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NETBOOK

USER GUIDE

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IMPORTANT SAFETY INSTRUCTIONS

Follow basic safety precautions, including those listed below, to reduce the risk of fire, electric shock, and injury to persons when using any electrical equipment:

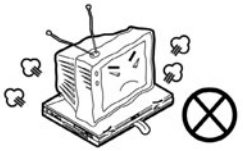
1. Do not use this product near water, for example near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using this equipment with a telephone line (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
3. 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.
4. This product is intended to be supplied by a Listed Power Unit (Full Range AC/DC Adapter – AC Input 100 - 240 V, 50 - 60 Hz, DC Output 19 V, 1.57A / 1.58 A).

This Computer's Optical Device is a Laser Class 1 Product

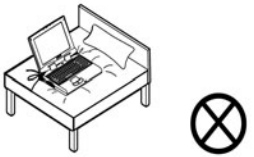
Instructions for Care and Operation

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.** 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.

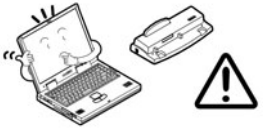
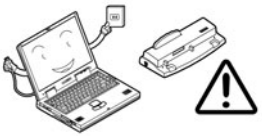
Do not expose it to excessive heat or direct sunlight.	*Do not leave it in a place where foreign matter or moisture may affect the system.*	*Don't use or store the computer in a humid environment.*	*Do not place the computer on any surface that will block the Vents/Fan Intakes.*
			

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.*
	

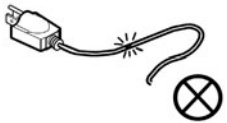
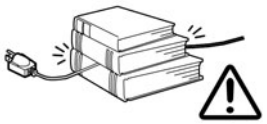
Power Safety

The computer has specific power requirements:

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

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.

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.
- Do not remove any batteries from the computer while it is powered on.
- Do not continue to use a battery that has been dropped, or that appears damaged (e.g. bent or twisted) in any way. Even if the computer continues to work with a damaged battery in place, it may cause circuit damage, which may possibly result in fire.
- 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 & Caution

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.

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.

Removal Warning

When removing any cover(s) and screw(s) for the purposes of device upgrade, remember to replace the cover(s) and screw(s) before turning the computer on.

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/DC adapter and cables. Stow them in the carrying bag.
5. The AC/DC 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 documents are prepared.

Power Off Before Traveling

Make sure that your notebook is completely powered off before putting it into a travel bag (or any such container). Putting a notebook which is powered on in a travel bag may cause the vent(s)/fan intake(s)/outlet(s) to be blocked. To prevent your computer from overheating make sure nothing blocks the vent(s)/fan intake(s)/outlet(s) while the computer is in use.

On the Road

In addition to the general safety and maintenance suggestions in this preface, and Chapter 8: Trouble-shooting, 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/DC 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.

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Intel Video Driver Controls

Specifications

Chapter 1: About this Quick Guide

This quick guide is a brief introduction to getting your system started. The remainder of the present manual covers the more advanced features and options , including troubleshooting , upgrade and driver installation. The drivers necessary for the proper operation of the computer are contained in the same *Device Drivers & User's Manual* disc supplied with your computer (**Note**: The company reserves the right to revise this publication or to change its contents without notice).

The computer's features may already have been setup . If you are planning to re-configure (or re-install) portions of the system, refer to the present *User's Manual*. The *Device Drivers & User's Manual* disc does not contain an operating system.

Regulatory and Safety Information

Please pay careful attention to the safety information contained in the present *User's Manual* .

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System Startup

1. Remove all packing materials.
2. Place the computer on a stable surface.
3. Securely attach any peripherals you want to use with the notebook (e.g. keyboard and mouse) to their ports.
4. Attach the AC/DC adapter to the DC-In jack on the left of the computer, then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter.
5. Use one hand to carefully raise the lid/LCD to a comfortable viewing angle, while using the other hand o support the base of the computer (**Note**: **Never** lift the computer by the lid/LCD).
6. Press the power button to turn the computer "on".

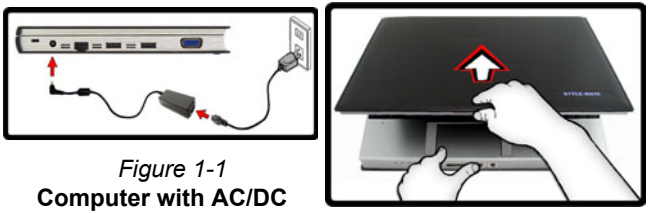
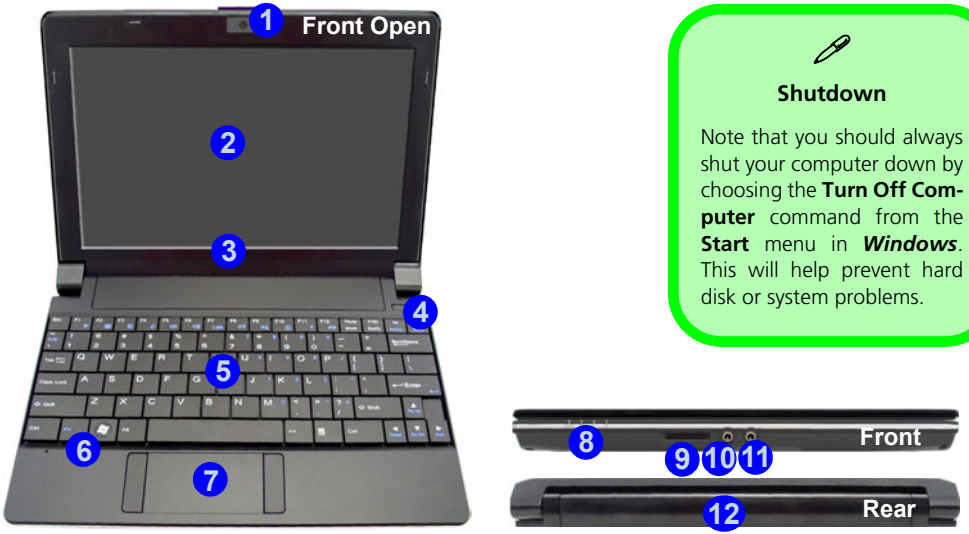


Figure 1-1
Computer with AC/DC Adapter Plugged-In

System Software

Your computer come with system software pre-installed. You will find this manual refers to the *Microsoft Windows XP Home with Service Pack 3* operating system.

System Map: Front & Rear Views



Shutdown

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

Figure 1-2 **- Front & Rear Views**

1. Built-In PC Camera
2. LCD
3. Speakers
4. Power Button
5. Keyboard
6. Built-In Microphone
7. TouchPad & Buttons
8. LED Indicators
9. 7-in-1 Card Reader
10. Microphone-In Jack
11. Headphone-Out Jack
12. Battery

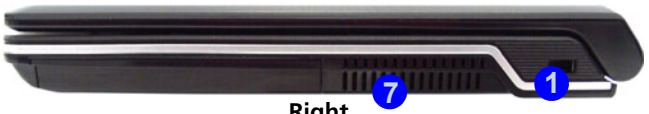
System Map: Side & Bottom Views

External Optical Device Drives

To install applications and drivers etc. you will need to attach an external optical device (CD or DVD ROM) to the USB ports. If you are having problems detecting external ODDs, enable the enhanced detection of these devices as follows:

1. Press **F2** at startup to enter the ***Setup Utility*** and use the arrow keys to navigate to the **Advanced** menu.
2. Use the arrow keys to select "**Enhance USB ODD detection**" and set the item to "**Enabled**" using the spacebar.
3. Press **F10** to save and exit (if you want to start from the external ODD you will need to set it as first priority in the **Boot** menu after it has been detected).

Left



Right

Bottom

Figure 1-3 **- Side & Bottom Views**

1. Security Lock Slot
2. DC-In Jack
3. RJ-45 LAN Jack
4. 2 * USB 2.0 Ports
5. External Monitor Port
6. Hard Disk Bay
7. Vent
8. Power Button
9. Battery

Overheating

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

LED Indicators

The LED indicators on the computer display helpful information about the current status of the computer.

Icon	Color	Description
	Orange	DC Power is Plugged In
	Green	The Computer is On
	Blinking Green	The Computer is in Sleep Mode
	Orange	The Battery is Charging
	Green	The Battery is Fully Charged
	Blinking Orange	The Battery Has Reached Critically Low Power Status
	Green	Hard Disk Activity
	Green	The Wireless LAN Module is Powered On

Table 1-1 **- LED Indicators**

Keyboard & Function Keys

The keyboard has a numeric keypad for easy numeric data input. Pressing the **Fn +NumLk** keys turns on/off the numeric keypad. It also features function keys to allow you to change operational features instantly.
The function keys (**F1** - **F12** etc.) will act as hot keys when pressed while the **Fn** key is held down. In addition to the basic function key combinations, visual indicators are available when the hot key driver is installed.

