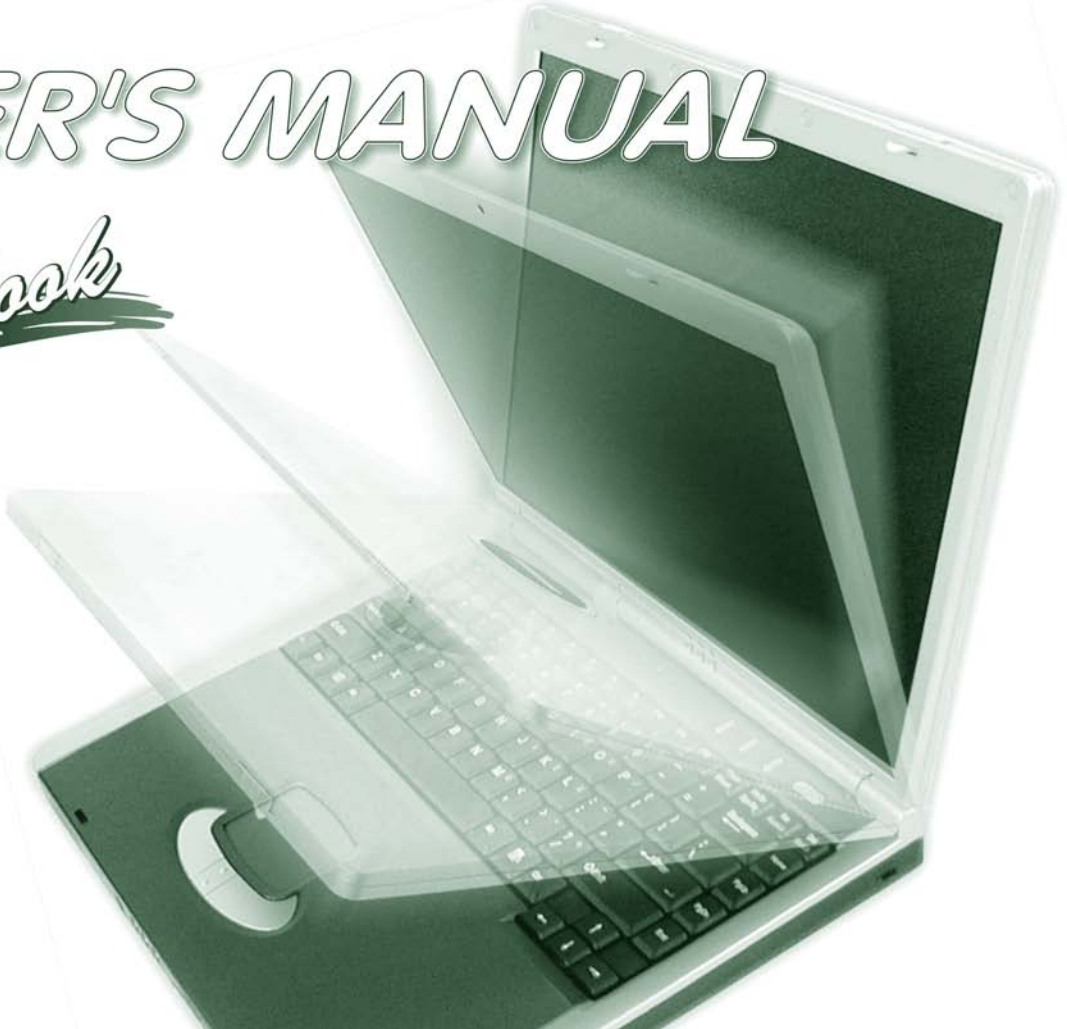
USER'S MANUAL

notebook



Notice

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Trademarks

FCC Statement

(Federal Communications Commission)

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

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

Warning

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

IMPORTANT SAFETY INSTRUCTIONS

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

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

CAUTION

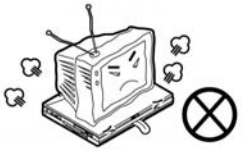
Always disconnect all telephone lines from the wall outlet before servicing or disassembling this equipment.

TO REDUCE THE RISK OF FIRE, USE ONLY NO. 26 AWG OR LARGER, TELECOMMUNICATION LINE CORD

Instructions for Care and Operation

The notebook computer is quite rugged, but it can be damaged. To prevent this, follow these suggestions:

1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.

Do not expose the computer to any shock or vibration.	*Do not place it on an unstable surface.*	*Do not place anything heavy on the computer.*
		

2. **Keep it dry, and don't overheat it, and.** Keep the computer and power supply away from any kind of heating element. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.

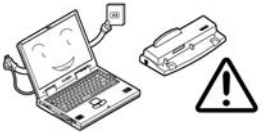
Do not expose it to excessive heat or direct sunlight.	*Do not leave it in a place where foreign matter or moisture may affect the system.*	*Don't use or store the computer in a humid environment.*	*Do not place the computer on any surface which will block the vents.*
			

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

4. **Follow the proper working procedures for the computer**. Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.

Do not turn off the power until you properly shut down all programs.	*Do not turn off any peripheral devices when the computer is on.*	*Do not disassemble the computer by yourself.*	*Perform routine maintenance on your computer.*
			

5. **Take care when using peripheral devices**.

Use only approved brands of peripherals.	*Unplug the power cord before attaching peripheral devices.*
	

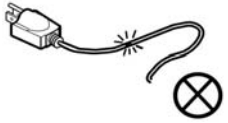
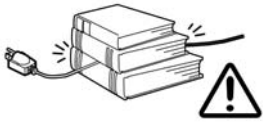
Power Safety

The computer has specific power requirements:

Power Safety Warning

Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines). It is advisable to also remove your battery in order to prevent accidentally turning the machine on.

- 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.

Do not plug in the power cord if you are wet.	*Do not use the power cord if it is broken.*	*Do not place heavy objects on the power cord.*
		

Battery Precautions

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

Battery Disposal

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

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.

Cleaning

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

Servicing

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

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

Travel Considerations

Packing

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

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

On the Road

In addition to the general safety and maintenance suggestions in this preface, and Chapter 8: 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 - Devices such as metal detectors & X-ray machines can damage the computer, hard disk, floppy disks, and other media. They may also destroy any stored data - Pass your computer and disks around the devices. Ask security officials to hand-inspect them (you may be asked to turn it on). **Note**: Some airports also scan luggage with these devices.

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

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

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

Developing Good Work Habits

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

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

Remember to:

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

Lighting

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

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

Contents

Chapter 1: Introduction

Overview

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

- The Manual — how to use it
- System Map — navigating around your computer

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 *"What to Install" on page 4 - 2*, *"BIOS Utilities" on page 5 - 1* and *"Upgrading The Computer" on page 6 - 1*. You may also find the notes marked with a  of interest to you.

Beginners and Not-So-Advanced Users

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

Notes

Check the light colored boxes with the mark above to find detailed information about the computer's features.

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

System Software

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

- Microsoft Windows 2000
- Microsoft Windows XP

Quick Start Guide

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

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

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

1. Remove all packing materials, CDs/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 1 - 16***), then plug the AC power cord into an outlet, and connect the AC power cord to the AC adapter.
4. Raise the lid/LCD to a comfortable viewing angle.
5. Press the power button to turn "on".

Peripheral Devices

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

Design Differences

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

The designs vary slightly in external design. Photographs used throughout this manual are of Design I.

Figure 1 - 1
Design Differences

System Map

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

Getting to Know Your Computer

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

Design I

Design II

Top View

Figure 1 - 2
Top View with LCD Panel Closed

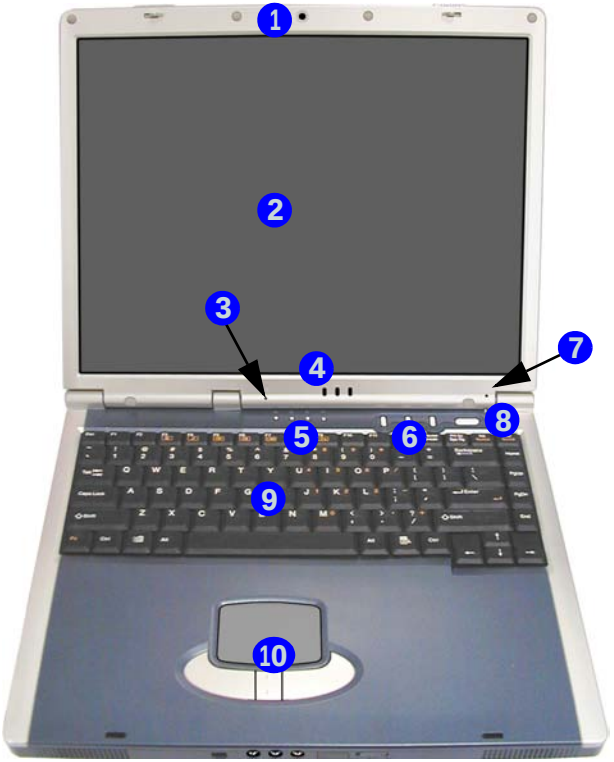
1. LCD Latches
2. LED Power & Communication Indicators

To open the LCD display:

1. Place the computer on a stable surface.
2. Move the LCD latches 1 in the direction of the arrows 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 indicators 2 show the power and battery status of the computer, give notification of e-mail received, and the power status of wireless modules.

Top View with LCD Panel Open

Figure 1 - 3
Top View with LCD Panel Open



1. Optional PC Camera
2. LCD
3. Built-In Microphone
4. LED Power & Communication Indicators
5. LED Status Indicators
6. Hot-Key buttons
7. Close Cover Switch
8. Power Button
9. Keyboard
10. TouchPad and Buttons

PC Camera

If you have purchased the **optional** PC Camera, make sure to install the software application (see *"PC Camera" on page 7 - 10*).

LCD Panel

The computer comes with a 14.1" **OR** a 15.0" TFT (Liquid Crystal Display) screen, depending upon the configuration purchased. See *"LCD Options" on page A - 2* for details.

Microphone

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

LED Power & Communication Indicators

These indicators display the system power status, and battery 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 *"LED Power & Communication Indicators" on page 2 - 6*).

LED Status Indicators

These display the system's operational status. Refer to *"LED Status Indicators" on page 2 - 5* for more information on what the lights mean.

Hot-Key Buttons

The three hot-keys allow you instant access to your default Internet browser, default e-mail program, and an application of your choice. To learn how to set the buttons, see *"Hot-Keys" on page 2 - 17*.

Close Cover Switch

This switch acts as a sensor to tell when the LCD Panel is closed. When this LCD cover sensor is activated the default setting of your operating system's power scheme sends the computer into a power saving state (see *Figure 3 - 13 on page 3 - 19*).

Power Button

Press this button to turn your computer on or off (see *"Turning on the Computer" on page 2 - 4*). 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 *"Configuring the Power Button" on page 3 - 19*).

Shutdown

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

Keyboard

The computer has a “Win Key” keyboard including a numeric keypad. It has the same features as a full-sized desktop keyboard and can easily be replaced with a different language keyboard should you desire.

TouchPad & Buttons

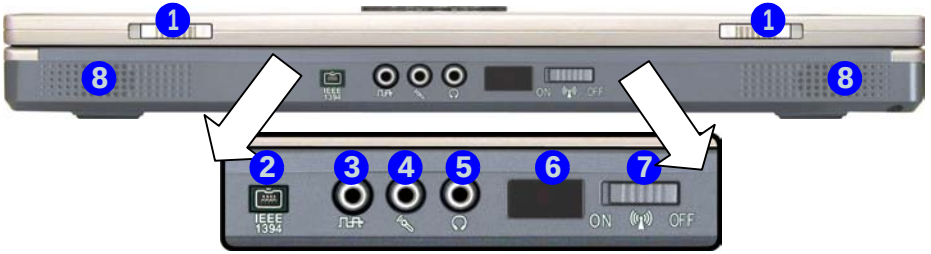
The pointing device features a sensitive glide pad for precise movements. It functions the same way as a two-button mouse. The right TouchPad button is the same as the right mouse button; the left TouchPad button is the same as the left mouse button. The central button may be used to scroll up and down, or may be configured to perform a variety of functions (see *“Configuring the TouchPad and Buttons” on page 2 - 21*).

Forced Off

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

Front View

Figure 1 - 4
Front View



1. LCD Latches
2. Mini-IEEE 1394 Port
3. S/PDIF Out Port
4. Microphone-In Jack
5. Headphone-Out Jack
6. Infrared Transceiver
7. Wireless Module ON/OFF Switch
8. Built-In Speakers

IEEE 1394

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

Mini-IEEE 1394 Port

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

S/PDIF Out Port

This S/PDIF (Sony/Philips Digital Interface Format) Out Port allows you to connect your DVD-capable PC to a Dolby AC-3 compatible receiver for “5.1” or ‘dts’ surround sound.

Microphone-In Jack

Record on your notebook computer with an external microphone.

Headphone-Out Jack

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

Infrared Transceiver

The infrared transceiver enables communication between the computer and another similarly equipped device, and is 4M bps FIR, IrDA 1.1 compliant. For further information please refer to the manual of the device you wish to connect (see *"Configuring the Infrared Settings for FIR" on page 3 - 22*).

Infrared Communication

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

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

Wireless Module ON/OFF Switch

If you have purchased the **optional 802.11b Wireless LAN** and/or **Bluetooth** module(s), you can use this switch to turn the module(s) **ON** or **OFF**. To enable the module(s) you will need to install the drivers/software for it/them. You can use the key combination **Fn** + **F12** to toggle through the options if you have two modules installed (see *"Wireless LAN & Bluetooth Modules" on page 7 - 2* and *"LED Power & Communication Indicators" on page 2 - 6*).

Wireless Device Operation Aboard Aircraft

The use of any portable electronic transmission devices aboard aircraft is usually prohibited. **Make sure the modules are OFF if you are using the computer aboard aircraft**.

Stereo Speakers

Two built-in speakers provide rich, stereo sound.

Communication Conflict

Do not try to use the 802.11b Wireless LAN module and the Bluetooth module at the same time, as this may cause a communication conflict.

Left Side View

Figure 1 - 5
Left Side View

1. CD Device Bay
2. USB 2.0 Port
3. Floppy Disk Drive
4. PC Card Slot
5. PC Card Slot Eject Button

CD Device Bay

A 5.25" CD-ROM drive, or DVD-ROM drive, or CD-RW, or Combination CD-RW or DVD-ROM Drive, or DVD-RW (12.7mm height) is standard depending on the model you purchased. For more information on using the drive please refer to *"CD/DVD Device" on page 2 - 12*.

CD Emergency Eject

If you need to manually eject a CD/DVD (e.g. due to an unexpected power interruption) you may push the end of a straightened paper clip into the emergency eject hole. Do not use a sharpened pencil or similar object that may break and become lodged in the hole.

USB 2.0 Port

This **USB 2.0** compatible port (USB 2.0 is fully USB 1.1 compliant) is for low-speed peripherals such as keyboards, mice or scanners, and for high-speed peripherals such as external HDDs, digital video cameras or high-speed scanners etc. Devices can be plugged into the computer, and unplugged from the computer, without the need to turn the system off (if the power rating of your USB device is 500mA or above, make sure you use the power supply which comes with the device).

Media Warning

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

3.5" FDD (Floppy Disk Drive)

This is a 3.5", 1.44 MB fixed floppy disk drive. For more information please refer to *"Floppy Disk Drive (FDD)" on page 2 - 11*.

PC Card Slot

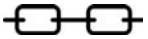
The 3.3V/3.5V slot may be used for a Type-II PC card (PC cards were also previously referred to as PCMCIA) and fully supports Cardbus. Refer to *"PC Card Slot" on page 2 - 16* for more information.

Right Side View

Figure 1 - 6
Right Side View

1. Security Lock Slot

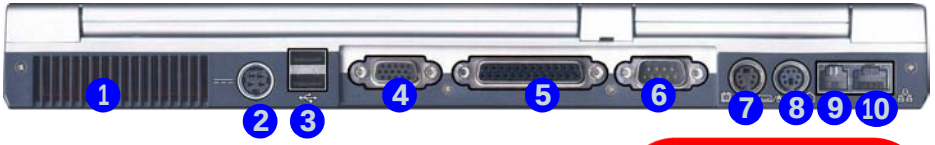
Security Lock Slot



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

Rear View

Figure 1 - 7
Rear View



1. Vent
2. DC-In Jack
3. 2 * USB Ports
4. External Monitor (CRT) Port
5. Parallel Port
6. Serial Port
7. S-Video-Out Port
8. PS/2 Type Port
9. RJ-11 Phone Jack
10. RJ-45 LAN Jack

Overheating

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

Vent

This enables airflow to prevent the notebook from overheating.

DC-In Jack

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

2 * USB 2.0 Ports

These **USB 2.0** compatible ports (USB 2.0 is fully USB 1.1 compliant) are for low-speed peripherals such as keyboards, mice or scanners, and for high-speed peripherals such as external HDDs, digital video cameras or high-speed scanners etc. Devices can be plugged into the computer, and unplugged from the computer, without the need to turn the system off (if the power rating of your USB device is 500mA or above, make sure you use the power supply which comes with the device).

External Monitor (CRT) Port

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

Printer/Parallel Port

This port supports ECP (Extended Capabilities Port) and EPP (Enhanced Parallel Port).

Serial Port

Connect a serial type mouse to this port.

S-Video-Out Port

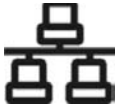
Connect your television to your computer and view DVDs, VCDs or anything else your computer can display. You will need an S-Video cable to make the connection. Enable this port from the video driver controls (see *"Enabling TV Display" on page 3 - 13*).

