.
- Adjust the LCD screen to low brightness by pressing <Fn> + <F9>.
- If you use a screen saver, choose one without moving graphics or complex patterns.
- Always charge and discharge fully the battery pack to remove memory effect and maintain it in its best condition.



Chapter 4:

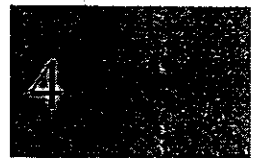
Connecting Optional Devices

Your notebook computer can be connected to a variety of optional devices. For this purpose, there are several built-in connectors, jacks, and sockets. The optional devices covered in this chapter are:

- External mouse and keyboard
- External VGA/SVGA monitor
- S-video TV Set
- Printer
- Audio peripheral devices
- Expansion memory
- PC card
- Fax/Modem daughterboard
- Replicator device

● **Warning:** Before you begin installing an optional device, be sure to turn off the power button. It would be better to disconnect the power cord and remove the battery pack from your notebook computer, too. Furthermore, touch an electrically grounded metal object first to purge static electricity from your body.

To be familiar with the locations of the connectors, jacks or sockets mentioned herein, please refer to *Chapter 1: Getting Started*, section on *Locations and Functions of Parts*.



External Mouse & Keyboard

You can connect an external keyboard or an external mouse to your system by aligning and inserting its cable to the *Mouse/Keyboard Jack*. If you prefer to connect both, align and insert the head of the optional Y-cable to the Mouse/Keyboard Jack; the other two ends are then connected to the keyboard cable and the mouse cable.

- ☛ **Note:** If you need a proprietary Y-cable, please contact your dealer for assistance.

If an external mouse and/or keyboard is connected to the system, the built-in touch pad and/or internal keyboard is disabled if "Touch Pad Setting" in Advanced Menu" is set to "Auto". Refer to *Chapter 5: Setting Up Your BIOS* for more information.

External VGA/SVGA Monitor

An additional VGA/SVGA monitor can be connected to your notebook computer to create a full-scale desktop environment. Even when the additional monitor is connected, you can still use the built-in LCD simultaneously.

To connect, open the back cover on the rear of your notebook system. Then, align the video cable of the VGA/SVGA monitor to the *VGA port*. After turning on the power, the display output is sent to both the LCD and this VGA/SVGA monitor. If you would like to have the display output sent to either LCD or VGA/SVGA monitor only, press the Display Switching hotkey, <Fn> + <F7> until the display is sent to the desired output device. For more information on this, please refer to *Chapter 2: Learning the Basics*, section on *Switching Display Mode*.

S-Video TV Set

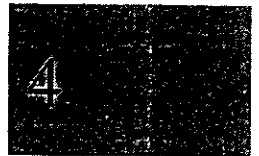
Display output can also be sent to an S-type TV set. To do this, connect one end of the S-video cable to the TV, while the other end is connected to the *S-video Out Jack* of your system. To have the display on TV, press the TV Out hotkey, <Fn> + <F8>. Upon doing so, your system's LCD and external VGA/SVGA monitor, if available, is automatically disabled. To revert the display back to the LCD or external monitor, press the TV Out hotkey again.

Printer

Your system is specially designed to accommodate either an external floppy disk drive or a printer. If you are not using your FDD as an external drive, you can connect a printer to the system.

To connect a printer, open first the back cover at the rear of your notebook system. Then, align and insert an end of the parallel (or Centronics) cable to the *LPT/FDD Port*, the other end is inserted to the receptacle on the printer. To print, issue a print command from the applications program you are running.

You can also use infrared communications to print your documents. Make sure that the printer has this feature, too. Perform BIOS setup by setting the Serial Port 2 Mode of Advanced Menu to SIR. Position your notebook's *IR port* (rear panel) to the IR port of the printer. Then, issue the print command from the applications program you are running. Your documents will be printed as required. If you are using this method, you do not have to connect any cables to your system, and, you can use your printer even if your FDD is connected externally.



Whichever method you used, make sure that you have designated the right print destination in your application program. Furthermore, proper printer driver should be installed in your operating system.

- ☛ **Note:** If your printer does not work, refer to your Windows 95 manual or your printer manual. If problem is unresolved, contact your dealer for assistance.

Audio Peripheral Devices

You can connect a headphone, microphone, speaker(s), amplifier, CD/cassette player, etc. to your notebook computer to take full advantage of the system. To connect audio peripheral devices, do the following:

- Align the plug of the audio output line from a peripheral device (such as an amplifier or CD/cassette player) with the *Line In Jack* on the left-side panel of your system. Insert the plug to connect the audio output.
- Align the plug of the audio input line from a peripheral device (such as headphone or external speakers) with the *Line Out Jack* on the left-side panel of your system. Insert the plug to connect the audio input.
- Align the plug of the microphone output line from a microphone with the *Mic In Jack* on the left-side panel of your system. Insert the plug to connect the microphone output.

To have the connected audio peripherals function properly, the audio drivers were already installed during shipment. If, however, it is necessary to re-install these drivers, please refer to *Chapter 6: Installing Device Drivers* for more details on the procedures.

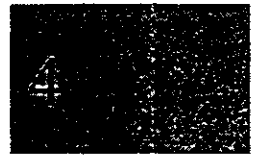
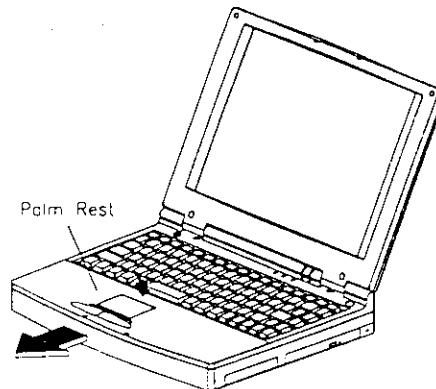
Expansion Memory

A standard 16MB or 32MB 3.3V SDRAM is already installed in your notebook computer. You can expand the system memory up to 96MB by installing one piece of 64MB 3.3 V symmetric, EDO or SDRAM SO-DIMM (Dual In-line Memory Module) on the motherboard. For information on possible memory configurations, please refer to *Appendix A: Specifications*.

To install a DIMM into the SO-DIMM socket, do the following:

1. Open the display panel by sliding the *Display Open/Close Latch* towards right to release and lift up the display panel.
2. Make sure that your notebook computer is turned off. If your notebook is in suspend mode, be sure to perform shut down operations and turn it off.

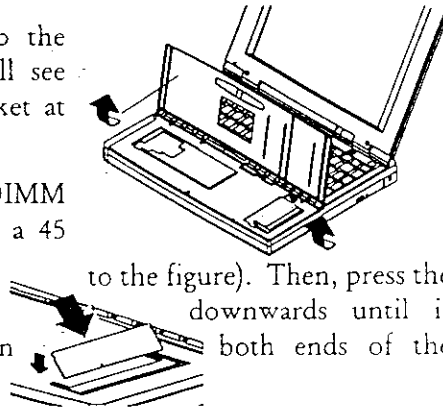
3. Put your thumbs at the front base of your notebook computer. With the other fingers just above the touch pad on the palm rest (as indicated by the arrow between the keyboard and touch pad), apply downward pressure before sliding it towards you (in the direction indicated by the arrow in front of the notebook). Notice that if the pressure is applied wrongly on the palm rest, it will not open.



4. Release and lift up the palm rest. You will see the SO-DIMM socket at the right.

5. Position the SO-DIMM into the socket on a 45

degree angle (refer to the figure). Then, press the DIMM firmly downwards until it clicks into place on both ends of the socket.



6. Close down the palm rest and slide it back into place.

After installing the SO-DIMM, you can turn on your notebook computer. Your system automatically detects the amount of memory installed. There is no need to perform setup.

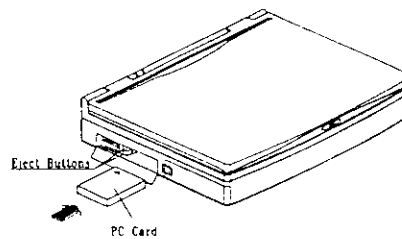
PC Card

You can install two Type I or Type II PC cards or one Type III PC card in your notebook computer. Cardbus and ZV ports are also supported. Note that Type III PC cards can only be installed in the lower socket.

To install a PC card, do the following:

1. Open the door for the PCMCIA Sockets on the left-hand side panel of your notebook computer.

2. Insert the PC card



into the socket until it "clicks" into place. Be sure to insert the PC card with the label or arrow marked side facing up.

3. Close the door of this socket if there is no cables attached to the PC card.

To remove a PC card, do the following:

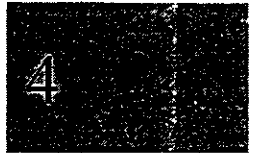
1. Find the corresponding Eject button of the PC card to be removed. Press this button twice to completely release the PC card from the socket.
2. Remove the PC card. If the PC card does not come out easily, push the card back to its socket and repeat step 1 to remove the card.

The device driver for the PCMCIA card was already installed during shipment. If, however, it is necessary to re-install this driver, please refer to *Chapter 6: Installing Device Drivers* for more details on the procedures.

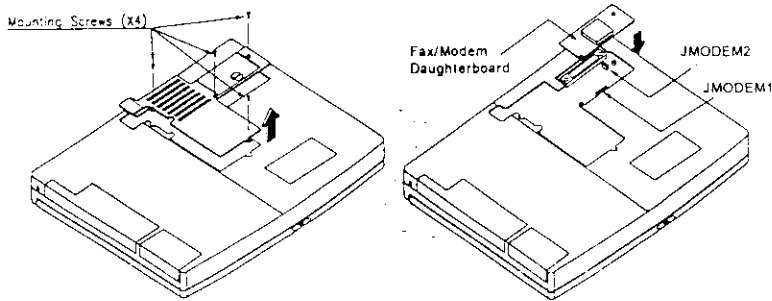
Fax/Modem Daughterboard

Fax/modem daughterboard may have been installed in your system (depends on your order). If this was already installed, just connect the modular plug of a standard telephone cord to the *Modem Jack* located at the rear of the system. Then, connect the other end of the telephone cord to a telephone wall jack. To use this feature, make sure that the Mode of Serial Port 2 is set to "Normal" in BIOS setup. Refer to *Appendix A: Specifications* for the specifications of this daughterboard.

If you need to install the proprietary fax/modem daughterboard by yourself, follow the procedures below:



1. Place your notebook with its bottom up on the desk or any flat surface.
2. Unscrew four mounting screws of the *Fax/Modem Daughterboard & CPU Access Door*. Lift this door up to separate it from the system.



3. Locate the jumpers on the daughterboard and the motherboard. Insert the daughterboard into the motherboard by matching the four connectors.
4. Reinstall the *Door* to its original place and secure back the four mounting screws.

The device driver for the proprietary fax/modem daughterboard was already configured properly during shipment if your system comes with this optional daughterboard installed. If, however, it is necessary to install or re-install this driver, please refer to *Chapter 6: Installing Device Drivers* for more details on the procedures.

- ☞ **Note:** Fax/modem daughterboard is dependent on the type of communications network installed in a country. Consult your dealer for the available options.

If you would like to use a PCMCIA fax/modem card instead, refer to its manual for proper device and device driver installations.

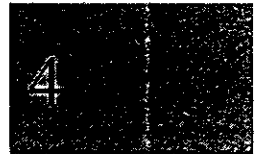
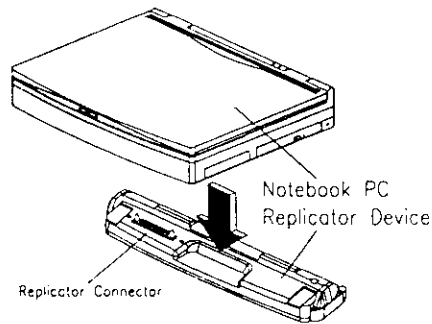
Replicator Device

Replicator device serves as a docking base that allows you to permanently connect your notebook computer to the peripherals you need. In such case, you do not have to remove all the cables whenever you need to take your notebook system out with you.

As the name implies, all the connectors at the rear of the replicator device are replica of the connectors located at the sides and rear of your system. These connectors, therefore, have the same functions as those found on the system itself.