Figure 1-4 **- Keyboard**

Keys	Function/Visual Indicators		Keys	Function/Visual Indicators	
Fn + ~	Play/Pause (in Audio/Video Programs)		Fn + F7	Display Toggle	
Fn + F1	TouchPad Toggle		Fn + F8/F9	Brightness Decrease/ Increase	
			Fn + F10	PC Camera Power Toggle	
Fn + F2	Turn LCD Backlight Off (Press a key to or use TouchPad to turn on)		Fn + F11	WLAN Module Power Toggle	
Fn + F3	Mute Toggle		Fn + NumLk	Number Lock Toggle	
Fn + F4	Sleep Toggle		Fn + ScrLk	Scroll Lock Toggle	
Fn +F5/F6	Volume Decrease/Increase		Caps Lock	Caps Lock Toggle	

Table 1-2 **- Function Keys & Visual Indicators**

Driver Installation

The *Device Drivers & User's Manual* disc contains the drivers necessary for the proper operation of the computer. This setup has already been done for you. If for any reason you need to reinstall the drivers , insert the disc and browse the **Driver Folder** to locate the driver you need. Install it by starting the executable file ("Setup.exe") present in each of the folders and follow the guided procedure.If you need to intall more than one driver , take care to install them **in the order indicated** in Figure 5.

If the **Found New Hardware** wizard appears during the installation procedure, click **Cancel** to close the window, and follow the installation procedure as directed.

Driver - *Windows XP* with Service Pack 3
Chipset
Video
Audio
LAN
TouchPad
Card Reader
Hot Key
PC Camera Module
Wireless LAN Module

Figure 1-5 **- Driver Installation**

Driver Installation General Guidelines

As a general guide follow the default on-screen instructions for each driver (e.g. **Next** > **Next** > **Finish**) unless you are an advanced user. In many cases a restart is required to install the driver.

Make sure any modules (e.g. PC Camera, WLAN) are **ON** before installing the appropriate driver.

Windows XP Service Pack 3

Make sure you install **Windows XP Service Pack 3** (or a Windows XP version which includes Service Pack 3) **before installing any drivers**. Go to the Microsoft website for download details, or contact your service center.

Chapter 2: Features & Components

Overview

Read this chapter to learn more about the following main features and components of the computer:

- Hard Disk Drive
- 7-in-1 Card Reader
- TouchPad and Buttons/Mouse
- Audio Features
-

Power Safety

Before attempting to access any of the internal components of your computer 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 computer. The hard disk can be taken out to accommodate other 2.5" serial (SATA) HDDs with a height of 9.5 mm.
The HDD is located in the bay on the right of your computer, and this can be opened after elevating the keyboard and accessing the screw securing the hard disk assembly. For further details see ***"Upgrading the HDD" on page 6 - 4***.

Figure 2 - 1
HDD Bay

Hard Disk Drive Speeds

If you are going to upgrade/replace the hard disk drive, note that It is recommended that HDDs of a **maximum speed of 5400 RPM are used**. **DO NOT use 7200rpm or higher HDDs.**

HDD Bay

Note that the HDD bay can be accessed by elevating the keyboard (see ***"Upgrading the HDD" on page 6 - 4***).

7-in-1 Card Reader

The card reader allows you to use some of the latest digital storage cards. Push the card into the slot and it will appear as a removable device, and can be accessed in the same way as your hard disk (s). Make sure you install the Card Reader driver).

- MMC (MultiMedia Card)
- SD (Secure Digital)
- MS (Memory Stick)
- MS Pro (Memory Stick Pro)
- MS Duo (requires PC adapter*)
- Mini SD (requires PC adapter*)
- RS MMC (requires PC adapter*)

*__Note__: The PC adapters are usually supplied with these cards.

Card Reader Cover

Make sure you keep the rubber cover provided in the card reader when not in use. This will help prevent foreign objects and/or dust getting in to the card reader.

Figure 2 - 2
Right View

1. Card Reader

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 and Buttons/Mouse

The TouchPad is an alternative to the mouse; however, you can also add a mouse to your computer through one of the USB ports. The TouchPad buttons function in much the same way as a two-button mouse. Make sure you have installed the TouchPad driver.

You can configure the mouse functions from the **Mouse Properties** control panel. Click **Start**, point to **Settings** and click **Control Panel** (or just click **Control Panel**), and then double-click **Mouse**.

Click **Hardware** (tab) and double-click **Properties** to access **Advanced Settings**.

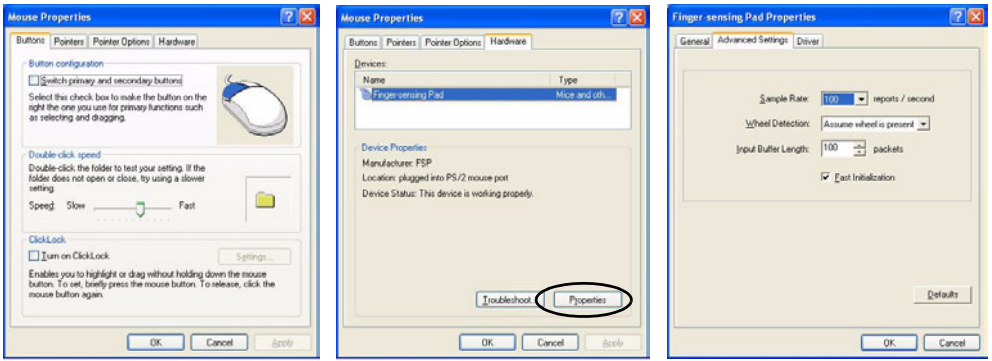


Figure 2 - 3
Mouse Properties

Audio Features

You can configure the audio options on your computer from the **Sounds and Audio Devices** ***Windows*** control panel, or from the **Realtek HD Audio Manager** icon in the taskbar/control panel (this will bring up the Realtek Audio Configuration menus). The volume may also be adjusted by means of the **Fn** + **F5/F6** key combination.

Sound Volume Adjustment

How high the sound volume can be set depends on the setting of the volume control within ***Windows*** (and the volume control function keys on the computer). Click the Volume icon on the taskbar to check the setting.

Figure 2 - 4
Realtek HD Audio

Audio Recording from Microphone

If you want to record from either the built-in microphone or an external microphone, then configure the audio options as follows:

1. Double-click the **Realtek HD Audio Manager** icon in the taskbar/control panel.
2. Click **Mixer (tab)**.
3. Click the button under **Mic Volume** to select it (you can boost the volume level as high as required).
4. Click **OK** to close the control panel.

Figure 2 - 5
Mixer - Mic Volume

Chapter 3: Power Management

Overview

To conserve power, especially when using the battery, your computer power management conserves power by controlling individual components of the computer (the monitor and hard disk drive) or the whole system. This chapter covers:

- The Power Sources
- Turning on the Computer
- Power Schemes
- System Power Options
- Configuring the Power Button
- Battery Information

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 XP*.

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.)

The Power Sources

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

AC/DC Adapter

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

1. Attach the AC/DC adapter to the DC-in jack on the left of the computer.
2. Plug the AC power cord into an outlet, and then connect the AC power cord to the AC/DC 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 computer while you are on the road or when 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** (see ***"How do I completely discharge the battery?" on page 3 - 12***).

We recommend that you do not remove the battery. For more information on the battery, please refer to ***"Battery Information" on page 3 - 9***.

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 Stand by/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 **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.

Power Button as Stand by or Hibernate Button

If you are using a fully ACPI-compliant OS, (such as Windows XP) you can use the OS's "Power Options" control panel to set the power button to send the system into Stand by or Hibernate mode (see your OS's documentation, or ***"Configuring the Power Button" on page 3 - 8*** for details).

Resuming Operation

Press a key on the keyboard, or move the mouse/TouchPad to resume from Monitor or Hard Disk Stand by.

Power Schemes

You can set your computer to conserve power through individual components by means of **Power Schemes**. You can also adjust the settings for each scheme to set the monitor to turn off after a specified time, and the computer's hard disk motor to turn 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). The schemes may also be set to set a specified time for the system to enter **Stand by** or **Hibernate** modes (see *"System Power Options" on page 3 - 6*).

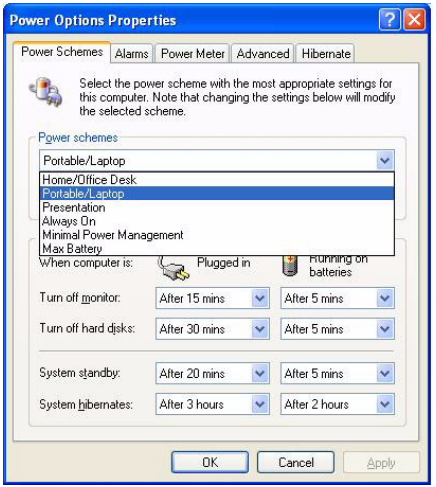


Figure 3 - 1
Power Schemes

Each ***Windows*** **Power Scheme** will also adjust the processor performance of your machine in order to save power. This is worth bearing in mind if you are experiencing any reduced performance (especially under DC/battery power).

Choose the **Home/Office Desk** scheme for maximum performance when the computer is powered from an AC power source. Choose the **Max Battery** scheme (bear in mind that this scheme may slow down the overall performance of the computer in order to save power) for maximum power saving when the computer is battery (DC power) powered. ***Windows*** will use **Portable/Laptop** as the default scheme.

Stand by/Hibernate or Shutdown Error

The computer may stop responding when you put it into (or resume from) Stand By or Hibernate, or when you shut down.

This error is caused by power management within ***Windows XP***, when applied to a **PC Camera** attached to the internal USB hub.

Microsoft has posted a Hotfix for this error on its website (search for Hotfix KB909667).

Download and install the Hotfix to correct this error.

System Power Options

You can use the system power options to stop the computer's operation and restart where you left off. This system features **Stand by** 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 - see ***Figure 3 - 2 on page 3 - 7***).

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.