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.

RJ-11 Phone Jack

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



RJ-45 LAN Jack

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

Bottom View

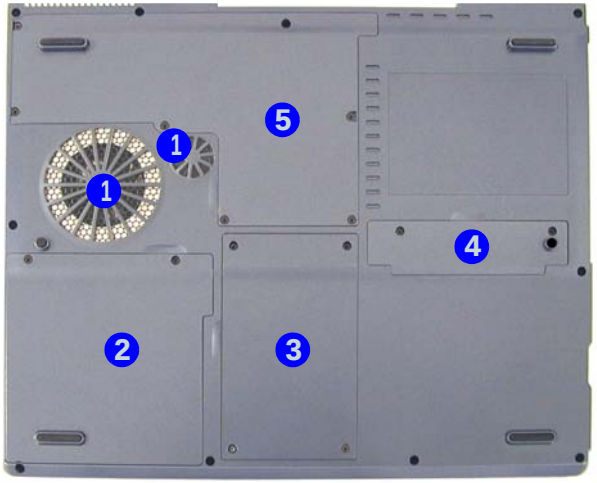


Figure 1 - 8
Bottom View

1. Vent/Fan Outlets
2. Battery Cover
3. Hard Disk Cover
4. Bluetooth Module Cover
5. CPU & Memory Socket Cover

Note: The RAM and optional Wireless LAN module are located under the CPU Heatsink Cover

CPU

The CPU is not a user serviceable part. Opening this compartment, or accessing the CPU in any way, may violate your warranty.

Overheating

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

Vent

This enables airflow to prevent the notebook from overheating.

Battery

See *"Battery Information" on page 3 - 20* for instructions on battery use and care.

Wireless LAN & Bluetooth Modules

The Wireless LAN and Bluetooth modules may be enabled and disabled by the switch at the front of the computer (see *"Wireless Module ON/OFF Switch" on page 1 - 12*).

If you have both optional wireless modules in your computer, you can use the **Fn + F12** key combination to toggle power to the modules (see *"Wireless LAN & Bluetooth Modules" on page 7 - 2*).

Hard Disk Drive

The internal hard disk drive is used to store your data. See information on page *6 - 4* for information on upgrading/replacing your hard disk drive.

Drive Warning

Don't try to remove the hard disk (HDD) while the system is on. This could cause data loss or damage. Unauthorized removal or tampering with the HDD may violate your warranty. If you are in doubt, consult your service representative.

Wireless LAN (Network) Module

If your computer has the **optional** mini PCI 802.11b Wireless LAN module, the antenna and other components are not externally visible (please check with your service representative). If your configuration includes the Wireless LAN module, make sure to install the driver (see sidebar note).

Bluetooth Module

If your computer has the **optional** Bluetooth module, the antenna and other components are not externally visible (please check with your service representative). If your configuration includes the Bluetooth module, make sure to install the software (see sidebar note).

Chapter 2: Using The Computer

Overview

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

This chapter includes:

- The Power Sources
- Turning on the Computer
- The LED Indicators
- The Auto Mail Program
- The Hard Disk Drive
- The Floppy Disk Drive
- The CD/DVD Device
- The PC Card Slot
- The Hot-Keys
- The Function Keys & Numeric Keypad
- The TouchPad & Buttons/Mouse
- Adding a Printer (general guidelines)

Power Button as Standby or Hibernate Button

If you are using a fully ACPI-compliant OS, (such as *Windows 2000 Professional*, or *Windows XP)* you can use the OS's "Power Options" control panel to set the power button to send the system into **Standby** or **Hibernate** mode (see your OS's documentation, **or** ***"Configuring the Power Button" on page 3 - 19*** 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. Press the power button to turn "on".

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 that you do not remove the battery. For more information on the battery, please refer to ***"Battery Information" on page 3 - 20***.

Recharging the Battery with the AC Adapter

The battery pack automatically recharges when the AC adapter is attached and plugged into an electrical outlet. If the computer is powered on, and in use, it will take several hours to fully recharge the battery. When the computer is turned off but plugged into an electrical outlet, battery charge time is less. (Refer to *"LED Indicators" on page 2 - 5* for information on the battery charge status, and to *"Battery Information" on page 3 - 20* for more information on how to maintain the battery pack.)

Proper handling of the Battery Pack

- DO NOT disassemble the battery pack under any circumstances
- DO NOT expose the battery to fire or high temperatures, it may explode
- DO NOT connect the metal terminals (+, -) to each other

Battery Removal

We recommend that you do not remove the battery yourself. Please consult your service representative should you need to remove the battery for any reason.

Low Battery Warning

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

Turning on the Computer

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

When the computer is on, you can use the power button as a Standby/Hibernate/Shutdown hot-key button when it is pressed for less than **4 seconds** (pressing and holding the power button for longer than this will shut the computer down). Use **Power Options** in the ***Windows*** control panel to configure this feature.

Shutdown

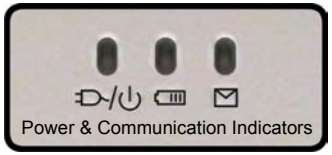
Note that you should always shut your computer down by choosing the **Shut Down/ Turn Off Computer** command from the **Start** menu in ***Windows.*** This will help prevent hard disk or system problems.

Forced Off

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

LED Indicators

There are two sets of LED indicators (**LED Power & Communication Indicators** and **LED Status Indicators**) on your computer that will display helpful information about the current status of the computer. The **LED Power & Communication Indicators** are also visible when the top of your computer is closed.



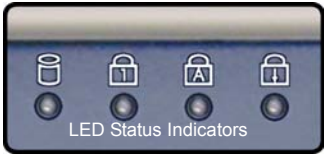


Figure 2 - 1
LED Indicators

LED Status Indicators

Icon	Color	Description
	Green	Floppy/Hard disk/CD Device activity
	Green	Number Lock is activated
	Green	Caps Lock is activated
	Green	Scroll Lock is activated (to activate press Fn & ScrLk)

Scroll Lock

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

Table 2 - 1
LED Status Indicators

Battery Problem

If the battery has a serious problem contact your service representative.

Communication Conflict

Do not try to use the 802.11b Wireless LAN module and the Bluetooth module at the same time, as this may cause a communication conflict.

LED Power & Communication Indicators

Icon	Color	Description
	Green	The computer is on
	Blinking Green	The computer is in standby mode
	Orange	The battery is being charged
	Green	The battery is fully charged
	Blinking Orange	The battery has reached critically low power status
	Blinking Half Orange/ Half Green	The battery has a serious problem (see sidebar)
	Blinking Green	New mail has arrived
	Fast Blinking Green	New mail has arrived from users defined in the Special Group in Auto Mail Checker
	Green	The (**optional**) Wireless LAN module is On
	Orange	The (**optional**) Bluetooth module is On
	Half Orange/Half Green	Both the (**optional**) Wireless LAN and Bluetooth modules are On (see sidebar)

Table 2 - 2
LED Power & Communication Indicators

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. (If you have not input your mail account data, then you will be prompted to do so.)

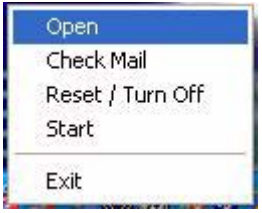


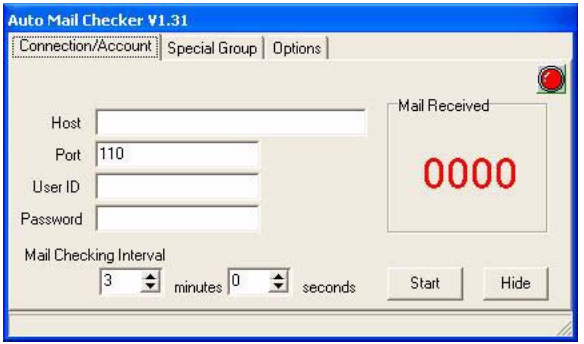
Figure 2 - 2
Auto Mail Checker (Startup Menu)

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

Note

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

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



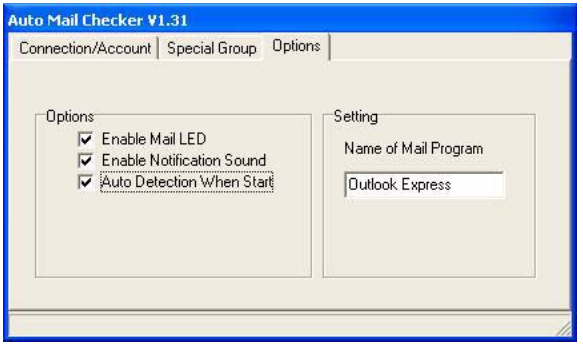


Figure 2 - 3
Auto Mail Checker Account Setup and Options

Special Group

You may add the e-mail addresses of those you wish to assign to your special group here. The **Mail LED** will then blink fast when mail is received from members of this group, if LED notification is enabled in the control panel (*Figure 2 - 3*).

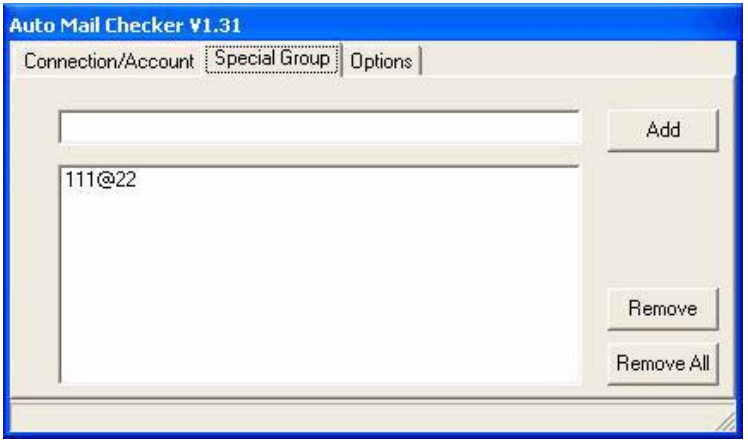


Figure 2 - 4
Special Group Setup

Power Safety

Before attempting to access any of the internal components of your notebook please ensure that the machine is not connected to the AC power, and that the machine is turned off. Also ensure that all peripheral cables, including phone lines, are disconnected from the computer.

Hard Disk Drive

The hard disk drive is used to store your data in the notebook computer. The hard disk can be taken out to accommodate other 2.5" IDE hard disk drives with a height of 9.5 mm.

The hard disk 1 is accessible from the bottom of your computer as seen below. Further details on removing and inserting the hard disk are available in *"Upgrading the Hard Disk Drive" on page 6 - 4*.

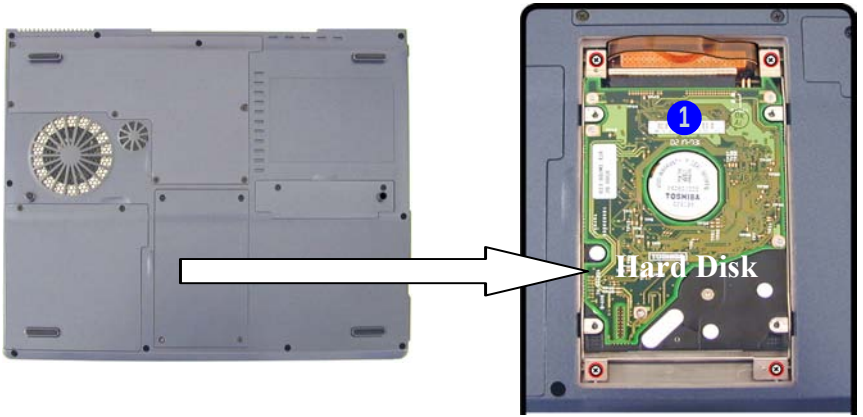


Figure 2 - 5
Hard Disk Location

Floppy Disk Drive (FDD)

The computer is equipped with a fixed 1.44 MB, 3.5" floppy disk drive module. By default it is labeled "**Drive A:**", and can be used as a boot device if properly set in the **BIOS** (refer to *"Boot Menu" on page 5 - 14*).

Media Warning

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

Inserting/Removing Floppy Disks

When using the floppy drive, always insert your floppy diskette with the label-side facing up. To remove the inserted diskette, press the eject button 1 on the top-right corner of the floppy drive.

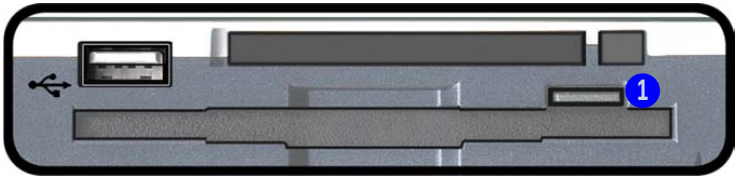


Figure 2 - 6
Floppy Disk Drive

Sound Volume Adjustment

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

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

CD/DVD Device

There is a bay for either a CD-ROM, or DVD-ROM, or CD-RW, or Combination CD-RW and DVD-ROM, or DVD-RW drive, depending on the model you purchased. The CD Device is usually labeled "**Drive D:**", and may be used as a boot device if properly set in the **BIOS** (*"Boot Menu" on page 5 - 14*).

Loading Discs

To insert a CD/DVD, press the open button 1 and carefully place a CD/DVD onto the disc tray with label-side facing up (use just enough force for the disc to click onto the tray's spindle). Gently push the CD/DVD tray in until its lock "clicks" and you are ready to start. The busy indicator 2 will light up while data is being accessed, or while an audio/video CD, or DVD, is playing. If power is unexpectedly interrupted, insert an object such as a straightened paper clip into the emergency eject hole 3 to open the tray.

Figure 2 - 7
CD Device

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-ROMs/DVD-ROMs 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.

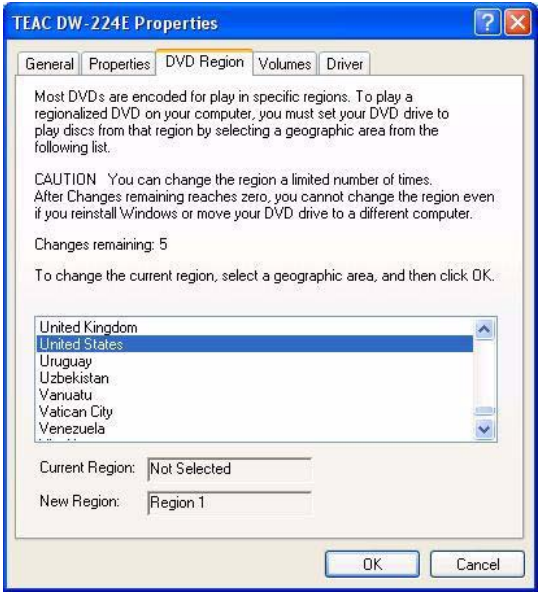
CD Emergency Eject

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.

DVD Regional Codes

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

Figure 2 - 8
DVD Regional Codes (Windows XP)



Changing DVD Regional Codes

Go to the **Control Panel** in *WindowsXP/Windows 2000* and double-click **System > Hardware** (tab), click **Device Manager**, then click the + next to **DVD/CD-ROM drives**. Double-click on the DVD-ROM device to bring up the **Properties** menu, and select the **DVD Region** (tab) to bring up the control panel as seen in *"DVD Regional Codes (Windows XP)" on page 2 - 14*. To change the TV system to/from PAL or NTSC see *"TV Format" on page 3 - 13*.

Table 2 - 3
DVD Regional Coding

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

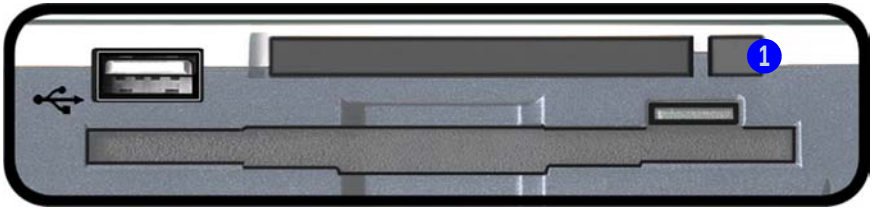
PC Card Slot

The computer is equipped with a PCMCIA 3.3V/5V slot for **one type II** PC Card. Make sure you install the driver for the PC Card (see *"What to Install" on page 4 - 2*).

Inserting and Removing PC Cards

- Align the PC Card with the slot and push it in until it locks into place.
- To remove a PC Card, simply press the eject button 1 next to the slot.

Figure 2 - 9
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.

Hot-Key Buttons

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

Programming the Hot-Keys

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

After installing the Hot-Key driver you can configure or change the settings.

Non-Default E-Mail and Browser Programs

It is possible to configure both the e-mail and browser Hot-Keys to open non-default mail and browser programs. Follow the procedure outlined on page *2 - 18* but highlight either the **Browser** or **Email** in **step 2**. Choose **Custom** to browse to the program of your choice as per the remaining instructions. The Hot-Key will now open this program.

Table 2 - 4
Hot-Keys

Application.exe

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

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

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

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

3. An **Open** dialog box will appear on the screen.

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

Function Keys and Numeric Keypad

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 functions press and hold the **Fn** key, then press the appropriate function key (F3 - F9 etc.) located on your keyboard.