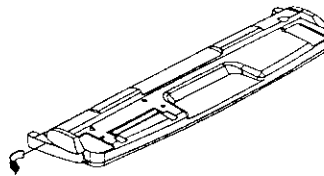
Follow the procedures below to attach your notebook system to the replicator device:

1. Be sure to power off your notebook computer before performing a dock operation.
2. Open the *Replicator Connector Door*. You will see the replicator connector of your system.
3. Insert the replicator connector of your system to the replicator connector of the replicator device.
4. If this is the first time you install your replicator device, connect the cables of the peripherals required to its rear ports.
5. You can now turn on your system.



To remove your system from the replicator device:

1. Be sure to power off your system before removing/detaching your system from the replicator device. Unplug the DC power cord from *DC In jack*.
2. Pull the Lever on the left side of your replicator device towards you and your system will pop up automatically.
3. Close the replicator connector door.



Refer to the user's guide of the replicator device for information on the locations and functions of the connectors.

Chapter 5: Setting Up Your BIOS

If you need to change the BIOS setup of your system, please read this appendix before proceeding.

Usually, you may need to perform setup if you are:

- Adding or removing devices from your system;
- Setting the built-in clock/calendar;
- Enabling or disabling special features such as power management functions, system passwords, etc.; or
- Resetting CMOS data if these were accidentally lost or if the on-board battery is changed.

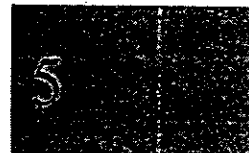
If you are not too sure on what changes you need to make, please contact your dealer for assistance.

Entering System Setup

There is only one way to enter the System Setup Utility in order to modify the settings in your CMOS data. While the system is performing power on self test during boot, you have to press <F2> key fast enough before it starts up the operating system. You do not have to wait for the message:

“Press <F2> to enter SETUP”

before pressing <F2> key. This message is displayed at the bottom of the screen only if boot-time diagnostic screen option in Boot Menu is enabled. If you are not able to enter the System Setup Utility through this, reboot your computer



and repeat the above procedure.

If the computer detects discrepancies between your CMOS data and actual system configuration, it will prompt you with the an error message and request you to run setup:

“Press <F1> to resume, <F2> to Setup”

You may press <F2> key to enter System Setup Utility or press <F1> key to continue system operation despite of the difference/s.

System Setup Utility is divided into six menus, namely: Main, Advanced, Security, Power, Boot, and Exit. Each of these menus and corresponding sub-menus will be discussed in the succeeding sections. The options available for each item in a menu or sub-menu are also provided.

Upon entering the System Setup Utility, use the keys listed at the bottom of each screen and other available key operations to help make your selections. These are listed below:

Key	Function
Left or Right arrow keys	Selects a menu.
Up or Down arrow keys	Selects an item in current screen.
<Tab> or <Shift-Tab>	Selects field within an item.
<Home>	Moves cursor to top of screen.
<End>	Moves cursor to bottom of screen.
<F1> or <Alt-H>	Displays Help screen.
<F5> or <->	Selects next lower value within an item.
<F6>, <+>, Spacebar	Selects next higher value within an item.
<F9>	Loads the default configuration for this menu or sub-menu.
<F10>	Saves current values and exit setup utility.
<Enter>	Selects an option or enters a sub-menu.
<Esc> or <Alt-X>	Exits this menu or sub-menu.

Items on a menu marked with “>” symbol indicates that it has its own sub-menu. Press <Enter> to enter its sub-menu.

There is an “Item Specific Help” on the right side of each screen. The contents of this provide description on the item you have selected.

Main Menu

The following appears on screen upon entering System Setup Utility:

PhoenixBIOS Setup Utility		
Main	Advanced	Security Power Boot Exit
System Time:	[14:28:35]	Item Specific Help
System Date:	[03/19/1998]	
Legacy Diskette A:	[1.44/1.25Mb 3½"]	<Tab>, <Shift-Tab> or <Enter> selects field.
>Primary Master	[C:1445 MB]	
>Secondary Master	[None]	
Memory Cache:	[Enabled]	
System Memory:	640 KB	
Extended Memory:	15360 KB	
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults ESC Exit ←→ Select Menu Enter Select▶Sub-Menu F10 Save and Exit		

Use the following chart to configure the system:

Item	Options	Description
System Time	HH:MM:SS	Enters current time and date to set system clock.
System Date	MM/DD/YYYY	
Legacy Diskette A	1.44/1.25 Mb 3½" Disabled	Selects type of floppy drive. Note that 1.44/1.25 Mb 3½" refers to the 3½" 3-Mode FDD module bundled.

Memory Cache	Enabled Disabled	Sets the state of L1 memory cache.
System Memory	N/A	Displays amount of conventional and extended memory detected during boot.
Extended Memory		

Primary Master, Secondary Master Sub-menus

“Primary Master” and “Secondary Master” sub-menus allow you to configure the hard disks and/or CD-ROM drives installed in your system. For most hard disk drives, you may select “Auto” and press <Enter> to automatically detect the drive type you are using.

- ☞ **Note:** Some hard disk drives may not be detected automatically. In such case, refer to its User's Manual for the proper configurations or contact your dealer for assistance.

Selecting “Primary Master” on the Main menu and pressing <Enter> will display this sub-menu:

PhoenixBIOS Setup Utility

Main

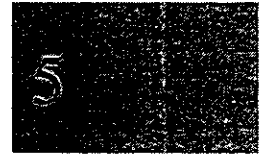
Primary Master [1445MB]	Item Specific Help
Type: [Auto]	User = you enter parameters of hard-disk drive installed at this connection. Auto = autotypes hard-disk drive installed here None = not installed CD-ROM = a CD-ROM drive is installed here.
Cylinders: [2800]	
Heads: [16]	
Sectors: [63]	
Maximum Capacity: 1445MB	
Multi-Sector Transfers: [16 Sectors]	
LBA Mode Control: [Enabled]	
32 Bit I/O: [Disabled]	
Transfer Mode: [Fast PIO 4]	

F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
 ESC Exit ←→ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit

Selecting Secondary Master sub-menu will also have the above screen, however, the title of the sub-menu is changed accordingly.

Use the following chart to configure the system. Press <Esc> to exit the menu.

Item	Options	Description
Type	Auto None CD-ROM User	Allows you to specify what devices are installed. Set this to "Auto" for the system to automatically detect the devices connected to your system.
Cylinders	0 to 65,535	Indicates the number of cylinders on the hard disk. This is available as option only if "Type" is set to "User".
Heads	1 to 16	Indicates the number of read/write heads and sectors per track on the hard disk. This is available as option only if "Type" is set to "User".
Sectors	0 to 63	
Maximum Capacity	N/A	Shows the maximum capacity of the hard disk drive installed.
Multi-Sector Transfers	Disabled 2 sectors 4 sectors 8 sectors 16 sectors	Specifies the number of sectors per block for multiple sector transfers. Not available as option if "Type" is set to "Auto".
LBA Mode Control	Enabled Disabled	Enabling LBA causes Logical Block Addressing feature to be used in place of Cylinders, Heads, Sectors. Not available as option if "Type" is set to "Auto".
32 Bit I/O	Disabled Enabled	Enables or disables 32 bit IDE data transfers.



Transfer Mode	Standard Fast PIO 1 Fast PIO 2 Fast PIO 3 Fast PIO 4 FPIO 3/DMA-1 FPIO 4/DMA 2	Selects the method for moving data to/from the drive. Select "Auto" under "Type" item for optimum transfer mode.
---------------	--	--

- Warning: Leave all items of the above sub-menus to their default values if you are not sure of its settings. Incorrect values may cause system boot failure. (Load setup default values to recover if system fails to boot.)

Advanced Menu

Selecting "Advanced" from the main menu will have the following displayed on screen:

PhoenixBIOS Setup Utility

Main **Advanced** Security Power Boot Exit

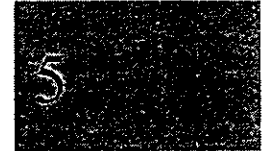
Setup Warning	Item Specific Help
Setting items on this menu to incorrect values may cause your system to malfunction. Plug & Play OS: [Yes] Large Disk Access Mode: [DOS] PS/2 Mouse: [Enabled] Local Bus IDE adapter: [Both] TV Out Setting: [NTSC] TouchPad Setting: [Auto]	Select "Yes" if you are using Plug and Play capable operating system. Select "No" if you need the BIOS to configure non-boot devices.
> I/O Device Configuration > Audio Options Menu	

F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
 ESC Exit ←→ Select Menu Enter Select > Sub-Menu F10 Save and Exit

- **Warning:** Do not try to change the settings of this menu if you are not sure of the specifications. Incorrect setup values will cause your system to malfunction.

Use the following chart to configure the system. Press <Esc> to exit the menu.

Item	Options	Descriptions
Plug & Play O/S	No Yes	Select "Yes" if you are using Plug and Play capable operating system. Select "No" if you need the BIOS to configure non-boot devices.
Large Disk Access Mode	Other DOS	Select "Other" if you are using UNIX, Novell Netware, or other non-DOS operating systems. If you are installing new software and the drive fails, change this selection and try again. Different operating systems require different representations of drive geometries.
PS/2 Mouse	Enabled Disabled	"Disabled" prevents any installed PS/2 mouse from functioning, and frees up IRQ 12. "Enabled" allows the operating system to determine whether to disable or enable this mouse.
Local Bus IDE Adapter	Both Disabled Primary	Enables or disables the integrated local bus IDE adapter.
TV Out Setting	NTSC PAL	Allows you to choose the type of TV system used in your local area.
TouchPad Setting	Auto Enabled	"Auto" disables the functions of the touch pad when an external AUX device (mouse) is plugged in; "Enabled" allows the touch pad to function even if an AUX device is connected.



I/O Device Configuration Sub-menu

The following is displayed when this sub-menu is selected:

PhoenixBIOS Setup Utility -		Item Specific Help
Advanced		
I/O Device Configuration		
Serial port A:	[Enabled]	
Base I/O address:	[3F8 IRQ4]	
Serial port B:	[Enabled]	
Base I/O address:	[2F8 IRQ 3]	
Mode:	[Normal]	
Parallel Port:	[Output Only]	
Mode:	[Bi-directional]	
Base I/O address:	[378 IRQ 7]	
Floppy disk controller:	[Enabled]	
External Floppy:	[Auto]	

F1: Help ↑↓ Select Item /+ Change Values *9 Setup Defaults
 ESC Exit ←→ Select Menu Enter Select > Sub-Menu F10 Save and Exit

Use the following to configure your system. Press <Esc> to exit this sub-menu.

Item	Options	Descriptions
Serial Port A	Disabled Enabled	Configures serial port A.
Base I/O Address	3F8 IRQ4 2F8 IRQ3 3E8 IRQ4 2E8 IRQ3	Sets the base I/O address and interrupt used by serial port A. These options are available only if "Serial Port A" is "Enabled".
Serial Port B	Disabled Enabled	Configures serial port B.
Base I/O Address	3F8 IRQ4 2F8 IRQ3 3E8 IRQ4 2E8 IRQ3	Sets the base I/O address used by serial port B. These options are available only if "Serial Port B" is "Enabled".
Mode	Normal IrDA ASK-IR FIR	Sets the mode of serial port B. These options are available only if "Serial Port B" is "Enabled".

Parallel Port	Disabled Enabled	Configures parallel port.
Mode	Output only Bi-directional ECP EPP	Sets the mode of parallel device connected to system.
Base I/O Address	378/IRQ7 378/IRQ5 278/IRQ7 278/IRQ5 3BC/IRQ7 3BC/IRQ5	Sets the base I/O address and interrupt used by parallel port. These options are available only if "Parallel Port" is "Enabled".
DMA Channel	DMA 0 DMA 1 DMA 3	Sets the DMA channel of parallel port if "Parallel Port" is "Enabled" and its "Mode" is set to "ECP".
Floppy Disk Controller	Enabled Disabled	Enables or disables on-board floppy disk controller.
External Floppy	Auto Disabled	"Disabled" does not allow LPT/FDD port to be used as connection for external FDD module.

- ☛ **Note:** If there are conflicts in IRQ number, DMA channel, I/O or memory resource selected, a yellow asterisk "*" will appear at the left of the item in conflict. If you encountered such, be sure to correct this.



