OLIBOOK P1500
NOTEBOOK

USER GUIDE

The mark affixed to the product certifies that the product satisfies the basic quality Requirements.	**CE**

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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. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
5. This product is intended to be supplied by a Listed Power Unit with an AC Input of 100 - 240V, 50 - 60Hz, DC Output of 19V, 3.42A (**65** Watts)/18.5V, 3.5A (**65** Watts) minimum AC/DC Adapter

CAUTION

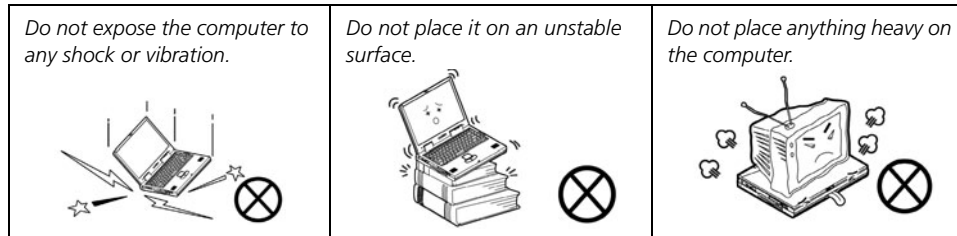Always disconnect all telephone lines from the wall outlet before servicing or disassembling this equipment.

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

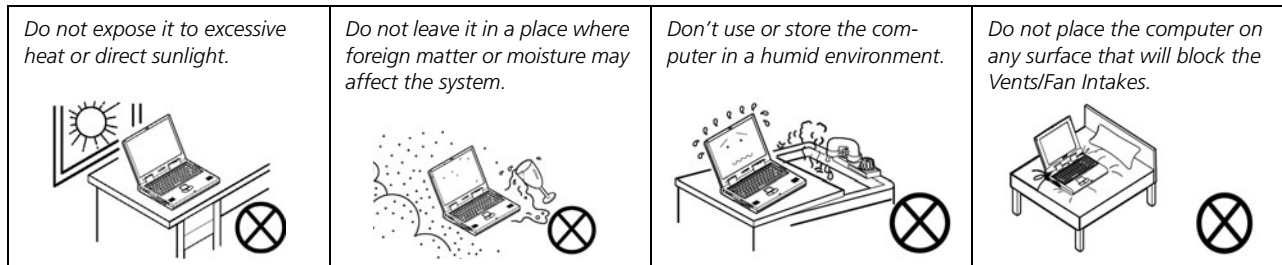## This Computer's Optical Device is a Laser Class 1 Product

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.

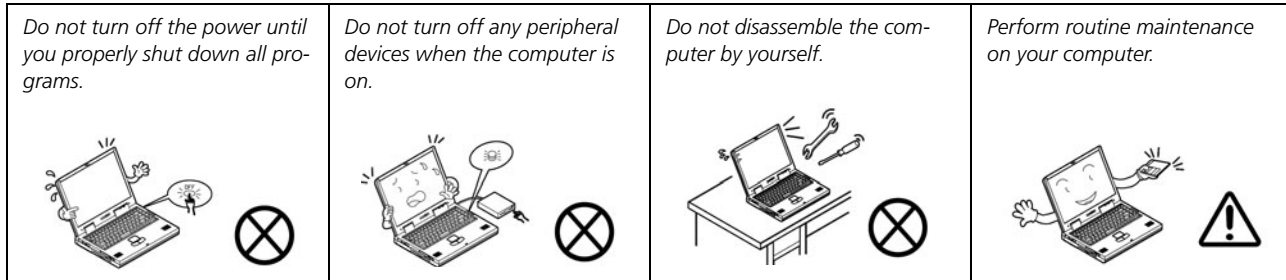|		
Do not expose the computer to any shock or vibration.	*Do not place it on an unstable surface.*	*Do not place anything heavy on the computer.*

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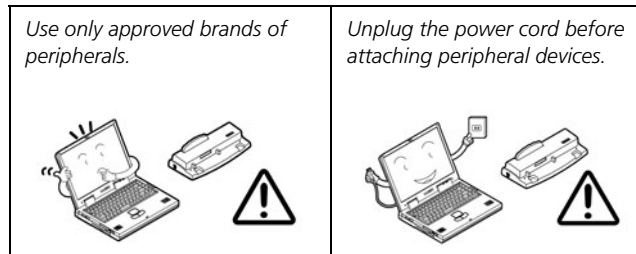
Do not expose it to excessive heat or direct sunlight.	*Do not leave it in a place where foreign matter or moisture may affect the system.*	*Don't use or store the computer in a humid environment.*	*Do not place the computer on any surface that will block the Vents/Fan Intakes.*

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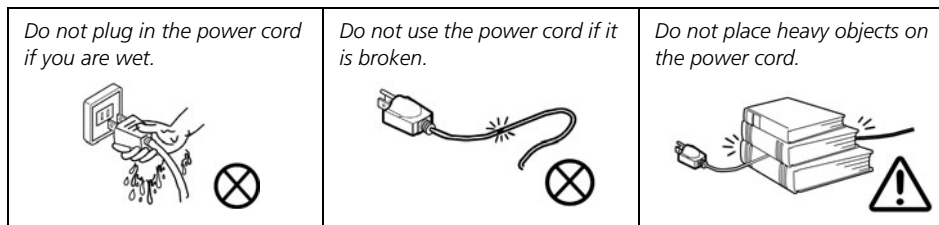
Do not turn off the power until you properly shut down all programs.	*Do not turn off any peripheral devices when the computer is on.*	*Do not disassemble the computer by yourself.*	*Perform routine maintenance on your computer.*

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).

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.

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.

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.
- If you do not use the battery for an extended period, then remove the battery from the computer for storage.
- 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.

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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.

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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.

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

Lighting

Proper lighting and comfortable display viewing angle can reduce eye strain and muscle fatigue in your neck and shoulders.
• Position the display to avoid glare or reflections from overhead lighting or outside sources of light.
• Keep the display screen clean and set the brightness and contrast to levels that allow you to see the screen clearly.
• Position the display directly in front of you at a comfortable viewing distance.
• Adjust the display-viewing angle to find the best position.

LCD Screen Care

To prevent **image persistence** on LCD monitors (caused by the continuous display of graphics on the screen for an extended period of time) take the following precautions:

• Set the *Windows* **Power Plans** to turn the screen off after a few minutes of screen idle time.
• Use a rotating, moving or blank screen saver (this prevents an image from being displayed too long).
• Rotate desktop background images every few days.
• Turn the monitor off when the system is not in use.

Preface

Contents

About this Concise User Guide

Features & Components

Power Management

Drivers & Utilities

BIOS Utilities

Upgrading The Computer

Additional Modules

Troubleshooting

Interface (Ports & Jacks)

SIS Video Driver Controls

Specifications

Chapter I: About this Concise User Guide

About this Concise User 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).

All computer's features have already 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 full regulatory notices and safety information contained in the present *User's Manual* .

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Instructions for Care and Operation

The computer is designed for a mobile use and it is quite rugged, but it can be damaged. To prevent this, follow these suggestions:

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

Power & Battery Safety
- Only use an AC/DC adapter approved for use with this computer.
- Use only the power cord and batteries indicated in this manual.

- 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 AC/DC 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.
- Make sure that your computer is completely powered off before putting it into a travel bag (or any such container).
- Only use batteries designed for this computer. The wrong battery type may explode, leak or damage the computer.
- 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 computer'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 dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
- 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.

Servicing

Attempting to service the computer yourself may violate your warranty and expose you and the computer to electric shock. Refer all servicing to qualified service personnel, particularly under any of the following conditions:

- When the power cord is damaged or frayed.
- If the computer has been exposed to any 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.

Cleaning

- Use a soft clean cloth to clean the computer, but do not apply cleaner directly to the computer.
- Do not use volatile (petroleum distillates) or abrasive cleaners on any part of the computer.
- Before cleaning the computer remove the battery and make sure the computer is disconnected from any external power supplies, peripherals and cables (including telephone lines).

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 computer (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 raise the lid/LCD to a comfortable viewing angle (do not exceed 120 degrees); use the other hand (as illustrated in *Figure 1*) to 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".
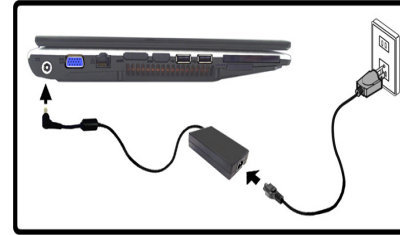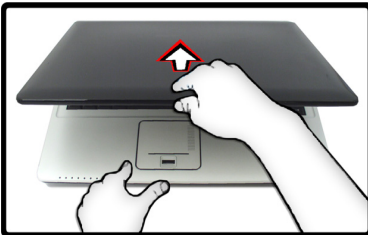
120°

🖉

Shut Down

Note that you should always shut your computer down by choosing the **Shut Down** command from the **Lock Button Menu** in *Windows Vista*. This will help prevent hard disk or system problems.

Figure 1 **- Opening the Lid/LCD/Computer with AC/DC Adapter Plugged-In**

# First installation and Operating System Customisation

Installation of Windows Vista requires entry of certain information which is necessary for configuring and customising the operating system on the basis of user requirements.

The procedure described below is valid only for the preinstalled version of Windows Vista.

1. On first powering on the portable computer, after a short phase with a black screen and scrolling white bar, a screen appears in which you can select the nationality for the keyboard. Select the settings for the keyboard and press Next to continue with the customisation. The system displays a screen for you to enter the serial code for the Windows version:

4. Enter the user name and password and choose an image to associate with the user account.

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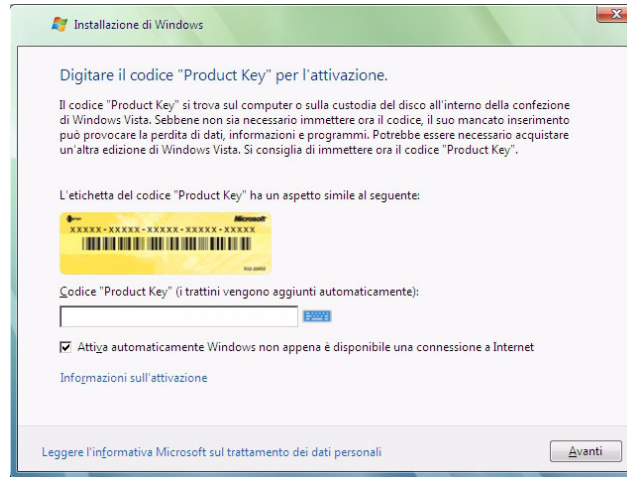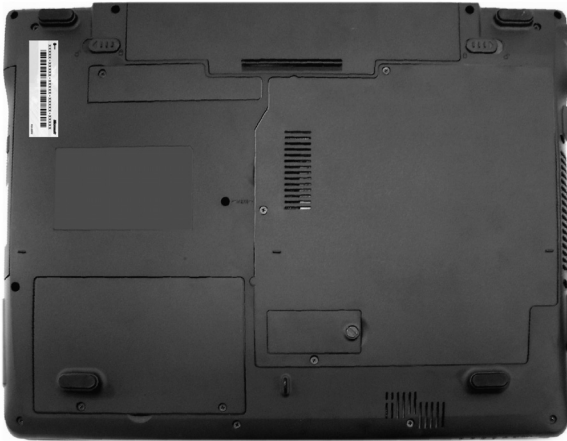
The serial code can be found on the label on the back of the notebook.

2. Enter the serial code for the version of Windows you are using and enable the automatic activation procedure.

3. At the end, the system proposes acceptance of the licence agreement ("I accept the licence terms"), followed by customisation of the data to access **Computer Resources.**

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If you do not enter a user name it is not possible to continue, the password on the other hand is optional and can be omitted (it is advisable to enter it to make access to the information held on the computer safer). An image is associated automatically if one is not selected.

5. At the end, after the data entered by the user is saved, the screen relating to windows protection is displayed. The optimal settings are recommended but they can be changed later from the control panel of the operating system. Select **Use advised settings**.

6. The system requires you to check the date and time proposed, so check them and press **Next** to continue.

7. The configuration is complete. Wait while the operating system saves the settings and loads Windows Vista.

8. When loading is complete, the Windows desktop appears with the **initial activities center** in the foreground. The initial activities center contains the preliminary activities provided by Windows and some additional applications grouped together with the recommended software.

For installation of the recommended software, select the relative icon and follow the instructions provided on the screen.
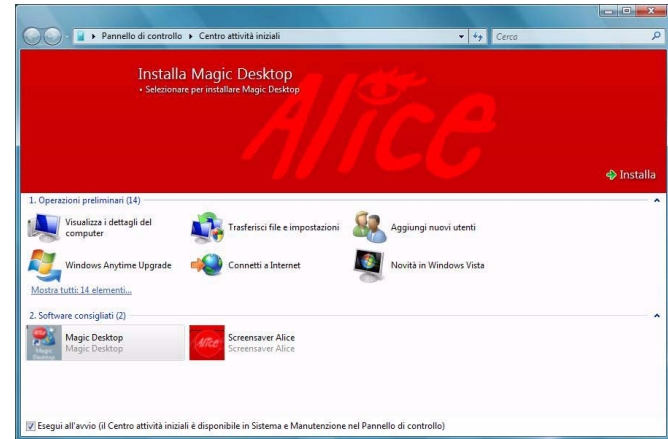
Operating System Setup

If you are installing new system software, or are re-configuring your computer for a different system, make sure you configure the appropriate OS setting in the BIOS before installing a new operating system (**Note**: If you have installed the *Windows Vista* operating system with **AHCI** mode enabled, **DO NOT** disable AHCI mode or you will need to reinstall the *Windows Vista* OS).

