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# FCC Statement
## (Federal Communications Commission)

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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

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

**Operation is subject to the following two conditions:**

1. This device may not cause interference.

   And

2. This device must accept any interference, including interference that may cause undesired operation of the device.

# FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

🔔
**Warning**

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

# IMPORTANT SAFETY INSTRUCTIONS

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 (Full Range AC/DC Adapter - AC Input 100 - 240V, 50 - 60Hz/ DC Output 20V, 6.A (**120W**) minimum).

## 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, TELE-COMMUNICATION LINE CORD

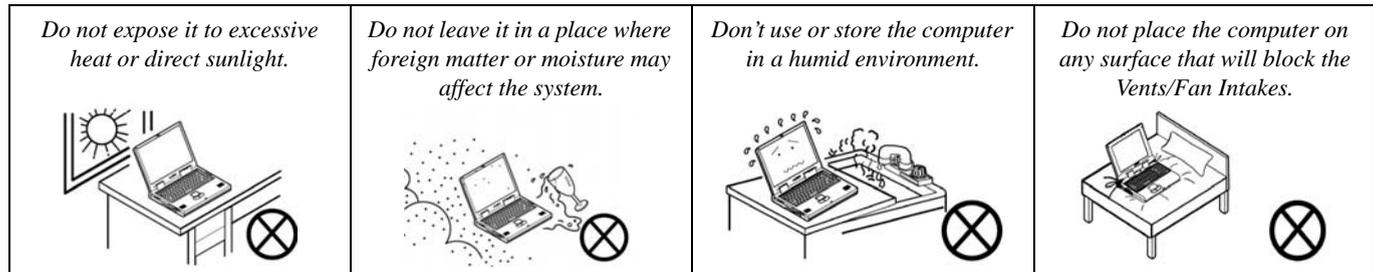### This Computer's Optical Device is a Laser Class 1 Product

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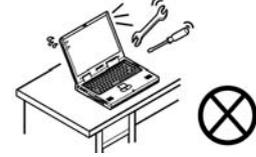
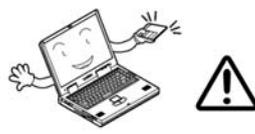| *Do not expose the computer to any shock or vibration.* | *Do not place it on an unstable surface.* | *Do not place anything heavy on the computer.* |
| --- | --- | --- |

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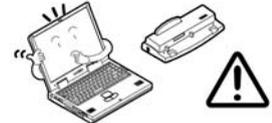
| *Do not expose it to excessive heat or direct sunlight.* | *Do not leave it in a place where foreign matter or moisture may affect the system.* | *Don't use or store the computer in a humid environment.* | *Do not place the computer on any surface that will block the Vents/Fan Intakes.* |
| --- | ---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

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**.

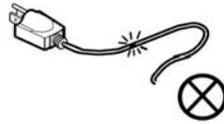| *Use only approved brands of peripherals.* | *Unplug the power cord before attaching peripheral devices.* |
| --- | --- |

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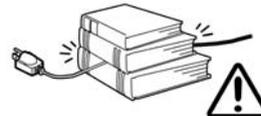
> ☼
> **Power Safety Warning**
>
> Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines). It is advisable to also remove your battery in order to prevent accidentally turning the machine on.

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

# Battery Precautions

- Only use batteries designed for this computer. The wrong battery type may explode, leak or damage the computer.
- Do not remove any batteries from the computer while it is powered on.
- Do not continue to use a battery that has been dropped, or that appears damaged (e.g. bent or twisted) in any way. Even if the computer continues to work with a damaged battery in place, it may cause circuit damage, which may possibly result in fire.
- Recharge the batteries using the notebook's system. Incorrect recharging may make the battery explode.
- Do not try to repair a battery pack. Refer any battery pack repair or replacement to your service representative or qualified service personnel.
- Keep children away from, and promptly dispose of a damaged battery. Always dispose of batteries carefully. Batteries may explode or leak if exposed to fire, or improperly handled or discarded.
- Keep the battery away from metal appliances.
- Affix tape to the battery contacts before disposing of the battery.
- Do not touch the battery contacts with your hands or metal objects.

<div style="border:2px solid red">

🔔

**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.

</div>

## 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 "papers" are handy.

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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 Vents/Fan Intakes to be blocked. To prevent your computer from overheating make sure nothing blocks the Vent/Fan Intakes while the computer is in use.

## On the Road

In addition to the general safety and maintenance suggestions in this preface, and Chapter 8: Troubleshooting, keep these points in mind:

**Hand-carry the notebook -** For security, don't let it out of your sight. In some areas, computer theft is very common. Don't check it with "normal" luggage. Baggage handlers may not be sufficiently careful. Avoid knocking the computer against hard objects.

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

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

**Get power where you can -** If an electrical outlet is available, use the AC/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 a comfortable viewing angle can reduce eye strain and shoulder and neck muscle fatigue.

• 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

# Power Management

# Drivers & Utilities

# BIOS Utilities

# Upgrading The Computer

# Modules

## Troubleshooting

## Interface (Ports & Jacks)

## NVIDIA Video Driver Controls

# Specifications

# Windows XP Information

## Preface

# Chapter 1: Quick Start Guide

## Overview

This Quick Start Guide is a brief introduction to the basic features of your computer, to navigating around the computer and to getting your system started. The remainder of the manual covers the following:

- **Chapter 2** A guide to using some of the main features of the computer e.g. the **storage devices** (**hard disk**, **optical device**, **7-in-1 card reader**, **ExpressCard/34/54**), **TouchPad** & **Mouse, Audio Features** & **Printer**.
- **Chapter 3** The computer's **power** management options.
- **Chapter 4** The installation of the **drivers** and utilities essential to the operation or improvement of some of the computer's subsystems.
- **Chapter 5** An outline of the computer's built-in software or **BIOS** (Basic Input Output System).
- **Chapter 6** Instructions for **upgrading** your computer.
- **Chapter 7** A quick guide to the computer's **Wireless LAN, Bluetooth**, **PC Camera, Intel Turbo Memory, TV Tuner, Security modules** (some of which may be **optional** depending on your purchase configuration).
- **Chapter 8** A **troubleshooting** guide.
- **Appendix A** Definitions of the **interface**, **ports**/**jacks** which allow your computer to communicate with external devices.
- **Appendix B** Information on the **NVIDIA** Video driver controls.
- **Appendix C** The computer's **specification**.
- **Appendix D** Information on the **Window's XP OS**.

## Advanced Users

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

✐

**Notes**

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

## Beginners and Not-So-Advanced Users

If you are new to computers (or do not have an advanced knowledge of them) then
the information contained in this Quick Start Guide should be enough to get you up
and running. Eventually you should try to look through all the documentation (more
detailed descriptions of the functions, setup and system controls are covered in the
remainder of the User's Manual), but do not worry if you do not understand every-
thing the first time. Keep this manual nearby and refer to it to learn as you go. You
may find it useful to refer to the notes marked with a ✐ as indicated in the margin.
For a more detailed description of any of the interface ports and jacks see *"Interface
(Ports & Jacks)" on page A - 1*.

## Warning Boxes

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

## Not Included

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

## Model Differences

This notebook series includes two different design types, however only one design is pictured in this manual.

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**Drivers**

If you are installing new system software, or are re-configuring your computer for a different system, 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 - 1, on page 4 - 3*. You will be unable to use most advanced controls until the necessary drivers and utilities are properly installed. If your system hasn't been properly configured (your service representative may have already done that for you), refer to *"Drivers & Utilities" on page 4 - 1* for installation instructions.

**Ports and Jacks**

See *"Ports and Jacks" on page A - 2* for a description of the interface (ports & jacks) which allow your computer to communicate with external devices, connect to the internet etc.

## System Software

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

| Operating System & Version | Note |
|---|---|
| *Windows XP (Home Edition or Professional) | |
| Windows Vista - *Service Pack 1* (**64-bit**) Home Basic Edition | In order to run **Windows Vista** without limitations or decreased performance, your computer requires a minimum **1GB** of system memory (RAM). |
| Windows Vista - *Service Pack 1* (**64-bit**) Home Premium/Business/Enterprise/Ultimate Editions | |

*Table 1 - 1* **- Operating Systems Supported**

**\*Note**: For information on the *Windows XP OS* (specifically power, video and driver information) see *"Windows XP Information" on page D - 1*.

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### 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.

# System Startup

1. Remove all packing materials, and place the computer on a stable surface.
2. Securely attach any peripherals you want to use with the notebook (e.g. keyboard and mouse) to their ports.
3. Attach the AC/DC adapter to the DC-In jack at the rear of the computer, then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter.
4. Use one hand to raise the lid/LCD to a comfortable viewing angle; use the other hand (as illustrated in *Figure 1 - 1* below) to support the base of the computer (**Note**: **Never** lift the computer by the lid/LCD).
5. Raise the lid/LCD to a comfortable viewing angle, and press the power button.
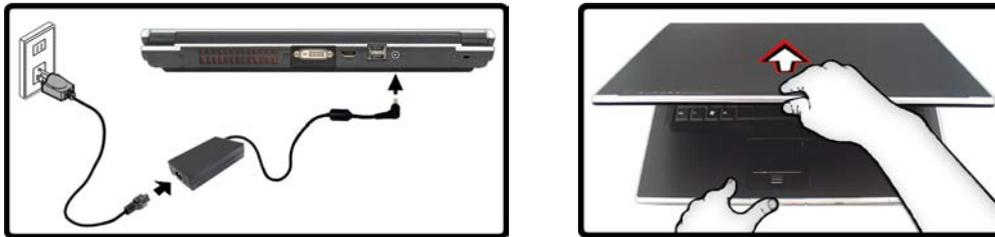


## 🖉
**Shutdown**

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

*Figure 1 - 2*
**LCD Panel Open**

1. Optional Built-In PC Camera
2. LCD
3. Hot Key Buttons
4. Power Button
5. Speakers
6. Keyboard
7. Built-In Microphone
8. TouchPad and Buttons
9. Fingerprint Reader Module (**optional**)
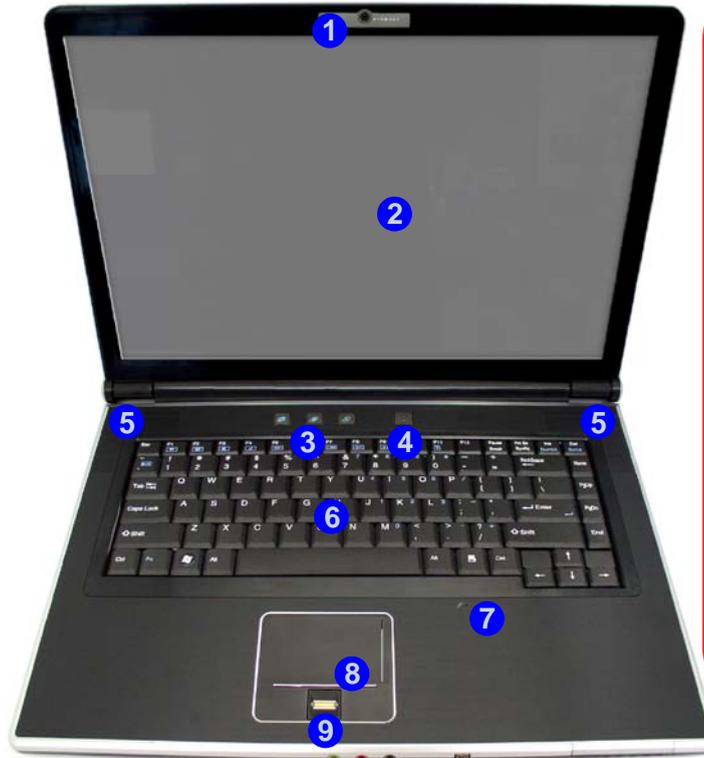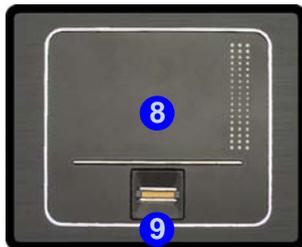
# System Map: LCD Panel Open



## ☼ Wireless Device Operation Aboard Aircraft

The use of any portable electronic transmission devices (e.g. WLAN or Bluetooth) aboard aircraft is usually prohibited. Make sure any wireless modules are OFF if you are using the computer aboard aircraft.

