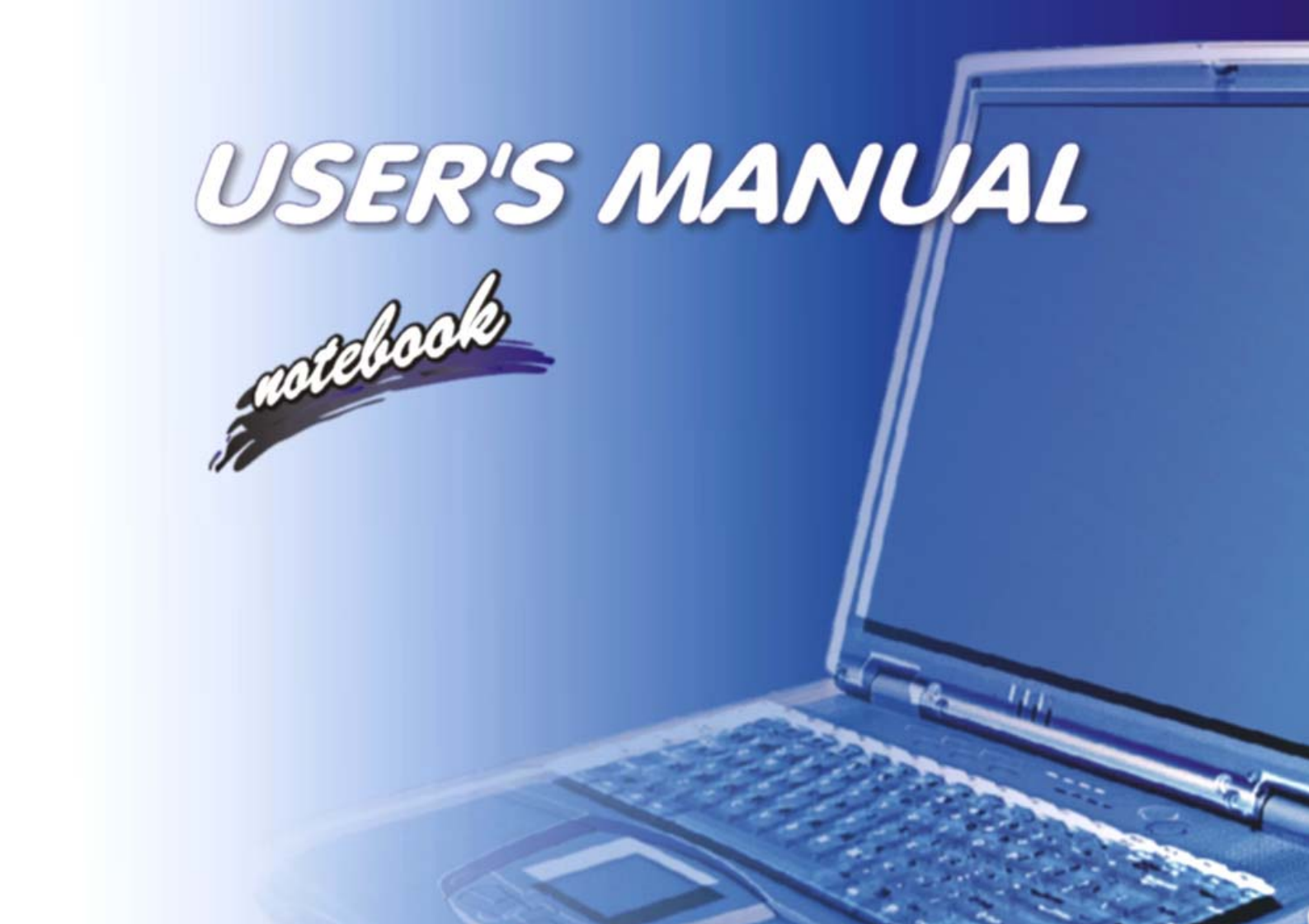
USER'S MANUAL

notebook



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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:

- Re orient or relocate 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 service representative or an experienced radio/TV technician for help.

Warning

Use only shielded cables to connect I/O devices to this equipment.
You are cautioned that changes or modifications not expressly approved by the manufacturer for compliance with the above standards could void your authority to operate the equipment.

IMPORTANT SAFETY INSTRUCTIONS

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

1. Do not use this product near water, for example near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.

CAUTION

Always disconnect all telephone lines from the wall outlet before servicing or disassembling this equipment.

USE THE APPROPRIATE 26AGW TELEPHONE LINE CORD

IMPORTANTES MESURES DE SÉCURITÉ

Certaines mesures de sécurité doivent être prises pendant l'utilisation de matérial téléphonique afin de réduire les risques d'incendie, de choc électrique et de blessures. En voici quelquesunes:

1. Ne pas utiliser l'appareil près de l'eau,, p.ex., près d'une baignoire, d'un lavabo, d'un évier de cuisine, d'un bac à laver, dans un sous-sol humide ou près d'une piscine.
2. Éviter d'utiliser le téléphone (sauf s'il s'agit d'un appareil sans fil) pendant un orage électrique. Ceci peut présenter un risque de choc électrique causé par la foudre.
3. Ne pas utiliser l'appareil téléphonique pour signaler une fuite de gaz s'il est situé près de la fuite.
4. Utiliser seulement le cordon d'alimentation et le type de piles indiqués dans ce manuel. Ne pas jeter les piles dans le feu: elles peuvent exploser. Se conformer aux règlements pertinents quant à l'émination des piles.

ATTENTION

Débranchez toujours toutes les lignes téléphoniques des prises murales avant de réparer ou de démonter cet équipement.

UTILISEZ LE CORDON DE TÉLÉPHONE 26AGW APPROPRIÉ

Instructions for Care and Operation

The notebook computer is quite rugged, but it can be damaged. To ensure that does not happen, follow these suggestions:


1. **Don't drop it.** Make sure it's on a stable surface. If the computer falls, the case and other components could be damaged. Do not expose it to any shock or vibration.


2. **Don't overheat it.** Keep the computer and power supply away from any kind of heating element. Keep the computer out of direct sunlight. Don't store or use the computer in a humid environment. Do not place the computer on any surface which will block the vents.

3. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.

4. **Keep it dry.** This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged. Do not leave it in a place where foreign matter or moisture may affect the system.

5. **Follow the proper working procedures for computer**. Shut-down the computer properly, and close all programs (Don't for-get to save your work). Do not turn off any peripheral devices when the computer is on. Do not disassemble the computer by yourself. Remember to periodically save your data as data may be lost if the battery is depleted. Perform routine maintenance on your computer.

6. **Take care when using peripheral devices**. Use only approved brands of peripheral devices. Unplug the power cord before attaching any peripheral device.

7. **Do not place anything heavy on the computer**.

Power Safety

The computer has specific power requirements:

- Only use a power adapter approved for use with this computer.
- Your AC adapter may be designed for international travel but it still requires a steady, uninterrupted power supply. If you are unsure of your local power specifications, consult your service representative or local power company.
- The power adapter may have either a 2-prong or a 3-prong grounded plug. The third prong is an important safety feature; do not defeat its purpose. If you do not have access to a compatible outlet, have a qualified electrician install one.
- When you want to unplug the power cord, be sure to disconnect it by the plug head, not by its wire.
- Make sure the socket and any extension cord(s) you use can support the total current load of all the connected devices.
- Before cleaning the computer, make sure it is disconnected from any external power supplies (i.e. AC adapter or car adapter).
- Do not plug in the power cord if you are wet.
- Do not use the power cord if it is broken.
- Do not place heavy objects on the power cord.

Battery Precautions

- Only use batteries designed for this computer. The wrong battery type may explode, leak or damage the computer.
- Recharge the batteries using the notebook's system. Incorrect recharging may make the battery explode.
- Do not try to repair a battery pack. Refer any battery pack repair or replacement to your service representative or qualified service personnel.
- Keep children away from, and promptly dispose of a damaged battery. Always dispose of batteries carefully. Batteries may explode or leak if exposed to fire, or improperly handled or discarded
- Keep the battery away from metal appliances.
- Affix tape to the battery contacts before disposing of the battery.
- Do not touch the battery contacts with your hands or metal objects.

Caution

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

Battery Disposal

The product that you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its useful life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

Cleaning

Do not apply cleaner directly to the computer, use a soft clean cloth. Do not use volatile (petroleum distillates) or abrasive cleaners on any part of the computer.

Servicing

Do not attempt to service the computer yourself. Doing so may violate your warranty and expose you and the computer to electric shock. Refer all servicing to authorized service personnel. Unplug the computer from the power supply. Then refer servicing to qualified service personnel under any of the following conditions:

- When the power cord or AC/DC adapter is damaged or frayed.
- If the computer has been exposed to rain or other liquids.
- If the computer does not work normally when you follow the operating instructions.
- If the computer has been dropped or damaged (do not touch the poisonous liquid if the LCD panel breaks).
- If there is an unusual odor, heat or smoke coming from your computer.

Travel Considerations

Packing

As you get ready for your trip, run through this list to make sure the system is ready to go:

1. Check that the battery pack and any spares are fully charged.
2. Power off the computer and peripherals.
3. Close the display panel and make sure it's latched.
4. Disconnect the AC adapter and cables. Stow them in the carrying bag.
5. The AC adapter uses voltages from 100 to 240 volts so you won't need a second voltage adapter. However, check with your travel agent to see if you need any socket adapters.
6. Put the notebook in its carrying bag and secure it with the bag's straps.
7. If you're taking any peripherals (e.g. a printer, mouse or digital camera), pack them and those devices' adapters and/or cables.
8. Anticipate customs - Some jurisdictions may have import restrictions or require proof of ownership for both hardware and software. Make sure your "papers" are handy (it may be useful to have the computer in standby mode before going through customs).

On the Road

In addition to the general safety and maintenance suggestions in this preface, and Appendix B: Troubleshooting, keep these points in mind:

Hand-carry the notebook.
For security, don't let it out of your sight. In some areas, computer theft is very common.

Don't check it with "normal" luggage. Baggage handlers may not be sufficiently careful. Avoid knocking the computer against hard objects.

Beware of Electromagnetic fields.
Metal detectors & X-ray machines
These devices can damage the computer, hard disk, floppy disks, LS-120 disks and other media. They may also destroy any stored data - Pass your computer and disks around the devices. Ask security officials to hand-inspect them. (You may be asked to turn it on.)
Note: Some airports also scan luggage with these devices.

Fly safely.
Most airlines have regulations about the use of computers and other electronic devices in flight. These restrictions are for your safety, follow them. If you stow the notebook in an overhead compartment, make sure it's secure. Contents may shift and/or fall out when the compartment is opened.

Get power where you can.
If an electrical outlet is available, use the AC adapter and keep your battery(ies) charged.

Keep it dry.
If you move quickly from a cold to a warm location, water vapor can condense inside the computer. Wait a few minutes before turning it on so that any moisture can evaporate.

Developing Good Work Habits

Developing good work habits is important if you need to work in front of the computer for long periods of time. Improper work habits can result in discomfort or serious injury from repetitive strain to your hands, wrists or other joints. The following are some tips to reduce the strain:

- Adjust the height of the chair and/or desk so that the keyboard is at or slightly below the level of your elbow. Keep your forearms, wrists, and hands in a relaxed position.
- Your knees should be slightly higher than your hips. Place your feet flat on the floor or on a footrest if necessary.
- Use a chair with a back and adjust it to support your lower back comfortably.
- Sit straight so that your knees, hips and elbows form approximately 90-degree angles when you are working.
- Take periodic breaks if you are using the computer for long periods of time.

Remember to:

- Alter your posture frequently.
- Stretch and exercise your body several times a day.
- Take periodic breaks when you work at the computer for long periods of time. Frequent and short breaks are better than fewer and longer breaks.

Lighting

Proper lighting and comfortable display viewing angle can reduce eye strain and muscle fatigue in your neck and shoulders.

- Position the display to avoid glare or reflections from overhead lighting or outside sources of light.
- Keep the display screen clean and set the brightness and contrast to levels that allow you to see the screen clearly.
- Position the display directly in front of you at a comfortable viewing distance.
- Adjust the display viewing angle to find the best position.

Contents

Chapter 1: Introduction

Overview

What this chapter covers:

- The Manual — how to use it
- Quick Start Guide — the minimum you need to know
- System Map — navigating around your computer

Advanced Notes

Advanced users should check the light colored boxes with the mark above.

This is where you will find detailed information about the computer's features.

Beginners may refer to this area also, and you may be surprised how much you understand.

The Manual

This manual refers to the hardware and essential software required to run your notebook computer. Depending on how your system is configured, some or all of the features described may already be set up.

Advanced Users

If you are an advanced user you may skip over most of this manual. However you may find it useful to refer to the **"Drivers & Utilities" on page 4 - 1**, **"BIOS Utilities" on page 5 - 1** and **"Upgrading The Computer" on page 6 - 1**. You may also find the notes marked with a ☑ of interest to you.

Beginners and Not-So-Advanced Users

If you are new to computers, or do not have an advanced knowledge of them, then you should try to look through all the documentation. Do not worry if you do not understand everything the first time. Keep this manual nearby and refer to it to learn as you go. You may find it useful to refer to the beginner's notes marked with a  as indicated in the margin.

Warning Boxes

No matter what your level please pay careful attention to the warning and safety information indicated by the symbol. Also please note the safety and handling instructions as indicated in the *Preface*.

Not Included

Operating Systems (e.g. *Windows 98 Second Edition, Window Me, Windows 2000 Professional, Windows XP etc.*) have their own manuals as do applications (e.g. word processing, spreadsheet and database programs). If you have questions about the operating systems or programs then please consult the appropriate manuals.

System Software

Your computer may already come with system software pre-installed. Where this is not the case, or where you are re-configuring your computer for a different system, you will find this manual refers to the following operating systems:

- Microsoft Windows 98SE
- Microsoft Windows Me - Millennium Edition
- Microsoft Windows 2000
- Microsoft Windows XP

Quick Start Guide

This guide assumes that you are already familiar with computers and can tell at a glance what and where all the key components are. If you are not that comfortable with this type of device, then please refer to the following pages, which give an overview of the system.

It is still best to review these steps, *before* taking any action. If there is anything you are not sure about, then please refer to the appropriate chapter before continuing.

Unless you need to install an operating system, your computer should be ready to work right out of the box. Before you begin please follow the safety instructions in the *Preface*.

1. Remove all packing materials, CD/DVD's, floppy disks, and any PC Cards.
2. Securely attach any peripherals you want to use with the notebook (e.g. keyboard and mouse) to their ports.
3. Attach the AC adapter to the DC-in jack on the left of the computer (**See "Left Side View" on page 1 - 15**). Then plug the AC power cord into an outlet, and connect the AC power cord to the AC adapter
4. Raise the lid/LCD to a comfortable viewing angle.
5. Press the power button to turn "on".

Peripheral Devices

Please note that peripherals (printers, digital cameras, etc.) which attach to your computer by either **USB** or **IEEE1394** ports may be connected *after* Windows is up and running. All other peripherals must be connected *before* you turn on the system.

System Map

Your notebook PC has a lot of built-in features. Most of these are enabled by your operating system. Further explanations of the various subsystems are covered in the chapter or pages indicated.

Getting To Know Your Computer

The following graphics will help you to become familiar with the basic functions, and to learn the location of the various ports and components of your computer.

Figure 1 - 1
Model Differences

Model Differences

This manual refers to the two notebook models pictured on this page.

The models vary slightly in external design. Photographs used throughout this manual are of Model A.

Model A

Model B

Top View with LCD Panel Closed

Model A Model B

Figure 1 - 2
Top View with LCD Panel Closed

1. LCD Latch
2. LED Power & E-Mail Indicators

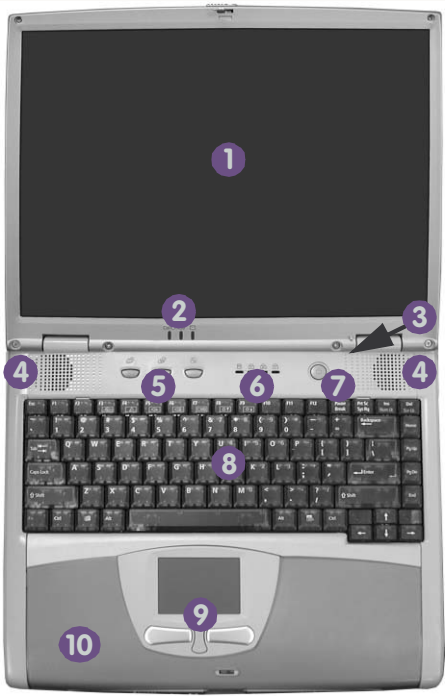
To open the LCD display:

1. Place the computer on a stable surface.
2. Move the cover latch **"1"** to the right to release the top cover.
3. Lift the top cover to reveal the LCD panel and keyboard.
4. Adjust the LCD panel to a comfortable viewing angle.
5. The LED Power & E-Mail indicators **"2"** show the power source and power status of the computer, and give notification of e-mail received.

Top View with LCD Panel Open

Figure 1 - 3
Top View with LCD Panel Open

1. LCD
2. LED Power & E-Mail Indicators
3. Close Cover Switch
4. Speakers
5. Hot-Key buttons
6. LED Status Indicators
7. Power Button
8. Keyboard
9. TouchPad and Buttons
10. Palm Rest (Removable)



LCD Panel

The notebook PC comes with a 14.1" or 15" TFT LCD (Liquid Crystal Display) screen depending upon the configuration purchased.

LED Power & E-Mail Indicators

These indicators display the current power source and power source status of the computer. The third indicator may be configured to give a visual confirmation when e-mail is received in the default e-mail program (**See "Auto Mail Checker" on page 2 - 8**).

Close Cover Switch

This switch acts as a sensor to tell when the LCD Panel is closed. When this LCD cover sensor is activated the default setting of your operating system's power scheme sends the computer into a power saving state (**See "Power Schemes" on page 3 - 18**).

Stereo Speakers

Two built-in speakers provide rich, stereo sound.

Hot-Key Buttons

The three hot-keys allow you instant access to your default Internet browser, default e-mail program, and an application of your choice. To learn how to set the buttons see **“Hot-Keys” on page 2 - 19**.

LED Status Indicators

These display the system’s operational status. Refer to **“LED Status Indicators” on page 2 - 11** for more information on what the lights mean.

Power Button

Press this button to turn your computer on or off (**See " Turning on the Computer" on page 2 - 5**). This button may also be used as a suspend/resume key, once configured as such in the power management control panel of your operating system (**"Configuring the Power Button" on page 3 - 22**). The light on the power button will display the current power status of the computer.

Forced Off

If the system "hangs", and the **Ctrl** + **Alt** + **Del** key combination doesn't work, press the power button for **4 seconds** to force the system to turn itself off.

Shutdown

Please note that you should always shut your computer down by choosing the **Shut Down** command from the **Start** menu in ***Windows.*** This will help prevent hard disk or system problems.

Keyboard

The computer has an A4-Size "Win Key" keyboard with an embedded numeric keypad. It has the same features as a full-sized desktop keyboard and can easily be replaced with a different language keyboard should you desire.

TouchPad & Buttons

The pointing device features a sensitive glide pad for precise movements. It functions the same way as a two-button mouse. The right TouchPad button is the same as the right mouse button; the left TouchPad button is the same as the left mouse button. The central buttons may be used to scroll up and down, or they may be configured to perform a variety of function (**See "Configuring the TouchPad and Buttons" on page 2 - 26**).

Removable Palm Rest

Depending upon the configuration you purchased, this can be exchanged.

Front View

Figure 1 - 4
Front View

1. LCD Latch
2. Audio “DJ” CD Player Control Panel On/Off Switch
3. Previous Track
4. Next Track
5. LCD
6. Play Pause
7. Stop
8. Volume Down
9. Volume Up
10. Built-In Microphone

Audio “DJ” CD Player

The built-in standalone audio CD player gives you direct hardware control for audio CD’s when the computer is **shut down**, but has a working power source.

If the computer is running then control for all CD’s is handed over to the Operating System’s software controller, however the CD Player’s volume controls can still be used to set the audio volume.

Note: If you are playing a CD in the audio player you will not be able to use the power button to switch the computer on. Switch the CD audio player **off** first, then press the power button to turn on the computer.

Sound Volume Adjustment

How high the sound volume can be set using the volume control knob depends on the setting of the volume control within ***Windows***. Click the **Speaker** icon on the taskbar to check the setting.

The Volume controls on the Audio DJ player still control the volume settings if the computer's operating system is running.

All peripherals must be connected before you turn on the system.

Microphone

Record on your notebook computer with the built-in microphone.