Stand by Mode vs. Hibernate Mode

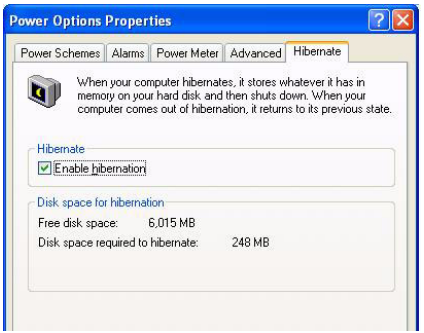
If you want to stay away from your work for just a while, you can put the system on Stand by instead of in hibernation. It takes a longer time to wake up the system from **Hibernate** mode than from **Stand by** mode.

Stand by

Stand by saves the least amount of power, but takes the shortest time to return to full operation. During Stand by 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 Stand by 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 computer 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**.



System Resume

The system can resume from Stand by mode by:

- Pressing the power button
- Pressing the **Sleep/ Resume** key combination
- An incoming call received on the modem (if enabled)
- Network card (Wake On LAN) activity (if enabled)

Figure 3 - 2
Enable Hibernation

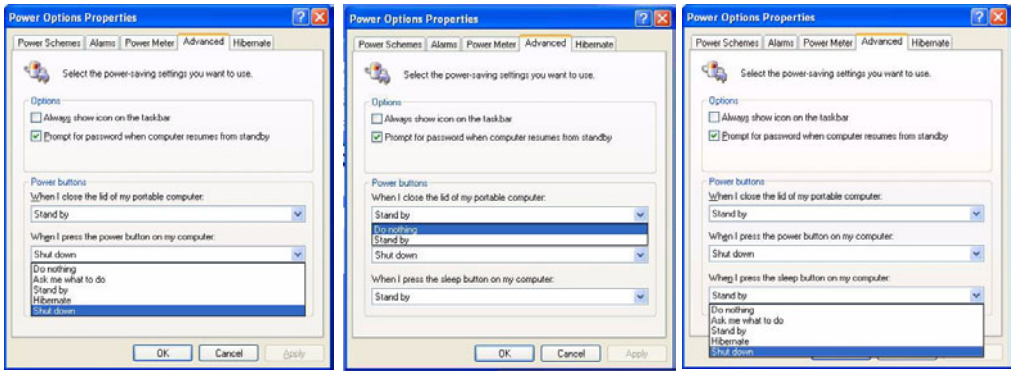
3

Sleep Button

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

Configuring the Power Button

The power button may be set to send the computer in to either **Stand by** or **Hibernate** mode. In **Stand by** mode, the LED will blink green. In **Hibernate** mode the LED will be off (battery) or orange (AC/DC adapter). 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 | Lid | Sleep/Resume (Sleep) Button

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

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 (see ***"Battery FAQ" on page 3 - 12*** for instructions on how to do this).

Battery Life

Your computer's battery life is dependent upon many factors, including the programs you are running, and peripheral devices attached. **Power Options** (you may set low battery **Alarms** and actions, and check the **Power Meter** from the **Power Options** control panel), and settings in the OS will help prolong the battery life if configured appropriately.

Low Battery Warning

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

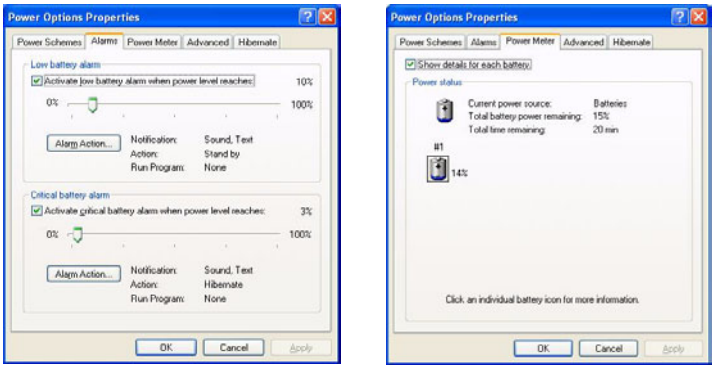


Figure 3 - 4
Power Options (Alarm & Power Meter)

Conserving Battery Power

To conserve battery power:

Lower the brightness level of the LCD display. The system will decrease LCD brightness slightly to save power when it is not powered by the AC/DC adapter.

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.

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. If you need to remove the battery for any reason, see ***"Removing the Battery" on page 6 - 3***.

Recharging the Battery with the AC/DC Adapter

The battery pack automatically recharges when the AC/DC 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 ***"Battery Information" on page 3 - 9*** for more information on how to maintain and properly recharge 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

Damaged Battery Warning

Should you notice any physical defects (e.g. the battery is bent out of shape after being dropped), or any unusual smells emanating from the notebook battery, shut your computer down immediately and contact your service center. If the battery has been dropped we do not recommend using it any further, as even if the computer continues to work with a damaged battery in place, it may cause circuit damage, which may possibly result in fire. It is recommended that you replace your computer battery every two years.

Caution

Danger of explosion if battery is incorrectly replaced.

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

Battery FAQ

How do I completely discharge the battery?

Use the computer with battery power until it shuts down due to a low battery. Don't turn off the computer by yourself even when you see a message that indicates the battery is critically low, just let the computer use up all of the battery power and shut down on its own. Disable the **Power Options** functions in the **Control Panel**, especially any **Alarms** (**unclick** the tickboxes - see page ***3 - 9***) and **Schemes** (change all the settings to **Never** - see page ***3 - 4***). 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 changes 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.

Chapter 4: Drivers

This chapter deals with installing the drivers a 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 . 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 .

What to Install

The ***Device Drivers & User's Manual*** disc contains the drivers necessary for the proper operation of the computer.

Table 4 - 1, on page 4 - 2 lists what you need to install and **it is very important that the drivers are installed in the order indicated**.

Module Driver Installation

The procedures for installing drivers for the **Wireless LAN**,and **PC Camera** modules are provided in ***"Additional Modules" on page 7 - 1***.

Make sure any modules (e.g. PC Camera or WLAN) are **ON** before installing the appropriate driver.

Driver Installation

Driver - *Windows XP* with Service Pack 3
Chipset
Video
Audio
LAN
TouchPad
Card Reader
Hot Key
PC Camera Module
Wireless LAN Module

Table 4 - 1 **- Driver Installation**

From "my Computer" select the CD/DVD unit containning the ***Device Drivers & User's Manual*** disc. RightClick and select ***Browse*** .
Open the Drivers folder and and browse to the executable file ("Setup.exe") in the appropriate driver folder.
If you are installing more than a single driver , make sure to install them in the order indicated in the Table 4-1.

Windows Update

After installing all the drivers make sure you enable **Windows Update** in order to get all the latest security updates etc. (all updates will include the latest **hotfixes** from Microsoft).

Windows XP Service Pack 3

Make sure you install **Windows XP Service Pack 3** (or a Windows XP version which includes Service Pack 3) **before installing any drivers**.

Driver Installation General Guidelines

As a general guide follow the default on screen instructions for each driver (e.g. **Next > Next > Finish**) unless you are an advanced user. In many cases a restart is required to install the driver.

External Optical (CD/DVD) Device Drives

To install applications and drivers etc. you will need to attach an external optical CD/DVD device to the USB ports.

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***.

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.

Version Conflict Message

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

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** (or click **Start > Control Panel**).
2. Double-click **System** (icon); System (icon) is in **Performance and Maintenance** (category).
3. Click **Hardware** (tab) > **Device Manager** (button).
4. Double-click the **device** you wish to update/reinstall the driver for (you may need to click "+").
5. Look for the **Update Driver** button (check the **Driver** tab) and follow the on screen prompts.

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 ***Phoenix TrustedCore 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**>.

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***.

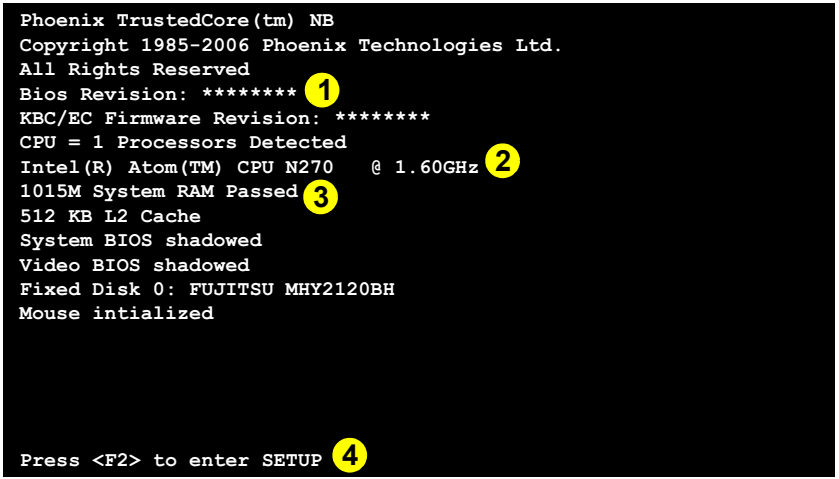
If there are no problems, the ***Setup*** prompt will disappear and the system will load the operating system. Once that starts, you can't get into ***Setup*** without rebooting.

POST Screen

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

Note: The **POST** screen as pictured right is for guideline purposes only. The **POST** screen on your computer may appear slightly different. If you disable the **Boot-time Diagnostic Screen**, the POST screen will not appear.