Use the appropriate function key combination (see *Table 1 - 4, on page 1 - 10*) to toggle power to any wireless modules, and check the LED indicators to see if any modules are powered on or not (see *Table 1 - 2, on page 1 - 7*).

# LED Indicators

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

| Icon | Color | Description | Icon | Color | Description |
|---|---|---|---|---|---|
| | Green | The Computer is On | | Orange | The Battery is Charging |
| | Blinking Green | The Computer is In Sleep Mode | | Blinking Orange | The Battery has Reached Critically Low Power Status |
| | Orange | The AC/DC Adapter is Plugged In | | Green | The Battery is Fully Charged |
| | Green | Number Lock is Activated | | Green | Hard Disk Activity |
| | Green | Caps Lock is Activated | | Orange | The Bluetooth Module is Powered On |
| | Green | Scroll Lock is Activated | | Green | The WLAN Module is Powered On |
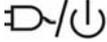
*Table 1 - 2* **- LED Indicators**

# Hot Key Buttons

These buttons give instant access to the default Internet browser and e-mail program, and to a user-defined application, with one quick button press.

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

*Table 1 - 3* **- Hot Key Buttons**

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

# Keyboard

The keyboard has a numerical keypad for easy numeric data input, and features function keys to allow you to change operational features instantly. See *Table 1 - 4, on page 1 - 10* for full function key combination details.
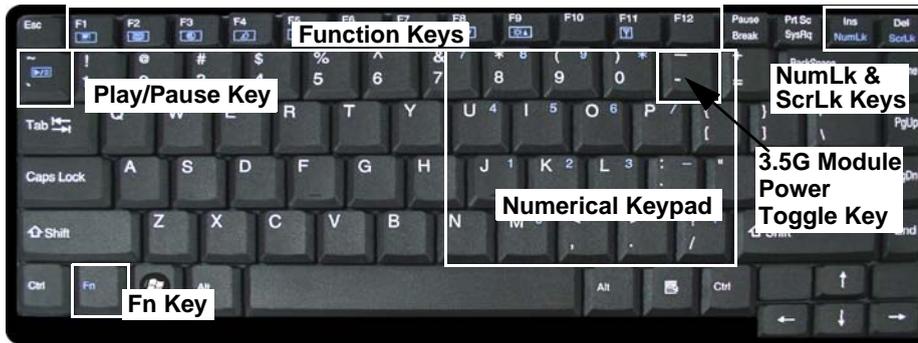


*Figure 1 - 3* **- Keyboard**

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#### Special Characters

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

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#### 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.

#### NumLk & ScrLk

Hold down the **Fn Key** and either NumLk or ScrLk to enable number or scroll lock, and check the LED indicator for status.

# Function/Hot Key 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 *"Hot Key" on page 4 - 6*). After installing the driver an icon will appear in the taskbar.

| Fn Keys | Function | | Fn Keys | Function | |
|---------|----------|--|---------|----------|--|
| Fn + ~ | Play/Pause (in Audio/Video Programs) | | Fn + F7 | Display Toggle | |
| Fn + | 3.5G Module Power Toggle | | Fn + F8/ F9 | Brightness Decrease/Increase | |
| Fn + F1 | TouchPad Toggle | | Fn + F10 | PC Camera Power Toggle | |
| Fn + F2 | Turn LCD Backlight Off (Press a key to or use TouchPad to turn on) | | Fn + F11 | WLAN Module Power Toggle | |
| Fn + F3 | Mute Toggle | | Fn + F12 | Bluetooth Module Power Toggle | |
| Fn + F4 | Sleep Toggle | | | *Silent Mode Toggle | |
| Fn + F5/ F6 | Volume Decrease/ Increase | | *When enabled, **Silent Mode** will reduce fan noise and save power consumption. Note this may reduce computer performance. | | |

*Table 1 - 4* - **Function/Hot Key Combo Indicators**

# System Map: Front & Rear Views

*Figure 1 - 4*
**Front View**

1. Headphone-Out Jack
2. Microphone-In Jack
3. S/PDIF-Out Jack
4. Mini-IEEE 1394 Port
5. LED Indicators
6. Vent/Fan Intake/ Outlet
7. DVI-Out Port
8. HDMI-Out Port
9. *Combined eSATA/ USB Port
10. USB 2.0 Port
11. DC-In Jack
12. Security Lock Slot

\*Note that the eSATA port does not support hot-swapping in *Windows XP*. Hot-swapping is only supported in AHCI mode in *Windows Vista*, and requires the installation of the Intel Matrix Storage driver (see page *7 - 33*).

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**Overheating**

To prevent your computer from overheating make sure nothing blocks the Vent/Fan Intake/Outlet while the computer is in use.

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**Mini-IEEE 1394 Port**

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

*Figure 1 - 5*
**Right View**

1. Express Card Slot
2. 7-in-1 Card Reader
3. 2 * USB 2.0 Ports
4. RJ-45 LAN Jack
5. RJ-11 Phone Jack

# System Map: Right View



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**ExpressCard Slot**

The ExpressCard Slot accepts either **ExpressCard/34** or **ExpressCard/54** formats.

**7-in-1 Card Reader**

The card reader allows you to use the most popular digital storage card formats:

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)

🔆

**USB Ports**

Note that the connections to the USB ports only fit one way, do not force them.

# System Map: Left View

1. Optional Device Drive Bay (for CD/DVD Device, see page *2 - 3*)

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### Changing DVD Regional Codes

Go to the **Control Panel** and double-click **Device Manager (Hardware and Sound)**, then click the **+** next to **DVD/CD-ROM drives**. Double-click on the DVD-ROM device to bring up the **Properties** dialogue box, and select the **DVD Region** (tab) to bring up the control panel to allow you to adjust the regional code (see *"DVD Regional Codes" on page 2 - 5*).

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

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### CD/DVD Emergency Eject

If you need to manually eject a CD/DVD (e.g. due to an unexpected power interruption) you may push the end of a straightened paper clip into the emergency eject hole. Do not use a sharpened pencil or any object that may break and become lodged in the hole. Don't try to remove a floppy disk/CD/DVD while the system is accessing it. This may cause the system to "crash".

*Figure 1 - 7*
**Bottom View**

1. Vent/Fan Intake/ Outlet
2. Battery
3. Battery Release Latch
4. Component Bay Cover
5. 3.5G USIM Card Cover

# System Map: Bottom View

🖉
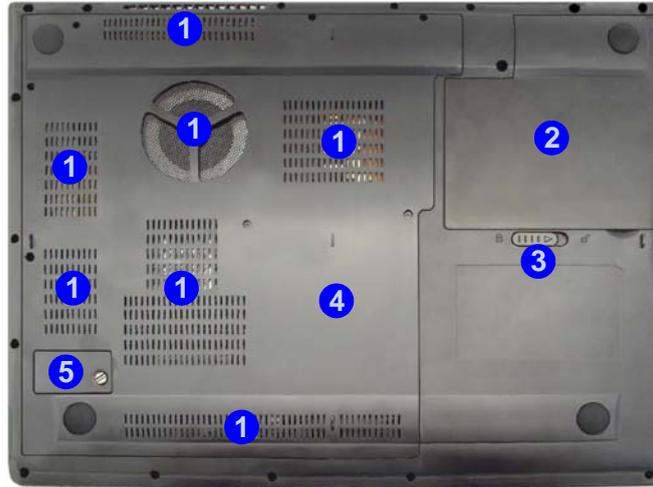
**Battery Information**

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 *"Battery Information" on page 3 - 10* for full instructions.

# Windows Vista Start Menu & Control Panel

Most of the control panels, utilities and programs within *Windows Vista* (and most other *Windows* versions) are accessed from the **Start** menu. When you install programs and utilities they will be installed on your hard disk drive, and a shortcut will usually be placed in the **Start** menu and/or the desktop. Right-click the **Start menu** icon 🏁, and then select **Properties** if you want to customize the appearance of the **Start** menu.

**Click here to toggle Category View**

*Figure 1 - 8* **- Start Menu & Control Panel**

In many instances throughout this manual you will see an instruction to open the **Control Panel**. The **Control Panel** is accessed from the **Start** menu, and it allows you to configure the settings for most of the key features in *Windows* (e.g. power, video, network, audio etc.). *Windows Vista* provides basic controls for many of the features, however many new controls are added (or existing ones are enhanced) when you install the drivers listed in *Table 4 - 1, on page 4 - 3*. To see all controls it may be necessary to toggle off Category View.

# Video Features

You can configure display options, from the **Display Settings** control panel in *Windows* as long as the appropriate **video driver** is installed. For more detailed video information see *"NVIDIA Video Driver Controls" on page B - 1*.

To access **Display Settings** in *Windows*:

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:** **1** (*Figure 1 - 9 on page 1 - 17*).
4. Click the arrow, and scroll to the preferred setting In **Colors:** **2** (*Figure 1 - 9 on page 1 - 17*).
5. Click **Advanced Settings** (button) **3** (*Figure 1 - 9 on page 1 - 17*).
6. Click **GeForce.....** (tab).
7. Click **Start the NVIDIA Control Panel** **4** (*Figure 1 - 9 on page 1 - 17*) to access the control panel.
8. The **NVIDIA Control Panel** can also be accessed by right-clicking the desktop, and then clicking **NVIDIA Control Panel** (or from the **NVIDIA Control Panel** in the *Windows* control panel).

$\mathscr{P}$

**Video Card Options**

Note that card types, specifications and drivers are subject to continual updates and changes. Check with your service center for the latest details on video cards supported.

## Display Devices & Options

Besides the built-in LCD, you can also use an **external VGA monitor** (CRT)/**external Flat Panel Display** or **TV** (connected to the DVI-Out port/HDMI-Out port) as your display device.
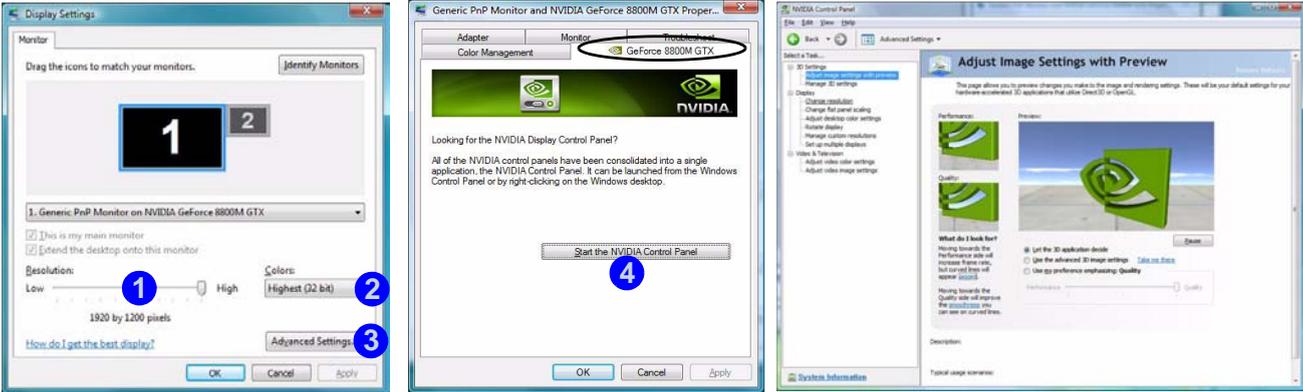


*Figure 1 - 9* **- Display Settings & NVIDIA Control Panel**

| NVIDIA Display Mode | Description |
|---|---|
| **Single** | One display device is used. |
| **Clone** | Both connected displays output the same view |
| **Dualview** | Both connected displays are treated as separate devices, and act as a virtual desktop |

*Table 1 - 5* **- NVIDIA Display Modes**

# Power Options

The **Power Options** (**Hardware and Sound** menu) control panel icon in *Windows* (see page *1 - 15*) 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 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.