1. Start-up the computer and press **F2** to enter the **BIOS**.
2. Go to the **Advanced** menu, select **Installed O/S** and make sure the appropriate operating system is selected.
3. Go to the **Exit** menu and select **Exit Saving Changes** (or press **F10**) and press **Enter** to exit the BIOS and reboot the computer.
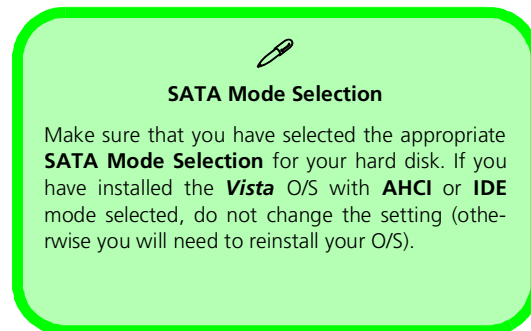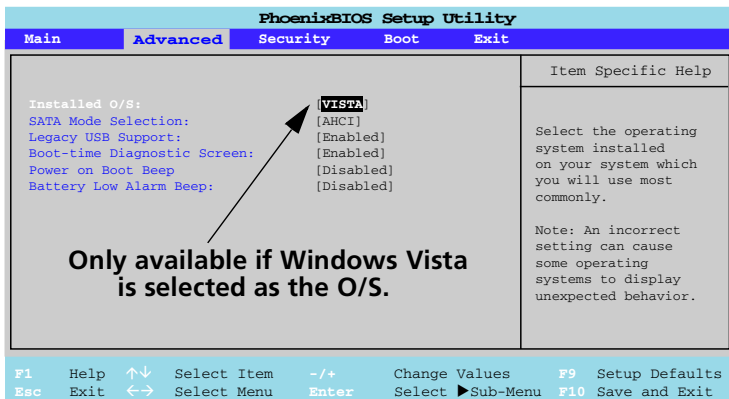
```
                        PhoenixBIOS Setup Utility
   Main        Advanced      Security      Boot      Exit

                                              Item Specific Help

   Installed O/S:                 [VISTA]
   SATA Mode Selection:           [AHCI]        Select the operating
   Legacy USB Support:            [Enabled]     system installed
   Boot-time Diagnostic Screen:   [Enabled]     on your system which
   Power on Boot Beep             [Disabled]    you will use most
   Battery Low Alarm Beep:        [Disabled]    commonly.

                                                Note: An incorrect
            Only available if Windows Vista     setting can cause
                is selected as the O/S.         some operating
                                                systems to display
                                                unexpected behavior.



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

> ✎
>
> **SATA Mode Selection**
>
> Make sure that you have selected the appropriate **SATA Mode Selection** for your hard disk. If you have installed the *Vista* O/S with **AHCI** or **IDE** mode selected, do not change the setting (otherwise you will need to reinstall your O/S).

Figure 2 **- BIOS (Operating System Selection)**

System Software

Your computer   come with system software pre-installed.

If you are re-configuring your computer for a different system, you will find this manual refers to the *Microsoft Windows Vista* operating system. Further information on installing the drivers is available in the *User's Manual* on the *Device Drivers & User's Manual* disc.

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Drivers

If you are installing/re-installing new system software, you will need to install the appropriate drivers. Drivers are programs which act as an interface between the computer and a hardware component e.g. a wireless network module. It is very important that you install the drivers in the order listed in Table 4. You will be unable to use most advanced controls until the necessary drivers and utilities are properly installed.

Operating Systems Supported

| Operating System	Note
Windows XP with SP3 (Home Edition or Professional)	For information on the *Windows XP OS* see the *Device Drivers & User's Manual* disc.
Windows Vista with SP1 Home Basic/Home Premium/Business/ Enterprise/Ultimate Editions	Make sure you install **Windows Vista Service Pack 1** (or a *Windows Vista* version which includes Service Pack 1) **before installing any drivers**. Go to the Microsoft website for download details, or contact your service center. In order to run **Windows Vista** without limitations or decreased performance, your computer requires a minimum **1GB** of system memory (RAM).

Not Included

Operating Systems (e.g. *Windows Vista/Windows XP*) and applications (e.g. word processing, spreadsheet and database programs) have their own manuals, so please consult the appropriate manuals.

1. Built-In PC Camera
2. LCD
3. Speakers
4. Power Button
5. Hot-Key Buttons
6. Keyboard
7. Built-In Microphone
8. TouchPad & Buttons
9. LED Indicators

System Map: Front View with LCD Panel Open
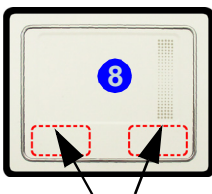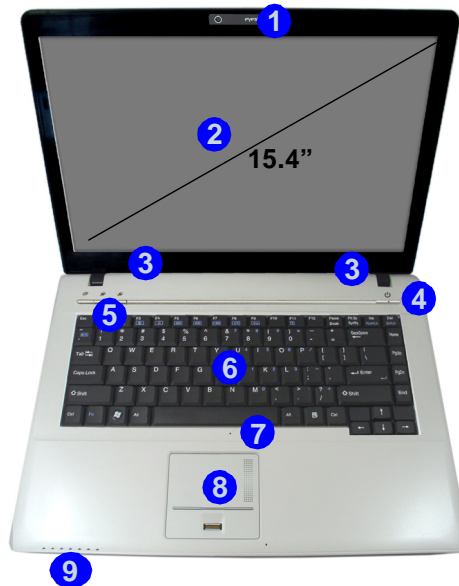
TouchPad Buttons
(valid operation area)

Hot-Key Buttons & LED Indicators

The Hot-Key buttons give instant access to the default Internet browser and e-mail program, and allow you to toggle the **Silent Mode** on/off with one quick button press.

Hot-Key Button	Function
✉	Activate the Default E-Mail Browser
W	Activate the Default Internet Program
M	Toggle *Silent Mode (for power saving)

Table 2 **- Hot-Key Buttons**

*When enabled, **Silent Mode** will reduce fan noise and save power consumption. Note this may reduce computer performance.

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
🔒1	Green	Number Lock (Numeric Keypad) Activated
🔒A	Green	Caps Lock Activated
🔒↓	Green	Scroll Lock Activated
🔋	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
	Orange	The Bluetooth Module is Powered On

Table 3 **- LED Indicators**

Keyboard

The keyboard has a numeric keypad for easy numeric data input. Pressing **Fn + NumLk** turns on/off the numeric keypad. It also features function keys to allow you to change operational features instantly.

Figure 4 **- Keyboard**
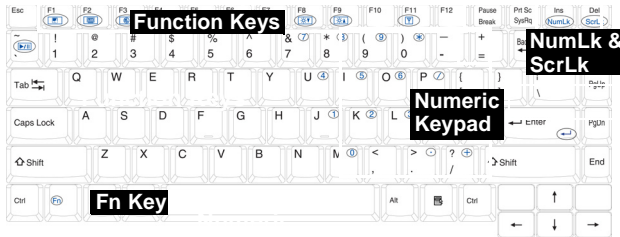
Special Characters

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

Function Keys & Visual Indicators

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 (see the table below) are available when the hot key utility is installed (see Table 2). After installing the driver an icon will appear in the taskbar.
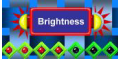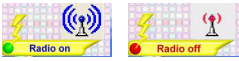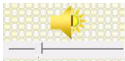
Keys	Function/Visual Indicators		Keys	Function/Visual Indicators	
Fn + ~	Play/Pause (in Audio/Video Programs)		Fn +F8/F9	Brightness Decrease/ Increase	
Fn + F1	TouchPad Toggle		Fn + F10	PC Camera Power Toggle	
			Fn + F11	WLAN Module Power Toggle	
Fn + F2	Turn LCD Backlight Off (Press a key to or use Touch-Pad to turn on)		Fn + F12	Bluetooth Module Power Toggle	
Fn + F3	Mute Toggle		Fn + NumLk	Numeric Keypad Toggle	
Fn + F4	Sleep Toggle				
Fn + F5/F6	Volume Decrease/ Increase		Fn + ScrLk	Scroll Lock Toggle	
Fn + F7	Display Toggle			Silent Mode Toggle	

Table 4 - **Function Keys & Visual Indicators**

System Map: Front, Left, Right & Rear Views

Figure 5
Front, Left, Right & Rear Views

1. LED Indicators
2. DC-In Jack
3. External Monitor Port
4. RJ-45 LAN Jack
5. Vent
6. 3 * USB 2.0 Ports
7. ExpressCard/54(34) Slot
8. 7-in-1 Card Reader
9. S/PDIF-Out Jack
10. Microphone-In Jack
11. Headphone-Out Jack
12. Optical Device Drive Bay
13. Emergency Eject Hole
14. RJ-11 Modem Jack
15. Security Lock Slot
16. Battery

Front

Left

Right

Rear
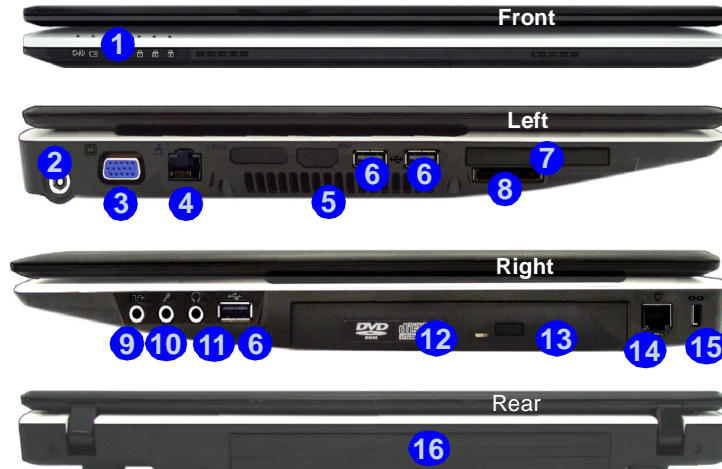
Disc Emergency Eject

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

System Map: Bottom View
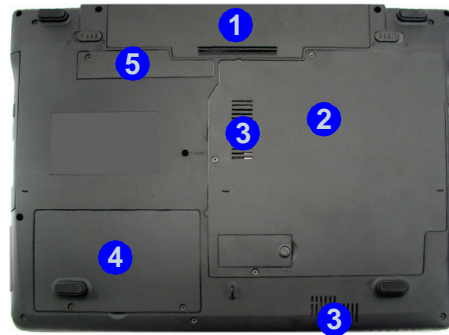
1. Battery
2. RAM & CPU Bay Cover
3. Vent
4. Hard Disk Bay Cover
5. Bluetooth Module Cover
6. Speakers

Overheating

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

Video Features

This computer features **SiS** video options control. You can switch display devices, and configure display options, from the **Display Settings** control panel (in **Personalization**) in *Windows Vista* and/or the **SiS VGA Control Center**

To access *Windows Vista Display Settings*:

1. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
2. Click **Adjust screen resolution** under the **Appearance and Personalization** menu (or double-click **Personalization** > **Display Settings**).
3. Move the slider to the preferred setting in **Resolution: ❶**.
4. Click the arrow, and scroll to the preferred setting In **Colors: ❷**.
5. Click **Advanced Settings** (button) **❸** to bring up the **Advanced Settings** tabs.

To access the *SiS VGA Control Center*:

1. The **SiS VGA Control Center** can be accessed by right-clicking the **SiSTray** taskbar icon 🖥️, and selecting **Control Center** (or from the **SiS VGA Control Center** in the *Windows* Control Panel).
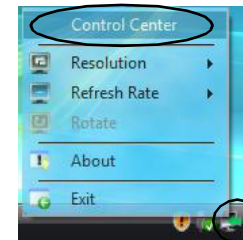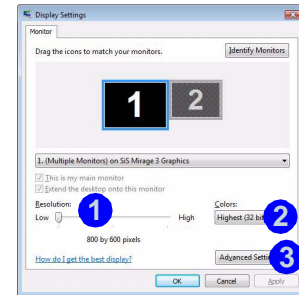
Figure 7 **- Display Settings**

Power Options

The **Power Options** (**Hardware and Sound** menu) control panel icon in *Windows* allows you to configure power management features for your computer. You can conserve power by means of **power plans** and configure the options for the **power button**, **sleep button**, **computer lid (when closed)**, **display** and **sleep** mode (the default power saving state) from the left menu. Note that the **Power saver** plan may have an affect on computer performance.

Click to select one of the existing plans, or click **Create a power plan** in the left menu and select the options to create a new plan. Click **Change Plan Settings** and click **Change advanced power settings** to access further configuration options.
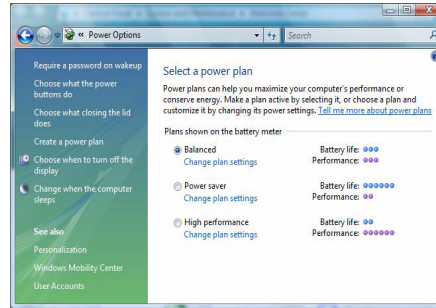
Figure 8 **- Power Options**

🖉

Battery Information

Always completely discharge, then fully charge, a new battery before using it. Completely discharge and charge the battery at least once every 30 days or after about 20 partial discharges (see the expanded *User's Manual* on the *Device Drivers & Utilities + User's Manual* disc).

Audio Features

You can configure the audio options on your computer from the **Sound** control panel in *Windows*, or from the **Realtek HD Audio Manager** icon in the taskbar/control panel (right-click the taskbar icon to bring up an audio menu). The volume may also be adjusted by means of the **Fn** + **F5/F6** key combination.

🖉

Sound Volume Adjustment

The sound volume level is set using the volume control within *Windows* (and the volume function keys on the computer). Click the **Volume** icon in the taskbar to check the setting.
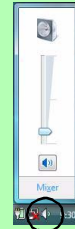
Driver Installation

The *Device Drivers & User's Manual* disc contains the drivers necessary for the proper operation of the computer. 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 Table 4.

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

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). - Driver Installation

Driver (**Windows Vista with SP1**)
Video
Audio
Modem
LAN
TouchPad
CardReader
Hot-Key
PC Camera
Wireless LAN Module
Bluetooth Module **Note**: No driver installation required.
Enable **Windows Update** (**see left**)

For detailed instructions about driver installation and Device operations please refer to the PDF user manual contained in the *Device Drivers & User's Manual* disc .

Chapter 2: Features & Components

2

Overview

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

- Hard Disk Drive
- Optical (CD/DVD) Device
- 7-in-1 Card Reader
- ExpressCard Slot
- TouchPad and Buttons/Mouse
- Audio Features
-

2

☼
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.

Figure 2 - 1
Hard Disk Location

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) hard disk drives with a height of 9.5 mm.

The hard disk is accessible from the bottom of your computer as seen below. For further details see *"Upgrading the Hard Disk Drive" on page 6 - 4*.

Optical (CD/DVD) Device

There is a bay for a 5.25″ optical (CD/DVD) device (12.7mm height) equipped with a DVD Dual (Super Multi) Drive Module. The optical device is usually labeled "**Drive D:**" and may be used as a boot device if properly set in the **BIOS** (see *"Boot Menu" on page 5 - 13*).

Loading Discs

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

🖉

Sound Volume Adjustment

How high the sound volume can be set depends on the setting of the volume control within *Windows*. Click the **Volume** icon on the taskbar to check the setting (see *"Audio Features" on page 2 - 8*).

Figure 2 - 2
Optical Device

2

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CD Emergency Eject

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

Disk Eject Warning

Don't try to remove a CD/DVD while the system is accessing it. This may cause the system to "crash".

</div>

Handling CDs or DVDs

Proper handling of your CDs/DVDs will prevent them from being damaged. Please follow the advice below to make sure that the data stored on your CDs/DVDs can be accessed.

Note the following:

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

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.

Figure 2 - 3
Left View

1. Card Reader

🖉

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.

2

ExpressCard Slot

The computer is equipped with an **ExpressCard/34/54** slot that reads Express Card/34 and ExpressCard/54 formats. ExpressCards are the successors to PCM-CIA (PC Cards). Make sure you install the Card Reader driver.

ExpressCard/54 is used for applications which require a larger interface slot, e.g. CompactFlash card reader. The number denotes the card width; 54mm for the Express Card/54 and 34mm for the ExpressCard/34.

Inserting and Removing ExpressCards

• Align the ExpressCard with the slot and push it in until it locks into place (as pictured in the generic figure below).
• To remove an ExpressCard, simply press the card to eject it.

> ✐
>
> **ExpressCard Slot Cover**
>
> Make sure you keep the rubber cover provided in the ExpressCard slot when not in use. This will help prevent foreign objects and/or dust getting in to the ExpressCard Slot.

Figure 2 - 4
Left View

1. Express Card Slot

Figure 2 - 5
Inserting & Removing Express Cards

2

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.

Once you have installed the TouchPad driver you can configure the functions by double-clicking the TouchPad driver icon 🖳 on the **taskbar**. You may then configure the TouchPad tapping, buttons, scrolling, pointer motion and sensitivity options to your preferences. You will find further information at www.synaptics.com.

🖉

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.
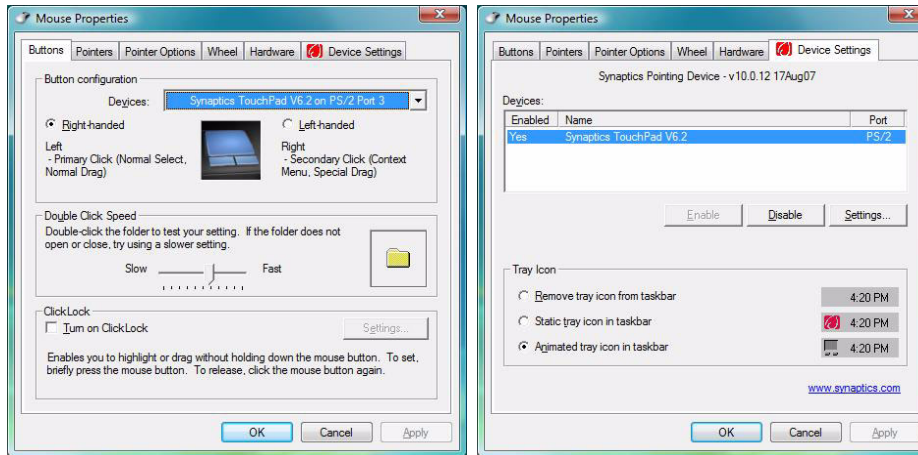
Figure 2 - 6
Mouse Properties

2

[Sidebar]

🖉

Sound Volume Adjustment

The sound volume level is set using the volume control within *Windows* (and the volume function keys on the computer). Click the volume icon in the taskbar to check the setting.

Figure 2 - 7
Realtek Audio Manager

Audio Features

You can configure the audio options on your computer from the **Sound** ◌ control panel in *Windows*, or from the **Realtek HD Audio Manager** 🔊 icon in the task-bar/control panel (right-click the taskbar icon 🔊 to bring up an audio menu). The volume may also be adjusted by means of the **Fn** + **F5/F6** key combination.