Left Side View

Figure 1 - 5
Left Side View

1. DC-In Jack
2. Vent
3. PC Card Slot
4. PC Card Eject Button

DC-In Jack

Plug the supplied AC adapter into this jack to power your notebook.

PC Card Slot

This is a Type-II PC card slot (also previously referred to as PCMCIA). Refer to **"The PC Card Slot" on page 2 - 18** for more information on the PC Card slot.

Vent

This enables airflow to prevent the notebook from overheating.

Overheating

To prevent your computer from overheating make sure nothing blocks the vent while the computer is in use.

Right Side View

Figure 1 - 6
Right Side View

1. Device Bay One
2. Device Bay Two
3. Infrared Transceiver

Device Bays One & Two

There are two storage bays on your notebook computer:

Bay One will have **ONE** of the following interchangeable devices, depending on the configuration purchased:

- 3.5" 3-mode FDD
- DVD-ROM
- CD-ROM
- CD-RW and DVD-ROM Combo drive
- CD-RW
- Secondary battery pack

Bay Two will have **ONE** of the following fixed CD devices, depending on the configuration purchased:

- DVD-ROM
- CD-ROM
- CD-RW and DVD-ROM Combo drive
- CD-RW

3.5" FDD (Floppy Disk Drive)

If your computer has the floppy disk option, it is a 3.5”, 3-mode, 1.44 MB fixed floppy disk drive. For more information please refer to **“The Floppy Disk Drive (FDD)” on page 2 - 13**.

Media Warning

Don’t try to remove a floppy disk while the system is accessing it. This may cause the system to “crash”.

CD Emergency Eject

If you need to manually eject a CD/DVD (e.g. due to an unexpected power interruption) you may push the end of a straightened paper clip into the Emergency eject hole.

Do not use a sharpened pencil or similar object that may break and become lodged in the hole.

CD Device

A 5.25” CD-ROM drive, or DVD-ROM drive, or CD-RW, or Combination CD-RW and DVD-ROM Drive (12.7mm height) is standard in **Bay 2** depending on the model you purchased. There may also be another CD device in **Bay 1**. For more information on using the drive please refer to **“The CD/DVD Device” on page 2 - 14**.

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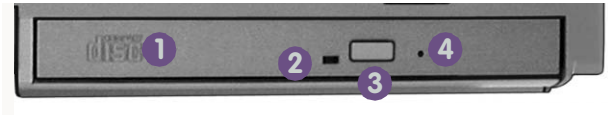


1. CD-ROM or DVD label to indicate which type
2. Busy Indicator
3. Open button
4. Emergency eject hole

Figure 1 - 7
CD Device

Infrared Transceiver

The infrared transceiver enables communication between the computer and another similarly equipped device, and is 115.2k SIR, 4M bps FIR, IrDA 1.1 compliant (**See "Configuring the Infrared Settings for FIR" on page 3 - 30**). For further information, please refer to the manual of the device you wish to connect.

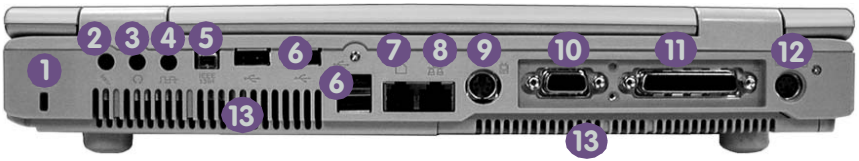
Infrared Communication

The Infrared transceiver operates on a "Line of Sight".

Make sure nothing is blocking the "Line of Sight" between your system's transceiver and the destination's transceiver.

Rear View

Figure 1 - 8
Rear View



1. Security Lock
2. Microphone-In Jack
3. Headphone-Out Jack
4. S/PDIF Out Port
5. Mini - IEEE 1394 Port
6. 4 USB Ports
7. RJ-11 Phone Jack
8. RJ-45 LAN Jack
9. S-Video Connector
10. External Monitor (CRT) Port
11. Parallel Port
12. PS/2 Type Port
13. Vents

Overheating

To prevent your computer from overheating make sure nothing blocks the vent while the computer is in use.

Security Lock

To prevent possible theft, a Kensington-type lock can be attached to this slot. Locks can be purchased at any computer store.

Microphone-In Jack

Record on your notebook computer with the built-in microphone.

Headphone-Out Jack

Headphones or speakers may be connected through this jack.
Note: Set your system's volume to a reduced level before connecting to this jack.

S/PDIF Out Port

You can use this port for S/PDIF (Sony/Philips Digital Interface Format) output, which allows you to connect your DVD-capable PC to a Dolby AC-3 compatible receiver for "5.1" or 'dts' surround sound.

Mini - IEEE 1394 Port

This allows high speed connection to various peripheral devices, e.g. external disk drives and digital cameras (**See note below**).

☑

IEEE 1394

The IEEE 1394 port only supports **SELF POWERED** IEEE 1394 devices.

Four USB Ports

These ports are hardware interfaces for low-speed peripherals such as a keyboard, mouse, joystick, scanner, printer or telephony devices. Devices may be plugged into the computer, and unplugged from the computer, without the need to turn the system off.

RJ-11 Phone Jack

This port connects to the built-in modem. You may plug the telephone line directly into this RJ-11 telephone connection.
Note: Broadband (e.g. ADSL) modems usually connect to the LAN port.

RJ-45 LAN Jack

This port supports LAN (Network) functions. **Note**: Broadband (e.g. ADSL) modems usually connect to the LAN port.

S-Video Connector

Connect your television to your computer and view DVD's, VCD's or anything else your computer can display. You will need an S-Video cable to make the connection. Enable this port from the video driver controls (**See " Enabling TV Display" on page 3 - 14**).

External Monitor (CRT) Port

Connect an external CRT monitor to this port to allow dual video or simultaneous display on the LCD and external CRT monitor (**See " Display Devices" on page 3 - 7**).

Printer/Parallel Port

This port supports ECP (Extended Capabilities Port) and EPP (Enhanced Parallel Port) 1.7/1.9 modes.

PS/2 Type Port

Connect an external PS/2 type mouse or keyboard to this port. You can use a “Y” splitter if you want to attach both.

Bottom View

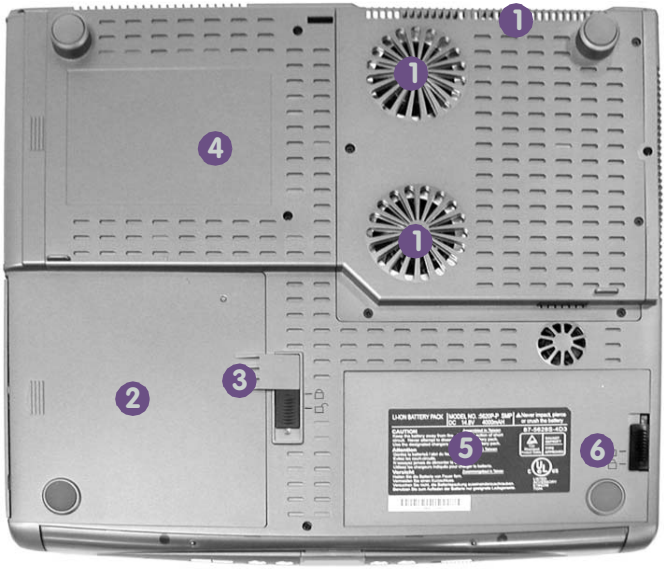


Figure 1 - 9
Bottom View

1. Vent/Fan Outlets
2. Device Bay One
3. Device Bay One Release Latch
4. Device Bay Two
5. Battery
6. Battery Release Latch

Overheating

To prevent your computer from overheating make sure nothing blocks the vent/fan outlet while the computer is in use.

Wireless Network Card

Your computer may have an **optional** 802.11b Wireless Networking solution. If included, the antennae and other components are not externally visible (please check with your service representative). Make sure you install the driver (**See "What to Install" on page 4 - 2**).

Chapter 2: Using The Computer

Overview

To learn more about your computer, please read this chapter.

This chapter includes:

- The Power Sources
- Turning on the Computer
- LED Indicators
- The Hard Disk Drive
- The Floppy Disk Drive
- The CD/DVD Device
- The PC Card Slot
- Keyboard
- TouchPad & Buttons
- Mouse
- Printer (general guidelines)

Shutdown

Please note that you should always shut your computer down by choosing the **Shut Down** command from the **Start** menu in ***Windows.*** This will help prevent hard disk or system problems.

The Power Sources

The computer can be powered by either an AC adapter or a battery pack.

AC Adapter

Use only the AC adapter that comes with your computer. The wrong type of AC adapter will damage the computer and its components.

1. Attach the AC adapter to the DC-in jack on the left of the computer.
2. Plug the AC power cord into an outlet, then connect the AC power cord to the AC adapter.
3. Raise the lid/LCD to a comfortable viewing angle.
4. Press the power button to turn “on”.

Figure 2 - 1
AC Adapter

Battery

The battery allows you to use your notebook computer while you are on the road or an electrical outlet is unavailable. Battery life varies depending on the applications and the configuration you're using. To increase battery life, let the battery discharge completely before re-charging.

We recommend leaving the battery inside the notebook at all times. For more information on the battery, please refer to **“Battery Information” on page 3 - 23**.

Figure 2 - 2
Battery Removal

Battery Release

Hold the battery release latch “1” in the “unlocked” position and it will pop-up for removal (**“Removing and Replacing the Battery” on page 3 - 26**).

Recharging the Battery with the AC Adapter

The battery pack automatically recharges when the AC adapter is attached and plugged into an electrical outlet. If the computer is powered on, and in use, it will take several hours to fully recharge the battery. When the computer is turned off but plugged into an electrical outlet, battery charge time is less (**Refer to "LED Indicators" on page 2 - 6 for information on the battery charge status**).

Proper handling of the Battery Pack

- DO NOT disassemble the battery pack under any circumstances.
- DO NOT expose the battery to fire or high temperatures, it may explode.
- DO NOT connect the metal terminals (+, -) to each other. (For more information on how to maintain the battery pack, refer to **"Battery Information" on page 3 - 23**).

Turning on the Computer

Now you are ready to begin using your computer. To turn it on simply press the power button on the front panel.

When the computer is on, you can use the power button as a hot-key button when it is pressed for less than **4 seconds**. Use **Power Management** or **Power Options**) in the "Windows" Control Panel to configure this feature.

☑

Forced Off

If the system "hangs", and the **Ctrl** + **Alt** + **Del** key combination doesn't work, press the power button for **4 seconds,** or longer**,** to force the system to turn itself off.

☑

Power Button as Standby or Hibernate Button

If you are using an ACPI-compliant OS, such as *Windows Me, Windows 2000 Professional*, or *Windows XP* the power button can be designated as **Standby** or **Hibernate** within the OS's "Power Management" or "Power Options" subsystem (see your OS's documentation for details).

LED Indicators

There are two sets of LED indicators (**LED Power & Auto Mail Indicators** and **LED Status Indicators**) on your computer that will display helpful information about the current status of the computer.

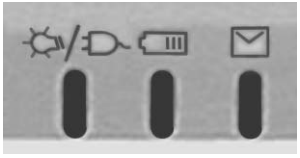


Figure 2 - 3
LED Indicators

The LED Power & Auto Mail Indicators are also visible when the top of your computer is closed.

LED Power & Auto Mail Indicators

Table 2 - 1
LED Power & Automail Indicators

Icon	Color	Description
	Yellow	AC Power is plugged in
	Green	The computer is on
	Blinking Green	The system is in the configured standby mode
	Yellow	The battery is being charged
	Green	The battery is fully charged
	Blinking Yellow	The battery has reached critically low power status
	Blinking Green	New mail has arrived
	Fast Blinking Green	New mail has arrived from users defined in the Special Group in the Auto Mail Checker
	Orange	The **secondary*** battery is being charged
	Green	The **secondary*** battery is fully charged

Low Battery Warning

When the battery is critically low, immediately connect the AC adapter to the computer or save your work, otherwise, the unsaved data will be lost when the power is depleted.

***Note**: The secondary battery is **optional**, depending upon the configuration purchased.

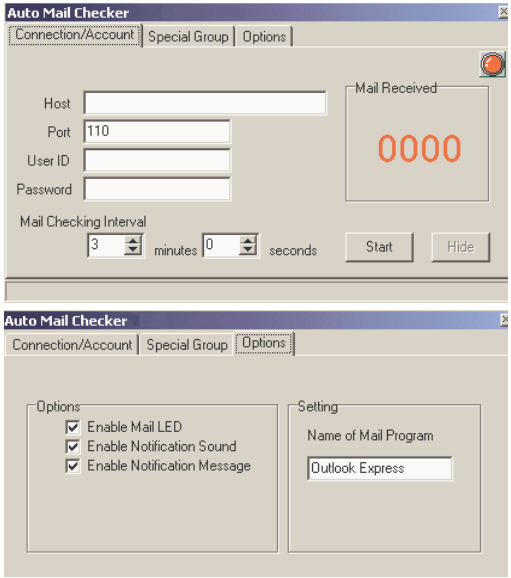
Auto Mail Checker

After you have installed the driver for the Auto Mail program (**See "What to Install" on page 4 - 2**) you may then configure it to give you notification when you receive new mail. You must be online to receive this notification (note that this program only supports the **POP3** protocol), and your default mail program does not need to be open.

The Auto Mail Checker appears as an icon  in the **taskbar**. Clicking on the icon will bring up the following options menu.

Select **Open** to bring up the control panel for the program.

You may then configure the options for your mailserver, name, password, program and method(s) of notification.



Note

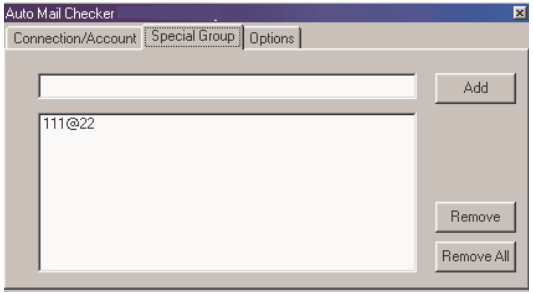
Check with your Internet Service Provider, network administrator or Mail Service provider for details on what to put on these pages.

Figure 2 - 4
Auto Mail Checker Account Setup & Options

Special Group

You may also define the users you want to appear in this group (**See Figure 2 - 5 Special Group Setup**). If you choose to enable the **Mail LED** then the ✉ icon will flash when you receive new mail in your default mail program.

Figure 2 - 5
Special Group Setup



You may add the e-mail addresses of those you wish to assign to your special group here. The LED will then blink fast when mail is received from members of this group if LED notification is enabled in the control panel (**Figure 2 - 4 Auto Mail Checker Account Setup & Options**).

LED Status Indicators

Once your computer is on and in use, the LED status indicators will display the system's operational status.

Table 2 - 1
LED Status Indicators

Icon	Color	Description
	Green	Floppy/Hard disk/CD Device activity
	Green	Number Lock is activated
	Green	Caps Lock is activated
	Green	Scroll Lock is activated

Scroll Lock

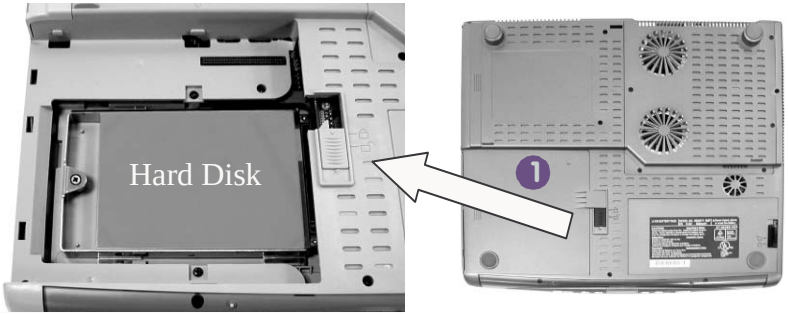
To enable and disable the Scroll Lock feature, press the **Fn** and **ScrLk** keys simultaneously.

The Hard Disk Drive

The hard disk drive is used to store your data in the notebook computer. It is mounted in a removable case and can be taken out to accommodate other 2.5” IDE hard disk drives with a height of 9.5 mm. The system supports PIO mode 4 /ATA-33/66/100 (Ultra DMA).

The hard disk is accessible from the bottom of your computer under the device installed in **Bay One** as seen below **“1”**. Further details on removing and inserting the hard disk are available in **“Upgrading the Hard Disk Drive” on page 6 - 5**.

Figure 2 - 6
Hard Disk Location



Power Safety

Before attempting to access any of the internal components of your notebook please insure that the machine is not connected to the AC power, and that the machine is turned off.

The Floppy Disk Drive (FDD)

The computer may be equipped with a fixed 1.44 MB, 3.5” floppy disk drive module depending on the configuration purchased. By default it is drive “**A:**” and can be used as a boot device if properly set in the **BIOS** (**Refer to “Boot Menu” on page 5 - 16**).

Media Warning

Don’t try to remove a floppy disk while the system is accessing it. This may cause the system to “crash”.

Inserting/Removing Floppy Disks

When using the floppy drive, always insert your floppy diskette with the label-side facing up. To remove the inserted diskette, press the eject button on the top-right corner of the floppy drive.

Figure 2 - 7
Floppy Disk Drive

Sound Volume Adjustment

How high the sound volume can be set using the volume control knob depends on the setting of the volume control within ***Windows***. Click the **Speaker** icon on the taskbar to check the setting.

The Volume controls on the Audio DJ player still control the volume settings if the computer's operating system is running.

All peripherals must be connected before you turn on the system.

The CD/DVD Device

There are two bays for a combination of a CD-ROM, or DVD-ROM, or CD-RW, or Combination CD-RW and DVD-ROM drive depending on the model you purchased (You may alternatively have a floppy disk drive or secondary battery in one bay). The CD Device is usually labeled drive **D:** and may be used as a boot device if properly set in the **BIOS** (**"Boot Menu" on page 5 - 16**).

Loading Compact Discs

To insert a CD/DVD disc, press the open Button and carefully place a CD/DVD disc onto the disc tray with label-side facing up (Use just enough force for the disc to click onto the tray's spindle). Gently push the CD/DVD tray in until its lock "clicks" and you are ready to start. The Busy Indicator will light up while data is being accessed, or while an audio/video CD, or DVD, is playing. If power is unexpectedly interrupted, insert an object such as a straightened paper clip into the emergency eject hole to open the tray.

Handling CD's or DVD's

Proper handling of your CD's/DVD's will prevent them from being damaged. Please follow the advice below to make sure that the data stored on your CD-ROM / DVD-ROM discs can be accessed.

Remember to:

- Hold the CD or DVD by the edges; do not touch the surface of the disc.
- Use a clean, soft, dry cloth to remove dust or fingerprints.
- Do not write on the surface with a pen.
- Do not attach paper or other materials to the surface of the disc.
- Do not store or place the CD or DVD in high-temperature areas.
- Do not use benzene, thinner, or other cleaners to clean the CD or DVD.
- Do not bend the CD or DVD.
- Do not drop or subject the CD or DVD to shock.

Media Warning

When manually ejecting a CD/DVD disc, DO NOT use a sharpened pencil or similar object which may break, and become lodged in the hole.

CD Emergency Eject

If you need to manually eject a CD (e.g. due to an unexpected power interruption) you may push the end of a straightened paper clip into the Emergency eject hole.

DVD Regional Codes

DVD region detection is device dependent, not OS-dependent. You can select your module's region code **5** times. The fifth selection is permanent. This cannot be altered even if you change your operating system or you use the module in another computer.

Figure 2 - 8
DVD Regional Codes (Windows XP)

Changing DVD Regional Codes

Go to the **Control Panel** in *WindowsXP/Windows 2000* and double-click **System**, click **Device Manager**, then click the + next to **DVD/CD-ROM drives**. Double-click on the DVD-ROM device to bring up the **Properties** menu, and select the **DVD Region** (tab) to bring up the control panel as seen in **"DVD Regional Codes (Windows XP)" on page 2 - 16**.

Changing Region Codes in Windows 98/Me

If you are using *Windows 98* or *Windows Me* then you will need to use your DVD software player to change the region code.

DVD Regional Coding	
Region	**Geographical Location**
1	USA, Canada
2	Western Europe, Japan, South Africa, Middle East & Egypt
3	South-East Asia, Taiwan, South Korea, The Philippines, Indonesia, Hong Kong
4	South & Central America, Mexico, Australia, New Zealand
5	N Korea, Russia, Eastern Europe, India & Most of Africa
6	China

Table 2 - 2
DVD Regional Coding

The PC Card Slot

The computer is equipped with a type II PCMCIA 3.3V/5V socket which supports CardBus. The PC Card slot **"1"** is on the left of the computer.