Pay attention to the instructions on battery care in *"Battery Information" on page 3 - 10*.
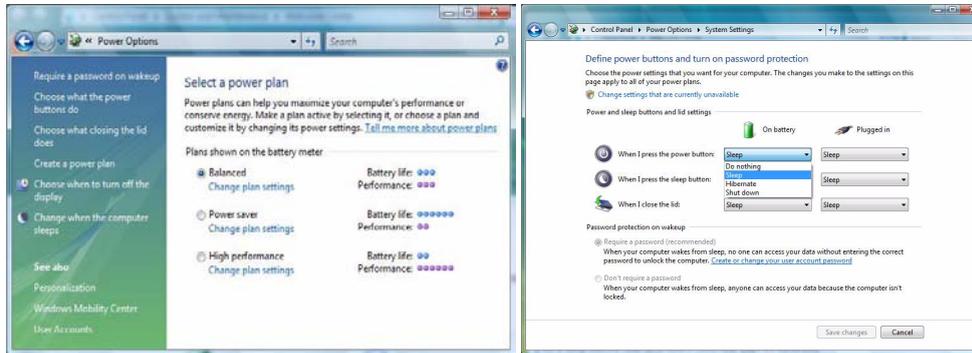


**Note**: **Sleep** is the default power saving state in *Windows Vista*

*Figure 1 - 10* **- Power Options**

# Chapter 2: Storage Devices, Mouse, Audio & Printer

## Overview

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

- Hard Disk Drive
- Optical Device
- 7-in-1 Card Reader
- ExpressCard Slot
- TouchPad and Buttons/Mouse
- Audio Features
- Adding a Printer

**2**

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**Power Safety**

Before attempting to ac-
cess any of the internal
components of your
computer please ensure
that the machine is not
connected to the AC
power, and that the ma-
chine is turned off. Also
ensure that all peripher-
al cables, including
phone lines, are discon-
nected from the comput-
er.

</div>

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

# Optical Device

There is a bay for a 5.25" optical (CD/DVD) device (12.7mm height). The actual device will depend on the model you purchased (see *"Storage" on page C - 3*). 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 **1** and carefully place a CD/DVD onto the disc tray with label-side facing up (use just enough force for the disc to click onto the tray's spindle). Gently push the CD/DVD tray in until its lock "clicks" and you are ready to start. The busy indicator **2** will light up while data is being accessed, or while an audio/video CD, or DVD, is playing. If power is unexpectedly interrupted, insert an object such as a straightened paper clip into the emergency eject hole **3** to open the tray.



*Figure 2 - 2*
**Optical Device**

**2**

### ☼

**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".

## 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.

# DVD Regional Codes

To change the DVD regional codes see *"Changing DVD Regional Codes" on page 1 - 13*.

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



*Table 2 - 1*
**DVD Regional Coding**

**2**

*Figure 2 - 3*
**Right View**

1. Card Reader

# 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 (see *"Card Reader/ExpressCard" on page 4 - 6*).

- MMC (MultiMedia Card)
- SD (Secure Digital)
- MS (Memory Stick)
- MS (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.

# 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 PCMCIA (PC Cards).

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. Make sure you install the Express-Card driver (see *"Card Reader/ExpressCard" on page 4 - 6*).



## 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 cover in the Express-Card slot when not in use. This will help prevent foreign objects and/or dust getting in to the ExpressCard Slot.

*Figure 2 - 4*
**ExpressCard Slot**

1. Express Card Slot

**2**

*Figure 2 - 5*
**Mouse Properties**

# 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.

Install the TouchPad driver (see page *4 - 6*) and then double-click the TouchPad driver icon 🖼 in the taskbar to configure the functions. You may then configure the TouchPad tapping, buttons, scrolling, pointer motion and sensitivity options to your preferences. The TouchPad may be toggled on/off by means of the **Fn** + **F1** key combination.
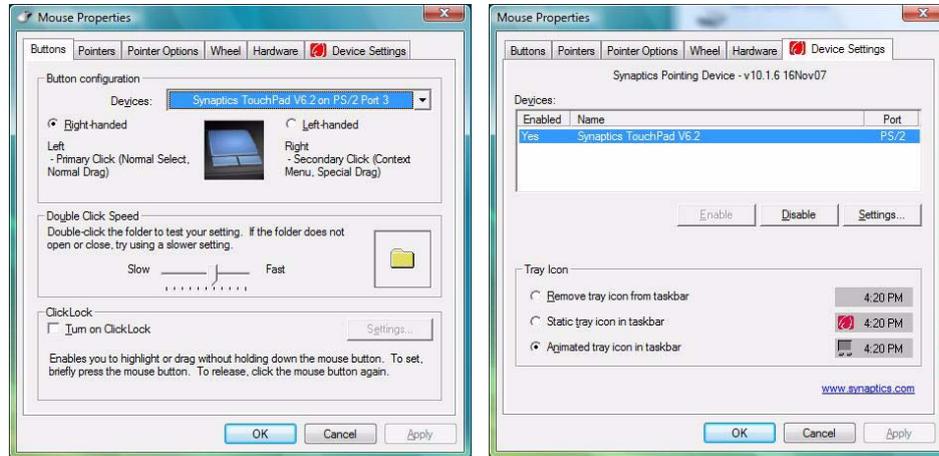
# Audio Features

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.



Right-click the icon to access the menu above.

🖉

**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.
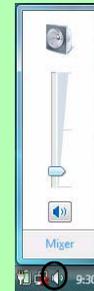
*Figure 2 - 6*
**Realtek Audio Manager**

**2**

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**Parallel Printer**

After setting up the printer attach the parallel cable to the printer.

Connect the printer's parallel cable to the Parallel to USB converter, and then plug the converter into the USB port.

Turn ON the printer, then turn ON the computer.

*Windows* will identify the printer and either load one of its own drivers or ask you to supply one. Follow the on-screen instructions.

# Adding a Printer

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

## USB Printer

Most new printers have a USB interface connection. You may use any one of the ports to connect the printer.

### Install Instructions:

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

## Parallel Printer

This is still a very common type of printer. The install instructions are in the sidebar (you will need to purchase a parallel to USB converter).

# 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.)

**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 (see page *C - 6*).

1. Attach the AC/DC adapter to the DC-In jack at the rear 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*.

3

# 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 hotkey 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.

---

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### 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).

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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**
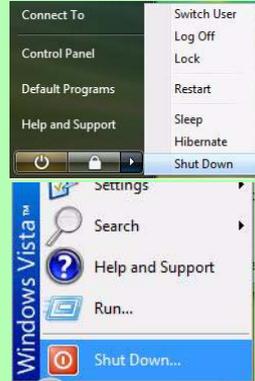
### Resuming Operation

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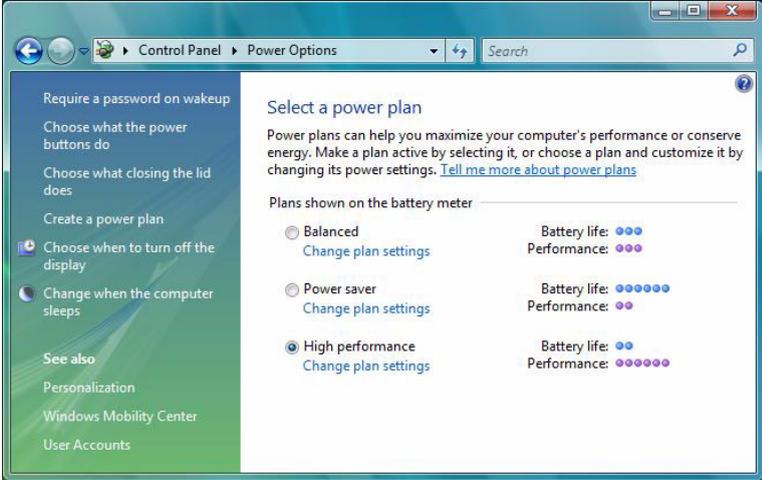
If your mobile PC in **Sleep** is running on battery power the system will use only a minimum amount of power. After an extended period the system will save all the information to the hard disk and shut the computer down before the battery becomes depleted.

## 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**.

*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.



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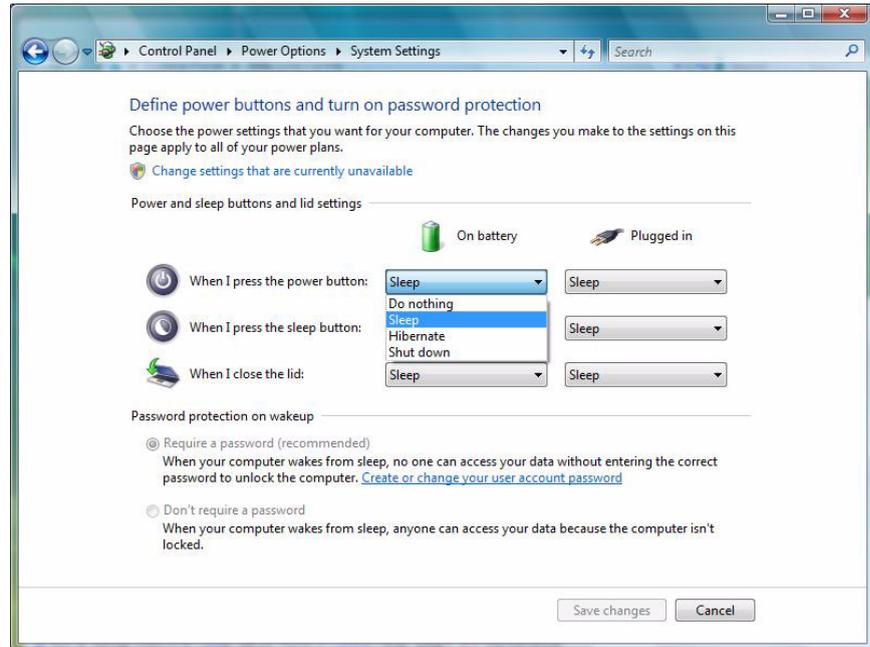
## Resuming Operation

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 hot-key button when it is pressed for less than **4 seconds** (pressing and holding the power button for longer than this will force shut the computer to shut down).

**3**

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**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.
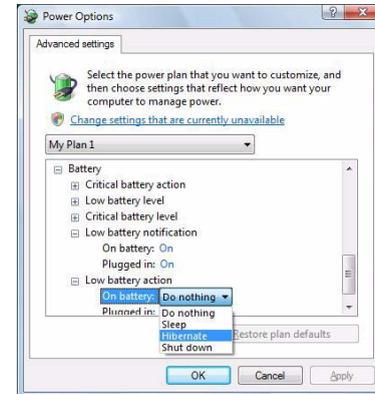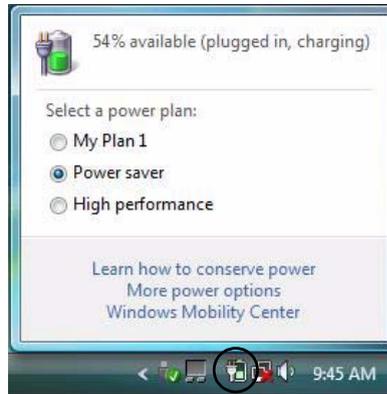
*Figure 3 - 5*
**Battery Icon (Taskbar) & Battery Advanced Settings**

# 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, Bluetooth, modem or communication applications when they are not being used.

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

3

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**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.
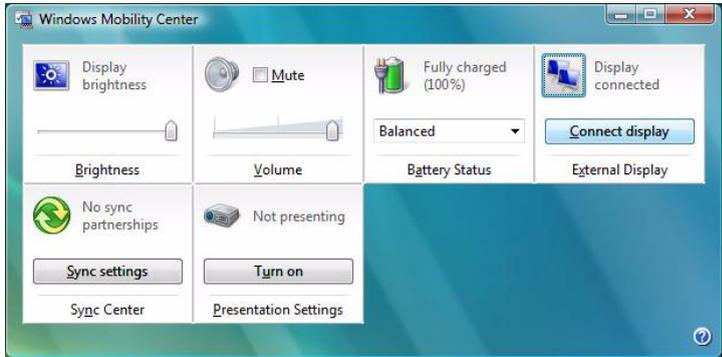


*Figure 3 - 6*
**Windows Mobility Center**

**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 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 *"LED Indicators" on page 1 - 7* 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.