Right-click the icon 🔊 to access the menu above.
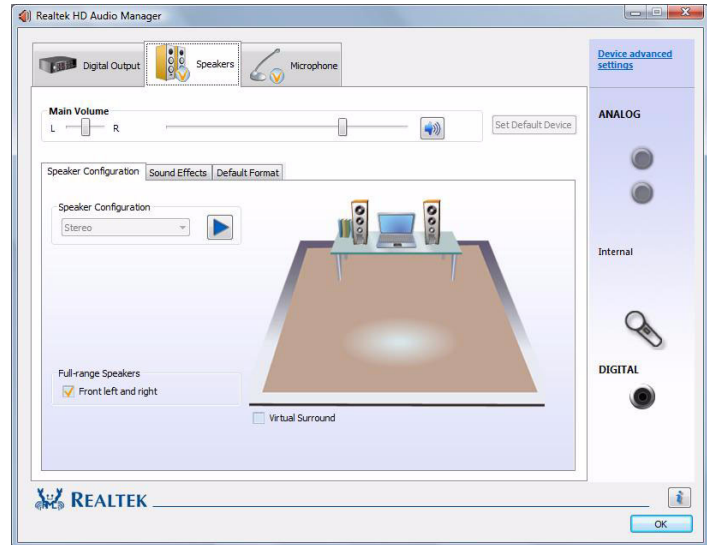
Chapter 3: Power Management

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 Plans
• Power-Saving States
• Configuring the Power Buttons
• Battery Information

The computer uses enhanced power saving techniques to give the operating system (OS) direct control over the power and thermal states of devices and processors. For example, this enables the OS to set devices into low-power states based on user settings and information from applications.

3

✎
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 Vista** OS.)

Hibernate Mode In Windows Vista SP1

If you are using **Windows Vista SP1** with **4GB RAM** installed, see page *8 - 12* for information on **Hibernate**.

3

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 - 14*).

We recommend that you do not remove the battery. For more information on the battery, please refer to *"Battery Information" on page 3 - 10*.

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 Sleep/Hibernate hot-key button when it is pressed for less than **4 seconds** (pressing and holding the power button for longer than this will force the computer to shut down). Use **Power Options** (**Hardware and Sound** menu) control panel in *Windows Vista* to configure this feature.

🖉

Forced Off

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

Power Button Sleep

Sleep is the default power mode when the power button is pressed for less than 4 seconds. You may configure the options for the power button from the **Power Options** (**Hardware and Sound** menu) control panel in *Windows Vista* (see your OS's documentation, or *"Configuring the Power Buttons" on page 3 - 8* for details).

3

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Shut Down

Note that you should always shut your computer down by choosing the **Shut Down** command from the **Lock Button Menu** in *Windows Vista*. This will help prevent hard disk or system problems.

3
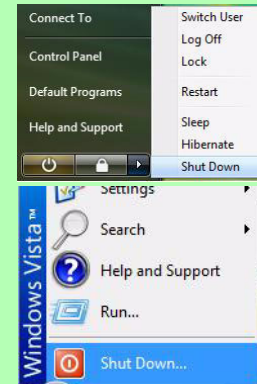
Password

It is recommended that you enable a password on system resume in order to protect your data.

Figure 3 - 1
**Power Plan
Advanced Settings**

Power Plans

The computer can be configured to conserve power by means of **power plans**. You can use (or modify) an existing **power plan**, or create a new one.

The settings may be adjusted to set the **display** to turn off after a specified time, and to send the computer into **Sleep** after a period of inactivity.

Click *Change plan settings* and then click *Change advanced power settings* to access further configuration options in **Advanced Settings**.
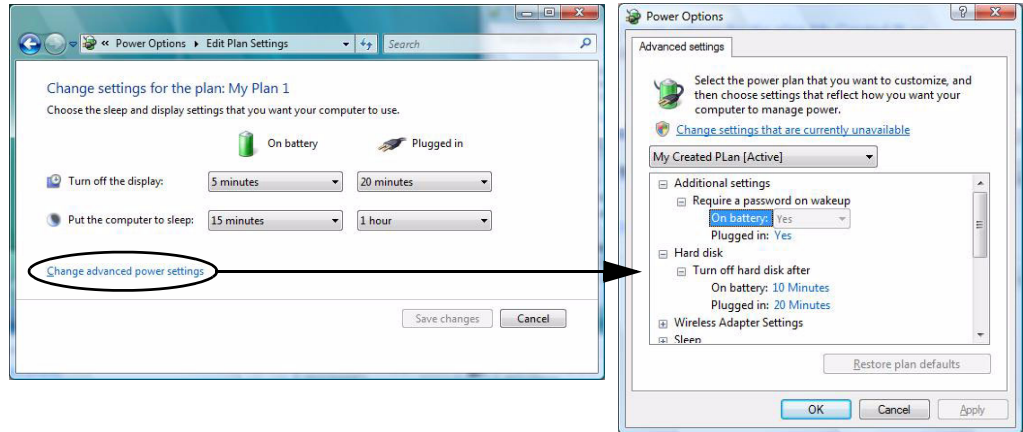
Each *Windows* **power plan** will also adjust the processor performance of your machine in order to save power. This is worth bearing in mind if you are experiencing any reduced performance (especially under DC/battery power).

Choose **High performance** for maximum performance when the computer is powered from an AC power source. Choose the **Power saver** (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.
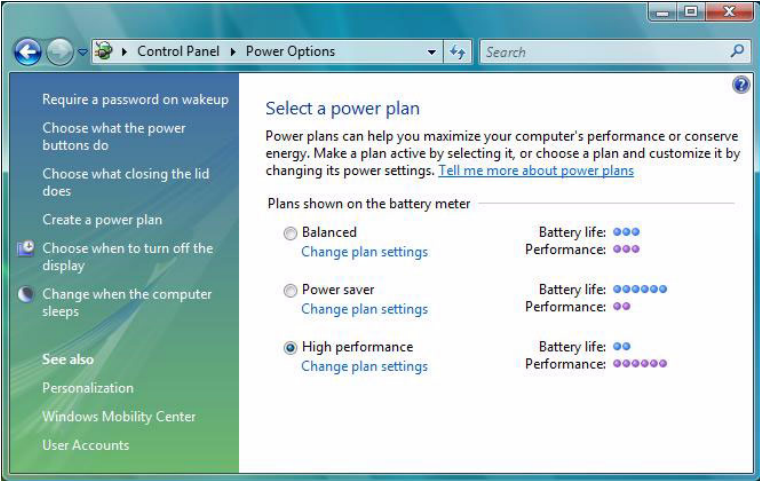
Figure 3 - 2
Power Plans

3

✏

Power Button

The **Power Button** 🔘 in the Start Menu (in Classic View use the Shut Down button 🔴) can be used to send the computer into a power-saving state.

Sleep Mode & Mobile PC Battery

A mobile PC in **Sleep** uses very little battery power.

After an extended period of time the computer will save any open documents and applications to hard disk.

Power-Saving States

You can use power-saving states to stop the computer's operation and restart where you left off. **Sleep** is the default power-saving state in *Windows Vista*.

Earlier versions of *Windows* used Stand By and Hibernate as system power-saving states. *Windows Vista* combines the features of Stand By and Hibernate into the default **Sleep** power-saving state.

Sleep

In **Sleep** all of your work, settings and preferences are saved to memory before the system sleeps. When you are not using your computer for a certain length of time, which you specify in the operating system, it will enter **Sleep** to save power.

The PC wakes from **Sleep within seconds** and will return you to where you last left off (what was on your desktop) without reopening the application(s) and file(s) you last used.

If your mobile PC in **Sleep** is running on battery power the system will use only a minimum amount of power. After an extended period the system will save all the information to the hard disk and shut the computer down before the battery becomes depleted.

Hibernate

Hibernate uses the least amount of power of all the power-saving states and saves all of your information on a part of the hard disk before it turns the system off. If a power failure occurs the system can restore your work from the hard disk; if a power failure occurs when work is saved only to memory, then the work will be lost. **Hibernate** will also return you to where you last left off within seconds. You should put your mobile PC into **Hibernate** if you will not use the computer for a period of time, and will not have the chance to charge the battery.

Shut Down

You should **shut down** the computer if you plan to install new hardware (don't forget to remove the battery and follow all the safety instructions in **Chapter 6**), plan to be away from the computer for several days, or you do not need it to wake up and run a scheduled task. Returning to full operation from **shut down** takes longer than from **Sleep** or **Hibernate**.

> 🖉
>
> **Hibernate Mode In Windows Vista SP1**
>
> If you are using *Windows Vista SP1* with **4GB RAM** installed, see page *8 - 12* for information on **Hibernate**.

3
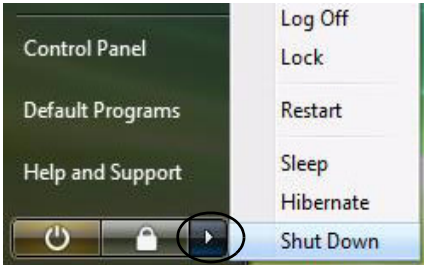
Figure 3 - 3
Lock Button Menu

3

Configuring the Power Buttons

The power/sleep button (**Fn + F4** key combo) and closed lid may be set to send the computer in to a power-saving state.

Password Protection

It is recommended that you enable a password on wake up in order to protect your data.

However you can disable this setting from the **Power Options** menu by clicking *Require a password on wakeup* in the left menu, and selecting the options (click *Change settings that are currently unavailable*).

Figure 3 - 4
**Power Options
Define Power
Buttons**
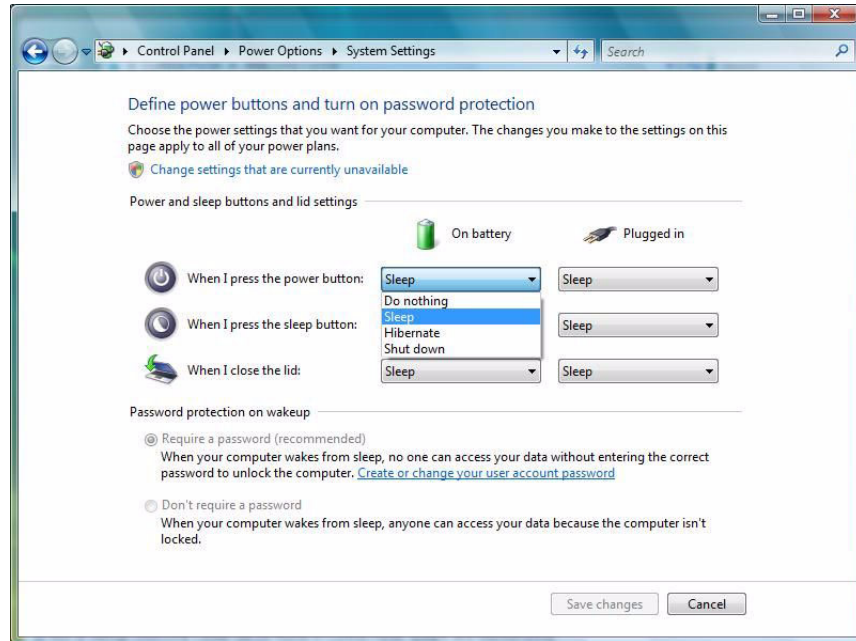
Resuming Operation

You can resume operation from power-saving states by pressing the power button, or in some cases pressing the sleep button (**Fn + F4** key combo).

Power Status	Icon ⊷/⏻ Color	To Resume
Power Off	Off	Press the Power Button
Sleep	Blinking Green	Press the Power Button
		Press the Sleep Button (Fn + F4 Key Combo)
Hibernate	Off (battery)	Press the Power Button
	Orange (AC/DC adapter)	
Display Turned Off	Green	Press a Key or Move the Mouse/Touchpad

🖉

Power Button

When the computer is on, you can use the power button as a Sleep/Hibernate/Shut Down hot key button when it is pressed for less than **4 seconds** (pressing and holding the power button for longer than this will force the computer to shut down).

🖉

Closing the Lid

If you have chosen to send the computer to **Sleep** when the lid is closed, raising the lid will wake the system up.

Table 3 - 1
Resuming Operation

3

☼

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.

Battery Information

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

Battery Power

Your computer's battery power is dependent upon many factors, including the programs you are running, and peripheral devices attached. You can set actions to be taken (e.g. Shut down, Hibernate etc.), and set critical and low battery levels from **power plan Advanced Settings** (see *Figure 3 - 1 on page 3 - 4*).

Click the battery icon 🔋 in the taskbar to see the current battery level and charge status.
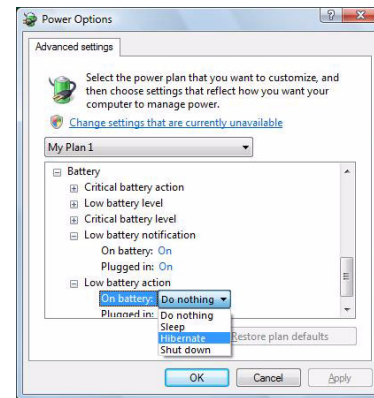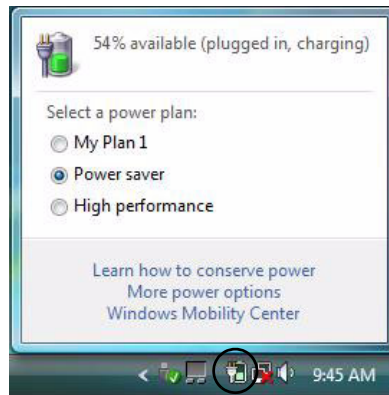
Figure 3 - 5
Battery Icon (Taskbar) & Battery Advanced Settings

3

Conserving Battery Power

- Use a **power plan** that conserves power (e.g **Power saver**), however note that this may have an affect on computer performance.

- 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.

- Reduce the amount of time before the display is turned off.

- Close wireless (DO NOT use the Windows Mobility Center to power on/off WLAN), Bluetooth, modem or communication applications when they are not being used.

- Disconnect/remove any unnecessary external devices e.g. USB devices, ExpressCards etc.

3

Battery Life

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 do need to remove the battery for any reason (e.g. long term storage) see *"Removing the Battery" on page 6 - 3*.

New Battery

Always completely discharge, then fully charge, a new battery (see *"Battery FAQ" on page 3 - 14* for instructions on how to do this).

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 *"System Map: LCD Panel Open on Chapter 1"* for information on the battery charge status, and to *"Battery Information" on page 3 - 10* 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.

3

3

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 even if a message indicates the battery is critically low, just let the computer use up all of the battery power and shut down on its own.

1. Save and close all files and applications.
2. **Create** a **power plan** for discharging the battery and set all the options to **Never**.
3. Click *Change plan settings* (after saving it) and click *Change advanced power settings*.

Figure 3 - 6
Power Plan Create
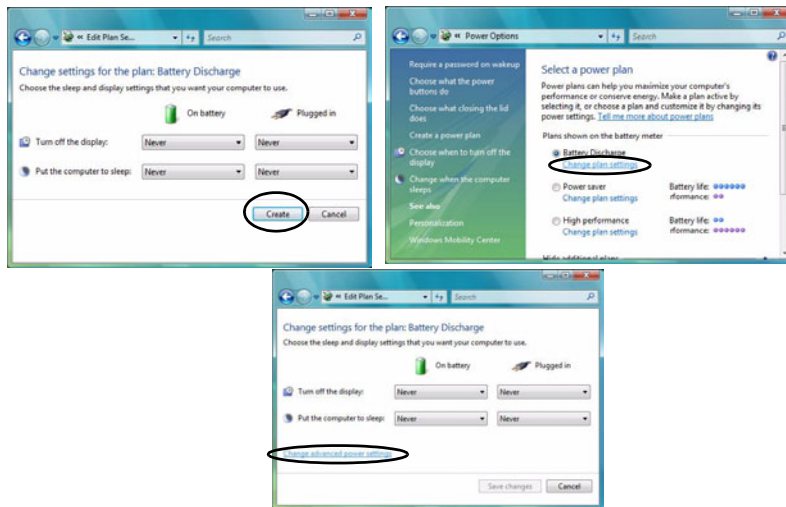
4.   Scroll down to **Battery** and click **+** to expand the battery options.
5.   Choose the options below (click **Yes** if a warning appears):
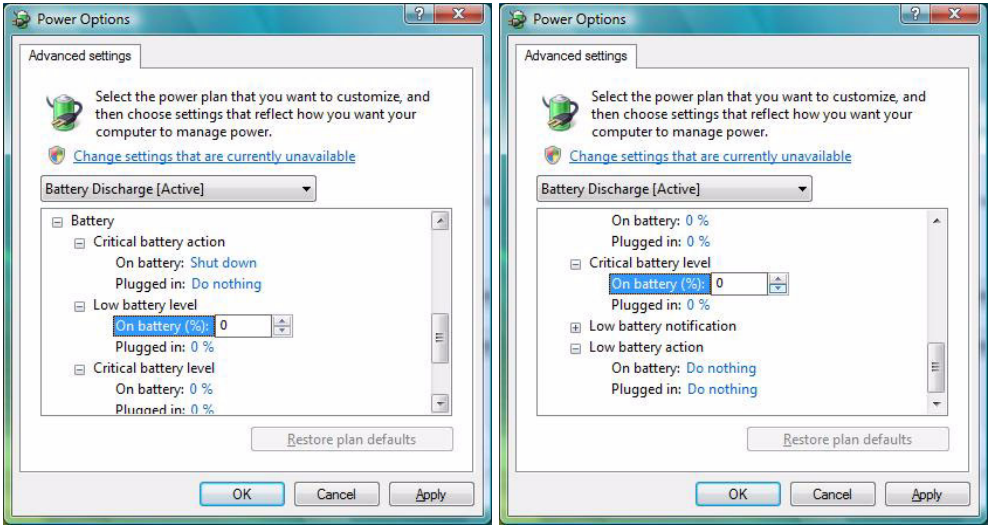
Figure 3 - 7
**Power Options
Advanced Settings -
Battery**

- Low battery levels = 0%
- Critical battery Levels = 0%
- Low battery action = Do Nothing
- Critical battery action (On battery) = Shut Down
- Critical battery action (Plugged in) = Do Nothing

3

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 & Utilities

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

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 *"Modules & Options" on page 7 - 1*.

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

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.

Driver - *Windows Vista* with Service Pack 1
Video
Audio
Modem
LAN
TouchPad
CardReader
Hot Key
Pc Camera Module
Wireless LAN Module
Windows Mobility Center

Table 4 - 1 - **Driver Installation**

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 Vista Service Pack 1

Make sure you install **Windows Vista Service Pack 1** (or a Windows Vista version which includes Service Pack 1) **before installing any drivers**. Go to the Microsoft website for download details, or contact your service center.

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 **Programs and Features** icon (**Programs > Uninstall a program**). Click to select the driver (if it is not listed see below) and click **Uninstall**, and then follow the on screen prompts (it may be necessary to restart the computer). Reinstall the driver as outlined in this chapter.

If the driver is not listed in the **Programs and Features** menu:

1. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
2. Double-click **Device Manager** (**Hardware and Sound > Device Manager**).
3. Double-click the **device** you wish to update/reinstall the driver for (you may need to click "+" to expand the selection).
4. Click **Driver** (tab) and click the **Update Driver** or **Uninstall** button and follow the on screen prompts.

4

User Account Control (Win Vista)

If a **User Account Control** prompt appears as part of the driver installation procedure, click **Continue** or **Allow**, and follow the installation procedure as directed.

4

Windows Security Message

If you receive a *Windows* security message as part of the driver installation process. Just click *"Install this driver software anyway"* or *"Install"* to 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**" during the installation procedure (**other than when outlined in the driver install procedure**), click **Cancel** to close the window, and follow the installation procedure.

> 🖊
>
> **Driver Installation General Guidelines**
>
> The driver installation procedure outlined in this Chapter (and in **Chapter 7 Options & Modules**), are accurate at the time of going to press.
>
> Drivers are always subject to upgrade and revision so the exact procedure for certain drivers may differ slightly. 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.

USB Hotfix

In order to resolve issues with USB devices (internal & external) in **4GB** *Windows Vista* systems we recommend that you install the USB hotfix driver provided (see *"USB Hotfix" on page 8 - 13*).

> 🖊
>
> **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).
>
> To enable **Windows Update make sure you are connected to the internet**:
>
> 1. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
> 2. Click **Check for updates** (**Security**), or double-click **Security Center** and click **Windows Update**.
> 3. Double-click **Check for updates (button)**.
> 4. The computer will now check for updates (you need to be connected to the internet).
> 5. Click **Install now** (button) to install the updates.

4

Chapter 5: BIOS Utilities

Overview

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

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

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

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

BIOS Settings Warning

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

5

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.

<table>
<tr><td>

🖉

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

</td></tr>
</table>

5