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 Utility

The **Phoenix TrustedCore Setup Utility** 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 on page ***5 - 2*** 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 Screens

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

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

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, and 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.

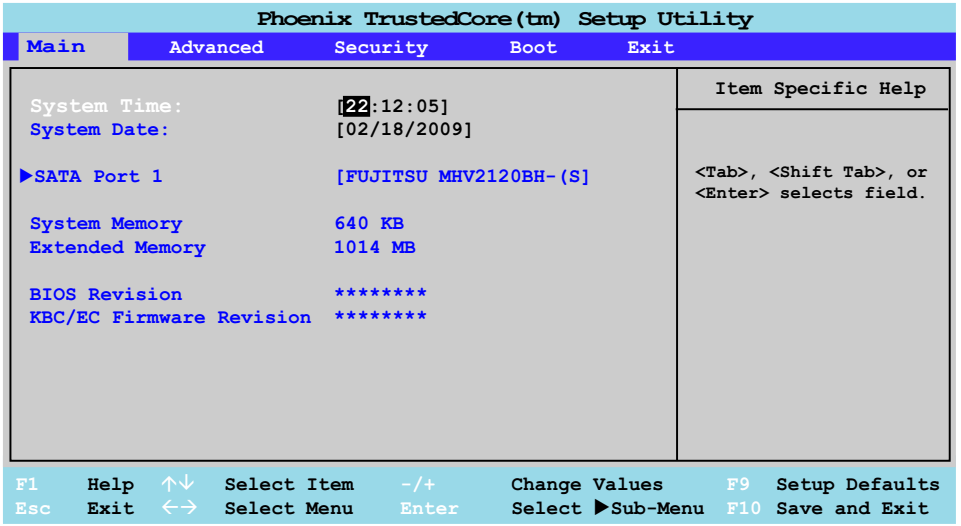
If you see an arrow ▶ next to an item, press **Enter** to go to a sub-menu on that subject. The sub-menu screen that appears has a similar layout, but the **Enter** key may execute a command.

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.

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.

SATA Port 1 (Main Menu)
Pressing **Enter** opens the sub-menu to show the configuration of a HDD on the computer's Serial ATA Port 1. Use the ***Auto*** (Type:) setting to have the items configured automatically for you.

System/Extended Memory (Main Menu)
This item contains information on the system memory, and is not user configurable. The system will auto detect the amount of memory installed.

Advanced Menu

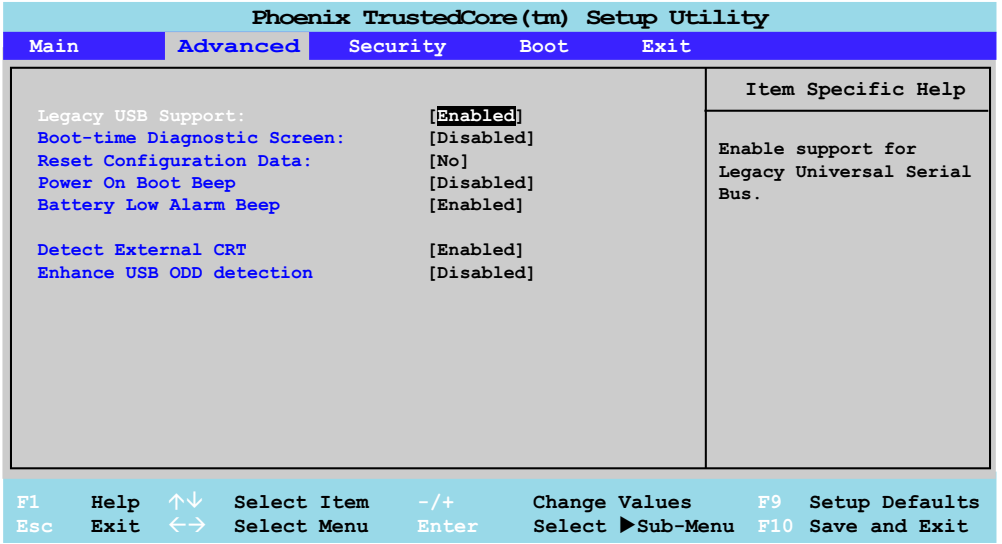


Figure 5 - 3
Advanced Menu

Legacy USB Support (Advanced Menu)
Use this menu item to enable/disable the support for Legacy Universal Serial Bus in non-USB aware operating systems.

Boot-time Diagnostic Screen (Advanced Menu)
Use this menu item to enable/disable the Boot-time Diagnostic Screen or POST screen (see ***"The Power-On Self Test (POST)" on page 5 - 2***).

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.

Power On Boot Beep (Advanced Menu)
Use this menu item to enable/disable the beep as the computer starts up.

Battery Low Alarm Beep (Advanced Menu)
Use this menu item to enable/disable the audible warning when the battery has reached low power status.

Detect External CRT (Advanced Menu)
This menu allows you to Enable/Disable detection for **External CRT's** (external displays). You can disable detection to save system power.

Enhance USB ODD detection (Advanced Menu)
This menu allows you to Enable/Disable enhanced detection for **External USB ODD** (optical device drives e.g. DVD drives). You can disable detection to speed up boot time, or enable it if you are having problems with detecting any attached USB ODDs.

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.

Security Menu

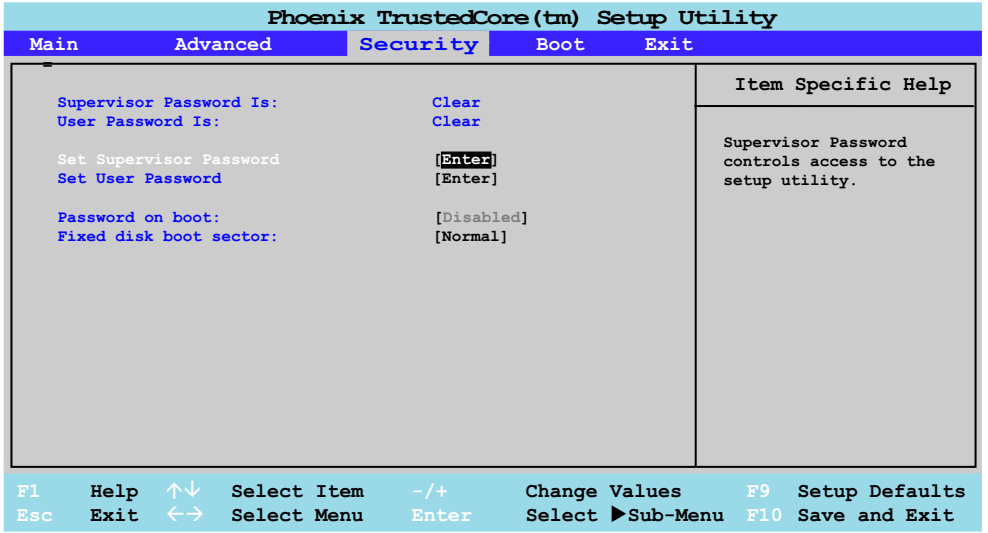


Figure 5 - 4
Security Menu

Set Supervisor Password (Security Menu)
You can set a password for access to the **Phoenix TrustedCore Setup Utility**. This will not affect access to the computer OS (only the **Phoenix TrustedCore Setup Utility**).

Set User Password (Security Menu)
You can set a password for user mode access to the **Phoenix SecureCore Setup Utility**. This will not affect access to the computer OS, (only the ***Setup*** utility) unless you choose to set a ***Password on Boot*** (see below). Many menu items in the **Phoenix SecureCore Setup Utility** cannot be modified in user mode. You can only set the user password after you have set the supervisor password.

Password on boot (Security Menu)
Specify whether or not a password should be entered to boot the computer (**you may only set a password on boot if a supervisor password is enabled**). If "***Enabled***" is selected, only users who enter a correct password can boot the system (**see the warning in the sidebar**). The default setting is "***Disabled***".

Fixed disk boot sector (Security Menu)
If you choose "**Write-Protect**" this will protect against viruses being written to the hard disk boot sector (this is not a substitute for installing an anti-virus program - see ***"Viruses" on page 8 - 4***).

Note: To clear existing passwords press **Enter** and type the existing password, then press **Enter** for the new password (without typing any password entry) and **Enter** again to confirm the password clearance.

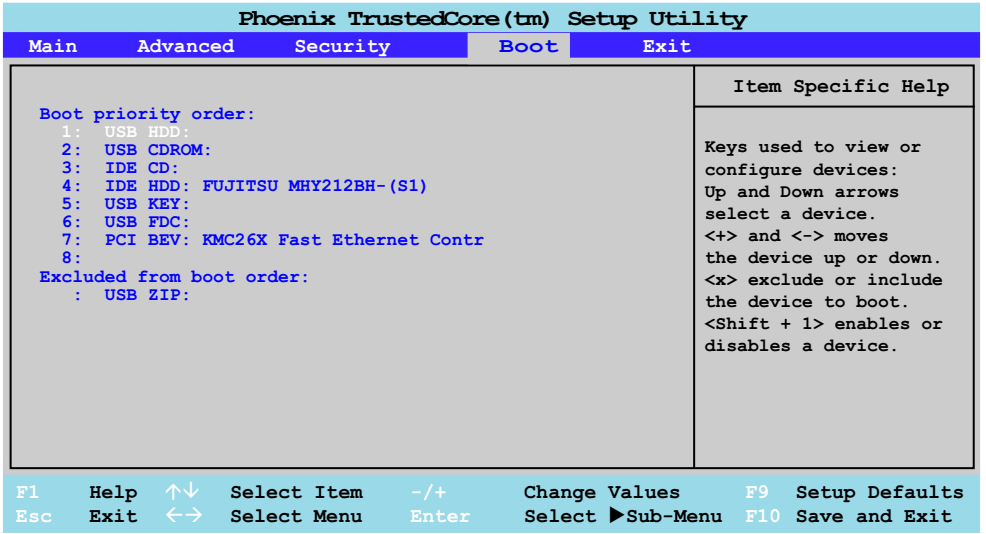
Password Warning

If you set a boot password (Password on boot is "Enabled"), **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



When you turn the computer on it will look for an operating system (e.g. ***Windows Vista***) from the devices listed in this menu, and **in this priority 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 priority order**. Item specific help on the right is available to help you move devices up and down the order.