Audio Options Menu Sub-menu

The following is displayed when this sub-menu is selected:

PhoenixBIOS Setup Utility -		
Advanced		
Audio Options Menu		Item Specific Help
Sound:	[Enabled]	Configure sound device using options:
CTRL I/O address:	[100-101]	
SB I/O address:	[220-22F]	[Disabled] No configuration
MPU I/O address:	[300-301]	
IRQ:	[IRQ 5]	[Enabled] User configuration
DMA A:	[DMA 0]	
DMA B:	[DMA 7]	
WSS I/O address:	[530-53B]	
AdLib I/O address:	[388-38F]	
Joystick:	[Enabled]	

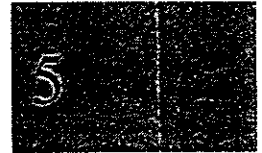
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ← Select Menu Enter Select Sub-Menu F10 Save and Exit

Use the following to configure your system. Press <Esc> to exit this sub-menu.

Item	Options	Descriptions
Sound	Enabled Disabled	Enables sound chip.
CTRL I/O address	100-101 120-121 140-141 160-161	Sets the I/O address for CTRL. These are available only if "Sound" is "Enabled".
SB I/O address	220-22F 240-24F 260-26F 280-28F	Sets the I/O address for SB, and MPU. These are available only if "Sound" is "Enabled".
MPU I/O address	300-301 310-311 320-321 330-331	

IRQ	IRQ5 IRQ7 IRQ9 IRQ10 IRQ11	Sets the IRQ number, DMA channel, I/O addresses of WSS and AdLib. These are available as options only if "Sound" is "Enabled".
DMA A	DMA 0	
DMA B	DMA 1 DMA 7	
WSS I/O address	530-538 540-548 550-558 560-568	
AdLib I/O address	388-38F 398-39F 3A8-3AF 3B8-3BF	
Joystick	Enabled Disabled	Enables or disables game port.

- ☛ **Note:** If there are conflicts in IRQ number, DMA channel, I/O or memory resource selected, a yellow asterisk "*" will appear at the left of the items in conflict. If you encountered such, be sure to correct this.
- ☛ **Warning:** Leave all items of the above sub-menus to their default values if you are not sure of its settings. Incorrect values may cause system boot failure. (Load setup default values to recover if system fails to boot.)



Security Menu

The following appears on the screen when "Security" is selected from the Setup Main Menu:

PhoenixBIOS Setup Utility																			
Main	Advanced																		
Security	Power																		
Boot	Exit																		
<table border="1"> <thead> <tr> <th>Item</th> <th>Options</th> <th>Item Specific Help</th> </tr> </thead> <tbody> <tr> <td>Set Supervisor Password:</td> <td>[Enter]</td> <td rowspan="7">Supervisor Password controls access to the setup utility.</td> </tr> <tr> <td>Set User Password:</td> <td>[Enter]</td> </tr> <tr> <td>Password on boot:</td> <td>[Disabled]</td> </tr> <tr> <td>Fixed disk boot sector:</td> <td>[Normal]</td> </tr> <tr> <td>Diskette Access:</td> <td>[Supervisor]</td> </tr> <tr> <td>Virus check reminder:</td> <td>[Disabled]</td> </tr> <tr> <td>System backup reminder:</td> <td>[Disabled]</td> </tr> </tbody> </table>		Item	Options	Item Specific Help	Set Supervisor Password:	[Enter]	Supervisor Password controls access to the setup utility.	Set User Password:	[Enter]	Password on boot:	[Disabled]	Fixed disk boot sector:	[Normal]	Diskette Access:	[Supervisor]	Virus check reminder:	[Disabled]	System backup reminder:	[Disabled]
Item	Options	Item Specific Help																	
Set Supervisor Password:	[Enter]	Supervisor Password controls access to the setup utility.																	
Set User Password:	[Enter]																		
Password on boot:	[Disabled]																		
Fixed disk boot sector:	[Normal]																		
Diskette Access:	[Supervisor]																		
Virus check reminder:	[Disabled]																		
System backup reminder:	[Disabled]																		
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults ESC Exit ←→ Select Menu Enter Select>Sub-Menu F10 Save and Exit																			

In setting passwords, you will be required to enter the (new) password twice for confirmation purposes. Note that Supervisor password controls access to Setup utility while User password controls access to the system at boot.

Use the following chart to configure the system:

Item	Options	Description
Set Supervisor Password	Enter	Set Supervisor and/or User Password. User Password can be set only if Supervisor Password is installed.
Set User Password		

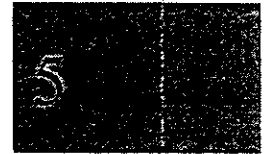
Password on boot	Disabled Enabled	Enables or disables password entry during boot. This controls access to some of the system components.
Fixed disk boot sector	Normal Write Protect	Write protects boot sector of hard disk, to protect against viruses.
Diskette access	User Supervisor	Controls access to diskette drive.
Virus check reminder	Disabled Daily Weekly	If not "Disabled", system displays these reminders at boot daily, every Monday, or first of every month, depending on the option selected.
System backup reminder	Monthly	

- ☛ **Note:** The FDD module may not be able to access floppy diskettes when Supervisor Password is installed, "Password on boot" is "Disabled", and "Diskette access" is set to "Supervisor".
- ⚠ **Warning:** Leave all items of the above sub-menus to their default values if you are not sure of its settings. Incorrect values may cause system boot failure. (Load setup default values to recover if system fails to boot.)

Power Menu

Your system comes with Advanced Power Management (APM) feature, which allows it to enter suspend state when enabled. Enabling this feature reduces system's power consumption.

Selecting "Power" from the main menu will have the following displayed on screen:



PhoenixBIOS Setup Utility

Main Advanced Security **Power** Boot Exit

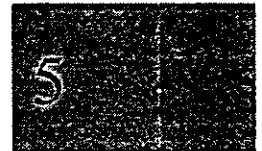
	Item Specific Help
Power Savings: [Customized]	Select Power Management Mode. Choosing modes changes system power management settings. Maximum Power Savings conserves the greatest amount of system power while Maximum Performance conserves power but allows greatest system performance. To alter these settings, choose Customized. To turn off power management, choose Disable.
Idle Mode: [Off]	
Standby Timeout: [Off]	
Suspend Timeout: [Off]	
Auto Save to Disk: [Off]	
Suspend Mode: [Off]	
Hard Disk Timeout: [Disabled]	
Video Timeout: [Disabled]	
Resume on Modem Ring: [Off]	
Resume on Time: [Off]	
Resume Time: [00:00:00]	

F1 Help ▲▼ Select Item +/- Change Values F9 Setup Defaults
ESC Exit ◀▶ Select Menu Enter Select▶ Sub-Menu F10 Save and Exit

Use the following to configure your system. Press <Esc> to exit this sub-menu.

Item	Options	Descriptions
Power Savings	Disabled Customized Maximum Power Savings Maximum Performance	Selects power management mode.
Idle Mode	Off On	"On" slows down CPU when system is not busy.
Standby Timeout	Off 1 minute 2 minutes 4 minutes 6 minutes 8 minutes 12 minutes 16 minutes	Time required to be in idle mode before system is put to standby mode. This option is available only if "Power Savings" is set to "Customized"

Suspend Timeout	Off 5 minutes 10 minutes 15 minutes 20 minutes 30 minutes 50 minutes 60 minutes	Time required to be in standby mode before system is put to suspend mode. This option is available only if "Power Savings" is set to "Customized"
Auto Save To Disk	After 1 Hour Off	"After 1 Hour" causes system to save its state to disk, then automatically turns off power after one hour.
Suspend Mode	Suspend Save To Disk	"Save To Disk" saves the current state to disk and turns off power. "Suspend" saves the current state but remain in low power mode.
Hard Disk Timeout	Disabled 1 Minute 2 Minutes 4 Minutes	Amount of time the hard disk is inactive, or LCD's backlight is off, before it is turned off. Options are available only if 'Power Savings' is set to 'Customized'.
Video Timeout	6 Minutes 8 Minutes 10 Minutes 15 Minutes	
Resume On Modem Ring	Off On	"On" wakes up the system when an incoming call is detected on your modem. This feature will not work if "Suspend Mode" is set to "Save To Disk".



Resume On Time	Off On	"On" wakes up the system at a specific time, indicated in "Resume Time" item of this menu. This feature will not work if "Suspend Mode" is set to "Save To Disk".
Resume Time	00:00:00	Specifies when the system is to wake up.

- **Warning:** Leave all items of the above sub-menus to their default values if you are not sure of its settings. Incorrect values may cause system boot failure. (Load setup default values to recover if system fails to boot.)

Boot Menu

Selecting "Boot" from the main menu will have the following displayed on screen:

PhoenixBIOS Setup Utility

Main Advanced Security Power **Boot** Exit

Boot-time Diagnostic Screen: [Disabled] Summary Screen: [Disabled]	Item Specific Help
1. [Diskette Drive] 2. [Hard Drive] 3. [CD-ROM Drive]	Display the diagnostic screen during boot.

F1 Help ↑↓ Select Item +/- Change Values F9 Setup Defaults
ESC Exit ←→ Select Menu Enter Select> Sub-Menu F10 Save and Exit

"Boot-time Diagnostic Screen" item allows you to indicate whether the system is to display or not the diagnostic screen during boot. If this is disabled, you will not see the tests performed and corresponding results during power on self test. Disabling this also allows the system to skip certain tests so as to shorten boot time.

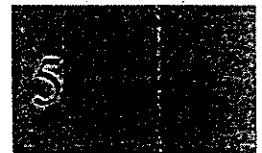
"Summary Screen" item enables or disables the system to display summary of system configuration during boot.

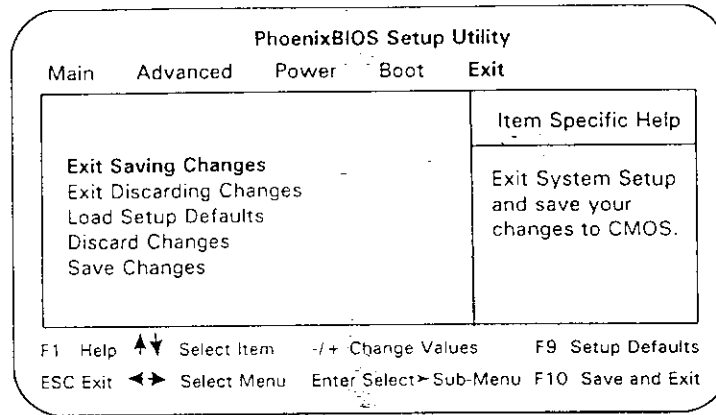
Aside from the above options, this menu also allows you to arrange the priority of boot sequence. The system will boot from the device indicated in 1. If unsuccessful, it will try to boot from device 2, and so forth. Use up and down arrow keys to select a device, and press <+> or <-> key to put its priority higher or lower down the list.

- **Warning:** Leave all items of the above sub-menus to their default values if you are not sure of its settings. Incorrect values may cause system boot failure. (Load setup default values to recover if system fails to boot.)

Exit Menu

Pressing <Esc> or selecting "Exit" from the main menu will have the following displayed on screen:





This table explains the operations of the above items:

Item	Descriptions
Exit Saving Changes	Saves the changes made to CMOS and exit system setup utility. This is equivalent to pressing <F10> key.
Exit Discarding Changes	Exit setup utility without saving Setup data to CMOS.
Load Setup Defaults	Loads default values for all setup items.
Discard Changes	Load previous values from CMOS for all setup items.
Save Changes	Save setup data to CMOS.

After selecting an item, you will be prompted to confirm the choice you have selected. Select "Yes" to confirm, "No" to go back and continue with the Setup utility.

If you exit from the Setup utility, your computer will automatically reboot to reflect the new settings.

- ▲ **Remark:** Setup menus are subject to changes without prior notice.