```
Phoenix TrustedCore(tm) NB
Copyright 1985-2006 Phoenix Technologies Ltd.
All Rights Reserved
Bios Revision: ********①
KBC/EC Firmware Revision: ********

CPU = 1 Processors Detected, Cores per Processor = 2 ②
Intel(R) Core(TM)2 Duo CPU      T5400 @ 1.50GHz
2046M System RAM Passed ③
2048 KB L2 Cache
System BIOS shadowed
Fixed Disk 0: FUJITSU MHV2100BH PL
ATAPI CD-ROM: Optiarc CDRWDVD CRX890S
Mouse intialized




Press <F2> to enter SETUP ④
```

Failing the POST

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

Fatal Errors

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

Non-Fatal Errors

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

• Press <F1> to resume
• <F2> to enter Setup

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

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

The Setup Program

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

Entering Setup

To enter **Setup**, turn on the computer and press **F2** during the **POST**. The prompt (**Press F2 to Enter Setup**) seen 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 *Setup*.

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 *Setup*.

Instructions on how to navigate each screen are in the box along the bottom of the screen. If these tools are confusing, press **F1** to call up a **General Help** screen, 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.
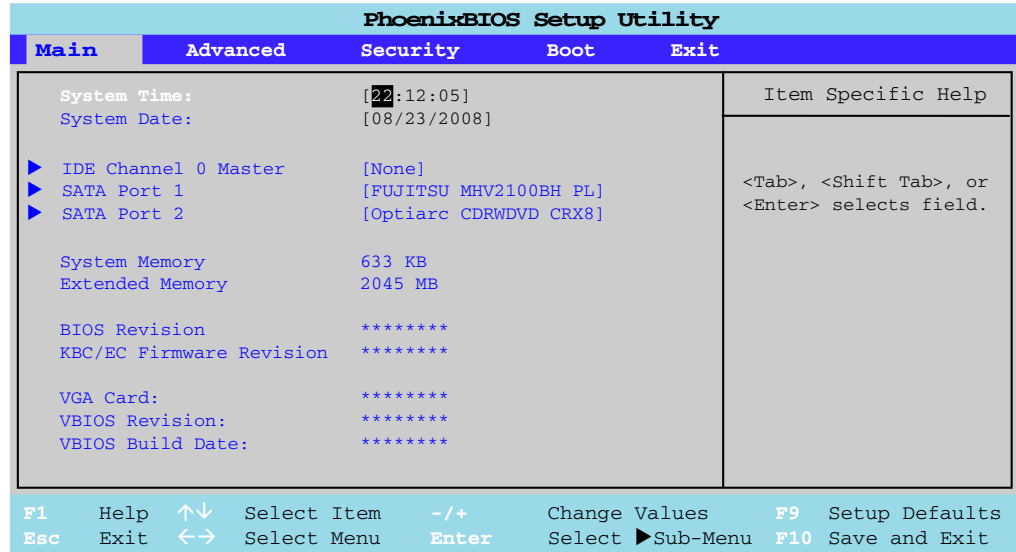
🖉

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.

5

Main Menu

```
                        PhoenixBIOS Setup Utility
   Main      Advanced      Security      Boot      Exit

    System Time:            [22:12:05]              Item Specific Help
    System Date:            [08/23/2008]

 ▶  IDE Channel 0 Master    [None]
 ▶  SATA Port 1             [FUJITSU MHV2100BH PL]    <Tab>, <Shift Tab>, or
 ▶  SATA Port 2             [Optiarc CDRWDVD CRX8]    <Enter> selects field.

    System Memory           633 KB
    Extended Memory         2045 MB

    BIOS Revision           ********
    KBC/EC Firmware Revision ********

    VGA Card:               ********
    VBIOS Revision:         ********
    VBIOS Build Date:       ********

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

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.

IDE Channel 0 Master (Main Menu)
Pressing **Enter** opens the sub-menu to show the configuration of an optical De-
vice/HDD on the computer's IDE Channel. Use the ***Auto*** (Type:) setting to have
the items configured automatically for you.

SATA Port 1/2 (Main Menu)
Pressing **Enter** opens the sub-menu to show the configuration of a optical De-
vice/HDD on the computer's SATA Port 1/2. 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 config-
urable. The system will auto detect the amount of memory installed.