Inserting And Removing PC Cards

- Align the PC Card with the slot and push the Card in until it locks into place.
- To remove a PC Card, simply press the eject button **"2"** next to the slot.

The PC Card Problem in Windows 98SE

See **"The PC Card Problem in Windows 98" on page 7 - 27** for information.

The PC Card Problem in Windows ME

See **"The PC Card Problem in Windows Me" on page 7 - 28** for information.

Hot-Keys

The computer has two sets of Hot-Keys, three Hot-Key buttons on the computer, and the function key combinations on the keyboard.

Figure 2 - 9
Hot-Keys

Hot-Key Buttons

These keys access the Internet, e-mail or a user-defined application with one quick button press. To use the “user-defined Hot-Key”, you must install the hot-key driver. Refer to **“What to Install” on page 4 - 2** for driver installation steps.

Programming the Hot-Keys

Table 2 - 3
Hot-Key Functions

Hot-Key	Function
	Activate the default e-mail program.
	Activate the default Internet browser.
	Activate the user specified application e.g Microsoft Word or Excel.

After installing the Hot-Key driver (**See "What to Install" on page 4 - 2**), you may have to configure or change the settings.

To configure and specify an application for **Application 1** (The default **Hot-Key** setting is for the **CD Player** application), you must follow the instructions on the next page.

Non-Default E-Mail and Browser Programs

It is possible to configure both the email and browser hot-keys to open non-default mail and browser programs. Follow the procedure outlined on **page 2-21** but highlight either the **Browser** or **Email** in **step 2**. Choose **Custom** to browse to the program of your choice as per the remaining instructions. The Hot-Key will now open this program.

1. **Right click** the Hot-Key driver icon on the **taskbar** and the following menu will appear.

2. Select **Setup** from the menu and scroll to **Application 1** and press **Enter**.

3. An **Open** dialog box will appear on the screen.
4. **Browse** to the directory where the desired application**.exe** (see the sidebar) program exists.
5. **Double-Click** on the program file or choose **Open**.
6. The Hot-Key is now set to execute that program.

Application.exe

You will need to locate the actual **application executable (.exe) file,** not just the **shortcut**. To find the application right-click its **shortcut** on the desktop and click **Properties.** Click the **shortcut** (tab) and see where the executable file is located by clicking the **Find Target** (button).

Other Keyboards

If your keyboard is damaged or you just want to make a change, you can use any standard PS/2 or USB keyboard. The system will detect and enable it automatically. However special functions/hot keys unique to the system's regular keyboard may not work.

Function Keys

On the bottom-left of the keyboard is the **Fn** key or Function key. The **Fn** key allows you to change operational features instantly. To use the following functions, press and hold the **Fn** key; then press the appropriate function key (F3, F4, F5 etc.) located at the top of your keyboard (**See "Function Keys" on page 2 - 24**).

Table 2 - 4
Function Keys

Keys	Description
Fn + F3	Turn audio on/off
Fn + F4	Toggle between suspend/resume state
Fn + F5	Decrease audio volume
Fn + F6	Increase audio volume
Fn + F7	Toggle between CRT/LCD/LCD and CRT
Fn + F8	Decrease LCD brightness
Fn + F9	Increase LCD brightness
Fn + Num Lk	Enable Number Lock
Fn + Scr Lk	Enable Scroll Lock

The Numeric Keypad

The keyboard has an embedded numerical keypad for easy numeric data input. The keypad has a yellow type face (**See "Numeric Keypad" on page 2 - 24**).

To use the keypad simply:

Activate the **Number Lock** feature by pressing the **Fn** key and the **Num Lk** key to the top right of the keyboard. You may check if **Number Lock** is enabled or not by looking at the LED status indicators (**See "LED Status Indicators" on page 2 - 11**).

Special Characters

Some software applications allow the number-keys to be used with **Alt** to produce special characters. These special characters can only be produced by using the numeric keypad. Regular number keys (in the upper row of the keyboard) will not work. Make sure **Num Lock** is on.

Function Keys and Numeric Keypad

Figure 2 - 10
Function Keys

Figure 2 - 11
Numeric Keypad

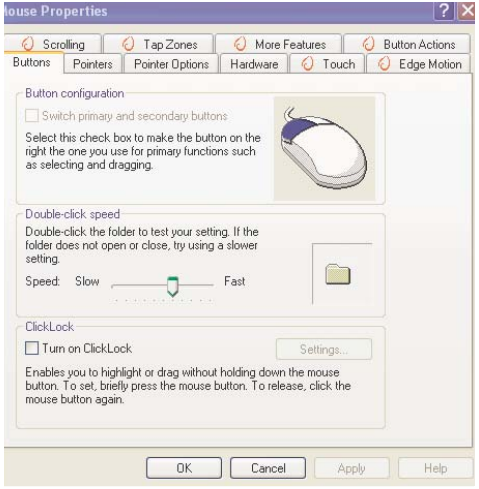
TouchPad and Buttons

The pointing device features a sensitive glide pad for precise movements. It functions the same way as a two-button mouse (the central Rocker Switch may be configured to function as a “third” button if you prefer). The right TouchPad button is the same as the right mouse button; the left TouchPad button is the same as the left mouse button.

Configuring the TouchPad and Buttons

Once you have installed the TouchPad drivers (**See "What to Install" on page 4 - 2**) you can configure the functions from the TouchPad driver icon on the **taskbar**. You may then configure the TouchPad tracking, buttons and Rocker Switch etc. to your preferences. You will find further information on this at www.synaptics.com.

Figure 2 - 12
Mouse Properties



Mouse

You can also add a mouse to your computer. You can use a mouse either through the PS/2 interface or the USB ports (at the rear of the computer).

Mouse Driver

If you are using an external mouse your operating system may be able to auto-configure your mouse during its installation or only enable its basic functions. Be sure to check the device's user documentation for details.

Adding a Printer

The most commonly used peripheral is a printer. The following conventions will help you to add a printer, however it is always best to refer to the printer manual for specific instructions and configuration options.

USB Printer

Most new printers have a USB interface connection. There are four USB ports on your notebook computer and you may use any one of the ports to connect the printer.

Install Instructions:

1. Set up the printer according to its instructions (unpacking, paper tray, toner/ink cartridge etc.).
2. Turn ON the computer.
3. Turn ON the printer.
4. Connect the printer's USB cable to one of the USB ports on the computer.
5. *Windows* will identify the printer and either load one of its own drivers or ask you to supply one. Follow the on-screen instructions.

Parallel Printer

This is still the most common type of printer. A **Parallel** to **USB** converter may be purchased at most computer stores.

Install Instructions:

1. Set up the printer according to its instructions (unpacking, paper tray, toner/ink cartridge etc.).
2. Attach the parallel cable to the printer.
3. Connect the printer's parallel cable to the parallel port at the rear of the computer (**See "Rear View" on page 1 - 20**).
4. Turn ON the printer.
5. Turn ON the computer.
6. *Windows* (Some operating systems may require a driver to recognize the parallel to USB adapter) will identify the printer and either load one of its own drivers or ask you to supply one. Follow the on-screen instructions.

Parallel to USB Converter Note

If you are using a Parallel to USB converter, follow the USB installation instructions on page **page 2-28**.

Chapter 3: Advanced Controls

Overview

This chapter covers:

- Advanced video controls
- Power and battery management features
- Audio DJ
- Infrared Communication (FIR)

Drivers

You are unable to use most advanced controls until the necessary drivers and utilities are properly installed (your service representative may have already done that for you). If your system hasn't been properly configured, refer to **"What to Install" on page 4 - 2,** for installation instructions.

Protecting the LCD

Do not allow any foreign objects (i.e. paper or plastic) to get between the lid/LCD and the work panel. They could damage or scratch the LCD and/or accidentally activate the close cover switch.

Advanced Video Controls

This section is about making adjustments for the LCD, switching display devices.

Opening the LCD

As you open the lid, adjust it so you can look at the screen straight on, without any glare. If necessary, adjust the brightness controls (**Fn + F8/F9**) as in **Figure 3 - 1**.

Figure 3 - 1
Brightness Controls

Video Driver Controls

The video interface lets you change the screen resolution and color output to whatever is most comfortable/efficient for you. This is a matter of hardware, video memory and the driver for your operating system. The driver interface shows the available options.

You can switch display devices from the **Display Properties** control panel in *Windows* as long as the video driver is installed (**"What To Install" on page 4 - 2**).

Screen Resolution/ Area Note

You may set the resolution to a higher setting than the panel supports, however this will require you to pan (scroll) around the screen as the display area will be larger than what you can see on the LCD.

Refresh Rates

The standard refresh rate for all LCD panels is **60Hz**. There is no need to adjust this.

Making Adjustments for the Display

The higher the resolution you set the LCD for, the more information the LCD can display on screen. To change the LCD's resolution and color depth go to the **Display Properties** control panel:

1. Click **Start**, point to **Settings** and click **Control Panel**.
2. Double-click **Display** (icon).
3. In the **Display Properties** dialog box, click **Settings** (tab).
4. In **Screen area/resolution**, move the slider to the preferred setting for **resolution**.
5. In **Colors/Color quality**, click the arrow and scroll to the preferred setting for **color depth.**

You can also access **Display Properties** by right-clicking the **ATI** icon in the taskbar. Point to **Settings** and click **Display Settings**, then click the **Settings** (tab).

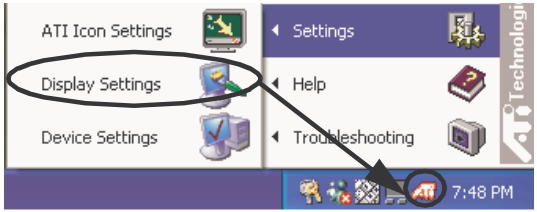
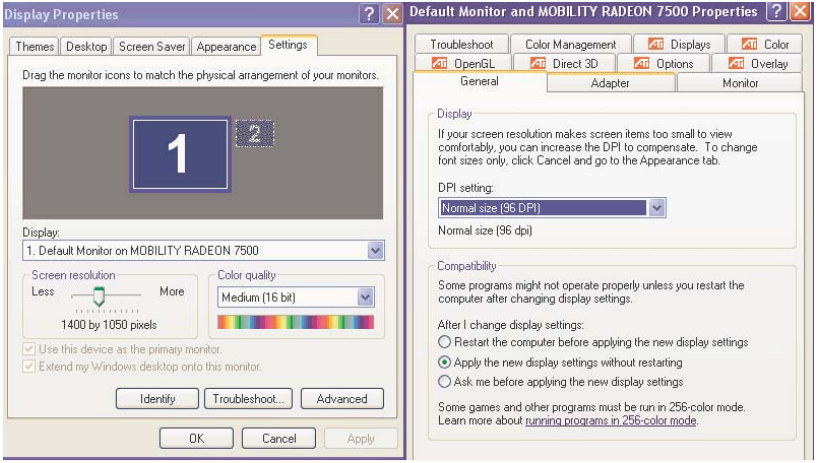


Figure 3 - 2
ATI Display Settings

Figure 3 - 3
Advanced Display Properties



When the **Display Properties** control panel is open, click the **Advanced** (button) to bring up the options tabs. Clicking through these tabs allows you to make any video adjustments you require.

Access the menus from ATI taskbar to get further help on display options, TV options etc. Right-click the **ATI** icon in the taskbar and point to **Help** or **Troubleshooting** (**Figure 3 - 4**).

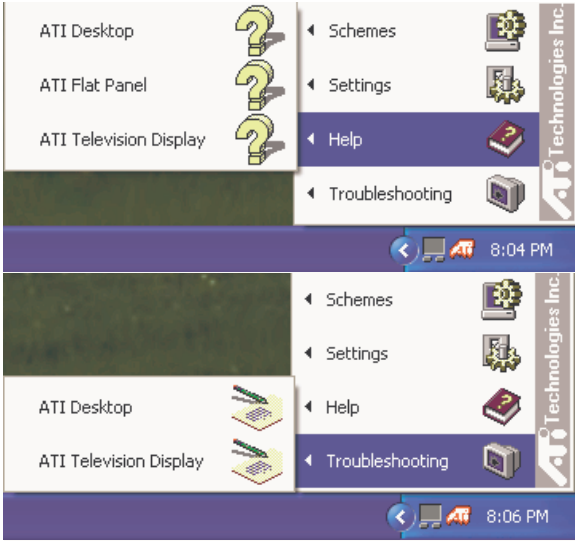


Figure 3 - 4
ATI Help & Troubleshooting

Display Devices

Besides the built-in LCD, you can also use an external CRT connected to the VGA port as your display device. You may also connect a TV. The following are the display options:

1. The built-in LCD.
2. A CRT (external monitor) connected to the VGA port.
3. A TV connected to the S-Video connector.

Drivers

You are unable to use most advanced controls until the necessary drivers and utilities are properly installed. If your system hasn't been properly configured (your service representative may have already done that for you), refer to **"What to Install" on page 4 - 2,** for installation instructions.

Vertical Refresh Rate

The vertical refresh rate of your CRT is important. If it is too low and/or you're using fluorescent lighting, the screen will appear to flicker. To reduce flickering on a CRT, use faster refresh rates (we recommend a refresh rate of 72Hz or more). But first check your monitor's documentation to make sure it can support the rates listed by the video driver. The default refresh rate for VGA monitors (without drivers) is 60Hz

Attaching a Monitor (CRT)

If you prefer to use a monitor (CRT), connect it to the External Monitor (CRT) port on the rear panel (**See "Rear View" on page 1 - 20**).

Figure 3 - 5
Monitor Properties

You can use the **Fn** + **F7** keys to toggle through the display options.

Display Options

Display Mode	Windows 98SE, Me & XP	Windows 2000
Single	✓	✓
Multiple - **Clone** Mode	✓	✓
Multiple - **Extended Desktop** Mode	✓	Not Available

Single - Either the LCD, CRT or TV as a display device
Multiple (Clone) - The LCD, CRT or TV outputting the same view (you can apply different display modes with different resolutions and refresh rates)
Multiple (**Extended Desktop)** -The LCD, CRT or TV outputting a different view (In *Windows 98SE, Windows Me and Windows XP* only)
(**"Extended Desktop Mode" on page 3 - 12**).

Table 3 - 1
Display Options

TV Support

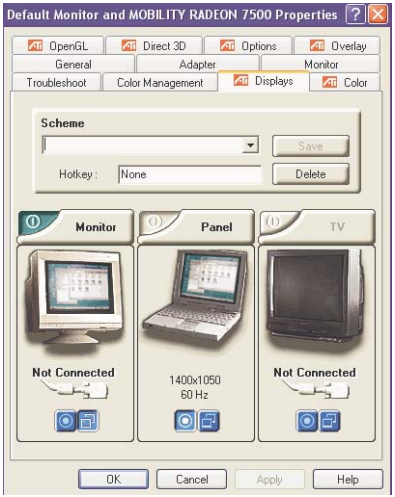
You cannot set your flat panel display and TV to the same display mode.

Firstly the display devices must be **enabled**, then configured to your requirements.

Enabling Other Displays

In the **Advanced** ATI Mobility Radeon Properties (**Figure 3 - 3 on page 3-5**) click on **Display** to get the other display options, including those for TV (different OS's will appear with different options). Click the **enable/disable button** for the display device you wish to use. Select (at least) one display as **Primary**, the remaining may operate in either **Clone Mode**, or **Extended Desktop Mode**.

Figure 3 - 6
Displays Tab



Clone Mode

Clone Mode simply shows an exact copy of the Primary display desktop on the other display(s). This mode will drive multiple displays with the same content. Use this feature to display the screen through a projector for a presentation. Each display device can be configured independently as this allows you to set the options for overhead projectors etc., which require specific resolutions and refresh rates.

Extended Desktop Mode

The system supports **Extended Desktop** (The LCD and a CRT showing different views) in multiple display environments in ***Windows 98SE, WindowsMe*** and ***WindowsXP***, but this mode is **NOT** supported in ***Win2000***. An Extended Desktop creates a desktop spanning multiple displays and acts as a large workspace.

To get this effect:

1. Attach your external monitor to the External Monitor (CRT) port, and turn it on.
2. Go to the Advanced Display Settings (**See "Advanced Display Properties" on page 3 - 5**).
3. Select the **Displays** tab (**See "Displays Tab" on page 3 - 10**).
4. Click the **enable/disable button**  for the display device you wish to use.
5. An image will appear on the display device when the enable button is clicked.
6. Click **OK** or **Apply** to save the changes.

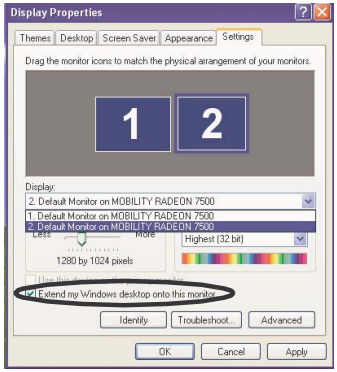


Figure 3 - 7
Extended Desktop Monitor Arrangement

Use the **Display Properties** control panel to drag the monitors to match the physical arrangement you wish to use. In the example shown in **Figure 3 - 7** the primary monitor "**1**" is on the left, the other display is on the right.

Select the monitor from the **"Display:"** pop-up menu and click "**Extend my Windows desktop onto this monitor**." With the **Extended Desktop Mode** enabled drag any icons or windows across to the other display desktop. It is therefore possible to have one program visible in one of the monitors, and a different program visible in the other monitor.

Help

Further help is available through the menus accessed from the taskbar (See **"ATI Help & Troubleshooting" on page 3 - 6**).

TV Format

If you need to change the format for TV Broadcast then go to **Display Properties > Settings >Advanced** and click **TV** (button).

Click the **Format** (tab) and select a country from the list.

Enabling TV Display

To display desktop images on a TV display, connect the TV to your LCD PC by using an S-Video cable from the TV to the connector at the rear of the computer (**See "Rear View" on page 1 - 20**). You will need to enable the TV display from the control panel in (**See "Figure 3 - 6 Displays Tab" on page 3 - 10**).
Further help is available to help you **troubleshoot** your TV connection through the menus accessed from the taskbar (**See "ATI Help & Troubleshooting" on page 3 - 6**).

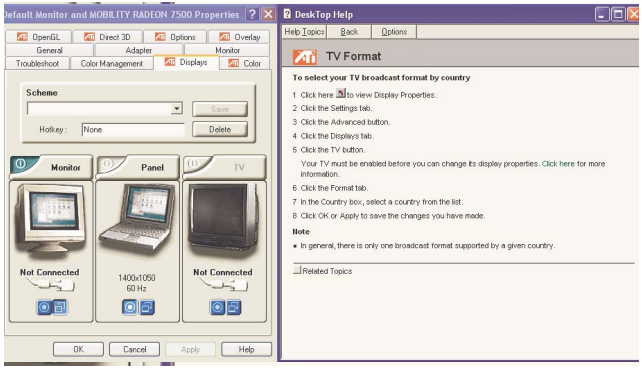


Figure 3 - 8
TV Format

Power Management Features

To conserve power, especially when using the battery, your notebook computer has two types of power management available, ACPI and APM. Power management conserves power by controlling individual components of the computer (the monitor and hard disk drive) or the whole system.

Advanced Configuration and Power Interface (ACPI)

The ACPI interface provides the computer with enhanced power saving techniques and gives the operating system (OS) direct control over the power and thermal states of devices and processors. For example, it enables the OS to set devices into low-power states based on user settings and information from applications. ACPI is available in *Windows 98*, *Windows 98SE*, *Windows Me*, *Windows 2000* and *Windows XP*. ACPI is the more recent of the two power management types available and the one you use with a newer *Windows* operating system (See sidebar note).

Advanced Power Management (APM 1.2)

APM is an older type of power management.

OS Note

Power management functions will vary slightly depending on your operating system. For more information it is best to refer to the user's manual of your operating system.

Intel SpeedStep Technology Applet

This applet helps your system take advantage of a **SpeedStep**-enhanced CPU's capabilities, such as that as found in your notebook **if you have the mobile CPU option.**

Once activated, the system can dynamically monitor and adjust the CPU's speed, without the need to shutdown, reboot, or go into Suspend mode.

Instructions on installing **SpeedStep** (If you have a mobile CPU) are in **"What to Install" on page 4 - 2**.

The **SpeedStep Control Panel** is available by going to **Start** (menu), point to **Settings** and click **Control Panel**. Double-Click **Power Management/Power Options**.

Mobile CPU

Intel SpeedStep will only take advantage of the enhanced capabilities of the mobile CPU. If your computer is based on the desktop CPU then there is no need to install the SpeedStep Applet.

If you are unsure of your CPU type check the POST screen information (**See "POST Screen" on page 5 - 4**). If you have a mobile CPU it will have the suffix "**- M**" after the information on the CPU e.g. "Pentium (R) 4 - M".

