USER'S MANUAL

NOTEBOOK

Notice

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Federal Communications Commission (FCC) Statement

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

- 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 Notes

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

Important Safety Instructions

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.
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.
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.
5. **Be careful with power.** 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).

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.

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.

Warning

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.

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.

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.

Instructions for Care and Operation

As with any other piece of precision electronic equipment, proper care and operation of your notebook will prolong its use. Help your notebook computer last longer by following the advice in this section:

Handling the Computer

Do not expose your notebook computer to excessive heat or direct sunlight.

Do not expose it to any shock or vibration

Do not expose it to strong magnetic fields.

Do not leave it in a place where foreign matter or moisture may affect the system.

Do not turn off any peripheral devices when the computer is on

Do not turn off the power until you properly shutdown all programs.

Do not place the computer on an unstable surface.

Do not place the computer on any surface which will block the vents.

Don't use or store the computer in a humid environment.

Do not disassemble the computer by yourself.

Do not place anything heavy on the computer.

When traveling by air, follow the airline's instructions for in-flight use.

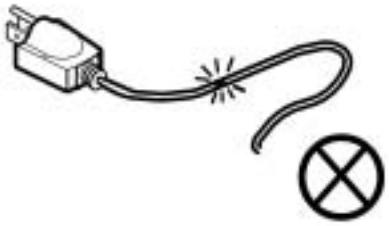
If there is an unusual odor, heat or smoke coming from your computer, unplug the cord.

Perform routine maintenance on your computer.

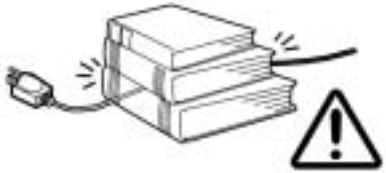
Handling of the Power Cord & Battery

Do not plug in the power cord if you are wet.

Do not use the power cord if it is broken.

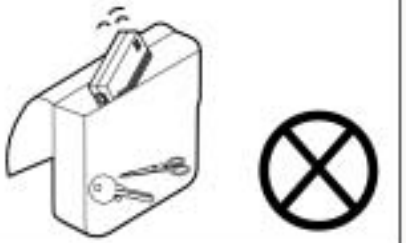


Do not place heavy objects on the power cord.



Do not touch the battery contacts with your hands or any metal objects.

Keep the battery away from metal appliances.



Affix tape to the battery contacts before disposing of the battery.

Handling Peripheral Devices

Use only approved brands of peripheral devices.

Unplug the power cord before attaching any peripheral devices.

Other Reminders

Do not throw the computer or accessories into a fire.

Do not touch the poisonous liquid if the LCD panel breaks.

Remember to periodically save your data. Data may be lost if the battery is depleted.

Take periodic breaks if you are using the computer for long periods of time.

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.

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

Chapter 2: Using The Computer

Chapter 3: Advanced Controls

Chapter 4: Drivers & Utilities

Chapter 5: BIOS Utilities

Chapter 6: Upgrading The Computer

Chapter 7: Troubleshooting

List of Figures

List of Tables

List of Warnings

Chapter 1: Introduction

Overview

What this chapter covers:

- In the Box — the parts and pieces provided
- The Manual — how to use it
- Quick Start Guide — the minimum you need to know
- System Map — navigate around your computer

☑

Advanced Note

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 computer. Depending on how your system is configured, some or all of the features described may already be set up.

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 NT 4.0 - Service Pack 6 or later
- Microsoft Windows 2000
- Microsoft Windows XP

Advanced Users

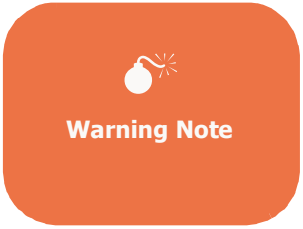
If you are an advanced user you may skip over most of this manual. However you may find it useful to refer to the **"Drivers & Utilities" on page 4 - 1, "BIOS Utilities" on page 5 - 1 and "Upgrading The Computer" on page 6 - 1.** You may also find the notes marked with a ☑might be of interest to you.

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 NT 4.0 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.

Quick Start Guide

This guide assumes that you are already familiar with notebook PC's 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/DVDs, 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 at the rear of the computer **(see "Rear View" on page 15)**. Then plug the AC power cord into an outlet, and then connect the AC power cord to the AC adapter
4. Raise the lid/LCD to a comfortable viewing angle.
5. Push 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 will help you to become familiar with the basic functions, and to learn the location of the various ports and components of your computer.

Model A

Model B

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.

Top View With LCD Display Closed

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 indicators 2 show the power source and power status of the computer

Figure 1 - 1 - Top View With LCD Display Closed

Top View With LCD Display Open

1. LCD display
2. LED Power Indicators
3. Speakers
4. Three hot-key buttons
5. LED status indicators
6. Power button
7. Keyboard
8. TouchPad and buttons
9. Palm Rest (changeable)
10. Microphone (built-in)

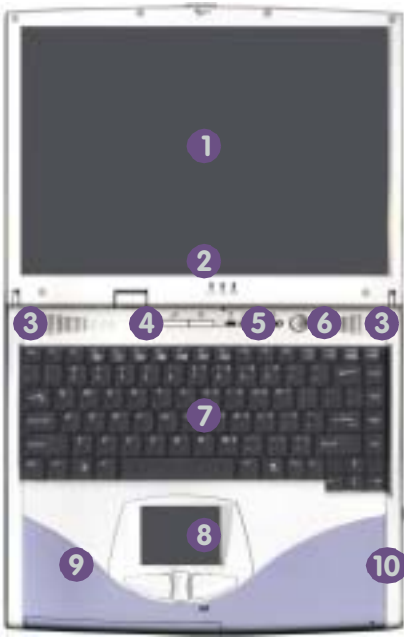


Figure 1 - 2 - Top View with LCD Display Open

LCD Display

The notebook comes with a TFT LCD (Liquid Crystal Display) screen.

LED Power 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**).

Stereo Speakers

Two built-in speakers provide rich, stereo sound.

Three 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 please 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 notebook 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 (**see "Conserving Power Throughout The Whole System" on page 3 - 18**).

Keyboard

The computer has an A4-Size Win98 keyboard with an embedded numeric keypad. It has the same features as a full-sized desktop keyboard and can easily be replaced with a non-English keyboard should you desire.

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.

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.

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 three-button mouse 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.

Changeable Palm Rest

Your computer comes with two changeable Palm Rests. The instructions on how to remove and replace the palm rests are in **"Removing And Replacing The Battery" on page 3 - 25**.

Microphone

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

Left Side View

Figure 1 - 3 - Left Side View

5.25" CD Device

A 5.25" CD-ROM drive, or CD-RW, or a DVD-ROM, or Combo Drive (12.7mm height) is standard depending on the model you purchased. For more information on using the drive please refer to **"The CD Device" on page 2 - 14**.

1. CD-ROM or DVD label to indicate which device your model is fitted with
2. Busy Indicator
3. Open button
4. Emergency eject 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.

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

Right Side View

Figure 1 - 4 - Right Side View

1. Microphone-in jack
2. Speaker-out jack
3. S/PDIF port
4. SD port
5. Sony Memory Stick port
6. Floppy disk drive
7. Floppy disk eject switch
8. Dual PC card slots
9. PC card eject buttons
10. IEEE 1394 port
11. Dual USB ports
12. Vent

Overheating

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

Microphone-In Jack

A microphone can be connected to your notebook via this jack.

Speaker-Out Jack

Headphones or speakers may be connected through this jack.

S/PDIF 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” surround sound.

Secure Digital (SD) Port

This port accepts SD (Secure Digital) memory cards.

Sony Memory Stick Port

This port accepts Sony’s Memory Stick.

3.5” FDD (Floppy Disk Drive)

This 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**.

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.

Mini - IEEE 1394 Port

This allows high speed connection to various peripheral devices, such as external disk drives and digital cameras (**see sidebar note**). You can purchase a mini-to-full size adapter cable at most computer supply centers.

Dual USB Ports

This port is a hardware interface for low-speed peripherals such as keyboard, mouse, joystick, scanner, printer and telephony devices. Devices may be plugged into the computer, and unplugged from the computer, without the need to turn the system off (two other USB ports are located on the rear of the computer).

Vent

This enables airflow to prevent the notebook from overheating.

IEEE 1394

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

Rear View

Figure 1 - 5 - Rear View

1. Parallel port
2. Infrared port
3. Vent
4. Security lock
5. Dual USB ports
6. S-Video Connector
7. External Monitor (CRT) Port
8. PS/2 type port
9. LAN jack
10. Phone jack
11. DC-in jack

Overheating

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

Parallel Port

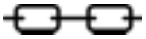
This port supports ECP (extended Capabilities Port) and EPP (Enhanced Parallel Port) 1.7/1.9 modes.

Infrared Port

This port allows wireless communications with an infrared-compatible device. The infrared port supports Infrared transfer up to 1M operating distance, and is FIR, IrDA 1.1 compliant. For further information, please refer to the manual of the infrared device (e.g. PDA or mobile phone) you wish to connect.

Vent

Enables airflow to prevent the notebook from overheating.



Security Lock

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

Dual USB Ports

See page 1 - 14.

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 - 12**).

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 "Attaching a Monitor (CRT)" on page 3 - 5)**.

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.

LAN Jack

This port supports LAN (Network) functions. The larger connection port is for network; the other is for the telephone line to connect to the built-in modem. **Note**: Broadband (e.g. ADSL) modems usually connect to the LAN port.

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.

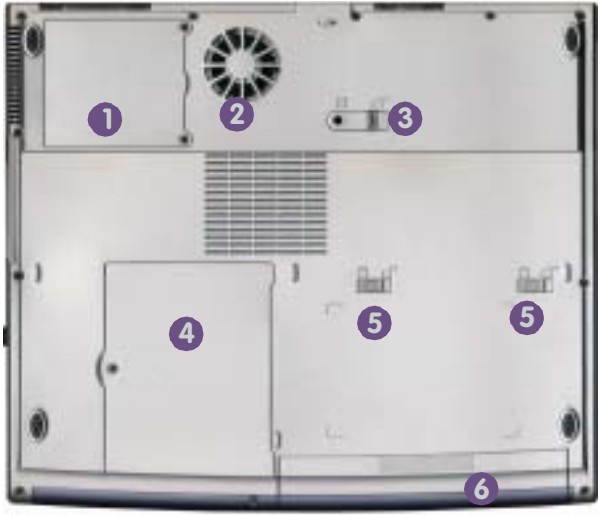
DC-In Jack

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

Bottom View

1. CPU cover
2. Fan outlet
3. CD Device release latch
4. Cover for HDD (Hard Disk Drive)
5. Battery release latches
6. Battery

Figure 1 - 6 - Bottom View



Overheating

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

Warrantee

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

Unauthorized tampering with the HDD may also violate your warrantee.

Wireless Network Card

Your notebook computer may have an **optional** 802.11b Wireless Networking solution. If included, the antennae and other components are not externally visible. Should you need to install a driver for this card then please refer to **“Drivers & Utilities” on page 4 - 1**.

Peripheral Devices

Peripheral devices can be added to the notebook through the ports, jacks and slots on the right side and rear of the computer.

Peripheral devices include:

- Audio input - microphone.
- Audio output - S/PDIF, Speakers, Headphones.
- External drives - CD-ROM, CD-RW, Floppy Disk drives, MO Drives, Zip Drives, LS120 Drives
- Pointing devices - Trackballs, trackpads, touchpads, mouse.
- Other - Printers, scanners, PDA's, digital cameras, game controllers, keyboards.

Chapter 2: Using The Computer

Overview

Your notebook computer can be used almost anywhere, in the home, office, or on the road. To learn more about your computer, please read this chapter.

This chapter includes:

- The Power Sources
- Turning on the Computer
- The Hard Disk Drive
- The Floppy Disk Drive
- The CD Device
- The PC Card Slot
- The Hot Keys
- The Numeric Keypad
- Memory Stick Port
- Secure Digital Port

Power Button as Standby or Hibernate Button

If you are using an ACPI-compliant OS, such as *Windows Me* or *Windows 2000 Professional*, 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, **or "Power Management" on page 3 - 13** for details.)

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 at the rear 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. Push the power button to turn "on".

Figure 2 - 1 - Power Source

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 recharging.

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 - 22**.

Figure 2 - 2 - Battery Out

Recharging 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 (+, -) together. (for more information on how to maintain the battery pack, refer to **"Battery Information" on page 3 - 22**).

Turning On The Computer

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

When the computer is turned on, the Power Button can also be used as a Standby/ Hibernate/Shutdown hot-key button if pressed less than **4 seconds** (pressing and holding the Power Button for longer than this will shut the computer down) and appropriately configured in the *OS* Control Panel (**Power Management** or **Power Options**).

Figure 2 - 3 - Power Button

Forced Off

If the **Ctrl + Alt + Del** key combination doesn't work when the system "hangs", 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.

LED Indicators

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

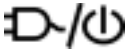
Figure 2 - 4 - LED Indicators

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

Figure 2 - 5 - LED Indicators with LCD Closed

LED Power Indicators

Table 2 - 1 - LED Power Indicators

Icon	Color	Description
	Yellow	AC Power is plugged in
	Green	The computer is turned on
	Blinking Green	The system has entered 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 Auto Mail Checker.

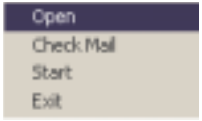
Note

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.

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. You may also define the users to appear in your **Special Group** in order to receive a fast blinking LED notification when you receive mail from this group (**see Figure 2 - 8 - 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 - 6 - Auto Mail Checker Account Setup

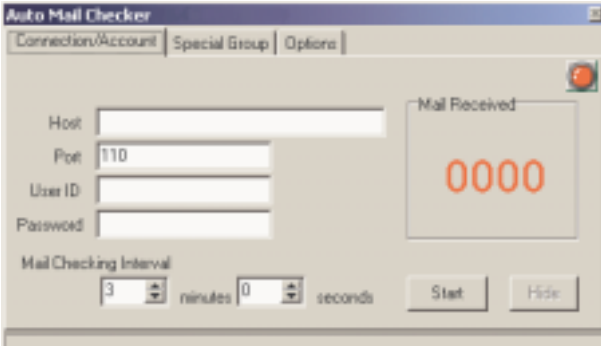


Figure 2 - 7 - Auto Mail Options

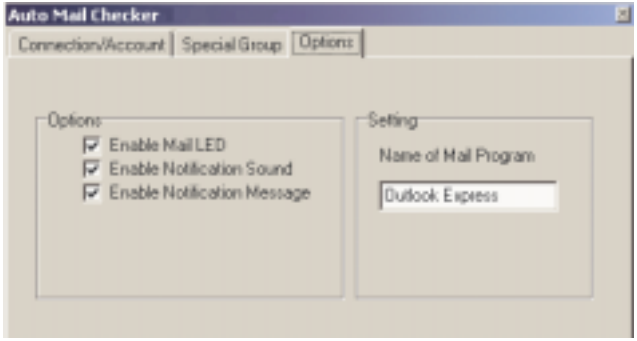
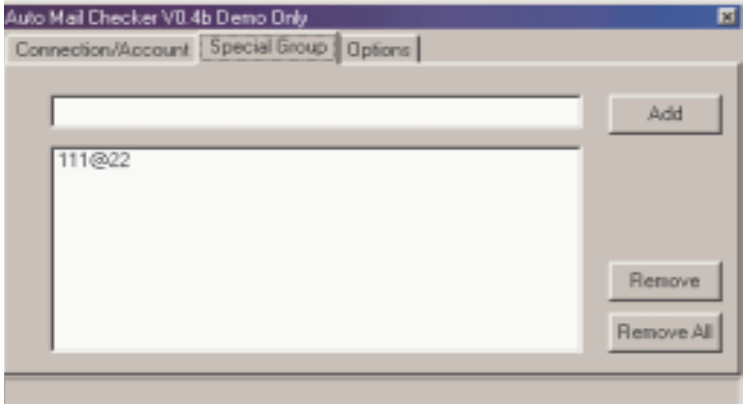


Figure 2 - 8 - Special Group Setup



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 in **Figure 2 - 7 - Auto Mail 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 - 2 - LED Status Indicators

Icon	Color	Description
	Green	The floppy disk drive/ hard disk drive/CD-device is being accessed.
	Green	Num 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)

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 hard disk is accessible from the bottom of your computer as seen below. 1 Further details on removing and inserting the hard disk are available in **"Hard Disk Drive Upgrade" on page 6 - 2.**

Figure 2 - 9 - Hard Disk Location

The Floppy Disk Drive (FDD)

The computer is equipped with a fixed 1.44 MB, 3.5” floppy disk drive module. By default it is drive “A:” and can be used as a boot device if properly set in the **BIOS** (please refer to **“Choosing The Boot Device Before OS Startup” on page 5 - 7)**.