Chapter 6: Installing Device Drivers


In most cases, your system comes with the required device drivers and utility already pre-installed. You may need to install or re-install these device drivers and utility usually due to the following circumstances:

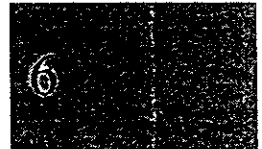
- When you re-install your operating system
- When you reformat your HDD
- When you install the optional proprietary fax/modem daughterboard

This chapter provides you the step by step procedures on how to install the device drivers in Windows 95 version OSR2.5 operating system. The device drivers include:

- Yamaha YMF715B Audio System
- PCI Universal Serial Bus Driver
- Intel 82371xB INF Update Installer
- C&T 65555 Video Driver
- TI 1250a PCMCIA Controller
- Fax/Modem Device Driver
- 3-mode FDD Device Driver (for Win 95 Japanese version)

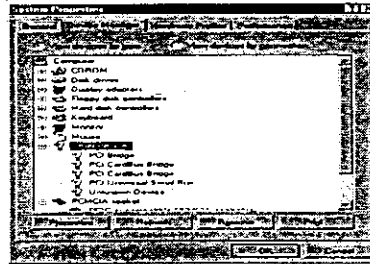
Yamaha YMF715B Audio System

1. Complete the installation of Windows 95 operating system. If you are not so familiar with the installation procedure, please refer to the user's guide of Microsoft Windows 95 software package.
2. Click  at the bottom left corner of your screen, select "Settings", then click "Control Panel".

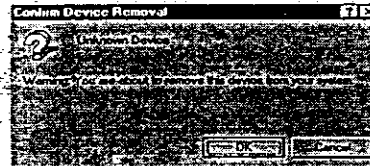


3. Double click on "System" icon.

4. Click "Device Manager" tab and select "Other Devices".

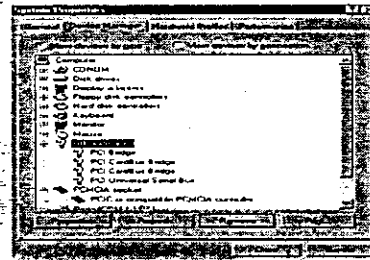


5. Select "Unknown Device" and click "Remove" button.

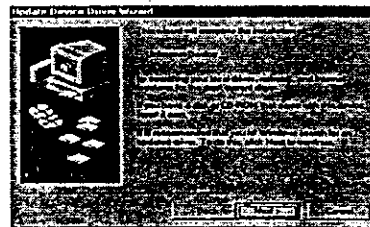


6. Click "OK" button.

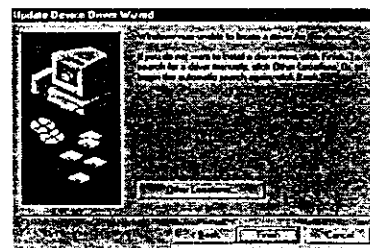
7. When the following is displayed on screen, click "Refresh" button.



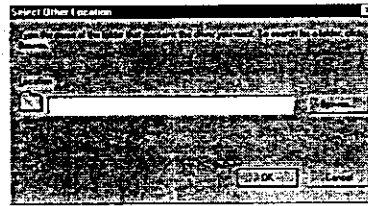
8. Click "Next".



9. Click "Other Locations..." button.

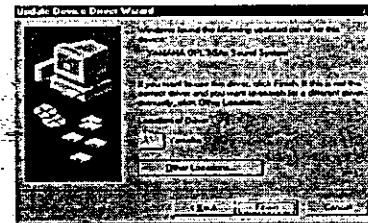


10. Put the “Sound Card Driver & Utility” diskette into the floppy drive and click “Browse” button.

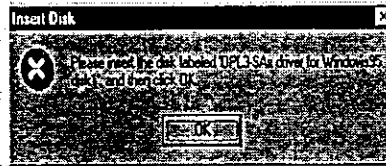


11. Select “A:\driver\audio\Yamaha” directory from drive A.

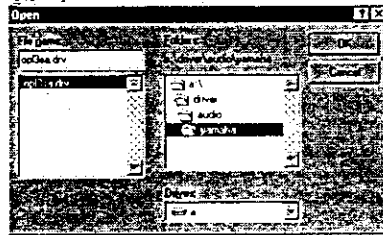
12. Click “Finish” button.



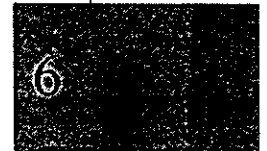
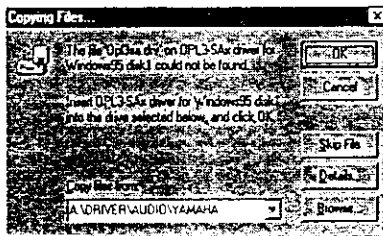
13. Click the “OK” button.




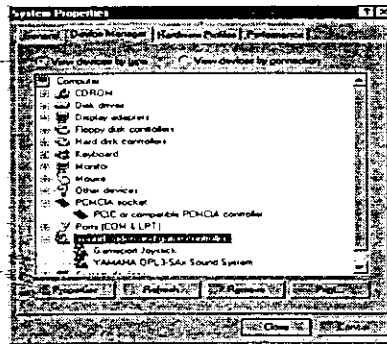
14. Select “A:\driver\audio\Yamaha” from drive A: and click “OK”.



15. Click “OK” button when the following message appears.



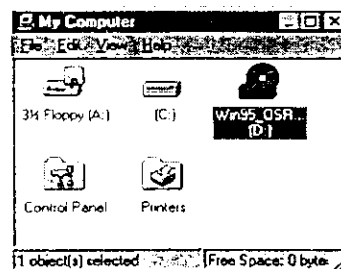
16. Your audio driver is now properly installed. Check “System Properties” for the newly installed audio driver:
- Click .
 - Select “Settings”
 - Select “Control Panel”
 - Choose “System”
 - Click “Device Manager” tab
 - Double click on “Sound, video and game controls”



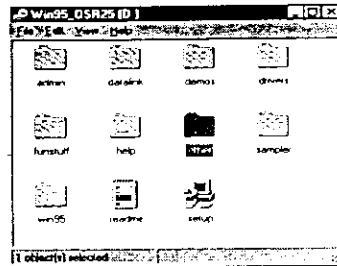
PCI Universal Serial Bus Driver

Note: This device driver should be installed before the “Intel 82371XB Update Installer” is installed in your system.

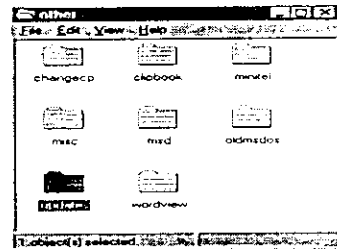
- Complete the installation of Windows 95 operating system. If you are not so familiar with the installation procedure, please refer to the user’s guide of Microsoft Windows 95 software package.
- The device drivers for USB devices are already included in your Windows 95 version OSR2.5 CD. Insert this CD in your CD-ROM drive. Double click on “My Computer” icon, located on the top left part of your screen.
- Click on your CD-ROM drive icon “Win95_OSR... [D:]”.



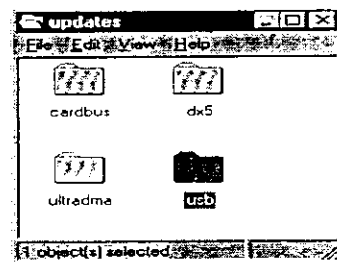
4. Double click "Others" icon.



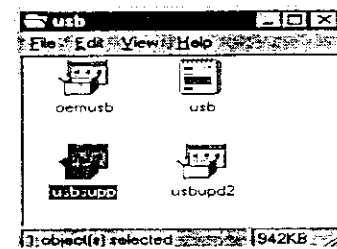
5. Choose "updates" icon.



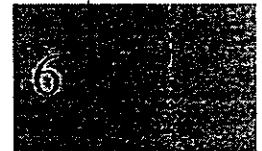
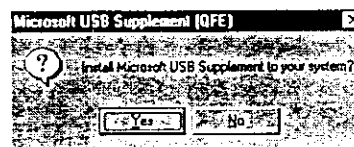
6. Double click on "usb" icon.



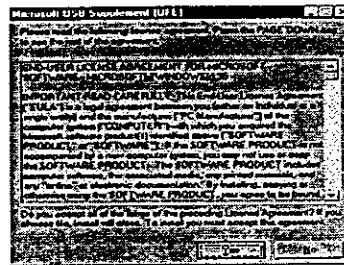
7. Select "usb supp".



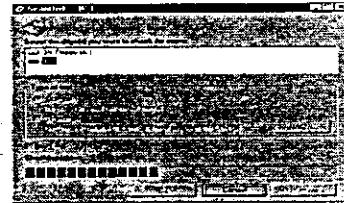
8. Click "Yes" button to install USB drivers.



9. Read carefully the license agreement and click "Yes" to accept the agreement and proceed with the installation. (Choosing "No" terminates this installation program.



10. The system automatically performs "ScanDisk" operation.



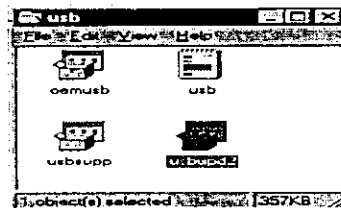
11. Next, the system copies the required files. This dialog box appears after the copy operation is completed.




12. Click "OK" to restart the system.

13. Select "usb" subdirectory.

14. This time, choose "usbupd2".



15. Click  at the bottom left corner of your screen, select "Shut Down...".

16. Click on the white circle beside "Restart the computer?" to restart your system.



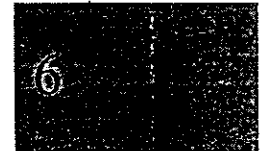
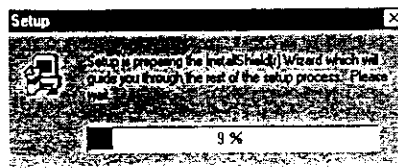
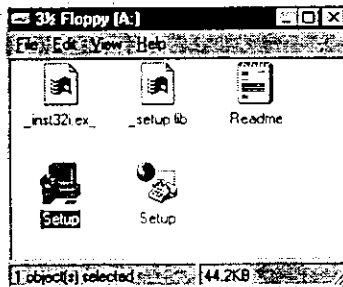
17. Install the “Intel 82371xB INF Update Installer”. (Please refer to the next section, “Intel 82371xB INF Update Installer”, for the procedures.) The system will then automatically complete the installation of the drivers for “PCI Universal Serial Bus”.

Intel 82371xB INF Update Installer

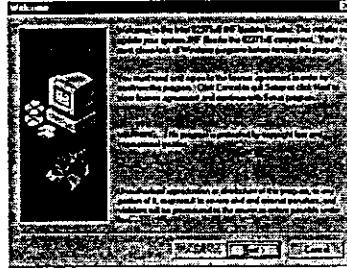
- Note: Before proceeding with this section, please make sure that your system has already copied necessary files for the PCI Universal Serial Bus Driver. (Refer to the above section “PCI Universal Serial Bus Driver” for the procedures.)

Your system is equipped with the latest PIIX4 chipset, 82371AB. In order for Windows 95 to recognize this chipset and configure your system properly, you need to run the setup utility provided in your Driver and Utility Disk.

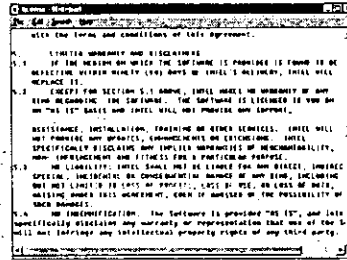
1. Perform installation of USB device drivers.
2. Insert the Driver and Utility Disk in your floppy drive.
3. Double click on “My Computer” icon, located on the top left part of your screen. Choose “3½ Floppy [A:]”.
4. Double click “Setup” icon. This is to update several Windows 95 INF files.
5. This dialog box appears on screen.



6. Then, a Welcome Screen is displayed. Click "Next" button to continue.



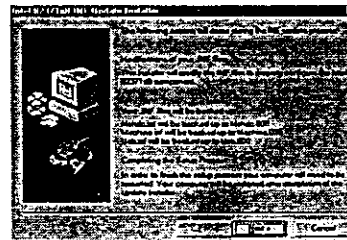
7. A Notepad window appears for you to read and agree to the license agreement. After reading this text file, close the Notepad program by clicking the File pull-down menu, then choose Exit.



8. Click "Yes" to accept the license agreement when the following dialog box appears on screen. Clicking "No" terminates this installation program without updating your system configuration.




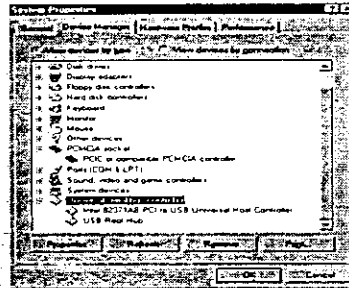
9. When the Installer Screen appears, click "Next".