Enabling Power Management/Options

The power management/options are enabled through the Control Panel in your *Windows* system (**Power Management** in *Windows 98SE*, and **Power Options** in the *Windows ME, 2000* and *XP)*. With other operating systems you may have power management available so check your documentation.

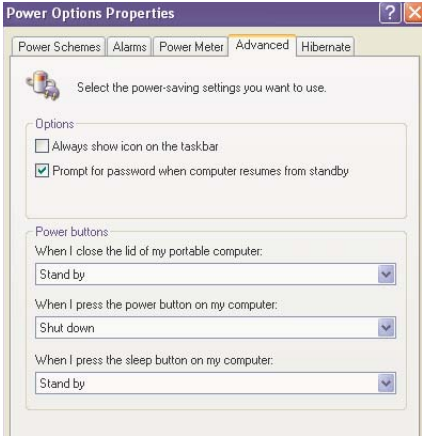


Figure 3 - 9
Power Options

You may conserve power through individual components or throughout the whole system.

☑

BIOS Vs OS

Currently power management from the BIOS is available on this machine for users who are interested in running *DOS* or other non "Plug-N-Play" OS's (**See ACPI Table/Features Control Sub-Menu on page page 5-13**).

Any settings made in the **BIOS** will be overridden by the Power Management settings in the **OS**.

Conserving Power Through Individual Components

Monitor Standby

To conserve power, you can set the monitor to turn off after a specified time.

Hard Disk Standby

The computer's hard disk motor will be turned off if the hard disk drive has not been accessed for a specified period of time. If the system reads or writes data, the hard disk motor will be turned back on.

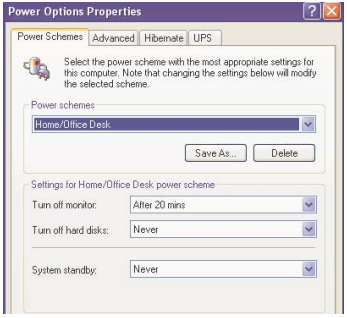


Figure 3 - 10
Power Schemes

Conserving Power Throughout the Whole System

With this function you can stop the notebook's operation and restart where you left off. This system features **Standby** and **Hibernate** suspend mode levels (**Hibernate** mode will need to be enabled by clicking the option in the **Hibernate** tab in the **Power Options** control panel).

Hibernate Mode vs. Shutdown

"Hibernate Mode" and "Shutdown" are the same in that the system is off and you need to press the power button to turn it on. Their main difference is:

When you come back from hibernation, you can return to where you last left off (what was on your desktop) without reopening the application(s) and file(s) you last used.

You can use either method depending on your needs.

Standby Mode vs. Hibernate Mode

If you want to stay away from your work for just a while, you can put the system on standby instead of in hibernation. It takes a longer time to wake up the system from Hibernate Mode than from Standby Mode.

Hibernate Mode in Windows 98SE

Hibernate Mode is not available in Windows 98SE.

Standby

Standby saves the least amount of power, but takes the shortest time to return to full operation. During Standby the hard disk is turned off, and the CPU is made to idle at its slowest speed. All open applications are retained in memory. When you are not using your computer for a certain length of time, which you specify in the operating system, it will enter Standby mode to save power.

The system can resume from Standby mode by:

- Pressing the key combination **Fn + F4** (See **"Function Keys" on page 2 - 22**).
- Pressing the Power Button (if configured to do so - **see "Configuring the Power Button" on page 3 - 22**).
- An alarm resume that is enabled and expires.
- Pressing a key on the keyboard.
- An incoming call is received on the modem.

Hibernate

Hibernate uses no power and saves all of your information on a part of the HDD before it turns the system off. Although it saves the most power it takes the longest time to return to full operation. You can set your notebook to automatically enter Hibernate mode when the battery power is almost depleted.

The system will resume from Hibernate mode by:

- Pressing the key combination **Fn + F4** (See **"Function Keys" on page 2 - 22**)
- Pressing the power button (if configured to do so - see **"Configuring the Power Button" on page 3 - 22**).

Hibernate Mode in Windows 98SE

Hibernate Mode is not available in Windows 98SE.

Configuring the Power Button

The Power button may be set to send the computer in to either **Standby** or **Hibernate** modes (**Figure 3 - 11**). In **Standby** mode the LED will flash green, in **Hibernate** mode the LED will be off. If you are in a power saving mode set to save power through individual components (e.g. hard disk, monitor), the LED will remain green.

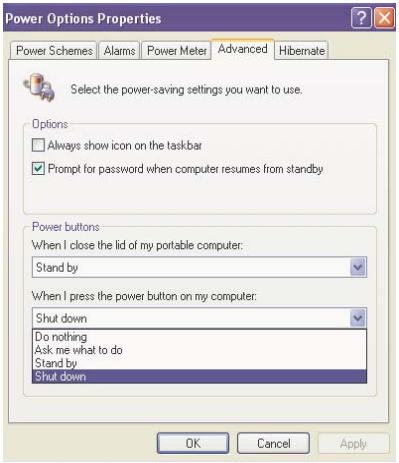


Figure 3 - 11
Advanced Power Options

Battery Information

Please follow these simple guidelines to get the best use out of your battery.

New Battery

Always charge a new battery before using it.

Battery Life

Your notebook computer's battery life is dependent upon many factors, including the programs you are running, and peripheral devices attached. Power Management settings in the OS will help prolong the battery life if configured appropriately.

Battery life may be shortened through improper maintenance. To optimize the life and improve its performance, fully discharge and recharge the battery at least once every 30 days.

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer. Discard used battery according to the manufacturer's instructions.

Battery FAQ

How do I completely discharge the battery?

Use the computer with battery power until it shuts down due to a low battery. Don't turn off the computer by yourself even when you see a message that indicates the battery is critically low, just let the computer use up all of the battery power and shut down on its own (it is best to disable the **Power Management** functions in the **Control Panel**). As the battery nears the end of its life close any critical files.

How do I fully charge the battery?

When charging the battery, don't stop until the LED charging indicator light stops flashing.

How do I maintain the battery?

Completely discharge and charge the battery at least once every 30 days or after about 20 partial discharges.

Conserving Battery Power

Display Brightness

The LCD display consumes a lot of power, so lowering the brightness level will save power.

Applications and External Devices

Different applications and external devices consume battery power even when they are not being used.
To conserve battery power we recommend:

- Closing modem or communication applications when they are not being used.
- Removing any unused PC Cards from the computer (PC Cards quickly use up battery power even if the system enters Suspend mode).
- Disconnecting any unnecessary external devices from the computer.

Removing and Replacing the Battery

For the most part you will not need to remove your battery. If you follow the tips given to manage and extend your battery life on the preceding pages your battery should last a long time. However there may be times when you are required to remove, swap or replace the battery. In these cases please follow these instructions:

1. Shut the computer down and turn it over.
2. Locate the battery release latch **"1"** in **Figure 3 - 12**.
3. Slide the battery release latch towards the unlock symbol.

Figure 3 - 12
Battery Release

4. The battery will pop-up and can be lifted out of the computer.
5. Slide the new battery in and carefully push it down until the latch snaps back in to position.

Figure 3 - 13
Battery Out

Turning the Computer On

Note: If you are playing a CD in the audio player you will not be able to use the power button to switch the computer on. Switch the CD audio player off first, then press the power button to turn on the computer.

When the computer is turned **on** the control for all CD's passes to the operating system's CD player, and you will not be able to turn on the audio "DJ" until the computer is turned off again.

Audio "DJ" CD Player

The built-in standalone audio CD player gives you direct hardware control for audio CD's when the computer is **shut down**, but has a working power source.

1. Make sure that the computer is shut down (i.e. the operating system is not running) but you have a working power source (Either running from the battery or AC Power).
2. Toggle the ON/OFF (**"1"** in **Figure 3 - 14**) switch by moving it to the right and then releasing it.
3. The switch will automatically move back to the left and the LCD will become active.
4. Press the Open Button on your CD device and carefully place an audio CD disc onto the disc tray with label-side facing up. (DVD drives will also play audio CD's).
5. Gently push the CD/DVD tray in until its lock "clicks" and you are ready to start.
6. The Busy Indicator will light up while data is being accessed (Or while a is playing).
7. The LCD will display a "1" for the first CD track.
8. Click the play/pause button to start the CD.

9. You can control the CD tracking and audio volume from the control panel.
10. The player can be turned off by toggling the ON/OFF switch again.

1. CD Player Control Panel On/Off Switch
2. Previous Track
3. Next Track
4. LCD
5. Play Pause
6. Stop
7. Volume Down
8. Volume Up

Sound Volume Adjustment

How high the sound volume can be set using the volume control knob depends on the setting of the volume control within Windows. Click the Speaker icon on the taskbar to check the setting.

The volume controls on the Audio DJ player still control the volume settings if the computer's operating system is running.

Figure 3 - 14
Audio "DJ" Controls

Infrared Communication

The Infrared transceiver operates on a “Line of Sight”.

Make sure nothing is blocking the “Line of Sight” between your system’s transceiver and the destination’s transceiver.

Configuring the Infrared Settings for FIR

To configure your computer for Fast Infrared (FIR) communication follow these steps:

1. Click **Start**, point to **Settings** and click **Control Panel**.
2. Double-click **Wireless Link** icon (Windows XP/2000) **Network** (Windows 98SE/Me).
3. Depending on your OS, do the following:

- In **Windows XP/2000** click **Hardware** (tab), and click the properties button, then click the **Advanced** (tab).
- In **Windows 98SE/Me** click **IrDA v3.0 Fast Infrared Port** and click Properties (**button**) then click the **Advanced** (tab).

4. Select **“Infrared Transceiver A”** and change the **Value** to **“HP HSDL-2300/3600”**.
5. Click **OK > OK**.
6. Restart the computer if prompted to do so.

For further information, please refer to the manual of the device you wish to connect.

Enabling Infrared Communication in Windows 98SE

In Windows 98SE you will need to enable Infrared communication from the control panel:

1. Click **Start**, point to **Settings** and click **Control Panel**.
2. Double-click **Infrared** icon.
3. Click the **Options** (tab).
4. Click **Enable Infrared communication**.
5. Click **OK**.

Chapter 4: Drivers & Utilities

Overview

This chapter deals with installing the drivers and utilities essential to the operation or improvement of some of the notebook PC's subsystems. The system takes advantage of some newer hardware components for which the latest versions of most available operating systems haven't built in drivers and utilities. Thus, some of the system components won't be auto-configured with an appropriate driver or utility during operating system installation. Instead, you need to manually install some system-required drivers and utilities. In this chapter, we group driver and utility installation instructions by operating system. The following operating systems are covered.

- *Windows 98 Second Edition*
- Windows Me
- *Windows 2000 Professional*
- Windows XP

Assumption

We assume that you will install all drivers and utilities from the built-in CD device and it is assigned to **Drive D:** In addition, all file extensions can be seen [**See page 4 - 2 Navigate (Browse.\.) to D:**].

What to Install

The ***Device Drivers & Utilities + User's Manual CD-ROM*** contains the drivers and utilities necessary for the proper operation of the notebook PC. **Table 4 - 1 on page 4-4** lists what you need to install manually according to your choice of the operating system.

You should install the drivers in the following order:

1. Chipset
2. Audio
3. Modem
4. LAN
5. Video

All other drivers may follow in any order you wish, however **it is very important that these drivers are installed in the order indicated above**.

Navigate (Browse.\.) to D:

You will notice that many of the instructions for driver installation require you to **Navigate (Browse) to D:**

In this case D: is the drive specified for your CD device. Not all computers are setup the same way, and some computers have the CD listed under a different drive letter - e.g. if you have two hard drives (or hard disk partitions) one may be designated as drive C: and the other as D: In this case the CD device may be designated as drive E: - Please make sure you are actually navigating to the correct drive letter for the CD device.

When you click the **Browse** (button) after clicking **Run** in the **Start** menu you will see the "**Look in:**" dialog box at the top of the **Browse** window. Click the scroll button to navigate to **My Computer** to display the devices and drive letters.

Authorized Driver Message

If you receive a message telling you that the driver you are installing is not authorized (**Digital Signature Not Found)**, just click **Yes** or **Continue Anyway** to ignore the message and continue the installation procedure.

You will receive this message in cases where the driver has been released after the version of *Windows* you are currently using. All the drivers provided will have already received certification for *Windows*.

Version Conflict Message

During driver installation if you encounter any "file version conflict" message, please click **Yes** to choose to keep the existing (newer) version.

Table 4 - 1 **- What to Install**

Feature	Win98SE	WinME*	Win 2000*	Win XP
Chipset	page 4-5	page 4-11	page 4-17	page 4-23
Audio	page 4-6	page 4-11	page 4-17	page 4-23
Modem	page 4-6	page 4-12	page 4-18	page 4-24
LAN	page 4-7	page 4-13	page 4-19	page 4-25
Video	page 4-8	page 4-13	page 4-19	page 4-26
TouchPad	page 4-8	page 4-14	page 4-20	page 4-26
Hot-Key	page 4-9	page 4-14	page 4-20	page 4-27
Automail	page 4-9	page 4-15	page 4-21	page 4-27
Intel SpeedStep *	page 4-10	page 4-15	page 4-21	N/A
Wireless LAN	page 4-10	page 4-16	page 4-22	page 4-28

***Intel SpeedStep Note:** This applet helps your system take advantage of a **SpeedStep**-enhanced CPU's capabilities, such as that as found in your notebook **if you have the mobile CPU option**. If you do not have the mobile CPU option there is no need to install the driver (**See Chapter 3:"Mobile CPU" on page 3-16**).

Windows 98 Second Edition

This section covers driver and utility installation instructions for *Windows 98 Second Edition*.

What To Have Ready

In some cases when drivers are to be installed you will need to have present your **OS CD** - *Windows 98 Second Edition*.
If prompted you may swap your *Device Drivers & Utilities + User's Manual CD-ROM* with your OS CD-ROM and back again when required.

Chipset (Win98SE)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\CHIPSET\Setup.exe** and click **OK**.
3. To continue press **Next** > **Yes** > **Next**.
4. Click **Finish** to restart *Windows* when the *InstallShield Wizard Complete* box appears.
5. *Windows* will then tell you "**New Hardware Found**" and begin to install the drivers for you.
6. Click **Next** and select **"Search for the best driver for your device. (Recommended)."**
7. Click **Next** again.
8. Make sure you have **not** selected any locations to search, then click **Next** > **Next** > **Finish**.
9. Select **Yes** to restart the computer when prompted.

Audio (Win98SE)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\AUDIO\Setup.exe** and click **OK.**
3. To continue click **Next**.
4. Click **Finish** to restart *Windows* when the *InstallShield Wizard Complete* box appears.
5. *Windows* will then tell you "**New Hardware Found**" and begin to install the drivers for you.
6. When you are prompted ***'Please insert the disk labeled "Windows 98 Second Edition CD-ROM" and then click OK'*** eject the CD-ROM in your drive and insert the *Windows CD.*
7. Give the computer a few seconds to recognize that the disk is in the drive, then click **OK** (click **Yes** if asked if you want to continue at any time).
8. You will see the **Volume Control** appear in the **taskbar** alongside the date **after** you restart the computer.

Modem (Win98SE)

1. Click **Start** (menu), point to **Settings** and click **Control Panel**. Double-click **System** (icon) and then click **Device Manager**.
2. Click "+" next to **Other devices** (if its sub-items are not shown).
3. Double-click **PCI Card** and click **Reinstall Driver** (button).
4. When the *Update Device Driver Wizard* appears, click **Next** > **Next** - make sure that you have selected **"Search for a better driver than the one your device is using now (Recommended)"**.
5. Select ONLY **"Specify a location:"** (make sure the other boxes do not have a tick inside them) and navigate (**Browse**...) to **D:\Drivers\Modem\win98se** and click **OK** > **Next** > **Next**.
6. After the updated driver is installed, click **Finish**.

7. Close the **Smart Link 56K Voice Modem Properties** and **System Properties (dialog box)**. The modem is ready for dial-up configuration.

Modem Country Selection

Be sure to check if the modem country selection is appropriate for you. (**Control Panel** >**Modem Settings** (icon) > **Country**).

LAN (Win98SE)

1. Click **Start** (menu), point to **Settings** and click **Control Panel**. Double-click **System** (icon) and then click **Device Manager** (tab).
2. Click "+" next to **Other devices** (if its sub-items are not shown).
3. Double-click **PCI Ethernet Controller** and click **Reinstall Driver** (button).
4. When the *Update Device Driver Wizard* appears, click **Next** > **Next** (make sure that you have selected **"Search for a better driver than the one your device is using now (Recommended)"**).
5. Select ONLY "**Specify a location"** (make sure the other boxes do not have a tick inside them) and navigate (**Browse...**) to **D:\Drivers\LAN\win98se**
6. Click **OK** > **Next** > **Next**.
7. When you are prompted '***Please insert the disk labeled "Windows 98 Second Edition CD-ROM" and then click OK***'

eject the CD-ROM in your drive and insert the *Windows CD*.

8. Give the computer a few seconds to recognize that the disk is in the drive, then click **OK**.
9. Click **Finish > Yes** to restart your computer when prompted.
10. The network adapter is now ready for configuration.

Video (Win98SE)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\VIDEO\Setup.exe** and click **OK**.
3. To continue click **Next > Yes > Express (button)**.
4. Click **Finish** to restart *Windows* when the *Setup Complete* box appears.

TouchPad (Win98SE)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\touchpad\win98se\Setup.exe** and click **OK**.
3. Choose the language you prefer.
4. To continue click **Next > Next** > **Next**.
5. Click **Finish** to restart *Windows* when the *Setup Complete* box appears.
6. You may then configure your **TouchPad** as outlined in **“TouchPad and Buttons” on page 2 - 25**.

Hot-Key (Win98SE)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\KBC_AP\CNK001.exe** and click **OK**.
3. Choose the language you prefer.
4. Click **Next**.
5. Click **Finish** to restart your computer when prompted.
6. You may then configure your **Hot-Key Buttons** as outlined in **“Hot-Keys” on page 2 - 19**.

AutoMail (Win98SE)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Automail\setup.exe**. and click **OK**.
3. To continue click **Next** > **Next**.
4. Click **Finish** when the *Setup Complete* box appears.
5. You may run and configure the program from the **Start** (menu). Point to **Programs** and click **Auto Mail Checker**.
6. You may then access the program settings through the icon in the **taskbar**. For further details see **“Auto Mail Checker” on page 2 - 8**.

Intel SpeedStep (Win98SE)

***Intel SpeedStep Note:** This applet helps your system take advantage of a **SpeedStep**-enhanced CPU's capabilities, such as that as found in your notebook **if you have the mobile CPU option.**

If you do not have the mobile CPU option there is no need to install the driver (**See Chapter 3:"Mobile CPU" on page 3-16**).

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\SpeedStep\(Your language)\disk1\Setup.exe** and click **OK**.
3. Click **Next**.
4. When the installation is finished, click **Finish** to restart your computer.
5. Click **Start** (menu), point to **Settings** and click **Control Panel**. Double-click the **Power Management** (icon) and then choose your settings on **Intel SpeedStep technology** (tab).

Wireless LAN (Win98SE)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\WLAN\GW-LANSetup.exe** and click **OK**.
3. Click **Next** > **Yes**.
4. When the installation is finished, click **Finish** to restart your computer.
5. After the computer changes the system settings (Allow some time for the computer to do this) click **Yes** to restart the computer again.
6. If *Windows* tells you that it cannot find the 'Prismsta.exe' file, click **OK** to continue (The wireless network card will function normally without this file).

Windows ME

This section covers driver and utility installation instructions for *Windows Me.*

Chipset (WinME)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse.**) to **D:\Drivers\CHIPSET\Setup.exe** and click **OK**.
3. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next > Yes > Next**.
4. Click **Finish** to restart *Windows* when the *InstallShield Wizard Complete* box appears.
5. *Windows* will then tell you "New Hardware Found" and begin to install the drivers for you.
6. Select "**Automatic search for a better driver (Recommended)**" and click **Next > Finish**.
7. Click **Yes** to restart your computer.

Audio (WinME)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\AUDIO\Setup.exe** and click **OK**.
3. Click **Next** (Click **Yes** to keep the file if Windows finds a **Version Conflict** at any time).
4. Restart *Windows* when prompted by clicking **Finish**.
5. Go to the **Sounds & Multimedia Control Panel** (**Start** Menu and point to **Settings** and click **Control Panel** then double-click the **Sounds & Multimedia** icon).
6. Click the **Audio** tab.
7. Click **Advanced** in the **Sound Playback** Menu.
8. Under **Speaker Setup** select **5.1 Surround Speakers** from the pull-down menu and click **OK > OK** to close.