Figure 2 - 10 - Floppy Disk Drive

Media Warning

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

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.

Sound Volume Adjustment

You may set the volume adjustment from the volume control within *Windows.* Click the **Speaker** icon on the **taskbar** to check the setting.

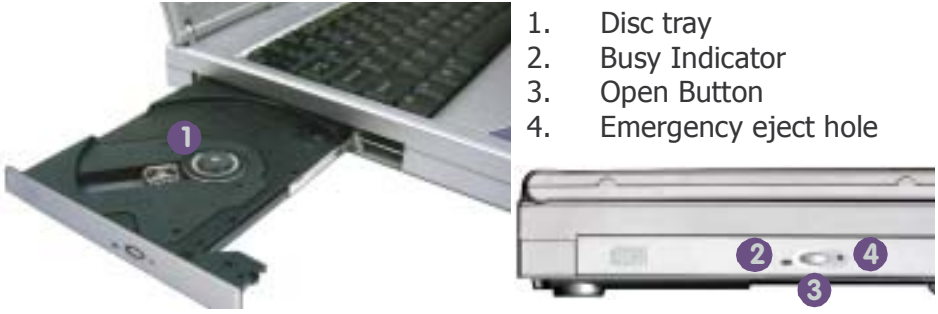
The CD Device

There is one bay for your optional 12.7mmH CD-ROM, or DVD-ROM or CD-RW. The CD Device is usually labeled drive **D** and may be used as a boot device if properly set in the **BIOS (please refer to "Choosing The Boot Device Before OS Startup" on page 5 - 7)**. The CD Device installed in your system depends on the configuration you purchase. Alternative drive configurations may also be available.

Loading Compact Discs

To insert a CD disc, press the Open Button and carefully place a CD disc onto the disc tray with label-side facing up (see below). Gently push the CD 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 CD 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.

Figure 2 - 11 - The CD Device



1. Disc tray
2. Busy Indicator
3. Open Button
4. Emergency eject hole

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.

Handling CDs or DVDs

Proper handling of your CDs/DVDs 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.

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 notebook. If you need to switch regions please contact your notebook service representative or the DVD device manufacturer for more information.

Table 2 - 3 - DVD Regional Coding

DVD Regional Coding	
Region #	**Geographical Location**
1	USA, Canada
2	Europe, Japan, South Africa, Middle East
3	South East Asia, East Asia (not including China)
4	Central America, Mexico, Australia, New Zealand, South America
5	India, North Africa, Northwest Asia, Russia
6	China

The PC Card Slot

The computer is equipped with two PC card slots. These are PCMCIA 3.3V/5V/12V sockets, type II x2 or type III x1.Type III PC cards only fit into the lower socket.

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 next to the slot.

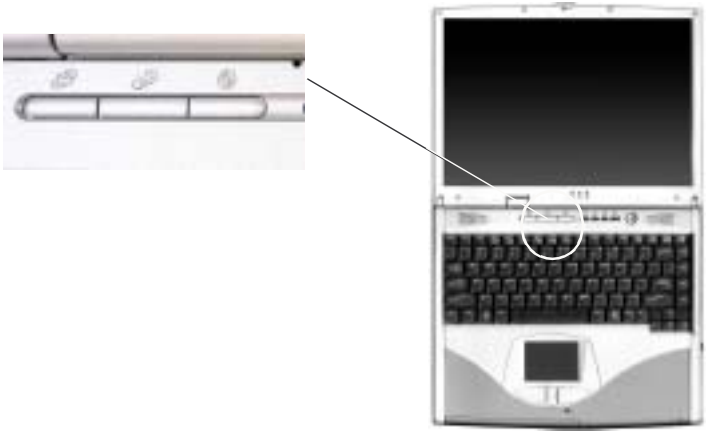
1. Eject button
2. PC card partially inserted in the slot

Figure 2 - 12 - The PC Card Slot

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 - 13 - Hot-Keys



Three Hot-Key Buttons

The computer has three hot-key buttons for quick one button access to the Internet, e-mail or a user-defined application. 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.

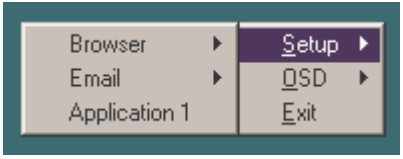
Programming the Hot-Keys

Table 2 - 4 - Hot-Key Functions

Hot-Key	Function
	Activate the e-mail box.
	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 driver settings. To configure the driver, **right click** the hot-key driver icon  on the **taskbar** and the following menu will appear.

To program the user-defined hot-key, you must configure “Application 1” (the default hot-key setting is for the **CD Player** application)



To configure and specify an application for Application 1, you must:

1. Select **Application 1** and press **Enter**. A dialog box will appear on the screen.
2. Go to the directory where the desired application program exists
3. Click on the program file.
4. Choose **Open**.

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 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 (Esc, F3, F5, etc.) located at the top of your keyboard **(see "- The Function Keys" on page 24)**.

Table 2 - 5 - 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 + F12	Toggle the TouchPad on/off
Fn + ScrLk	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 "- The Numeric Keypad Number Keys" on page 24**).

To use the keypad simply:

Activate the **Num Lock** feature by pressing the **Num Lock** key to the right of the **F12** key (there is **no** need to use the **Fn** key.) You may check if **Num Lock** is enabled or not by looking at the LED status indicators **(see "LED Status Indicators" on page 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 will not work. Make sure **Num Lock** is on.

Figure 2 - 14 - The Function Keys

Figure 2 - 15 - The Numeric Keypad Number Keys

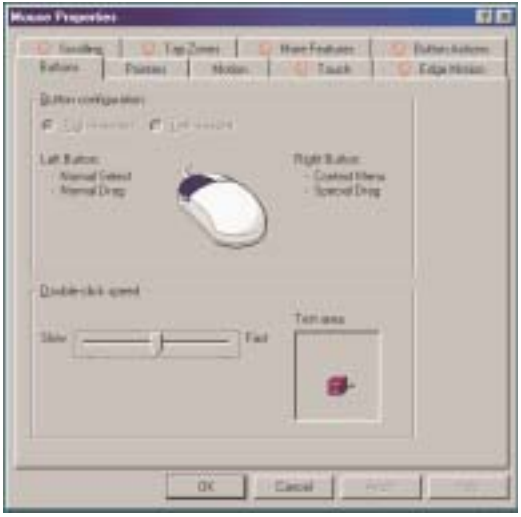
TouchPad and Buttons

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. You may toggle the TouchPad on and off by means of the **Fn** and **F12** keys as indicated in **“Function Keys” on page 2 - 22**.

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 - 16 - Mouse Properties



Mouse

You can also add a mouse to your notebook computer. You can use a mouse through either the PS/2 interface or through one of the USB ports.

☑

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.

Memory Stick Application Note

Memory Sticks are already formatted optimally as a default setting so they **do not** need to be formatted. If you format a **Memory Stick** on the PC, the **Memory Stick** may not be accessible on other **Memory Stick** supported devices.

Memory Stick Port

After you have installed the appropriate driver (**see "What To Install" on page 4 - 2**) you may insert a Sony Memory Stick into the port indicated below. The Memory Stick will appear as a Removable Disk when you double-click the **My Computer** (icon) on your desktop in *Windows*.

Figure 2 - 17 - Memory Stick Port

The Memory Stick should be inserted until it 'clicks" into place. It may be removed by pressing your finger against the Memory Stick to eject it. Be careful not to eject the Memory Stick during its operational time (read/write/device recognition), or you could lose data.

Secure Digital Port (SD)

After you have installed the appropriate driver (**see "What To Install" on page 4 - 2**) you may insert a Secure Digital Media (*memory card only*) into the port indicated below.

Figure 2 - 18 - Secure Digital Port

The SD card should be inserted until it 'clicks" into place. It may be removed by pressing your finger against the SD card to eject it. Be careful not to eject the SD card during its operational time (read/write/device recognition), or you could lose data.

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. Attach the USB cable to the printer.
3. Connect the printer's USB cable to one of the USB ports on the computer.
4. Turn ON the printer.
5. Turn ON the computer.
6. *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.

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 one of the parallel port at the rear of the computer **("Rear View" on page 1 - 15)**.
4. Turn ON the printer.
5. Turn ON the computer.
6. *Windows* will identify the printer and either load one of its own drivers or ask you to supply one. Follow the on-screen instructions.

Which Parallel?

The computer features a "Plug & Play" BIOS, so *Windows 98 SE*, *Windows Me* and *Windows 2000 Professional* can automatically configure the parallel port for the most appropriate mode. If you're not running one of the three OS's, the default setting (**ECP**) in the computer's BIOS will work in most cases. However, if the printer's instructions require a specific configuration, refer to ***"BIOS Utilities" on page 5 - 1*** to find out how to make changes.

Chapter 3: Advanced Controls

Overview

This chapter covers:

- Advanced video controls
- Power and battery management features

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 **"Chapter 4: Drivers & Utilities" on page 4 - 1,** for installation instructions.

Advanced Video Controls

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

Making Adjustments For The LCD: Resolution & Color

With the video driver installed, you may adjust the LCD resolution. The higher the resolution, the more information the LCD can display on screen.

To change the LCD's resolution and color depth.

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).

To change the resolution:

4. Under **Screen area** move the slider to the setting you prefer.

To change the color depth:

5. Under **Colors** click the arrow and select the setting you prefer.
6. Click **Apply**.

Switching 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 connected to the VGA port
3. A TV connected to the S-Video connector

Table 3 - 1 - Display Options

Option	Windows 98SE, Windows Me & Windows XP	Windows 2000 & Windows NT 4.0 (with SP6 installed)
Single	✓	✓
Multiple	✓	✓
Multiple with extended desktop view	✓	N/A

Single - Either the LCD, CRT or TV as a display device (Use **Fn** + **F7** keys to switch)
Multiple - The LCD, CRT or TV outputting the same view (you can apply different display modes with different resolutions and refresh rates)
Multiple with extended desktop view - In *Windows 98SE, Windows Me* and *Windows XP* only (**see page 3 - 11**)

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.

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

Attaching a Monitor (CRT)

If you prefer to use a monitor (CRT), connect it to the CRT port on the rear panel.

Note: *The vertical refresh rate of your CRT is very important. If it's 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.*

Switching

You can switch display devices with the **Fn** + **CRT (F7)** toggle. With the **video driver installed**, you also can use its built-in controls to do the switching. If you haven't installed the video driver, refer to (**see "What To Install" on page 4 - 2**) for setup instructions. The following pages provide a brief introduction to the video driver controls.

Video Controls - Which System

Windows NT4.0 has the additional control tabs available as soon as you open **Display Properties**.

Video Driver Controls

In **Display Properties**, the ATI driver adds three additional tabs.

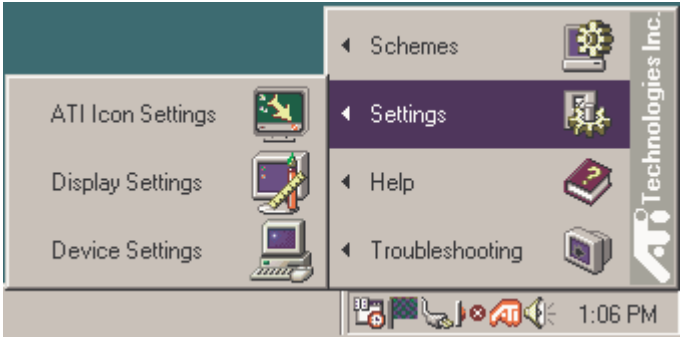
Displays: selects output devices.
Color: corrects color tone differences between real color values and the way your monitor or flat panel displays them.
Options: shows additional statistics about the video driver.

To access **Display Properties** you may either use the method outlined in **"Making Adjustments For The LCD: Resolution & Color" on page 3-2**, or right-click your desktop and scroll down to **Properties**.

When you have installed the video driver (**see "What To Install" on page 4 - 2**) you will have the following icon in your **taskbar** to allow you to access the **Display Properties**

Right-clicking on the ATI icon in the **taskbar** will allow you to access the following menu options.

Figure 3 - 2 - ATI Settings



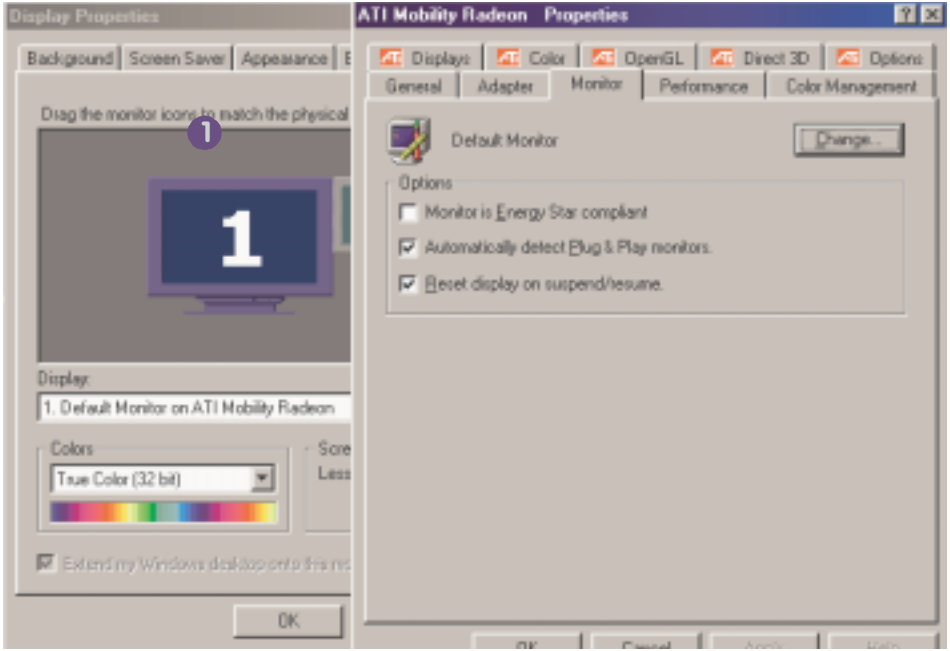
Screen Resolution And Color Output

The video interface also 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.

Extra Property Tabs from ATI

You may access the extra property tabs from the ATI Mobility Radeon by double-clicking the monitor icon **1** in **Figure 3 - 3,** or by clicking the **Advanced** (button).

Figure 3 - 3 - ATI Properties



Enabling Other Displays

In the ATI Mobility Radeon Properties you can click on Display to get your other display options including those for TV (different OS's will appear with different options).

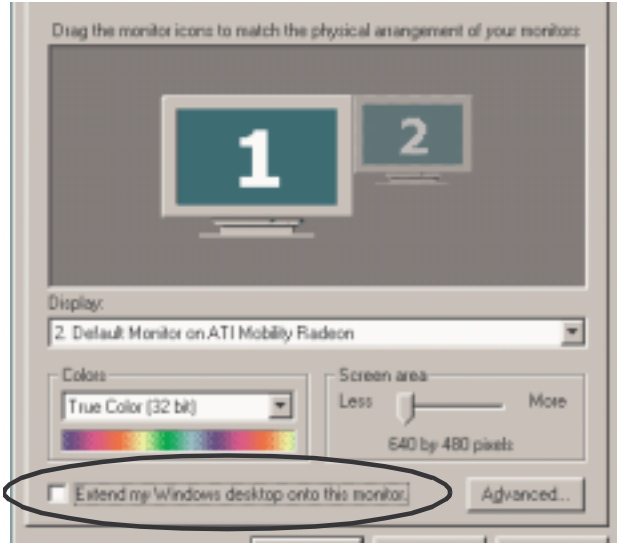
Figure 3 - 4 - ATI Display

Multiple Displays with Extended Desktop View

The system also supports dual view in *Windows 98SE* and *WindowsMe* (both the LCD and a CRT showing different views). To get this effect:

1. At the **Settings** tab select "**2. Default Monitor on ATI Mobility Radeon**" under **Display**.
2. Select the **Extend my Windows desktop onto this monitor** check box and click **Apply**.