Keys	Description
Fn	Function Key
Fn + F3	Mute Toggle
Fn + F4	Sleep/Resume Toggle
Fn + F5	Decrease Audio Volume
Fn + F6	Increase Audio Volume
Fn + F7	Display Toggle
Fn + F8	Decrease LCD Brightness
Fn + F9	Increase LCD Brightness
Fn + F12	Multiple Wireless Modules Toggle
Fn + NumLk	Number Lock Toggle
Fn + ScrLk	Scroll Lock Toggle

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.

Table 2 - 5
Function Keys

Special Characters

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

Numeric Keypad

The keyboard has an embedded numerical keypad for easy numeric data input. The numeric keys are highlighted by a yellow typeface.

Activate the **Number Lock** feature by pressing and holding the **Fn** key, then press the **NumLk** key at the top right of the keyboard. You may check if **Number Lock** is enabled or not by looking at the LED status indicators (see *"LED Indicators" on page 2 - 5*). If **NumLk** is enabled, you do not need to hold the **Fn** key down to type a number from the numeric keypad.

Activate **Scroll Lock** by pressing and holding the **Fn** key, then press the **ScrLk** key at the top right of the keyboard.

Figure 2 - 10
Keyboard

TouchPad and Buttons/Mouse

The TouchPad is a device for pointing (controlling input positioning) on the computer's display screen by sensing finger movement, and downward pressure. It is an alternative to the mouse, however, you can also add a mouse to your computer either through the PS/2 interface, or one of the USB ports.

The TouchPad buttons function in much the same way as a two-button mouse. The central button may be configured to function as you require (see *"Mouse Properties" on page 2 - 22* for screen examples).

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 by double-clicking the TouchPad icon in the **taskbar**, or by going to the **Mouse** control panel in ***Windows*** (**Start** menu and point to **Settings** and click **Control Panel**, then double-click the **Mouse** icon). In ***Windows XP*** the **Mouse** control panel is in the **Printers and Other Hardware Category**.

Right-click the taskbar icon and select **Easy Launcher** to run programs from this menu. To add programs to the menu, see *"Easy Launcher" on page 2 - 22* for details.

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.

TouchPad Taskbar Icon

You can add the TouchPad icon to the taskbar from the **Mouse** control panel, in the **Others** tab. **Restart** the computer to see the icon appear in the taskbar.

Easy Launcher

You can add programs to the menu from the **Others** tab in the **Mouse** control panel. Click on **Settings for Easy Launcher** to get the settings options.

Click the **New** button and browse to any programs you wish to add to the menu.

Restart the computer and run **Easy Launcher** by right-clicking the icon in the taskbar.

Click **Close** or **Minimize** to quit the menu.

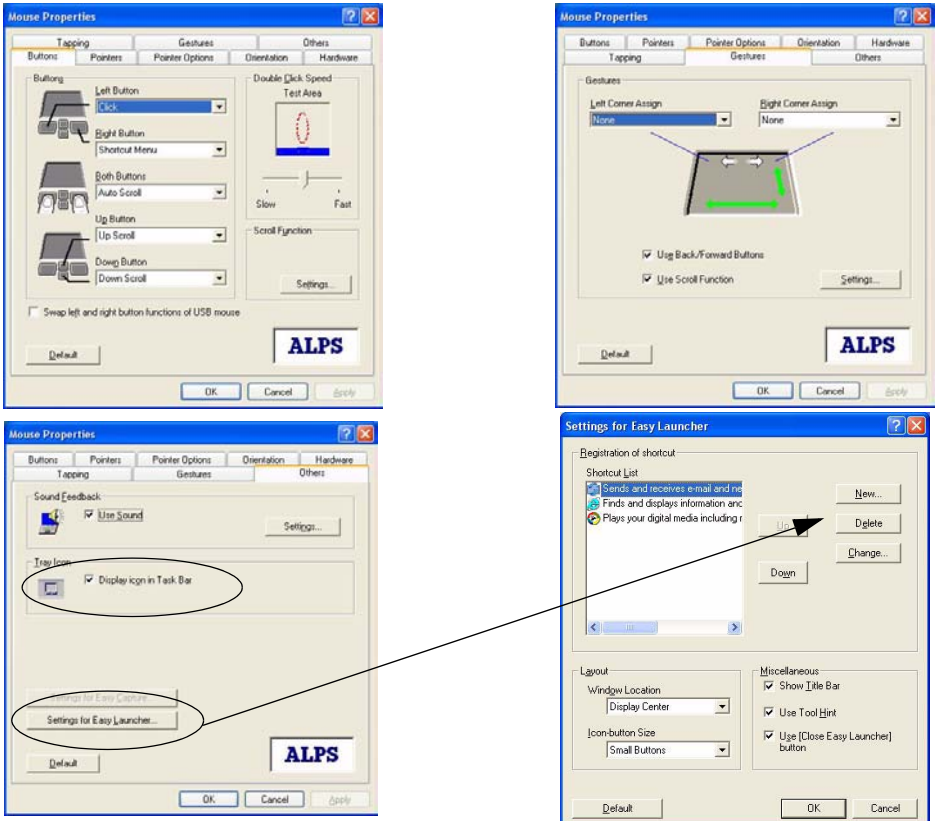


Figure 2 - 11
Mouse Properties

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. You may use any of the USB ports on your computer to connect the printer.

Install Instructions:

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

Parallel Printer

This is still the most common type of printer.

Install Instructions:

1. Set up the printer according to its instructions (unpacking, paper tray, toner/ink cartridge etc.).
2. Attach the parallel cable to the printer.
3. Connect the printer's parallel cable to the parallel port at the rear of the computer (see ***"Rear View" on page 1 - 16***).
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.

Chapter 3: Advanced Controls

Overview

This chapter covers:

- Advanced video controls
- Power and battery management features
- Configuring the Infrared settings for FIR

Note: All operating system pictures in this manual are from the ***Microsoft Windows XP*** OS.

Drivers

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

Protecting the LCD

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

Advanced Video Controls

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

Opening the LCD

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

Figure 3 - 1
Brightness Controls

Video Driver Controls

The video interface lets you change the screen resolution and color output to whatever is most comfortable/efficient for you. This is a matter of hardware, video memory and the driver for your operating system. The driver interface shows the available options (see *"LCD Options" on page A - 2* for the LCD options).

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

Screen Resolution/ Screen Area Note

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

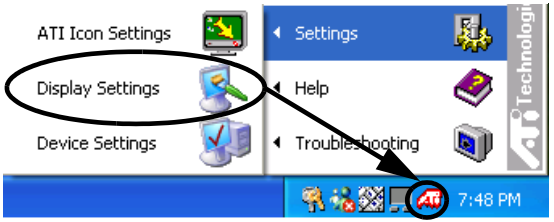
Making Adjustments for the Display

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

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

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

Figure 3 - 2
ATI Display Settings



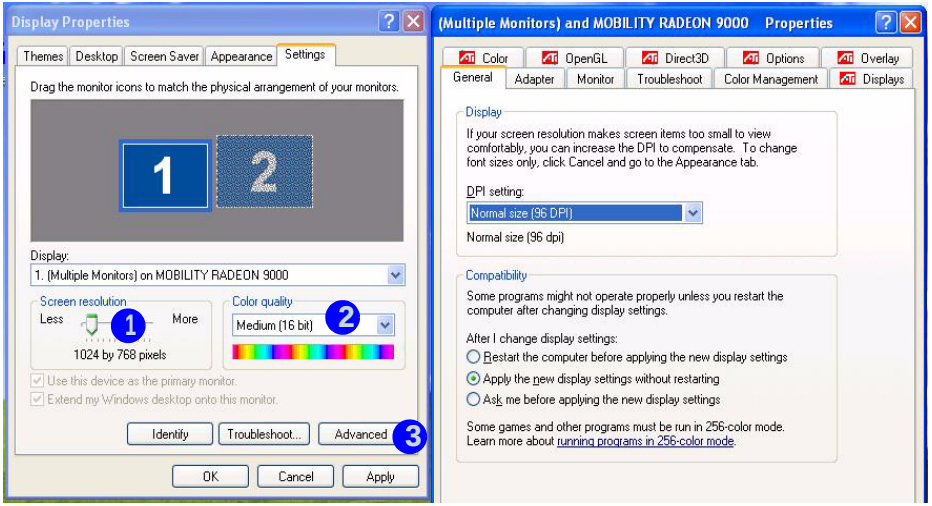
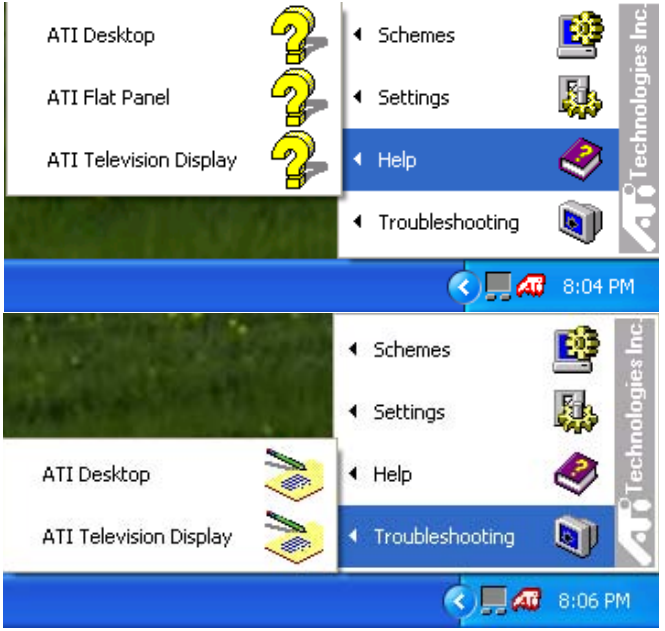


Figure 3 - 3
Advanced Display Properties

When the **Display Properties** control panel is open, click the **Advanced** (button) 3 to bring up the options tabs. Clicking through these tabs allows you to make any video adjustments you require.

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

Figure 3 - 4
ATI Help & Troubleshooting



Display Devices

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

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

Attaching a Monitor (CRT)

If you prefer to use a monitor (CRT), connect it to the External Monitor (CRT) port on the rear panel (see *"Rear View" on page 1 - 16*). You can use the **Fn** + **F7** keys to toggle through the display options.

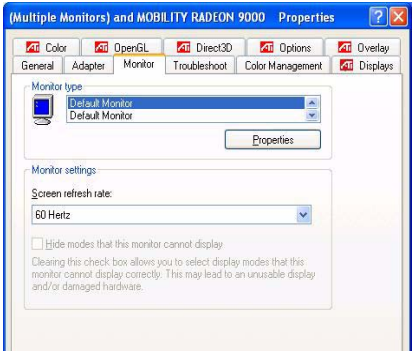


Figure 3 - 5
Monitor Properties

Vertical Refresh Rate

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

Display Options

TV Support

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

Display Mode	Windows XP	Windows 2000
Single	✓	✓
Multiple - **Clone** Mode	✓	✓
Multiple - **Extended Desktop** Mode	✓	Not Available

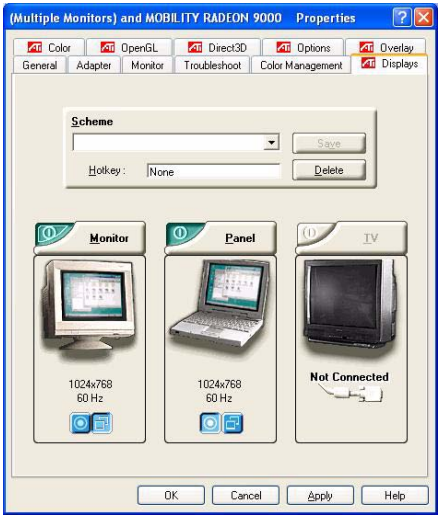
Single - Either the LCD, CRT or TV as a display device.
Multiple (Clone) - The LCD, CRT or TV outputting the same view (you can apply different display modes with different resolutions and refresh rates).
Multiple (Extended Desktop) -The LCD, CRT or TV outputting a different view (In *Windows XP* only - not available in Windows 2000) - see - *"Extended Desktop Mode" on page 3 - 10*.

Table 3 - 1
Display Options

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

Enabling Other Displays

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



Primary & Clone Displays

The **Primary** display in an Extended Desktop environment will be associated with **display Icon 1** in the settings tab.

The **Clone** display will set the associated display to show a copy of the Primary desktop.

The **Clone** display in an Extended Desktop environment will show the portion of the desktop extended from the **Primary** display.

Figure 3 - 6
Displays Tab

Clone Mode

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

Extended Desktop Mode

The system supports **Extended Desktop** (the LCD and a CRT showing different views) in multiple display environments in ***Windows XP***, but this mode is **NOT** supported in ***Windows 2000***. An Extended Desktop creates a desktop spanning multiple displays and acts as a large workspace.

To get this effect:

1. Attach your external monitor to the External Monitor (CRT) port (or TV to the S-Video connector), and turn it on.
2. Go to the **Advanced Display Settings** (see *Figure 3 - 3 on page 3-5*).
3. Select the **Displays** tab (see *Figure 3 - 6 on page 3-9*).
4. Click the **enable/disable button**  for the display device you wish to use.
5. Click **Apply** and an image will appear on the display device (give the monitor a few seconds for the image to refresh).
6. Click **Yes** to accept the settings and **OK** to save the changes.

7. Use the **Display Properties** window to select the second monitor by clicking on the icon, or by selecting it from the "**Display:**" pop-up menu.
8. Click "**Extend my Windows desktop onto this monitor**."
9. Click **Apply** (click **Yes** to keep the settings if prompted).
10. Use the **Display Properties** control panel to drag the monitors to match the physical arrangement you wish to use.
11. In the example shown in ***Figure 3 - 7*** the primary monitor **1** is on the left, the other display is on the right.

Click either the Display pop-up menu, or click the icon for the appropriate display. Then click the tick box to extend the primary display's desktop to it.

Figure 3 - 7
Extended Desktop Monitor Arrangement

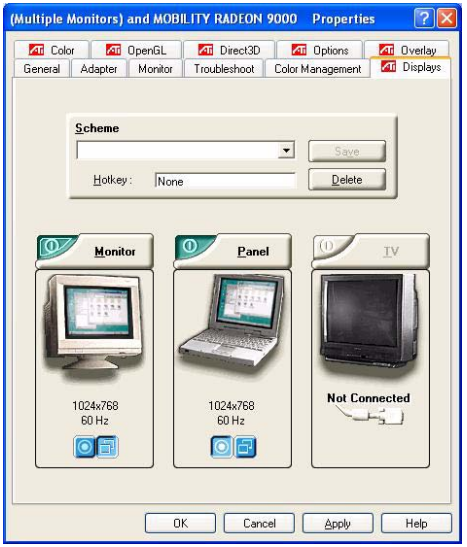
12. With the **Extended Desktop Mode** enabled, drag any icons or windows across to the other display desktop. It is therefore possible to have one program visible in one of the monitors, and a different program visible in the other monitor.

Help

Further help is available through the menus accessed from the taskbar (see ***Figure 3 - 4 on page 3-6***).

13. One display will be set to **1** (**Primary**), and the other to **2** (**Clone**). The displays may be switched as long as one as set to **Primary**.

Figure 3 - 8
Displays Tab (Extended Desktop Mode)

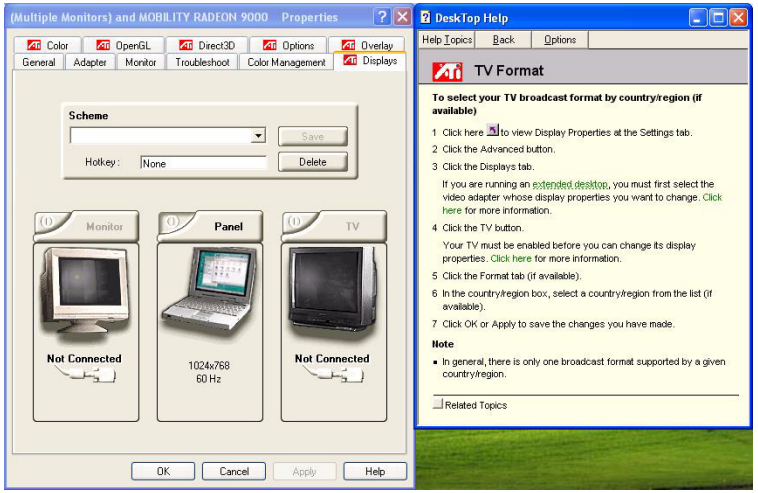


14. To switch from **Extended Desktop** mode back to **Clone** mode, first uncheck the tick box to disable the **Extended Desktop** (via the settings tab in the Display Properties control panel) and click **Apply** (see ***"Extended Desktop Monitor Arrangement" on page 3 - 11***).
15. Repeat the procedure in ***"Enabling Other Displays" on page 3 - 9*** to return to **Clone** mode (click the button to enable displays if necessary).

Enabling TV Display

To display desktop images on a TV display, connect the TV to your computer by using an S-Video cable from the TV to the connector at the rear of the computer (see *"Rear View" on page 1 - 16*). You will need to enable the TV display from the Displays tab (*Figure 3 - 6 on page 3-9*).

Further help is available to help you **troubleshoot** your TV connection through the menus accessed from the taskbar (see *Figure 3 - 4 on page 3-6*).



TV Format

If you need to change the format for TV Broadcast, plug your TV in to the S-Video connector then go to **Display Properties > Settings > Advanced > Displays** and click **TV** (button).

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

Figure 3 - 9
TV Format

OS Note

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

(**Note**: All pictures used on the following pages are from the *Windows XP* OS.)

Power Management Features

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

Advanced Configuration and Power Interface

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 fully supported in *Windows 2000* and *Windows XP*.