Modem (WinME)

1. Click **Start** (menu), point to **Settings** and click **Control Panel**. Double-click **System** (icon) and then click **Device Manager**.
2. Click "+" next to **Other devices** (if its sub-items are not shown).
3. Double-click **PCI Card** and click **Reinstall Driver** (button).
4. When the *Update Device Driver Wizard* appears, select "**Specify the location of the driver (Advanced)**" and click **Next**.
5. Make sure that you have selected "**Search for a better driver than the one your device is using now**.".
6. Select ONLY (make sure the other boxes do not have a tick inside them) "**Specify a location"**, and navigate (**Browse...**) to **D:\Drivers\Modem\winme**.
7. Click **OK** > **Next** > **Next**.
8. When the *Add New Hardware Wizard appears* repeat the process outlined in **Steps 4 through 7** and click **Finish**.
9. After the updated driver is installed, click **Finish** again.
10. Close the **Smart Link 56K Voice Modem Properties** and **System Properties (dialog box)**.
11. The modem is ready for dial-up configuration.

Modem Country Selection

Be sure to check if the modem country selection is appropriate for you. (**Control Panel** >**Modem Settings** (icon) > **Country**).

LAN (WinME)

1. Click **Start** (menu), point to **Settings** and click **Control Panel**. Double-click **System** (icon) and then click **Device Manager** (tab).
2. Click "+" next to **Network Adapters** (if its sub-items are not shown).
3. Double-click **Realtek RTL8139(A)-based PCI Fast Ethernet Adapter**.
4. **C**lick the **Driver** (tab) and click the **Update Driver** (button).
5. When the *Update Device Driver Wizard* appears, select "**Specify the location of the driver (Advanced)**" and click **Next**.
6. Make sure that you have selected "**Search for a better driver than the one your device is using now**.".
7. Select ONLY (make sure the other boxes do not have a tick inside them) "**Specify a location"**, and navigate (**Browse...**) to **D:\Drivers\LAN\winme**.
8. Click **OK** > **Next > Next**.
9. Click **Finish** and **Yes** to restart your computer when prompted.
10. The network adapter is now ready for configuration.

Video (WinME)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\VIDEO\Setup.exe** and click **OK**.
3. To continue click **Next > Yes > Express**.
4. Click **Finish** to restart *Windows* when the *InstallShield Wizard Complete* box appears.

TouchPad (WinME)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\touchpad\winme\Setup.exe** and click **OK**.
3. Choose the language you prefer.
4. To continue click **Next > Next** > **Next**.
5. Click **Finish** to restart *Windows* when the *Setup Complete* box appears.
6. You may then configure your TouchPad as outlined in **"TouchPad and Buttons" on page 2 - 25**.

Hot-Key (WinME)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\KBC_AP\CNK001.exe** and click **OK**.
3. Choose the language you prefer.
4. Click **Next**.
5. Click **Finish** to restart your computer when prompted.
6. You may then configure your **Hot-Key Buttons** as outlined in **"Hot-Keys" on page 2 - 19**.

AutoMail (WinME)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Automail\Setup.exe** and click **OK**.
3. To continue click **Next** > **Next**.
4. Click **Finish** when the *Setup Complete* box appears.
5. You may run and configure the program from the **Start** (menu). Point to **Programs** and click **Auto Mail Checker**.
6. You may then access the program settings through the icon in the **taskbar**. For further details see **"Auto Mail Checker" on page 2 - 8**.

Intel SpeedStep (WinME)

***Intel SpeedStep Note:** This applet helps your system take advantage of a **SpeedStep**-enhanced CPU's capabilities, such as that as found in your notebook **if you have the mobile CPU option.**

If you do not have the mobile CPU option there is no need to install the driver.

(**See Chapter 3:"Mobile CPU" on page 3-16**).

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\SpeedStep\(Your language)\disk1\Setup.exe** and click **OK**.
3. Click **Next**.
4. When the installation is finished, click **Finish** to restart your computer.
5. Click **Start** (menu), point to **Settings** and click **Control Panel**. Double-click the **Power Options** (icon) and then choose your settings on **Intel SpeedStep technology** (tab).

Wireless LAN (WinME)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\WLAN\GW-LANSetup.exe** and click **OK**.
3. Click **Next > Yes**.
4. When the installation is finished, click **Finish** to restart your computer.
5. After the computer changes the system settings click **Yes** to restart the computer again.
6. If *Windows* tells you that it cannot find the 'Prismsta.exe' file, click **OK** to continue (The wireless network card will function normally without this file).

Windows 2000 Professional

This section covers driver and utility installation instructions for *Windows 2000 Professional.*

Service Pack 2

Make sure you have installed **Windows 2000 Service Pack 2**.

Chipset (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse.**) to **D:\Drivers\CHIPSET\Setup.exe** and click **OK**.
3. To continue press **Next** > **Yes** > **Next**.
4. Click **Finish** to restart *Windows* when the *InstallShield Wizard Complete* box appears.

Audio (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\AUDIO\Setup.exe** and click **OK**.
3. Click **Next**.
4. Restart *Windows* when prompted by clicking **Finish**.
5. Go to the **Sounds & Multimedia Control Panel** (**Start** Menu and point to **Settings** and click **Control Panel** then double-click the **Sounds & Multimedia** icon).
6. Click the **Audio** tab.
7. Click **Advanced** in the **Sound Playback** Menu.
8. Under **Speaker Setup** select **5.1 Surround Speakers** from the pull-down menu and click **OK** > **OK** to close.

Modem (Win2000)

1. Click **Start** (menu), point to **Settings** and click **Control Panel**. Double-click **System** (icon) and then click **Hardware** (tab) > **Device Manager** (button).
2. Click "+" next to **Other devices** (if its sub-items are not shown).
3. Double-click **PCI Device** and click **Reinstall Driver** (button) and click **Next**.
4. When the *Upgrade Device Driver Wizard* appears, select "**Search for a suitable driver for my device (recommended)**" and click **Next**.
5. Select ONLY (make sure the other boxes do not have a tick inside them) "**Specify a location"**, and click **Next**.
6. Navigate (**Browse...**) to **D:\Drivers\Modem\Win2000**.
7. Click **Open > OK > Next** (click **Yes** if asked if you want to continue at any time).
8. Click **Finish** and close the windows.
9. Close the **Smart Link 56K Voice Modem Properties** and **System Properties (dialog box)**. The modem is ready for dial-up configuration.

Modem Country Selection

Be sure to check if the modem country selection is appropriate for you. (**Control Panel** >**Modem Settings** (icon) > **Country**).

LAN (Win2000)

1. Click **Start** (menu), point to **Settings** and click **Control Panel**. Double-click **System** (icon) and then click **Hardware** (tab) > **Device Manager** (button).
2. Click "+" next to **Network Adapters** (if its sub-items are not shown).
3. Double-click **Realtek RTL8139(A)-based PCI Fast Ethernet Adapter** and click the **Driver** tab.
4. Click the **Update Driver** (button).
5. When the *Upgrade Device Driver Wizard* appears click **Next**.
6. Select "**Search for a suitable driver for my device (recommended)**" and click **Next**.
7. Select ONLY (make sure the other boxes do not have a tick inside them) "**Specify a location"**, and click **Next**.
8. Navigate (**Browse...**) to **D:\Drivers\LAN\Win2000**.
9. Click the **Open** (button) and click **OK** (button), then click **Next**.
10. Click **Finish**, and close the window.

Video (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\VIDEO\Setup.exe** and click **OK**.
3. To continue click **Next > Yes > Express** (click **Yes** if asked if you want to continue at any time).
4. Click **Finish** to restart *Windows* when the *InstallShield Wizard Complete* box appears.

TouchPad (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\touchpad\win2000\Setup.exe** and click **OK**.
3. Choose the language you prefer.
4. To continue click **Next > Next** > **Next** (click **Yes** if asked if you want to continue at any time).
5. Click **Finish** to restart *Windows* when the *Setup Complete* box appears.
6. You may then configure your TouchPad as outlined in **"TouchPad and Buttons" on page 2 - 25**.

Hot-Key (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\KBC_AP\CNK001.exe** and click **OK**.
3. Choose the language you prefer.
4. Click **Next**.
5. Click **Finish** to restart your computer when prompted.
6. You may then configure your Hot-Key buttons as outlined in **"Hot-Keys" on page 2 - 19**.

AutoMail (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Automail\Setup.exe**. and click **OK**.
3. To continue click **Next** > **Next**.
4. Click **Finish** when the *Setup Complete* box appears.
5. You may run and configure the program from the **Start** (menu). Point to **Programs** and click **Auto Mail Checker**.
6. You may then access the program settings through the icon in the **taskbar**. For further details see **"Auto Mail Checker" on page 2 - 8**.

Intel SpeedStep (Win2000)

***Intel SpeedStep Note:** This applet helps your system take advantage of a **SpeedStep**-enhanced CPU's capabilities, such as that as found in your notebook **if you have the mobile CPU option.**

If you do not have the mobile CPU option there is no need to install the driver (**See Chapter 3:"Mobile CPU" on page 3-16**).

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to Navigate (**Browse..**) to **D:\Drivers\SpeedStep\(Your language)\disk1\Setup.exe** and click **OK**.
3. Click **Next**.
4. When the installation is finished, click **Finish** to restart your computer.
5. Click **Start** (menu), point to **Settings** and click **Control Panel**. Double-click the **Power Options** (icon) and then choose your settings on **Intel SpeedStep technology** (tab).

Wireless LAN (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\WLAN\GW-LANSetup.exe** and click **OK**.
3. Click **Next > Yes** (click **Yes** if asked if you want to continue at any time).
4. When the installation is finished, click **Finish** to restart your computer.
5. If *Windows* tells you that it cannot find the 'Prismsta.exe' file, click **OK** to continue (The wireless network card will function normally without this file).

Windows XP

This section covers driver and utility installation instructions for ***Windows XP***.

Chipset (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\CHIPSET\Setup.exe** and click **OK**.
3. When the *Setup* screen appears click **Next > Yes > Next**.
4. Click **Finish**.
5. The driver is now installed.

Audio (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\AUDIO\Setup.exe**.and click **OK**.
3. To continue click **Next**.
4. Click **Finish** to restart *Windows* when the *Audio Setup* box appears.
5. Go to the **Sounds & Audio Devices** control panel (**Start** Menu and point to **Settings** and click **Control Panel** then double-click the **Sounds & Audio Devices** icon).

Note: If you are in the **Category View** choose **Sounds, Speech, and Audio Devices > Sounds and Audio Devices**.

6. Click the **Audio** tab.
7. Click **Advanced** in the **Sound Playback** Menu.
8. Under **Speaker Setup** select **5.1 Surround Speakers** from the pull-down menu and click **OK > OK** to close.

Modem (Win XP)

1. If you can see the **My Computer** icon on your desktop (if you cannot see the **My Computer** icon go to **step 2**) click on it once to select it, then right-click it to make the sub-menu appear and scroll down to **Properties** and click on it (go to **step 3**).
2. If you cannot see the **My Computer** icon click **Start** (menu), then point to (but don't click just highlight it) **My Computer.** Right-click it to make the sub-menu appear and scroll down to **Properties** and click on it (go to **step 3**).
3. Click the **Hardware** (tab), then click **Device Manager** (button).
4. Click "+" next to **Other Devices** (if its sub-items are not shown).
5. Double-click **PCI Modem** and click **Reinstall Driver** (button).
6. When the *Hardware Update Wizard* appears, click **"Install from a list or specific location (Advanced)"** then click **Next**.
7. Select **"Search for the best driver in these locations:"** and select ONLY **"Include this location in the search:"**.
8. Navigate (**Browse**...) to **D:\Drivers\Modem\winxp** and click **OK** (button), then click **Next** (Click **Continue Anyway** if asked if you want to continue at any time).
9. Choose your **country** from the **Modem Settings** control panel.
10. Click **Finish** and close the open windows.
11. Your modem is now ready for dial-up configuration.

Modem Country Selection

You can change the modem country selection in the control panel (**Control Panel** >**Modem Settings** (icon) > **Country**).

LAN (Win XP)

Under *Windows XP* you have the option to use the built-in network driver, or install the driver as per the following procedure.

1. If you can see the **My Computer** icon on your desktop (if you cannot see the **My Computer** icon go to **step 2**) click on it once to select it, then right-click it to make the sub-menu appear and scroll down to **Properties** and click on it (go to **step 3**).
2. If you cannot see the **My Computer** icon click **Start** (menu), then point to (but don't click just highlight it) **My Computer.** Right-click it to make the sub-menu appear and scroll down to **Properties** and click on it (go to **step 3**).
3. Click the **Hardware** (tab), then click **Device Manager** (button).
4. Click "+" next to **Network Adapters** (if its sub-items are not shown).
5. Double-click **Realtek RTL8139 Family PCI Fast Ethernet NIC** and click the **Driver** tab.
6. Click **Update Driver** (button).
7. When the *Hardware Update Wizard* appears, click **"Install from a list or specific location (Advanced)"** then click **Next**.
8. Select **"Search for the best driver in these locations:"** and select ONLY **"Include this location in the search:"**.
9. Navigate (**Browse**...) to **D:\Drivers\LAN\winXP** and click **OK** (button), then click **Next** > **Next** (Click **Continue Anyway** if asked if you want to continue at any time).
10. Click **Finish**, and close the window.

Video (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\VIDEO\Setup.exe** and click **OK**.
3. To continue press **Next > Yes > Express** (Click **Continue Anyway** if asked if you want to continue at any time).
4. Click **Finish** to restart *Windows* when the *InstallShield Wizard Complete* box appears.

TouchPad (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\touchpad\winxp\Setup.exe** and click **OK**.
3. Choose the language you prefer.
4. To continue click **Next > Next** > **Next** (Click **Continue Anyway** if asked if you want to continue at any time).
5. Click **Finish** to restart *Windows* when the *Setup Complete* box appears.
6. You may then configure your **TouchPad** as outlined in **“TouchPad and Buttons” on page 2 - 25**.

Hot-Key (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\KBC_AP\CNK001.exe** and click **OK**.
3. Choose the language you prefer.
4. Click **Next**.
5. Click **Finish** to restart your computer when prompted.
6. You may then configure your Hot-key Buttons as outlined in **“Hot-Keys” on page 2 - 19**.

AutoMail (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Automail\setup.exe**. and click **OK**.
3. To continue click **Next** > **Next**.
4. Click **Finish** when the *Setup Complete* box appears.
5. You may run and configure the program from the **Start** (menu). Point to **Programs (**Or **Auto Mail Checker)** and click **Auto Mail Checker**.
6. You may then access the program settings through the icon in the **taskbar**. For further details see **“Auto Mail Checker” on page 2 - 8**.

Wireless LAN (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\WLAN\GW-LANSetup.exe** and click **OK**.
3. Click **Next > Yes**.
4. When the installation is finished, click **Finish** to restart your computer.
5. If *Windows* tells you that it cannot find the 'Prismsta.exe' file, click **OK** to continue (This wireless network card will function normally without this file).

Chapter 5: BIOS Utilities

Overview

This chapter gives a brief introduction to the computer's built-in software:

Diagnostics: the *POST* (Power-On Self Test)

Configuration:the *Setup* utility
If your computer has never been set up, or you are making important changes to the system (e.g. hard disk setup), then you should review this chapter first and note the original settings found in *Setup*. Even if you are a beginner, keep a record of the settings you find and any changes you make. This information could be useful if your system ever needs servicing.

There is one general rule: ***Don't make any changes unless you are sure of what you are doing***. Many of the settings are required by the system, and changing them could cause it to become unstable or worse. If you have any doubts, consult your service representative.

BIOS Settings Warning

Incorrect settings can cause your system to malfunction. To correct mistakes, return to Setup and restore the Setup Defaults with <**F9**>.

Important BIOS Settings

Generally speaking you should not have to adjust any of the BIOS settings as they will already be set for your computer. However the following is a quick reference to the most important settings you may need to change at some point.

Option	Page #	Purpose
Boot	5 - 16	Specify's the order of the devices on which the computer searches for an Operating System as it starts up.

Table 5 - 1
Important Bios Settings

The Power-On Self Test (POST)

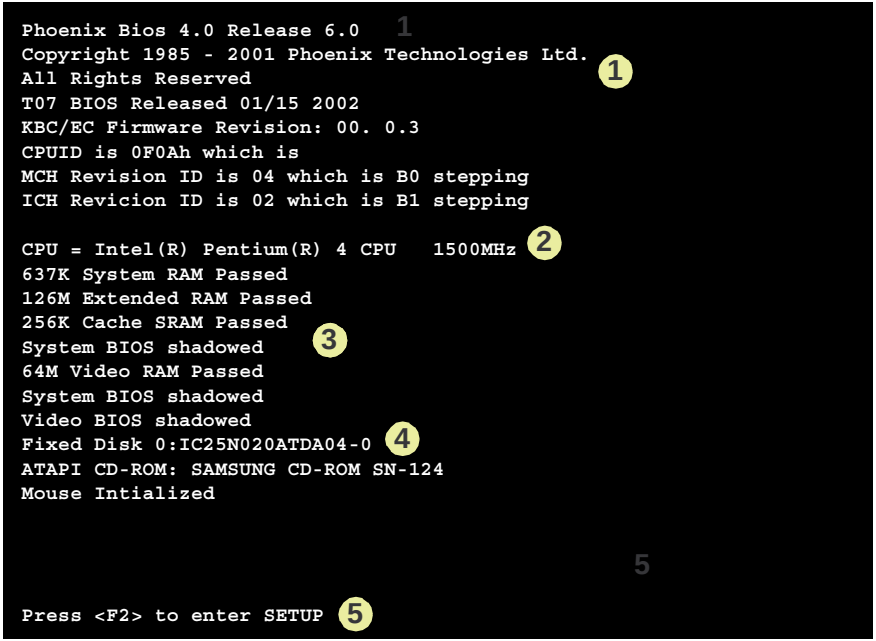
Each time you turn on the computer, the system takes a few seconds to conduct a POST, including a quick test of the on-board RAM.

As the POST proceeds, the computer will tell you if there is anything wrong. If there is a problem which prevents the system from booting, it will display a system summary and prompt you to run Setup.

If there are no problems, the **Setup** prompt will disappear and the system will load the operating system. Once that starts, you can't get into **Setup** without rebooting.

POST Screen

Figure 5 - 1
Post Screen



Post Screen

1.BIOS information
2.CPU type
3.Memory status
4.HDD identification notice
5.Enter Setup prompt appears only during POST

Failing the POST

Errors can be detected during the POST. There are two categories, “fatal” and “non-fatal”.

Fatal Errors

These stop the boot process and usually indicate there is something seriously wrong with your system. Take the computer to your service representative or authorized service center as soon as possible.

Non-Fatal Errors

This kind of error still allows you to boot. You will get a message identifying the problem (make a note of this message!) followed by the prompt:

- Press <F1> to resume,
- <F2> to enter Setup

Press **F1** to see if the boot process can continue. It may work, without the correct configuration.

Press **F2** to run the Setup program and try to correct the problem. If you still get an error message after you change the setting, or if the “cure” seems even worse, call for help.

The Setup Program

The **Phoenix Setup** program tells the system how to configure itself and manage basic features and subsystems (e.g. port configuration).

Entering Setup

To enter *Setup*, turn on the computer and press **F2** during the **POST**. The prompt (**"Press F2 to Enter Setup"**) seen in **Figure 5 - 1** is usually present for a few seconds after you turn on the system. If you get a "Keyboard Error" (usually because you pressed **F2** too quickly) just press **F2** again.

If the computer is already on, reboot using the **Ctrl + Alt + Delete** combination and then hold down **F2** when prompted. *Setup's* main menu will appear.

Setup Screens

The following pages contain additional advice on **portions** of the *Setup*. The *Setup* interface looks like a "windows" screen:

Along the top of the screen is a menu bar with five (**5**) menu headings. When you select a heading, a new screen appears. Scroll through the features listed on each screen to make changes to Setup.

Instructions on how to navigate each screen are in the box along the bottom of the screen. If these tools are confusing, press **F1** to call up a General Help screen. Then use the arrow keys to scroll up or down this page

The "**Item Specific Help**" on the right side of each screen explains the highlighted item and has useful messages about its options.