Figure 3 - 5 - Multiple Displays with Extended Desktop View



TV Format

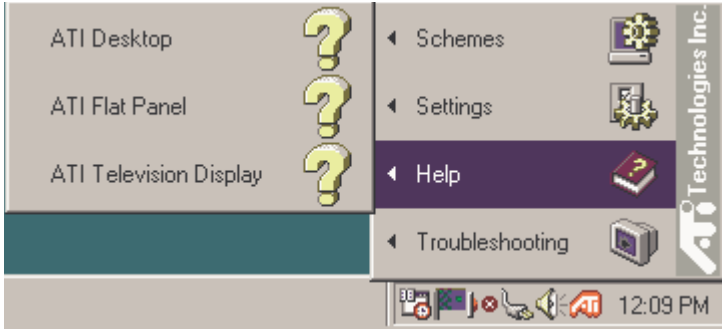
You may choose the TV format in the TV driver control panel by clicking TV button and selecting country from the **Format** tab **(see "Enabling TV Display" on page 3 - 12 for the help menu)**.

Enabling TV Display

You may connect a TV Display to your notebook by connecting an S-Video cable to the connector at the rear of the computer (**"Figure 1 - 5 - Rear View" on page 1 - 15**). You will need to enable the TV display from the control panel in **"Figure 3 - 4 - ATI Display" on page 3 - 10**. If you have not connected a TV this option should be left disabled.

Further help is available to help you **troubleshoot** your TV connection by right-clicking on the ATI icon in the **taskbar** (**see Figure 3 - 6)**.

Figure 3 - 6 - ATI Help



Power Management

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.

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.

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.

Advanced Power Management (APM 1.2)

The system also supports APM, which is an older type of power management.

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.

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** are in **" What To Install" on page 4 - 2**.

The **SpeedStep Control Panel** is available through either the icon on the **task-bar**,  or by going to **Start** (menu), point to **Settings** and click **Control Pan-el**. Double-Click **Power Management/Power Options**.

Conserving Power Through Individual Components

Your power management options are set through the **Power Management** (*Windows 98SE*)**, or Power Options** (*Windows 2000/Windows Me*) **Control Panel** in *Windows*. In *Windows 98* you will only have the **Hibernate** tab available to you if you have created a **Save to Disk** file. For instructions on how to do this please **" PH (Save To Disk - Hibernate)" on page 4 - 17**.

Figure 3 - 7 - Win98SE Power Management Properties

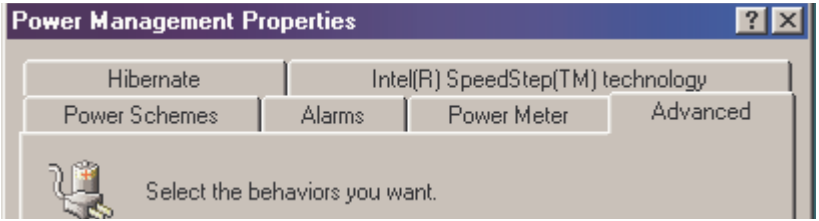
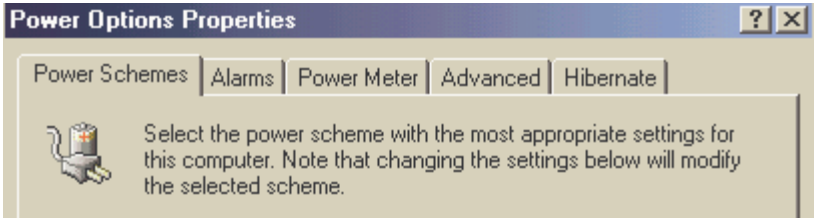


Figure 3 - 8 - Win Me Power Options Properties



Hard Disk Standby

The computer's hard disk drive 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. You can set this in the control panel of your OS (**Figure 3 - 9**).

Figure 3 - 9 - Power Schemes

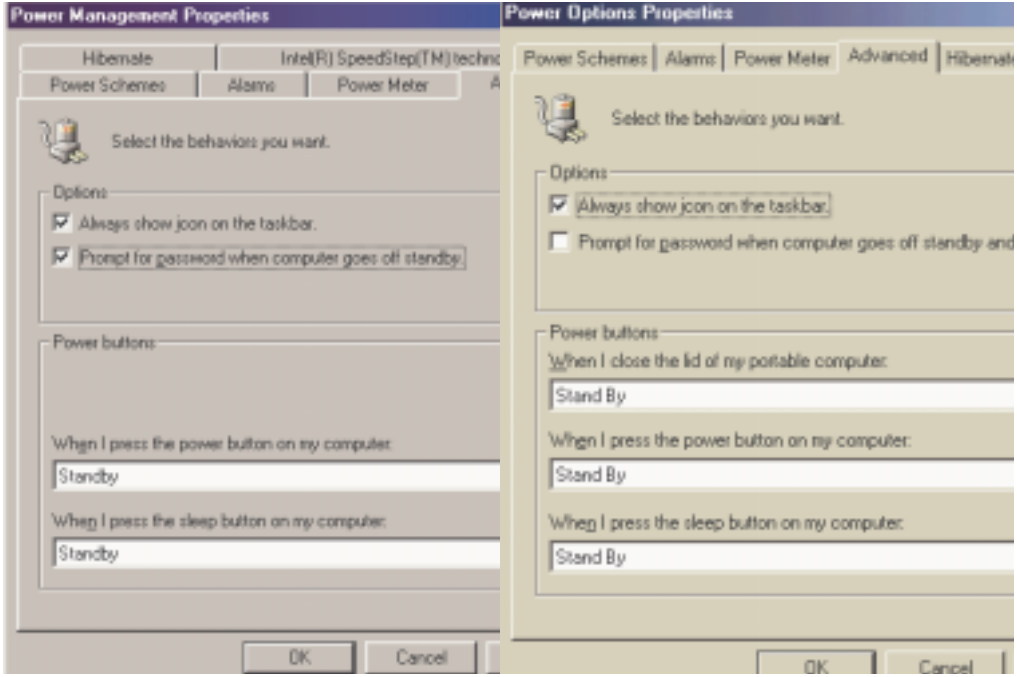
Monitor Standby

To conserve power, you can set the monitor to turn off after a specified time. This is done in the operating system (**see Figure 3 - 9**).

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.

Figure 3 - 10 - Advanced Power (tab) Win98SE (left) Win Me (right)



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 " Turning On The Computer" on page 2 - 5**)
- Alarm resume is enabled and expires

Hibernate

Hibernate uses no power and saves all of your information on a part of the HDD and this turns the system off. It saves the maximum power but 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 power button (if configured to do so - **see " Turning On The Computer" on page 2 - 5**)
- Alarm resume (month/day/hour/minute)

Setting The Power Management Functions

Power management functions are set in the operating system control panel. To learn more about what power management settings are available and how to configure them refer to your operating system's user guide.

Battery Information

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

New Battery

Always use a new battery before recharging it.

Battery Life

Your notebook computer has an average battery life of **4.5 to 5 hours**. However this figure is totally dependent upon many factors including the programs you are running, peripheral devices being used, external displays attached etc. 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 the performance of your battery, 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**).

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 setting the brightness level to low 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.
- Removing 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 (please see sidebar on **page 26** for information on hot-swapping the battery).
2. Remove the palm rest by applying gentle upward pressure with your fingers close to the area around the **left Alt** key, and the **right Ctrl** key.
3. Pull the palm rest forward.

Figure 3 - 11 - Palm Rest Removal

☑

Palm Rest Removal

As an extra safety feature, the palm rest acts as a safeguard to prevent the battery from being released accidentally.

Hot Swapping The Battery

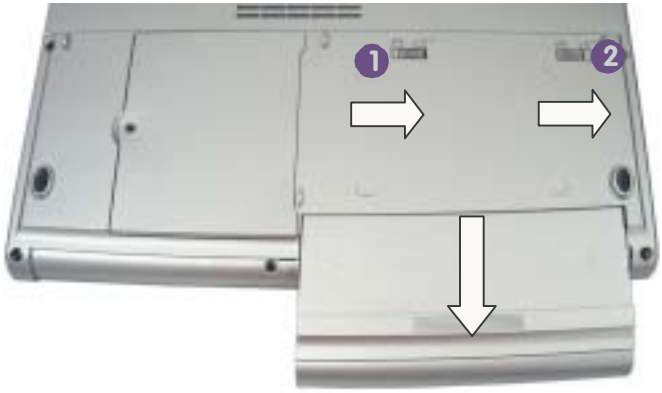
You can swap the battery while the system is in **Hibernate** mode.This is only possible if your computer comes with the swap battery **option**. **This is not a standard option** (please check with your service representative).

The non-removable built-in swap battery will also last a short while if you want to perform this procedure in **Suspend** (Hibernate/Standby) mode.

Note: The backup battery re-charges very slowly.

4. Turn the computer over.
5. Locate the battery release latches **1 - 2** in **Figure 3 - 12**.

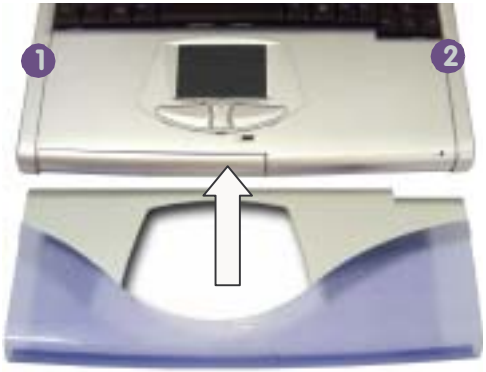
Figure 3 - 12 - Battery Release.



6. Latch **1** should slide to the right and remain in place, and you will need to hold latch **2** in place as you slide the battery out towards you.
7. Slide the battery out, and replace it with the new battery.

8. Slide the palm rest back in to place, applying a slight downward pressure to **1** and **2 (see Figure 3 - 13)** in order to snap it gently back in to place.

Figure 3 - 13 - Palm Rest Replacement



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 NT 4.0* (with Service Pack 6 or above)
- *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.

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, Windows Me, Windows NT 4.0* or *Windows 2000 Professional).*

If prompted you may swap your Device Drivers & Utilities + User's Manual CD-ROM with your OS CD-ROM and back again when required.

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. The following table lists what you need to install manually according to your choice of the operating system.

You must install the drivers in the order indicated in Table 4 - 2 on page 4-5. There is a different install order for different operating systems.

Important Note: Please install ***Microsoft DirectX 8.0*** from the ***Device Drivers & Utilities + User's Manual CD-ROM*** **before** installing the video drivers in **Win98SE** and **WinME**. It is also recommended that you install ***Microsoft DirectX 8.0*** (or later) for **Windows 2000** as many games and Multimedia applications require this.

DO NOT install ***Microsoft DirectX 8.0*** for Windows XP as a later version is already built-in to the system.

All other drivers may follow in any order you wish, however **it is very important that these 4 drivers are installed in the order indicated above.**

In order to maximize your computer's settings for any operating system you will need to go to the BIOS setup and enable the settings for your chosen OS. Please see **"BIOS Utilities" on page 5 - 1** for details**.**

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** (**Continue Anyway**) to ignore the message and continue the installation procedure.

Video Drivers Notice

An updated higher-performance set of video drivers (not applicable to Windows NT 4.0) may be available to you in the folder **D:\Drivers\Video\Video_P**\Your Operating System**Setup.exe** on the ***Device Drivers & Utilities + User's Manual CD-ROM***.

The installation procedures are the same, simply **browse** to this folder to install the updated drivers, if they are on your CD. If the folder **Video_P** is not visible then your drivers have already been updated.

Warning: The enhanced set of drivers are NOT YET CERTIFIED FOR MICROSOFT WHQL COMPLIANCE. They are currently being tested, and we anticipate no problems. USE THEM AT YOUR OWN RISK.

Win 98SE Audio Driver Note

After installing the audio driver, and before you install the modem driver, you will need to download the following file (**269601usa8.exe**) in order to enable S/PDIF support in *Win98SE*.
You may download the **269601usa8.exe** file from the *Microsoft* Website. If you have any problems please contact your service representative.

Table 4 - 1 - What To Install (Win 98SE & Win XP)

Features - Win98SE	
1.Chipset	page 6
2.Video	page 7
3.LAN	page 8
4.Hotkey	page 9
5.TouchPad	page 9
6.Auto Mail	page 10
7.Memory Stick	page 11
8.Intel SpeedStep	page 11
9.Infrared (FIR)	page 12
10.Audio (see sidebar note)	page 14
11.Modem	page 16
12.PH - Save to Disk	page 17
13.Wireless LAN	page 19

Features - Win XP	
1.Chipset	page 52
2.LAN	WinXP Default
3.Hotkey	page 52
4.Modem	page 53
5.TouchPad	page 54
6.Auto Mail	page 54
7.SD	page 55
8.Memory Stick	page 56
9.Video	page 57
10.Audio	page 57
11.Intel SpeedStep	XP Built-in
12.Infrared (FIR)	page 58
13.Wireless LAN	page 60

Table 4 - 2 - What to Install (Win ME, Win 2000, Win NT 4.0)

Feature	WinME*	Win 2000*	Win NT 4.0
1.Chipset	page 20	page 33	N/A
2.LAN	page 21	page 34	page 45
3.Hotkey	page 22	page 35	page 47
4.Modem	page 23	page 35	page 48
5.TouchPad	page 24	page 36	page 49
6Auto Mail	page 24	page 36	N/A
7.SD	page 25	page 37	N/A
8.Memory Stick	page 26	page 38	N/A
9.Audio	page 27	page 39	page 49
10.Video	page 28	page 40	page 50
11.Intel SpeedStep	page 29	page 41	N/A
12.Infrared (FIR)	page 30	page 42	N/A
13.Wireless LAN	page 32	page 44	page 50

Changing/Upgrading Operating Systems

If you are changing or upgrading your operating system, then go to the BIOS setup program and adjust the **Advanced** settings for the **Installed OS** you intend to use (see **"Advanced Menu" on page 5 - 16**).

Windows 98 Second Edition

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

Chipset (Win98SE)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\830M\Setup.exe**.
3. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next > Yes > Next**.
4. Restart *Windows* when the *InstallShield Wizard Complete* box appears asking if you want to restart your computer.
5. *Windows* will then tell you "New Hardware Found" and begin to install the drivers for you.
6. Click **Next** to continue to the *Add New Hardware Wizard* dialog box.
7. Select "**Search for the better driver for your device**" and choose **Next**.
8. Make sure there are **no** locations selected (the tick boxes to the left should be **blank**) and click **Next**.
9. *Windows* will then pick up the drivers for you automatically and install to the proper location. Click **Next** and **Finish** to complete the process.
10. Select **Yes** to restart the computer when prompted.

Video (Win98SE)

Important Note: Please install ***Microsoft DirectX 8.0*** from the ***Device Drivers & Utilities + User's Manual CD-ROM before*** installing the video drivers.

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Video\DirectX\dxsetup.exe**. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Yes > Install**.. Click **OK** to restart.
3. Upon restart click Start (menu) > **Run...**
4. Navigate (**Browse..**) to **D:\Drivers\Video\Win9x\Setup.exe**. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next > Yes**.
5. Click **Finish** to restart *Windows* when the *Setup Complete* box appears asking if you want to restart your computer.

Video Drivers

Please refer to the "Video Drivers Notice" on page 4 - 3.

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**, then select "**Search for a better driver..... (Recommended)**" and click **Next**.
5. Select ONLY "**Specify a location**", navigate (**Browse...**) to **D:\Drivers\LAN\Win98** and click **OK** > **Next** > **Next**.
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**.
8. Click **Finish** and click to restart your computer when prompted.
9. The network adapter is now ready for configuration.

Hotkey (Win98SE)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Hotkey\Win98\CNK00198.exe**. Select the language you wish to use. To continue press **Next**.
3. Click **Finish** to restart the computer.
4. You may then configure your **Hotkey Buttons** as outlined in **"Hot-Keys" on page 2 - 19**.

TouchPad (Win98SE)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\TouchPad\Win9x\Setup.exe**. Select the language you wish to use. To continue press **Next** > **Next** > **Next**.
3. Click **Finish** to restart *Windows* when the *Setup Complete* box appears asking if you want to restart your computer.
4. You may then configure your **TouchPad** as outlined in **"TouchPad and Buttons" on page 2 - 25**.