Exit Menu

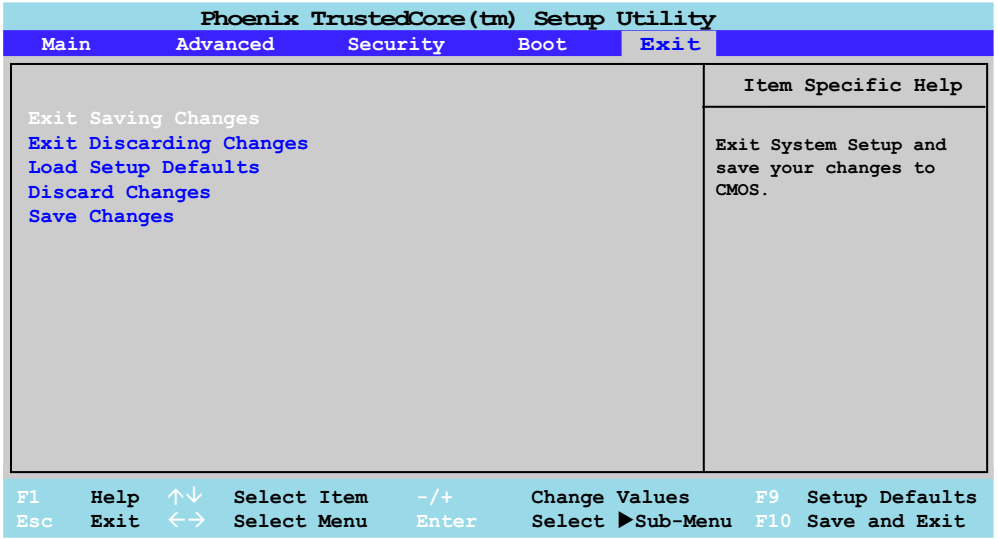


Figure 5 - 6
Exit Menu

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 (flathead) 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:

- Removing the Battery
- Upgrading the HDD
-

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).

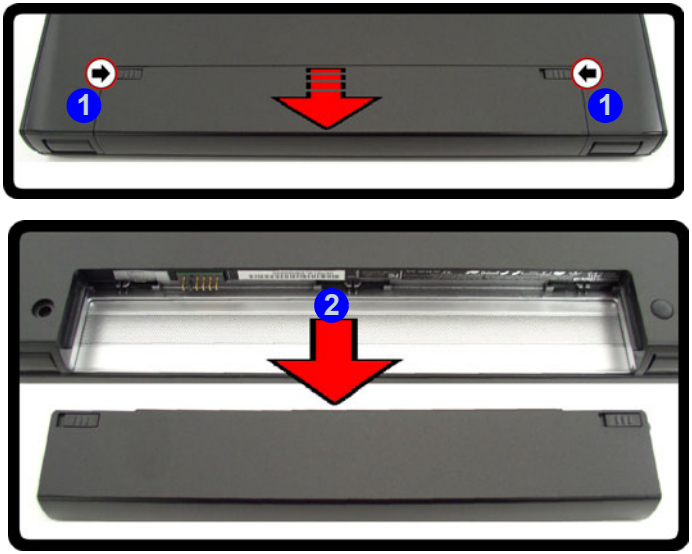
Removal Warning

When removing any cover(s) and screw(s) for the purposes of device upgrade, remember to replace the cover(s) and screw(s) before turning the computer on.

Removing the Battery

If you are confident in undertaking upgrade procedures yourself, for safety reasons it is best to remove the battery.

1. Turn the computer **off**, and turn it over.
2. Slide the latches 1 in the direction of the arrows to unlock the battery.
3. Slide the battery out in the direction of the arrow 2.



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 HDDs are blank. Before you begin make sure:
You have backed up any data you want to keep from your old drive.
You have all the CDs/DVDs 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 HDD

The hard disk drive can be taken out to accommodate other 2.5" serial (SATA) HDDs with a height of 9.5mm (h) and a speed of **5400 RPM** or lower. Follow your operating system's installation instructions, and install all necessary drivers and utilities (see ***"Driver Installation" on page 4 - 2***), when setting up a new hard disk.

Hard Disk Removals

1. Turn **off** the computer, and remove the battery.
2. Locate the hard disk bay cover and remove screw 1.
3. Slide the hard disk assembly in the direction of the arrow 2.

4. Carefully lift the hard disk assembly 3 up out of the bay.

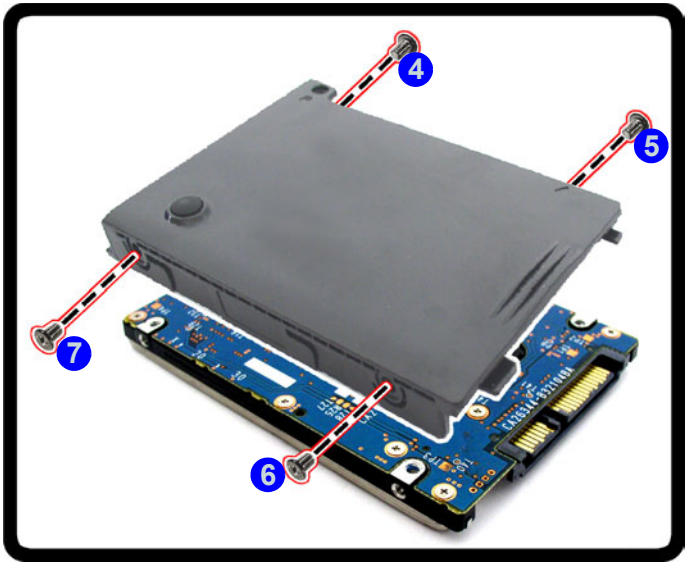
Hard Disk Drive Speeds

If you are going to upgrade/replace the hard disk drive, note that It is recommended that HDDs of a **maximum speed of 5400 RPM are used**. **DO NOT use 7200rpm or higher HDDs.**

Figure 6 - 4
HDD Removal

5. Remove screws 4 - 7 from the hard disk assembly.
6. Separate the hard disk from the case.
7. Insert the new hard disk into the case and pay careful attention to the disk's orientation in the case.

8. Secure the disk with the four screws and then reinsert the hard disk assembly into the computer's hard disk bay.
9. Replace the hard disk bay screw (see ***Figure 6 - 3 on page 6 - 5***).



Upgrading the System Memory (RAM)

The computer has **one** memory socket for 200 pin Small Outline Dual In-line (SO-DIMM) **DDRII (DDR2)** type memory modules (see ***"Memory" on page C - 2*** for details of supported module types).

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

1. Turn **off** the computer, and remove the battery.
2. Carefully press in the **three** keyboard latches (1 - 3) at the top of the keyboard to elevate the keyboard from its normal position (you will need to use a small screwdriver to do this).
3. Carefully lift the keyboard 4 up (do not bend the keyboard ribbon cable 5).

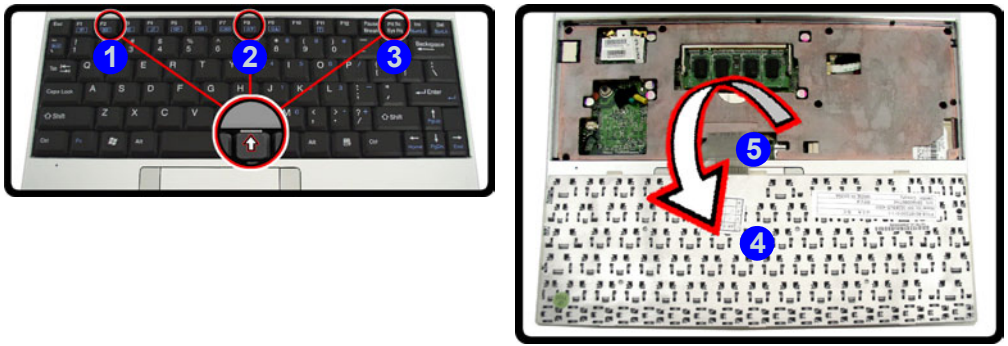
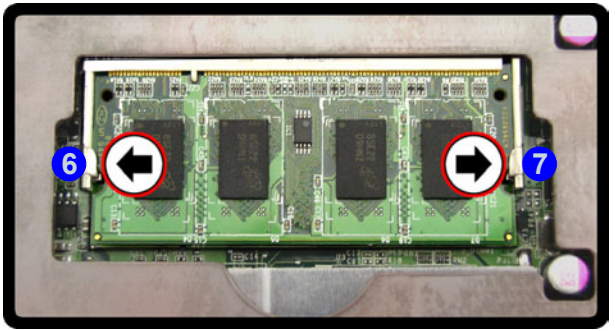


Figure 6 - 5
Keyboard Release

4. Gently pull the two release latches on the sides of the memory socket in the direction indicated by the arrows (6 & 7) in ***Figure 6 - 6***.