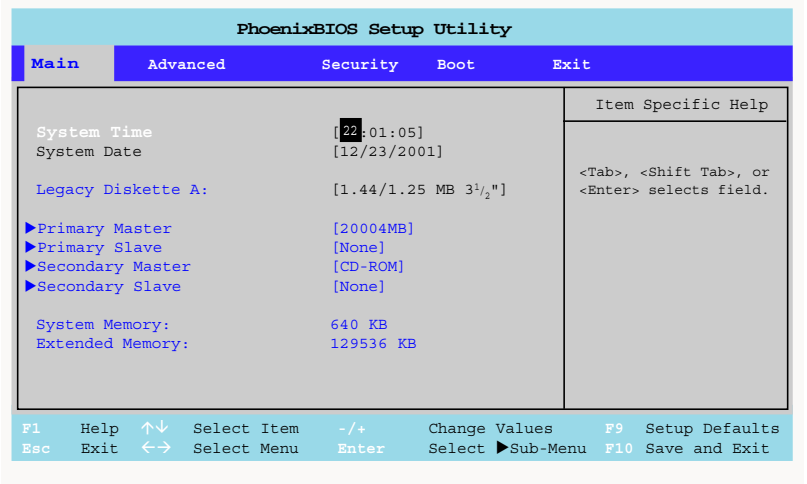
If you see an arrow ("▶") next to an item, press **Enter** to go to a sub-menu on that subject. The sub-menu screen which appears has a similar layout but the **Enter** key may execute a command.

Setup Main Menu

The Setup menus shown in this section are for reference only. Your computer's menus will indicate the configuration appropriate for your model and options.

Main Menu

Figure 5 - 2
Main Menu



System Time & Date (Main Menu)
The hour setting uses the 24-hour system (i.e., ØØ = midnight; 13 = 1 pm). If you can change the date and time settings in your operating system, you will also change these settings. Some applications may also alter data files to reflect these changes.

Legacy Diskette A: (Main Menu)
This control "enables" the floppy disk drive.

Primary Master (Main Menu)
Pressing **Enter** under opens the sub-menu to configure the main IDE HDD which fits into the computer's HDD bay.

Type (Main Menu >Primary Master)
This setting has several options for choosing which method *Setup* will use to detect the hard disk:

- **Auto** (Default setting) - This allows Setup to determine the hard disk's type and other information when you press **Enter**. It automatically loads the information into the BIOS.
- **None -** No hard disk is installed. With this option, the system will require a removable disk to supply the bootup information.
- **User -** This allows you to fill in the Cylinders, Heads and Sectors/ Track fields. It automatically calculates "size" based on this information. The numbers for all these fields should be printed on the hard disk itself, or in its accompanying documentation.
- Other **ATAPI -** Removable disk drive is installed.
- **CD-ROM** drive.

Switching Hard Disks

Every time you install a different hard disk in the computer, it should be (re)configured, unless Auto is selected.

The Auto feature may provide a different set of parameters for the same hard disk at different times. However, it should be reconfigured with the same parameters you got the first time. If you use a different set of parameters, it may be impossible for you to read any data on the hard disk.

LBA Warning

If you enable LBA mode for a particular HDD, be sure to enable it each time you use the same hard disk. If you don't you may encounter read/write errors.

Note: For future use, and as a precaution, make a record of the hard disk's original configuration.

LBA Mode Control (Main Menu >Primary Master>LBA Mode Control:)
If your hard disk is larger than 528MB (unformatted capacity), enable this control. The "Auto" Type setting enables this setting if the disk is large enough.

When to Use LBA

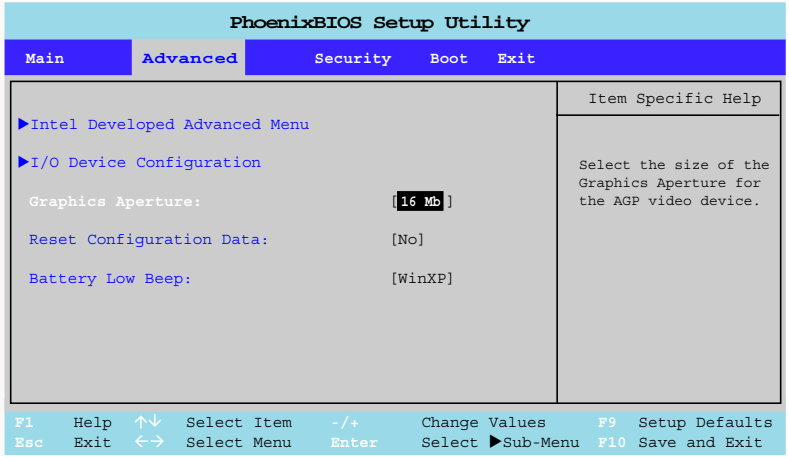
The "standard" or ATA mode of "seeing" HDD's is inadequate for drives larger than 528MB. LBA mode corrects this and allows for hard disks up to 128GB. ATA and LBA modes overlap. So if LBA mode is not activated when an HDD is first formatted, sections may not be readable under the LBA system. (This does not matter with 528 MB or smaller HDD's.) If you're using an HDD not formatted using LBA mode, do not use the "Auto" setting.

32 Bit I/O (Main Menu >Primary Master)
Most new hard disks can support this higher rate. If yours can't, the "Enabled" setting may slow down the system. Enables 32-bit communication between CPU and IDEcard. Requires PCI or local bus.

Primary Slave, Secondary Master & Secondary Slave (Main Menu)
These lines show the secondary IDE devices, either CD devices, HDDs or nothing (if the storage tray is installed in the Device Bay).

Advanced Menu

Figure 5 - 3
Advanced Menu



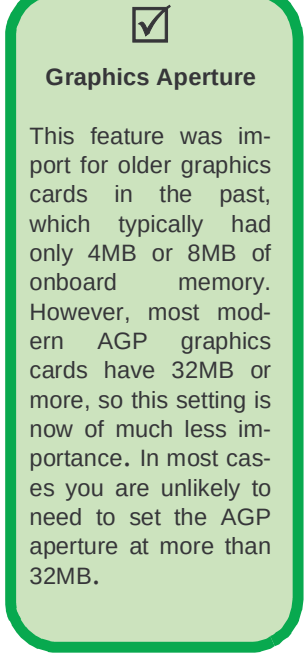
USB Controller: (Advanced Menu>Intel Developed Advanced Menu)
Enable or disable USB devices.

ACPI Table/Features Control Sub-Menu (Advanced Menu>Intel Developed Advanced Menu)
Choose "Enabled" to set power management features for Non "Plug-N-Play" operating systems.

I/O Device Configuration (Advanced Menu)
The sub-menus under this line include options to configure the P**arallel (Printer) port** and **Serial Port B (Infrared)**. These can be left to the default settings, however you may wish to use certain devices (e.g. a printer) which require settings to be adjusted accordingly. Check the documentation for any such devices to see what settings are required.

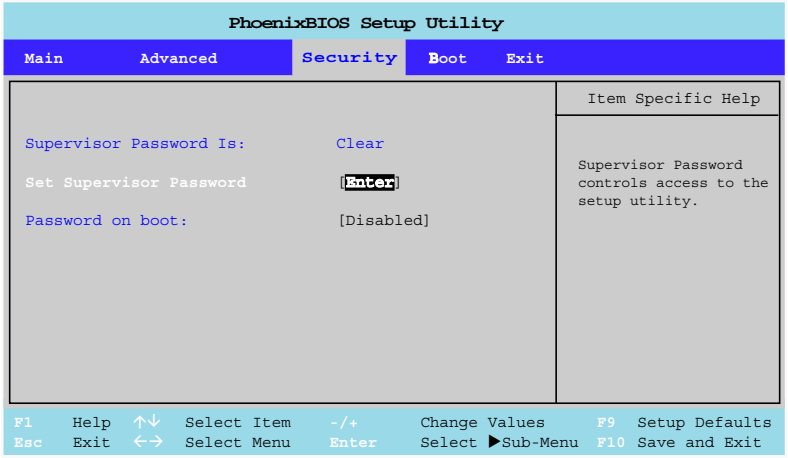
Graphics Aperture (Advanced Menu)
The AGP aperture is an area of system RAM reserved for use by the AGP card for storing textures if it needs to. The RAM is available for use by the system as normal if not used by the graphics card.

Battery Low Beep (Advanced Menu)
Choose "Enabled" to set the audible warning when your PC battery is low.



Security Menu

Figure 5 - 4
Security Menu



Security Menu

The changes you make here affect the access to the Setup utility itself, and also access to your machine as it boots up after you turn it on. These settings do not affect your machine or network passwords which will be set in your software OS.

Set Supervisor Password is: (Security Menu)
Set a password for access to the *Setup* utility (this will not affect access to the computer OS, only the *Setup* utility).

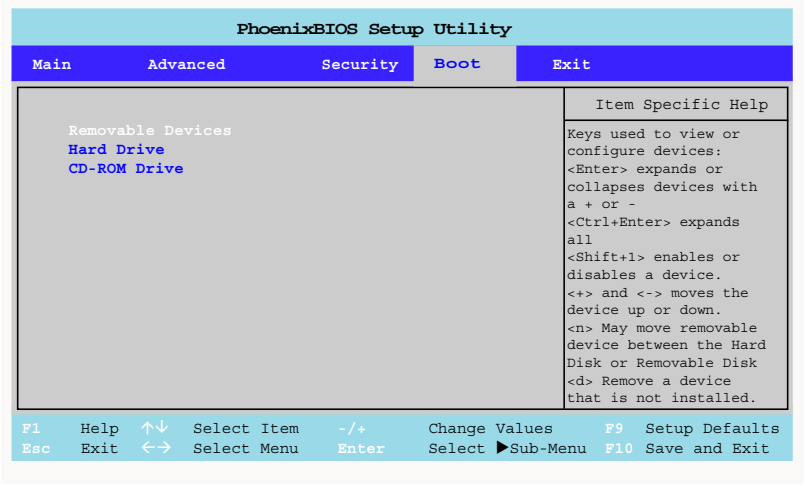
Password on boot: (Security Menu)
Set a password for booting the computer. Only users who enter a correct password can boot the system (**See "Warning" in the sidebar**).

Password Warning

If you set a boot password, **NEVER** forget your password.
The consequences of this could be serious. If you cannot remember your boot password you must contact your vendor and you may lose all of the information on your hard disk.

Boot Menu

Figure 5 - 5
BOOT Menu



Boot Menu

When you turn the computer on it will look for an operating system (e.g *Windows 2000*) from the devices listed in this menu, and **in this order**. If it cannot find the operating system on that device, it will try to load it from the next device in the order specified in the Boot Menu.

Boot devices usually are hard drives, floppy drives and CD-ROM's.

When you specify a device as a boot device on the Boot Menu, it requires the availability of an operating system on that device. Most PCs come with an operating system already installed on hard-drive **C**:

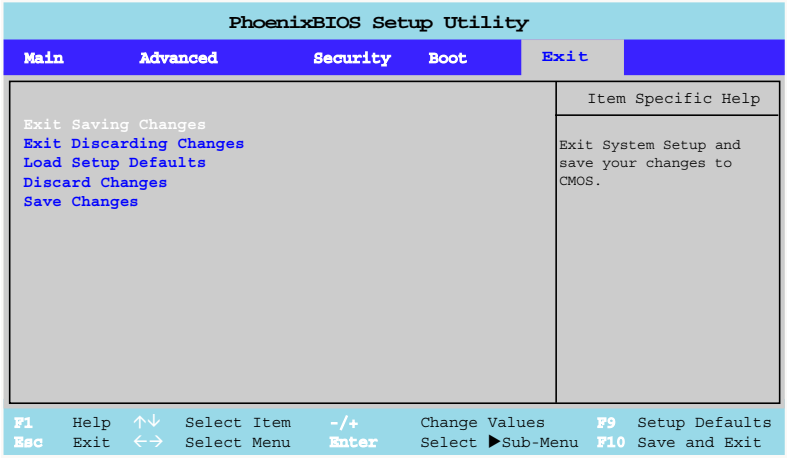
If you wish to boot from a CD-ROM you will need to add it to the boot order. As a general rule the order below is recommended:

1. Removable Devices (usually floppy disks)
2. CD-ROM Drive
3. Hard Drive

In everyday use you will usually boot from the Hard Drive, however there may be occasions when it is advantageous to boot from a floppy disk or CD-ROM.

Exit Menu

Figure 5 - 6
Exit Menu



Exit Menu

Choosing to ‘Discard Changes” or “Exit Discarding Changes” will wipe out any changes you have made to the Setup. You can also choose to restore the original “Setup Defaults” which will return the Setup to its original state and erase any previous changes you have made in a previous session.

Chapter 6: Upgrading The Computer

Overview

This chapter contains the information on upgrading the computer. Follow the steps outlined to make the desired upgrades. If you have any trouble or problems you can contact your service representative for further help. Before you begin you will need:

- A small crosshead or Phillips screwdriver
- A small regular screw driver
- An antistatic wrist strap

Before working with or repairing the internal components you will need to wear an antistatic wrist strap to ground yourself because static electricity may damage the components.

The chapter includes:

- Upgrading the Device in Bay One
- Upgrading the Hard Disk Drive
- Upgrading the Device in Bay Two

Please make sure that you review each procedure before you perform it.

Warranty Warning

Please check with your service representative before undertaking any upgrade procedures to find out if this will VOID your warranty.

When Not to Upgrade

These procedures involve opening the system's case, adding and sometimes replacing parts.
You should **not** perform any of these upgrades if:

- your system is still under warranty or a service contract
- you don't have all the necessary equipment
- you're not in the correct environment
- you doubt your abilities

Under any of these conditions, contact your service representative to purchase or replace the component(s).

Upgrading the Device in Bay One

The interchangeable device installed in **Bay One** will depend on what configuration you purchased. If you wish to change or upgrade this device follow this procedure.

1. Turn the computer **OFF**.
2. Place the computer on a clean, stable surface and turn it over.
3. Locate the release latch **"1"** (**Figure 6 - 1**) for the bay one device.
4. Slide the release latch towards the unlock symbol and hold it in position.

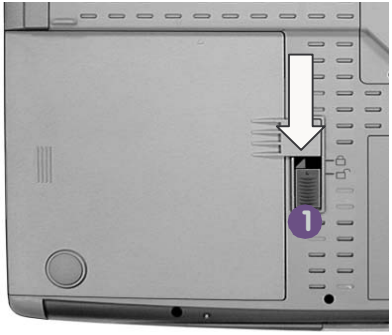


Figure 6 - 1
Bay One Release

5. With the release latch held in position, slide the device out slightly, then lift it up out of the computer.
6. Hold the release latch in the unlocked position and hold the new /replacement device as illustrated in (**Figure 6 - 2**)
7. Gently push the new /replacement device down and slide forward until the latch snaps back in to position (make sure it is tightly locked).

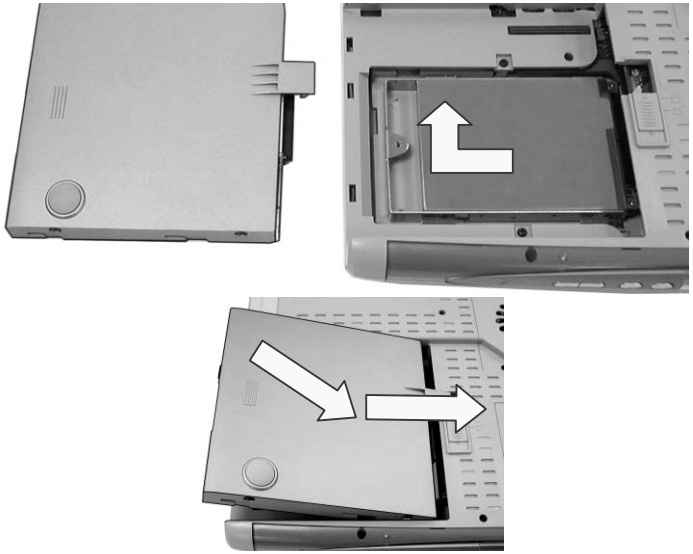


Figure 6 - 2
Remove and Insert Device

Upgrading the Hard Disk Drive

The hard disk drive is used to store your data internally in the computer. It is mounted in a removable case under **Bay One** (which contains your interchangeable device) and can be taken out to accommodate other 2.5” IDE hard disk drives with a height of 9.5 mm. The system supports PIO mode 4 /ATA-33/66/100 (Ultra DMA).

Removing the Hard Disk

1. Turn the computer **OFF**.
2. Place the computer on a clean, stable surface and turn it over.
3. Remove the device in Bay One (**See "Upgrading the Device in Bay One" on page 6 - 3**).

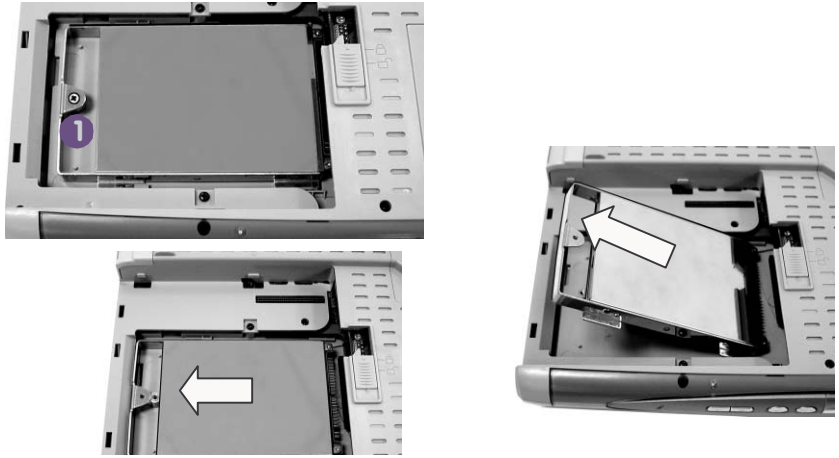


Figure 6 - 3
Hard Disk Removal

4. Remove screw **"1"** (**Figure 6 - 3**).
5. Slide the HDD assembly forward and up out of the computer.

6. Remove screws “**1- 4”** (**Figure 6 - 4**) from the assembly, and slide the hard disk out of the case.
7. Just reverse the removal procedure to install the new HDD.

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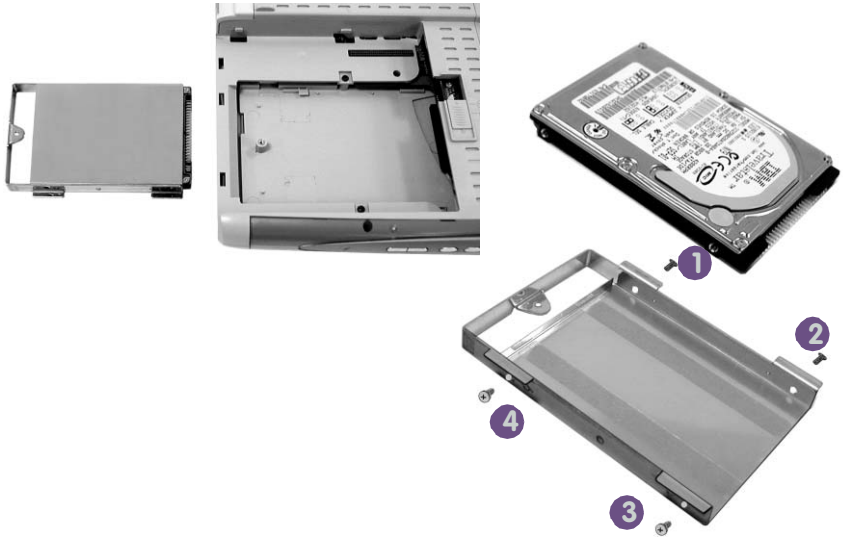


Figure 6 - 4
HDD Out

HDD System Warning

New HDD's are blank. Before you begin make sure:
You have backed up any data you want to keep from your old HDD.
You have all the CD-ROM's and FDD's required to install your operating system and programs.
If you have access to the internet, download the latest application and hardware driver updates for the operating system you plan to install. Copy these to a removable medium.

Some Things to Watch Out For

Software

Allow the system to auto-detect the new HDD, or if necessary, run the *Setup Utility* in the *BIOS* to customize the system (**"Main Menu" on page 5 - 8**).

Setting Up a New HDD

Follow your operating system's installation instructions and install all necessary drivers and utilities as outlined in **"What to Install" on page 4 - 2**.

Upgrading the Device in Bay Two

If you need to upgrade or replace the device in Bay Two then follow this procedure, however take note of the warranty warning on the right.

1. Turn the computer **OFF**.
2. Place the computer on a clean, stable surface and turn it over.
3. Remove screw **“1”** (**Figure 6 - 1**).