Enabling Power Options

Power Options are enabled through the control panel in your ***Windows*** system (**Power Options**). With other operating systems you may have power management available, so check your documentation.

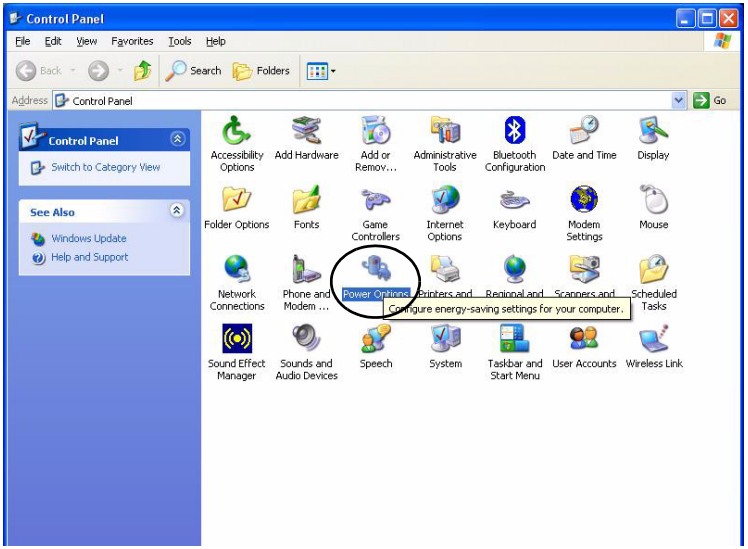


Figure 3 - 10
Power Options Control Panel

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

Resuming Operation

The system can resume from Monitor or Hard Disk Standby by pressing a key on the keyboard.

Conserving Power (Individual Components)

Turn off Monitor

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

Turn off Hard Disk

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

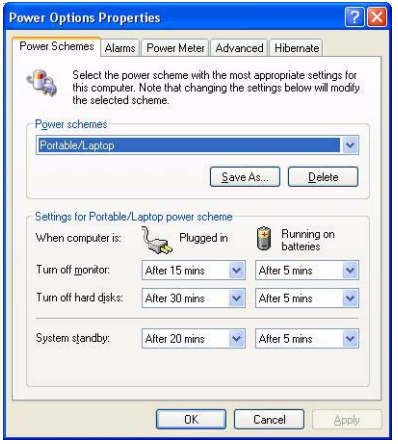


Figure 3 - 11
Power Schemes

Conserving Power (System)

With this function you can stop the notebook's operation and restart where you left off. This system features **Standby** and **Hibernate** sleep mode levels (Hibernate mode will need to be enabled by clicking the option in the **Hibernate** tab in the **Power Options** control panel - *Figure 3 - 12 on page 3-18*).

Hibernate Mode vs. Shutdown

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

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

You can use either method depending on your needs.

Standby Mode vs. Hibernate Mode

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

System Resume

The system can resume from **Standby** mode by:

- Pressing the power button
- Pressing the key combination **Fn** + **F4**
- An alarm resume that is enabled and expires
- An incoming call received on the modem

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.

Hibernate

Hibernate uses no power and saves all of your information on a part of the HDD before it turns the system off. Although it saves the most power it takes the longest time to return to full operation. You can set your notebook to automatically enter Hibernate mode when the battery power is almost depleted. You will need to enable Hibernate mode from the **Hibernate** tab in the Power Options control panel. **The system will resume from Hibernate mode by pressing the power button**.

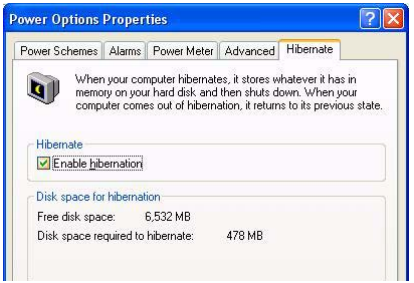
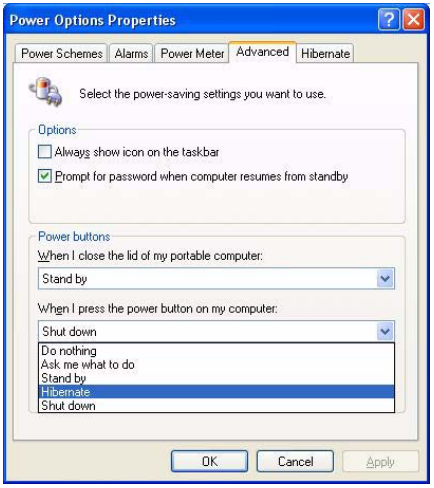


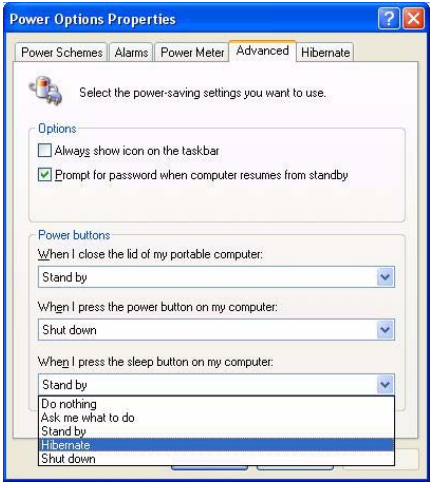
Figure 3 - 12
Enable Hibernation

Configuring the Power Button

The power button may be set to send the computer in to either **Standby** or **Hibernate** mode (*Figure 3 - 13*). In **Standby** mode, the LED will flash green, and in **Hibernate** mode the LED will be off. If you are in a power saving mode set to save power through individual components (e.g. hard disk, monitor), the LED will remain green.



Power Button



Sleep/Resume(Sleep)Button

Sleep Button

You may also configure the **Sleep/Resume** key combination (**Fn + F4)** from the menu illustrated in *Figure 3 - 13*. In ***Windows*** this is referred to as the **Sleep** button.

Figure 3 - 13
Power Options (Advanced - Power Buttons)

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 Information

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

New Battery

Always completely discharge, then fully charge, a new battery before using it (see *"Battery FAQ" on page 3 - 21* for instructions on how to do this).

Battery Life

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

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

We recommend that you do not remove the battery yourself. Please consult your service representative should you need to remove the battery for any reason.

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 Options** functions in the **Control Panel**). As the battery nears the end of its life save and close any critical files.

How do I fully charge the battery?
When charging the battery, don't stop until the LED charging indicator light turns from orange to green.

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

The LCD display consumes a lot of power, so lowering the brightness level will save power. Different applications and external devices consume battery power even when they are not being used (**see the sidebar note for further recommendations on battery conservation**).

Conserving Battery Power

To conserve battery power:

Close modem or communication applications when they are not being used.

Remove any unused PC Cards from the computer (PC Cards quickly use up battery power even if the system enters sleep mode).

Disconnect any unnecessary external devices.

Infrared Communication

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

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

Configuring the Infrared Settings for FIR

You will need to change the settings for the infrared device in the **BIOS** (see *"I/O Device Configuration (Advanced Menu)" on page 5 - 11*) to enable the FIR setting support.

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

1. Click **Start**, point to **Settings** and click **Control Panel**.
2. Double-click **Wireless Link** icon.
3. Click **Hardware** (tab), then click **Properties** (button).
4. Select **Advanced** (tab).
5. Select **"Infrared Transceiver A"** and change the **Value** to **"HP HSDL-2300/3600"**.
6. Click **OK > OK**.

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

Chapter 4: Drivers & Utilities

Overview

This chapter deals with installing the drivers and utilities essential to the operation or improvement of some of the computer'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 2000 Professional*
- *Windows XP*

Assumption

We assume that you will install all drivers and utilities from the built-in CD device and it is assigned to "**Drive D:**". In addition, all file extensions can be seen [see *"Navigate (Browse...) to D:" on page 4 - 3*].

What to Install

The ***Device Drivers & Utilities + User's Manual CD-ROM*** contains the drivers and utilities necessary for the proper operation of the computer. *Table 4 - 1 on page 4-5* lists what you need to install manually according to your choice of the operating system. **It is very important that the drivers are installed in the order indicated in the table**.

Optional Module Drivers

The procedures for installing drivers for the **optional Wireless Lan**, **PC Camera** and **Bluetooth** modules are provided in *"Optional Modules" on page 7 - 1*. Make sure that the drivers are installed in the order indicated in *Table 4 - 1 on page 4-5*. If your purchase does not include any of the optional modules, DO NOT Install the drivers for them.

Wireless Module ON/OFF Switch

While installing the drivers make sure that the Wireless Module ON/OFF switch is turned OFF, until you come to install the drivers for the 802.11b Wireless LAN or Bluetooth modules. **Before installing the 802.11b Wireless LAN or Bluetooth drivers turn the switch ON.** If you have both the 802.11b Wireless LAN and Bluetooth modules, use the **Fn + F12** key combination to toggle the power to the module(s). See *"Wireless LAN & Bluetooth Modules" on page 7 - 2* for more information.

Windows 2000 Service Pack 3

Make sure that you install **Windows 2000 Service Pack 3 after installing all the drivers**.

Windows XP Service Pack 1

Make sure that you install **Windows XP Service Pack 1 after installing all the drivers** (if your Windows XP version includes Service Pack 1 you can skip this step).

Navigate (Browse...) to D:

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

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

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

Authorized Driver Message

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

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

Version Conflict Message

During driver installation if you encounter any "file version conflict" message, please click the default option offered by *Windows* (this will be the highlighted option).

Updating/Reinstalling Individual Drivers

If you wish to update/reinstall individual drivers it may be necessary to uninstall the original driver.

To do this go to the **Control Panel** in the ***Windows OS*** and double-click the **Add/Remove Programs** item. **If you see the individual driver listed** (if not see below), uninstall it, following the on screen prompts (it may be necessary to restart the computer). Go to the appropriate section of the manual to complete the update/reinstall procedure for the driver in question.

If the driver is not listed in the **Add/Remove Programs** item:

1. Click **Start** (menu), point to **Settings** and click **Control Panel**. Double-click **System** (icon) and then click **Hardware** (tab) > **Device Manager** (button).
2. Double-click the **device y**ou wish to update/reinstall the driver for (you may need to click "+").
3. Look for the **Update Driver** button (check the **Driver** tab) and follow the on screen prompts.

Feature	Windows 2000	Windows XP
Audio	*page 4 - 7*	*page 4 - 12*
Modem	*page 4 - 7*	*page 4 - 12*
Network (LAN)	*page 4 - 7*	*page 4 - 12*
Video	*page 4 - 7*	*page 4 - 13*
USB 2.0	*page 4 - 8*	Install **Windows XP Service Pack 1, after installing all the drivers** to get support for USB 2.0.
PC Card/PCMCIA	*page 4 - 8*	*page 4 - 13*
PC Camera	See *page 7 - 11*	See *page 7 - 12*
Hot-Key	*page 4 - 9*	*page 4 - 14*
TouchPad	*page 4 - 9*	*page 4 - 14*
Wireless LAN	See *page 7 - 3*	See *page 7 - 4*
Bluetooth	See *page 7 - 5*	See *page 7 - 7*
Auto Mail	*page 4 - 10*	*page 4 - 15*

Table 4 - 1
Install Procedure

Windows 2000 Professional

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

New Hardware Found

If you see the message "**New Hardware Found**" (**Found New Hardware Wizard)** during the installation procedure (other than when outlined in the driver install procedure), click **Cancel** to close the window, and follow the installation procedure as directed.

Windows 2000 Service Pack 3

Make sure that you install **Windows 2000 Service Pack 3 after installing all the drivers**.

Wireless Module ON/OFF Switch

While installing the drivers make sure that the Wireless Module ON/OFF switch is turned OFF, until you come to install the drivers for the 802.11b Wireless LAN or Bluetooth modules. **Before installing the 802.11b Wireless LAN or Bluetooth drivers turn the switch ON.** If you have both the 802.11b Wireless LAN and Bluetooth modules, use the **Fn + F12** key combination to toggle the power to the module(s). See ***"Wireless LAN & Bluetooth Modules" on page 7 - 2*** for more information. If the **Found New Hardware Wizard** appears at any time (other than when outlined in the driver install procedure), click **Cancel**.

Audio (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse...**) to **D:\Drivers\Audio\Setup.exe** and click **OK** > **Next**.
3. Click **Finish** to restart your computer.
4. You can click the AC97 Audio Configuration icon in the taskbar for configuration options.

Modem (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\MODEM\WIN2000\Setup.exe** and click **OK**.
3. The driver will install and quit the installer menu automatically. 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** > **Phone and Modem Options** and select a **Country**).

LAN (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse...** to **D:\Drivers\lan\Setup.exe** and click **OK**.
3. To continue click **Next**.
4. Click **Finish**, then restart the computer.
5. The network settings can now be configured.

Video (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\vga\Setup.exe** and click **OK**.
3. To continue click **Next > Yes > Express**.
4. Click **Finish** to restart the computer when prompted.
5. See *"Advanced Video Controls" on page 3 - 2* for details on adjusting the video settings.

USB 2.0 (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse...**) to **D:\Drivers\Usb2.0\USB20.exe (or D:\Drivers\Usb2.0\win2000\USB20.exe)** and click **OK**.
3. Click **Yes > Accept**.
4. Click **Yes** to restart the computer.

PC Card/PCMCIA (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 **Device Manager** (tab), then click "+" next to **PCMCIA** (if its sub-items are not shown).
3. Double-click **Generic CardBus Controller**, and click the **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 (recommended)"** and click **Next**.
7. When *Locate Driver Files* appears, select ONLY "**Specify a location"** and click **Next**.
8. Navigate (**Browse...**) to **D:\Drivers\Pcmcia\Win2k**.
9. Click **Open > OK > Next**.
10. Click **Finish** and close the open windows.
11. Click **Yes** to restart your computer.

PC Camera (Win2000)

See install procedure in *"PC Camera Driver Installation (Win2000)" on page 7 - 11*.

Hot-Key (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse...**) to **D:\Drivers\Hotkey\Setup.exe** and click **OK**.
3. Choose the language you prefer, and click **OK**.
4. Click **Next**.
5. Click **Finish** to restart your computer.
6. You may then configure your Hot-Key buttons as outlined in *"Hot-Keys" on page 2 - 17*.

TouchPad (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 **Mice and other pointing devices** (if its sub-items are not shown).
3. Double-click **PS/2 Compatible Mouse** and click **Driver** (tab).
4. Click **Update Driver** (button) and click **Next**.
5. When the *Install Hardware Device Drivers* window appears, select "**Display a list of the known drivers for this device so that I can choose a specific driver)**" and click **Next**.
6. Click **Have Disk** (button).
7. Navigate (**Browse...**) to **D:\Drivers\touchpad\WIN2000**.
8. Click **Open > OK > Next > Next** (click **Yes** if asked if you want to continue).
9. Click **Finish** and close the open windows.
10. Click **Yes** to restart your computer.
11. You may then configure your TouchPad as outlined in *"Configuring the TouchPad and Buttons" on page 2 - 21*.

Wireless LAN (Win2000)

See install procedure in *"Wireless LAN Driver Installation (Win2000)" on page 7 - 3*.

Bluetooth (Win2000)

See install procedure in *"Bluetooth Driver Installation (Win2000)" on page 7 - 5*.

Auto Mail (Win2000)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse...**) to **D:\Drivers\AutoMail\SETUP.EXE** and click **OK**.
3. To continue click **Next > Next**.
4. Click **Finish**, then restart your computer.
5. Run the program from the **Start** menu (point to **Programs** > **Auto Mail Checker** and click **Auto Mail Checker)**.
6. Double-click the taskbar icon to access the settings menus (see *"Auto Mail Checker" on page 2 - 7*).

You may then go to the Microsoft web site to download and install Service Pack 3 for Windows 2000.

Windows XP

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

New Hardware Found

If you see the message "**New Hardware Found**" (**Found New Hardware Wizard)** for the **Universal Serial Bus (USB) Controller** during the installation procedure, click **Cancel** to close the window, and follow the installation procedure as directed. At the end of the installation procedure, install Service Pack 1 for **USB 2.0** support.

Driver Installation and Multi Language Options

Make sure you have not enabled any of the Multi language options in the **Regional and Language Options** control panel before installing the drivers. Some of these language options will interfere with the driver installation process for the Audio driver. After you have installed all the drivers you may then configure the language options.

Windows XP Service Pack 1

Make sure that you install **Windows XP Service Pack 1 after installing all the drivers** (if your Windows XP version includes Service Pack 1 you can skip this step).

Wireless Module ON/OFF Switch

While installing the drivers make sure that the Wireless Module ON/OFF switch is turned OFF, until you come to install the drivers for the 802.11b Wireless LAN or Bluetooth modules. **Before installing the 802.11b Wireless LAN or Bluetooth drivers turn the switch ON.** If you have both the 802.11b Wireless LAN and Bluetooth modules, use the **Fn + F12** key combination to toggle the power to the module(s). See ***"Wireless LAN & Bluetooth Modules" on page 7 - 2*** for more information. If the **Found New Hardware Wizard** appears at any time (other than outlined in the driver install procedure), click **Cancel**.

Audio (WinXP)

1. Click **Start** (menu) > **Run...**
1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse...**) to **D:\Drivers\Audio\Setup.exe** and click **OK** > **Next**.
3. Click **Finish** to restart your computer.
4. You can click the AC97 Audio Configuration icon  in the taskbar for configuration options.