BIOS Revision/KBC/EC Firmware Revision (Main Menu)
This item contains information on the current BIOS and firmware versions.

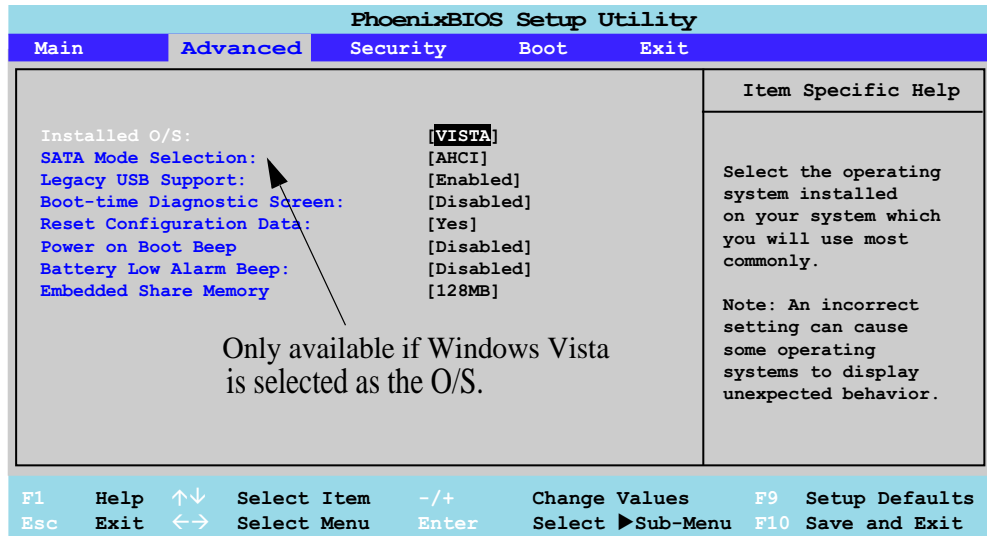*VGA Card/VBIOS Revision/VBIOS Build Date (Main Menu)*

Advanced Menu

```
                            PhoenixBIOS Setup Utility

    Main        Advanced      Security      Boot       Exit

                                                            Item Specific Help

    Installed O/S:                    [VISTA]
    SATA Mode Selection:              [AHCI]               Select the operating
    Legacy USB Support:               [Enabled]            system installed
    Boot-time Diagnostic Screen:      [Disabled]           on your system which
    Reset Configuration Data:         [Yes]                you will use most
    Power on Boot Beep:               [Disabled]           commonly.
    Battery Low Alarm Beep:           [Disabled]
    Embedded Share Memory:            [128MB]              Note: An incorrect
                                                           setting can cause
                                                           some operating
                                                           systems to display
                                                           unexpected behavior.



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

Only available if Windows Vista
is selected as the O/S.

Figure 5 - 3
Advanced Menu

Installed O/S (Advanced Menu)
This setting tells the computer what kind of operating system you're using.
Make sure you choose the correct setting for your O/S in order to prevent sys-
tem problems. Note: If you select the *Vista* O/S then the **SATA Mode Selec-
tion** menu will become available. If you are installing the *Windows XP* O/S
make sure you have set the appropriate operating system here in order to pre-
vent system problems.

SATA Mode Selection (Advanced Menu)
This menu is only available if you select the **Vista** O/S as your operating system. You can configure SATA (Serial ATA) control to operate in either **IDE** (native/compatible) or **AHCI** (Advanced Host Controller Interface) modes from this menu. The **SATA mode** should be set to **AHCI** mode for this system (unless you are sure your hard disk can only operate in **IDE** mode). If you are unsure of the mode your hard disk supports contact your service center.

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.

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 battery low alarm beep.

Embedded Shared Memory (Advanced Menu)

5

Use this menu item to change the amount of shared memory available (**128MB** OR **256MB**) to the graphics system for **SiS** video only

Security Menu

```
                    PhoenixBIOS Setup Utility
   Main       Advanced    Security    Boot      Exit

                                              Item Specific Help
       Supervisor Password Is:      Clear
       User Password Is:            Clear
                                              Supervisor Password
       Set Supervisor Password      [Enter]   controls access to the
       Set User Password            [Enter]   setup utility.

       Password on boot:            [Disabled]




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

🖉

Security Menu

The changes you make here affect the access to the **Setup** utility it-self, 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.

Figure 5 - 4
Security Menu

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

⚠️

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.

5

Set User Password (Security Menu)
You can set a password for user mode access to the **PhoenixBIOS 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 **PhoenixBIOS 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*".

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.

Boot Menu

```
                    PhoenixBIOS Setup Utility
    Main      Advanced     Security          Boot        Exit

                                                 Item Specific Help
      Boot priority order:
       1:   IDE CD:  TSSTcorp CDDVD TS-L633A      Keys used to view or
       2:   IDE HDD:  FUJITSU MHV2160BH-(S1)      configure devices:
       3:   USB KEY:                              Up and Down arrows
       4:   USB FDC:                              select a device.
       5:   USB CDROM:                            <+> and <-> moves
       6:   USB HDD:                              the device up or down.
       7:   PCI BEV: SiS191 UNDI, PXE-2.1         <x> exclude or include
       8:                                         the device to boot.
      Excluded from boot order:                   <Shift + 1> enables or
        :   USB ZIP:                              disables a device.
        :   USB LS120:                            <1 - 4> loads default
                                                  boot sequence.




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

5

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

5


```
                          PhoenixBIOS Setup Utility
    Main        Advanced       Security       Boot      Exit

                                                     Item Specific Help

    Exit Saving Changes
    Exit Discarding Changes                     Exit System Setup and
    Load Setup Defaults                         save your changes to
    Discard Changes                             CMOS.
    Save Changes