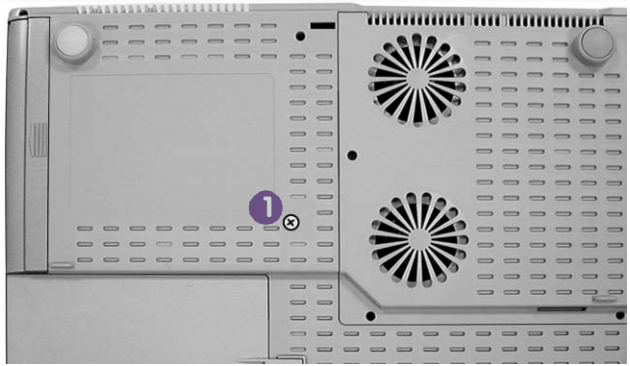


Figure 6 - 5
Bay Two Screw Location

Warranty Warning

Please check with your service representative before undertaking any upgrade procedures to find out if this will VOID your warranty.

4. Apply gentle, but firm, pressure at point **“1”** (**Figure 6 - 6**) and slide the device out of the computer.
5. Just reverse the removal procedure to install the new device.

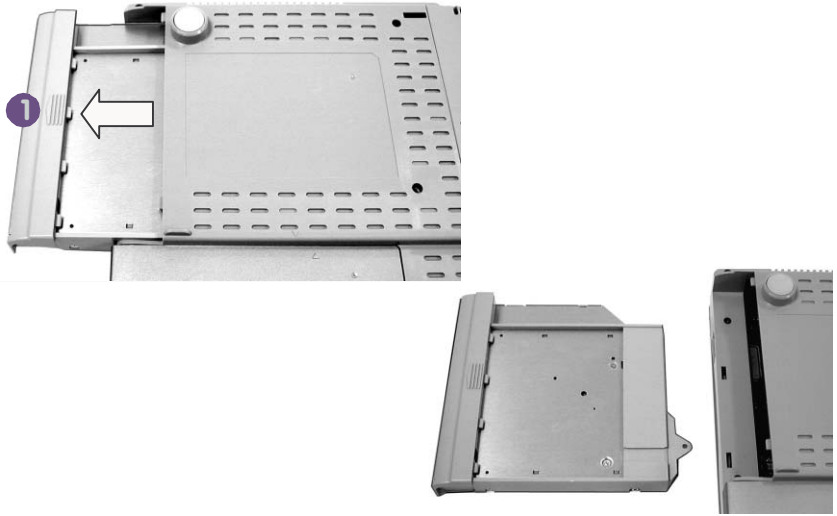


Figure 6 - 6
Bay Two Device Removal

Upgrading the System Memory

The computer has two memory sockets for 200-pin PC-200/266MHz DDR Small Outline Dual In-line Memory Modules (SO-DIMM). The main memory can be expanded up to 1024MB, and accepts 128/256/512MB modules.

The total memory size is automatically detected by the POST routine once you turn on your computer.

To upgrade the memory in your notebook please perform the following steps:

- Remove the keyboard.
- Remove a memory module (if present) where necessary.
- Insert a new memory module.
- Replace the keyboard.

Removing the Keyboard

1. Turn **off** the computer.
2. Press the **two** keyboard latches at the top of the keyboard to elevate the keyboard from its normal position as in **Figure 6 - 7** (you may need to use a small screwdriver to do this).

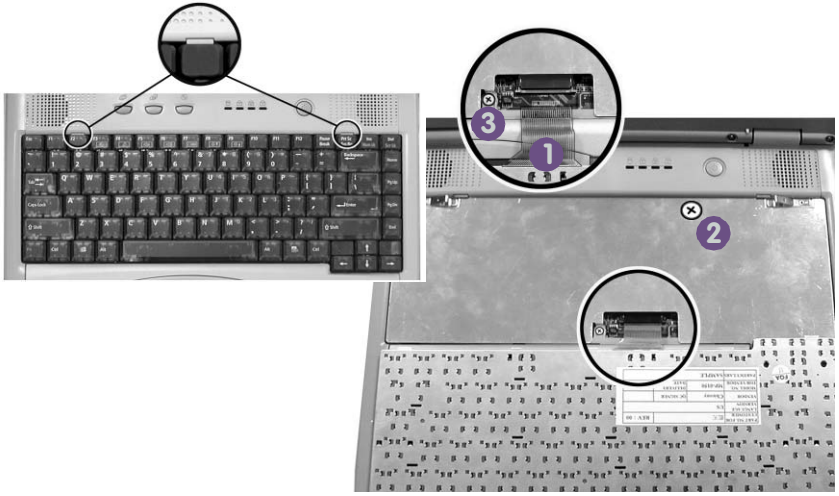
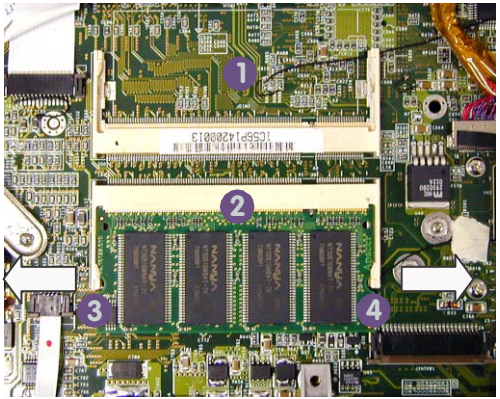


Figure 6 - 7
Keyboard Removal

3. Carefully lift the keyboard up and out, being careful not to bend the keyboard ribbon cable **"1"** as seen in **Figure 6 - 7**.

4. Remove screws **“2”** and **“3”** (**Figure 6 - 7 on page 6 - 12**) from the shielding plate, and lift the plate up off the computer.
5. Locate the Memory sockets **“1”** and **“2”** (**Figure 6 - 8**).



6. If there is a module currently installed which needs to be upgraded/replaced then remove it.
7. Gently pull the two latches (**“3”** and **“4”** in **Figure 6 - 8**) on the memory socket toward the sides of the computer, as indicated in **Figure 6 - 8**.

Contact Warning

Be careful not to touch the metal pins on the module’s connecting edge Even the cleanest hands have oils which can attract particles, and degrade the module’s performance.

Figure 6 - 8
Memory Sockets

8. The module **"1"** (**Figure 6 - 9**) will pop-up, and you can remove it.
9. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.

Figure 6 - 9
Memory Removal

10. The module will only fit one way as defined by its pin alignment. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE IT; it should fit without much pressure.
11. Press the module down towards the mainboard until the slot levers click into place to secure the module.

12. Replace the shielding plate and the **2** screws (**Figure 6 - 7 on page 6 - 12**).
13. Replace the keyboard by insuring the **five** tabs at the base of the keyboard fit into place (You will find these under the Fn, Spacebar (2), Ctrl and arrow keys - see **Figure 6 - 10**).

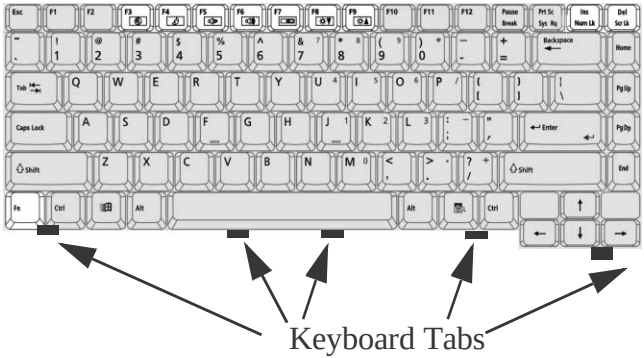


Figure 6 - 10
Keyboard Tabs

14. Carefully press the front of the keyboard down so that the two latches at the front of the keyboard lock down again.
15. Restart the computer.
16. During the startup process, the BIOS will register the new memory configuration.

Chapter 7: Troubleshooting

Overview

Should you have any problems with your computer, before consulting the service center, you may want to try to solve the problem yourself. This chapter lists some common problems and their possible solutions. This can't anticipate every problem, but you should check here before you panic. If you don't find the answer in these pages, make sure you have followed the instructions carefully and observed the safety precautions in the preface. If all else fails, talk to your service center. You should also make a record of what happened and what remedies you tried.

Of course, if something goes wrong, it will happen at the most inconvenient time possible, so you should preview this section just in case. If, after you've tried everything, and the system still won't cooperate, try turning it off for a few minutes and then rebooting. You will lose any unsaved data, but it may start working again. Then call your service representative.

Basic Hints and Tips

Many of the following may seem obvious but they are often the solution to a problem when your computer appears not to be working.

- ***Power:*** Is the computer actually plugged into a working electrical outlet? If plugged into a **power strip**, make sure it is actually working.

- ***Connections:*** Check all the **cables** to make sure that there are no **lose connections** anywhere.

- ***Power Savings:*** Make sure that the system is not in **Hibernate** or **Standby** mode by pressing the power button for less than 4 seconds (the Power Button LED will flash green while in **Standby** mode, in Hibernate mode it will be off).

- ***Connections:*** Check the brightness of the screen by pressing the **Fn + F8 or F9** keys to adjust the brightness (**See Chapter 3:"Opening the LCD" on page 3-2**).

- ***Display Choice:*** Press **Fn** + **F7** to make sure the system is not set to "external only" display(**See Chapter 3:"Attaching a Monitor (CRT)" on page 3-8**).

- ***Boot Drive:*** Make sure there are no **floppy disks** in the drive when you start up your machine (this is a common cause of the message "***Invalid system disk - Replace the disk, and then press any key***").

Backup and General Maintenance

- Always **backup** your important data, and keep copies of your *OS* and programs safe, but close to hand. Don't forget to note the ***serial numbers*** if you are storing them out of their original cases e.g. in a CD wallet.

- Run **maintenance programs** on your hard disk and *OS* as often as you can. You may schedule these programs to run at times when you are not using your computer. You can use those which are provided free with your *OS*, or buy the more powerful dedicated programs to do so.

- Write down your passwords and keep them safe (away from your computer). This is especially important if you choose to use a **Startup** password for the *BIOS* (**See "Security Menu" on page 5 - 14**).

- Keep copies of vital **settings files** such as network, dialup settings, mail settings etc. (even if just brief notes).

Viruses

- Install an **Anti-Virus** program and keep the **definitions file** (the file which tells your program which viruses to look for) up to date. New computer viruses are discovered daily, and some of them may seriously harm your computer and cause you to lose data. **Anti-Virus** programs are commercially available and the **definitions file updates** are usually downloadable directly from the internet.

- Be careful when opening e-mail from sources you don't know. **Viruses** are often triggered from within **e-mail attachments** so take care when opening any attached file. You can configure most **Anti-Virus** programs to check all **e-mail attachments**. **Note**: You should also beware of files from people you know as the virus may have infected an **address book** and been automatically forwarded without the person's knowledge.

- Keep a "**Boot Floppy Disk**" (this disk provides basic information which allows you to startup your computer) handy. You may refer to your OS's documentation for instructions on how to make one, and many **Anti-Virus** programs will also provide such a disk (or at least instructions on how to make one).

Warranty

The CPU is not a user serviceable part. Opening this compartment may violate your warranty.

Unauthorized tampering with the HDD may also violate your warranty.

Upgrading and Adding New Hardware/ Software

- Do not be tempted to make changes to your ***Windows Registry*** unless you are very sure of what you are doing, otherwise you will risk severely damaging your system.
- Please don't open your computer or undertake any repair or upgrade work if you are not comfortable with what you are doing.
- Read the **documentation**. We can assume, since you are reading this, that you are looking at the computer's manual, but what about any new peripheral devices you have just purchased? Many problems are caused by the installation of new hardware and/or software. Always refer to the documentation of any new hardware and/or software, and pay particular attention to files entitled "**READ ME**" or "**READ ME FIRST**".
- When installing a new device always make sure the device is powered on, and in many cases you will need to restart the computer. Always check that all the cables are correctly connected.

- Make sure you have installed the **drivers** for any new hardware you have installed (latest **driver files** are usually available to download from vendor's websites).

- Thoroughly check any **recent changes** you made to your system as these changes may affect one or more system components, or software programs. If possible, go back and undo the change you just made and see if the problem still occurs.

- Don't over complicate things. The less you have to deal with then the easier the source of the problem may be found; ***Example*** - if your computer has many devices plugged into its ports, and a number of programs running, then it will be difficult to determine the cause of a problem. Try disconnecting all of the devices and restarting the computer with all the peripheral devices unplugged. A process of elimination (adding and removing devices and restarting where necessary) will often find the source of a problem, although this may be time consuming.

Power

You turned on the power but it doesn't work.

possible cause: Battery missing / incorrectly installed.

indicator: If the **battery status LED**  , doesn't light up, then the battery may be missing or incorrectly installed.

solution: Check the battery bay, make sure the battery is present and seated properly (the design of the battery only allows it to go in one way). Make sure there's nothing interfering with the battery contacts.

possible cause: Low battery

indicator: The **battery status LED**  , is blinking yellow.

solution: Plug in the AC power source. If the computer doesn't start up immediately, turn it off then on again.

possible cause: The suspend key combination, **Fn + Suspend (F4),** or other configured key combination, has been toggled.

indicator: The various **LEDs** light up, but no picture appears.

solution: Press **Fn + Suspend (F4),** or other configured key combination. Wait a few moments before trying this control again.

Battery Charging

Make sure the battery is totally used up before recharging, and make sure you recharge the battery to full capacity each time you recharge.

You are losing battery power too quickly.

possible cause:	The battery does not fully charge because of prolonged inactivity.
indicator:	The battery life per charge is too short.
solution:	(**See Chapter 2:"Battery" on page 2-3**)
possible cause:	The battery is too hot.
indicator:	The battery is warm to the touch.
solution:	Allow the battery to cool. If this problem persists, make sure the vents aren't blocked and the computer isn't sitting on a thermal surface. Make sure you're using the correct adapter.
possible cause:	The system is using too much power.
solution:	If your *OS* has a *Power Management/Power Options* scheme (**See Chapter 3:"Enabling Power Management/Options" on page 3-17**) check its settings. You may also be using a PC card device which is drawing a lot of power.

The notebook feels too hot.

possible cause: The system is using too much power or is not properly ventilated.

indicator: The computer feels uncomfortably warm.

solution: Reduce the computer's power consumption. Make sure the notebook is properly ventilated and the fan port is not blocked. If this doesn't cool it down, put the system into Suspend mode or turn it off for an hour.

The battery pack will not charge.

possible cause: The battery pack is exposed to an excessively hot or cold environment.

solution: ***1.***Place the battery in a suitable environment and after it returns to normal temperature try again.
2.:The battery may be bad and may need to be replaced, contact your service center for more details.

Overheating

To prevent your computer from overheating make sure nothing blocks the vent while the computer is in use.

The battery pack will not charge and the charge indicator light is off.

possible cause: The battery is already fully charged and the indicator light is broken.

possible cause: The battery pack is exposed to an excessively hot or cold environment. Place the battery in a suitable environment and after it returns to normal temperature try again.

solution: The battery may be bad and may need to be replaced, contact your service center for more details.

A beeping sound is heard and the low-battery indicator is on.

solution: The battery power is nearly used up. Connect the AC adapter to your computer.

A beep isn't heard when the low-battery indicator turns on, or the gauge indicates power is less than 10%.

solution: The battery power is nearly used up and the volume control may be turned down. Adjust the volume control and connect the computer with the AC adapter.

Actual battery operating time is shorter than expected.

possible cause: The battery is exposed to excessively high or low temperature.

solution: Suitable operating conditions are between 32°F and 113°F (0°C and 45°C) while the ideal temperature for battery operation is between 50°F and 95°F (10°C and 35°C).

possible cause: The battery has not been fully discharged before being recharged.

solution: Make sure the battery is fully discharged and recharge it completely before reusing.

possible cause: *Power Management*/*Power Options* have been disabled.

solution: Go to the **Control Panel** in *Windows* and re-enable the options.

possible cause: A peripheral device or PC card is consuming a lot of power.

solution: Turn off the unused device to save power.

possible cause: Previously the battery was given only a partial charge.

solution: Always fully charge the battery after it has been totally used up.

Display

Nothing appears on screen.

possible cause: The system is in a power saving mode.

indicator: The LED power indicator, , is blinking green.

solution: Toggle the suspend key combination, **Fn + F4 Suspend** (**See Chapter 2:"Function Keys" on page 2-22**).

possible cause: The screen controls need to be adjusted.

solution: Toggle the screen control key combinations **Fn + F8** and **F9 (See Chapter 3:"Opening the LCD" on page 3-2)**. If you're connected to an external monitor, make sure it's plugged in and turned on. You should also check the monitor's own brightness and contrast controls.

possible cause: The computer is set for a different display.
solution: Toggle the screen display key combination, **Fn + F7**. (**See Chapter 3:"Attaching a Monitor (CRT)" on page 3-8**). If an external monitor is connected, turn it on.

possible cause: The **screen saver** is activated.
solution: Press any key or touch the **TouchPad** to return to your display.

The screen is flickering.

possible cause: The vertical refresh rate is insufficient on your external monitor.

solution: ***1.***Avoid using the Simultaneous display mode. Use LCD only or CRT only.
2.Switch to a lower resolution and/or fewer colors.
3.Adjust the refresh frequency in the display controls (**See Chapter 3:"Vertical Refresh Rate" on page 3-8**).

The screen images aren't clear.

possible cause: The screen controls need to be adjusted.
solution: Toggle the screen control key combinations **Fn + F8** and **F9** (**See Chapter 3:"Opening the LCD" on page 3-2**).

possible cause: The viewing angle of the LCD is bad.
indicator: The screen appears shiny or too dim.
solution: Adjust the position of the LCD. LCDs are designed to be viewed "straight on". If the angle is wrong, you may see glare from the screen's backlight.

possible cause: The screen is dirty.
indicator: The screen images are blurry.
solution: Clean the screen using a soft, clean **dry** cloth. Many cleaning solutions can damage the LCD surface so you should follow the precautions outlined in the *Preface*. Try to avoid touching the screen itself. Even the cleanest hands can leave oils which attract contaminants.

possible cause: The screen is suffering from **burn-in**.
indicator: The screen has ghost images, even when it's off.
solution: This problem is usually associated with external CRT monitors. Use power saving options (**See Chapter 3:"Monitor Standby" on page 3-18**) to turn off the LCD. You can also use a **screen-saver** which can help protect an attached monitor.

Hard Disk Drive (HDD)

The computer takes longer during Startup.

possible cause: Data saved on the hard disk drive may be lost or damaged.

solution: Please operate the scan disk or disk defragmenter to check for any lost or damaged data.

possible cause: The computer is waking up from **Hibernate** mode.

Boot Password

You forget the boot password.

solution: If you forget the password, you may have to discharge the battery of the *CMOS*. Contact your service representative for help.

Password Warning

If you choose set a boot password, **NEVER** forget your password.
The consequences of this could be serious. If you cannot remember your boot password you must contact your vendor and you may lose all of the information on your hard disk.

Media Warning

Don't try to remove a floppy disk while the system is accessing it. This may cause the system to "crash".

Floppy Disk Drive (FDD)

The floppy disk drive will not write data to disk.

possible cause: The floppy disk is not formatted.

solution: Format the disk (you may do this by right-clicking the disk icon in *My Computer* in *Windows* and choosing **Format** from the menu). Please remember that this will **erase all data** contained on the floppy disk.

Note: Floppy disks were never intended for long-term data storage, and have a finite lifespan. **Do not** store important files you wish to keep for a long time on floppy disks. As a general rule it is worth reformatting floppy disks regularly.

possible cause: The floppy disk is write-protected.

solution: Undo the protection by moving the write-protect tab on the disk down until it clicks.

possible cause: There is not enough unused space available on the disk.

solution: Use a new disk or delete any unneeded data.

The message *"Invalid system disk - Replace the disk, and then press any key"* appears.

possible cause: The computer is trying to boot from an incorrect floppy disk.

solution: Remove the floppy and insert a correct one, or boot from your hard disk or CD. You will need to restart the computer.

Audio

The Audio "DJ" CD Player will not turn on.

indicator: Nothing appears on the LCD of the player.

possible cause: The computer is turned **ON**.

solution: Check your computer is not turned on (Or running in a power saving mode), and if it is then shut it down, then toggle the ON/OFF switch on the CD Player.

Sound Volume Adjustment

How high the sound volume can be set using the volume control knob depends on the setting of the volume control within ***Windows***. Click the **Speaker** icon on the taskbar to check the setting.

The Volume controls on the Audio DJ player still control the volume settings if the computer's operating system is running.

All peripherals must be connected before you turn on the system.

The sound cannot be heard or the volume is very low.

possible cause: The volume might be set too low.

solution: ***1.***Check the volume control in the ***Sound Control Panel*** in the *Windows* Toolbar.

2.The headphone is plugged into the wrong jack. It should be plugged into the Headphone-Out jack (**"Headphone-Out Jack" on page 1 - 21**).

3.Check the volume control settings on the Audio "DJ" player.

CD Device

The compact disc cannot be read.

possible cause: The compact disc is dirty.

solution: Clean it with a CD-ROM cleaner kit.