Modem (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse...**) to **D:\Drivers\MODEM\WINXP\Setup.exe** and click **OK**.
3. The driver will install and quit the installer menu automatically. The modem is ready for dial-up configuration.

Modem Country Selection

You can change the modem country selection in the control panel (**Control Panel** > **Phone and Modem Options** (icon) and select a **Country**).

LAN (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse...**) to **D:\Drivers\lan\Setup.exe** and click **OK**.
3. To continue click **Next**.
4. Click **Finish**, then restart the computer.
5. The network settings can now be configured.

Video (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse..**) to **D:\Drivers\vga\Setup.exe** and click **OK**.
3. To continue click **Next > Yes > Express**.
4. Click **Finish** to restart the computer when prompted.
5. See *"Advanced Video Controls" on page 3 - 2* for details on adjusting the video settings.

USB 2.0 (WinXP)

PC Card/PCMCIA (WinXP)

1. If you can see the **My Computer** icon on your desktop (if you cannot see the **My Computer** icon go to **step 2**) click on it once to select it, then right-click it to make the sub-menu appear and scroll down to **Properties** and click on it (go to **step 3**).
2. If you cannot see the **My Computer** icon click **Start** (menu), then point to (but don't click just highlight it) **My Computer.** Right-click it to make the sub-menu appear and scroll down to **Properties** and click on it (go to **step 3**).
3. Click the **Hardware** (tab), then click **Device Manager** (button).
4. Click "+" next to **PCMCIA Adapters** (if its sub-items are not shown).
5. Double-click **Generic Cardbus Controller** and click **Driver** (tab).
6. Click **Update Driver** (button).
7. When the *Hardware Update Wizard* appears, click **"Install from a list or specific location (Advanced)"** then click **Next**.
8. Select **"Search for the best driver in these locations."** and select ONLY **"Include this location in the search:"**.
9. Navigate (**Browse...**) to **D:\Drivers\PCMCIA\WinXp** and click **OK** > **Next**.
10. Click **Finish** and close the open windows.
11. Restart your computer.

PC Camera (WinXP)

See install procedure in *"PC Camera Driver Installation (WinXP)" on page 7 - 12*.

Hot-Key (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse...**) to **D:\Drivers\Hotkey\Setup.exe** and click **OK**.
3. Choose the language you prefer, and click **OK**.
4. Click **Next**.
5. Click **Finish** to restart your computer.
6. You may then configure your Hot-Key buttons as outlined in *"Hot-Keys" on page 2 - 17*.

TouchPad (WinXP)

1. If you can see the **My Computer** icon on your desktop (if you cannot see the **My Computer** icon go to **step 2**) click on it once to select it, then right-click it to make the sub-menu appear and scroll down to **Properties** and click on it (go to **step 3**).
2. If you cannot see the **My Computer** icon click **Start** (menu), then point to (but don't click just highlight it) **My Computer**. Right-click it to make the sub-menu appear and scroll down to **Properties** and click on it (go to **step 3**).
3. Click the **Hardware** (tab), then click **Device Manager** (button).
4. Click "+" next to **Mice and other pointing devices** (if its sub-items are not shown).
5. Double-click **PS/2 Compatible Mouse** and click **Driver** (tab).
6. Click **Update Driver** (button).
7. When the *Hardware Update Wizard* appears, click **"Install from a list or specific location (Advanced)"** then click **Next**.
8. Select **"Don't search I will choose the driver to install."** then click **Next**.
9. Click **Have Disk** (button).
10. Navigate (Browse...) to **D:\Drivers\touchpad\winxp** and click **Open > OK > Next** (click **Continue Anyway** if asked if you want to continue).
11. Click **Finish** and close the open windows.
12. Click **Yes** to restart your computer.
13. You may then configure your TouchPad as outlined in *"Configuring the TouchPad and Buttons" on page 2 - 21*.

Wireless LAN (WinXP)

See install procedure in *"Wireless LAN Driver Installation (WinXP)" on page 7 - 4*.

Bluetooth (WinXP)

See install procedure in *"Bluetooth Driver Installation (WinXP)" on page 7 - 7*.

Auto Mail (WinXP)

1. Click **Start** (menu) > **Run...**
2. Navigate (**Browse...**) to **D:\Drivers\AutoMail\SETUP.EXE** and click **OK**.
3. To continue click **Next > Next**.
4. Click **Finish**, then restart your computer.
5. Run the program from the **Start** menu (point to **Programs/All Programs** > **Auto Mail Checker** and click **Auto Mail Checker)**.
6. Double-click the taskbar icon to access the settings menus (see *"Auto Mail Checker" on page 2 - 7*).

You may now go to the Microsoft web site to download and install Service Pack 1 for Windows XP.

Chapter 5: BIOS Utilities

Overview

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

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

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

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

BIOS Settings Warning

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

Important BIOS Settings

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

Table 5 - 1
Important BIOS Settings

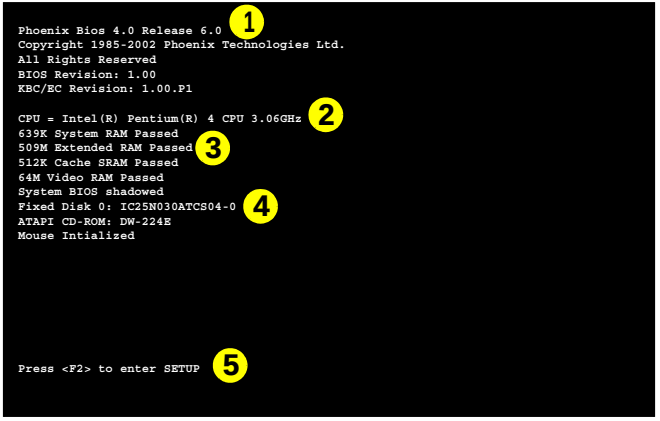
Option	Page #	Purpose
Boot Order	*5 - 14*	Specifies the order of the devices on which the computer searches for an operating system (OS) as it starts up.

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 (memory).

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

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



POST Screen

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

Note: The **POST** screen as pictured is for guideline purposes only. The **POST** screen on your computer may appear slightly different.

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).

Entering Setup

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

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

Setup Menus

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.

Setup Screens

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

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 the 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 that appears has a similar layout, but the **Enter** key may execute a command.

Main Menu

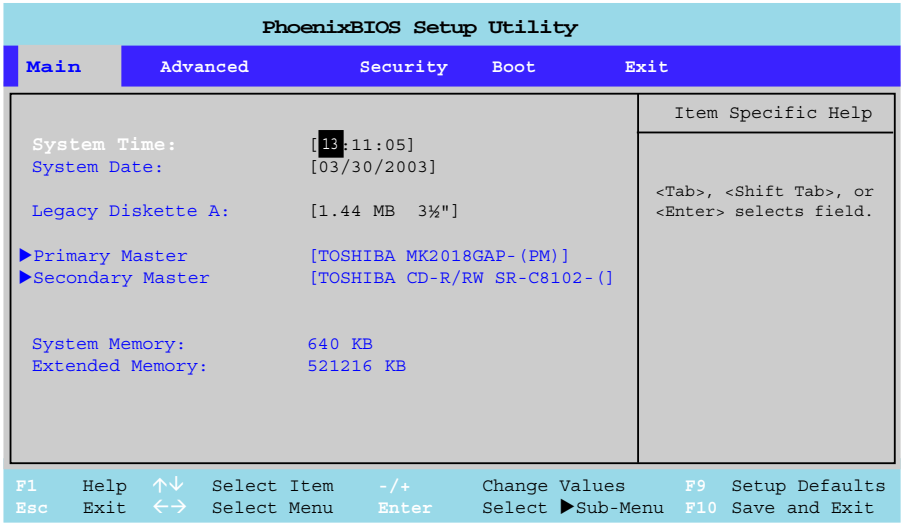


Figure 5 - 2
Main Menu

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

Switching Hard Disks

Every time you install a different hard disk in the computer, it will be (configured automatically.

Primary Master (Main Menu)

Pressing **Enter** under opens the sub-menu to show the configuration of the HDD that fits into the computer's HDD bay. These items are configured automatically for you.

Secondary Master (Main Menu)

Pressing **Enter** under opens the sub-menu to show the configuration of the CD device. These items are configured automatically for you.

Advanced Menu

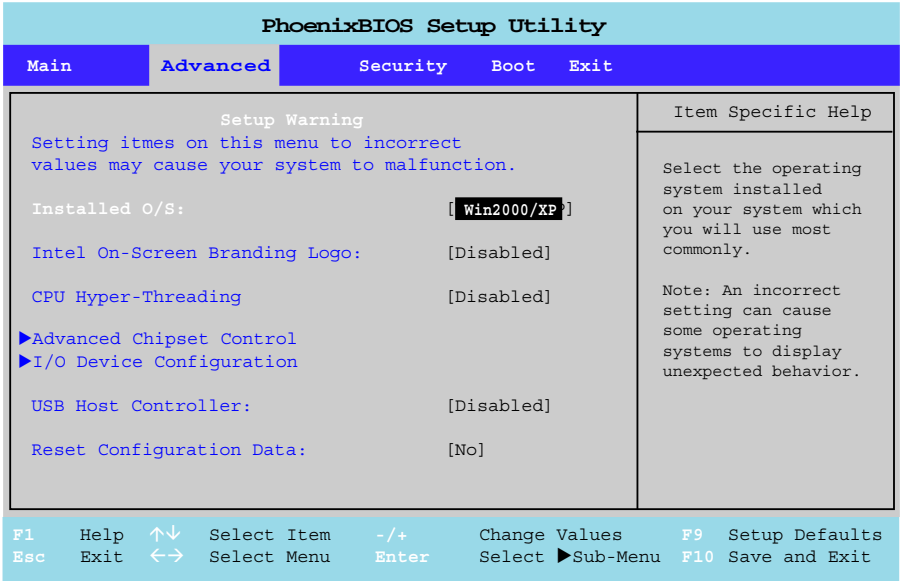


Figure 5 - 3
Advanced Menu

Installed O/S: (Advanced Menu)
This item tells the computer what operating system you're using: *Windows 2000*, *Windows XP* use the same default setting ***Win2000/XP***.

Hyper-Threading

To use Hyper-Threading you must have a computer with a **Pentium 4 Processor with Hyper-Threading Technology**, running the **Windows XP OS**. The menu option will not appear if your CPU does not support Hyper-Threading.

If you are **updating** your BIOS from a previous version which did not have the Hyper-Threading option, you must **reinstall Windows XP after you have updated your BIOS**.

If you are changing your processor from a cpu which supports Hyper-Threading, to one which does not, you will need to reinstall your OS.

Intel On-Screen Branding Logo Advanced Menu)
Set this item to enable or disable the Intel logo display on the screen.

CPU Hyper-Threading (Advanced Menu)
You can enable (the default setting is disabled) Hyper-Threading if your computer has an Intel Pentium® 4 Processor with Hyper-Threading Technology, running the ***Windows XP*** OS. Hyper-Threading will increase performance of your computer depending on the hardware and software you use. **If you do not have a Processor with Hyper-Threading Technology, this menu option will not appear**. **DO NOT enable this option in *Windows 2000*. Once you have enabled Hyper-Threading, DO NOT disable the option**.

Chipset Information Menu (Advanced Menu>Advanced Chipset Control)
This item will display information on your CPU type.

Graphics Aperture (Advanced Menu>Advanced Chipset Control)
The AGP aperture is an area of system RAM reserved for use by the computer's video system for storing textures if it needs. The RAM is available for use by the system as normal if not used by the video system. The recommended setting is ***64MB***, and this is the default setting. This setting should not be set lower than ***32MB***.

Embedded Modem Device/Audio Device/1394 Device (Advanced Menu >Advanced Chipset Control)
These items allow you to disable these devices, should you need to do so.

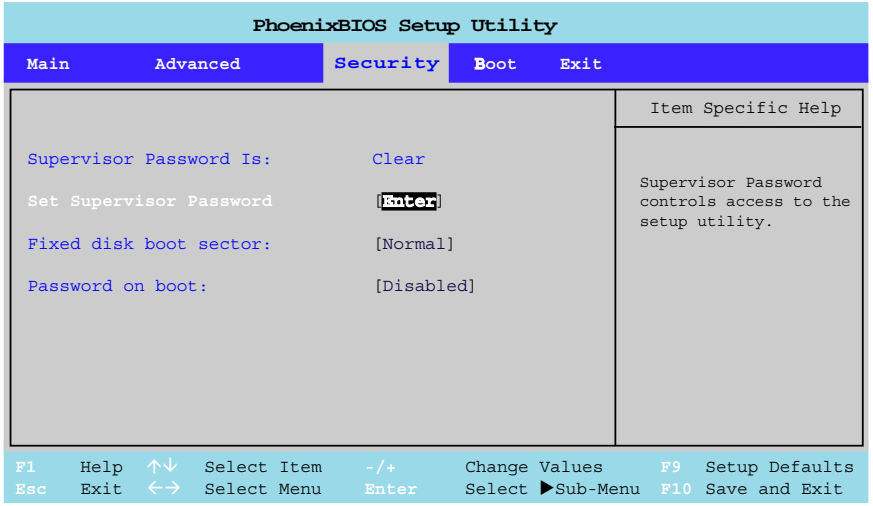
I/O Device Configuration (Advanced Menu)
The sub-menus under this item include options to configure the **Serial port A (Serial Mouse)**, **Serial port B (Infrared) and Parallel (Printer) port**. These can be left to the default settings, however you may wish to use certain devices that require settings to be adjusted accordingly. Check the documentation for any such devices to see what settings are required.

USB Host Controller (Advanced Menu)
This item allows you to enable or disable support for USB hardware.

Reset Configuration Data (Advanced Menu)
This item is set to ***No*** as default. You can change the setting to ***Yes*** if you have installed a new add-on which has reconfigured the system, resulting in such a serious system conflict that the operating system is unable to boot.

Security Menu

Figure 5 - 4
Security Menu



Security Menu

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

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

Fixed disk boot sector: (Security Menu)
Choose ***Write Protect*** to protect the area of the hard disk containing information on how to start up the computer from having information written to it. This helps prevent viruses from affecting this area, however, it is not a substitute for proper virus protection supplied by updated anti-virus software. This is merely an extra safeguard (see ***"Viruses" on page 8 - 4***).

Password on boot: (Security Menu)
After setting the supervisor password, you can choose ***Enabled*** to set a password (the supervisor password) for booting the computer. Only users who enter a correct password can boot the system (**see "Warning" in the sidebar**).

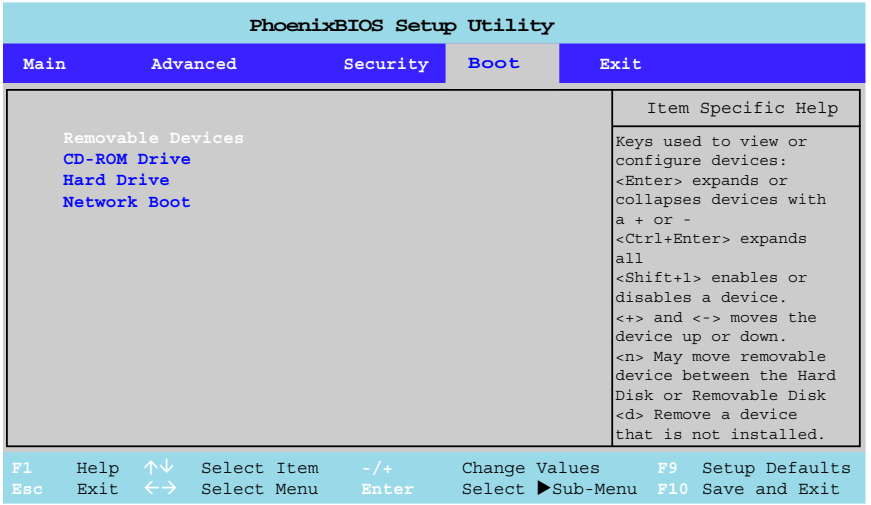
Password Warning

If you choose to set a boot password, **NEVER** forget your password.

The consequences of this could be serious. If you cannot remember your boot password you must contact your vendor and you may lose all of the information on your hard disk.

Boot Menu

Figure 5 - 5
Boot Menu



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

Boot devices usually are hard drives, floppy drives, CD-ROMs and LANs (Local Area Networks).

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 home computers come with an operating system already installed on "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
4. Network Boot

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

To boot from the network see ***"Enabling Network Boot" on page 5 - 16***.

Configuring the Network Boot Protocol

The system supports booting from FDD, HDD, CD or LAN (network). To boot from a network, set ***Network Boot*** as the first item in the boot order. Follow the full instructions in the **sidebar** to configure the network boot protocol.

Enabling Network Boot

Go to the **Boot** Menu.

Set the ***Network Boot*** option as the first priority in the list.

Save the changes and exit.

At startup, press and hold the **Shift** and **F10** keys.

Configure the network protocol.

Save the settings to automatically boot from the network.