AutoMail (Win98SE)

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

Memory Stick (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 **Unknown Device** and click **Reinstall Driver** (button).
4. When the *Update Device Driver Wizard* appears click **Next**, then select "**Search for a better driver..... (Recommended)**" and click **Next**.
5. Select ONLY "**Specify a location**", navigate (**Browse...**) to **D:\Drivers\MS\Win98** and click **OK** > **Next** > **Next**.
6. Click **Finish**.
7. The **Memory Stick** will appear as a Removable Disk when you double-click the **My Computer** (icon) on your desktop.

Intel SpeedStep (Win98SE)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\SpeedStep\(your language)\disk1\setup.exe** (For Example: D:\Drivers\SpeedStep\English\disk1\setup.exe for U.S. English) and click **Next > Yes**.
3. When the installation is finished, click **Finish** to restart your computer.
4. Start *Windows* and click on the **Speed Step** icon in the **taskbar** *OR* 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).

Infrared (FIR) (Win98SE)

Enabling the FIR mode for your Infrared connection is a two part process.

Infrared (FIR) - BIOS Setup

1. You will need to enable the **FIR mode** from the **BIOS** before you install the driver.
2. Restart your computer and as it starts up press (you may need to hold for a few seconds) the **F2** key in order to enter the **Bios Setup** screen.
3. Use the left and right **arrow keys** (←→) at the bottom right side of the keyboard to move across to the **Advanced** menu. The **Advanced** Menu should be highlighted in **white**.
4. Use the up and down **arrow keys** (↑↓) to select **I/O Device Configuration**.
5. Press **Enter** to select the **Sub-Menu**.
6. Use the up and down **arrow keys** (↑↓) to select **Mode.**
7. Use the **Space Bar** or **-/+ keys** to change the settings to **FIR**.
8. Press the **F10** key to save and confirm your changes, and to exit the BIOS screen.
9. *Windows* will now Startup.
10. Upon restart you may need to insert the *Windows CD.*
11. Give the computer a few seconds to recognize that the disk is in the drive, then click **OK**.
12. Click **Finish** and click to restart your computer when prompted.

Infrared (FIR) - Win98SE Setup

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** (not infrared devices).
3. Double-click **Winbond Infrared Controller.**
4. Click the **Update Driver** (button) and click **Next**.
5. When the *Update Device Driver Wizard* appears, select "**Search for a better driver..... (Recommended)**" and click **Next**.
6. Select ONLY "**Specify a location**", navigate (**Browse...**) to **D:\Drivers\Fir\Win98** and click **OK** > **Next** > **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** > **Finish**.
9. You may setup your Infrared from either the **taskbar** at the bottom right of the screen, or by going to the **Start** (menu), point to **Settings** and click **Control Panel**. Double-click **Infrared** (icon).
10. You will need to **Enable Infrared Communication** in the **Options** (tab).
11. Make sure you have the correct setting by going to **Start** (menu), point to **Settings** and click **Control Panel**. Double-click the **Network** (icon).
12. Select **Winbond Fast Infrared Controller (DMA)** and click the **Properties** (button).
13. Select the **Advanced** (tab).

14. On the left under **Property** select **Infrared Transceiver**, and under **Value** select **HP HSDL-2300/3600** and click **OK**. Click **Yes** to restart your computer if prompted to do so.
15. Check the documentation with your Infrared device for any further settings required.

Audio (Win98SE)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Audio\Win98\Setup.exe**. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next**.
3. Restart *Windows* when the *InstallShield Wizard Complete* box appears asking if you want to restart your computer.
4. *Windows* will then tell you "New Hardware Found" and begin to install the drivers for you.
5. 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.*
6. Give the computer a few seconds to recognize that the disk is in the drive, then click **OK**. If your computer fails to recognize the CD then navigate (Browse..) to the **Win98** directory on your CD and click **OK**.
7. If you receive messages stating you have a **Version Conflict** and asking you if you want to keep the older file, choose **Yes** for each file.

8. If prompted for the *Windows* CD again then click **OK** and navigate (Browse..) to the **Win98** directory on your CD and click **OK**.
9. You may check the **Sounds Control Panel** (**Start** Menu and point to **Settings** and click **Control Panel** then double-click the **Sounds icon**) and select one of the sounds marked with a speaker to preview. You will see the **Volume Control** appear in the **taskbar** alongside the date after you restart the computer.

Important Note: After installing the audio driver, and before you install the modem driver, you will need to download the following file (**269601usa8.exe**) in order to enable S/PDIF support in *Win98SE*. You may download the **269601usa8.exe** file from the *Microsoft* Website. If you have any problems please contact your service representative.

Modem Country Selection

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

Modem (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 Card** and click **Reinstall Driver** (button).
4. When the *Update Device Driver Wizard* appears, click **Next** and select "**Search for a better driver..... (Recommended)**" then click **Next** again.
5. Select ONLY "**Specify a location**", navigate (**Browse...**) to **D:\Drivers\Modem\Win98** and click **OK** > **Next** > **Next**.
6. After the updated driver is installed, click **Finish**. Then, close the **Modem Properties** and **System Properties** (dialog box). The modem is ready for dial-up configuration.

PH (Save To Disk - Hibernate)

In order to get the **Hibernate** options to show in your **Power Management** Control Panel in *Windows 98 Second Edition*, you will need to create a Save to Disk (Hibernate) file as per the following instructions.

1. Start the system at the DOS prompt with CD-ROM support. You may use your *Windows* Startup Floppy Disk in drive A: and have your ***Device Drivers & Utilities + User's Manual CD-ROM*** in drive D:
2. Make sure you choose "***1.Startup computer with CD-ROM Support***" otherwise you will not be able to see the CD-ROM drive.
3. At the **A:\>** prompt type the following:
   D:\Drivers\phdisk\v46\phdisk
4. You will then be presented with a menu of 4 choices.
5. Choose **Create File** by typing the appropriate number and hitting the **Enter** key.
6. The computer will then ask you to input the size for the file you will create. The figure you will be presented with is the **minimum** required by the computer so **do not type a figure lower than this**.
7. It is recommended that you type a size slightly larger than this minimum requirement (see Side bar **File Size** on **page 18**) The recommended space should always be about 1 MB more than the total you will be presented with. The figure the computer calculates is in KB **(1MB = 1024KB)**.
8. When prompted to "***Enter a selection***" choose **Reboot** by typing the appropriate number and pressing the **Enter** key, then press any key to

File System

This is the most flexible way to setup the *Save to Disk* area. If you later increase your memory, you can modify this file. However, it is not compatible with all file systems (e.g. **NTFS** as used by **Windows NT4**).

File Size

The total size of your file represents a total of your computer's system, extended and video memory. This is the **minimum** you may choose so do not go below the figure suggested.
If you **upgrade memory** in your computer you will need to repeat the process outlined on **page 17** to create the file again. There is no need to delete the original file as it will be replaced.

reset the system (after you hit the key to reset the system do not forget to remove your floppy disk from the drive.

9. When you go back into *Windows* you may go to the **Start** (menu), point to **Settings** and click **Control Panel**. Double-click **Power Management** (icon) and then enable hibernation in the **Hibernate** (tab).

Wireless 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 Network Controller** and click **Reinstall Driver** (button).
4. When the *Update Device Driver Wizard* appears, click **Next** > **Next**.
5. Select ONLY "**Specify a location**", navigate (**Browse...**) to **D:\Drivers\Wlan\Win98** and click **OK** > **Next** > **Next**.
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**.
8. Click **Next** until prompted to select **Finish** to restart the computer.
9. Upon Restart you may check the Wireless LAN Setting Control Panel (**Start** Menu and point to **Settings** and click **Control Panel** then double-click the **Wireless LAN Settings** icon) and configure your settings.

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\830M\Setup.exe**.
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 asking if you want to restart your computer.
5. *Windows* will then tell you "New Hardware Found" and begin to install the drivers for you.
6. The *Add New Hardware Wizard* dialog box will now appear **several** times and will ask you to choose either an **automatic** search, or to specify the driver location.
7. In each case choose "**Automatic search for a better driver (Recommended)**".
8. *Windows* will then pick up the drivers for you automatically and install to the proper location. Click **Finish** to complete the process.
9. Select **Yes** to restart the computer when prompted.

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** and click **Driver** (tab).
4. Click **Update Driver** (button).
5. When the *Update Device Driver Wizard* appears, select "**Specify a location of the driver (Advanced)"** and click **Next**.
6. Select ONLY "**Specify a location**", navigate (**Browse...**) to **D:\Drivers\LAN\WinME** and click **OK** > **Next** > **Next**.
7. Click **Finish** and click to restart your computer when prompted.
8. The network adapter is now ready for configuration.

Hotkey (WinME)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Hotkey\WinME\CNK001Me.exe**. Select the language you wish to use. To continue press **Next**.
3. Click **Finish** to restart the computer.
4. You may then configure your **Hotkey Buttons** as outlined in **“Hot-Keys” on page 2 - 19**.

Modem (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 **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...**", click **Next**.
5. Select ONLY **(**uncheck "**Removable Media (Floppy, CD-ROM..)** "**Specify a location**", navigate (**Browse...**) to **D:\Drivers\Modem\WinME** and click **OK** > **Next > Next**.
6. If the "*Update Device Driver Wizard*" prompts for "***What would you like to install*?**" then choose the updated driver (**Smart Link 56K Modem Voice Device**) and click **Next > Next**.
7. You may need to repeat the navigation to the driver folder (**step 4 - 5**) a second time to allow *Windows* to find the driver (specify the location as above).
8. Then, follow the on-screen instructions to install the drivers.
9. After the updated driver is installed, click **Finish**. Then, close **Smart Link 56K Voice Modem, Modem Properties** and **System Properties** (dialog box).
10. 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**)

TouchPad (WinME)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\TouchPad\Win9x\Setup.exe**. Select the language you wish to use. To continue press **Next** > **Next** > **Next**.
3. Click **Finish** to restart *Windows* when the *Setup Complete* box appears asking if you want to restart your computer.
4. You may then configure your **TouchPad** as outlined in **"TouchPad and Buttons" on page 2 - 25**.

AutoMail (WinME)

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

SD (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 **Other devices** (if its sub items are not shown).
3. Double-click **PCI System Peripheral** and click **Reinstall Driver** (button).
4. When the *Update Device Driver Wizard* appears, select "**Specify the location...**", then click **Next**.
5. Navigate (**Browse...**) to **D:\Drivers\SD\WinME** and click **OK** (button).
6. Click **Next** > **Next**.
7. *Windows* will install the appropriate drivers for you. Click **Finish**.

When you insert a new SD card for the first time you will be taken to the *Add New Hardware Wizard*.

1. When the *Add New Hardware Wizard* appears, select **Specify a location** and click **Next**.
2. Navigate (**Browse...**) to **D:\Drivers\SD\WinME** and click **OK** (button).
3. Click **Next** > **Next**.
4. *Windows* will install the appropriate drivers for you. Click **Finish**.
5. The **SD Card** will appear when you double-click the **My Computer** (icon) on your desktop.

Memory Stick (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 **Other devices** (if its sub items are not shown).
3. Double-click **Unknown Device** and click **Reinstall Driver** (button).
4. When the *Update Device Driver Wizard* appears, select "**Specify a location of the driver (Advanced)**" and click **Next**.
5. Select ONLY "**Specify a location**", navigate (**Browse...**) to **D:\Drivers\MS\WinME** and click **OK** (button).
6. Click **Next** > **Next**.
7. Click **Finish** when prompted.
8. The **Memory Stick** will appear as a Removable Disk when you double-click the **My Computer** (icon) on your desktop.

Audio (WinME)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Audio\WinME\Setup.exe**. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next**.
3. Restart *Windows* when prompted by clicking **Finish**.
4. *Windows* will then tell you "New Hardware Found" and begin to install the drivers for you.
5. If the *Add New Hardware Wizar*d dialog box appears select "**Specify a location....**" and click **Next**.
6. Select ONLY [uncheck "**Removable Media (Floppy, CD-ROM..)**] "**Specify a location"**, and navigate (**Browse..**) to **D:\Drivers\Audio\WinME\SMAXWDM\SE** and click **OK > Next** until the install process is finished.
7. You may check the **Sounds Control Panel** (**Start** Menu and point to **Settings** and click **Control Panel** (you may need to enable the "view all Control Panel options" by clicking on it) then double-click the **Sounds icon**) and select one of the sounds marked with a speaker to preview.
8. The **Volume Control** will then appear in the **taskbar** alongside the date.

Video Drivers

Please refer to the "Video Drivers Notice" on page 4 - 3.

Video (WinME)

Important Note: Please install ***Microsoft DirectX 8.0*** from the ***Device Drivers & Utilities + User's Manual CD-ROM*** **before** installing the video drivers.

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Video\DirectX\dxsetup.exe** Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Yes > Install**.. Click **OK** to restart.
3. Upon restart click Start (menu) > **Run...**
4. Navigate (**Browse..**) to **D:\Drivers\Video\Win9x\Setup.exe** Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next** > **Yes**.
5. Click **Finish** to restart *Windows* when the *Setup Complete* box appears asking if you want to restart your computer.

Intel SpeedStep (WinME)

1. Click **Start** (menu) > **Run..**
2. Navigate (**Browse..**) to **D:\Drivers\SpeedStep\(your language)\disk1\setup.exe** (For Example: D:\Drivers\SpeedStep\English\disk1\setup.exe for U.S. English) and click **Next** > **Yes**.
3. When the installation is finished, click **Finish** to restart your computer.
4. Start *Windows* and click on the **Speed Step** icon in the **taskbar** *OR* 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).

Infrared (FIR) (WinME)

Enabling the FIR mode for your Infrared connection is a two part process.

Infrared (FIR) - BIOS Setup

1. You will need to enable the **FIR mode** from the **BIOS** before you install the driver.
2. Restart your computer and as it starts up press (you may need to hold for a few seconds) the **F2** key in order to enter the **Bios Setup** screen.
3. Use the left and right **arrow keys** (←→) at the bottom right side of the keyboard to move across to the **Advanced** menu. The **Advanced** Menu should be highlighted in **white**.
4. Use the up and down **arrow keys** (↑↓) to select **I/O Device Configuration**.
5. Press **Enter** to select the **Sub-Menu**.
6. Use the up and down **arrow keys** (↑↓) to select **Mode.**
7. Use the **Space Bar** or **-/+ keys** to change the settings to **FIR**.
8. Press the **F10** key to save and confirm your changes, and to exit the BIOS screen.
9. *Windows* will now Startup.

Infrared (FIR) - WinME Setup

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\FIR\Setup.exe**. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next > Next**.. Click **Finish > Restart**.
3. Make sure you have the correct setting by going to **Start** (menu), point to **Settings** and click **Control Panel**. Double-click the **Network** (icon).
4. Select **Winbond Infrared Controller (DMA)** and click the Properties (button).
5. Select the **Advanced** (tab).
6. On the left under **Property** select **Infrared Transceiver**, and under **Value** select **HP HSDL-2300/3600**.
7. Click **OK > OK** and restart the computer when prompted.
8. Check the documentation with your Infrared device for any further settings required.

Wireless 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 **Other devices** (if its sub items are not shown).
3. Double-click **PCI Network Controller** and click **Reinstall Driver** (button).
4. Select ONLY "**Specify a location**", navigate (**Browse...**) to **D:\Drivers\Wlan\WinME** and click **OK** > **Next**.
5. When the *Copying Files* dialog box appears asking for files then navigate (**Browse...**) to **D:\Drivers\Wlan\WinME** and select the appropriate file and click **OK** > **OK**.
6. Click **Next** until prompted to select **Finish** to restart the computer.
7. Upon Restart you may check the Wireless LAN Setting **Control Panel**. From the **Start** (menu) and point to **Settings** and click **Control Panel** then double-click the **Wireless LAN Settings** (icon) and configure your settings.

Windows 2000 Professional

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

Chipset (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\830M\Setup.exe**.
3. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next > Yes > Next**.
4. Restart *Windows* when the *InstallShield Wizard Complete* box appears asking if you want to restart your computer.

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 **Driver** (tab).
4. Click **Update Driver** (button).
5. When the *Upgrade Device Driver Wizard* appears, click **Next**.
6. Select "**Search for a suitable driver for my device**" under *Install Hardware Device Drivers* and click **Next**.
7. Select ONLY "**Specify a location**" under *Locate Driver Files* and click **Next.**
8. Navigate (**Browse...**) to **D:\Drivers\LAN\Win2000** and select the visible file by clicking it
9. Click the **Open** (button) and click **OK** (button), then click **Next**.
10. Click **Finish**, and **close** the window.
11. The network adapter is now ready for configuration.