The compact disc tray will not open when there is a disc in the tray.

possible cause: The compact disc is not correctly placed in the tray,

solution: Gently try to remove the disc using the eject hole. (**“Loading Compact Discs” on page 2 - 14**)

I can no longer change region codes any more using the DVD utility.

possible cause: You have already changed the code the maximum **5** times.

solution: **See “DVD Regional Codes” on page 2 - 16**.

Media Warning

When manually ejecting a CD/DVD disc, DO NOT use a sharpened pencil or similar object which may break, and become lodged in the hole.

A music compact disc can be read while a data disc can not.

possible cause: There may be a problem with the disc hardware or software.

solution: Refer to your operating system manual for more information on the software and make sure you have the correct software installed for running video compact discs/DVD's. If the proper software is properly installed and a problem still exists, contact your service representative about a possible hardware problem.

All compact discs cannot be read.

possible cause: The *Windows* system does not recognize the CD-ROM drive, or the CD-ROM drive is not compatible with other devices.

solution: ***1.***Make sure you have the CD-ROM drive properly installed and configured.

2.The CD-ROM drive is dirty. Clean it with a CD-ROM cleaner kit.

3.There may be a problem with the disc hardware or software. Refer to your operating system manual for more information on the software, and make sure you have the proper software installed for using compact discs. If the correct software is properly installed, contact your service center about a hardware problem.

PC Card

The system cannot recognize the PC card.

possible cause: The PC card is not inserted into the socket or inserted incorrectly.

solution: Remove the card and reinsert it aligning the PC card with the slot. Push the card in until it locks into place.

possible cause: The PC card driver is not installed.

indicator: The system cannot access the card after it is installed..

solution: Please read the documentation which comes with any new external device, and make sure you **install the driver** for it as this will allow you to access any extra functions which come with your device.

possible cause: The PC card or card driver is not compatible with the computer's OS.

solution: Please **see Appendix A:"PC Card" on page A-3** to check the compatibility of your card.

The PC Card Problem in Windows 98

After installation of *Windows 98* or *Windows 98 Second Edition*, you may find that the PC cards are not working normally and you may also notice one or more of the following:

- An exclamation mark appears in the PC card driver in **Device Manager**
- PC cards don't work at all
- PC card controllers are not enumerated
- PC card controllers are disabled on power-up
- PC card controllers are disabled when you resume the computer from Suspend mode

This is a problem caused by *Microsoft Windows 98 (Second Edition)*. To resolve the problem, immediately after installing *Windows 98SE* install the program file **PCI.vxd** to update your system driver. The PCI.vxd driver is supplied by your computer service representative**.** For more information on this, refer to the Microsoft article "CardBus Device Not Enumerated with TI 14xx or 44xx CardBus Controllers" (Article ID Q233017) which can be found on Microsoft's web site.

The PC Card Problem in Windows Me

After you resume your computer from suspend mode and try to use a program that uses a PCMCIA modem, the *Windows* message server (Msgsrv32.exe) may stop responding (hang). *Windows*-based programs or *Windows* itself may then hang. This problem can occur when you are using Dial-Up Networking to connect to an Internet service provider and your computer enters Suspend mode or Standby mode before you disconnect the Dial-Up Networking connection.

This is a problem caused by *Microsoft Windows Me (Millennium Edition)*. To resolve the problem, immediately after installing *Windows Me* install the program file **PCI.vxd** to update your system driver. The PCI.vxd driver is supplied by your computer service representative**.**

For more information on this, refer to the Microsoft article "Computer with PCMCIA Modem Hangs During Suspend Mode" (Q270086) which can be found on Microsoft's web site.

Keyboard and Mouse

Unwelcome numbers appear when typing.

possible cause: The NumLock is turned **ON**.

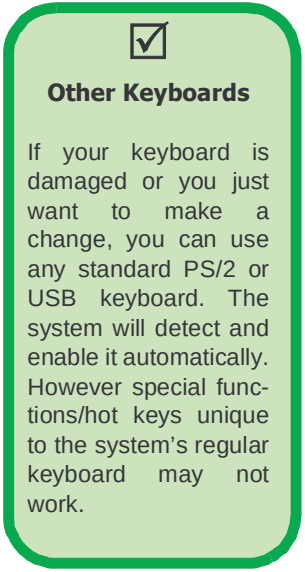
indicator: The LED  is lit.

solution: Press and release the **NumLock** key.

I have installed a new external Keyboard or mouse but cannot use all of the listed functions.

possible cause: You have not installed the driver to enable any extra functions.

solution: Make sure you read the documentation which comes with any new external device, and make sure you install the driver for it as this will allow you to access any extra functions which come with your device.



Printer

The printer cannot be added to the system or will not work.

possible cause: The printer power is off or the printer is not correctly connected to the computer.

solution: Check all connections and cables and the try to reinstall the driver.

possible cause: The printer is not turned on, or has an internal problem.

solution: Make sure the printer is on. You may refer to the printer's manual for instructions on printing a "self-test" page (a "self-test" page will print regardless of computer connections and is a means of insuring that the printer is actually working).

possible cause: There is no paper in the printer, or the paper is incorrect for the settings designated in your software.

solution: Put more paper in the printer (also fan the paper to make sure it doesn't stick together and cause a paper jam) and check the paper size matches your software's "print" settings.

possible cause: The printer **driver** is not installed or is configured incorrectly.

solution: Check that the printer is properly installed and configured (correct port etc.). Also check that you have installed the latest driver compatible with your *OS* (updated drivers are usually available for download from the printer manufacturer's website).

possible cause: The printer is a network printer and it is not properly connected to the network.

solution: All networks are configured differently so please check with your **network administrator** to get the correct setup.

possible cause: The **operation mode** for the **parallel por**t set in the *BIOS* doesn't correspond with the mode your printer can work with.

solution: Please check your printer manual to find out which mode your printer uses. Check that the settings in the *BIOS* (**See page 5-13 "I/O Device Configuration"**) correspond with those indicated in your printer manual.

Operation

The system won't start up when the power button is pressed.

possible cause: The Audio "DJ" CD Player is **ON**.
solution: Toggle the ON/OFF switch off the CD Player.

The system freezes.

possible cause: The system's power saving features have timed-out.
indicator: The screen goes dark.
solution: Use the AC adapter, press the **Fn + F4 (Suspend)** key combination, or press the Power Button if no LEDs are lit.

possible cause: A software conflict made the system "crash".
solution: Consult your *OS* manual. As a last resort, since you will lose any unsaved data, try to reboot the system or if that doesn't work, turn the computer off and on again.

Hibernate Mode in Windows 98SE

Hibernate Mode is not available in Windows 98SE.

The system never goes into hibernate mode.

possible cause: *Power Management/Power Options* features are not enabled.

solution: Go to *Setup's* Power menu and enable the features you prefer.(**See Chapter 3:"Enabling Power Management/Options" on page 3-17**).

The system does not go into suspend or save to disk when the battery is low.

possible cause: Suspend Timeout is disabled.

solution: Use one of the *Power Management/Power Options* presets.

The Infrared device doesn't work.

possible cause: The drivers are not loaded.

indicator: The system cannot access the card after it is installed.

solution: Please read the documentation which comes with any new external device, and make sure you **install the driver** for it as this will allow you to access any extra functions which come with your device.

possible cause: The **IrDA** port is blocked.
solution: Make sure nothing is between your system's **IrDA** port and the destination's port.
Note: The **IrDA** operates on a "Line of Sight"

possible cause: Support for **IrDA/AskIR/FIR** types infrared devices is disabled.
solution: Enable the support for these type of devices in the *BIOS Setup* under the Advanced menu (**See page 5-13 "I/O Device Configuration"**).

Glossary

A

AC (**A**lternating **C**urrent) - The power from a standard household electrical outlet.

adapter - A device that allows compatibility between different equipment. An AC adapter converts AC current to DC current which is needed to operate a computer.

AGP (**A**ccelerated **G**raphics **P**ort) - A high-speed graphics port that provides a direct connection between the display adapter and memory

application - A program such as a word processor, database or image editor.

B

BIOS (**B**asic **I**nput **O**utput **S**ystem) - An essential set of routines in a PC, which is stored on a chip and provides an interface between the operating system and the hardware.

bit (**b**inary **d**igit) - The smallest unit of information on a machine. If a computer is a 32-bit machine it may mean that its data registers are 32 bits wide or that it uses 32 bits to identify each address in memory.

boot - The loading of the operating system and other basic software which occurs when you start-up the computer.
bus - A collection of wires through which data is transmitted from one part of a computer to another.
byte (**b**ina**y te**rm) - A unit of storage capable of holding a single character. On almost all modern computers, a byte is equal to 8 bits.

C

cache - When you cache something you improve the speed of access to it by moving it one stage closer to the CPU.
CardBus - A 32-bit version of the PCMCIA PC Card standard.
CD-ROM (**C**ompact **D**isc **R**ead **O**nly **M**emory) - A format used to store data such as text, graphics or stereo sound. Also refers to the drive which can read this format.
configuration - The makeup of a system. To “configure” is to choose options in order to create a custom system
CPU (**C**entral **P**rocessing **U**nit) - The computing part of the computer. It controls the interpretation and execution of instructions.

D

DC (**D**irect **C**urrent) - Power which a computer requires for operation.

DIP switch - A series of tiny switches built into circuit boards which enable you to configure a circuit board for a particular type of computer or application.

DOS (**D**isk **O**perating **S**ystem) - Developed by Microsoft, it was the standard operating system for IBM-compatible personal computers.

DRAM - The most common type of computer RAM, called D-RAM or DRAM.

driver - A program that controls a device. Every device, whether it is a printer, disk drive, or keyboard, must have a driver program.

DVD - Originally called Digital Video Disc since it was used mostly for video, now called Digital Versatile Disc, similar to a CD only with greater storage capacity.

F

flash BIOS - BIOS which can be updated.

flash memory - A memory chip that keeps its information even when the computer is powered off. Used in BIOS which can be updated, like the system in your computer.

flash ROM BIOS - see flash BIOS.
function key - The keys F1, F2, … which have specific functions assigned to them. By pressing one of the function keys you can execute certain commands depending on the computer and operating system you are using.

G

GB (**G**iga**b**yte) - A unit of storage, one gigabyte is equal to 1,024 megabytes.

H

Hot key - see **function keys**.

I

interface - Something that connects two separate things. Hardware interface connects the computer to attached hardware such as a printer.
I/O (**I**nput/**Output**) - Term used when your computer needs data entered (input) or has data to go to another source such as a printer or floppy disk (output).
IrDA (**I**nfra**r**ed **D**ata **A**ssociation) - IrDA ports allow a laptop to ex-

change data or use a printer without a cable connection.

J

jack - A connector used primarily to connect external devices to your computer such as a microphone, video source, phone line, etc.
jumper - A metal bridge that closes an electrical circuit. They are sometimes used to configure expansion boards.

K

KB (Kilobyte) - A unit of storage, one kilobyte is equal to 1024 bytes.

L

LAN (**L**ocal **A**rea **N**etwork) - A communications network within a confined physical area. It is made up of servers, workstations, a network operating system and a communications link.
LCD (**L**iquid **C**rystal **D**isplay) - A display technology that uses rod-shaped molecules (liquid crystals) that flow like liquid and bend light.
LED (**L**ight **E**mitting **D**iode) - an electronic device that lights up when electricity is passed through it. The indicator lights on the com-

puter are LEDs.
load - To copy a program from some source, such as a disk or tape, into memory for execution.
Lithium-Ion battery - A type of battery which is ideal for notebook computers because of its light weight and high energy density. Also, lithium-ion batteries do not use poisonous metals, such as lead, mercury or cadmium.

M

MB (Megabyte) - 1,048,576 bytes or 1024 KB
memory - Area in the computer where information is stored on chips, an example is RAM.
MHz - One MHz represents one million cycles per second. The speed of microprocessors, called the clock speed, is measured in megahertz.
MMX - A type of microprocessor that can handle many common multimedia operations that are normally handled by a separate sound or video card.
mode - An operational state that a system has been switched to.
modem (**mo**dulate-**dem**odulate) - A device that adapts a computer to a telephone line by converting the computer's digital pulses into audio frequencies for the telephone when sending. And the reverse

when receiving a signal from the telephone line.
module - Referring to hardware, a module is a self-contained component.
mouse - The most popular pointing device. It was called a mouse because it more or less resembled one, with the cord being the mouse's tail.

N

NiMH battery - Batteries which are common in notebook computers and contain Nickel-Metal Hydride.

P

parallel port - A socket on a computer used to connect a printer or other parallel device via the computer's parallel interface.
parallel printer - A printer that receives information from a computer one character (letter, number, etc.) at a time.
partition - A reserved part of disk or memory that is set aside for some purpose. New hard disks must be partitioned before they can be formatted for the operating system, this is done with the FDISK utility.
PC Card - See **PCMCIA Card**.

PCMCIA Card - A credit-card sized, removable module for portable computers standardized by PCMCIA. Also known as PC Cards, they are 16-bit devices that are used to attach modems, network adapters, sound cards, radio transceivers, solid-state disks and hard disks to a portable computer. The PC Card is a “Plug-N-Play” device, which is configured automatically by the Card Services software

PCMCIA is an acronym for **P**ersonal **C**omputer **M**emory **C**ard **I**nternational **A**ssociation which is an international standards body and trade association that was founded to establish a standard for connecting peripherals to portable computers.

peripheral - Any external device attached to a computer, such as a printer, disk drive, display monitor, etc.

Plug and Play - The ability to add a new component and have it work without having to perform any technical analysis or procedure.

PnP - see Plug and Play

POST (**P**ower **O**n **S**elf **T**est) - A series of built-in diagnostics that are performed when the computer is booted.

R

RAM (**R**andom **A**ccess **M**emory) - The memory available to programs, different programs will need more or less RAM depending on what they are doing. RAM is the most common type of memory found in computers.

reboot - To restart a computer.

resume - To restart your computer from suspend mode.

ROM (**R**ead **O**nly **M**emory) - A memory chip that permanently stores instructions and data. Its contents are created at the time of manufacture and cannot be altered. ROM chips are used to store control routines in personal computers (ROM BIOS), peripheral controllers and other electronic equipment.

S

SD (Secure Digital) Memory Cards - SD memory cards are one of a type of next generation memory devices that offer a combination of high storage capacity (currently 16, 32 and 64 MB), fast data transfer rates, flexibility and security in a memory card about the size of a postage stamp. SD memory cards are non-volatile, which means they do not require power to retain the information stored on them. They are solid-state devices, so they have no moving parts to skip or

break down.
SDRAM (**S**ynchronous **DRAM**) - A type of DRAM that can run at much higher clock speeds than conventional memory.
serial port - A socket on a computer used to connect a modem, mouse, scanner or other serial device to the computer.
setup - (1) A utility program which modifies the BIOS.
(2) Assembly and adjustment of a computer's components.
(3) The preparation of the system for normal operation.
Sony Memory Stick - Sony's digital portable storage medium. The Memory Sticks are used for storing and transferring images from digital cameras and digital music players to personal computers and laptops. These will be added to PDAs or data-enabled mobile phones.

S/PDIF - (Sony/Philips Digital Interface Format) output, which allows you to connect your DVD-capable PC to a Dolby AC-3 compatible receiver producing high quality sound.
suspend - To stop an operation with the hard disk turned off and the CPU idling at its slowest speed. This is done to save power when you are not using your computer for long periods of time.

T

TFT (**T**hin **F**ilm **T**ransistor) - The term typically refers to active matrix screens on laptop computers. Active matrix LCD provides a sharper screen display and broader viewing angle compared to passive matrix.

U

USB (**U**niversal **S**erial **B**us) - Hardware interface for low-speed peripherals such as the keyboard, mouse, joystick, scanner, printer and telephony devices. Devices are plugged directly into a four-pin socket on the PC.

utility - A program that provides file management capabilities, such as sorting, copying, comparing, listing and searching, as well as diagnostic and measurement routines that check the health and performance of the system.

V

VGA (**V**ideo **G**raphics **A**rray) - The minimum standard for PC video display.

Z

Zoomed Video (ZV) Port - An extension to the PC Card (PCMCIA) standard that provides a high transfer rate for video applications on portable computers. The ZV Port is built into the notebook computer and activated by plugging in an MPEG PC Card that is ZV Port-compliant.

Appendix A. Specifications

Processor

- Intel Pentium 4 Processor - (478-pin) FC-PGA2 package
  (µ0.18) 0.18 Micron Process Technology - 1.4/1.5/1.6/1.7/1.8GHz
  (µ0.13) 0.13 Micron Process Technology - 2.0/2.2/2.4GHz
- Mobile Intel Pentium 4 Processor-M - (478-pin) Micro-FCPGA package
  (µ0.13) 0.13 Micron Process Technology - 1.4/1.5/1.6/1.7/1.8/2.0GHz

Core Logic

- Intel® 845MP+ICH3Mchipset

Structure

- All-in-one
- Compliant to PC99 standard

Security

- Kensington® Lock

Memory

- Two 200Pin SODIMM sockets, PC200/266MHz DDR devices
- Expandable up to 1024 MB (128/256/512MB SODIMM Modules)

BIOS

- One 512KB Flash ROM
- Phoenix BIOS

LCD

- 14.1" XGA 1024x768/ SXGA+ 1400x1050, 15.0" XGA 1024X768, 15.0" 1400x1050 TFT SXGA+, 15.0" UXGA 1600x1200

Display

- ATI M7-P chipset, Integrated AGP™ 4X
- Integrated 128-bit 2D / 3D Graphics Accelerator-
  Advanced HW Acceleration for DVD Playback (Motion Compensation engine and IDCT)-
  Fully DirectX 8 Compliant Graphics Engine
- External memory up to 32/64/128MB DDR SGRAM on board
- Dual-view Display Monitor
- TV resolution up 1024x768 32bpp
- CRT resolution up to 2048x1536

Storage

- Bay one interchangeable for 3.5" 3-mode FDD, OR DVD-ROM, OR CD-ROM, OR CD-RW, OR Combination DVD-ROM/CD-RW drive, OR secondary battery
- Bay two fixed DVD-ROM, OR CD-ROM, OR CD-RW, OR Combination DVD-ROM/ CD-RW drive
- Easy changeable 2.5" 9.5 mm (h) HDD
- Support Master mode IDE, support PIO mode 4 / ATA-33/66/100 (Ultra DMA)

Audio

- AC'97 2.1 Compliant Interface
- 3D stereo enhanced sound system
- Compatible Sound-Blaster PRO™
- S/PDIF Digital output (5.1 CH)
- Built in microphone
- Audio DJ
- Built in 2 speakers 1 watt 36F, 8O

PC Card

- One PCMCIA 3.3V/5V sockets, one type II
- Supports CardBus

Interface

- Built in TouchPad (Scroll functionality included)
- Four USB ports
- One IEEE 1394 port
- One S-Video jack for TV output
- One parallel port (LPT1), support ECP/EPP
- Infrared file transfer, IrDA 1.1 FIR/SIR/ASKIR
- External CRT monitor
- One PS/2 port support mouse and keyboard (through Y cable)
- One headphone-out jack
- One microphone-in jack
- One S/PDIF out port
- One RJ-11 jack for MDC Modem
- One RJ-45 jack for LAN
- DC-in jack
- Built-in 3 instant keys, www, email, and Player

Communication

- Infrared transfer: 115.2K bps SIR/ 4M bps FIR, IrDA 1.1 compliant
- 10/100Mb Ethernet LAN built-in
- 802.11b Wireless LAN mini-PCI interface (option)
- 56K MDC Modem with V.90 & V.92 compliant

Power Management

- Supports ACPI v1.0b
- Supports APM v1.2
- Power on suspend
- Supports suspend to RAM
- Supports suspend to disk
- Battery low suspend
- Modem resume from system suspend
- Resume from LAN ring
- Cover switch

Power

- Full Range AC adapter - AC in 100~240V, 50~60Hz DC Output 20V, 6.0A.
- Main battery smart Li-Ion 59W (removable)
- Second battery smart Li-Ion 50W (removable)

Indicators

- LED indicator (HDD, Suspend/Power on/ AC-In, Battery Charging/ Battery full, E-mail, Num Lock, Caps Lock, Scroll Lock)

Environmental Spec

- Temperature
- Operating: 5°C~ 35°C
- Non-Operating: -20°C ~ 60°C

Relative Humidity
Operating: 20% ~ 80%
Non-Operating: 10% ~ 90%

Physical Dimensions

- 329 (w) x290 (d) x 44(h) mm

Weight

- 3.2 kg without battery

Optional

- Secondary battery pack
- 3.5" 3-mode FDD
- DVD-ROM Drive
- CD-RW Drive
- DVD-ROM and CD-RW Combo Drive
- Software DVD Player
- Wireless LAN module