**3**

> 🔔
> **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**

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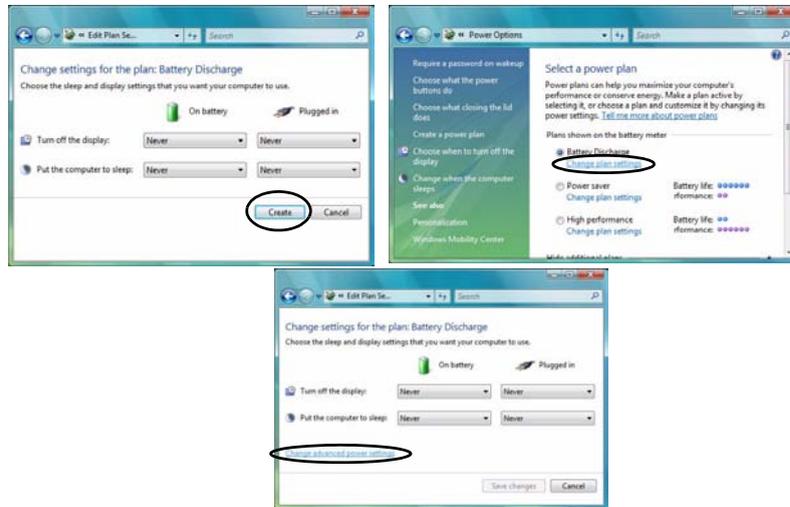
4. Scroll down to **Battery** and click **+** to expand the battery options.
5. Choose the options below (click **Yes** if a warning appears):
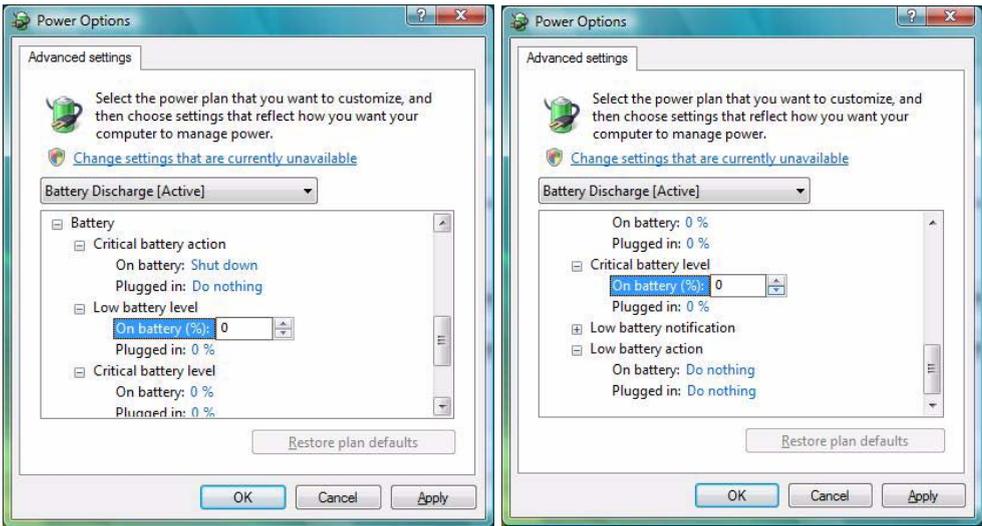
**3**



*Figure 3 - 8*
**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 & Utilities + User's Manual* disc contains the drivers and utilities necessary for the proper operation of the computer.

*Table 4 - 1, on page 4 - 3* lists what you need to install and **it is very important that the drivers are installed in the order indicated** (see *"Driver Installation" on page D - 22* for *Windows XP* driver information).

### Module Driver Installation

The procedures for installing drivers for the **WLAN**, **PC Camera**, **3.5G**, **Fingerprint** and **Intel Turbo Memory** (and **Intel Matrix Storage** ) modules are provided in *"Modules" on page 7 - 1*.

# Driver Installation

Insert the *Device Drivers & Utilities + User's Manual* disc and click *Install Drivers* (button), or *Option Drivers* (button) to access the **Optional** driver menu.
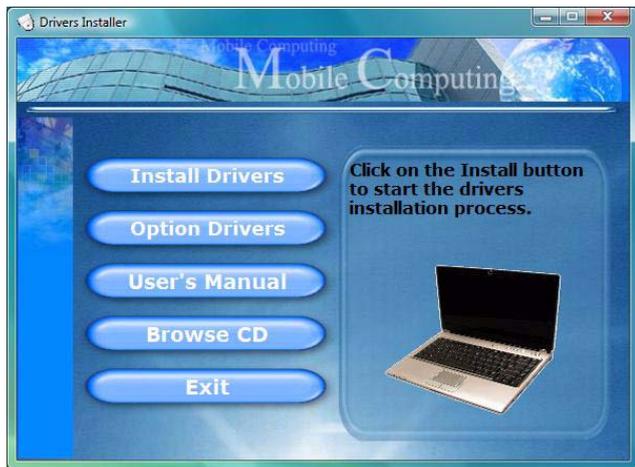
*Figure 4 - 1 -* **Drivers Installer Screen 1**

1. Check the driver installation order from *Table 4 - 1, on page 4 - 3* (**the drivers must be installed in this order**) which is the same as that listed in the *Drivers Installer* menu below.
2. Click to select the driver you wish to install, after installing each driver it will become grayed out. If you need to reinstall any driver, click the **Unlock** button (you should uninstall the driver first).
3. Follow the instructions for each individual driver installation procedure as listed on the following pages.



*Figure 4 - 2 -* **Drivers Installer Screen 2**

| Driver | Page |
|---|---|
| *Chipset* | *Page 4 - 5* |
| *Video* | *Page 4 - 5* |
| *Audio* | *Page 4 - 5* |
| *Modem* | *Page 4 - 5* |
| *LAN* | *Page 4 - 5* |
| *TouchPad* | *Page 4 - 6* |
| *Card Reader/ExpressCard* | *Page 4 - 6* |
| *Hot Key* | *Page 4 - 6* |
| *e-SATA Support* | *Page 7 - 33* |
| *Wireless LAN Module* | *Page 7 - 6* |
| *PC Camera Module* | *Page 7 - 12* |
| *3.5G Module* | *Page 7 - 19* |
| *Fingerprint Reader Module* | *Page 7 - 28* |
| *Intel Turbo Memory Module* | *Page 7 - 33* |

*Table 4 - 1* **- Driver Installation**

## Manual Driver Installation

Click the **Browse CD** button in the *Drivers Installer* application and browse to the executable file in the appropriate driver folder.

### 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). See *"Windows Update" on page 4 - 6* for instructions.

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**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.

## User Account Control (Win Vista)

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

## 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 Procedure

Insert the *Device Drivers & Utilities + User's Manual* disc and click *Install Drivers* (button), or *Option Drivers* (button) to access the **Optional** driver menu.

### Chipset

1. Click **1.Install Chipset Driver > Yes**.
2. Click **Next > Yes > Next > Next**.
3. Click **Finish** to restart the computer.

### Video

1. Click **2.Install Video Driver > Yes**.
2. Click **Next**.
3. Click **Finish** to restart the computer.

### Audio

1. Click **3. Install Audio Driver > Yes**.
2. Click **Next**.
3. Click **Finish** to restart the computer.

### Modem

1. Click **4.Install Modem Driver > Yes**.
2. Click **OK**.
3. The modem is now ready for configuration.

4

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**Modem Country Selection**

Go to the **Phone and Modem Options** control panel (**Hardware and Sound**) and make sure the modem country selection is appropriate for you.

### LAN

1. Click **5.Install LAN Driver > Yes**.
2. Click **Next** > **Install**.
3. Click **Finish**.

## TouchPad

1. Click **6.Install Touchpad Driver > Yes**.
2. Click **Next** > **Finish**.
3. Click **Restart Now** to restart the computer.

**4**

## Card Reader/ExpressCard

1. Click **7.Install Cardreader Driver > Yes**.
2. Click **Next > Install**.
3. Click **Finish**.

## Hot Key

1. Click **8.Install HotKey Utility > Yes**.
2. Click **Next > Install**.
3. Click **Finish > Finish** to restart your computer.

## e-SATA Support

See *"Intel Turbo Memory & Matrix Storage Setup and Driver Installation" on page 7 - 33* for instructions on installing this driver to enable the e-SATA port.

---

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**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.

---

## Optional Drivers

See the pages indicated for the driver installation procedures for any modules included in your purchase option.



*Figure 4 - 3* **- Optional Drivers Installer Screen**

### Bluetooth Module

**Note:** The operating system is the default setting for **Bluetooth** control in *Windows Vista*, and does not require a driver. See *"Bluetooth Module" on page 7 - 2* for configuration instructions.

### Wireless LAN

See the appropriate install procedure for your WLAN module in *"Wireless LAN Module" on page 7 - 6*.

### PC Camera

See the install procedure in *"PC Camera Module" on page 7 - 12*.

### 3.5G Module

See the introduction in *"3.5G Module" on page 7 - 19*, and check the installation procedure.

**Fingerprint Reader Module**

See the install procedure in *"Fingerprint Reader Module" on page 7 - 28*.

**Intel Turbo Memory Technology Driver**

See the introduction in *"Intel Turbo Memory Module" on page 7 - 33*, and check the installation procedure. **Note this driver is also required to enable support for the e-SATA port**.

# 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**

**5**

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**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 is for guideline purposes only.

*Figure 5 - 1*
**POST Screen**

# 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.

```
Phoenix SecureCore(tm) NB
Copyright 1985-2007 Phoenix Technologies Ltd.  1
All Rights Reserved
BIOS Revision: ********
KBC/EC Revision: ********
CPU = 1 Processors Detected, Cores per Processor = 2
Genuine Intel(R) CPU              @ 2.40GHz      2
2046M System RAM Passed
System BIOS shadowed
Video BIOS shadowed               3
Fixed Disk 0: FUJITSU MHY2160BH
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 Utility

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

## Entering Setup

To enter *Setup*, turn on the computer and press **F2** during the **POST**. The prompt (*Press F2 to Enter Setup*) seen in **Figure 5 - 1** 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.

**5**

## 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.

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**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

```
                 Phoenix SecureCore(tm) Setup Utility
   Main        Advanced      Security      Boot      Exit

     System Time:              [22:12:05]              Item Specific Help
     System Date:              [04/18/2008]

  ▶  SATA Port 1               [FUJITSU MHW2160BH-(P]
  ▶  SATA Port 2               [Optiarc DVD RWDVD CRX8]    <Tab>, <Shift Tab>, or
  ▶  SATA Port 4               [None]                      <Enter> selects field.

     System Memory:            640 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.

*SATA Port 1/2/4 (Main Menu)*
Pressing **Enter** opens the sub-menu to show the configuration of a hard disk or optical device drive on the computer's SATA Ports. Use the *Auto* (Type:) setting to have the items configured automatically for you.

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

*BIOS Revision/VGA Card etc. (Main Menu)*
This item contains information on the BIOS version and video card etc., and is not user configurable.

**5**

# Advanced Menu

*Figure 5 - 3*
**Advanced Menu**

**5**

*SATA Mode & eSata Port*

The eSATA port will be enabled if you have selected **AHCI** mode in *SATA Mode Selection*.

Note that **the Intel Matrix Storage driver is required to enable e-SATA port hot-swapping** (see page *7 - 33*).