Figure 6 - 6
RAM Module Release Latches

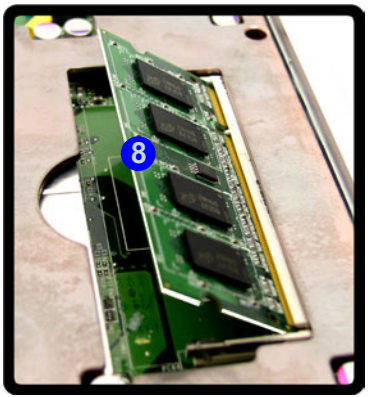


Contact Warning

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. The RAM module will 8 pop-up, and you can remove it.

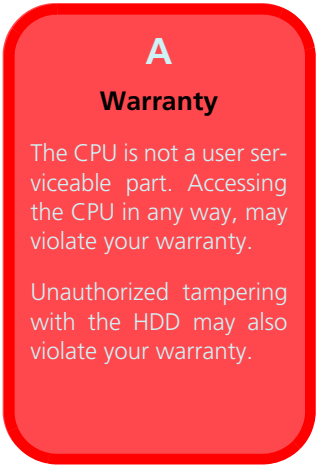
Figure 6 - 7
RAM Module Removal



6. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
7. 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.
8. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
9. Secure the keyboard, replace the battery and restart the computer to allow the system to detect the hard disk drive.
10. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

Re-Inserting the Keyboard

When re-inserting the keyboard firstly align the **three** keyboard tabs at the bottom of the keyboard with the slots in the case.



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: Additional Modules

Overview

This chapter contains information on the following modules, which come with your computer.

- PC Camera Module
- Wireless LAN Module

Driver Installation & Module Power

Make sure any modules (e.g. PC Camera or WLAN are **ON** before installing the appropriate driver).

A

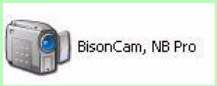
Wireless Device Operation Aboard Aircraft

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

Taking Still Pictures

Double-click the **My Computer** icon on the desktop, or go the **Start** menu and point to **My Computer**, then click it.

Double-click the camera **i**con. Click **Take a new picture** in the **Camera Tasks** box.



PC Camera Module

Use the Fn + F10 key combination (see ***"Function/Hot Key Indicators" on Chapter 1***) **to toggle power to the PC Camera module**.

The PC camera is supported by the embedded Windows drivers .
The ***Device Drivers & User's Manual*** *CD* also includes the **BisonCam** application , you may want to install to capture video files and to take pictures. Before installing the driver, make surh that the optional PC Camera is on (the PC Camera's default power state is off)

PC Camera Driver & Bison Cam application Installation

1. **Make sure the module is powered on**, and then insert the ***Device Drivers & User's Manual*** disc into the CD/DVD drive.
2. Browse the CD and go to the **Drivers** / **Camera** folder .
3. Start the executable file (*"Setup.exe"*) .
4. Choose the language you prefer and click **Next**.
5. Click **Next > Finish** to restart the computer.
6. Run the **BisonCap** application program from the **BisonCam** shortcut on the desktop, or from the **BisonCam** item in the **Start > Programs/ All Programs** menu (if the hardware is turned off use the **Fn + F10** key combination to turn it on again).

PC Camera Audio Setup

If you wish to capture video & **audio** with your camera, it is necessary to setup the audio recording options in ***Windows***.

1. Go to the **Start** menu and point to **Settings** (or just click **Control Panel**) and click **Control Panel**, then double-click the **Sounds & Audio Devices** icon (**Sounds, Speech, and Audio Devices** in Category View).
2. Click **Advanced** in the **Volume > Device volume** tab.
3. Click **Options** and scroll down and click **Properties**.
4. Select **Realtek HD Audio Input** from the **Mixer device** menu.
5. Make sure the **Mic Volume** (check box) is checked, then click **OK**.
6. Boost the volume in the **Recording** section (in the Recording Control menu) as high as it will go, and make sure the **Select** check box is checked.
7. Close the **Recording Control** window, and then click **OK**.
8. Double-click the **Realtek HD Audio Manager** icon  in the taskbar/control panel.
9. Click **Mixer (tab)**.
10. Click the button under **Mic Volume** to select it (you can boost the volume level as high as required).
11. Click **OK** to close the control panel.
12. Run the **BisonCap** application program from the **Start > Programs/All Programs > BisonCam** menu.
13. Go to the **Devices** menu heading and select **Realtek HD Audio Input** (it should have a tick alongside it).

A

Wireless Device Operation Aboard Aircraft

The use of any portable electronic transmission devices aboard aircraft is usually prohibited. Make sure the module(s) are OFF if you are using the computer aboard aircraft.

Use the **Fn + F11** key combination to toggle power to the WLAN module, and check the indicator to see if the module is powered on or not (see ***Table 1 - 2, on page 1 - 9***/ ***Table 1 - 3, on page 1 - 11***).

Wireless LAN Module

Make sure that the Wireless LAN module is on before installing the driver (the WLAN module's default power state is off).

Use the **Fn + F11 key combination** (see ***"Function/Hot Key Indicators" on Chapter 1***) **to toggle power to the Wireless LAN module**. Make sure you install the drivers in the order indicated in ***Table 4 - 1, on page 4 - 2***.

802.11b/g or 802.11n WLAN Driver Installation

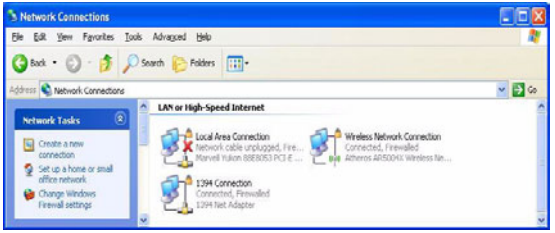
1. **Make sure the module is powered on**, and then insert the ***Device Drivers & User's Manual*** disc into the CD/DVD drive.
2. Browse the CD and go to the **Drivers** / **WLAN** folder .
3. Start the executable file (*"Setup.exe"*) .
4. Choose the language you prefer and click **Next**.
5. Click **Next > Install**.
6. Click **Finish**.
7. The operating system is the default setting for Wireless LAN control in ***Windows XP***.

Network Connection

Use the ***Windows*** **Network Connections** control panel to access available wireless networks (**Start > Settings > Network Connections** or **Start > Connect To > Show all Connections**).

Figure 7 - 1
Wireless Network Control Panels

8. Access any available wireless networks from **Network Connections > Wireless Network Connection** menu in ***Windows*** (or click the icon  in the taskbar), and click **View Wireless Connections**.



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 & Communication Indicators** 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 **Sleep** mode by pressing the keys configured in your *Power Management/Power Options* (see ***"Configuring the Power Button" on page 3 - 8***), the **Fn + F4** key combination, or 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.
- **Display Choice** - Press **Fn** + **F7** to make sure the system is not set to "external only" display.
- **Boot Drive** - Make sure there are no **optical media and/or USB storage devices** in any connected 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***" / "***Remove disks or other media. Press any key to restart***").

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 **Supervisor** password for the BIOS (see ***"The Power-On Self Test (POST)" on page 5 - 2***).

- 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 "**Bootable CD-ROM/DVD-ROM/USB storage device**" (this CD/DVD/USB device 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.

Problems and Possible Solutions

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 DC 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 ***"Power Schemes" on page 3 - 4***) check its settings. You may also be using a USB device/external device that is drawing a lot of power.
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 - 9***). *Power Options have been disabled.* Go to the **Control Panel** in *Windows* and re-enable the options. *A peripheral device is consuming a lot of power.* Turn off the unused device to save power.

Problem	Possible Cause - Solution
The computer feels **too hot**.	Make sure the computer is properly ventilated and the Vent/Fan intakes are 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 computer isn't sitting on a thermal surface. Make sure you're using the correct adapter. Make sure that your notebook is completely powered off before putting it into a travel bag (or any such container). Putting a notebook which is powered on in a travel bag may cause the Vent/Fan intakes to be blocked.
Nothing appears on screen.	*The system is in a power saving mode*. Toggle the sleep/resume key combination, **Fn + F4** (see ***"Hibernate" on page 3 - 7***/***"Configuring the Power Button" on page 3 - 8***). *The screen controls need to be adjusted.* Toggle the screen control key combinations **Fn + F8/F9**. 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**. If an external monitor is connected, turn it on. *The **screen saver** is activated.* Press any key or touch the **TouchPad**.

Problem	Possible Cause - Solution
No image appears on the **external monitor** I have plugged in and powered on.	*You haven't installed the video driver and configured it appropriately from the* ***Control Panel***. See ***"Display Devices & Options" on page B - 5*** for instructions on installing and configuring the video driver.
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.	
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/Hot Key Indicators" on Chapter 1***) to adjust.
Audio cannot be recorded from the built-in or external microphone.	The audio recording options need to be configured from the **Realtek HD Audio Manager**. See ***"Audio Recording from Microphone" on page 2 - 6*** for configuration information.
Unwelcome numbers appear when typing.	Check that Num Lock is not turned **ON**.