Hotkey (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Hotkey\Win2000\CNK0012k.exe**.
3. Select the language you wish to use. To continue press **Next**.
4. Click **Finish** to restart the computer.
5. You may then configure your **Hotkey Buttons** as outlined in **"Hot-Keys" on page 2 - 19**.

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).
4. When the *Upgrade Device Driver Wizard* appears, click **Next**.
5. Select "**Search for a suitable driver for my device**" under *Install Hardware Device Drivers* and click **Next**.
6. Select ONLY "**Specify a location**" under *Locate Driver Files* and click **Next.**
7. Navigate (**Browse...**) to **D:\Drivers\Modem\Win2000** and select the visible file by clicking it.
8. Click the **Open** (button) and click **OK** (button), then click **Next**.
9. Click **Finish**, and **Close** the window.
10. 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**)

TouchPad (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\TouchPad\Win2000\Setup.exe**. Select the language you wish to use. To continue press **Next** > **Next** > **Next**.
3. Click **Finish** to restart *Windows* when the *Setup Complete* box appears asking if you want to restart your computer.
4. You may then configure your **TouchPad** as outlined in **"TouchPad and Buttons" on page 2 - 25**.

AutoMail (Win2000)

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

SD (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 **Base System device** and click **Reinstall Driver** (button).
4. When the *Upgrade Device Driver Wizard* appears, click **Next**.
5. Select "**Search for a suitable driver for my device**" under *Install Hardware Device Drivers* and click **Next**.
6. Select ONLY "**Specify a location**" under *Locate Driver Files* and click **Next.**
7. Navigate (**Browse...**) to **D:\Drivers\SD\Win2000** and select the **sdbus** file by clicking it.
8. Click the **Open** (button) and click **OK** (button), then click **Next.**
9. When the program asks you to **Insert Disk** click the **OK** (button)**.**
10. Repeat the above procedure to navigate (**Browse...**) to **D:\Drivers\SD\Win2000** and select the **sdbus.sys** file by clicking it.
11. Click the **Open** (button) and click **OK** (button), then click **Finish.**

When you insert a new SD card for the first time you will be taken to the *Found New Hardware Wizard*.

1. When the *Found New Hardware Wizard* appears, click **Next.**
2. Select "**Search for a suitable driver for my device**" and click **Next**.

3. Select ONLY "**Specify a location**" under *Locate Driver Files* and click **Next.**
4. Repeat Steps *7* through *11* above to complete the installation.

Memory Stick (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 **Unknown Device** and click **Reinstall Driver** (button).
4. When the *Upgrade Device Driver Wizard* appears, click **Next**.
5. Select "**Search for a suitable driver for my device**" under *Install Hardware Device Drivers* and click **Next**.
6. Select ONLY "**Specify a location**", navigate (**Browse...**) to **D:\Drivers\MS\Win2000** and select the **wbmsa.inf** file by clicking on it.
7. Click the **Open** (button) and click **OK** (button), then click **Next.**
8. Click **Finish** and close the control panels.
9. The **Memory Stick** will appear as a Removable Disk when you double-click the **My Computer** (icon) on your desktop.

Audio (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Audio\Win2000\Setup.exe** Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next** (click **Yes** if asked if you want to continue at any time).
3. Restart *Windows* when prompted by clicking **Finish**.
4. Upon Restart you may check the **Sounds and Multimedia Control Panel** (**Start** Menu and point to **Settings** and click **Control Panel**. Then double-click the **Sounds and Multimedia icon**) and select one of the sounds marked with a speaker to preview.
5. The **Volume Control** will then appear in the **taskbar** alongside the date.

Video Drivers

Please refer to the "Video Drivers Notice" on page 4 - 3.

Video (Win2000)

Important Note: Though not a requirement, it is recommended that you install ***Microsoft DirectX 8.0*** from the ***Device Drivers & Utilities + User's Manual CD-ROM*** **before** installing the video drivers.

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Video\DirectX\dxsetup.exe**. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Yes > Install**.. Click **OK** to restart.
3. Upon restart click Start (menu) > **Run...**
4. Navigate (**Browse..**) to **D:\Drivers\Video\Win2000\Setup.exe**. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next > Yes**.
5. Click **Finish** to restart *Windows* when the *Setup Complete* box appears asking if you want to restart your computer.

Intel SpeedStep (Win2000)

1. Click **Start** (menu) > **Run..**
2. Navigate (**Browse..**) to **D:\Drivers\SpeedStep\(your language)\disk1\setup.exe** (For Example: D:\Drivers\SpeedStep\English\disk1\setup.exe for U.S. English) and click **Next** > **Yes**.
3. When the installation is finished, click **Finish** to restart your computer.
4. Start *Windows* and click on the **Speed Step** icon in the **taskbar** *OR* 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).

Infrared (FIR) (Win2000)

Enabling the FIR mode for your Infrared connection is a two part process.

Infrared (FIR) - BIOS Setup

1. You will need to enable the **FIR mode** from the **BIOS** before you install the driver.
2. Restart your computer and as it starts up press (you may need to hold for a few seconds) the **F2** key in order to enter the **Bios Setup** screen.
3. Use the left and right **arrow keys** (←→) at the bottom right side of the keyboard to move across to the **Advanced** menu. The **Advanced** Menu should be highlighted in **white**.
4. Use the up and down **arrow keys** (↑↓) to select **I/O Device Configuration**.
5. Press **Enter** to select the **Sub-Menu**.
6. Use the up and down **arrow keys** (↑↓) to select **Mode.**
7. Use the **Space Bar** or **-/+ keys** to change the settings to **FIR**.
8. Press the **F10** key to save and confirm your changes, and to exit the BIOS screen.
9. *Windows* will now Startup.

Infrared (FIR) - Win2000 Setup

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\FIR\Setup.exe**. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next** > **Next**.
3. Click **Finish** and **Restart** to restart *Windows* when the box appears asking if you want to restart your computer.
4. Make sure you have the correct setting by going to **Start** (menu), point to **Settings** and click **Control Panel**. Double-click **System** (icon) and then click **Hardware** (tab) > **Device Manager** (button).
5. Click "+" next to **Infrared devices** (if its sub items are not shown).
6. Double-click the **Winbond Fast Infrared Controller (DMA)** and select the **Advanced** (tab).
7. On the left under **Property** select **Infrared Transceiver**, and under **Value** select **HP HSDL-2300/3600**.
8. Check the documentation with your Infrared device for any further settings required.

Wireless 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 Controller** (if its sub items are not shown).
3. Double-click **Network Controller** and click **Driver** (tab).
4. Click **Update Driver** (button).
5. When the *Upgrade Device Driver Wizard* appears, click **Next**.
6. Select "**Search for a suitable driver for my device**" under *Install Hardware Device Drivers* and click **Next**.
7. Select ONLY "**Specify a location**" drive under *Locate Driver Files* and click **Next**.
8. Navigate (**Browse...**) to **D:\Drivers\WLAN\Win2000** and select the visible file **AEIWLNIC** by clicking it
9. Click the **Open** (button) and click **OK** (button), then click **Next**.
10. Click **Finish**, and **close** the window.
11. The network adapter is now ready for configuration.

Windows NT 4.0 (With Service Pack 6)

This section covers driver and utility installation instructions for *Windows NT 4.0*

LAN (WinNT4)

The system will need some files from the *Windows NT 4.0* CD-ROM during the installation process. Get the CD-ROM ready for use.

1. Click **Start** (menu), point to **Settings**, and click **Control Panel**. Double-click **Network** (icon).
2. Click **Yes** when you are asked if you want to install *Windows* NT Networking.
3. When the *Network Setup Wizard* appears, specify how your computer should participate on a network and click **Next**.
4. Click **Select from list...** and **Have Disk...** to select your Network adapter.
5. In the Insert Disk box type the path: **D:\Drivers\LAN\WinNT4** and click **OK**.
6. In the Select OEM Option box (**Realtek RTL8139(A)-based PCI Fast Ethernet Adapter** as highlighted), click **OK**.
7. When *Windows* finds your network adapter "**Realtek RTL8139(A)-based PCI Fast Ethernet Adapter**", click **Next**.
8. Then, select your network protocol(s) and service(s) and click **Next** > **Next**.

Service Pack 6

After installing *Windows* NT 4.0 please install Service pack 6 or above to enhance NT4's functions. Download the latest Service pack from the *Microsoft* website (while this system is still supported).

9. In the *Windows* NT Setup box, type the path where the original source of your *Windows* NT (you will need to insert the ***Windows NT 4.0*** **CD-ROM into the CD-ROM drive**) is (e.g. **D:\I386**) and click **Continue**.
10. If you receive a **Noncritical Error** message remove the *Windows NT 4.0* CD-ROM, insert the *Device Drivers & Utilities + User's Manual CD-ROM* and then click **Retry**.
11. You may need to repeat **Steps 9 & 10** several times during the install process as Windows NT looks for files on the *Windows NT 4.0* CD-ROM, and the *Device Drivers & Utilities + User's Manual CD-ROM*.
12. Specify if you wish to use DHCP.
13. If you receive a **Noncritical Error** message remove the *Windows NT 4.0* CD-ROM, insert the *Device Drivers & Utilities + User's Manual CD-ROM* and then click **Retry**.
14. Specify your network settings and bindings, then click **OK > Next**.
15. Click **Next** for *Windows* to start the network.
16. Follow the on-screen instructions to setup your workgroup.
17. Click **Finish > Yes** to restart *Windows*.

Hotkey (WinNT4)

The system will need some files from the *Windows NT 4.0* CD-ROM during the installation process. Get the CD-ROM ready for use.

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Hotkey\WinNT4\CNK001NT4.exe**. Select the language you wish to use. To continue press **Next**.
3. Click **Finish** to restart the computer.
4. You may then configure your **Hotkey Buttons** as outlined in **"Hot-Keys" on page 2 - 19**.

Modem Country Selection

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

Modem (WinNT4)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Modem\WinNT4\Setup.exe**. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next**..
3. When the *Ask Installation Options* appears accept the default option or choose **COM3** and click **Next**.
4. When the *Modem System Information* appears click **Next**.
5. Click to Check "**Don't detect my modem I will select it from a list**" and click **Next.**
6. From the **Manufacturers** options on the left choose **Smart Link..** and choose **Smart Link 56K Modem** from the **Models** list, then click **Next**.
7. When asked which on which ports you want to install it, select **Selected Ports** click **COM3 and** click **Next**.
8. Click **Finish**, and close the window, and **Finish** again to restart the computer.

TouchPad (WinNT4)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\TouchPad\WinNT4\Setup.exe**. Select the language you wish to use.
3. To continue press **Next** until asked to **Insert Disk**.
4. Click **OK,** and when asked for the **Files Needed**, and navigate (**Browse..**) to **D:\Drivers\TouchPad\WinNT4\Data.tag** and click **Open** (button). You may need to do this a second time.
5. Click **OK**, and then click **Finish** to restart your computer.
6. You may then configure your **TouchPad** as outlined in **"TouchPad and Buttons" on page 2 - 25**.

Audio (WinNT4)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Audio\WinNT4\Setup.exe** Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next**.
3. Click **OK**.
4. Restart *Windows* when prompted by clicking **Finish**.
5. Upon Restart you may check the **Sounds Control Panel** (**Start** Menu and point to **Settings** and click **Control Panel**. Then double-click the **Sounds icon**) and select one of the sounds marked with a speaker to preview.
6. The **Volume Control** will then appear in the **taskbar** alongside the date.

Video (WinNT4)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Video\WinNT4\Setup.exe**. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next** > **Yes**..
3. Click **Finish** to restart *Windows* when the *Setup Complete* box appears asking if you want to restart your computer.
4. When *Windows* restarts you may see a message stating that you have an invalid display option. Just click **OK** and you can adjust the settings from the control panel which is open to your preference.

Wireless LAN (WinNT4)

The system will need some files from the *Windows NT 4.0* CD-ROM during the installation process. Get the CD-ROM ready for use.

1. Click **Start**, point to **Settings**, and click **Control Panel**. Double-click **Network** (icon).
2. Click **Yes** if you are asked if you want to install *Windows* NT Networking. Otherwise click the **Adapters** (tab).
3. Click the **Add** (button).
4. Select **Have Disk...** to select your Network adapter.
5. In the Insert Disk box type the path: **D:\Drivers\WLan\WinNT4** and click **OK**.
6. In the Select OEM Option box (**Actiontec 802.11b Wireless LAN Mini-iPCI Card** as highlighted), click **OK**.

7. When *Windows* finds your network adapter "**Actiontec 802.11b Wireless LAN MiniPCI Card**", click **Next**.
8. Then, select your network protocol(s) and service(s).
9. In the *Windows* NT Setup box, type the path where the original source of your *Windows* NT (you will need to insert the ***Windows NT 4.0*** **CD-ROM into the CD-ROM drive**) is (e.g. **D:\|386**) and click **Continue**.
10. When the *Windows* Comes up with the **Noncritical Error**, **eject** the ***Windows NT 4.0*** *CD-ROM*, and replace this with your *Device Drivers & Utilities + User's Manual CD-ROM* and click **Retry**.
11. Setup your Configuration then click **Next > Next** (You may be required to insert *Windows NT 4.0* CD-ROM again).
12. If required to do so then remove the *Windows NT 4.0* CD-ROM, insert the *Device Drivers & Utilities + User's Manual CD-ROM* and then click **Retry** if *Windows* indicates it can not locate some files.
13. Then, specify your network settings and click **OK**.
14. Click **Next** for *Windows* to install selected components.
15. Click **Next** for *Windows* to start the network.
16. Then, follow the on-screen instructions.
17. Shut down and restart *Windows* for the new settings to take effect.

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\830M\Setup.exe**.
3. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next > Yes > Next**.
4. Click **Finish**.

Hotkey (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Hotkey\WinXP\CNK001XP.exe**. Select the language you wish to use. To continue press **Next**.
3. Click **Finish** to restart the computer.
4. You may then configure your **Hotkey Buttons** as outlined in **"Hot-Keys" on page 2 - 19**.

Modem (WinXP)

1. Click **Start** (menu), point to **Control Panel**.
2. If in **Category View** choose **Performance and Maintenance**, then click the **System** (icon). Click the **Hardware** (tab) > **Device Manager** (button).
3. If in **Classic View** then double-click the **System** (icon) then click the **Hardware** (tab) > **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, select "**install from a specific 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. Click **Finish**, and **close** the window.
10. 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**)

TouchPad (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\TouchPad\WinXP\Setup.exe**. Select the language you wish to use. To continue press **Next** > **Next > Next**.
3. Click **Finish** to restart *Windows* when the *Setup Complete* box appears asking if you want to restart your computer.
4. You may then configure your **TouchPad** as outlined in **"TouchPad and Buttons" on page 2 - 25**.

AutoMail (WinXP)

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

SD (WinXP)

1. Click **Start** (menu), point to **Control Panel**.
2. If in **Category View** choose **Performance and Maintenance**, then click the **System** (icon). Click the **Hardware** (tab) > **Device Manager** (button)..
3. If in **Classic View** then double-click the **System** (icon) then click the **Hardware** (tab) > **Device Manager** (button).
4. Click "+" next to **Other devices** (if its sub items are not shown).
5. Double-click **Base System device** and click **Reinstall Driver** (button).
6. When the *Hardware Update Wizard* appears, click "**Install from a 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\SD\WinXP** and click **OK** (button), then click **Next.**
9. Click **Finish** and **Close**.

When you insert a new SD card for the first time you will be taken to the *Add New Hardware Wizard*.

1. When the *Found New Hardware Wizard* appears, select "**Install from a list or specific location (Advanced)**".
2. Repeat Steps *7* through *9* above to complete the installation.

Memory Stick (WinXP)

1. Click **Start** (menu), point to **Control Panel**.
2. If in **Category View** choose **Performance and Maintenance**, then click the **System** (icon). Click the **Hardware** (tab) > **Device Manager** (button).
3. If in **Classic View** then double-click the **System** (icon) then click the **Hardware** (tab) > **Device Manager** (button).
4. Click "+" next to **Other devices** (if its sub items are not shown).
5. Double-click **Unknown Device** and click **Reinstall Driver** (button).
6. When the *Hardware Update Wizard* appears, click "**Install from a 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\MS\WinXP** and click **OK** (button), then click **Next**.
9. Click **Finish** and close the control panels.
10. The **Memory Stick** will appear as a Removable Disk when you double-click the **My Computer** (icon) on your desktop.