**Intel Turbo Memory**

Select **AHCI** mode in *Sata Mode Selection* if you have included an **Intel Turbo Memory** module in your purchase configuration.

```
                    Phoenix SecureCore(tm) Setup Utility
    Main        Advanced      Security      Boot      Exit

                                                          Item Specific Help

    Installed O/S:                      [VISTA]
    SATA Mode Selection:                [AHCI]          Select the operating
        DFOROM (Robson) Support:        [Enabled]       system installed
    Legacy USB Support:                 [Enabled]       on your system which
    Boot-time Diagnostic Screen:        [Disabled]      you will use most
    Legacy OS Boot:                     [Enabled]       commonly.
    Reset Configuration Data:           [No]
    Power On Boot Beep                  [Disabled]      Note: An incorrect
    Battery Low Alarm Beep              [Enabled]       setting can cause
    Fan Control:                        [Automatic]     some operating
                          Only available if Windows Vista   systems to display
                          is selected as the O/S.           unexpected behavior.


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

*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 system problems. Note: If you select the *Vista* O/S then the **SATA Mode Selection** 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 prevent 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. Note the following:

• If you have installed the *Windows Vista* O/S with AHCI enabled, **DO NOT** disable it (see sidebar).

• The **SATA** mode should be set to **AHCI** if you have included an *Intel Turbo Memory (Robson) NAND flash memory* card module in your purchase option.

• The **SATA** mode should be set to **AHCI** to support eSATA port hot-swapping.

*DFOROM (Robson) Support (Advanced Menu > SATA Mode Selection [AHCI]*
This item will only be available if you have selected **AHCI** in **SATA Mode Selection**. The option should be enabled only if you have included an optional **Intel Turbo Memory Module** in your purchase configuration. You should then install the driver as per the instructions in *"Intel Turbo Memory & Matrix Storage Setup and Driver Installation" on page 7 - 33*.

> 冰
>
> **SATA Mode Selection**
>
> If you have installed the *Windows Vista* operating system with **AHCI** mode enabled (default setting), **DO NOT** disable AHCI mode (if you wish to disable AHCI mode you will need to reinstall the *Windows VIsta* OS).

**5**

**5**

*Boot-time Diagnostic Screen: (Advanced Menu)*
Use this menu item to enable/disable the Boot-time Diagnostic Screen.

*Legacy OS Boot: (Advanced Menu)*
Enable this item to support only system boot from the Legacy OS (e.g *Windows Vista*). If disabled the system will attempt to boot from the EFI (Extensible Firmware Interface) before the Legacy OS.

*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.

*Fan Control (Advanced Menu)*
This menu item allows you to set the fan cooling behavior under light system activity (if you choose **Automatic** the system will adjust the fan cooling as appropriate for the system activity).

# Security Menu

```
                 Phoenix SecureCore(tm) Setup Utility
  Main         Advanced         Security       Boot      Exit
```
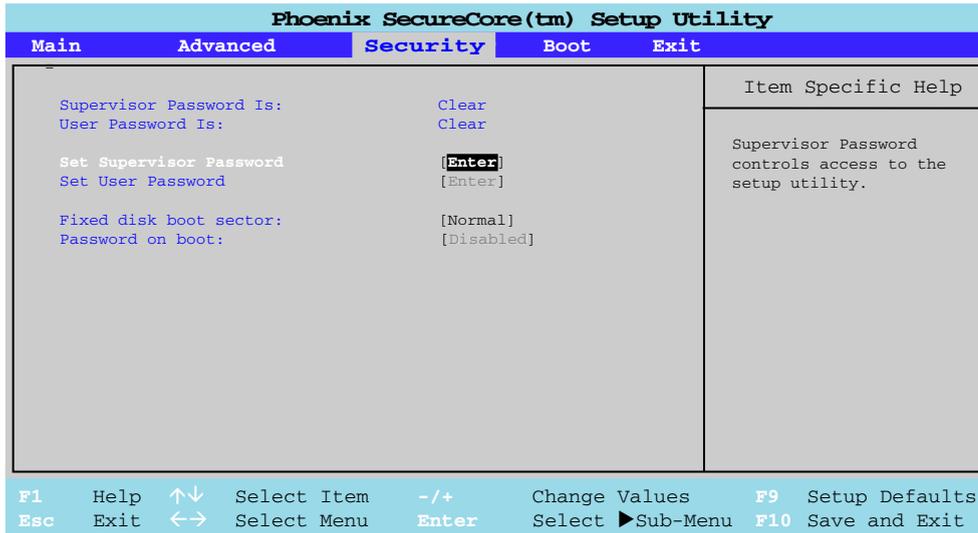
```
                                                 ┌─────────────────────┐
       Supervisor Password Is:       Clear       │  Item Specific Help │
       User Password Is:             Clear       │                     │
                                                 │                     │
       Set Supervisor Password      [Enter]      │ Supervisor Password │
       Set User Password            [Enter]      │ controls access to  │
                                                 │ the setup utility.  │
       Fixed disk boot sector:      [Normal]     │                     │
       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
```

*Set Supervisor Password (Security Menu)*

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

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

*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

```
                Phoenix SecureCore(tm) Setup Utility
    Main      Advanced      Security      Boot      Exit

                                              Item Specific Help

    Boot priority order:
      1:  USB FDC:                          Keys used to view or
      2:  USB KEY:                          configure devices:
      3:  USB HDD:                          Up and Down arrows
      4:  IDE CD:  Optiarc CDRWDVD CRX890S-(P   select a device.
      5:  IDE HDD: FUJITSU MHY2160BH-(PM)   <+> and <-> moves
      6:  PCI BEV:                          the device up or down.
      7:                                    <f> and <r> specifies
      8:                                    the device fixed or
    Excluded from boot order:              removable.
      :  USB CDROM:                         <x> exclude or include
      :  USB ZIP:                           the device to boot.
                                            <Shift + 1> enables or
                                            disables a device.
                                            <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
```

*Figure 5 - 5*
**Boot Menu**

5

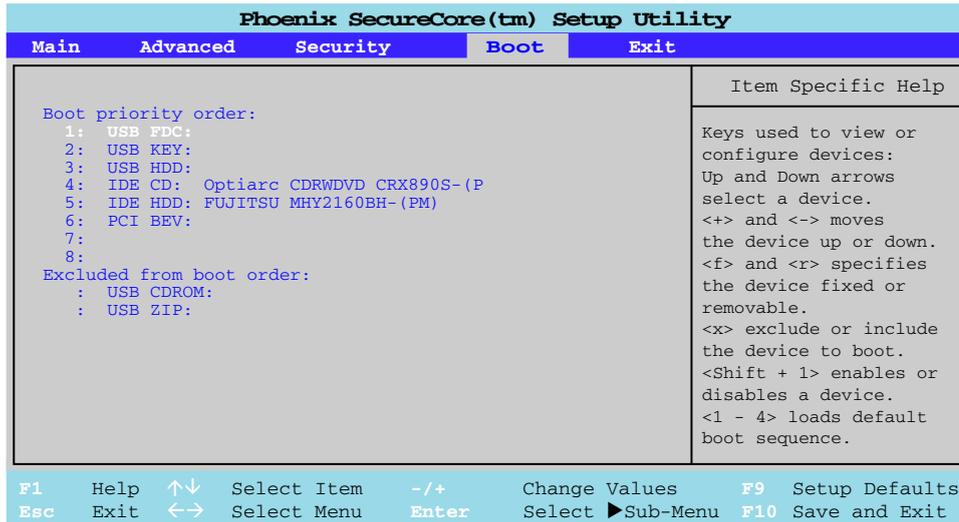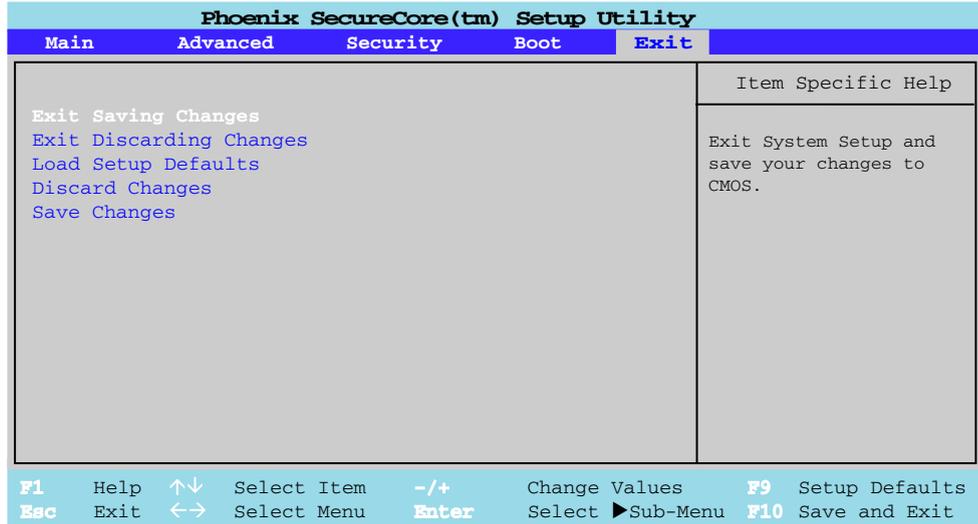When you turn the computer on it will look for an operating system (e.g. *Windows Vista*) from the devices listed in this menu, and **in this priority order**. If it cannot find the operating system on that device, it will try to load it from the next device in the order specified in the **Boot priority order**. Item specific help on the right is available to help you move devices up and down the order.

# Exit Menu

*Figure 5 - 6*

**Exit Menu**

**5**

```
           Phoenix SecureCore(tm) 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 System Memory (RAM)
- Upgrading the Optical (CD/DVD) Device

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

**⚠ Warranty Warning**

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

**6**

⚠️

**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.

**6**

## When Not to Upgrade

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

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

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

⚠️

**Removal Warning**

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

### 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.

# 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, turn it over and remove the battery.
2. Slide latch **1** towards the unlock symbol and hold it in place, and lift the battery **2** up and out of the battery bay.

6

*Figure 6 - 1*
**Battery Removal**

⚠️

**HDD System Warning**

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

*Figure 6 - 2*
**Component Bay Cover Screws**

# Upgrading the Hard Disk Drive

The hard disk drive(s) can be taken out to accommodate other 2.5" serial (SATA) hard disk drives with a height of 9.5mm (h) (see *"Storage" on page C - 3*). Follow your operating system's installation instructions, and install all necessary drivers and utilities (as outlined in *"Drivers & Utilities" on page 4 - 1*), when setting up a new hard disk.

1. Turn **off** the computer, and turn it over and remove the battery.
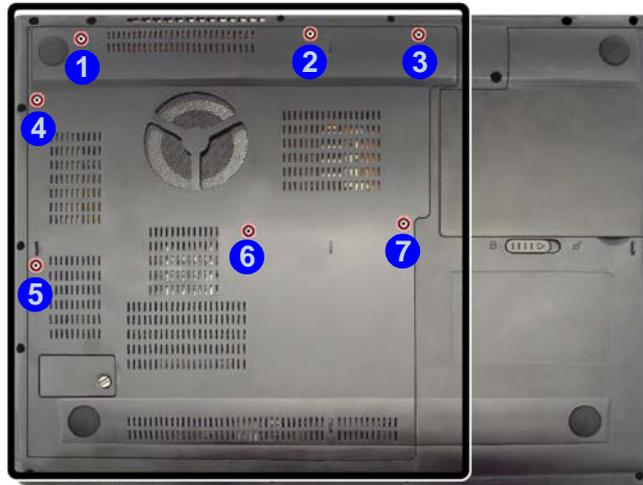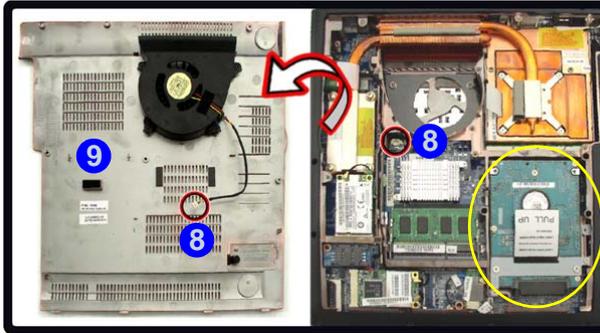2. Locate the component bay cover and remove screws ❶ - ❼.

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 ⑧, and remove the cover ⑨.



⚠

**Fan Cable**

Make sure you reconnect the fan cable ⑧ before screwing down the bay cover.

*Figure 6 - 3*
**Bay Cover Removal**

5. Remove screws ⑩ - ⑪ from the hard disk cover.



*Figure 6 - 4*
**Hard Disk Assembly Screws**

6.   Pull the hard disk assembly in the direction of the arrow **12**.

*Figure 6 - 5*
**Hard Disk Pull**



**6**

7.   Carefully remove the hard disk assembly in the direction of the arrow **13**.
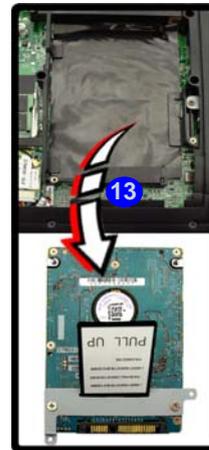
*Figure 6 - 6*
**Hard Disk Removal**

8. Remove screws **14** - **15** to separate the hard disk from the bracket.
9. Reverse the process to install any new hard disk.