Problem	Possible Cause - Solution
Other Keyboards If your keyboard is damaged or you just want to make a change, you can use any standard 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.	
The **system freezes** or the screen goes dark.	*The system's power saving features have timed-out*. Use the AC/DC adapter, press the sleep (**Fn + F4**) key combination, or press the power button if no LEDs are lit.
The system never goes into a **power saving mode**.	Power Options features are not enabled. Go to the ***Windows*** Power Options menu and enable the features you prefer (see ***"System Power Options" on page 3 - 6***). Make sure you have enabled **Hibernate** mode from the control panel.
The **Wireless LAN** module cannot be detected.	*The module is off.* Check the LED indicator and/or function key indicator to see if the WLAN module is on or off (see ***"Function/Hot Key Indicators" on Chapter 1***). If the LED indicator is off, then press the **Fn + F11 (WLAN)** key combination in order to enable the modules (see ***"Function/Hot Key Indicators" on Chapter 1***).
The **PC Camera** module cannot be detected.	*The module is off.* Press the **Fn + F10** key combination in order to enable the module (see ***"Function/Hot Key Indicators" on Chapter 1***).

Problem	Possible Cause - Solution
The **Wireless LAN**or **PC Camera** modules 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 the instructions for the appropriate module in "Additional modules" on page 7-1).
The **Card Reader/Network (LAN) Device** does not appear in the **Device Manager** in ***Windows***.	*This is a power saving feature*. When not in use the Card Reader/Network (LAN) Device will not appear in the ***Windows*** **Device Manager** as they are not consuming any power. However as soon as the Card Reader is reading from/ writing to an inserted card, or the LAN card is experiencing network activity, the device will reappear in the ***Windows*** **Device Manager**.

Appendix A: Interface (Ports & Jacks)

Overview

The following chapter will give a quick description of the interface (ports & jacks) which allow your computer to communicate with external devices, connect to the internet etc.

Notebook Ports and Jacks

Item	Description
Card Reader Port MMC / SD /MS	The card reader allows you to use some of the latest digital storage cards. Push the card into the slot and it will appear as a removable device.
DC-In Jack	Plug the supplied AC/DC adapter into this jack to power your computer.
External Monitor Port	This port allows you to connect an external monitor, or Flat Panel Display, to get dual video or simultaneous display on the LCD and external monitor/FPD.
Headphone-Out Jack	Headphones or speakers may be connected through this jack. **Note**: Set your system's volume to a reduced level before connecting to this jack.
Microphone-In Jack	Plug an external microphone in to this jack to record on your computer (see ***"Audio Recording from Microphone" on page 2 - 6*** for configuration information).
RJ-45 LAN Jack	This port supports LAN (Network) functions. **Note**: Broadband (e.g. ADSL) modems usually connect to the LAN port.
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.

Item	Description
USB 2.0/1.1 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).

Appendix B: Intel Video Driver Controls

The basic settings for configuring the LCD are outlined in "Video Features" section.

Intel Video Driver Installation

Make sure you install all the drivers in the order indicated in ***Table 4 - 1, on page 4 - 2***.

Video

1. insert the ***Device Drivers & User's Manual*** disc into the CD/DVD drive.
2. Browse the CD and go to the **Drivers** / **Video** folder .
3. Start the executable file (*"Setup.exe"*)
4. Follow the installation procedure.
5. Click **Finish** to restart the computer.

Dynamic Video Memory Technology

Intel® DVMT automatically and dynamically allocates as much (up to **128MB**) system memory (RAM) as needed to the video system (**the video driver must be installed**). DVMT returns whatever memory is no longer needed to the operating system.

DVMT Notes

DVMT is not local video memory.

DVMT is not user-configurable.

DVMT will not function in MS-DOS. DOS uses the legacy memory indicated.

B

Taskbar Icon

You can also access the controller properties from the taskbar. Click on the icon to bring up the menu and scroll to **Graphics Properties**.

If you cannot see the tray icon go to the **Intel(R) Graphics Media Accelerator Driver** tab (in the **Display Properties > Advanced** options) and click the "**Show Tray Icon**" tickbox.

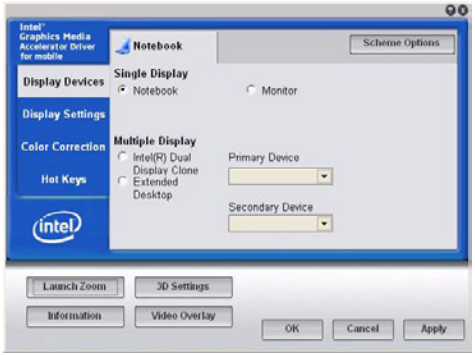
Intel Graphics Properties

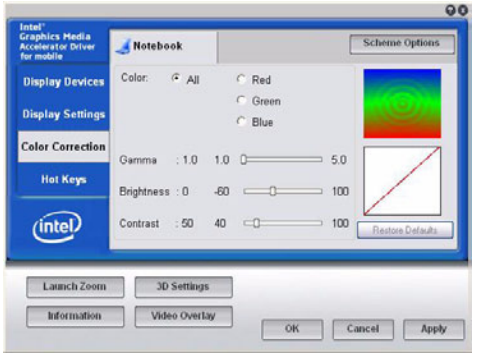
More advanced video configuration options are provided by the **Intel(R) Graphics Media Accelerator Driver for Mobile**.

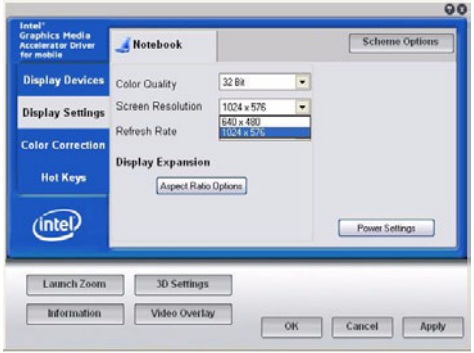
1. Open **Display Properties**and click **Advanced**.
2. Click the **Intel(R)...** tab and click **Graphics Properties** (button).
3. You can also access **Graphics Properties** from the ***Windows*** **Intel(R) GMA Driver for Mobile** control panel, or from the taskbar icon .

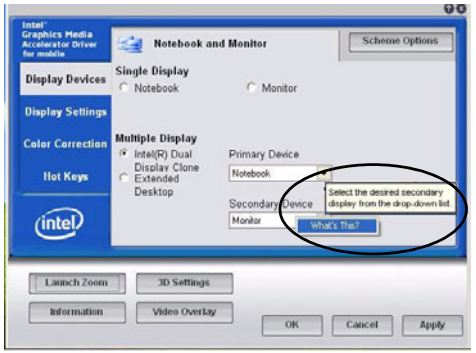
Figure B - 1
Intel Graphics Properties

You may make changes to the devices, color, schemes, **Hot Keys** etc. by clicking the appropriate menu item or button.









Help Menus

Right-click on many of the items in the tabs to bring up the "**What's This?**" button.

Click the "**What's This?**" button to bring up the help menu.

Multiple Display

At least one other display must be attached in order to view **Multiple Display** selection options.

Figure B - 2
Intel Graphics Media Accelerator Driver for mobile (Control Panel Tabs)

B

Application.exe

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

Scheme Options

Use **Scheme Options** to configure quick settings for applications which require specific resolution and color settings in order to run properly e.g. games, multimedia programs. To set the scheme options:

1. Go to the **Graphics Properties** control panel (see ***"Intel Graphics Properties" on page B - 2***).
2. Configure your display configuration, resolution etc. as per your requirements, from **Display Devices** (tab).
3. Click on **Scheme Options** (button).
4. Type a name for the scheme then click **Save**.
5. If you want to automatically launch an application when running the scheme click on **Browse** (button).
6. **Browse** to the executable file for the application you want to set the scheme for (see sidebar), and click **Open** to select it.
7. Click **Save** to save the settings (you can click in the "**Restore the display settings after exiting this application**" box to return to your original settings when you exit the program).
8. Click **OK** to exit the program.
9. You can run the scheme by clicking the taskbar icon and selecting the scheme from **Select Scheme**.

Figure B - 3
Select Scheme

Display Devices & Options

Besides the built-in LCD, you can also use an **external VGA monitor** (CRT) or **external Flat Panel Display** as your display device. A VGA monitor/Flat Panel Display connects to the external monitor port. The following display modes are available.

Intel Display Mode	Description
Single Display	One of the connected displays is used as the display device
Multiple Display - Intel(R) Dual Display Clone	Both connected displays output the same view and may be configured independently
Multiple Display - Extended Desktop	Both connected displays are treated as separate devices, and act as a virtual desktop

Table B - 1
Display Modes

Attaching Displays

When you first attach an external display you may find that the desktop does not occupy the full screen area. Use either the display's auto adjust/configure controls, or the **Intel(R) GMA Driver for Mobile** control panel to configure the full screen display.

Function Key Combination

You can use the **Fn + F7** key combination to toggle through the display options:

- Notebook Only
- External Display Only
- Notebook + External Display

Make sure you give the displays enough time to refresh.

Attaching Other Displays

If you prefer to use a monitor or flat panel display, connect it to the external monitor port on the left of the computer.

To Enable Intel(R) Dual Display Clone Mode

1. Attach your external display to the external monitor port, and turn it on.
2. Go to the **Intel(R) GMA Driver for mobile** control panel and click **Display Devices**.
3. Click to choose **Intel(R) Dual Display Clone (Multiple Display)**.
4. Click **Apply**, and **OK** to confirm the settings change.
5. Click **Display Settings** to adjust the settings for the attached devices.