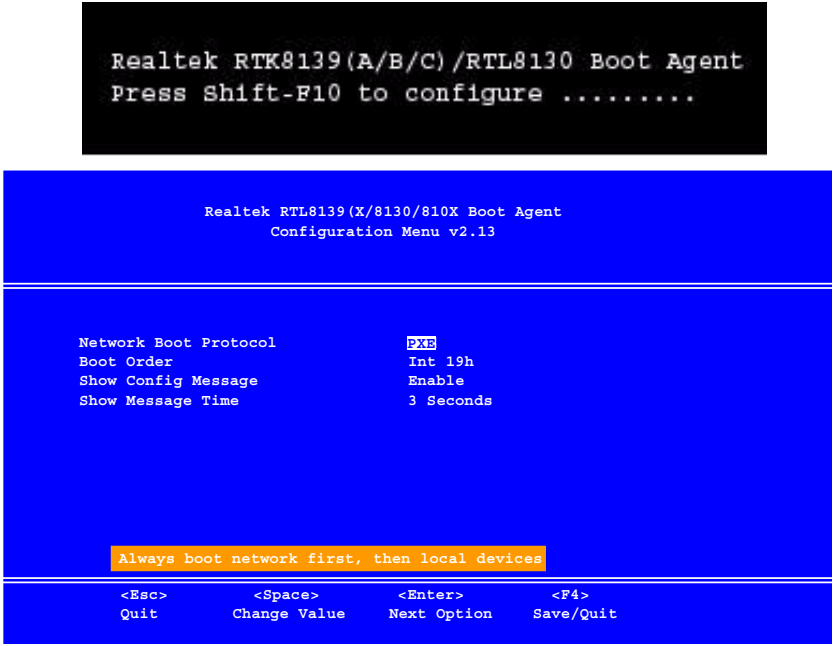


Figure 5 - 6
Boot Agent Menu

Exit Menu

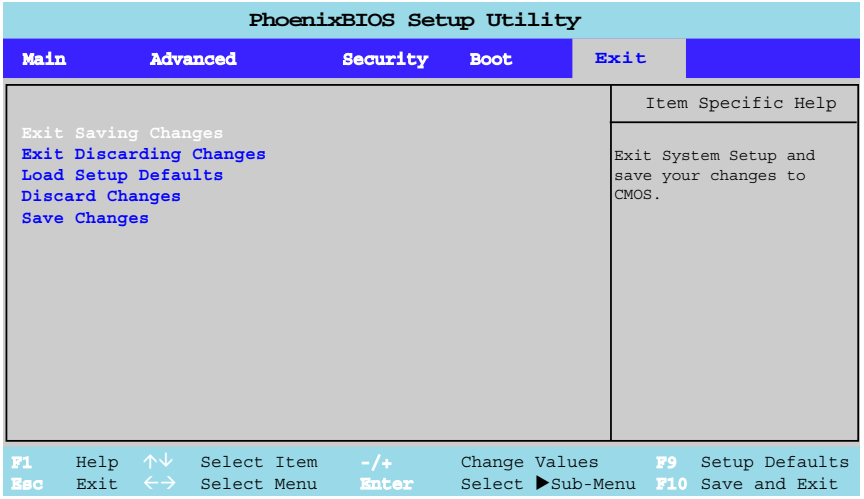


Figure 5 - 7
Exit Menu

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 that 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 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 slotted screwdriver
- An antistatic wrist strap

Before working with 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 Battery
- Replacing the HDD
- Upgrading the System Memory
- Replacing the CD Device

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

Warranty Warning

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

Power Safety Warning

Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines). It is advisable to also remove your battery in order to prevent accidentally turning the machine on.

When Not to Upgrade

These procedures involve opening the system's case, adding and sometimes replacing parts.

You should **not** perform any of these upgrades if:

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

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

Removing the Battery

If you are confident in undertaking upgrade procedures yourself, for safety reasons it is best to remove the battery. Under normal circumstances we recommend that you do not remove the battery.

Battery Removal Process

1. Turn the computer **off**, and turn it over.
2. Remove screws 1 & 2 from the battery cover, and remove the cover.
3. Carefully (use a small screwdriver) disconnect the battery cable at point 3.
4. Lift the battery out of the computer's battery bay.
5. Connect the battery cable before reinserting the battery.

Warranty Warning

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

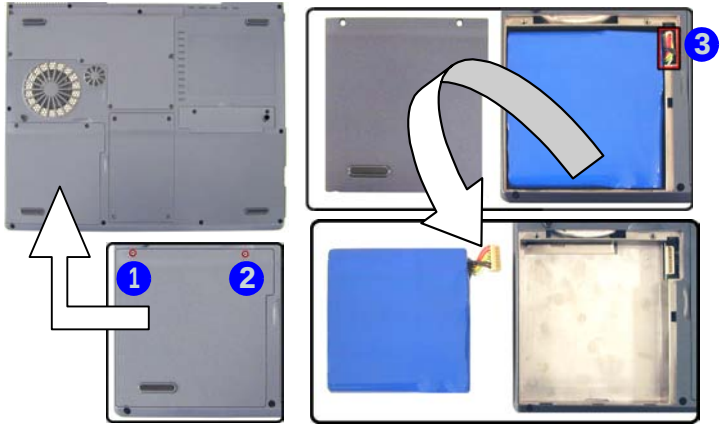


Figure 6 - 1
Battery Removal

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-ROMs and FDDs 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.

Upgrading the Hard Disk Drive

The hard disk drive can be taken out to accommodate other 2.5" IDE hard disk drives with a height of 9.5mm (h) (see *"Storage Devices" on page A - 3*). Follow your operating system's installation instructions, and install all necessary drivers and utilities as outlined in *"What to Install" on page 4 - 2*, when setting up a new hard disk.

Hard Disk Upgrade Process

1. Turn **off** the computer, and turn it over.
2. Remove screws 1 - 4 from the hard disk cover, and remove the cover.
3. Disconnect the hard disk cable at point 5 by carefully, but firmly, gripping the plastic loop and easing it upwards.
4. Lift the HDD assembly out of the computer's hard disk bay.

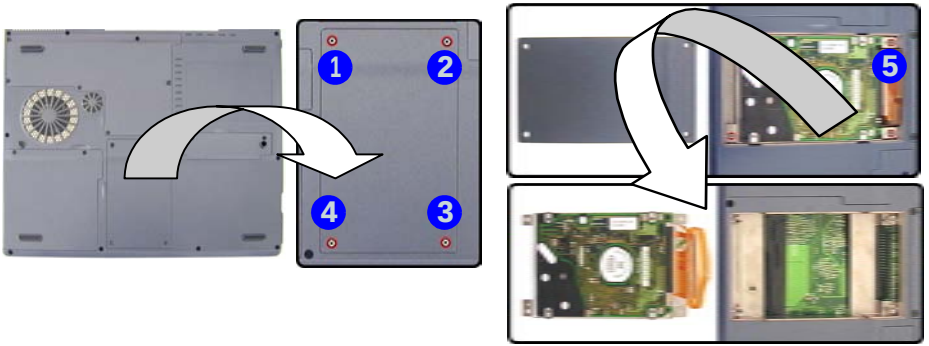


Figure 6 - 2
HDD Assembly Removal

5. Carefully disconnect the hard disk cable 1 from the rear of the hard disk assembly, and pay careful attention to which end of the cable connects to the hard disk (**see sidebar**).
6. Remove screws 2 - 5 from the hard disk assembly.
7. Take the HDD out of the case, and pay careful attention to the orientation of the disk in the case.
8. Insert the new HDD into the case and replace screws 2 - 5.
9. Reconnect the HDD connector cable (**see sidebar**).
10. Reverse the removal procedure to install the new HDD assembly.

HDD Cable

The hard disk cable connects to the hard disk in one way only. The letters **HD** on the cable should be on the side which connects to the hard disk (not the side which connects to the computer's main-board).

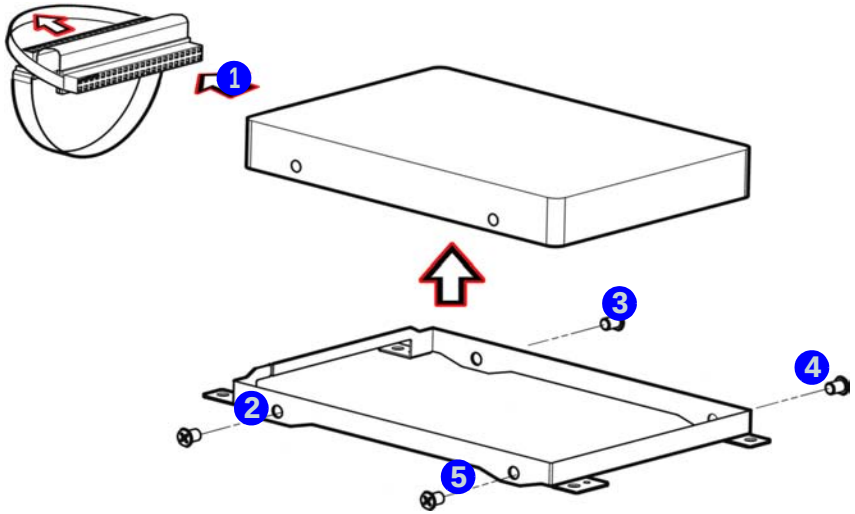


Figure 6 - 3
HDD Case Screws & Connector Cable

Upgrading the System Memory (RAM)

The computer has two memory sockets for 200 pin Small Outline Dual In-line (SO-DIMM) type memory modules supporting DDR SDRAM SODIMM (2.5V) - DDR 200/ DDR 266/ DDR 333.

The main memory can be expanded up to 1024MB. The SO-DIMMs supported are 128MB, 256MB, and 512MB in size, and the total memory size is automatically detected by the POST routine once you turn on your computer.

Memory Upgrade Process

1. Turn the computer **off**, and turn it over.
2. Remove screws 1 - 6 from the memory socket cover.
3. Carefully lift up the memory socket cover (a fan cable is still attached to the mainboard and there is no need to disconnect it) and set it on the computer.
4. Remove any currently installed module(s), if it/they need to be upgraded or replaced.

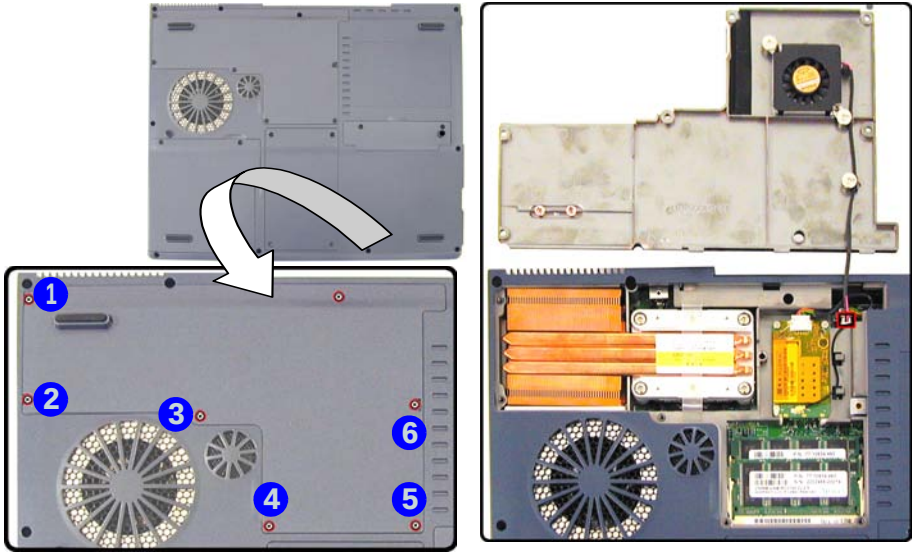


Figure 6 - 4
Memory Socket Cover Removal

Contact Warning

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

5. Gently pull the two release latches (1 & 2 in ***Figure 6 - 5***) on the sides of the memory socket toward the sides of the computer.

Figure 6 - 5
Removing/ Installing a RAM Module

6. The module 3 will pop-up, and you can remove it.
7. Repeat the process for the second module if necessary.
8. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.

9. The module's pin alignment will allow it to only fit one way. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE the module; it should fit without much pressure.

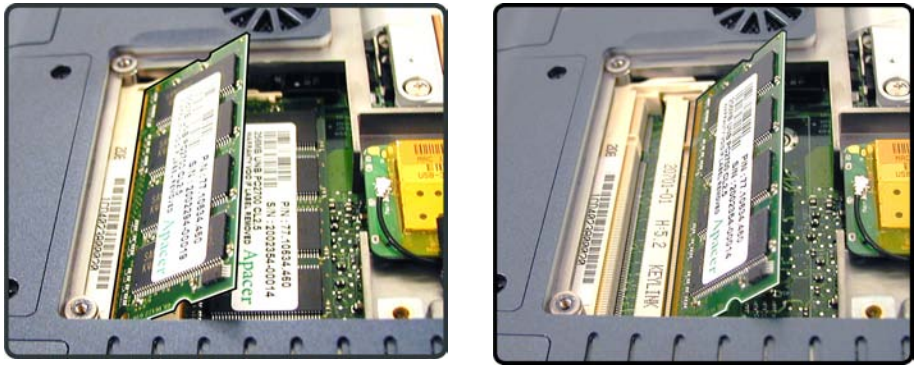


Figure 6 - 6
Memory Sockets One & Two

10. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
11. Replace the memory socket cover (be careful with the fan cable) and the **6** screws (see ***Figure 6 - 4***).
12. Restart the computer.
13. The BIOS will register the new memory configuration as it starts up.

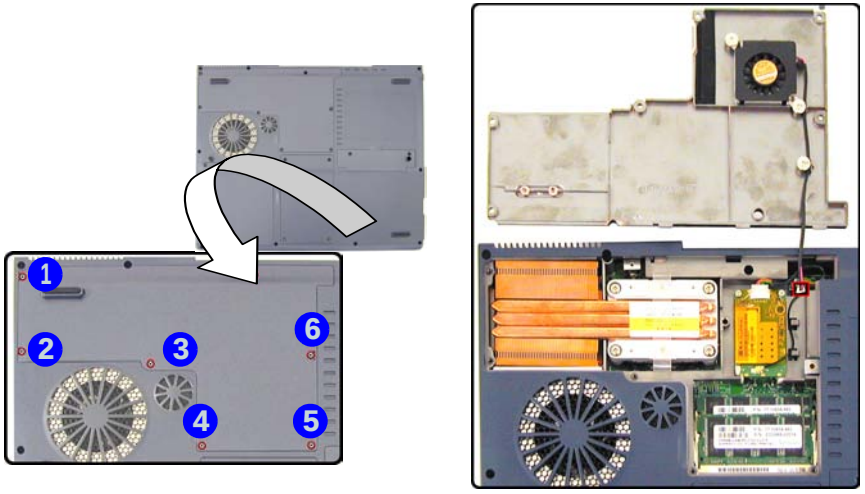
Upgrading the CD Device

The easy changeable CD device may be upgraded or changed.

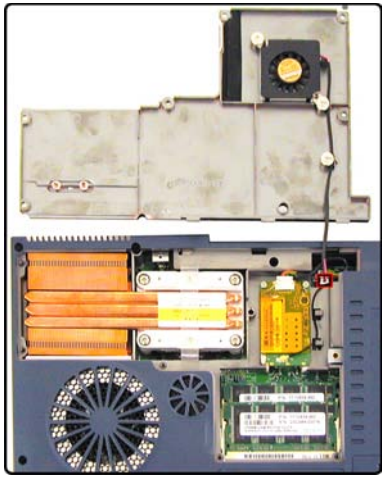
CD Device Upgrade Process

1. Turn the computer **off**, and turn it over.
2. Remove screws 1 - 6 from the memory socket cover.
3. Carefully lift up the memory socket cover (a fan cable is still attached to the mainboard and there is no need to disconnect it) and set it on the computer.

Figure 6 - 7
Memory Socket Cover Removal



4. Use a screwdriver to carefully push the CD device assembly out of the computer at point 1.



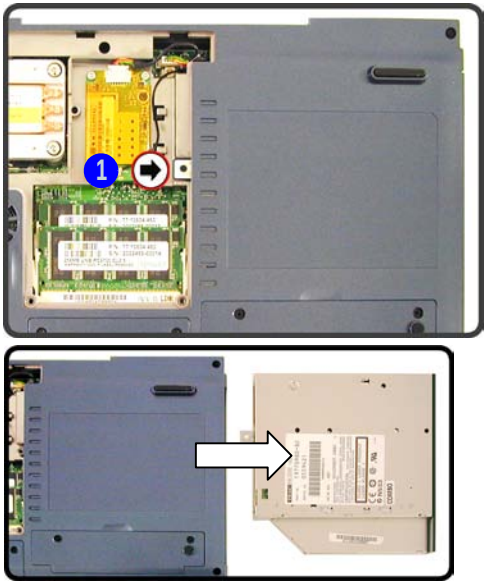


Figure 6 - 8
CD Device Removal

5. Insert the new device and carefully slide it into the computer (the device only fits one way). DO NOT FORCE IT; the screw holes should line up.
6. Replace the memory socket cover (be careful with the fan cable) and the **6** screws (see ***Figure 6 - 4***).
7. Restart the computer to allow it to automatically detect the new device.

Warranty

The CPU is not a user serviceable part. Opening this compartment, or accessing the CPU in any way, may violate your warranty.

Unauthorized tampering with the HDD may also violate your warranty.

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: Optional Modules

Overview

This chapter contains the information on the various optional modules which may come with your computer, depending on the configuration purchased. If you are unsure please contact your service representative.

The chapter includes information on the following:

- The Wireless LAN & Bluetooth Modules
- The PC Camera

Wireless Module ON/OFF Switch

While installing the drivers make sure that the Wireless Module ON/OFF switch is turned OFF, until you come to install the drivers for the 802.11b Wireless LAN or Bluetooth modules. Before installing the 802.11b Wireless LAN or Bluetooth drivers turn the switch ON. If you have both the 802.11b Wireless LAN and Bluetooth modules, use the Fn + F12 key combination to toggle the power to the module(s). If the Found New Hardware Wizard appears at any time (other than when outlined in the driver install procedure), click Cancel.