*Figure 6 - 7*
**Hard Disk Bracket Removal**

# Upgrading the System Memory (RAM)

The computer has **two** memory sockets for 204 pin Small Outline Dual In-line (SO-DIMM) **DDR III (DDR3)** type memory modules (see *"Memory" on page C - 3*). The total memory size is automatically detected by the POST routine once you turn on your computer.

1. Turn **off** the computer, and turn it over and remove the battery.
2. Locate the component bay cover and remove screws **1** - **7**.

**6**

*Figure 6 - 8*
**Component Bay Cover Screws**
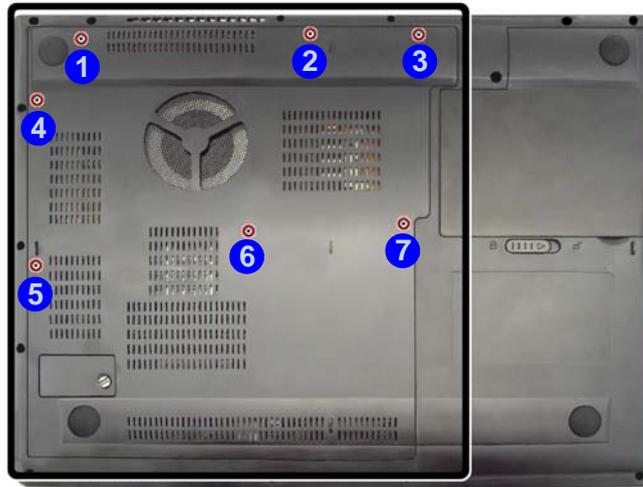
3. Carefully (**a fan and cable are attached to the under side of the cover**) lift up the bay cover.
4. Carefully disconnect the fan cable **8**, and remove the cover **9**.



☒

**Fan Cable**

Make sure you reconnect the fan cable **8** before screwing down the bay cover.

*Figure 6 - 9*
**Bay Cover Removal**

5. Gently pull the two release latches (**10** & **11**) on the sides of the memory socket in the direction indicated below.
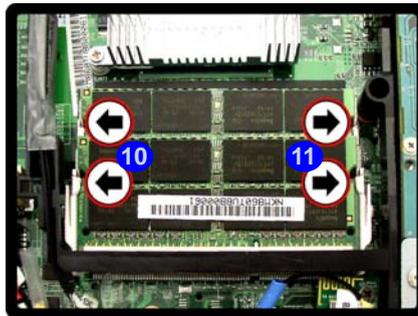
*Figure 6 - 10*
**RAM Module Release Latches**

6

⍢

**Contact Warning**

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

*Figure 6 - 11*
**RAM Module Removal**

⍢

**Fan Cable**

Make sure you reconnect the fan cable **8** (see *Figure 6 - 9*) before screwing down the bay cover.

6. The RAM module **12** will pop-up, and you can remove it.



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 socket.
9. The module's pin alignment will allow it to only fit one way. Make sure the module is seated as far into the socket 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 socket levers click into place to secure the module.
11. Replace the cover and screws (see *Figure 6 - 9*).
12. Restart the computer to allow the BIOS will register the new memory configuration as it starts up.

# Upgrading the Optical (CD/DVD) Device

1. Turn **off** the computer, and turn it over and remove the battery.
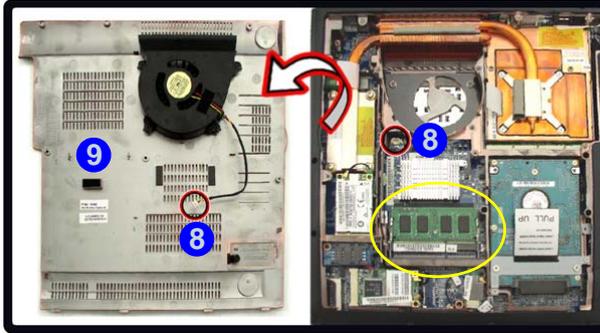2. Locate the component bay cover and remove screws **1** - **7** .
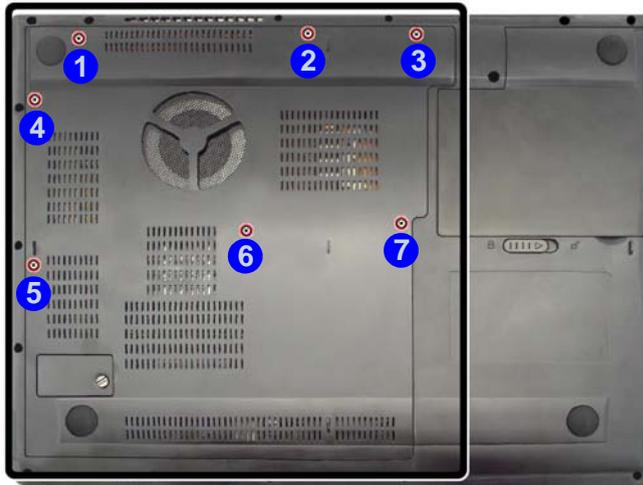


*Figure 6 - 12*
**Removing the CD/ DVD Device**

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 ⑧, and remove the cover ⑨.

### ⚠️ Fan Cable

Make sure you reconnect the fan cable ⑧ before screwing down the bay cover.
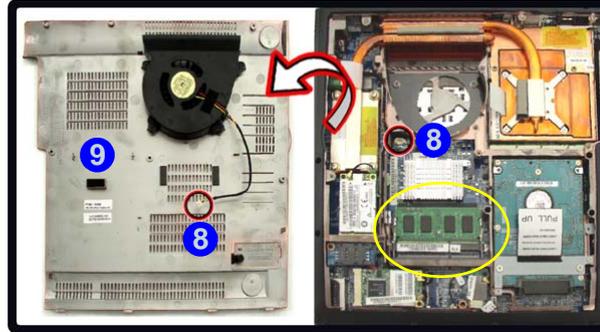
*Figure 6 - 13*
**Bay Cover Removal**



5. Remove the screw at point ⑩, and use a screwdriver to carefully push out the optical device at point ⑪.

*Figure 6 - 14*
**Optical Device Removal**



**6 - 12 Upgrading the Optical (CD/DVD) Device**

# Chapter 7: Modules

## Overview

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

The chapter includes information on the following:

- Bluetooth Module
- Wireless LAN Module
- PC Camera Module
- 3.5G Module
- Fingerprint Reader Module
- Intel Turbo Memory Module

# Bluetooth Module

The **optional** Bluetooth module allows you to connect your computer to Bluetooth enabled devices such as other computers, desktop computers, mobile phones, printers, digital cameras, PDAs, headsets etc. using a short-range radio frequency.

**Use the Fn** + **F12 key combination** (see *Table 1 - 4, on page 1 - 10*) **to toggle power to the Bluetooth module.** When the Bluetooth module is powered on, the ((ᵠ)) LED will be **orange** and the indicator 🔵 will briefly be displayed. 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.

☆

**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 + F12** key combination to toggle power to the Bluetooth module, and check the LED indicator to see if the module is powered on or not (see *Table 1 - 4, on page 1 - 10*/ *Table 1 - 2, on page 1 - 7*).

**7**

✎

**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.
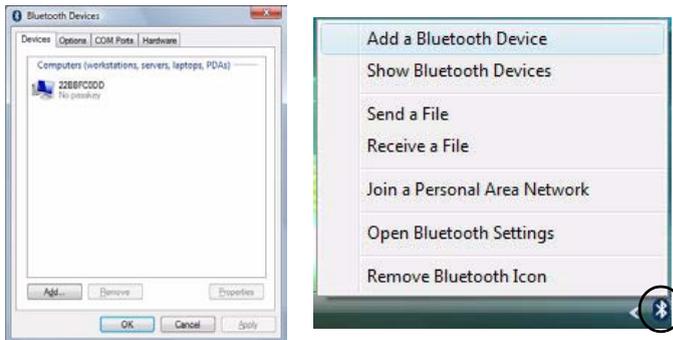


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**Bluetooth Taskbar Icon**

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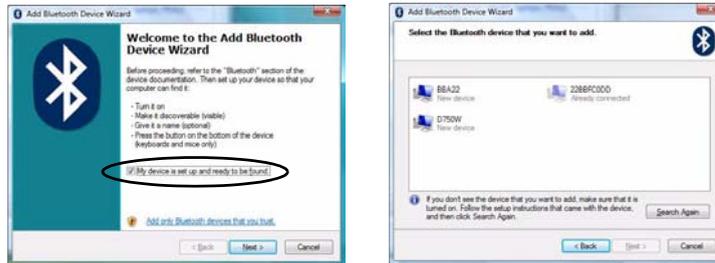
Note that you will need to check the LED indicator to see if the module is powered on or not.

*Figure 7 - 1*
**Bluetooth Devices & Click Icon Menu**

7

### 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**.

*Figure 7 - 2*
**Add Bluetooth Device Wizard**

$\mathscr{P}$

**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.

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**.

*Figure 7 - 3*
**Passkey Option**

9. Click **Finish**.

**7**

### 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.



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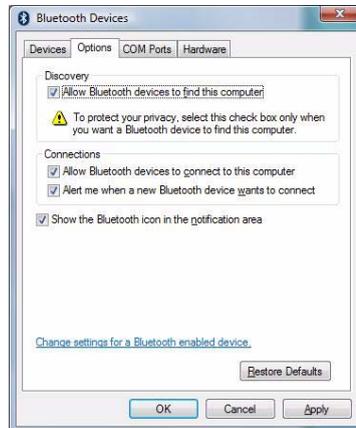
**Bluetooth Help**

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**

**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 LED indicator to see if the module is powered on or not (see *Table 1 - 4, on page 1 - 10*/*Table 1 - 2, on page 1 - 7*).

# Wireless LAN Module

If you have included an **Intel® Wi-Fi Link 5100/5300 Series (802.11 a/g/n) WLAN** module, or **3rd Party 802.11b/g WLAN module** in your purchase option, make sure that the Wireless LAN module is on before installing the driver.

**Use the Fn + F11 key combination** (see *Table 1 - 4, on page 1 - 10*) **to toggle power to the Wireless LAN module.** When the WLAN module is powered on, the LED will be **green** and the indicator will briefly be displayed. Make sure you install the drivers in the order indicated in *Table 4 - 1, on page 4 - 3*.

### Intel® Wi-Fi Link 5100/5300 Series (802.11 a/g/n) Driver Installation

1. Make sure the module is powered on, then insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
2. Click **Option Drivers** (button).
3. Click **1.Install Wireless Lan Driver > Yes**.
4. *Windows* will then configue the driver software and **automatically restart** the computer.

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

### 802.11b/g Driver Installation

1. Make sure the module is powered on, then insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
2. Click **Option Drivers** (button).
3. Click **1.Install Wireless Lan Driver > Yes**.
4. Choose the language you prefer and click **Next**.
5. Click **Next > Install**.
6. Click **Finish** to restart the computer.

**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 - 5*
**Taskbar Menus**



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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.

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



*Figure 7 - 6*
**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).
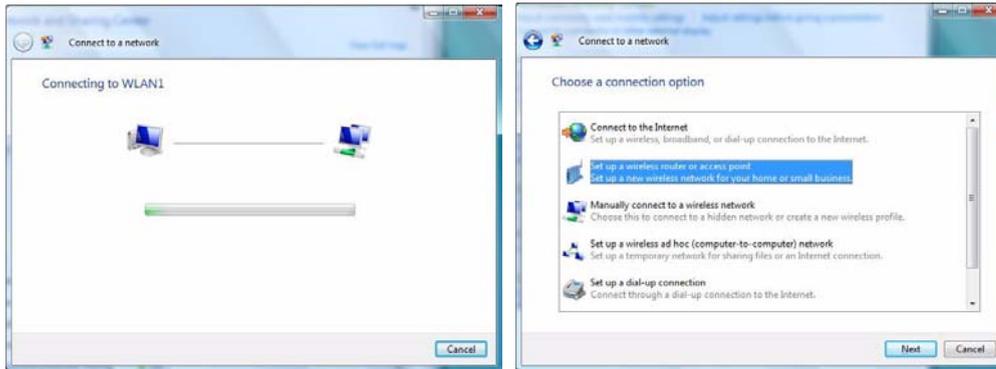


*Figure 7 - 7*
**Connecting**

6.  Move the cursor over the taskbar icon ![icon] to see the connection status (see below).



*Figure 7 - 8*
**Connection Status**

🔆

**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 un-authorized access to your computer, documents, websites and files etc.