10. When the following dialog box appears, click "OK" to restart your system.

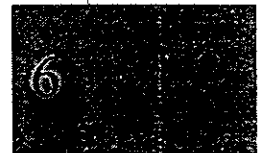
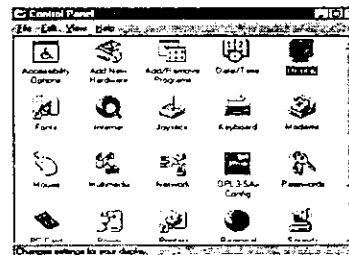


11. After restarting, follow the screen instructions and use default settings. (Press <Enter> key to accept the default settings.)
13. Your system is now properly configured. To check your Device Manager for the modifications made:
 - a. Click .
 - b. Select "Settings"
 - c. Select "Control Panel"
 - d. Choose "System"
 - e. Click "Device Manager" tab
 - f. Double click "Universal serial bus controller"

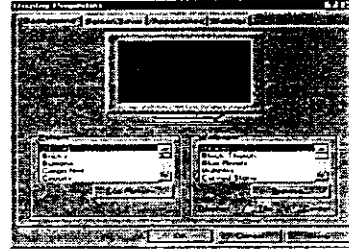


C&T 65555 Video Driver

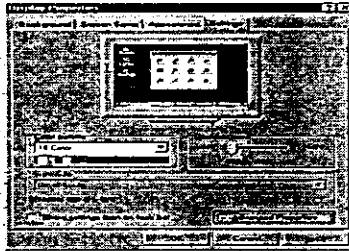
1. Complete the installation of Windows 95 operating system. If you are not so familiar with the installation procedure, please refer to the user's guide of Microsoft Windows 95 software package.
2. Click  at the bottom left corner of your screen, select "Settings", then click "Control Panel".



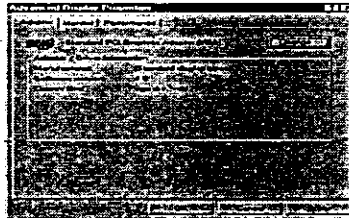
3. Double click on "Display" icon.



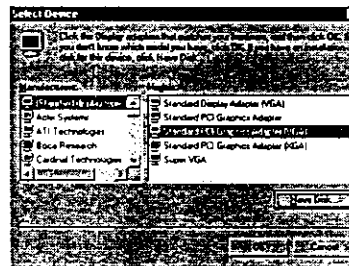
4. Click "Settings" tab, then click "Advanced Properties" button.



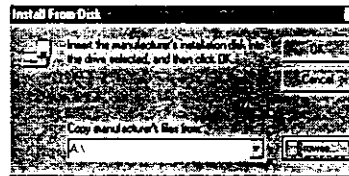
5. Click "Change" button.



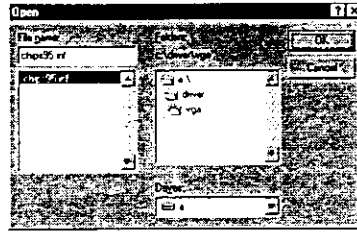
6. Click "Have Disk" button.



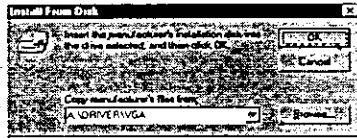
7. Type or select "A:\\" under "Copy manufacturer's files from", then click "OK" button.



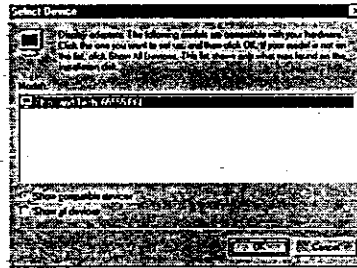
- 8. Select "a:\driver\vga\chips95.inf" and click "OK".



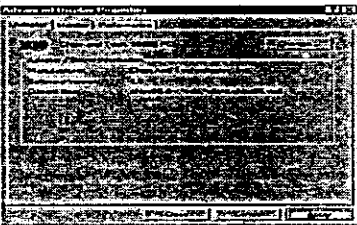
- 9. Insert the "VGA Driver & Utility" disk onto the floppy drive. Click "OK".



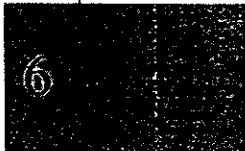
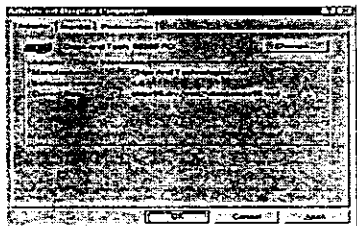
- 10. Click "OK" button again:



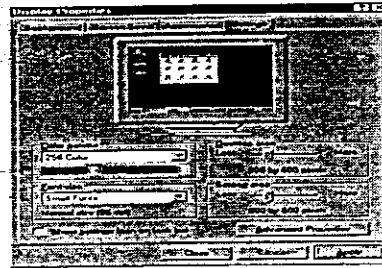
- 11. When this message appears on screen, click "Apply" button.



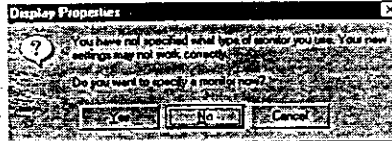
- 12. Click "OK" button afterwards.



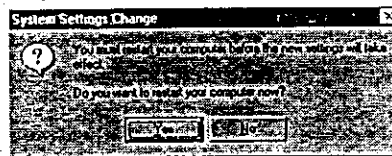
13. Click "Apply" button.



14. Click "No".




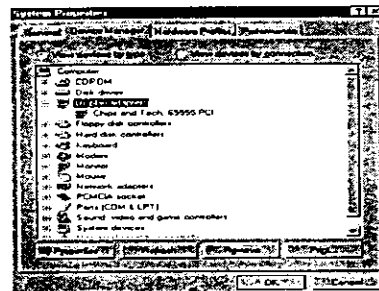
15. You have to restart your system to reflect the changes made. Click "Yes" button when this message is shown.



16. Your VGA Driver is now properly installed.

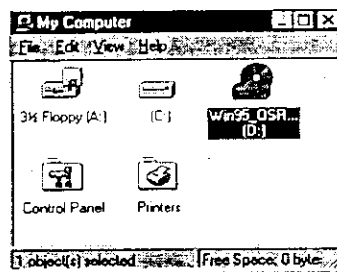
17. To check your Device Manager entries for the newly installed driver:

- a. Click  Start.
- b. Select "Settings"
- c. Select "Control Panel"
- d. Choose "System"
- e. Click "Device Manager" tab
- f. Double click on "Display adapters"

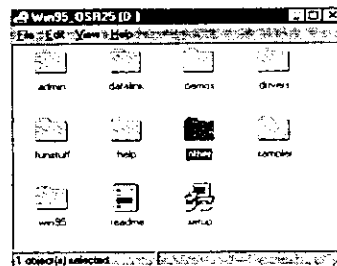


TI 1250a PCMCIA Controller

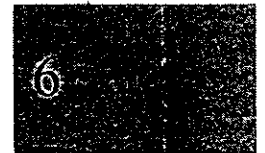
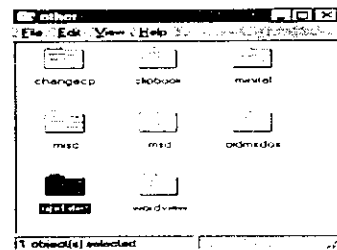
1. Complete the installation of Windows 95 operating system. If you are not so familiar with the installation procedure, please refer to the user's guide of Microsoft Windows 95 software package.
2. The device drivers for PCMCIA devices are already included in your Windows 95 version OSR2.5 CD. Insert this CD in your CD-ROM drive. Double click on "My Computer" icon, located on the top left part of your screen.
3. Click on your CD-ROM drive icon "Win95_OSR... [D:]".



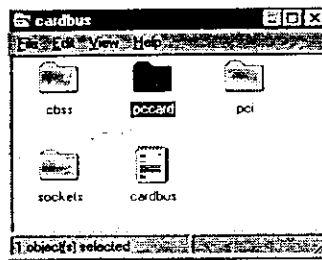
4. Double click "Others" icon.



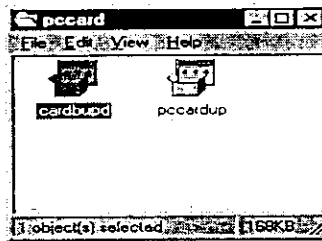
5. Choose "updates" icon.



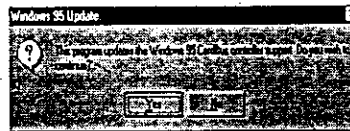
6. Double click on "pccard" icon.



7. Select "cardbupd".



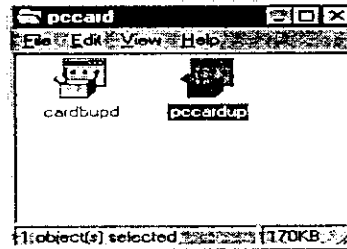
8. Click "Yes" button.



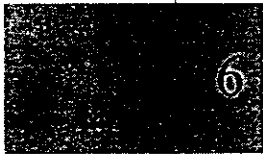
9. Click "OK".



10. Select "pccard" subdirectory. Double click "pccardup".



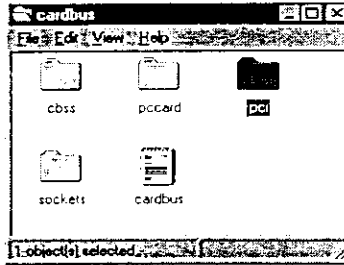
11. Click "OK".



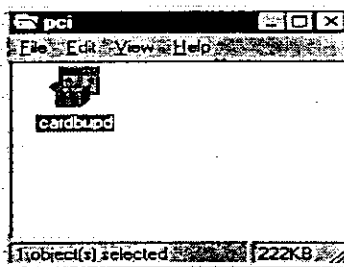
12. Click "OK".



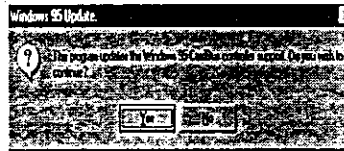
13. Select "cardbus" subdirectory. Double click "pci".



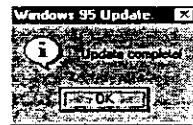
14. Double click "cardupd".



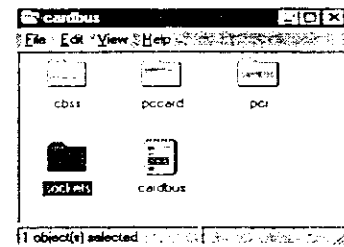
15. Click "Yes" button.



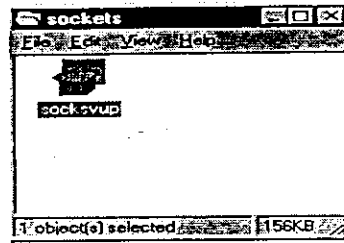
16. Click "OK".



17. Select "cardbus" subdirectory. Double click "sockets".



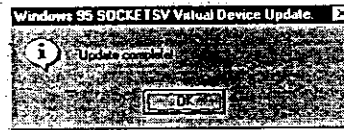
18. Double click "socksvup".



19. Click "Yes" button.



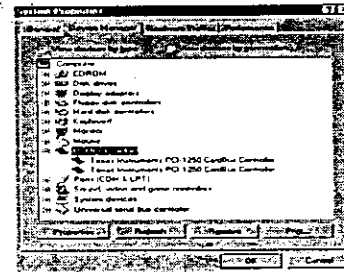
20. Click "OK".



21. Device driver of your PCMCIA Controller is now properly installed.

22. To check your Device Manager entries for the newly installed driver:


- f. Click Start.
- g. Select "Settings"
- h. Select "Control Panel"
- i. Choose "System"
- j. Click "Device Manager" tab
- k. Click "PCMCIA Socket"



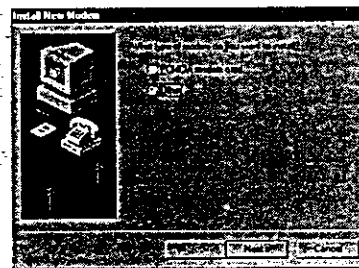
Fax/Modem Device Driver

☛ **Note:** This device driver is intended for use with the fax/modem daughterboard only. If you purchased a fax/modem add-on card, you should use the device driver that comes with that card. Refer to its user's manual for installation procedures.