Communication Conflict

Do not try to use the 802.11b Wireless LAN module and the Bluetooth module at the same time, as this may cause a communication conflict.

Wireless Device Operation Aboard Aircraft

The use of any portable electronic transmission devices aboard aircraft is usually prohibited. **Make sure the modules are OFF if you are using the computer aboard aircraft.**

Wireless LAN & Bluetooth Modules

If your purchase includes the **optional 802.11b Wireless LAN** module and/or **Bluetooth** module, make sure you install the supplied device driver(s) for it/them as indicated in the following pages (**only install the drivers for the optional modules you have purchased**). You will need to turn the module(s) on by using the ON/OFF switch at the front of the computer.

If you have both the Wireless LAN and Bluetooth modules in your computer, you can use the key combination **Fn + F12** to toggle the power to the modules. The power status of the module will be indicated by the **Mail LED** indicator. If you have installed the Auto Mail program, and mail is incoming, then the mail notification warning will be shown (see *"LED Power & Communication Indicators" on page 2 - 6*).

If you have both wireless modules, turning the ON/OFF switch on will turn on one of the Wireless modules. Use the **Fn + F12** key combination to toggle power to the other, or both, modules (see *"LED Power & Communication Indicators" on page 2 - 6* for the power status).

If you have one wireless module it will be auto-detected, and you do not need to use the **Fn + F12** key combination.

Wireless LAN Driver Installation (Win2000)

1. Turn the Wireless Module ON/OFF switch ON.
2. If you have two wireless modules, you may need to use the key combination **Fn + F12** to enable the Wireless LAN module (the **Mail LED** indicator will be green - see *"LED Power & Communication Indicators" on page 2 - 6*). If you only have the Wireless LAN module go straight to step 3.
3. If the *Found New Hardware Wizard* appears, click **Cancel**.
4. Insert the ***Wireless LAN CD-ROM*** into the CD drive.
5. The program will run automatically.
6. Click **Next > Next > Yes > Next > Next**.
7. Click **Yes** if you wish to add a shortcut to the WLAN utility on the desktop.
8. Follow the instructions to install the **Adobe Acrobat Reader** (if you do not already have Adobe Acrobat Reader installed) and click **Yes** if asked if you want to continue.
9. Click **OK > Finish** then restart the computer.

The Wireless LAN **User Manual** is in Adobe .pdf format (**Start** menu and point to **Programs** > **IEEE 802.11b WLAN Utility (USB)** > **User Manual**).

Network Protocols

During the install process you may be asked to install some network protocols. To do this go to the **Network and Dial-up Connections** control panel, and double-click **Local Area Connection**. Click **Install** (button) and click on **Protocol** (or any **Services** or **Clients** required) and **Add** (button) to select the protocols you require. You will need to restart the computer after installing some **Protocols/Services/ Clients**.

Wireless LAN Driver Installation (WinXP)

1. Turn the Wireless Module ON/OFF switch ON.
2. If you have two wireless modules, you may need to use the key combination **Fn + F12** to enable the Wireless LAN module (the **Mail LED** indicator will be green - see ***"LED Power & Communication Indicators" on page 2 - 6***). If you only have the Wireless LAN module go straight to step 3.
3. If the *Found New Hardware Wizard* appears, click **Cancel**.
4. Insert the ***Wireless LAN CD-ROM*** into the CD drive.
5. The program will run automatically.
6. Click **Next > Next > Yes > Next > Next**.
7. Click **Yes** if you wish to add a shortcut to the WLAN utility on the desktop.
8. Follow the instructions to install the **Adobe Acrobat Reader** (if you do not already have Adobe Acrobat Reader installed) and click **Continue Anyway** if asked if you want to continue.
9. Click **Finish** and restart the computer.

The Wireless LAN User Manual is in Adobe .pdf format (**Start** menu and point to **Programs/All Programs > IEEE 802.11b WLAN Utility (USB)** then select the **User Manual**).

Bluetooth Driver Installation (Win2000)

1. Turn the Wireless Module ON/OFF switch ON.
2. If you have two wireless modules, you may need to use the key combination **Fn + F12** to enable the Bluetooth module (the **Mail LED** indicator will be orange - see ***"LED Power & Communication Indicators" on page 2 - 6***). If you only have the Bluetooth module go straight to step 3.
3. If the *Found New Hardware Wizard* appears, click **Cancel**.
4. Insert the ***Bluetooth CD-ROM*** into the CD drive.
5. The program will run automatically.
6. If the *Found New Hardware Wizard* appears, click **Cancel**, and click **OK** if you see *Unsafe Removal of Device*.
7. Click **Start** (menu) > **Run...**
8. Navigate (**Browse...**) to the top level of the CD **D:** and click **OK**.
9. Click **Install Drivers and Application Software**.
10. Click **Next**.
11. Click the button to accept the license agreement, then click **Next**.
12. Click **Next > Install** (click **OK** if asked if you want to continue).
13. Click **Finish** > **Yes** to restart the computer.
14. You can configure the settings in the **Bluetooth Configuration** control panel (**Start** menu and point to **Settings** and click **Control Panel** then double-click the **Bluetooth Configuration** icon).

The Bluetooth User's guide (**Manual**) is on the ***Bluetooth CD-ROM*** in the **Userguide** folder (click **Browse this CD** when you insert the ***Bluetooth CD-ROM***). It is in .html format.

Bluetooth Driver Audio Setup (Win2000)

After installing the Bluetooth driver in Windows 2000 you may no longer hear any sound, nor see the **Volume** icon in the taskbar. If this is the case then follow this procedure:

1. Go to the **Sounds & Multimedia Control Panel** (**Start** Menu and point to **Settings** and click **Control Panel** then double-click the **Sounds & Multimedia** icon).
2. Click the **Audio** tab.
3. In the **Sound Playback** and **Sound Recording** menus choose **Realtek AC97 Audio**.
4. Click the **Sounds** tab and make sure that the tickbox to "**Show volume control on the taskbar**" is ticked.
5. Click **OK**.

Bluetooth Driver Installation (WinXP)

1. Turn the Wireless Module ON/OFF switch ON.
2. If you have two wireless modules, you may need to use the key combination **Fn + F12** to enable the Bluetooth module (the **Mail LED** indicator will be orange - see ***"LED Power & Communication Indicators" on page 2 - 6***). If you only have the Bluetooth module go straight to step 3.
3. If the *Found New Hardware Wizard* appears, click **Cancel**.
4. Insert the ***Bluetooth CD-ROM*** into the CD drive.
5. The program will run automatically.
6. Click **Install Drivers and Application Software** and click **Next**.
7. Click the button to accept the license agreement, then click **Next**.
8. Click **Next > Install** (click **OK** if asked if you want to continue).
9. When the Found New Hardware Wizard appears select **"Install from a list or specific location (Advanced)"** then click **Next**.
10. Select "**Search for the best driver in these locations."** and select ONLY "**Include this location in the search:**".
11. Navigate (**Browse...**) to the top level of the CD **D:** and click **OK** > **Next > Finish** (click **Continue Anyway** if asked if you want to continue), then restart the computer.
12. You can configure the settings in the **Bluetooth Configuration** control panel (**Start** menu and point to **Settings** and click **Control Panel** then double-click the **Bluetooth Configuration** icon).

The Bluetooth User's guide (**Manual**) is on the ***Bluetooth CD-ROM*** in the **Userguide** folder (click **Browse this CD** when you insert the ***Bluetooth CD-ROM***). It is in .html format.

Control Panel Options (Bluetooth)

You may need to change some control panel options after installing the Bluetooth driver:

Audio

1. Go to the **Start** menu and point to **Settings** and click **Control Panel**, then double-click the **Sounds & Audio Devices/Sounds & Multimedia** icon (**Category View > Speech, and Audio Devices**).
2. Click **Audio** (tab) and make sure that the "**Default device:**" is the **Realtek AC97 Audio**.

Hyper Terminal

1. Go to **Start** menu and click **Programs/All Programs**, then point to **Accessories > Communications > HyperTerminal**.
2. Double-Click your connection, and make sure you have selected "**Connect Using:**" **56K MDC Modem**.

FAX (WinXP)

1. Go to the **Start** menu and point to **Settings** and click **Control Panel**, then double-click the **Printers and Faxes** icon (**Category View > Printers and Other Hardware**).
2. Double-click your fax icon to bring up the **Fax Console**.
3. Click the **Tools** menu and scroll down to "**Configure Fax...**".
4. Click **Next > Next** and make sure that the fax device is the **56K MDC Modem**.

FAX (Win2000)

1. Go to the **Start** menu and point to **Settings** and click **Control Panel**, then double-click the **Fax** icon.
2. Click **Advanced Options (tab)** and click the **Open Fax Service Management Console (button)**.
3. Click **Devices** in the **Tree** window on the left.
4. The fax devices will be displayed in the right window, with the device with the highest priority displayed at the top.
5. Select the **56K MDC Modem** and use the arrows to move it to the top of the priority list, then close the windows.

PC Camera

If you have purchased the **optional** PC Camera you will need to install the device driver for it as indicated in the following pages (**only install the drivers for the optional modules you have purchased**). After installing the driver you can run the application software by going to the **PC Camera 301P** item in the **Start > All Programs/Programs** menu and selecting the **AMCAP** program.

PC Camera Driver Installation (Win2000)

1. Insert the ***PC Camera CD-ROM*** into the CD Drive.
2. Click **Start** (menu) > **Run...**
3. Navigate (**Browse...**) to **D:\Default setting_60Hz\Setup.exe** and click **OK**.
4. Click **Next** (click **Yes** if asked if you want to continue at any time).
5. Click **Finish**.
6. Restart the computer.
7. After restart the computer will either find the new hardware for you, or will bring up the *Found New Hardware Wizard* for the **USB PC Camera 301P**.
8. If you see the *Found New Hardware Wizard* follow the procedure below, otherwise go to step 13.
9. Click **Next**.
10. Select **"Search for a suitable driver for my device (recommended)"** and click **Next**.
11. When *Locate Driver Files* appears, select ONLY "**Specify a location"** and click **Next**.
12. Navigate (**Browse...**) to **D:\Default setting_60Hz** and click **OK** > **Next > Finish** (click **Yes** if asked if you want to continue).
13. To run the application software go to the **PC Camera 301P USB Camera** item in the **Start > Programs** menu, and select the **AMCAP** program (see ***"AMCAP" on page 7 - 15***).

PC Camera Driver Installation (WinXP)

1. Insert the ***PC Camera CD_ROM*** into the CD Drive.
2. Click **Start** (menu) > **Run...**
3. Navigate (**Browse...**) to **D:\Default setting_60Hz\Setup.exe** and click **OK**.
4. Click **Next** (click **Continue Anyway** if asked if you want to continue at any time).
5. Click **Finish**.
6. Restart the computer.
7. After restart the computer will bring up the *Found New Hardware Wizard* for the **USB PC Camera 301P** (if you see the *Found New Hardware Wizard* for the **Universal Serial Bus (USB) Controller** appear first, click **Cancel** to close the window).
8. Click **"Install from a list or specific location (Advanced)"** then click **Next**.
9. Select "**Search for the best driver in these locations."** and select ONLY "**Include this location in the search:**".
10. Navigate (**Browse...**) to **D:\Default setting_60Hz** and click **OK** > **Next > Finish** (click **Continue Anyway** if asked if you want to continue).
11. Wait for the **System Settings Change** window to appear, then click **Yes** to restart the computer.
12. To run the application software go to the **PC Camera 301P USB Camera** item in the **Start > Programs/All Programs** menu, and select the **AMCAP** program (see ***"AMCAP" on page 7 - 15***).

Audio Setup

If you wish to capture video & **audio** with your camera, it is necessary to setup the audio recording options in *Windows*. To do this in *Windows XP* (for *Windows 2000* see **sidebar**):

1. Go to the **Start** menu and point to **Settings** and click **Control Panel**, then double-click the **Sounds & Audio Devices** icon (**Category View > Speech, and Audio Devices**).
2. Click **Advanced** in the **Volume** tab.
3. Click **Options** (Volume Control) and scroll down and click **Properties**.
4. Click **Recording** (Adjust volume for) and click **Microphone** (check box), then click **OK**.
5. Make sure the **Select** (check box) in the **Recording Control** panel, under the **Microphone** section, is checked (boost the volume as high as it will go).
6. Close the open windows.

Windows 2000 Audio Setup

Go to the **Start** menu and point to **Settings** and click **Control Panel** then double-click the **Sounds and Multimedia icon**.

Click **Audio** (tab) and click **Volume** (button) in the **Sound Recording** menu.

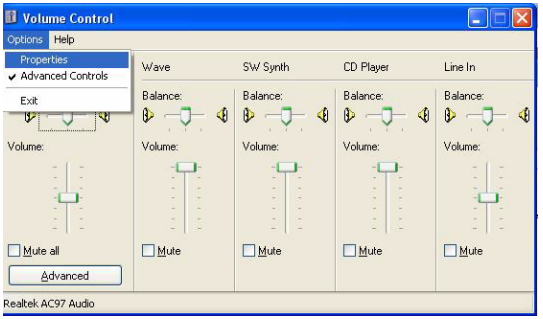
Select **Advanced Controls** from the **Options** menu.

(Continued overleaf.)

Windows 2000 Audio Setup (continued)

Make sure the **Select** (check box) in the **Microphone** section is checked, and boost the volume as high as it will go.

Close the windows.



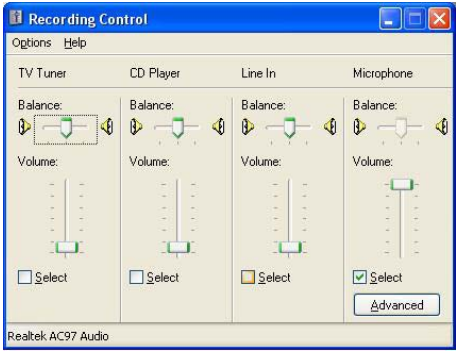


Figure 7 - 1
Audio Setup (Windows XP)

AMCAP

AMCAP is a video viewer useful for general purpose video viewing and testing, and can capture video files to .avi format.
To capture video:

1. Run the **AMCAP** program from the **Start > Programs** menu (it is recommended that you **set the capture file** before the capture process - **see Set Capture File below**).
2. Go to the **Capture** menu heading (if you wish to capture audio make sure that the **Capture Audio** option is ticked) and select **Start Capture**.
3. On the first run of the program (if you have not set the captured file) you will be asked to choose a file name and size (**see the sidebar - Pre-Allocating File Space**) for the captured file. Click **Start Capture** again.
4. Click **OK** to start capturing the video, and press **Esc** to stop the capture.
5. If you wish to, you may go to the **File** menu and select **Save Captured Video As...**, choose a file name and location, then click **Open** (you can view the file using the **Windows Media Player**).

Set Capture File

In the AMCAP program, you will only be asked to set the capture file name on the first run of the program. When you run the program the next time the file will automatically be overwritten with the newly captured file. To avoid overwriting files you can go to the **Set Capture File..** option in the **File** menu, and set the file name and location before capture. Set the name and location, then click **Open** (you can choose **Cancel** to ignore the file size if prompted).

Pre-Allocating File Space

You may pre-allocate the file size for the capture file in the AMCAP program. You can choose to ignore this by clicking **Cancel**.

Pre-allocating space on the hard disk can improve the capture quality (particularly of large capture files), by reducing the amount of work the hard disk has to do in finding space for the video data as it is being captured.

You may find it helpful to defragment the HDD before capture.

Eliminating Screen Flicker

If you find that the video screen in the AMCAP program is flickering, you can try to adjust the option from the **Video Capture Filter** options.

1. Run the **AMCAP** program from the **Start > Programs** menu.
2. Go to **Options** and scroll down to select "**Video Capture Filter...**".
3. You can choose either **50Hz** or **60Hz** from the **No Flicker** box.

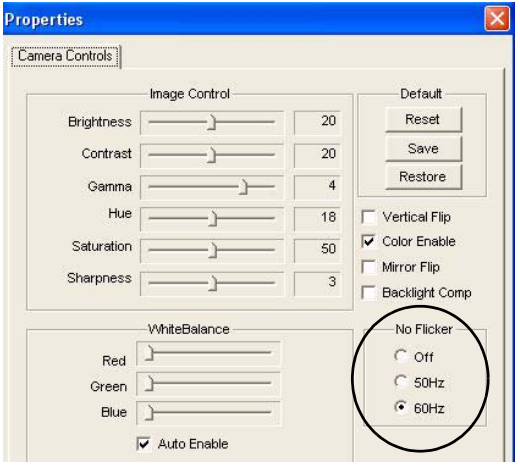


Figure 7 - 2
Camera Controls

Chapter 8: Troubleshooting

Overview

Should you have any problems with your computer, before consulting your service representative, 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 representative. You should also make a record of what happened and what remedies you tried.

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

Basic Hints and Tips

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

- **Power** - Is the computer actually plugged into a working electrical outlet? If plugged into a **power strip**, make sure it is actually working. Check the **LED Power Indicators** (see *"LED Power & Communication Indicators" on page 2 - 6*) to see the computer's power status.
- **Connections** - Check all the **cables** to make sure that there are no **loose connections** anywhere.
- **Power Savings** - Make sure that the system is not in **Hibernate** or **Standby** mode by pressing the **Fn** + **F4** key combination (see *"System Resume" on page 3 - 18*), or by pressing the power button, to wake-up the system.
- **Brightness** - Check the brightness of the screen by pressing the **Fn** + **F8 and F9** keys to adjust the brightness (see *"Advanced Video Controls" on page 3 - 2*).
- **Display Choice** - Press **Fn** + **F7** to make sure the system is not set to "external only" display (see *"Display Devices" on page 3 - 7*).
- **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 that are provided free with your OS, or buy the more powerful dedicated programs to do so.