**7**

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**).
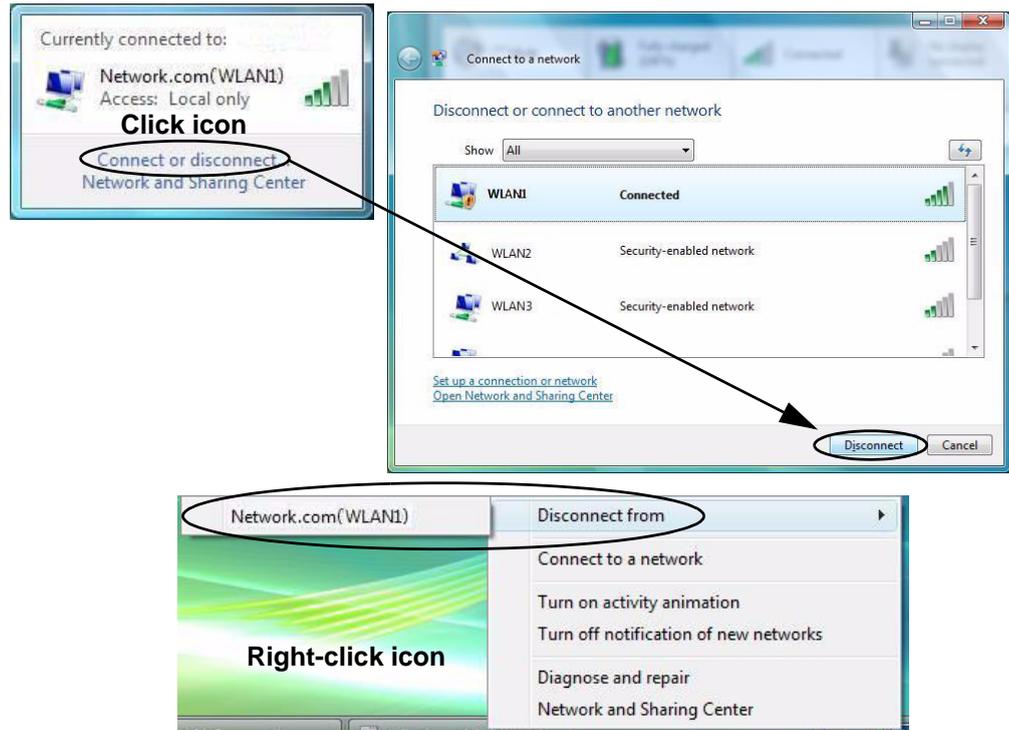


*Figure 7 - 9*
**Disconnecting**

# 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 ┉ to access the network menu.



*Figure 7 - 10*
**Windows Mobility Center**

**7**

# PC Camera Module

**PC Camera Display**

The PC Camera application software needs to be run while the *default notebook LCD* is the selected display device.

After a camera picture is obtained on the default notebook LCD, you may then use the **Fn + F7** to toggle through the display modes (give the screen time to refresh).
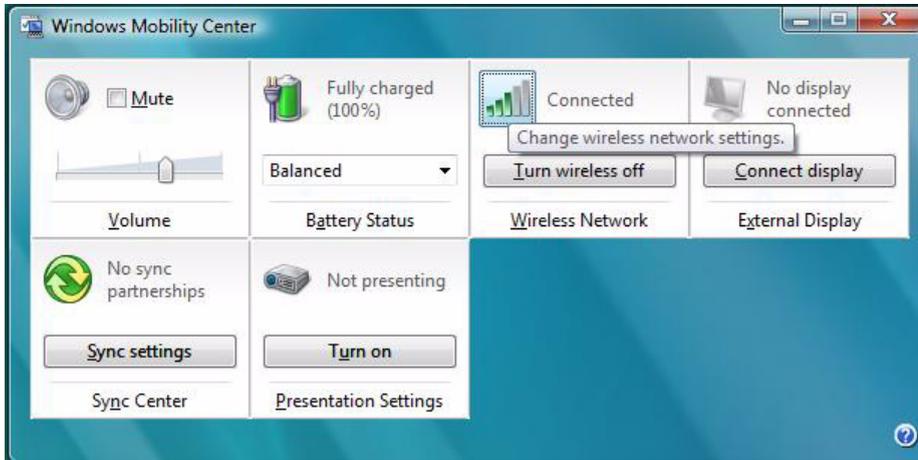
Before installing the driver, make sure the PC Camera is on. **Use the Fn + F10 key combination** (see *Table 1 - 4, on page 1 - 10*) **to toggle power to the PC Camera module.** When the PC Camera module is powered on, the indicator will briefly be displayed. Make sure you install the drivers in the order indicated in *Table 4 - 1, on page 4 - 3*.

## PC Camera Driver Installation

1. Insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
2. Click **Option Drivers** (button).
3. Click **2.Install WebCam Driver > Yes**.
4. Choose the language you prefer and click **Next > Next**.
5. Click **Finish** to restart the computer.
6. Run the **BisonCap** application program from the **BisonCam** shortcut on the desktop, or from the **BisonCam** item in the **Start > Programs/All Programs** menu (if the hardware is turned off use the **Fn + F10** key combination to turn it on again).

**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 **Start > Programs/All Programs > BisonCam** menu.
9. Go to the **Devices** 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**

*Figure 7 - 11*
**Audio Setup for PC Camera**
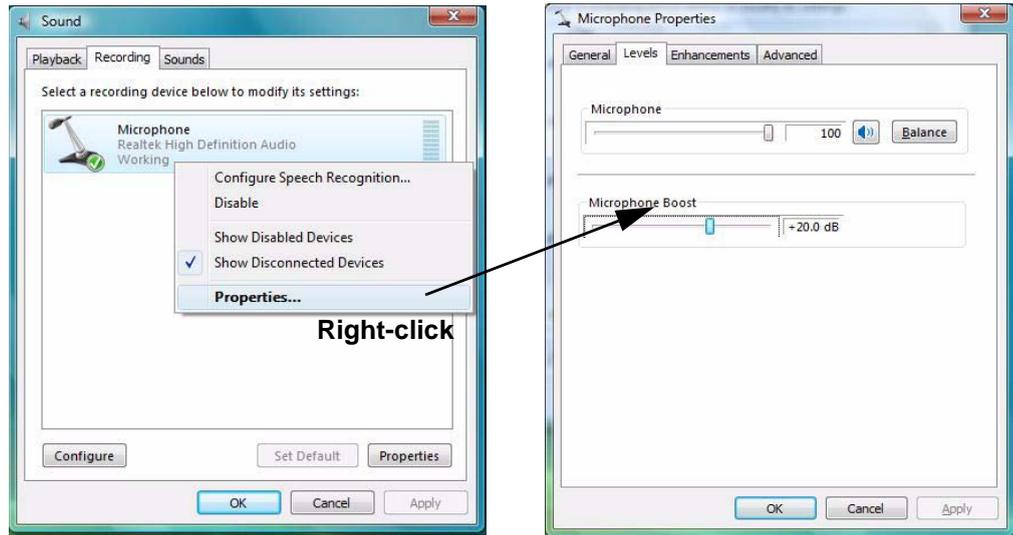


**Right-click**
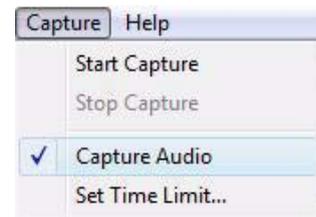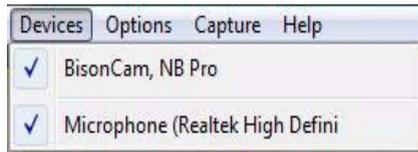
## BisonCap

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

1. Run the **BisonCap** program from the **Start > Programs/All Programs > Bison-Cam** menu (it is recommended that you **set the capture file** before the capture process - **see Set Capture File below**).
2. Go to the **Capture** menu heading (if you wish to capture audio check *"PC Camera Audio Setup" on page 7 - 13*) and select **Start Capture**.
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 above.

Note the important information in *"Reducing Video File Size" on page 7 - 16* in order to save file space, and help prevent system problems.

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**Pre-Allocating File Space**

You may pre-allocate the file size (**File > Allocate File Size**) for the capture file in the **BisonCap** program.

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

See also *"Reducing Video File Size" on page 7 - 16*.

**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 - 15*), limit the file size of the captured video (see *"Pre-Allocating File Space" on page 7 - 15*) or reduce video resolution (see below).

### To Reduce Video Resolution Output Size:

1. Run the **BisonCap** program.
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.

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** program.
2. Go to **Options** and scroll down to select **Video Capture Filter...**.
3. Click either **50Hz** or **60Hz** under **Frequency** in **Property Page** (tab).



*Figure 7 - 12*
**Video Capture Filter**

**Zoom**

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

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

*Figure 7 - 13*
**Zoom/Setting**
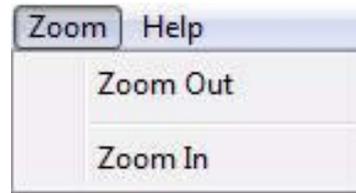


🔔
**Snapshot Folder**

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.

**Taking Still Pictures**

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

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

# 3.5G Module

If you have included an optional 3.5G module (see *"Communication" on page A - 4* for specification details) in your purchase option, you will have the appropriate software provided for your module. Follow the instructions below to install the USIM card (which will be provided by your service provider), and then install the application.

Before installing the **application**, make sure that the 3.5G module is on. Use the **Fn+(⬚) key combination** (see *"Function/Hot Key Indicators" on page 1 - 13*) **to toggle power to the 3.5G module**. Make sure you install the drivers in the order indicated in *Table 4 - 1, on page 4 - 3*.

1. Turn **off** the computer, and turn it over and **remove the battery**.
2. Locate the SIM card cover and loosen screw **1**.
3. Remove the SIM card cover **2**.



> 🔔
> **Power Safety Warning**
>
> Before you undertake any installation 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.
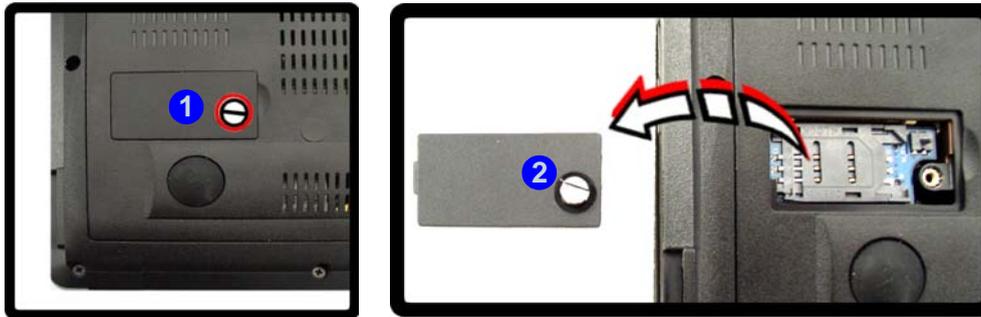
*Figure 7 - 14*
**SIM Card Cover Removal**

4. Slide the SIMLOCK towards the hinge (in the direction of the arrow in *Figure 7 - 15*) in order to release the lock and lift it up.

*Figure 7 - 15*
**SIMLOCK Open**



5. Insert the USIM card as illustrated (*Figure 7 - 16*) and close the SIMLOCK.
6. Lock the SIMLOCK by pushing it in the direction of the arrow (*Figure 7 - 16*) until it clicks into the lock position (replace the screw and cover as per *Figure 7 - 14*).