1. Complete the installation of Windows 95 operating system. If you are not so familiar with the installation procedure, please refer to the user's guide of Microsoft Windows 95 software package.

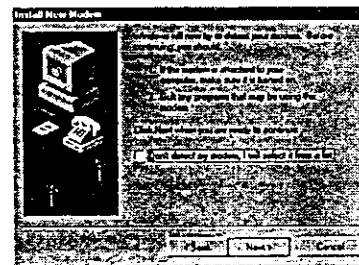
2. Click  at the bottom left corner of your screen, select "Settings", then click "Control Panel".

3. Double click on "Modems" icon. The "Install New Modem" window is displayed.



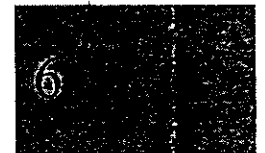
4. Click on the white circle beside "Other", then click "Next" button.

5. Click on the small white box beside the message "Don't detect my modem, I will select it from a list", a "✓" will appear on it.

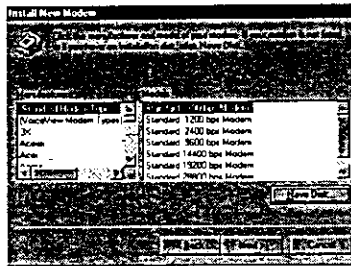


6. Click "Next" button.

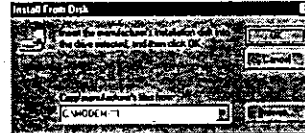
7. Insert the Fax/Modem Device Driver Disk into your floppy drive.



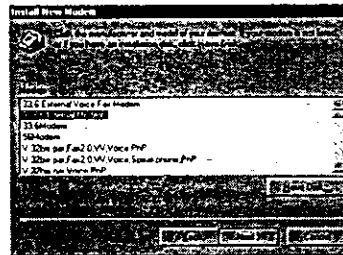
8. Click "Have Disk" button.



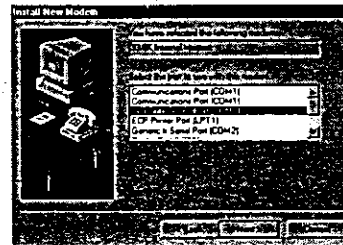
9. Click "Browse" button and select "A:\driver\modem" subdirectory. Then, click "OK" button.



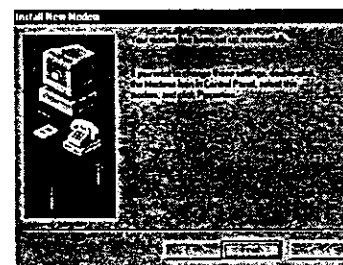
10. Choose "33.6K Internal Modem" from the list and click "Next" button.



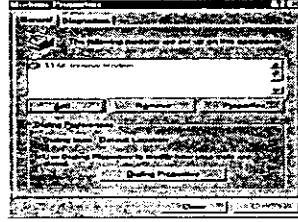
11. Choose "Communications Port (COM2)" from the list and click "Next" button.



12. Your system automatically copies the required files. When this message is shown, click "Finish", your modem is successfully installed.



13. The registry name "33.6K Internal Modem" is shown. Click "Close" button to finish the installation process. If you need to change, click "Properties".






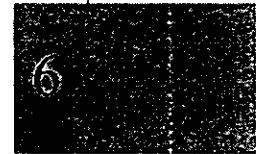
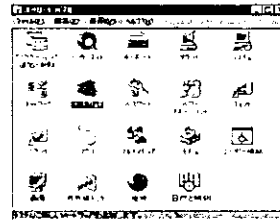
14. Your internal fax/modem device driver is now properly installed.


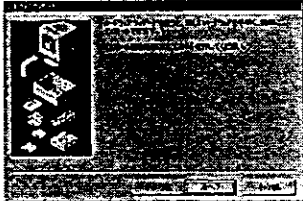

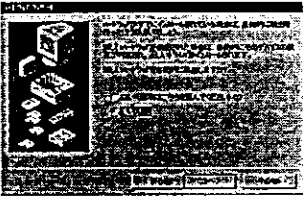

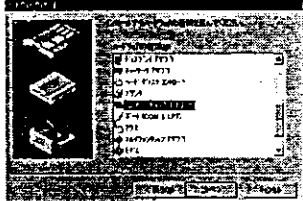


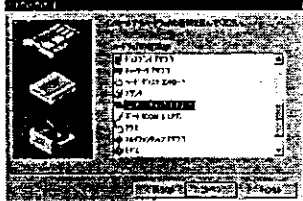
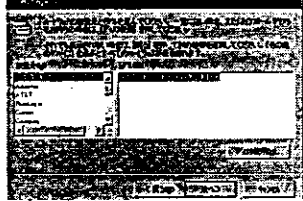

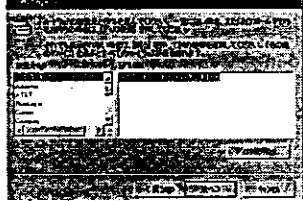

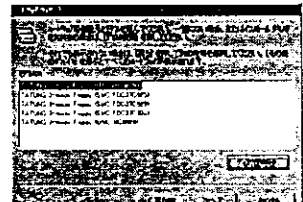
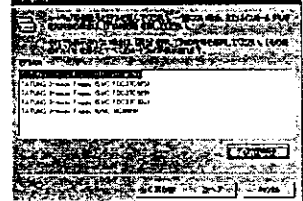
3-Mode Floppy Device Driver (for Windows 95 Japanese version only)


3-mode device driver is required only if you are using Win '95J (Japanese version of Windows 95). Please skip this section if you are not using this language version of Win '95.


This device driver allows your 3-mode floppy drive to read the three types of floppy disks that are available in the Japanese market, namely: 720KB, 1.2MB, and 1.44MB. Follow the steps listed below to install this driver into your Japanese operating system:

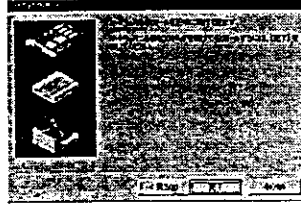
1. Complete the installation of Windows 95 operating system. If you are not so familiar with the installation procedure, please refer to the user's guide of the Microsoft Windows 95 software package.
2. Double click  (My Computer) icon.
3. Double click  (Control Panel).
4. Double click  (Add New Hardware).



5. Click  (Next) button. 
6. Click on the white circle beside  (no auto detect). 
7. Click  (Next) button. 
8. Select  (Floppy disk controllers) and click  (Next). 
9. Put the 3-mode FDD Device Drivers and Utilities Disk that comes with your system into your floppy drive. 
10. Click  (Have Disk...) button, choose "a:\driver\3-mode" subdirectory, then click "OK" button. 
11. Choose "Tatung" in the Manufacturers field, then choose the particular model of your floppy drive in the Models (D) field, for example, "Tatung 3-mode Floppy (ITE8680/8679)". Click  (Next). 
12. The selected manufacturer and model registry name will be displayed on screen. 


13. Click  (Next) to complete the installation.


14. The following screen informs you that you have completed the installation. Select  (Finish) button.





15. You will be prompted to restart Win '95J, click "OK".

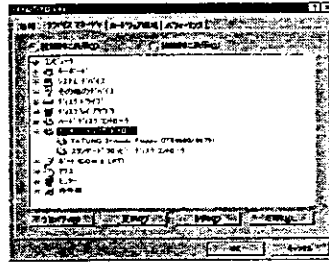
16. To check your Device Manager entries for the newly installed 3-mode device driver:

a. Double click 

b. Select 

c. Choose 

d. Click  (Device Manager) tab

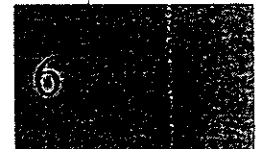


13. The 3-mode device driver is now properly installed. Your floppy drive can be used to access both US and Kanji modes under Win '95J operating system.

Formatting 3-mode Floppy Diskettes

3-mode floppy diskettes can be formatted under DOS mode of Win '95J, but formatting through this method is not accessible under Win 95J.

If you need to format a diskette, be sure to have the DOS device driver of your 3-mode floppy drive in your hard disk. If you do not have this, contact your dealer or the manufacturer of your 3-mode floppy drive.



Format procedures as follows:

1. Add the command line
`DEVICE=xxx.SYS`
to your CONFIG.SYS file. Note that xxx.SYS is the DOS device driver of your floppy drive.
2. Restart Win '95J. However, press F8 immediately to interrupt its startup procedure.
3. Execute the CONFIG.SYS file by selecting "6. Command prompt only".
4. Run "FMT125.com" to format the disk.
5. After formatting the disk, remove the command line "Device=xxx.SYS" from CONFIG.SYS file.
6. Restart your system.

☛ Note: This utility is used for MS-DOS only. Therefore, a 3-mode floppy diskette formatted using FMT125 utility is not accessible under Microsoft Windows.

Chapter 7: Troubleshooting

Your notebook computer is engineered and manufactured to be durable and to give you trouble-free service. Nevertheless, like any other piece of electronic equipment, it will require periodic maintenance. Refer to the first few pages of this user's guide for the "Safety and Maintenance Precautions".

If you encounter problems with your notebook computer, take a few minutes to read the following information. If your problem is related to a particular procedure, you should also look for information on that procedure in Windows 95 Help. If you have followed the steps indicated below and the problem still persists, turn off your system, unplug the power cord, and contact your dealer for assistance. Do not attempt to disassemble the system by yourself.

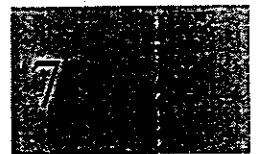
- **Warning:** DO NOT ATTEMPT TO DISASSEMBLE THE SYSTEM BY YOURSELF. If trouble still persists, contact your dealer for assistance.

Listed below are some problems you may encounter and some suggestions on how to correct them.

AC Adapter/Battery Pack

My computer is turned on, but nothing is displayed on the screen and all LCD indicators are off.

- If you are using a battery pack, connect AC adapter and turn it on. If this solves the problem, your battery power might have been fully used, you need to recharge your battery.



- Check the connection of AC power cord to AC adapter, and the connection of AC adapter to DC In jack of your system.
- Check your power source by plugging the AC power cord into another power outlet.

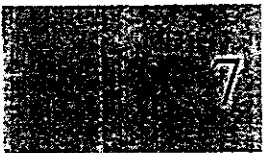
The fuel gauge indicator is not reporting accurate information. Or, if the battery pack is not providing normal operating time.

- This is a normal situation if you are using a new battery pack, or if your battery pack has not been used for a long time. In this case, you need to perform charge cycling for several times. Charge cycling conditions and maximizes battery performance. (For more information, refer to *Chapter 3: Using Your Battery*.)
- If charge cycling does not improve the situation, your battery is worn. Replace this with a new one. Dispose of the battery properly (in accordance with the laws and regulations of your local community).

CD-ROM Disk

I insert a CD-ROM disk, but the computer does not detect it.

- Check if the CD-ROM drive is properly inserted into the swappable bay.
- Make sure that the disk label is facing up and the disk is centered in the tray.
- Make sure that the tray is closed all the way.
- Check if your system recognizes the CD-ROM drive. Click "My Computer" icon and see if there is a CD-ROM icon. If none appears, you need to install the CD-ROM device driver.



My computer ejects a CD-ROM disk without giving any error message.

- Make sure that the disk is flat in the tray and the disk label is facing up.
- The disk may need to be cleaned. If there are visible scratches on the shiny side of the disk, you may be able to remove them with a CD polishing kit. If the scratches can't be removed, you'll need to replace the disk.
- The disk may be damaged. Try another disk in the drive, and/or try the original disk in another drive. If the original drive reads other disks or if the original disk doesn't work in another drive, the disk is probably damaged. You'll need to replace the disk.

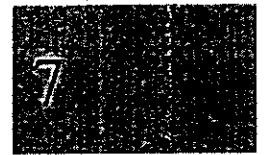
I can't open a document on a CD-ROM disk.

- Try opening the application program first; then open the document.
- Read the manual that came with your CD-ROM disk. Some disks come with software that you need to install on your notebook computer before using the disk.

Floppy Disk

My 3.5" floppy disk doesn't work.

- Make sure that the 3.5" FDD module is properly connected externally or properly installed internally.
- Check if the 3.5" diskette is inserted correctly into the drive. Check if the diskette is the correct type for the disk drive.
- Press F2 key during rebooting to enter the Setup Main menu and check if the disk drive is configured correctly.