    F1    Help    ↑↓    Select Item    -/+      Change Values   F9   Setup Defaults
    Esc   Exit    ←→    Select Menu    Enter    Select ▶Sub-Menu F10  Save and Exit
```
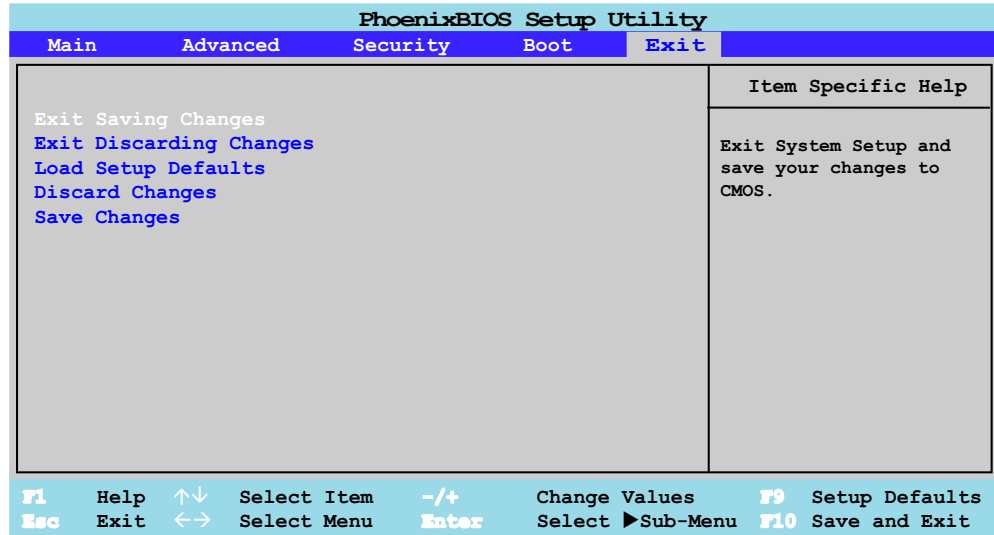
Choosing to **Discard Changes**, or **Exit Discarding Changes**, will wipe out any changes you have made to the **Setup**. You can also choose to restore the original **Setup** defaults that will return the **Setup** to its original state, and erase any previous changes you have made in a previous session.

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 Hard Disk Drive
- Upgrading the Optical (CD/DVD) Device
- Upgrading the System Memory (RAM)

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.

6

When Not to Upgrade

These procedures involve opening the system's case, adding and sometimes re-placing 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.

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.

> ☼
>
> **Power Safety Warning**
>
> Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all pe-ripherals and cables (in-cluding telephone lines). It is advisable to also re-move your battery in or-der to prevent accidentally turning the machine on.

6

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 latch **1** in the direction of the arrow.
3. Slide the latch **2** in the direction of the arrow, and hold it in place.
4. Slide the battery out in the direction of the arrow **3**.

6

Figure 6 - 1
Battery Removal

6

Upgrading the Hard Disk Drive

The hard disk drive can be taken out to accommodate other 2.5" serial (SATA) hard disk drives with a height of 9.5mm (h).
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.

1. Turn **off** the computer, and turn it over and remove the battery.
2. Locate the hard disk bay cover and loosen screws .
3. Remove the hard disk bay cover **3**.
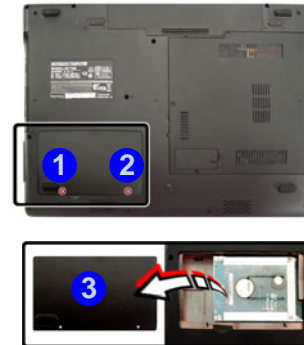
4. Grip the tab and slide the hard disk in the direction of arrow **4**.
5. Lift the hard disk out of the bay **5**.
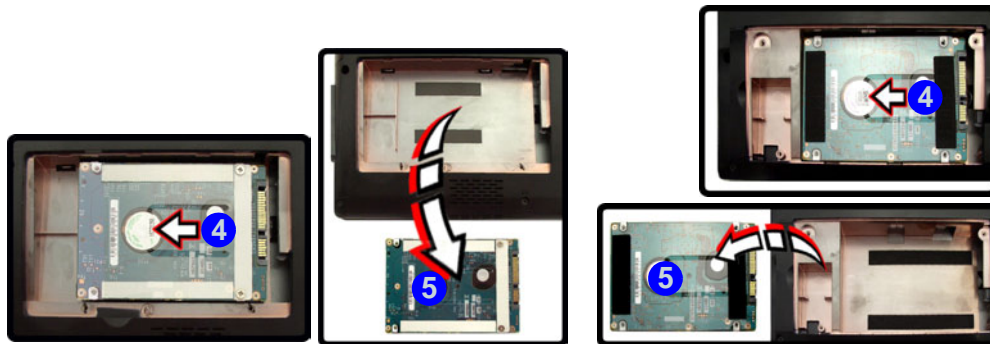
Figure 6 - 2
HDD Removal

6. Remove the screw(s) **6** / **6** & **7** and the adhesive cover **8** (depending on your model type/design).
7. Reverse the process to install a new hard disk drive (do not forget to replace all the screws and covers).

Figure 6 - 3
HDD Cover Removal

6

P
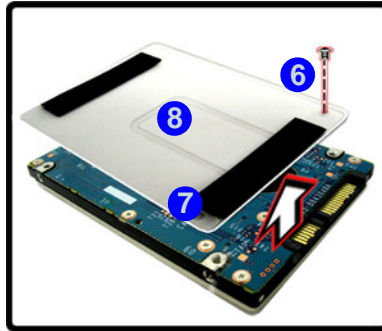
Hard Disk Screws & Cover

The hard disks and covers pictured here may appear slightly different from your model design (these designs are subject to change and upgrade without notice). Pay careful attention to the screws (if included) and cover orientation.

Upgrading the Optical (CD/DVD) Device

1. Turn **off** the computer, and turn it over and remove the battery.
2. Locate the hard disk bay cover and loosen screws **1** & **2**.
3. Remove the hard disk bay cover **3** .

> 冰
>
> **Fan Cable & Cover**
>
> Make sure you recon-nect the fan cable **4** before screwing down the bay cover. Note the information on replac-ing the RAM & CPU bay cover in *"Cover Pins" on page 6 - 12*.

6

4. Remove the screw at point , and use a screwdriver to carefully push out the optical device at point .
5. Reverse the process to install the new device.

Figure 6 - 4
Removing the RAM & CPU Cover/HDD Cover

Upgrading the System Memory (RAM)

The computer has **two** memory sockets for 200 pin Small Outline Dual In-line (SO-DIMM) **DDRII (DDR2)** type memory modules (see "*Appendix C"* for details of supported module types).

1. Turn **off** the computer, and turn it over and remove the battery.
2. Locate the RAM & CPU bay cover and remove screws **1** - **3**.

Figure 6 - 5
RAM & CPU
Bay Screws

6
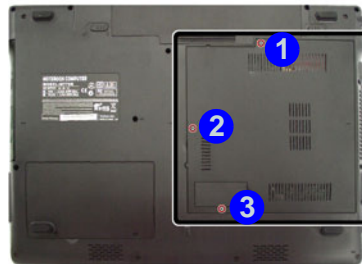
3. Carefully (**a fan and cable are attached to the under side of the cover**) lift up the bay cover.
4. Carefully disconnect the fan cable **4**, and remove the cover **5**.
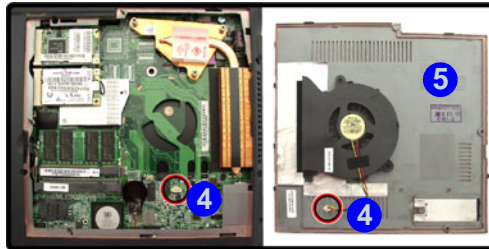
Figure 6 - 6
CPU/RAM Bay Cover Removed

6

🔔

Fan Cable

Make sure you reconnect the fan cable **4** before screwing down the bay cover.

Upgrading the System Memory (RAM) 6 - 9

5. 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 - 7*.

Figure 6 - 7
RAM Module Release Latches

6
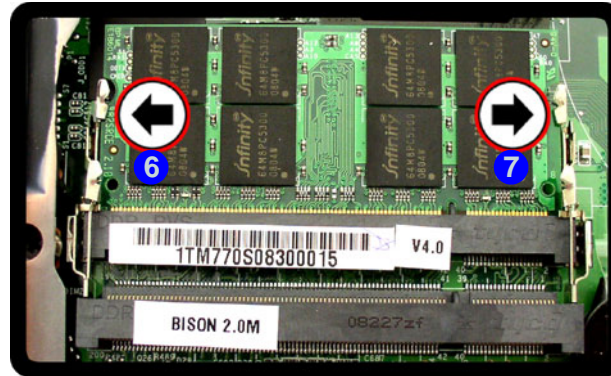
6.   The RAM module will ⑧ pop-up, and you can remove it.
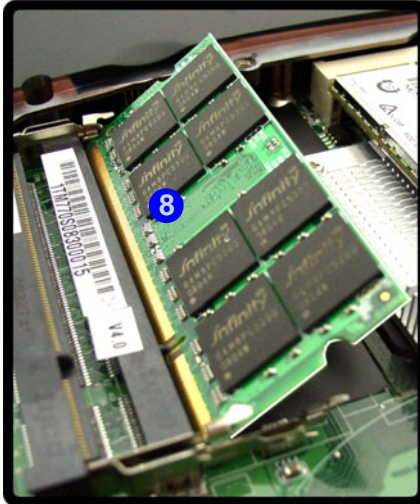
Figure 6 - 8
**RAM Module
Removal**

6

7.   Pull the latches to release the second module if necessary.
8.   Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
9.   The module's pin alignment will allow it to only fit one way. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE the module; it should fit without much pressure.
10. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.

11. Replace the bay cover (see sidebar) and screws (**make sure you reconnect the fan cable before screwing down the bay cover**).

Figure 6 - 9
Cover Pin Alignment

6

🖉

Cover Pins

Note that **Model B & D** computers have **four** cover pins, **Model E & F** computers have **three** cover pins and **Model G & H** computers have **five** cover pins. These pins need to be aligned with slots in the case to insure a proper cover fit, before screwing down the bay cover
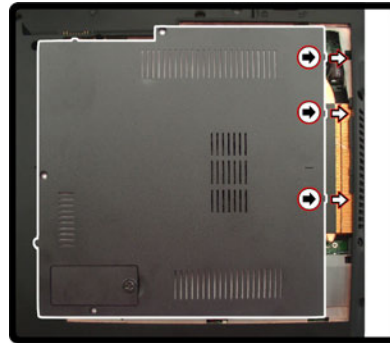
12. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

Chapter 7: Additional Modules

Overview

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

• Bluetooth Module
• PC Camera Module
• Wireless LAN Module

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.

7

7

Bluetooth Module

The operating system's **Bluetooth Devices** control panel is used to configure the Bluetooth settings in *Windows Vista*, and therefore does not require a driver. **Use the Fn + F12 key combination to toggle power to the Bluetooth module**.

🖉

Bluetooth Data Transfer

Note that the transfer of data between the computer and a Bluetooth enabled device is supported **in one direction only (simultaneous data transfer is not supported)**. Therefore if you are copying a file from your computer to a Bluetooth enabled device, you will not be able to copy a file from the Bluetooth enabled device to your computer until the file transfer process from the computer has been completed.

Bluetooth Module & Resuming From Sleep Mode

The Bluetooth module's default state will be off after resuming from the **Sleep** power-saving state. Use the key combination (**Fn + F12**) to power on the Bluetooth module after the computer resumes from Sleep.

Bluetooth Configuration in Windows Vista

Setup your Bluetooth Device so the Computer Can Find it
1. Turn your Bluetooth device (e.g. PDA, mobile phone etc.) on.
2. Make the device discoverable (to do this check your device documentation).

To Turn the Bluetooth Module On
1. Press the **Fn + F12** key combination to power on the Bluetooth module.
2. A Bluetooth icon 🔵 will appear in the taskbar (see sidebar).
3. You can then do any of the following to access the **Bluetooth Devices** control panel.

    *   **Double-click** the icon 🔵 to access the **Bluetooth Devices** control panel.
    *   Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**), and then click **Bluetooth Devices** (**Hardware and Sound**).
    *   **Click/Right-click** the icon 🔵 and choose an option from the menu.

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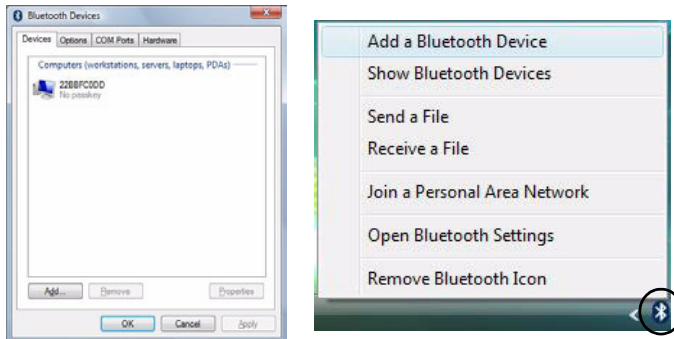
Bluetooth Taskbar Icon

If you cannot see the Bluetooth icon in the taskbar, access the **Bluetooth Devices** control panel. Click **Options** (tab), and make sure that **Show Bluetooth icon in the notification area** check box (**Connections**) has a tick inside it.

Note that you will need to check the LED indicator to see if the module is powered on or not.

Figure 7 - 1
Bluetooth Devices & Click Icon Menu

7

Figure 7 - 2
Add Bluetooth Device Wizard

To Add a Bluetooth Device

1. Access the **Bluetooth Devices** control panel.
2. Click **Options** (tab), and make sure that *Allow Bluetooth devices to connect to this computer* check box (**Connections**) has a tick inside it.
3. Click **Devices** (tab), and then click **Add**.
4. The **Add Bluetooth Device Wizard** will appear.
5. Click to select "*My device is set up and ready to be found*", and then click **Next**.
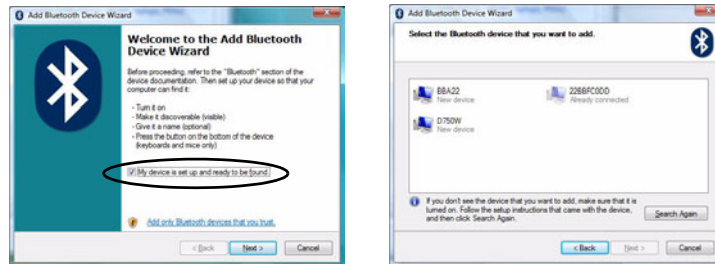
6. The *Wizard* will then search for any available Bluetooth devices within range.
7. Click to select the device you want to communicate with, and click **Next**.
8. Select an appropriate passkey option and click **Next**.

7

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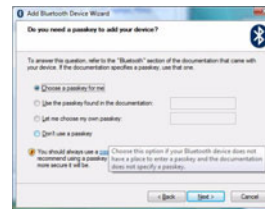
Passkey Options

You can allow the system to choose a passkey for you. You will then be prompted to enter the generated passkey on your Bluetooth device.

Figure 7 - 3
Passkey Option

9. Click **Finish**.

To Change Settings for the Bluetooth Device

1. Access the **Bluetooth Devices** control panel.
2. Click on the device you want to change and click **Properties** to:

   - Change the **name** of the device (click **General**, type a new name and click **OK**).
   - Enable/Disable a **service** (click **Services**, clear/tick the check box next to the service and click **OK**).

To Make your Computer Discoverable to Bluetooth Devices

1. Access the **Bluetooth Devices** control panel.
2. Click **Options**, and make sure that *Allow Bluetooth devices to find this computer* check box (**Discovery**) has a tick inside it.
3. Make sure that *Alert me when a new Bluetooth device wants to connect* check box (Connections) has a tick inside it, if you want to be notified when a Bluetooth device wants to connect.
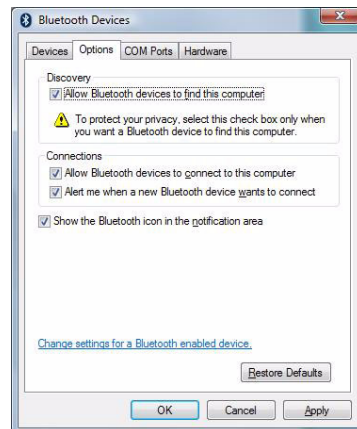
Bluetooth Help

To get help on Bluetooth configuration and settings, select **Help and Support** from the **Start** menu. Type Bluetooth in the **Search Help** box, and select an item from the returned search results to get more information.

Figure 7 - 4
Bluetooth Devices Options

7

PC Camera Module

Before installing the **PC Camera** driver, make sure that the optional PC Camera is on. **Use the Fn + F10 key combination to toggle power to the PC Camera module**. Make sure you install the drivers in the order indicated in *Table 4 - 1, on page 4 - 2*.

You will have the **BisonCap** application , allowing to capture video files and to take pictures , installed in your system .
Make sure you access the application via the WebCam desktop shortcut.

PC Camera Driver Installation

1. I**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 > Install**.
5. Click **Finish** to restart the computer.
6. Run the **BisonCap** application program from the **WebCam** desktop shortcut (if the hardware is turned off use the **Fn + F10** key combination to turn it on again).

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PC Camera Screen Refresh