Video (WinXP)

Important Note: There is no need to install ***Microsoft DirectX 8.0*** for Windows XP as a later version is already built-in to the system.

1. Click Start (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Video\WinXP\Setup.exe** Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next > Yes**.
3. Click **Finish** to restart *Windows* when the *Setup Complete* box appears asking if you want to restart your computer.

Video Drivers

Please refer to the "Video Drivers Notice" on page 4 - 3.

Audio (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\Audio\WinXP\Setup.exe**. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next** (click **Continue Anyway** if asked if you want to continue at any time).
3. Restart *Windows* when prompted by clicking **Finish**.
4. Upon Restart you may check the **Sounds and Audio Devices Control Panel** (**Start** Menu and point to **Settings** and click **Control Panel**. Then double-click **Sounds and Audio Devices**) and click "**Place volume icon in the taskbar**".
5. The **Volume Control** will then appear in the **taskbar** alongside the date.

Infrared (FIR) (WinXP)

Enabling the FIR mode for your Infrared connection is a two part process.

Infrared (FIR) - BIOS Setup

1. You will need to enable the **FIR mode** from the **BIOS** before you install the driver.
2. Restart your computer and as it starts up press (you may need to hold for a few seconds) the **F2** key in order to enter the **Bios Setup** screen.
3. Use the left and right **arrow keys** (←→) at the bottom right side of the keyboard to move across to the **Advanced** menu. The **Advanced** Menu should be highlighted in **white**.
4. Use the up and down **arrow keys** (↑↓) to select **I/O Device Configuration**.
5. Press **Enter** to select the **Sub-Menu**.
6. Use the up and down **arrow keys** (↑↓) to select **Mode.**
7. Use the **Space Bar** or **-/+ keys** to change the settings to **FIR**.
8. Press the **F10** key to save and confirm your changes, and to exit the BIOS screen.
9. *Windows* will now Startup.

Infrared (FIR) WinXP Setup

1. Click Start (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\FIR\Setup.exe**. Follow the Setup on-screen instructions to install the drivers and utilities. To continue press **Next > Next**. Click **Finish > Restart**.
3. Make sure you have the correct setting.
4. Go to **Start** (menu) > **Settings** (if you cannot see **Settings** in the **Start** menu go to **step 5**), click **Control Panel**. Double-click the **Wireless Link** (icon). The **Wireless Link** (icon) is in the **Printers and Other Hardware Category**. Go to **step 6**.
5. Go to **Start** (menu), click **Control Panel**. Double-click the **Wireless Link** (icon). The **Wireless Link** (icon) is in the **Printers and Other Hardware Category**.
6. Click the **Hardware** (tab), and click the **Properties** (button). Click the **Advanced** (tab).
7. On the left under **Property** select **Infrared Transceiver**, and under **Value** select **HP HSDL-2300/3600**.
8. Click **OK > OK**.
9. Check the documentation with your Infrared device for any further settings required.

Wireless LAN (WinXP)

1. Click **Start** (menu), point to **Settings** and click **Control Panel**. Double-click **System** (icon) and then click **Hardware** (tab) > **Device Manager** (button).
2. If in **Category View** choose **Performance and Maintenance**, then click the **System** (icon). Click the **Hardware** (tab) > **Device Manager** (button)..
3. If in **Classic View** then double-click the **System** (icon) then click the **Hardware** (tab) > **Device Manager** (button).
4. Click "**+**" next to **Other Devices** (if its sub items are not shown).
5. Double-click **Network Controller** and click **Reinstall Driver** (button).
6. When the *Hardware Update Wizard* appears, click "**Install from a 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\WLAN\WinXP** and click **OK** (button), then click **Next** (click **Continue Anyway** if asked if you want to continue at any time).
9. Click **Finish**, and **close** the window.
10. The network adapter is now ready for configuration.

Chapter 5: BIOS Utilities

Overview

This chapter is about the notebook'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. power management features), 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.

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:

Table 5 - 1 - Important Bios Settings

Option	Page #	Purpose
Installed OS	5 - 17	Tells the computer which Operating System You have installed (WinMe, Win98SE, Win2k/ WinXP, Other/WinNT).
IrDA/AskIR/FIR	5 - 17	Enables IrDA/AskIR/FIR modes for Infrared devices which require this mode.
Boot Menu	5 - 24	Specify's the order of the devices on which the computer searches for an Operating System as it starts up.

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.

☑

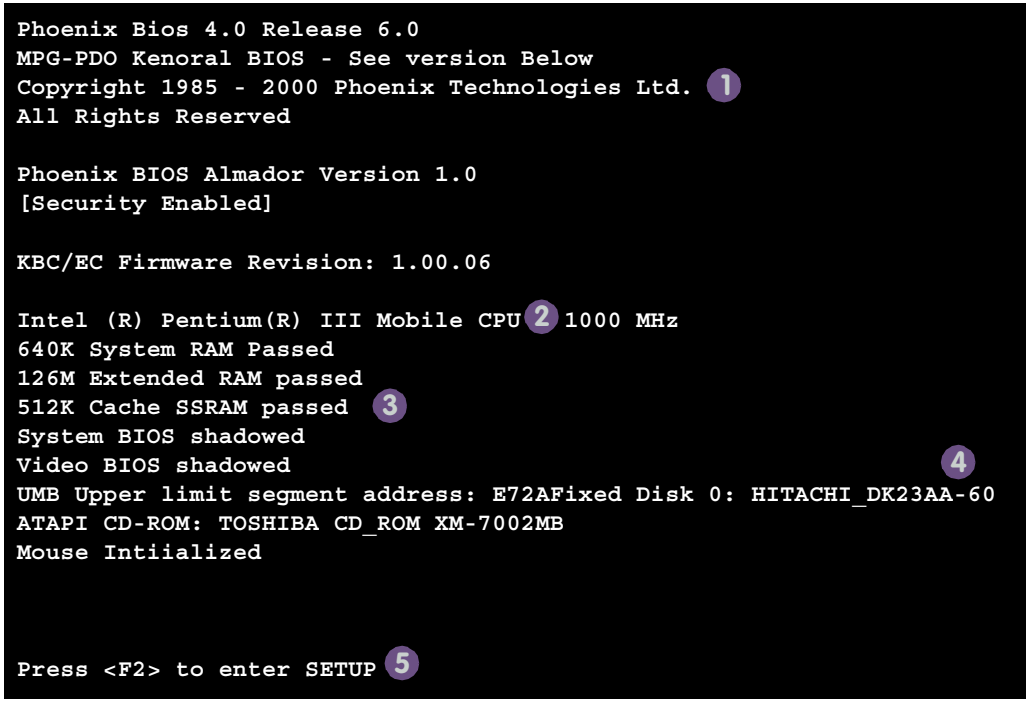
Startup Screen: The POST (Figure 5 - 3)

If you choose the Quiet Boot option (not available for all models) in the Setup utility, you will only see an abbreviated version of this screen.

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

POST Screen

Figure 5 - 1 - Post Screen



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 and power management).

Entering Setup

To enter Setup, turn on the computer and press F2 during the POST. The prompt seen in **Figure 5 - 3** 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.

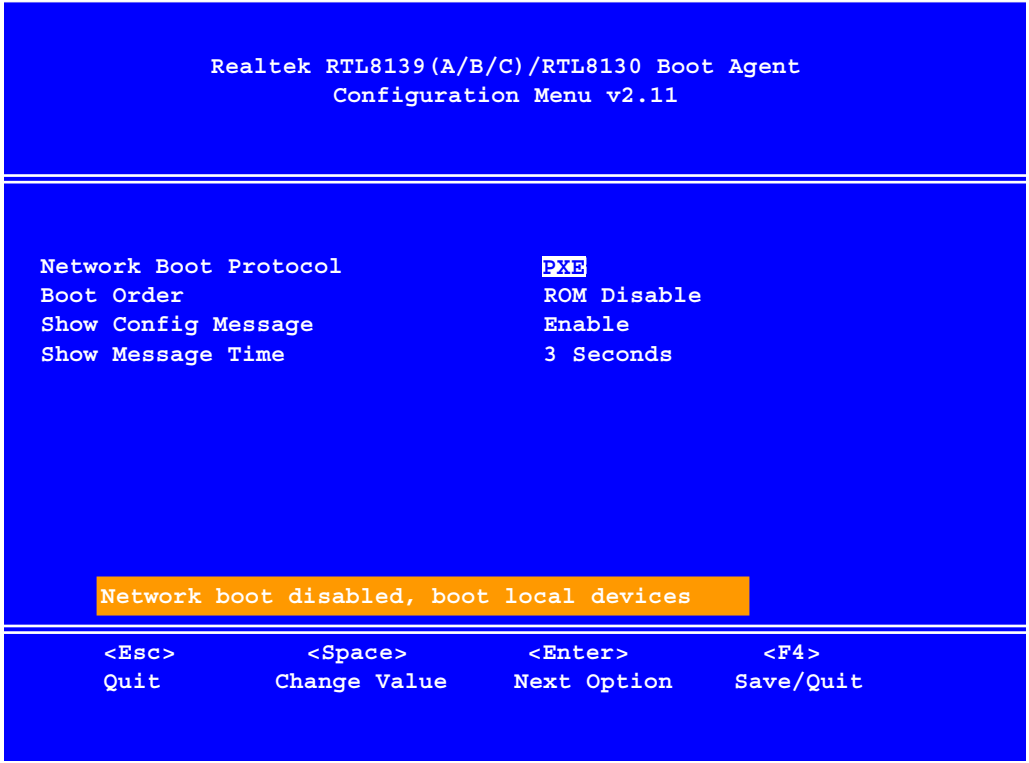
If the computer is already on, reboot using the **Ctrl + Alt + Delete** combination and then hold down **F2** when prompted. Setup's main menu will appear.

Choosing The Boot Device Before OS Startup

The system supports booting from FDD, HDD, CD or LAN. When there is a need, you can ignore the boot sequence preset in the Boot Device Priority option and choose to directly boot from the device you need by doing the following:

1. Press and hold **Shift F10** to enter the Boot Menu immediately after you start the system and see the message: "**Realtek RTL8139(A/B/C)/ RTL8130 Boot Agent - Press Shift-F10 to Configure.....**".
2. Use ↑&↓ to highlight your preference and press <Space> to change the value (**see "- Boot Configuration Menu" on page 5-8**).
3. Press <F4> to save and quit, or press <Esc> to quit without saving.

Figure 5 - 2 - Boot Configuration Menu



Setup Screens

The following pages contain additional advice on portions of the *Setup*. The Set-up 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

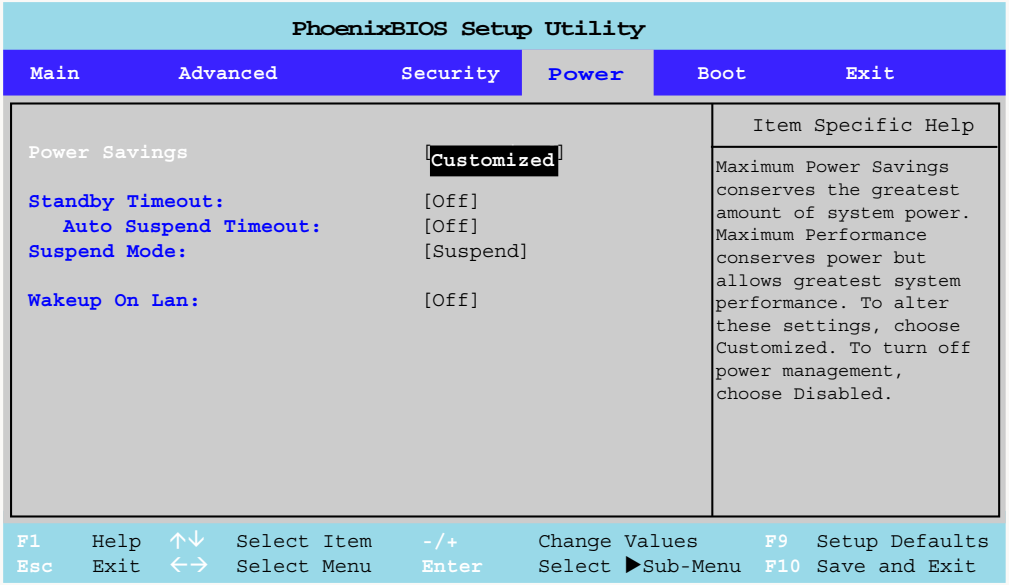
The "**Item Specific Help**" on the right side of each screen explains the highlighted item and has useful messages about its options.

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

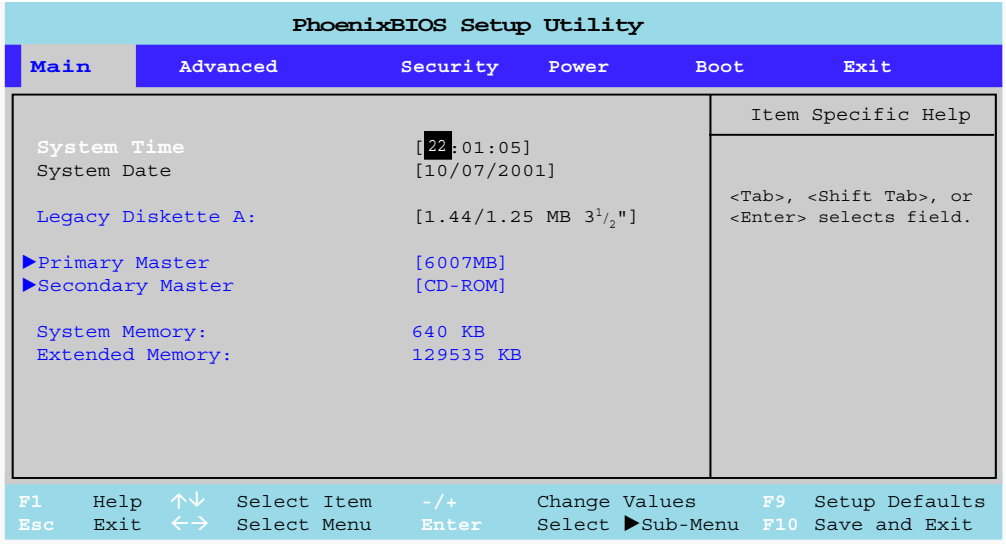
The Setup menus shown in this section are for reference only. Your computer's menus will indicate the configuration appropriate for your model and options.

Figure 5 - 3 - BIOS Example



Main Menu

Figure 5 - 4 - Main Menu



Switching Hard Disks

Every time you install a different hard disk in the notebook, 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.

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** opens the sub-menu to configure the main IDE HDD which fits into the notebook'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 num-

bers for all these fields should be printed on the hard disk itself, or in its accompanying documentation.

- **CD-ROM** drive.
- **ATAPI** Removable disk drive.

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

Multi-Sector Transfers (Main Menu >Primary Master)
Select the number of sectors in each block that can be transferred together. The "Auto" Type setting shows the optimum number.

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.

LBA Mode Control (Main Menu >Primary Master)
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.

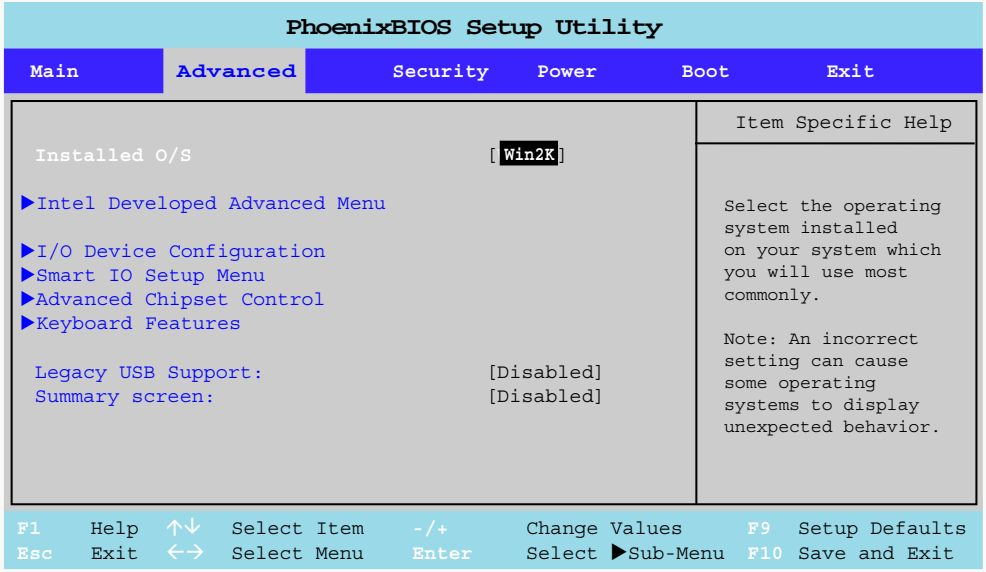
32 Bit I/O (Main Menu >Primary Master)
Most new hard disks can support this higher rate. If yours can't, the "Enabled" setting may slow down the system. Enables 32-bit communication between CPU and IDEcard. Requires PCI or local bus.