Multiple Display

At least one other display must be attached in order to view **Multiple Display** selection options.

BIOS Setting

Make sure that you have not disabled external display detection in the BIOS if attempting to connect external displays (see *"Detect External CRT (Advanced Menu)" on page 5 - 9*).

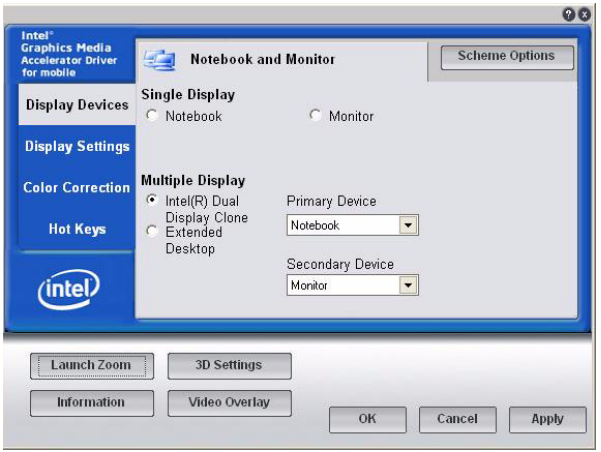


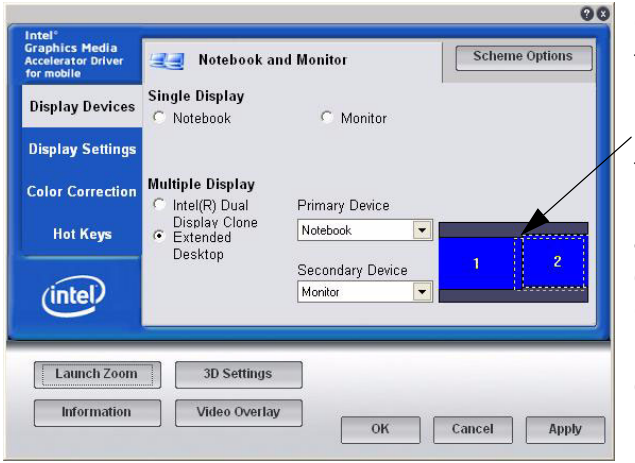
Figure B - 4
Display Devices

Video Settings

Click **Video Settings** (button) in the **Intel(R) GMA Driver for mobile** control panel to access settings for **Video Quality, Color Control** and **Video Scaling**.

To Enable Extended Desktop Mode:

1. Attach your external display to the external monitor port, and turn it on.
2. Go to the **Intel(R) GMA Driver for mobile** control panel and click **Display Devices**.
3. Click to choose **Extended Desktop (Multiple Display)**.
4. Click **Apply**, and **OK** to confirm the settings change.
5. Click **Display Settings** to adjust the settings for the attached devices.



Click the appropriate monitor icon and drag it to match the physical arrangement you wish to use (e.g. the secondary display may be extended left/right/above/below the primary display).

Click Display Settings to make any adjustments required.

You can also enable the Extended Desktop mode from the **Display Properties** control panel (see page ***B - 8***).

Display Settings Extended Desktop

You can have different Colors, Screen Area and Monitor Refresh Rates for each display device **provided your monitor can support them**.

You can drag the monitor icons to match the physical layout of your displays. Icons and programs may also be dragged between the displays.

Figure B - 5
Extended Desktop Mode

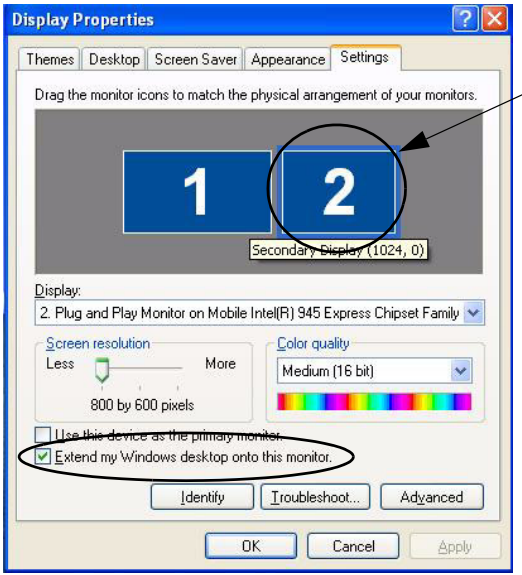
Display Settings Extended Desktop

Use the control panel to drag the monitors to match the physical arrangement you wish to use.

You can drag any icons or windows across to either display desktop, which makes it possible to have one program visible in one of the displays, and a different program visible in the other display.

To Enable Extended Desktop (Windows Display Properties)

1. Attach your external monitor to the external monitor port, and turn it on.
2. Click **Start**, point to **Settings** (or click **Control Panel**) and click **Control Panel** (if you are in **Category View** choose **Appearance and Themes**).
3. Double-click **Display** (icon).
4. In the **Display Properties** dialog box, click **Settings** (tab).
5. Click the monitor icon (e.g. 2), and make sure you have checked "**Extend my Windows desktop onto this monitor**." and click **Apply**.



Click the appropriate monitor icon (e.g. 2) to be able to select the option to extend the desktop on to it.

In this example the Primary monitor 1 is on the left, the secondary display 2 is on the

Figure B - 6
Display Properties (Extended Desktop)

Appendix C: Specifications

Latest Specification Information

The specifications listed in this Appendix are correct at the time of going to press. Certain items (particularly processor types/ speeds) may be changed, delayed or updated due to the manufacturer's release schedule. Check with your service center for details.

Processor
Intel® Atom® Processor **N270** (**1.6 GHz** 512KB On-die L2 Cache & 533MHz FSB - BGA Package)
Core Logic
Intel® 82945GSE +82801GBM
Display
10.1" WSVGA (1024 * 576) TFT LCD
Memory
One 200 Pin SO-DIMM Socket Supporting **DDRII (DDR2**) 533 MHz Memory Memory Expandable up to 2GB

Video Adapter
Intel 945GSE Integrated Video Supports DirectX 9.0 Shared Memory Architecture (up to **128MB** shared video memory dynamically allocated from system memory where needed)
BIOS
One 8Mb SPI Flash ROM Phoenix™ BIOS
Storage
One Changeable 2.5" 9.5 mm (h) **SATA** (Serial) Hard Disk Drive **Note**: It is recommended that HDDs of a speed of 5400 RPM are used. DO NOT use 7200rpm HDDs.
Security
Kensington Lock

Audio
High Definition Audio Compliant Interface Compliant with Microsoft UAA (Universal Audio Architecture) Direct Sound 3D™ Compatible 2 * Built-In Speakers Built-In Microphone
Pointing Device
Built-in TouchPad (scrolling key functionality integrated)
Keyboard
"WinKey" keyboard (with embedded numeric keypad)
Interface
Two USB 2.0 Ports One Headphone-Out Jack One Microphone-In Jack One External Monitor Port One RJ-45 LAN Jack One DC-in Jack

Communication

10Mb/100Mb Base-T Ethernet LAN

802.11b/g Wireless LAN Half Mini-Card Module

1.3M Pixel USB PC Camera Module

Operating System

Windows XP Home Premium 32 with Service Pack 3

Card Reader

Embedded 7-in-1 Card Reader (MS/ MS Pro/ SD/ Mini SD/ MMC/ RS MMC/ MS Duo)

Note: MS Duo/ Mini SD/ RS MMC Cards require a PC adapter

Slot

Two Mini-Card Slots (USB & PCIE)

Slot 1: for Wireless LAN Module (Half Mini-Card)

Power Management

Wake On LAN
Wake On USB

Power

Full Range AC/DC Adapter
AC Input: 100 - 240V, 50 - 60Hz
DC Output: 19V, 1.57A/1.58A (30 Watts)

Battery

Polymer Battery Pack, 3550mAh

Environmental Spec

Temperature
Operating: 5°C - 35°C
Non-Operating: -20°C - 60°C
Relative Humidity
Operating: 20% - 80%
Non-Operating: 10% - 90%

Dimensions & Weight

271mm (w) * 188.6mm (d) * 19.5 - 28mm (h)
Around 1.2 kg With Battery

C

Directive 2002/96/CE

DIRECTIVE 2002/96/CE ON THE TREATMENT, COLLECTION, RECYCLING AND DISPOSAL OF ELECTRIC AND ELECTRONIC DEVICES AND THEIR COMPONENTS

1. FOR COUNTRIES IN THE EUROPEAN UNION (EU)

The disposal of electric and electronic devices as solid urban waste is strictly prohibited: it must be collected separately. The dumping of these devices at unequipped and unauthorized places may have hazardous effects on health and the environment.
Offenders will be subjected to the penalties and measures laid down by the law.

To dispose of our devices correctly:

a) Contact the Local Authorities, who will give you the practical information you need and the instructions for handling the waste correctly, for example: location and times of the waste collection centres, etc.
b) When you purchase a new device of ours, give a used device similar to the one purchased to our dealer for disposal.

The crossed dustbin symbol on the device means that:
- When it to be disposed of, the device is to be taken to the equipped waste collection centres and is to be handled separately from urban waste;
- Olivetti guarantees the activation of the treatment, collection, recycling and disposal procedures in accordance with Directive 2002/96/CE (and subsequent amendments).

2. FOR OTHER COUNTRIES (NOT IN THE EU)

The treatment, collection, recycling and disposal of electric and electronic devices will be carried out in accordance with the laws in force in the country in question.

Code: 383311Z

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