Keyboard/Mouse/Touch Pad

My keyboard doesn't work.

- Check whether the current status of your computer allows key inputs. (Connecting an external keyboard does not affect the functions of the internal keyboard.)
- If external keyboard is not functioning, you can try to connect another external keyboard to your system.

My touch pad doesn't work.

- Check if you have connected an external keyboard. If this is connected and if "Touch Pad Setting" of Advanced Menu in BIOS is set to "Auto", your touch pad is automatically disabled. (If you want to use both at the same time, set the option to "Enabled".)
- If no external keyboard is attached, check whether the current status of your touch pad and two click buttons allows key inputs.

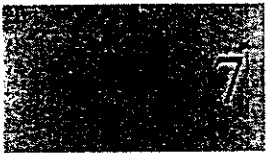
My PS/2 mouse doesn't work.

- Make sure that the PS/2 mouse is properly connected to the computer.
- Check "PS/2 Mouse" in Advanced Menu in BIOS. It should be set to "Enabled" before you can use your external PS/2 mouse.

LCD Display/VGA Monitor

My computer is turned on, but nothing is displayed on the screen.

- Check power connection:
 - ▶ If AC adapter is properly connected to your notebook and power outlet
 - ▶ If capacity of battery has been fully used up



- Check video cable connection if there is no display in the external VGA display.
- Check if the computer is in suspend mode. If it is, press any key or press the cover down switch to resume operation.
- Check the display mode. Press Display Mode hotkey <Fn> + <F7> to switch from one mode to the other.
- Check brightness of display. Adjust to desired level. (Press Brightness Up hotkey <Fn> + <F10> for LCD display's brightness control.
- Check if your notebook is in TV mode. If it is, press TV Out hotkey <Fn> + <F8>.
- Check if a screen saver program is activated. Press a key or move the mouse to deactivate this program.

The screen displays strange characters.

- Check whether the system software and the application program are properly installed.
- Check whether the English mode is set.

Others

The computer's clock keeps time inaccurately.

- The on-board Lithium battery is dead or exhausted. Contact your dealer to replace it.

I get a non-system disk error message when I turn on my system.

- A non-system disk error occurs when a floppy disk is inserted into the floppy drive when the computer is turned on. Remove the disk from the drive and press any key on the keyboard to complete the boot up.



The software application does not run as it should.

- Check whether your notebook meets the configuration requirements to run this application.
- Check whether other applications run properly.
- Check the operating instructions provided with the application.

Printer

My printer doesn't work.

- Check your printer settings in the Printer Manager, make sure that you have selected the correct printer.
- Check printer cable connection. Check if the printer is properly connected to a power outlet.
- If none of these suggestions solves the problem, reinstall your printer driver. If your printer is an older model, do not use the driver that came with the printer. Instead, use the updated printer drivers provided on the Windows 95 CD-ROM that came with your PC system. These drivers were created specially for use with your computer.

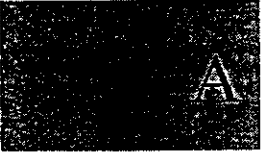
Appendix A: Specifications

Please refer to the following appendix for your computer specifications.



Standard Features

- High performance notebook computer
- 12.1" SVGA TFT color display
- Motherboard designed using Intel's Tillamook CPU with built-in co-processor and Intel's 430TX chipset (PIIX4); CPU frequency includes 166/200/233/266 MHz
- 512KB L2 cache on board
- 16/32MB SDRAM memory on-board; expandable to 96MB maximum with one piece of 64MB SDRAM or EDO SO-DIMM
- 2MB flash memory with Phoenix system BIOS and VGA BIOS
- C&T B65555 VGA chip with 2MB VRAM on board
- Full standard 85 to 90-keys notebook keyboard; available in English, Japanese or European formats
- TI 1250 PCMCIA chip for connection of two type I or type II PCMCIA card, or, one type III PCMCIA card; supports CardBus or ZV port
- Mitsubishi M38867M8 keyboard controller; National PC97338 Multi-I/O controller; Temic TFDS6000 FIR transceiver; Synaptics touch pad;

- 
- 16-bit 3D stereo with SoundBlaster compatibility using Yamaha YMF715B audio chip
 - Fully programmable S-Video (AD724) port supporting both NTSC and PAL TV mode
 - Swappable bay for internal connection of CD-ROM drive or 3.5" FDD drive module
 - Smart and standard Ni-MH battery
 - Kensington lock security and password
 - Built-in FDC adapter and IDE interface
 - AC adapter with fast-charge capability and full-range input power feature
 - Built-in ports: serial, parallel/external FDD, external VGA, external PS/2 keyboard and mouse, earphone, microphone, line-in, line-out, 4MB/s fast IrDA, S-Video, USB, game/MIDI and optional modem
 - Runs under Windows 95 operating system or Windows NT 4.0
 - Optional 33.6K modem daughterboard
 - Optional port replicator device available
 - Optional stylish carrying bag

Motherboard

CPU (Central Processing Unit)

- Intel Tillamook 166/200/233/266 MHz high performance 64-bit microprocessor
- Fully code-compatible with 8088, 8086, 80286, 80386, and 80486

Power Management

- PC97 compliant APM 1.2 power management feature.
- Software control by using BIOS Setup Menu.

Memory

- 2MB Flash ROM for Phoenix system BIOS and VGA BIOS
- 16/32MB on-board memory
- One SODIMM socket provided for maximum of 96MB memory
- 144-pin 3.3 Vdc EDO DIMMs or SDRAMs supported
- Possible memory configurations are listed in the table below, for your reference:

On-board	SODIMM	Total Memory
16M		16 MB
16M	8M	24 MB
16M	16M	32 MB
16M	32M	48 MB
16M	64M	80 MB
32M		32 MB
32M	8M	40MB
32M	16M	48 MB
32M	32M	64 MB
32M	64M	96 MB



Built-in I/Os

- Keyboard controller and interface
- Real-time clock/calendar/alarm
- CMOS RAM to maintain system configuration
- Built-in Floppy Disk Controller (FDC)
- Built-in IDE interface for HDD, CD-ROM drive
- Serial port and parallel/FDD port
- External PS/2 keyboard port and PS/2 mouse port
- External VGA port
- S-Video TV out port
- Game/MIDI port
- USB port
- Microphone, earphone, audio line in and audio line out jack
- Superb audio quality 1W speaker
- 4MB/s fast IrDA port
- Two PCMCIA sockets for two Type I/Type II cards or one Type III PCMCIA card; Supports Cardbus and ZV port
- Optional modem port

Mass Storage

Your notebook comes with an internally swappable or externally attachable 3.5", high density floppy disk drive, one 2.5" slim IDE interface CD-ROM drive, and one 3.5" high capacity IDE type hard disk drive.

Power Supply

Power supply of your notebook computer can be divided into two parts: AC adapter and smart battery pack.

AC Power

The AC adapter bundled with your system converts AC power to DC power and supplies this to the whole system. This is also used to automatically charge the smart battery pack.

- ☞ **Note:** When AC power is used, it will charge the smart battery pack continuously if the system is turned off or if the system is placed in suspend mode.

Input Voltage	100 Vac to 240 Vac 1.5 A maximum
Input Frequency	47 Hz to 63 Hz
Output Voltage	20 Vdc, 2.2 A
Rated Output Power	45W maximum

Smart Battery Pack

The smart battery pack supplies your notebook with DC power for several hours without AC adapter. To know the remaining capacity of the battery, you can press <Fn> + <F2>, a pop-up icon then appears at the bottom right corner of the screen. This icon shows battery capacity and type of power currently used.

- ☞ **Note:** As smart battery needs a few seconds to detect its current status when battery is currently being installed, you need to press <Fn> + <F2> again if the icon did not pop up.



To charge the battery, connect the AC adapter to your system. The Battery Charge LED lights up during charge.

- ☛ **Note:** To ensure the accuracy of the information in the battery fuel gauge, it is strongly recommended that you fully charge and discharge your battery pack. This will correct the smart battery's fuel gauge and eliminate battery's memory effect.

Refer to *Chapter 3: Using Your Battery* for more information on battery packs.

Keyboard

- Full function notebook enhanced keyboard
- 85 ~ 90 keys (depending on format), including Windows 95 special keys
- Available in English, Japanese and some European formats
- Twelve function keys and one special Fn key
- Two status indicators (LEDs) in system showing current state of Caps Lock and Num Lock

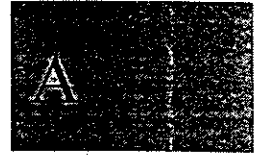
Fax/Modem Optional Daughterboard

- Data modem throughput up to 115200bps
- Fax modem send and receive rates up to 14400 bps
- MNP 2-4 Microcom error correction and ITU-T recommended V.42 error correction
- MNP 5 Microcom data compression and ITU-T V.42 bis data compression

- Tone or pulse dialing
- Receive sensitivity at $-30 \pm^* \text{ dBm}$
- Transmit sensitivity at $-10 \pm^* \text{ dBm}$
- DTMF signal level: High group at $-9 \pm^* \text{ dBm}$; Low group at $-11 \pm^* \text{ dBm}$
- Call progress monitors dialtone and busytone
- Communication software compatible AT command sets
- Automode detection allows this to connect with a modem that is configured for different connection modes

Compatibility

ITU-T V.34 Plus	33600, 31200 bps
ITU-T V.34	28800, 26400, 24000, 21600, 19200, 14400 bps
ITU-T V.32 bis	14400 bps
ITU-T V.32	9600 bps
ITU-T V.17	14400, 12000 bps
ITU-T V.29	9600, 7200 bps
ITU-T V.27 ter	4800, 2400 bps
ITU-T V.22 bis	2400 bps
ITU-T V.23	1200, 75 bps
ITU-T V.22	1200 bps
ITU-T V.21	300 bps
BELL 212A	1200 bps
BELL 103	300 bps



Operation

- Full-duplex or half-duplex in Data mode
- Half-duplex in Fax mode
- Two wire leased line or dial-up line operation
- Asynchronous operation

Data Format

- Serial, Binary, Asynchronous
- 7 or 8 data bit, 1 or 2 stop bits
- odd, even, mark, space, or no parity

Line Operating Speed (in bps)

33600/ 31200/ 28800/ 26400/ 24000/ 21600/ 19200/
14400/ 12000/ 9600/ 7200/ 4800/ 2400/ 1200/ 300

Environmental Specifications

Ambient Temperature

Operating: 41°F to 95°F (5°C to 35°C)
Non-operating: 14°F to 131°F (-10°C to 55°C)

Humidity

Operating: 20% to 85%, no condensation
Non-operating: 0% to 93%, no condensation

System Unit Dimensions

Form Factor (mm): 305 (width) x 235 (depth) x 39 (height)

▲ Remark: Specifications are subject to change without notice.

Appendix B:

Connectors And Jumpers

There are a number of connectors and jumpers on the motherboard. Connectors allow you to connect to different peripherals and/or devices. Jumpers, on the other hand, can be set to different values to provide your computer more flexibility. These jumpers were set to factory default before shipping, which gives you the best performance. You should not alter these settings unless you are sure of what you are doing.

If you want to change any setting, please make sure that the computer has been turned OFF and make a note of what the original settings are. This way, you can always revert to the original settings if the new settings do not work.

Your system contains seven PCBs. These include:

- Motherboard
- DC-DC daughterboard
- I/O daughterboard
- IR/Replicator daughterboard
- LVDS daughterboard
- CCFT daughterboard
- Optional fax/modem daughterboard

This chapter provides information only on the motherboard's connectors and jumpers, and on a switch found in the DC-DC daughterboard. These information are enough for you to change the configurations required.