The PC Camera module supports a frame rate of 12 fps. If you find that the screen refresh rate is subject to lag or stuttering, then **reduce the window size**, or adjust the **Output Size** and/or **Color Space Compression**.

To reduce **Output Size** and/or **Color Space Compression** run the **BisonCap/AveoCap** application, click **Options** and select **Video Capture Pin**. Adjust the settings from the appropriate pull-down menu.

7

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. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
2. Click **Sound** ⊙ (**Hardware and Sound**).
3. Click **Recording** (tab).
4. Right-click **Microphone** (Realtek High Definition Audio) and make sure the item is not disabled.
5. Double-click **Microphone** (or select **Properties** from the right-click menu).
6. Click **Levels** (tab), and adjust the **Microphone** and **Microphone Boost** sliders to the level required.
7. Click **OK** and close the control panels.
8. Run the **BisonCap**application program from the desktop shortcut.
9. Go to the **Devices/Device** menu heading and select **Microphone** (**Realtek....**) (it should have a tick alongside it).
10. Go to the **Capture** menu heading and select **Capture Audio** (it should have a tick alongside it).

7

Right-click
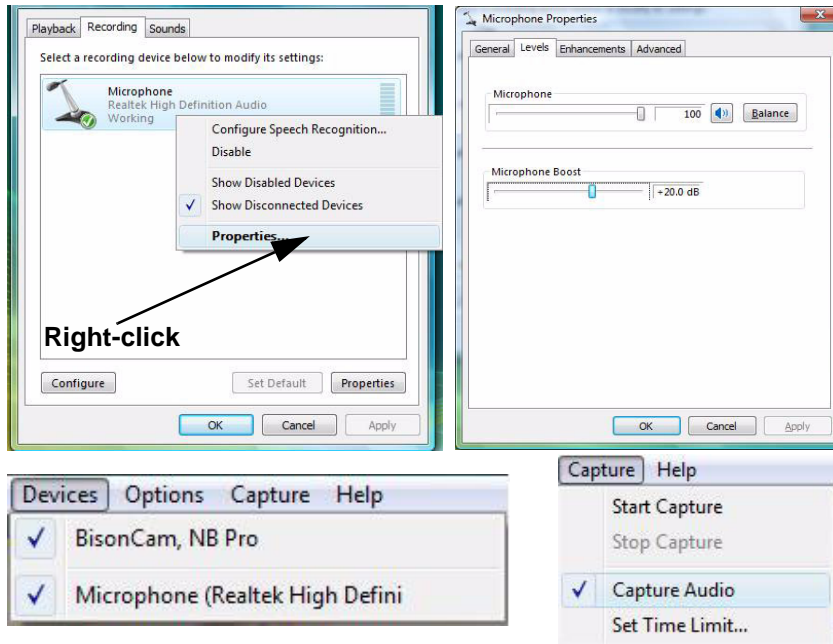
Figure 7 - 5
Audio Setup for PC Camera

7

BisonCap

BisonCap is a video viewer for general purpose video viewing and testing, and for capturing video files to .avi format.

1. Run the **BisonCap** application (it is recommended that you set the capture file before the capture process - **see** *"Set Capture File" on page 7- 10).*

2. Go to the **Capture** menu heading (if you wish to capture audio check *"PC Camera Audio Setup" on page 7 - 8*) and select **Start Capture**.

For BisonCap:

3. Click **OK** (the file location will be displayed in the pop-up box) to start capturing the video, and press **Esc** to stop the capture (you can view the file using the **Windows Media Player**).

Set Capture File

Prior to capturing video files you may select the **Set Capture File..**. option in the **File** menu, and set the file name and location before capture (this will help avoid accidentally overwriting files). Set the name and location then click **Open**, then set the **"Capture file size:"** and click **OK**. You can then start the capture process as on the previous page.

7

Reducing Video File Size
Note that capturing high resolution video files requires a substantial amount of disk space for each file. After recording video, check the video file size (right-click the file and select **Properties**) and the remaining free space on your hard disk (go to **My Computer**, right-click the hard disk, and select **Properties**). If necessary you can remove the recorded video file to a removable medium e.g. CD, DVD or USB Flash drive.

Note that the *Windows Vista* system requires a minimum of **15GB** of free space on the **C: drive** system partition. In order to prevent system problems it is recommended that you save the captured video file to a location other than the **C: drive** (see *"Set Capture File" on page 7 - 10*), limit the file size of the captured video or reduce video resolution (see below).

To Reduce Video Resolution Output Size:

1. Run the **BisonCap** application program from the desktop shortcut.
2. Go to **Options** and scroll down to select **Video Capture Pin...**.
3. Click the **Output Size** drop box and select a lower resolution size in order to reduce the captured file size.
4. Click **OK**.

7

Eliminating Screen Flicker

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

1. Run the **BisonCap** application program from the desktop shortcut.
2. Go to **Options** and scroll down to select **Video Capture Filter...**.
3. Click either **50Hz** or **60Hz** under **Frequency/Anti Flicker** in **Property Page** (tab).
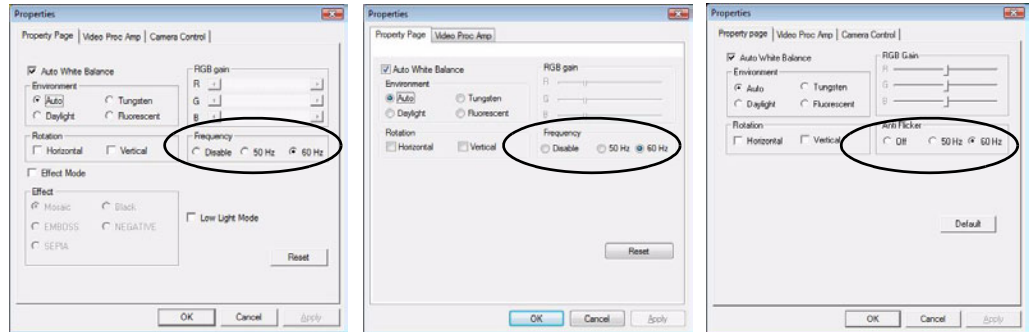
Figure 7 - 6
Video Capture Filter

Zoom

The **BisonCap**program allows you to zoom the camera in and out.

1. Run the **BisonCap** application program from the desktop shortcut.
2. Go to **Zoom** and select **Zoom Out/Zoom In**.

Figure 7 - 7
Zoom/Setting
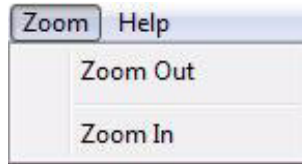
Taking Still Pictures

The **BisonCap** program allows you to take still pictures.

1. Run the **BisonCap**application program from the desktop shortcut.
2. Go to **Options** and select **Take Picture**.
3. The picture (in JPEG format) will be placed in the **Snapshot** folder on the desktop (see sidebar).

Snapshot Folder

In **BisonCap** the Snapshot folder's default location is on the desktop. Do not move this folder or an error may appear when you try to take a still picture.

If you accidentally delete or move the folder, you can create a new Snapshot folder on the desktop in order to capture the files.

In **AveoCap** you can set the Snapshot file folder to another location.

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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.

7

Wireless LAN Module

Make sure that the Wireless LAN module is on before installing the driver.

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 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**Click **Next > Install**.
5. Click **Finish**.

Note: The operating system is the default setting for Wireless LAN control in *Windows Vista* (see overleaf).

Connecting to a Wireless Network

Make sure the Wireless LAN module is turned on.

1. **Click** the taskbar wireless icon, and then click **Connect to a network** (or **right-click** the icon, and then click **Connect to a network**).

Figure 7 - 8
Taskbar Menus
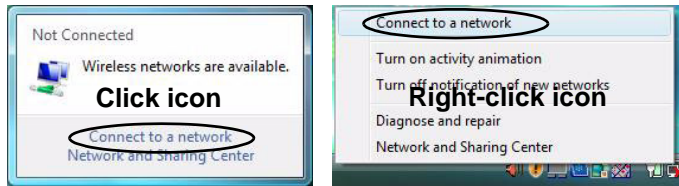
2. In the **Show** list, click to choose **Wireless** from the drop-down menu.
3. A list of currently available networks will appear.


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Network and Sharing Center

You can also use the **Network and Sharing Center** control panel in Windows (**Network and Internet**) to connect to any available wireless networks.

Figure 7 - 9
Connect to a Network

4. Click a network, and then click **Connect**.
5. If you do not see a network you want to connect to, click **Set up a connection or network** (a list of options will appear allowing manual searching, and creating a new network).

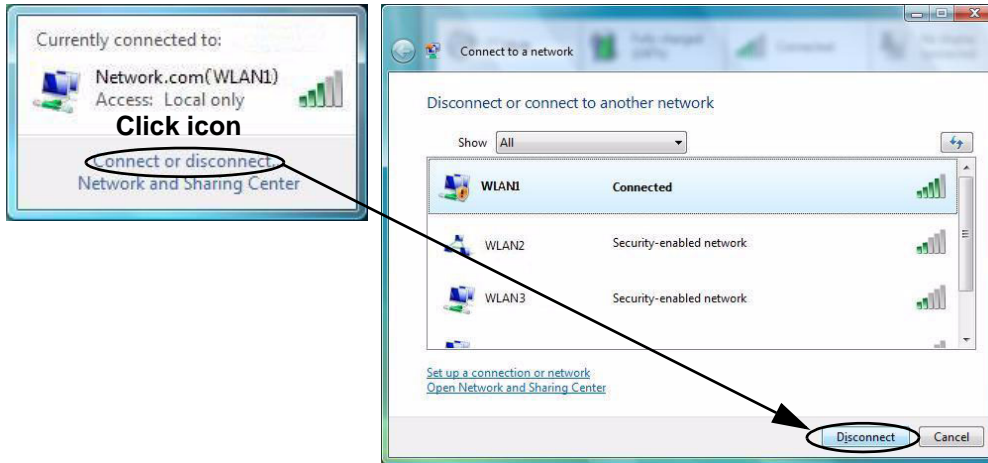*Figure 7 - 10*
Connecting
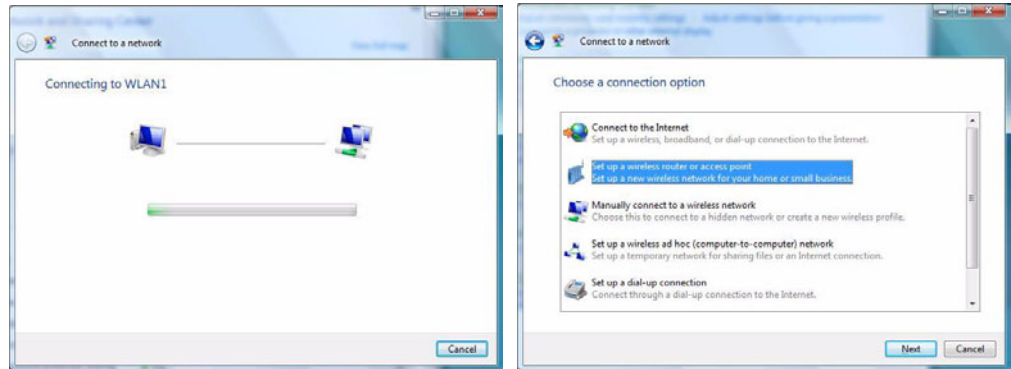
6. Move the cursor over the taskbar icon 🖳 to see the connection status (see below).

Figure 7 - 11
Connection Status

7. To disconnect from the wireless network you can click the taskbar wireless icon , and then select **Connect or disconnect** to access the network menu, and click Disconnect (or **right-click** the icon , and then click **Disconnect from**).

Click icon

Right-click icon
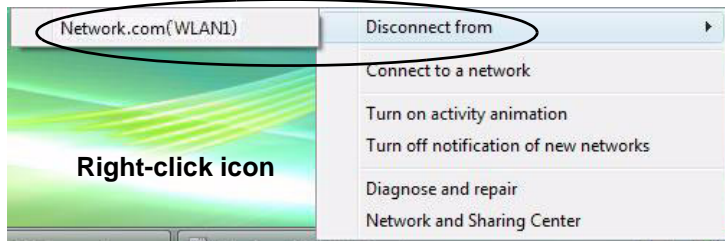
Security Enabled Networks

You should try to make sure that any network you are connecting to is a secure network.

Connecting to unsecure networks may allow unauthorized access to your computer, documents, websites and files etc.

7

Figure 7 - 12
Disconnecting

Windows Mobility Center

The **Windows Mobility Center** control panel provides an easy point of access for information on battery status, power plans used and wireless device status etc.

To access the Windows Mobility Center:

1. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
2. Double-click **Windows Mobility Center** (**Mobile PC**).
3. Click the button to **Turn wireless off/on**, or click the icon [wireless icon] to access the network menu.

7

Figure 7 - 13
Windows Mobility Center

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.

8

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 P*ower Options* (see *"Power-Saving States" on page 3 - 6*), 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 (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*").

8

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).

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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).

8

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).

8

- 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.

8

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 check its settings. You may also be using an ExpressCard/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. *Power Options have been disabled.* Go to the **Control Panel** in *Windows* and re-enable the options. *A peripheral device/USB device/ExpressCard is consuming a lot of power.* Turn off/remove the unused device to save power.

8

| 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** . *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**.
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 for instructions on installing and configuring the video driver informations.

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

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

Problem	Possible Cause - Solution
The sound cannot be heard or the **volume is very low**.	*The volume might be set too low.* Check the volume control in the **Volume Control Panel** in the *Windows* taskbar, or use the key combination **Fn + F5** and **F6** (see **"Function/Hot Key Indicators" on Chapter 1**) to adjust.
The CD/DVD **cannot be read**.	*The CD/DVD is dirty.* Clean it with a CD/DVD cleaner kit.
The CD/DVD **tray will not open** when there is a disc in the tray.	*The CD/DVD is not correctly placed in the tray.* Gently try to remove the disc using the eject hole (see **"Loading Discs" on page 2 - 3**).
Unwelcome numbers appear when typing.	*If the LED 🔒 is lit, then Num Lock is turned **ON**.* (see **"System Map: LCD Panel Open - on Chapter 1"**).

8

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 . Make sure you have enabled **Hibernate** mode from the control panel.
The **Wireless LAN/Bluetooth/** modules cannot be detected.	*The modules are off*. Check the LED indicator 📶 and/or function key indicator to see if the WLAN/Bluetooth/ module is on or off (see ***"System Map: LCD Panel Open"*** - Chapter 1). If the LED indicator is off, then press the **Fn + F11 (WLAN)**, **Fn + F12 (Bluetooth)**key combination(s) in order to enable the modules (see ***"System Map: LCD Panel Open - 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 ***"System Map: LCD Panel Open - on Chapter 1"***). Run the **BisonCap** program to view the camera picture.

8

Problem	Possible Cause - Solution
The **Wireless LAN/Bluetooth/ 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 *"Modules & Options" on page 7 - 1*).
A file cannot be copied to/from a connected **Bluetooth** device.	*The transfer of data between the computer and a Bluetooth enabled device is supported **in one direction only (simultaneous data transfer is not supported)***. If you are copying a file from your computer to a Bluetooth enabled device, you will not be able to copy a file from the Bluetooth enabled device to your computer until the file transfer process from the computer has been completed