Transfer Mode & Ultra DMA Mode (Main Menu >Primary Master)
These settings allow you to choose among various modes used for data transfers. "Auto" Type setting selects the best modes for your HDD. The Setup menu only lists those options supported by the drive and platform.

Secondary Master (Main Menu)
This line shows the second IDE device, either a CD device or nothing (if you've installed the storage tray in the Device Bay).
.

Advanced Menu

Figure 5 - 5 - Advanced Menu



Installed O/S (Advanced Menu)
This setting tells the computer what kind operating system you're using: *Windows 98*, *WindowsME*, *Windows 2000*/*Windows XP* and *Windows* NT /other. **If you are installing a new OS then be sure you select the appropriate setting for your OS**.

Display (Advanced Menu)
Enables you to switch your display options between the notebook's LCD screen, LCD and CRT (External Monitor) together, the LCD only, and the TV only. **These settings are overridden by software driver's controls which reside in your O/S**.

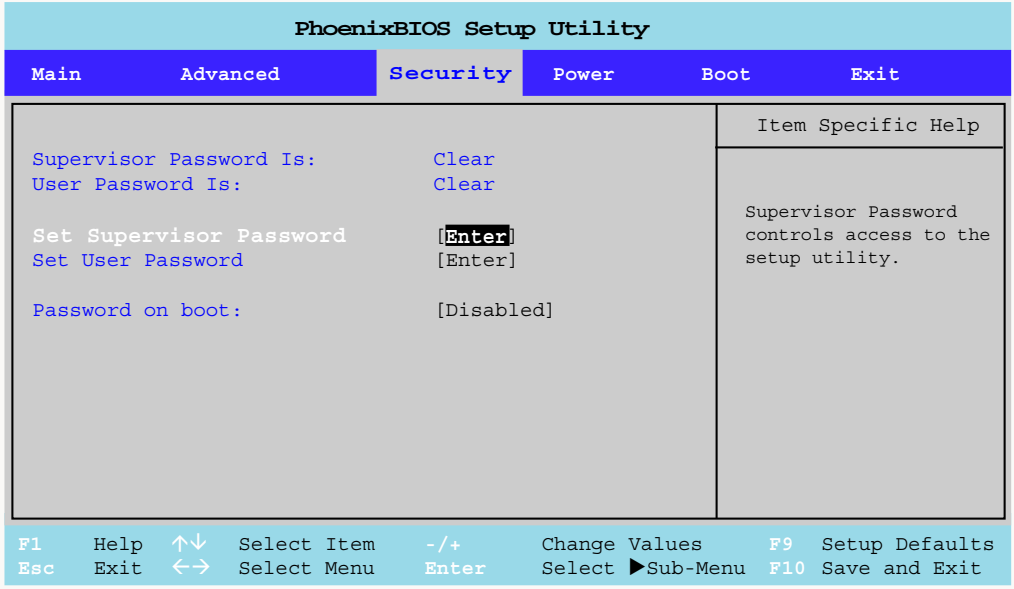
IrDA/AskIR/FIR (*Advanced Menu* > I/O Device Configuration)
If you are using an **IrDA**, **AskIR** or **FIR** device you will need to change this option to "**Enabled**" (for more information on installing the drivers for this option please see **"What To Install" on page 4 - 2**). Make sure you have chosen the **Mode** suitable for your device.

Parallel Port (Advanced Menu >I/O Device Configuration)
If you don't plan to use this port, you can set this line to "Disabled" to save power. If available, the "OS Setup" allows advanced users to control the port settings from within a Plug 'n Play- capable operating system. The default setting is "Enabled". You should check your parallel device's documentation to see which mode it can use should you wish to change these settings.

Legacy USB Support: (Advanced Menu)
This setting will need to be "Enabled" if you intend to use **USB** devices in **DOS** or other non *Plug & Play* OS's.

Security Menu

Figure 5 - 6 - Security Menu



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.

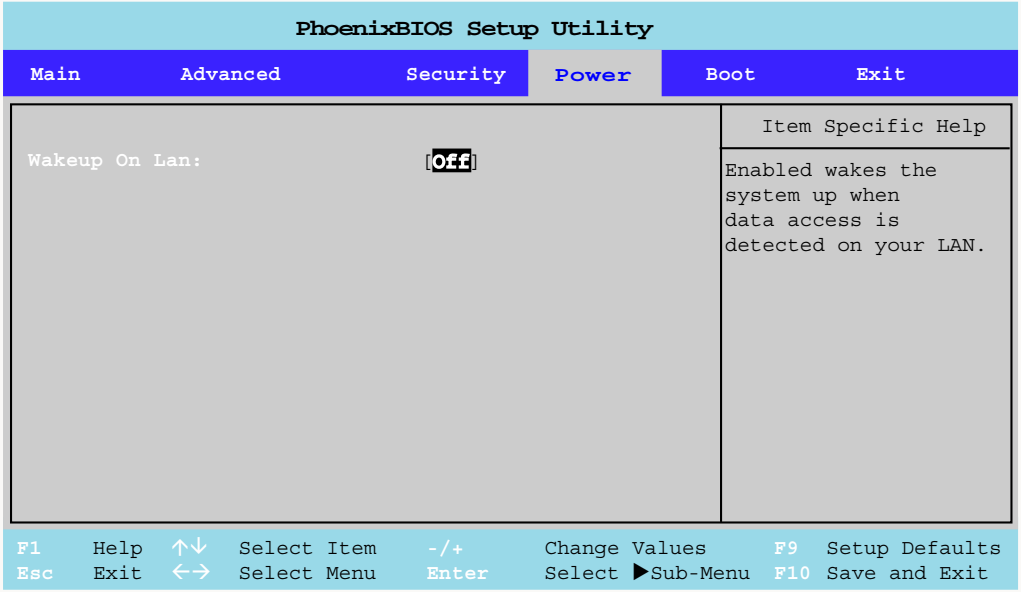
Security Menu
The changes you make here affect the access to the Setup utility itself, and also access to your machine as it boots up after you turn it on. These settings do not affect your machine or networks passwords which will be set in your software OS.

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**).

Power Menu

Figure 5 - 7 - Power Menu

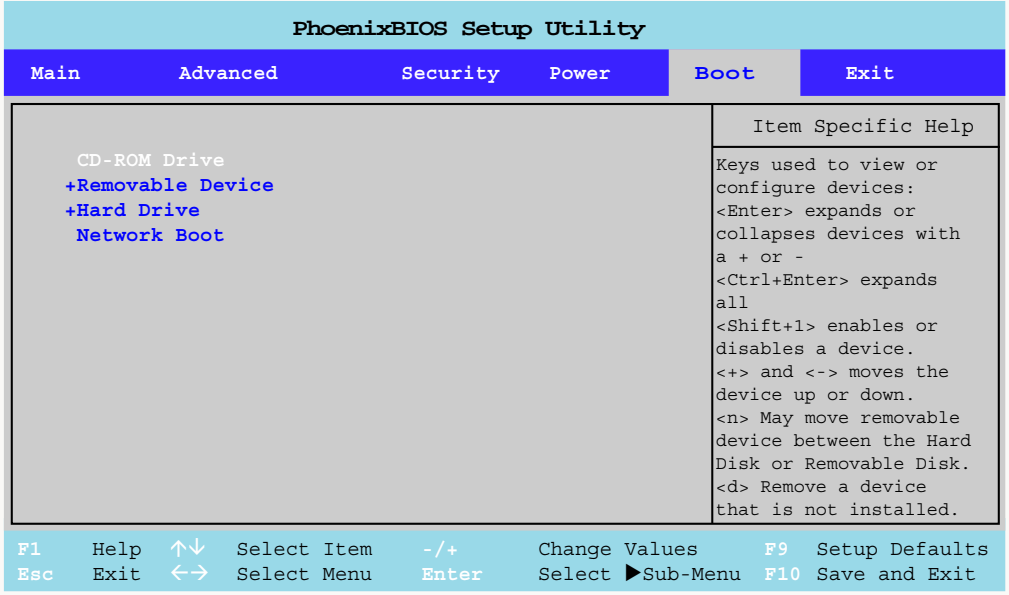


Power Menu

Enable this option to have your system be remotely accessible via LAN as long as you have installed the LAN driver and a remote access utility.

Boot

Figure 5 - 8 - BOOT Menu



Boot Menu

When you turn the computer on it will look for an operating system (e.g Windows 2000) from the device 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 one or more other devices in the order specified in the Boot Menu.

Boot devices usually are hard drives, floppy drives, CD-ROMs, removable devices (e.g., Iomega Zip drives), and network cards.

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:

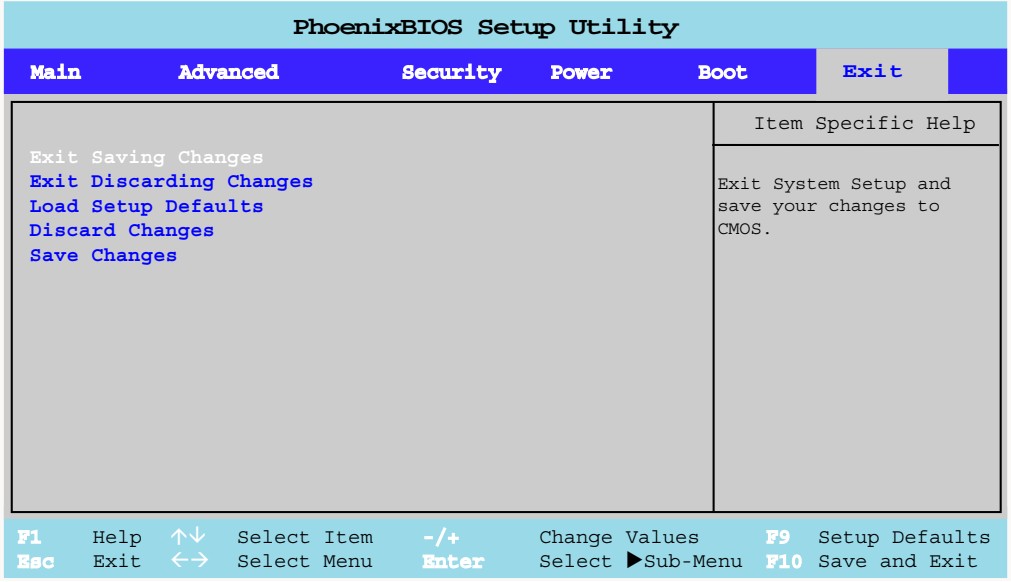
If you wish to boot from a CD-ROM you will need to add it to the boot order. As a general rule the order below is recommended:

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 an advantage to boot from a floppy disk or CD-ROM.

Exit Menu

Figure 5 - 9 - 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:

- Replacing the HDD
- Upgrading the System Memory
- Replacing the CD Device
- Upgrading the Processor

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

Hard Disk Drive Upgrade

The hard disk drive is used to store your data internally 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.

Removing The Hard Disk

1. Turn **off** the computer.
2. Turn the computer over.
3. Remove the screw from the HDD cover **1**.

Figure 6 - 1 - Hard Disk Location

4. Remove the HDD cover as in **Figure 6 - 1** above.
5. Remove the 4 screws holding the hard disk case inside the computer as marked **1** - **4** in **Figure 6 - 2** below.

Figure 6 - 2 - Hard Disk Case Screws.

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 FD'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.

6. Gently ease the hard disk case up from the computer and away from the computer as shown in **Figure 6 - 3** below.

Figure 6 - 3 - Hard Disk Case Removal

7. Place the HDD on a flat surface and Remove the 4 screws **6 - 9** (2 on either side) which hold the hard disk case and connector board to the hard disk. The hard disk case and connector board will move as one unit, the hard disk as another. You may remove the connector board **5** from the back of the HDD case using a small screwdriver to remove screws **10 - 11** (as in **Figure 6 - 4** below), or alternatively gently ease the disk out from the connector board and case.

Figure 6 - 4 - Hard Disk Case and Connector Board

8. Align the pins from the rear of your new hard disk with the back of the connector board (**there is only one way this will go into the connector board correctly so be careful not to bend the pins - the screw brackets 1 - 4 should be facing upward as in Figure 6 - 4 above**).
9. If you had removed the connector board from the rest of the case, then reattach this using screws **10 -11** in **Figure 6 - 4**.
10. Screw the 4 screws **6 - 9** back into the hard disk through the **side** of the hard disk case. Push the hard disk gently back into the computer taking care to align the connector board with the pins protruding from the mainboard as per **Figure 6 - 5**.

Figure 6 - 5 - Hard Disk Insertion

11. Replace the screws **1 - 4** as per **Figure 6 - 2** on page **6 - 3**.
12. Replace the cover and screw it on to the bottom of the computer.

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 - 11)**.

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 System Memory

The computer has two memory sockets for 144-pin Small Outline Dual In-line Memory Modules (SO-DIMM) and supports PC-133 SDRAM. The main memory can be expanded up to 1GB

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 four keyboard latches at the top of the keyboard to elevate the keyboard from its normal position as in **Figure 6 - 6** (you may need to use a small screwdriver or a straightened paper clip to do this).

Figure 6 - 6 - Keyboard Latches

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. Locate the memory sockets marked **2** in **Figure 6 - 7.**

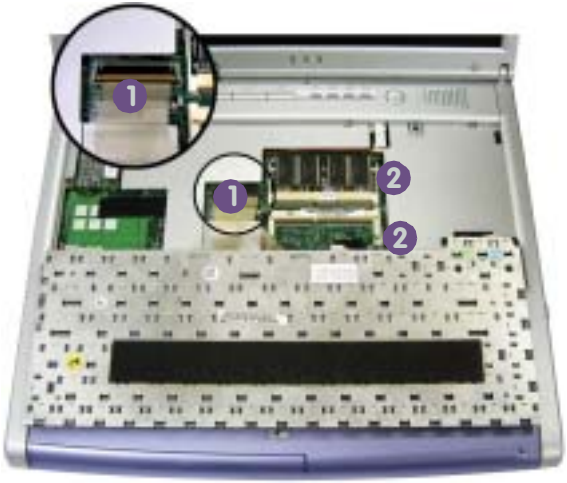


Figure 6 - 7 - Memory Sockets

5. For each module you want to replace gently pull the two latches toward on the sides of the memory socket as indicated in **Figure 6 - 8.**

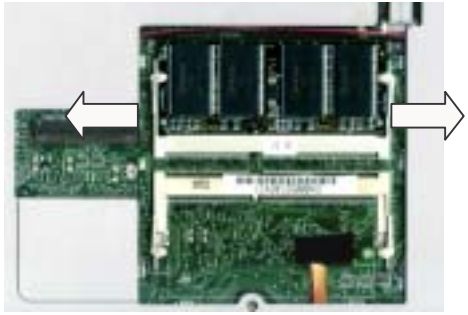


Figure 6 - 8 - Memory Release

Contact Warning

Be careful not to touch the DIMM's pins. Even the cleanest hands have oils which can attract particles, and degrade the module's performance.

6. The module will pop-up.
7. Remove the memory module (if required to do so depending upon your configuration) as below in **Figure 6 - 9**.

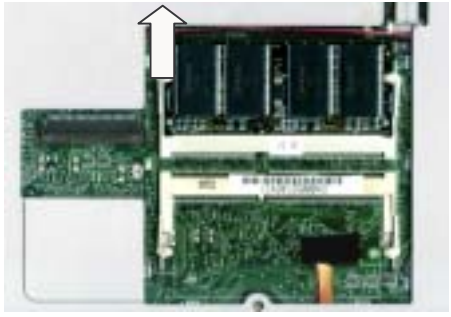
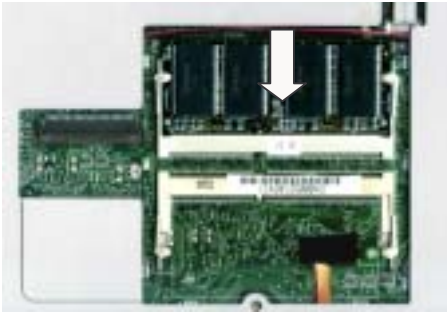


Figure 6 - 9 - Memory Removal

8. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
9. 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 **Figure 6 - 10**.