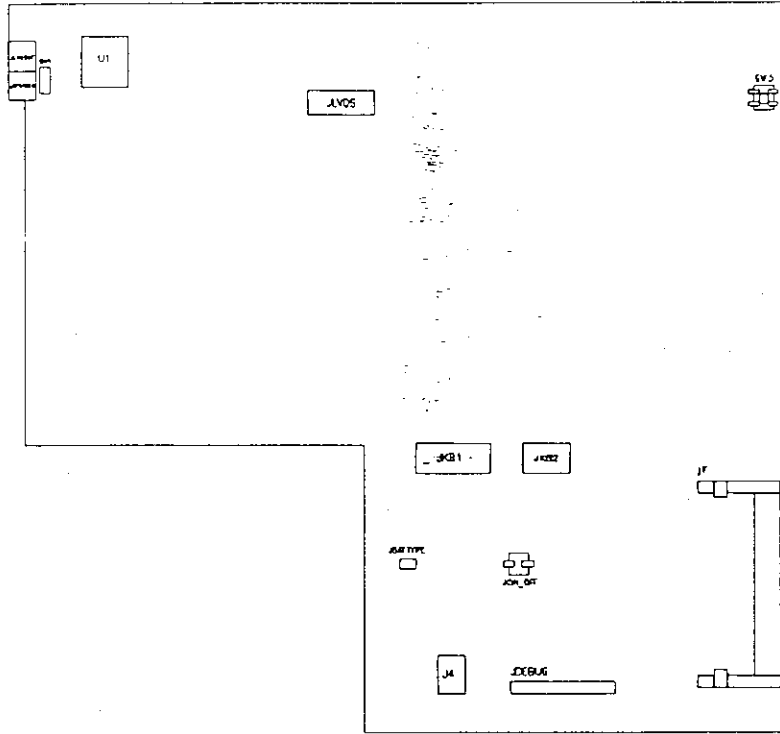
Never disassemble the system by yourself. If you need service, please contact your dealer.



Motherboard Lay-out

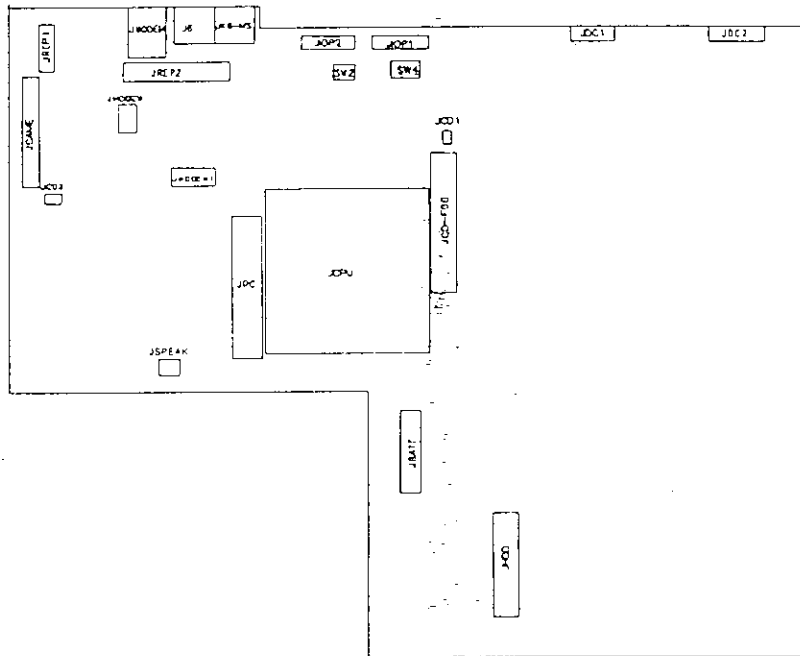
Familiarize yourself first with the location of the connectors and jumpers required.

Front Side



B

Rear Side



Quick Reference

Jumpers/ Connectors	Function	Page
J2	PCMCIA port connector	B-7
J3	Internal MIC connector	B-6
J4	Touch pad connector	B-6
J6	S-Video out jack	B-8
J7	DIMM module connector	B-6
JBAT	Battery Connector	B-10

JBATTYPE	Battery type select switch	B-6
JCD_FDD	CD-ROM/FDD module connector	B-7
JCD1, JCD2	CD-ROM audio cable connector	B-7
JDC1, JDC2	DC-DC daughterboard connector	B-10
JDEBUG	Debug port connector	B-6
JFAN	Fan power connector	B-10
JGAME	Game/MIDI port connector	B-7
JHDD	HDD (IDE) connector	B-8
JIOP1, JIOP2	I/O daughterboard connector	B-8
JKB_MS	External PS/2 mouse/keyboard connector	B-8
JKB1, JKB2	Internal keyboard connector	B-6
JLINEOUT	Line out jack	B-5
JLVDS	LCD panel connector	B-5
JMODEM	Modem port connector	B-8
JMODEM1, JMODEM2	Modem daughterboard connector	B-7
JON_OFF	Power ON/OFF Test Connector	B-10
JREP, JREP2	Replicator daughterboard connector	B-6
JSPEAK	Mono speaker connector	B-7
JSPEAKER	Speaker out jack	B-5
SW1	Suspend control switch	B-5
SW2	CPU clock select switch	B-9
SW3	Power control switch	B-5
SW4	CPU voltage select switch	B-9
U1	USB port connector	B-5
U33A	CPU socket	B-8

B

Motherboard Connectors and Jumpers

Front Side

1. Line out jack (JLINEOUT)

JLINEOUT is for connection to an amplifier system or other audio peripheral devices.

2. Speaker out jack (JSPEAKER)

JSPEAKER is for connection to an external active speaker system. When an external speaker system is connected, internal speakers are disabled.

3. Suspend control switch (SW1)

SW1 is the microswitch used to detect when the LCD display is closed, and to resume system operation if system is put to "Save-To-RAM" suspend mode. This is also known as "Cover Down Switch".

4. USB port connector (U1)

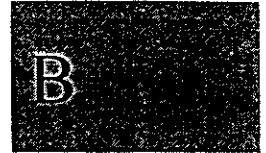
External USB (Universal Serial Bus) devices can be connected through U1.

5. Power control switch (SW3)

SW3 allows you to turn your system on or off.

6. LCD panel connector (JLVDS)

Connection between the motherboard and the LVDS daughterboard is done through JLVDS. The LVDS daughterboard makes available its connection and that of the CCFT daughterboard's connection to the LCD panel. These two daughterboards are connected via a special wire assembly.



7. Internal keyboard connector (JKB1, JKB2)

Two FPC connectors from the internal keyboard are connected to the system via JKB1 and JKB2 connectors.

8. DIMM module connector (J7)

This connector or socket, J7, allows memory expansion of up to 96MB.

9. Battery type select switch (JBATTYPE)

This is a mechanical switch that automatically detects the type of battery inserted into the system, either Li-Ion or Ni-MH.

10. Touch pad connector (J4)

The touch pad is connected to the motherboard via J4.

11. Debug port connector (JDEBUG) [reserved]

Reserved for manufacturer's use only.

12. Internal MIC connector (J3)

J3 connects to the internal microphone of your system.

Rear Side

13. Replicator daughterboard connectors (JREP, JREP2)

These connectors, JREP and JREP2, are connected to the corresponding connectors in the Replicator daughterboard. The replicator daughterboard carries signals for infrared communications (IR) and port replicator connections.

B

14. Modem daughterboard connectors (JMODEM1, JMODEM2)

Connectors on the fax/modem daughterboard are connected to JMODEM1 and JMODEM2. The fax/modem daughterboard is an optional board that provides internal fax/modem feature to your notebook system.

15. Game/MIDI port connector (JGAME)

JGAME is a 15-pin connector that receives input from a joystick or MIDI device.

16. CD-ROM audio cable connectors (JCD1, JCD2)

JCD1 and JCD2 are connected to each other via a proprietary cable. This cable carries audio signals between the CD-ROM and audio chip.

17. Mono speaker connector (JSPEAK)

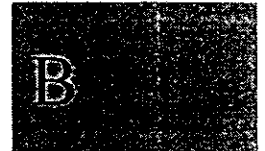
The internal speaker is connected to the motherboard through JSPEAK.

18. PCMCIA port connector (J2)

J2 port allows connection of at most two PCMCIA cards into your system. You can connect two Type I or Type II PCMCIA cards or one Type III PCMCIA card. This port also supports Cardbus and ZV port connections.

19. CD-ROM/FDD module connector (JCD_FDD)

The CD-ROM drive module or the 3.5" FDD module is connected to the system through JCD_FDD. There is no need for any cable connections.



20. HDD (IDE) connector (JHDD)

A 2.5" PCI-bus IDE type hard disk is connected to the system through JHDD.

21. CPU socket (U33A)

Intel's Tillamook CPU is attached to the system through this socket, U33A. If you need to change your CPU, check first the specifications of this system in *Appendix A: Specifications*. After installing the CPU, set SW2 and SW4 of the motherboard and S1 of the DC-DC daughterboard properly. Switch setting information are provided in the next section.

22. Modem port connector (JMODEM)

This connector is available only if the fax/modem daughterboard is connected in your system. JMODEM allows connection to a standard telephone cord.

23. S-Video out jack (J6)

J6 allows connection of your system to a TV set that can accept S-video signals from the system. The TV modes accepted can either be NTSC or PAL, depending on your system BIOS setup.

24. External PS/2 mouse/keyboard connector (JKB_MS)

PS/2 enhanced keyboard or mouse can be connected via JKB_MS. Use the optional Y cable to connect both external mouse and external keyboard to this connector.

25. I/O daughterboard connectors (JIOP1, JIOP2)

The I/O daughterboard is connected to the system

through these two connectors, JIOP1 and JIOP2. This daughterboard contains the following ports: LPT/FDD port, serial port and external VGA port.

26. CPU clock select switch (SW2)

DIP switch settings for different CPU frequencies:

CPU Frequency	SW2 Switch 1	SW2 Switch 2	SW2 Switch 3	SW2 Switch 4*
133MHz	ON	OFF	ON	OFF
166MHz	ON	ON	ON	OFF
200MHz	OFF	ON	ON	OFF
233MHz	OFF	OFF	ON	OFF
266MHz	OFF	OFF	ON	OFF

* This sets HCLK VPP. OFF = 3.3V; ON = 2.5V

Refer to the CPU switch setting summary provided in the latter part of this chapter.

27. CPU voltage select switch (SW4)

DIP switch settings as follows:

CPU Frequency	SW4 Switch 1	SW4 Switch 2	SW4 Switch 3	SW4 Switch 4	SW4 Switch 5	SW4 Switch 6**
Till/1.8V	OFF	ON	ON	OFF	OFF	OFF
Till/2.0V	OFF	ON	OFF	OFF	ON	OFF

* This sets SC671 frequency. OFF = 66MHz; ON = 60MHz

** This sets Panel type. OFF = TFT; ON = DSTN

Refer to the CPU switch setting summary provided in the latter part of this chapter.



28. DC-DC daughterboard connector (JDC1, JDC2)

JDC1 and JDC2 are connected to the corresponding connectors on the DC-DC daughterboard. This daughterboard sends DC power to your notebook system. S1 switch on this daughterboard selects the required CPU voltage. Refer to the next section for S1 switch settings.

29. Fan power connector (JFAN)

JFAN is connected to the fan attached to the CPU.

30. Battery Connector (JBAT)

Battery pack is connected to the system through JBAT.

31. Power On/Off test connector (JON_OFF)

Reserved for manufacturer's use only.

S1 Switch on DC-DC Daughterboard

S1 DIP switch is used to set the CPU voltage of the CPU installed in your system. This switch is located on the upper right corner of the front side of the DC-DC daughterboard, and this daughterboard is connected to the motherboard through JDC1 and JDC2.

Refer to the CPU switch setting summary provided in the latter part of this chapter.

DIP switch settings as shown below:

Vcc2	S1 Switch 1	S1 Switch 2	S1 Switch 3	S1 Switch 4	S1 Switch 5	S1 Switch 6
3.1V	OFF	ON	OFF	OFF	OFF	OFF
2.9V	OFF	OFF	ON	OFF	OFF	OFF
2.8V	OFF	OFF	OFF	ON	OFF	OFF
2.5V	OFF	OFF	OFF	OFF	ON	OFF

- Note: This system only supports Tillamook CPU, wherein the voltage is 2.5V. Therefore, this switch settings should always be set at 2.5V. The other voltages shown are for references only. Do not install CPUs with higher voltages, this may damage your system.

CPU Switch Setting Summary

This section provides the jumper settings required for several Intel CPUs that can be used in your system. Note the locations of the following DIP switches:

- S1 = DC-DC Daughterboard, Front Side
 SW2 = Motherboard, Rear Side
 SW4 = Motherboard, Rear Side

Tillamook 266MHz CPU

$+V_{CPU_IO} = 2.5V$; $+V_{CPU_CORE} = 2.0V$