The **Bluetooth** module is **off** after resuming from Sleep.	*The Bluetooth module's default state will be off after resuming from the Sleep power-saving state*. Use the key combination (**Fn + F12**) to power on the Bluetooth module after the computer resumes from Sleep.

8

Problem	Possible Cause - Solution
The **Hibernate** function has disappeared.	*You have a computer with **4GB** of RAM and have installed **Windows Vista Service Pack 1**. This is a known issue if your computer has **4GB** of RAM and is running **Windows Vista Service Pack 1**. To re-enable **Hibernate** mode go to the **Command Prompt** and type the command "**powercfg -h on**" (make sure you are logged on as an Administrator):* 1. Click **Start** (menu button). 2. Type "**cmd**" in the **Start Search** box *Start Search* . 3. Double click the **Command Prompt** cmd when it appears in the menu. 4. Type "**powercfg -h on**" in the Command Prompt window. 5. Close the Command Prompt window. 6. The **Hibernate** function will now be enabled.

8

Problem	Possible Cause - Solution
<u>USB Hotfix</u> The computer's **USB devices "hang"** (including the internal USB PC Camera module, WLAN module etc.).	You have a computer with **4GB** of RAM and are having problems with USB devices (with both internal and external USB devices). This is a known issue and can be resolved by installing the **USB hotfix provided on the Device Drivers & Utilities + User's Manual** as follows (make sure your user account type is set as an administrator). 1. Insert the *Device Drivers & Utilities + User's Manual* disc. 2. Click *Browse CD/DVD* (button). 3. Double-click to open the following folders **Others > USB_hotfix** (X:\Others\USB_hotfix). 4. Right-click newusb2c.exe and select "**Run as administrator**". 5. The USB hotfix will install. 6. You will need to restart the computer to fully apply the hotfix.

8

Screen Resolution Error

If you are experiencing either screen resolution reduction, or screen flickering **after resuming from Sleep in Windows Vista only** then follow the instructions below to fix this problem. This error arises in compliance with *Windows Vista* policy, which triggers **TMM** (Transient Multi-Monitor Manager) when the notebook lid (**S3**) is closed. **TMM** disconnects the LCD display from the OS and then adds the LCD display back when the lid is opened. This may trigger **TMM** to restore an old display setting which may result in screen flickering or a screen resolution change. To fix this problem you will need to disable **TMM** in the OS:

1. Go to the **Control Panel** in the *Windows OS* and double-click the **Administrative Tools** icon (**System and Maintenance**).
2. Double-click **Task Scheduler (Schedule Tasks)**.
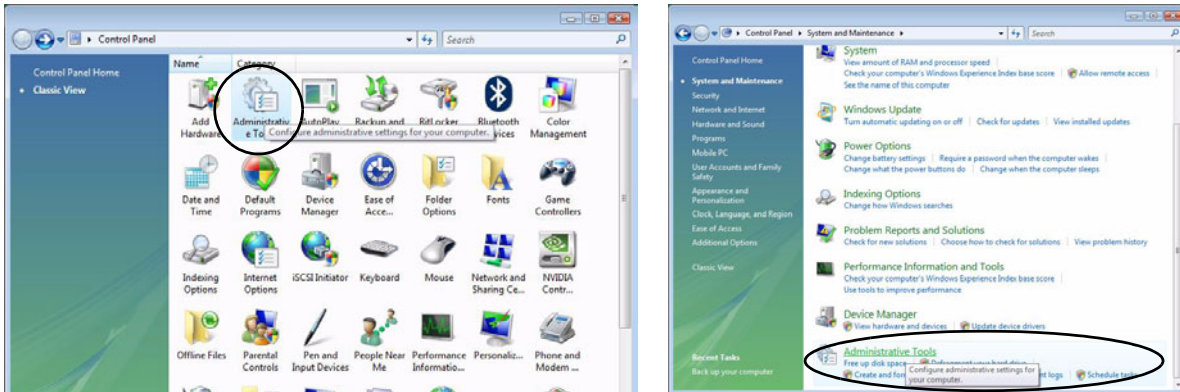
Figure 8 - 1 **- Control Panel System and Maintenance**

3. Double-click **Task Scheduler Library > Microsoft > Windows**.

4.   Click **MobilePC** to open the control panel.
5.   Right-click **TMM** and select **Disable**.
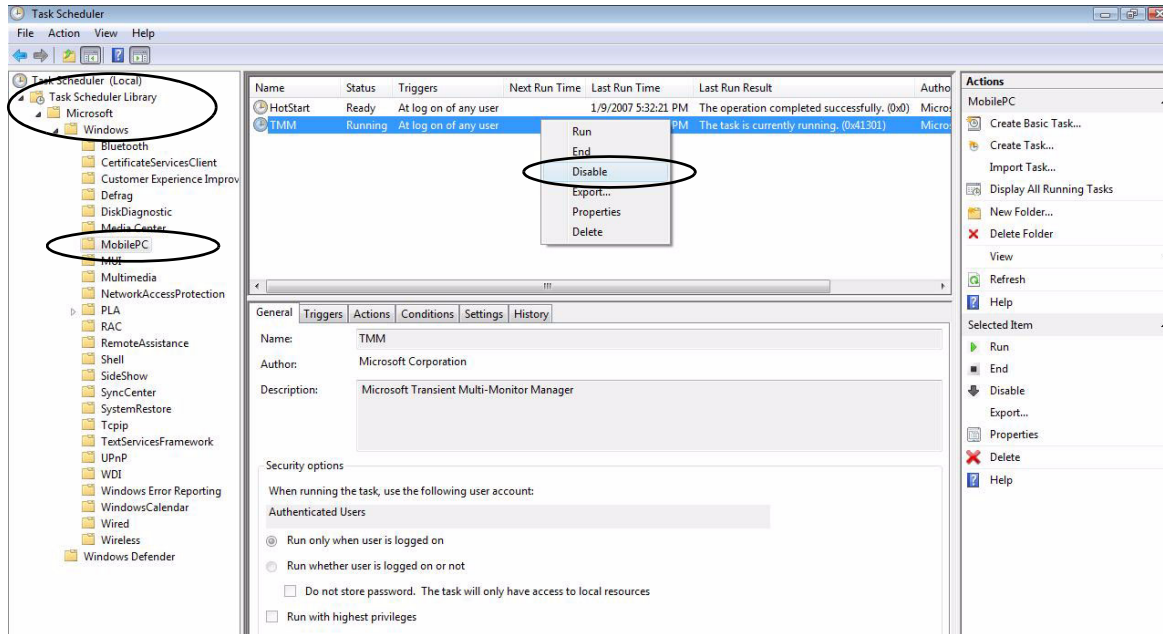
Figure 8 - 2 **- TMM Disable**

6.   Close all the control panels.

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.

A

Notebook Ports and Jacks

Item	Description
Card Reader Port	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 (VGA) 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.
RJ-11 Modem Jack	This port connects to the built-in modem. You may plug the telephone line directly into this RJ-11 telephone connection. **Note**: Broadband (e.g. ADSL) modems usually connect to the LAN port.

A

Item	Description
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.
S/PDIF-Out Jack	This S/PDIF (Sony/Philips Digital Interface Format) Out Jack allows you to connect your DVD-capable PC to a Dolby AC-3 compatible receiver for "5.1" or 'dts' surround sound.
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).

A

Appendix B: SIS Video Driver Controls

The basic settings for configuring the LCD are outlined in section1.

SIS Video Driver Installation

1. Insert the *Device Drivers & User's Manual* disc into the CD/DVD drive.
2. Browse the CD and go to the **Drivers / VGA** folder .
3. Start the executable file (*"Setup.exe"*) .
4. Choose the language you prefer and click **Next**.
5. Click **Yes** to restart the computer.

Note: After installing the video driver go to the **Display Settings** control panel to adjust the video settings to the highest resolution.

Video Memory

The system does not feature dedicated video memory, but automatically and dynamically allocates as much (up to **256MB** maximum) system memory (RAM) as needed to the video system. The system returns whatever memory is no longer needed to the operating system.

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.

B

SIS VGA Control Center

More advanced video configuration options are provided by the **SIS VGA Control Center**.
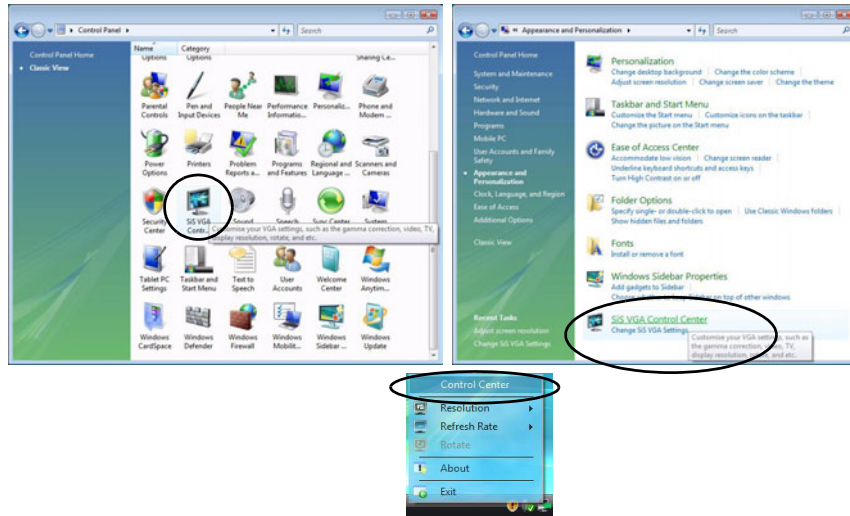
1. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
2. Double-click **SiS VGA Control Center** (click "**Classic View**" from the left of the menu if you are in **Control Panel Home**).
<div align="center">OR</div>
3. RIght-click the **SIS Tray** taskbar icon , and select **Control Center**.

Figure B - 1
SIS VGA Control Center

You may make changes to the video and display settings by clicking the appro-priate menu button.
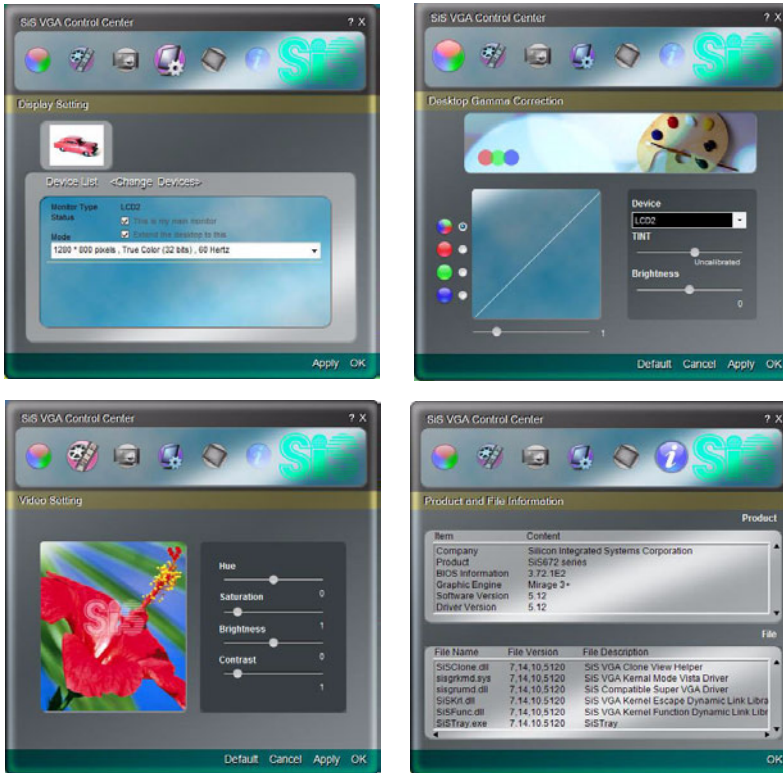

Figure B - 2
SIS VGA Control Center Control Panels

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.

Table B - 1
Display Modes

Display Setting Mode	Description
Single	One of the connected displays is used as the display device
Clone	Both connected displays output the same view and may be configured independently
Multi-Mode	Both connected displays are treated as separate devices, may be configured independently and act as a virtual desktop (this is similar to Extended Desktop in *Windows*)

B

Attaching Other Displays

Besides the built-in LCD, you can also use an external monitor (CRT)/flat panel display as your display device. Connect it to the external monitor port on the left of the computer, and configure the displays from **SiS VGA Control Center**:

1. Attach your external display to the external monitor port and turn it on.
2. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
3. Click **SiS VGA Control Center** (or click **Appearance and Personalization > SiS VGA Control Center**).
4. Click **Display Setting** icon 🔲.
5. Click **Device List <Change Devices>**.
6. Select which active device is to be **Device 1/Device 2** and click **OK**.
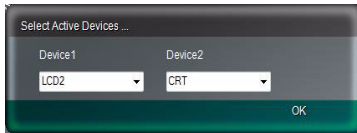
Click **OK** to close the window if you decide not to change display devices (**do not use Alt + F4 to close the window)**.

Figure B - 3
Select Active Devices

Figure B - 4
Display Setting

7. You can then choose the **Display Setting** mode from the menu buttons.

Figure B - 5
Confirm Changes

To Enable a Display Setting Mode

1. Attach your external display to the external monitor port and turn it on.
2. Go to the **SiS VGA Control Center** > **Display Setting** menu .
3. Click the appropriate icon for the display setting mode you wish to use.
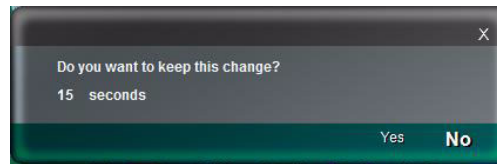4. Click **Yes** within 15 seconds in order to save the setting change.

Figure B - 6
Display Setting
Device List Options

5. You can adjust the **display mode**, **change the status** and **clone** Device 1 from the device list menu.

6. Click **Apply > Yes** to save any changes.
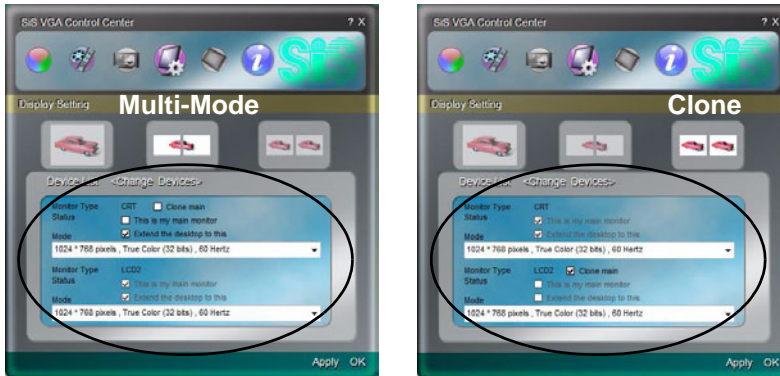
Using Display Settings to Enable Extended Mode

1. Attach your external display to the external monitor port, and turn it on.
2. Open the **Display Settings** control panel.

B

Figure B - 7
Display Properties (Extended Desktop)

3. Click the monitor icon (e.g. **2**), and make sure you have checked "**Extend the desktop onto this monitor**." and click **Apply**.
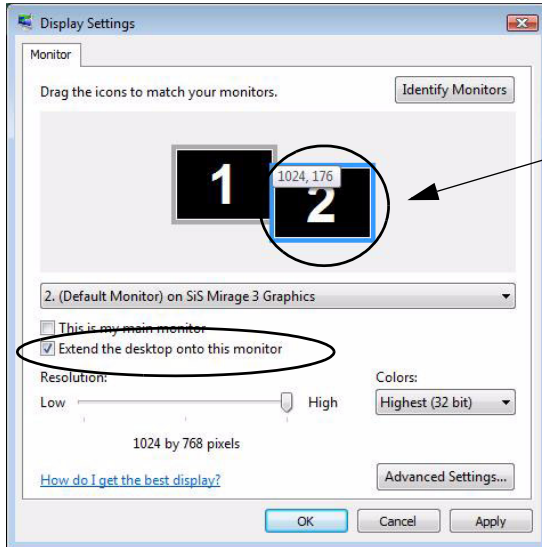
Click the appropriate monitor icon (e.g. **2**) to be able to select the option to extend the desktop on to it.

In this example the Primary Display **1** is on the left, the Secondary Display **2** is on the right.

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 and CD/DVD device types) may be changed, delayed or updated due to the manufacturer's release schedule. Check with your service center for details.

Specifications

Feature	Specification	
Processor	Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P **T6400** or higher	45nm (45 Nanometer) Process Technology 2MB On-die L2 Cache & 800MHz FSB - TDP 35W 2.0 GHz
Core Logic	SiS M672 + SiS968 Chipset	
LCD	15.4" WXGA/ WXGA+/ WSXGA+ Glare Type TFT LCD	
Video Adapter	**SIS® M672 Integrated Video** High Preference 3D/2D Graphic Accelerator Shared Memory Architecture (up to **256MB** dynamically allocated from system memory where needed) Supports DirectX 9.0 Supports Vertex Shader 2.0 and Pixel Shader 2.0	
Memory	**2GB** 64-bit Wide **DDRII (DDR2)** Data Channel Two 200 Pin SO-DIMM Sockets Supporting **DDRII (DDR2**) **667MHz** Memory Expandable up to **4GB** (1024MB/ 2048MB **DDRII** Modules)	
Security	Security (Kensington® Type) Lock Slot Fingerprint ID Reader Module (**Factory Option**)	BIOS Password

C

Feature	Specification	
BIOS	One 8Mb SPI Flash ROM	Phoenix™ BIOS
Storage	One Changeable 12.7mm(h) DVD Dual (Super Multi) Drive Module ; Easy Changeable 2.5" 9.5 mm (h) **SATA** (Serial) HDD	
Audio	High Definition Audio (HDA) 3D Stereo Enhanced Sound System	S/PDIF Digital Output 2 * Built-In Speakers Built-In Microphone
Keyboard	WinKey Keyboard (with embedded numeric keypad)	
Pointing Device	Built-In TouchPad with Scrolling Function	
Interface	Three USB 2.0 Ports One Headphone-Out Jack One Microphone-In Jack One S/PDIF-Out Jack	One RJ-11 Modem Jack One RJ-45 LAN Jack One DC-In Jack One External Monitor Port
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	
Card Slots	One ExpressCard/34(54) Slot	**Two Mini-Card Slots with USB interface:** Slot 1 for WLAN Module

C

Specifications

Feature	Specification
Communication	56K Fax Modem Built-In 10M/100Mb Base-TX Ethernet LAN 802.11b/g Wireless LAN Mini-Card Module with USB interface 1.3M or 2.0M Pixel USB PC Camera Module Bluetooth 2.1 + EDR (Enhanced Data Rate) Module
Power Management	Supports ACPI 3.0 Supports Wake on USB Supports Wake on LAN Supports Resume from Modem Ring
Power	Full Range AC/DC Adapter AC input 100 - 240V, 50 - 60Hz, DC Output 19V, 3.42A (**65** Watts) 6 Cell Smart Lithium-Ion Battery Pack, 4400mAH
Operating Systems	Windows**®** Vista (with Service Pack 1) Windows**®** XP (with Service Pack 3)

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

Dimensions & Weight	359mm (w) * 268mm (d) * 24.8-37mm (h) 2.5 kg With 6 Cell Battery & ODD

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.