Figure 6 - 10 - Memory Insertion



10. Press the module down towards the mainboard until the slot levers click into place to secure the module.

11. Replace the keyboard by insuring the four tabs at the base of the keyboard fit into place (you will find these under the Fn, Spacebar, Alt and arrow keys - see **Figure 6 - 11**).

Figure 6 - 11- Keyboard Tabs

12. Carefully press the front of the keyboard down so that the four latches at the front of the keyboard lock down again.
13. Restart the computer and the new memory configuration should be registered.

Replacing the CD-Device

Your notebook computer comes with a bay for a 12.7mm high removable CD-Device installed. Depending on your configuration you may have a:

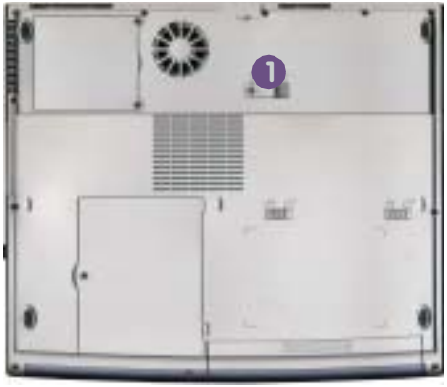
- CD-ROM
- DVD-ROM
- CD-RW
- Combo

One of these devices should already be installed depending upon the model you had purchased. You may upgrade or change these options by performing the following procedure.

Removing The CD Device

1. Turn **off** the computer.
2. Turn the computer over.
3. Remove the screw from the CD-Device release latch **1 (Figure 6 - 12)**.

Figure 6 - 12 - CD-Device Location



4. Apply pressure to the sliding release latch **1** to slide the CD-Device **2** out of the bay **Figure 6 - 13**.

Figure 6 - 13 - Removing the CD-Device

5. You may then slide the new drive in to the bay until it is flush with the side of the computer (there is only one way for the drive to fit into the bay and the wording on the side of the drive should be the right way up).
6. The sliding release latch should have moved back over to be aligned with the hole in the computer case. Screw the screw back into the case through the release latch.
7. Depending on your device you may need to install drivers in your software OS.

Upgrading The Processor

If you want to upgrade your computer by replacing the existing processor with a faster new one you will need to contact your customer service representative. We recommend that you do not do this yourself, since if it is done incorrectly you may damage the processor or mainboard.

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 center.

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 appropriate keys as configured in your *Power Management/Power Options* (**see Chapter 3:"Conserving Power Throughout The Whole System" on page 3-18**), or by pressing the **Fn + F4** key combination to wake-up the system (**see Chapter 2:"Function Keys" on page 2-22)**

- ***System Power:*** Check the **LED power indicators** (**see Chapter 2:"LED Power Indicators" on page 2-7**) to show the current status of the computer's power input.

•***Brightness:*** Check the brightness of the screen by pressing the **Fn + F8 or F9** keys to adjust the brightness (**see Chapter 3:"LCD" on page 3-4**).

•***Display Choice:*** Press **Fn** + **F7** to make sure the system is not set to "external only" display(**see Chapter 3:"Switching Display Devices" on page 3-3**).

•***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 Chapter 5:"Password on boot: (Security Menu)" on page 5-20..**).

- 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).

Warrantee

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

Unauthorized tampering with the HDD may also violate your warrantee.

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 notebook'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 b**attery 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.

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 3:"Battery Information" on page 3-22)**

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:"Power Management" on page 3-13**) check its settings. You may also be using a PC card device which is drawing a lot of power.

Battery Charging

Make sure the battery is totally used up before re-charging and make sure you recharge the battery to full capacity each time you recharge.

Overheating

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

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 **(see Chapter 3:"Power Management" on page 3-13)**. 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.

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:"LCD" on page 3-4)**. 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:"Switching" on page 3-5**). 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:"Attaching a Monitor (CRT)" on page 3-5**).

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:"LCD" on page 3-4**).

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:"Conserving Power Throughout The Whole System" on page 3-18**) to turn off the LCD. You can also use a **screen-saver** which can help protect an attached monitor.

No image appears on the external monitor or TV I have plugged in and powered on.

possible cause: You haven't used the key combination to switch the display options.

solution: Press the **Fn + F7 keys** to toggle through the options.

possible cause: You haven't installed the video driver and configured it appropriately from the ***Control Panel***.

solution: Please **see Chapter 4:"What To Install" on page 4-2** for instructions on installing the driver, and **see Chapter 3:"Video Driver Controls" on page 3-6** for instructions on configuring the video driver.

possible cause: The settings in the *BIOS* are set for **LCD** only (this is only applicable if your *OS* does not have the appropriate **Control Panel** options as these override any *BIOS* settings).

solution: Go to the *Setup* utility to adjust the *BIOS* settings (**see Chapter 5:"Display (Advanced Menu)" on page 5-17**).

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: As in low battery status, the computer is waking up from the suspend 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.

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 computer to "crash" and damage your data.

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 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, or use the key combination **Fn + F5 or F6 (see Chapter 2:"Function Keys" on page 2-22)** to adjust.

2.The headphone is plugged into the wrong jack. It should be plugged into the Speaker-Out jack (**see Chapter 1:"Right Side View" on page 1-12**).

Media Warning

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

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. (**see Chapter 2:"Loading Compact Discs" on page 2-15**)

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. If the proper software is properly installed and a problem still exists, contact your service center 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.

I cannot change region codes any more using the DVD utility.

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

solution: If you need to switch regions please contact the DVD device manufacturer (not your notebook dealer) for more information (**see Chapter 2:"DVD Regional Codes" on page 2-17**).

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

solution: Please **see Appendix A:"PC Card Sockets" 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.

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.

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* correspond with those indicated in your printer manual (**see Chapter 5:"Parallel Port (Advanced Menu >I/O Device Configuration)" on page 5-18.**).

Operation

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: The system cannot access the **Save to Disk** partition.
indicator: The system retrieves **Save to Disk** information very quickly during bootup and then freezes. This situation usually happens after one of the following occurs and you activate the **Save to Disk** process:
1. The hard disk has been changed; OR
2. There has been a *CMOS* failure or a Checksum failure and the problem has not been corrected. If one of these occurs, you must run the PHDISK utility as soon as possible. (**see Chapter 4:"PH (Save To Disk - Hibernate)" on page 4-17)**.

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.

The save-to-disk function does not work.

possible cause: The system can't access the Save to Disk partition.
indicator: When you press the **Fn + F4 (Suspend) key** combination, Standby is activated instead of Hibernate.
solution: ***1.***Make sure you have enabled Hibernate in the Power Management/Power Options control panel in your OS (**see Chapter 3:"Conserving Power Throughout The Whole System" on page 3-18)**.
2.If in *Windows 98SE*, set up the Save to Disk partition if you haven't done so. (**see Chapter 4:"PH (Save To Disk - Hibernate)" on page 4-17**)
3.Run the PHDISK utility if you installed a different hard disk with a Save to Disk partition on it, or there has been a *CMOS* or Checksum failure (**see Chapter 4:"PH (Save To Disk - Hibernate)" on page 4-17)**.

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:"Conserving Power Throughout The Whole System" on page 3-18**).

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 Chapter 5:"IrDA/AskIR/FIR (Advanced Menu > I/O Device Configuration)" on page 5-17**].

Warning Messages

Each time you boot up, the computer performs a self-diagnostic check. If there is an error during the self-diagnosis, a short message will display specifying the error. You can press **F1** to try to continue the boot process, or press **F2** to run *Setup*. If the following messages occur, press **F2** to run *Setup*.

message: ***Extended RAM failed at offset: nnn***

description: The extended memory is not working or not configured properly.

solution: Make sure the expansion memory is seated properly in its socket(s) (**see Chapter 6:"- Memory Insertion" on page 6-13**).

4.Run *Setup* to allow the system to recheck the amount of memory present, then save the *Setup* information and reboot.

Faster Repairs

Please keep a record of any warnings you receive as it may help to reduce repair time.

message: ***Failing Bits: nnnn***

description: The hex number, nnnn, is a map of the bits at the RAM address that failed the memory test.

solution: ***1.***Make sure the expansion memory is seated properly in its socket(s) (**see Chapter 6:"- Memory Insertion" on page 6-13**).

2.Run *Setup* to allow the system to recheck the amount of memory present, then save the *Setup* information and reboot.

3.Turn off the system and remove any DIMMs (**see Chapter 6:"- Memory Removal" on page 6-12**). Restart the system. If the problem persists, contact your service center. If the problem disappears, replace the DIMMs one at a time to identify the defective module. Replace any defective DIMMs.

message: ***Fixed Disk x Failure or Fixed Disk Controller Failure***

description: The hard disk is not working or is not properly configured.

solution: ***1.***Check that the HDD is properly attached (**see Chapter 6:"- Hard Disk Insertion" on page 6-6**).

2.Run *Setup* to make sure the HDD is correctly configured (**see Chapter 5:"Switching Hard Disks" on page 5-12**).

message: ***Incorrect Drive A: type - run Setup***
description: The FDD is incorrectly identified in *Setup*.
solution: Run *Setup* and check that the FDD is correctly mounted (**see Chapter 5:"Legacy Diskette A: (Main Menu)" on page 5-12**).

message: ***Keyboard controller error***
description: The keyboard controller failed the *POST*.
solution: ***1.*** Try restarting the system.
2. If you are using an external keyboard, remove it and make sure the onboard keyboard works correctly. If it does, you may have to replace the external keyboard.
3. If the problem persists, contact your service center.

message: ***Keyboard error***
description: The *POST* doesn't see the keyboard.
solution: ***1.*** Try restarting the system.
2. If you are using an external keyboard, remove it and make sure the onboard keyboard works correctly. If it does, you may have to replace the external keyboard.
3. If the problem persists, contact your service center.

message: ***Keyboard error nn***
description: The *BIOS* discovered a stuck key and lists its scan code.
solution: ***1.***Press the keys on the keyboard to loosen the one with a problem.
2.If keys consistently fail to spring up, contact your service center.

message: ***Monitor type does not match CMOS***
description: The *CMOS* doesn't recognize your monitor (LCD).
solution: Run *Setup* then save and exit. The system will survey itself then update its record [**see Chapter 5:"Display (Advanced Menu)" on page 5-17**].

message: ***Operating system not found***

description: The operating system can't be found on either drive A:or drive C:

solution: ***1.***Assuming there is an operating system to be found, enter *Setup* and make sure the FDD and/or Primary Master Drive are correctly identified [**see Chapter 5:"Primary Master (Main Menu)" on page 5-12**].

2.Make sure the HDD is properly installed.

3.If your HDD was set up with multiple partitions, make sure drive C: is active (boot up from drive A: and use FDISK.EXE).

message:	***Parity check 1 nnnn or Parity check 2 nnnn***
description:	The BIOS found a parity error in the system bus.
solution:	Reboot. If the problem persists, contact your service center.
message:	***Press <F1> to resume, <F2> to Setup***
description:	The *POST* discovered a recoverable error.
solution:	***1.***Press F1 to continue and boot up, hoping the system will function without further problem. ***2.***Press F2, enter *Setup*, correct the problem, save & exit.
message:	***Previous boot incomplete - Default configuration used***
description:	The last POST couldn't be completed several times so the POST loaded the defaults and gave you a chance to run Setup.
solution:	Run *Setup* and make sure all the settings are correct.
message:	***Real time clock error***
description:	The real-time clock failed the *BIOS* test.
solution:	Contact your service center. The onboard battery may have to be replaced or this may indicate a deeper problem.

message: ***Shadow RAM failed at offset: nnnn***
description: The shadow RAM in the 64K block failed at the "nnnn" address.
solution: ***1.***Reboot.
2.Contact your service representative.

message: ***System battery is dead - Replace and run Setup***
description: The *CMOS* clock battery indicator shows the battery is dead.
solution: Contact your service center to replace the onboard battery. Then run *Setup* to re-establish the correct settings.

message: ***System cache error - Cache disabled***
description: The RAM cache failed the *BIOS* test and was disabled.
solution: ***1.***Reboot.
2.Continue without the cache, though system performance will be degraded.
3.Contact your service center.

message:	***System CMOS checksum bad - run Setup***
description:	The system *CMOS* has been corrupted or modified incorrectly.
solution:	Run *Setup* and reconfigure the system.
Note:	This may indicate the *CMOS* was targeted by a virus. Reboot from an anti-virus program on a write-protected floppy.

message:	***System RAM failed at offset: nnnn***
description:	The system failed at the “nnnn” address.
solution:	***1.***Reboot. ***2.***Contact your service center.

message:	***System timer error***
description:	The timer test failed.
solution:	Contact your service center.

Appendix A. Specifications

Processor

- Intel Pentium III-M 1.00/1.06/1.13/1.20/1.26 GHz
- uFC-PGA Package

Memory

- Two SODIMM sockets
- Supports PC-133 SDRAM
- Expandable memory up to 1GB

BIOS

- Phoenix BIOS
- One 512KB Flash ROM

LCD

14.1” TFT XGA 1024x768, or 15.0” TFT SXGA+ 1400x1050 (Factory Option)

Core Logic

- INTEL ALMADOR-M FW82830MP

Display

- ATI M6-P 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 of either 32MB or 64MB of DDR SGRAM on board (not upgradeable)

Keyboard

- A4-Size Win98 keyboard with an embedded numeric keypad

Storage

- 3.5” 3-mode FDD
- Easy changeable 2.5” 9.5 mm (h) IDE HDD - Supports PIO mode 4 /ATA-33/66/100 (Ultra DMA)
- One bay for the optional 12.7mmH CD-ROM, or DVD-ROM, or CD-RW, or Combo.

Audio

- AC’97 Compliant Interface
- 3D stereo enhanced sound system
- Compatible Sound-Blaster PRO
- S/PDIF Digital output (5.1 CH)
- Built-in microphone
- 2 Built-in speakers

PC Card Sockets

- Two PCMCIA 3.3V/5V/12V sockets, type II x2 or type III x1

Interface

- Built-in TouchPad (Scrolling Key functionality integrated)
- Four USB ports
- One IEEE 1394 port (Mini)
- One S-Video connector
- One parallel port (LPT1), supporting ECP / EPP
- Infrared file transfer, IrDA/FIR/ASKIR
- External CRT monitor port
- One PS/2 port supporting mouse or keyboard
- One headphone jack
- One microphone jack
- One S/PDIF jack
- One RJ-11 jack for Modem
- One RJ-45 jack for LAN
- DC-in jack
- 3 Hotkeys, default web browser, default email program, default CD Player
- One SONY standard Memory Stick Port
- One PANASONIC SD Memory Port

Communication

- Infrared transfer: 1M operating distance - FIR, IrDA 1.1 compliant
- 10/100Mb Ethernet LAN built-in
- 802.11b Wireless LAN (Factory Option)
- 56K MDC MODEM V.90 & V.92 compliant

Power Management

- Support ACPI v1.0b
- Support APM v1.2
- Support suspend to RAM
- Support suspend to disk
- Battery low suspend
- Resume from modem ring
- Resume from LAN ring

Power

- Full Range AC adapter AC-in 100~240V, 50~60Hz, DC Output 20V, 3.25A.
- One removable Smart Li-Ion Battery 80W

Indicator

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

EMC & Safety

- FCC Class B, CE, VCCI, C-TICK, BSMI, UL, CUL, TUV, CB

S/W Certificate

- MICROSOFT WHQL and WINKEY Logo, MACROVISION

Environmental Spec

- Temperature
- Operating: 5º C~ 35ºC
- Non-Operating: 20ºC ~ 60ºC

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

Physical

- 312 (w) x272.7(d) x37.5 (h) mm w/14.1” LCD

Weight

- 2.8kg w/o battery

Optional

- Lithium-Ion smart battery pack (12cell)
- DVD-ROM Drive Module 12.7mm (h)
- CD-RW Drive Module 12.7mm (h)
- Software DVD Player
- Software RW
- 802.11b Wireless LAN card
- Car Adapter

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**inar**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 exchange 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 computer 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 and play" device, which is configured automatically by the Card Services soft-

ware
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.