- Write down your passwords and keep them safe (away from your computer). This is especially important if you choose to use a **Startup** password for the BIOS (see *"Security Menu" on page 5 - 12*).

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

Warranty

The CPU is not a user serviceable part. Opening this compartment, or accessing the CPU in any way, may violate your warranty.

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).

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.

- Don't open your computer or undertake any repair or upgrade work if you are not comfortable with what you are doing.

- Read the **documentation**. We can assume, since you are reading this that you are looking at the computer's manual, but what about any new peripheral devices you have just purchased? Many problems are caused by the installation of new hardware and/or software. Always refer to the documentation of any new hardware and/or software, and pay particular attention to files entitled "**READ ME**" or "**READ ME FIRST**".

- When installing a new device always make sure the device is powered on, and in many cases you will need to restart the computer. Always check that all the cables are correctly connected.

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

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

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

Power

Problem	Possible Cause - Solution
You turned on the power but it doesn't work.	*Battery missing / incorrectly installed.* 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.
The Battery **LED power** indicator , is blinking orange.	*Low Battery.* Plug in the AC power source. If the computer doesn't start up immediately, turn it off then on again.
You are losing battery power too quickly.	*The system is using too much power.* If your *OS* has a *Power Options* scheme (see ***"Conserving Power (Individual Components)" on page 3 - 16***) check its settings. You may also be using a PC Card device that is drawing a lot of power.
The notebook feels too hot.	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 **Hibernate** mode or turn it off for an hour. Make sure the vents aren't blocked and the computer isn't sitting on a thermal surface (see ***"Overheating" on page 1 - 16***). Make sure you're using the correct adapter.
The battery pack will not charge.	*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. 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.	*The battery is already fully charged and the indicator light is broken.*

Problem	Possible Cause - Solution
A beeping sound is heard and the low-battery indicator is on.	*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%.	*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.	*The battery has not been fully discharged before being recharged.* Make sure the battery is fully discharged and recharge it completely before reusing (see ***"Battery Information" on page 3 - 20***). *Power Options have been disabled.* Go to the **Control Panel** in *Windows* and re-enable the options. *A peripheral device or PC Card is consuming a lot of power.* Turn off the unused device to save power.

Display

Problem	Possible Cause - Solution
Nothing appears on screen.	*The **screen saver** is activated.* Press any key or touch the **TouchPad**. *The system is in a power saving mode*. Toggle the sleep/resume key combination, **Fn + F4** (see ***"Function Keys and Numeric Keypad" on page 2 - 19***). *The screen controls need to be adjusted.* Toggle the screen control key combinations **Fn + F8/F9** (see ***"Opening the LCD" on page 3 - 2***). If you're connected to an external monitor, make sure it's plugged in and turned on. You should also check the monitor's own brightness and contrast controls. *The computer is set for a different display.* Toggle the screen display key combination, **Fn + F7** (see ***"Display Devices" on page 3 - 7***). If an external monitor is connected, turn it on.

Problem	Possible Cause - Solution
The screen is flickering, or the images aren't clear.	*The vertical refresh rate is insufficient on your external monitor.* Avoid using the Simultaneous display mode. Use LCD only or CRT only. Switch to a lower resolution and/or fewer colors, and adjust the refresh frequency in the display controls (see ***"Vertical Refresh Rate" on page 3 - 7***). *The viewing angle of the LCD is bad.* Adjust the position of the LCD. LCD's are designed to be viewed "straight on". If the angle is wrong, you may see glare from the screen's backlight. *The screen is dirty.* 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.
No image appears on the external monitor I have plugged in and powered on.	*You haven't used the key combination to switch the display options.* Press the **Fn + F7** key combination to toggle through the options. *You haven't installed the video driver and configured it appropriately from the* ***Control Panel***. See ***"What to Install" on page 4 - 2*** for instructions on installing the driver, and see ***"Making Adjustments for the Display" on page 3 - 4*** for instructions on configuring the video driver.

Hard Disk & Boot Password

Problem	Possible Cause - Solution
The computer takes longer during Startup.	*Data saved on the hard disk drive may be lost or damaged.* Operate the scan disk or disk defragmenter to check for any lost or damaged data. *The computer is waking up from the **Hibernate** mode.*

Problem	Possible Cause - Solution
You forget the boot password.	*If you forget the password, you may have to discharge the battery of the CMOS.* Contact your service representative for help.

Password Warning

If you choose to 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.

Floppy Disk Drive

Problem	Possible Cause - Solution
The floppy disk drive will not write data to disk.	*The floppy disk is not formatted.* Format the disk (you may do this by right-clicking the disk icon in **My Computer** in *Windows* and choosing **Format** from the menu). Bear in mind 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 life span. **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. *The floppy disk is write-protected.* Undo the protection by moving the write-protect tab on the disk down until it clicks. *There is not enough unused space available on the disk.* Use a new disk or delete any unneeded data.
The message ***"Invalid system disk - Replace the disk, and then press any key"*** appears.	*The computer is trying to boot from an incorrect floppy disk.* Remove the floppy and insert a correct one, or boot from your hard disk or CD. You will need to restart the computer.

Audio

Problem	Possible Cause - Solution
The sound cannot be heard or the volume is very low.	*The volume might be set too low.* Check the volume control in the ***Volume Control Panel*** in the *Windows* taskbar, or use the key combination **Fn + F5** and **F6** (see ***"Function Keys and Numeric Keypad" on page 2 - 19***) to adjust. *The headphone is plugged into the wrong jack.* It should be plugged into the headphone-out jack (see ***"Headphone-Out Jack" on page 1 - 11***).

Bluetooth Driver & Audio Setup in Windows 2000

After installing the Bluetooth driver in Windows 2000 you may no longer hear any sound, nor see the **Volume** icon in the taskbar. If this is the case then follow this procedure:

1. Go to the **Sounds & Multimedia Control Panel** (**Start** Menu and point to **Settings** and click **Control Panel** then double-click the **Sounds & Multimedia** icon).
2. Click the **Audio** tab.
3. In the **Sound Playback** and **Sound Recording** menus choose **Realtek AC97 Audio**.
4. Click the **Sounds** tab and make sure that the tickbox to "**Show volume control on the taskbar**" is ticked.
5. Click **OK**.

CD Device

Problem	Possible Cause - Solution
The compact disc cannot be read.	*The compact disc is dirty.* Clean it with a CD-ROM cleaner kit.
The compact disc tray will not open when there is a disc in the tray.	*The compact disc is not correctly placed in the tray.* Gently try to remove the disc using the eject hole (see ***"Loading Discs" on page 2 - 12***).
The DVD regional codes can no longer be changed.	*The code has been changed the maximum 5 times.* See ***"DVD Regional Codes" on page 2 - 14***.
A music compact disc can be read while a data disc can not.	*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 correct software installed for running video compact discs. If the proper software is installed and a problem still exists, contact your service center about a possible hardware problem.
All compact discs cannot be read.	*The Windows system does not recognize the CD-ROM drive, or the CD-ROM drive is not compatible with other devices.* Make sure you have the CD-ROM drive properly installed and configured. *The CD-ROM drive is dirty.* Clean it with a CD-ROM cleaner kit. *There may be a problem with the disc hardware or software.* If the correct software is properly installed, contact your service center about a hardware problem.

PC Card

Problem	Possible Cause - Solution
The system cannot recognize the PC Card.	*The PC Card is not inserted into the socket or inserted incorrectly.* Remove the card and re-insert it aligning the PC Card with the slot. Push the card in until it locks into place. *The PC Card or card driver is not compatible with the computer.* Check ***"PC Card" on page A - 3*** to check the compatibility of the card. *The PC Card driver is not installed.* Install the driver (see ***"What to Install" on page 4 - 2***). *The system cannot access the card after it is installed.* Please read the documentation which comes with any new external device. Make sure you **install any drivers, if they are supplied with it**, as this will allow you to access any extra functions which come with the device.

Keyboard and Mouse

Problem	Possible Cause - Solution
Unwelcome numbers appear when typing.	*If the LED*  *is lit, then Number Lock is turned* ***ON****.* Press and release the **Fn + NumLk** key combination.
I have installed a new external keyboard or mouse but cannot use all of the listed functions.	*You have not installed the driver to enable any extra functions.* 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.

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.

Printer

Problem	Possible Cause - Solution
The printer cannot be added to the system or will not work.	*The printer is not turned on, is not correctly connected to the computer, or has an internal problem*. Make sure the printer is on. Check all connections and cables and then try to reinstall the driver. 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 ensuring that the printer is actually working). *There is no paper in the printer, or the paper is incorrect for the settings designated in your software.* 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. *The printer **driver** is not installed or is configured incorrectly.* 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). *The printer is a network printer and it is not properly connected to the network.* All networks are configured differently so please check with your **network administrator** to get the correct setup.

Operation

Problem	Possible Cause - Solution
The system freezes or the screen goes dark.	*The system's power saving features have timed-out*. Use the AC adapter, press the sleep (**Fn + F4**) key combination, or press the power button if no LEDs are lit. *A software conflict made the system "crash"*. 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 system never goes into Hibernate mode.	Make sure you have enabled **Hibernate** in the Power Options control panel in your OS (see ***"Hibernate" on page 3 - 18***).
The system does not go into a power saving mode when the battery is low.	*No power saving options are enabled*. Use one of the *Power Options* presets.
The infrared device does not work.	T*he drivers (if supplied with the device) are not loaded.* Read the documentation which comes with any new external device. Make sure you **install the driver (if one is required)** for it as this will allow you to access any extra functions which come with your device. *The **FIR** settings are not configured correctly.* See ***"Configuring the Infrared Settings for FIR" on page 3 - 22***. Check the settings for the infrared device in the **BIOS** (see ***"I/O Device Configuration (Advanced Menu)" on page 5 - 11***) are for the FIR setting. *The infrared transceiver is blocked.* Make sure nothing is between your system's infrared transceiver and the destination's transceiver. Infrared transceivers operate on a "Line of 'Sight".

Wireless LAN & Bluetooth Modules

Problem	Possible Cause - Solution
The Wireless LAN or Bluetooth module cannot be detected.	*The ON/OFF switch has not been switched ON.* Make sure you have set the ON/OFF switch to ON in order to enable the module (see ***"Wireless LAN & Bluetooth Modules" on page 7 - 2***). *The ON/OFF switch has been switched ON, but you have both the Wireless LAN and Bluetooth modules in your computer.* Use the **Fn + F12** key combination to toggle power to the modules. DO NOT enable power and attempt to use both modules at the same time as this may cause a conflict.
The Wireless LAN or Bluetooth module cannot be configured.	The driver(s) for the module(s) have not been installed. Make sure you have installed the driver for the appropriate module (see ***"Wireless LAN & Bluetooth Modules" on page 7 - 2***). Both modules come with User Guides/Manuals to help you configure them: The Wireless LAN User Manual is in Adobe .pdf format (**Start** menu and point to **Programs > IEEE 802.11b WLAN Utility(USB) > User Manual**). The Bluetooth User's guide (**Manual**) is on the ***Bluetooth CD-ROM*** in the **Userguide** folder (click **Browse this CD** when you insert the ***Bluetooth CD-ROM***). It is in .html format.

Driver Installation

Problem	Possible Cause - Solution
There is a problem installing the Audio drivers in *Windows XP*.	*You have enabled* Windows XP *Multi Language Options.* Make sure that you do not enable any Multi Language Options when installing the drivers in Windows XP. Make sure you install the drivers in the order indicated in ***"What to Install" on page 4 - 2***.

Hyper-Threading Notes

You can enable (the default setting is disabled) Hyper-Threading from the **Advanced Menu** in the BIOS (see *"CPU Hyper-Threading (Advanced Menu)" on page 5 - 10*). Hyper-Threading is only supported in **Model C computers with 3.06GHz processors**. **If you do not have this Processor the menu option will not appear**.

Hyper-Threading is only supported in ***Windows XP***, so **DO NOT enable this option if you are using *Windows 2000***.

If you have updated the Flash ROM BIOS from a previous version, which did not have the **Enable Hyper-Threading** option, you must **reinstall *Windows XP*** after the BIOS update.

Once you have **enabled** Hyper-Threading, **DO NOT disable the option** or the computer may not startup (returning to the BIOS and enabling the option will correct this in case of accidental disabling of the option).

If you are changing the processor from a CPU which supports Hyper-Threading, to one which does not, you will need to reinstall your OS.

Appendix A. Specifications

Processor

- Intel Pentium 4 Processor

  (µ0.13) 0.13 Micron Process Technology, 512K L2 Cache & 400MHz FSB - 2.0/ 2.2/ 2.4/ 2.5/ 2.6GHz - FC-PGA2 package (478-pin)

  (µ0.13) 0.13 Micron Process Technology, 512K L2 Cache & 533MHz FSB - 2.26/ /2.53/ 2.66/ 2.8/ **3.06*** GHz - FC-PGA2 package (478-pin)

* Only notebooks with Pentium 4 processors of **3.06GHz** support **Hyper-Threading** (see *"CPU Hyper-Threading (Advanced Menu)" on page 5 - 10*).

- Intel Celeron Processor - (478-pin) FC-PGA2 package

  ((µ0.18) 0.18 Micron Process Technology, 128KB L2 Cache & 400MHz FSB - 1.7/ 1.8 /2.0 / 2.1 /2.2 GHz

Core Logic

- SIS M645DX + 962 Chipset +P9-M

Structure

- PC99 compliant

Security

- Security (Kensington® Type) Lock
- BIOS Password

Memory

- Two 200-pin DDR SODIMM sockets, supporting DDR SDRAM SODIMM (2.5V) - DDR 200/ DDR 266/ DDR 333 compliant
- Memory expandable up to 1024MB (128/256/ 512MB SODIMM Modules)

BIOS

- One 512KB Flash ROM
- Phoenix BIOS

LCD Options

- 14.1" XGA TFT (1024*768)
- 15.0" XGA TFT (1024*768)
- 15.0" SXGA+ TFT (1400*1050)

Display

- ATI Mobility Radeon 9000 high performance chip
- Supports AGP™ 4X
- Integrated 128-bit 2D / 3D Graphics Accelerator
  Advanced HW accelerator for DVD playback
  Fully Direct X 8.0 compliant graphics engine
- External memory up to 64MB DDR SGRAM on board
- Dual-View display monitor

Storage Devices

- 3.5" 3-mode **Floppy Disk Drive**
- Easy changeable 2.5" 9.5 mm (h) **Hard Disk Drive**
  Supports Master mode IDE
  Supports PIO mode 4
  ATA-33/66/100/133
  Ultra DMA
- 12.7mm(h) **Device Bay** for **ONE** of the following drive configuration options:
  CD-ROM
  DVD-ROM
  CD-RW
  Combination CD-RW/DVD-ROM
  DVD-RW

Audio

- AC'97 2.1 compliant interface
- 3D stereo enhanced sound system
- Compatible with Sound-Blaster PRO™
- S/PDIF Digital output (5.1 CH) for DVD content and stereo audio
- Microphone-in jack
- Headphone-out jack
- Built-in microphone
- 2 built-in speakers

Keyboard

- “Win Key” keyboard

PC Card

- One type II PCMCIA 3.3V/5V socket supporting CardBus

Interface

- Built-in TouchPad (scrolling key functionality integrated)
- Three USB 2.0 ports
- One Mini-IEEE 1394 port
- One S-Video Out port for TV output
- One serial port
- One parallel port (LPT1), supporting ECP / EPP
- One infrared transceiver supporting IrDA 1.1/ FIR/SIR/ASKIR
- One external CRT monitor port
- One external keyboard/mouse (through Y cable) PS/2 port
- One speaker-out/headphone-out jack
- One microphone-in jack
- One RJ-11 jack for modem
- One RJ-45 jack for 100M/10M LAN
- One S/PDIF out port
- One DC-in jack
- Wireless module On/Off switch

Communication

- Wireless Infrared transfer IrDA 1.1 compliant, 1cm - 1M operating distance, 115.2K bps SIR/ 4Mbps FIR
- Built-in 10/100Mb Ethernet LAN
- 56K MDC modem V.90 & V.92 compliant
- 802.11b wireless LAN module (available as a factory option)
- Bluetooth module (available as a factory option)
- PC Video Camera module (available as a factory option)

Power Management

- Supports ACPI v1.0b
- Supports Hibernate mode
- Supports Standby mode
- Supports Battery low sleep
- Supports resume from modem ring

Power

- Full range AC adapter
  AC-Input 100~240V, 50~60Hz
  DC Output 20V, 6A (**120W**)
- Supports one removable Smart Li-Ion battery

Indicators

- LED indicators (Power On/ AC-In/ Suspend, Battery Charging/Battery Full, E-Mail, HDD, Num Lock, Caps Lock, Scroll Lock)

Environmental Spec

- Temperature

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

- Relative Humidity

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

Physical Dimensions

- 329 (w) x 275 (d) x 36.5 (h) mm

Weight

- 3.3 kg with battery

Optional

- DVD-ROM Drive
- CD-RW Drive
- Combination Drive
- DVD-RW Drive
- Software DVD player
- Wireless LAN module
- Bluetooth module
- PC Video Camera