*Figure 7 - 16*
**Insert SIM Card and Lock SIMLOCK**
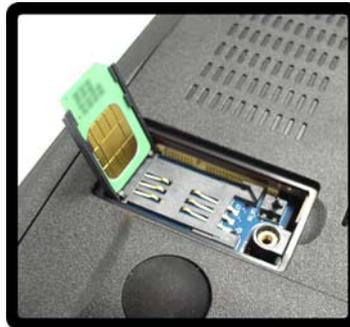
# 3G Watcher Application

With the 3.5G module and USIM card (provided by your service provider) installed you may then install the 3G Watcher application. The 3.5G Watcher application allows you to directly access your 3.5G internet service from the computer.

## 3G Watcher Application Installation

1. Enable power to the module by pressing the **Fn** + ▦ key combination.
2. If a *Found New Hardware* window appears, click **Cancel**.
3. Insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
4. Click **Option Drivers** (button).
5. Click **3.Install 3G Driver > Yes**.
6. Click **Next**.
7. Click the button to accept the license agreement, and then click **Install**.
8. When the next screen appears **wait (about 2 minutes) until the 3G Watcher application appears on screen** (as per *Figure 7 - 17*) before clicking **Finish** (this allows the hardware to detect the 3.5G module).



> 冰
>
> **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 +** ▦ key combination to toggle power to the 3.5G module, and check the indicator to see if the module is powered on or not (see *Table 1 - 4, on page 1 - 10*).

*Figure 7 - 17*
**3G Watcher Application**

### Setting Up a Carrier Profile

Although the connection information is stored on the USIM card supplied by the service provider, you will need to set up the appropriate carrier profile from the 3G Watcher software.

1. Power on the 3.5G module using the **Fn +** ⬚ key combination.
2. Access the **3G Watcher** application from the **Start** menu (**Start** > **Programs/All Programs** > **Sierra Wireless > 3G Watcher**), or by clicking the desktop icon ▦.
3. Click **Tools** and select **Options**.
4. Click **Profiles** and then click the **Add new profile** button ▦, and select **WWAN profile**.

*Figure 7 - 18*
**Add WWAN Profile**

**7**
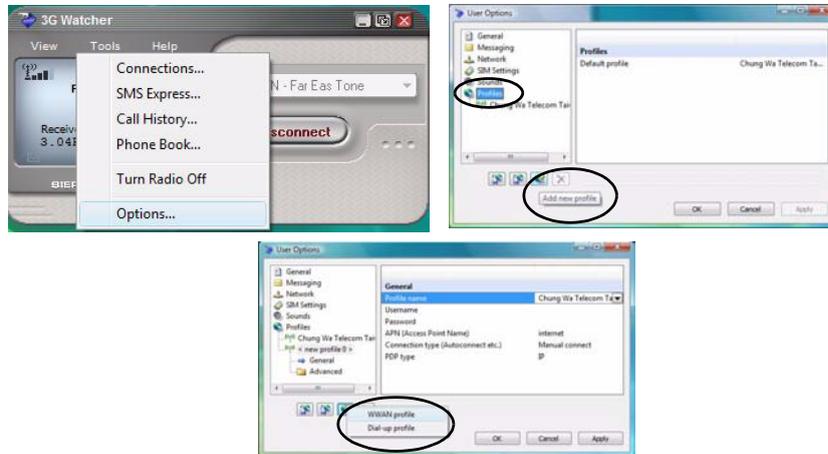
5. You can then enter a new profile name or choose a profile from the drop-down list provided by the software (see the **sidebars** for information on the profile details).

*Figure 7 - 19*
**User Options**

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**Profile Information**

Click **General** and/or **Advanced** (and the **submenus** under **Advanced**) in the left menu, and then click in any of the fields to add the appropriate information supplied by your service provider.

🖉
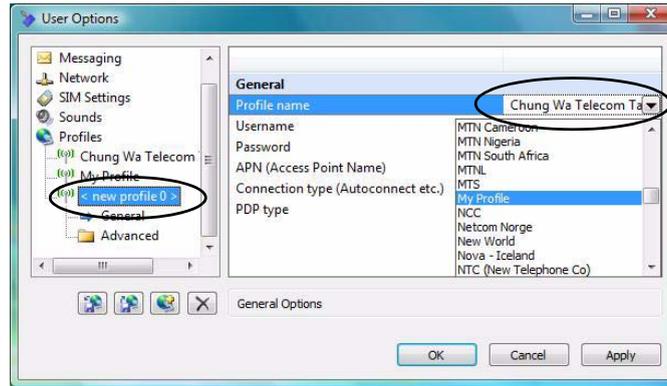
**Profile Details**

If you have chosen the profile from the drop-down list then most of the information in the **General** and **Advanced** tabs should be automatically filled in for you (however check with your service provider for the latest information as you may at least need to add in your **Username** and **Password**).

6. Click **Apply > OK** to save the information.
7. You can choose the profile from the pull-down menu.
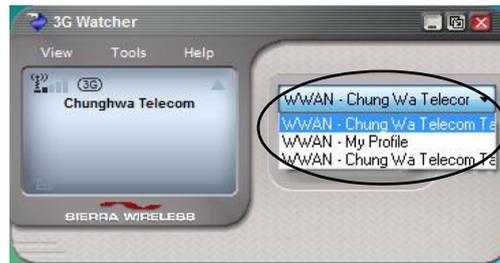
*Figure 7 - 20*
**Choose Profile**

**7**

**Connecting to the Service Provider**

1. Power on the 3.5G module using the **Fn +** ⬚ key combination.
2. You can access the **3G Watcher** application from the **Start** menu (**Start** > **Programs/All Programs** > **Sierra Wireless > 3G Watcher**), or by clicking the desktop icon ⬚ .
3. The software will run and display the service provider name (see *"Setting Up a Carrier Profile" on page 7 - 22*).

*Figure 7 - 21*
**Connect Button**
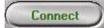


4. Click **Connect** ⬚ to begin the connection process.
5. The **3G Watcher** application will then display the connection information in the window.

*Figure 7 - 22*
**Connecting**

6.  When the connection is successful a taskbar notification will appear (as below).



*Figure 7 - 23*
**Connected
Taskbar
Notification**

7.  You can then access the internet, download e-mail etc. as per any internet connection.
8.  While you are connected the taskbar icon will be green ▦ (it will be red ▦ when the program is running but not connected).
9.  To disconnect click the **Disconnect** ⌐Disconnect⌐ icon.



*Figure 7 - 24*
**3GWatcher
Connected**

10. The program will disconnect from the service provider.
11. The module will still be on, and you will need to press the **Fn +** ▦ key combination.

12. If you click the **3G Watcher** close icon ☒ a message will be displayed asking you to click **OK** to confirm the program exit.

*Figure 7 - 25*
**Exit Warning**



**7**

13. Exiting the program DOES NOT turn off the 3.5G module, and you will need to press the **Fn +** ⊡ key combination to turn off the module (pay careful attention to this aboard aircraft - see *"Wireless Device Operation Aboard Aircraft" on page 7 - 21*).
14. If the module is on and the computer enters a power-saving state, then the power status of the module on resuming from the power-saving state will be as below:

- If the 3.5G module is on and the computer is **Shut Down or Restarted**; the module will be **off** when the computer starts up.
- If the 3.5G module is on and the computer enters **Sleep or Hibernate**; the module will be **off** when the computer resumes from sleep.

## Short Messaging Service

In addition to standard internet services you may also send and receive SMS text messages using the **3G Watcher** program, if your service supports SMS.

### Reading SMS Messages
1.  The SMS message indicator ▨ in the main window will notify you of any new messages received.
2.  Double-click the icon ▨ or select **Tools > SMS Express**.
3.  Select the inbox folder and select any message to read it.
4.  You cannot receive any new messages if the USIM card becomes full so you will need to delete some of the messages in order to fee up space on the USIM card.

### Creating and Sending SMS Messages
1.  Double-click the icon ▨ or select **Tools > SMS Express**.
2.  Select **File > New Message** or click the **New** button.
3.  Enter the recipient's number in the **To..** field or click the **To..** button to select an entry from the phone book, and click the **Message** button.
4.  Type in the message details in the message body area.
5.  Click the **Send** button (or save the message to send later).

For more details on SMS see **3GWatcher Online Help** from the **Help > Help Topics** menu.

## ☆ Password Warning

If you set passwords for any of the security modules, **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.

**7**

# Fingerprint Reader Module

The **optional fingerprint reader Protector Suite Software** provides a high level of security for your computer. A further level of security and control is provided in the BIOS (see ).

The **fingerprint reader** and **Protector Suite Software** allow you to:

• Access or Lock your computer
• Protect sensitive files
• Display and file your favorite web pages
• Fill in frequently used dialogs
• Run your favorite applications

If you have included the fingerprint reader in your purchase option you will need to install the driver as per the instructions below.

Make sure you have administrator's rights to your computer, and have a *Windows* password enabled for full security protection.

Before beginning the enrollment process it is recommended that you go through the fingerprint tutorial. To run the tutorial click **Start > Programs/All Programs > Protector Suite QL > Fingerprint Tutorial** after installing the driver.

## Fingerprint Reader Driver Installation

1. Insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
2. Click **Option Drivers**.
3. Click **4.Install FingerPrint Driver > Yes**.
4. Click **Software Installation**.
5. Click **Next > Next > Next**.
6. Click **Finish > Yes** to restart the computer.

<div style="border: 2px solid green;">

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### Help & Manual

Right-click the taskbar icon 🔲 to bring up the menu to select **Help**.

Insert the *Device Drivers & Utilities + User's Manual* disc and click *Option Drivers* (button). Click **Unlock** (button) and then click **4.Install FingerPrint Driver > Yes**.

Click **Documentation** to open the folder containing the manual in .pdf format.

To install the Adobe Acrobat Reader software to read the file, insert the *Device Drivers & Utilities + User's Manual* disc and click *User's Manual* (button), and click **Install Acrobat Reader** (button).

</div>

**7**

### User Enrollment

1. Click **Start > Programs/All Programs > Protector Suite QL > User Enrollment**, or double click the taskbar icon .
2. On the first run of the program you will be asked to click the button to accept the license, and then click **OK**.
3. Click **Next** and select "*Enrollment to the hard disk*", and click **Finish**.

*Figure 7 - 26*
**Enroll to Hard Disk**

**7**

4. If you have not set a *Windows* password you will be prompted to do so (**note**: If you have not set a password **Protector Suite QL** cannot secure access to your computer).
5. Click **Next**.
6. You will then be prompted to enter your *Windows* password.
7. Click **Next > Next** (if you have the "*Run interactive tutorial*" tickbox selected you will run through the Fingerprint Tutorial).
8. Click **Next** for each window of the tutorial (you can click the button to "*skip tutorial*" at any time).

9.  Click the button above any of the fingers to begin the enrollment process for that finger.
10. Swipe the finger three times to enroll that finger.
11. Repeat the process for all the fingers you wish to enroll (see sidebar), and then click **Next**.
12. Click **Finish**.
13. Click any of the headings under "**Learn more about**:" to get more information on any topic.
14. Click **Close**.
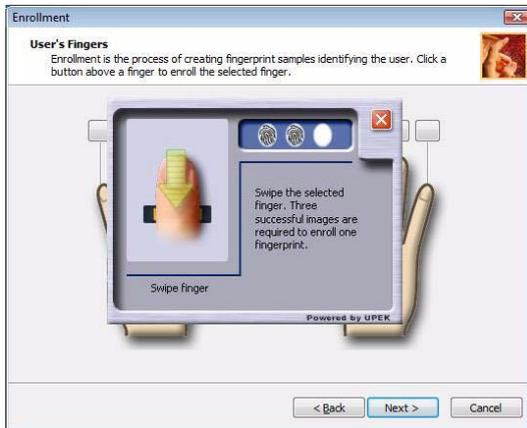
**Fingerprint Enrollment**

Note that it is strongly recommended that you **enroll more than one finger in case of injury etc.**



*Figure 7 - 27*
**Fingerprint Enrollment**

15. Right-click the taskbar icon  to bring up the menu that allows you to **Edit Fingerprints**, **Start Control Center**, access the **Help** menu etc. You can also run the **Control Center** etc. from the **Protector Suite QL** item in the **Programs/All Programs** menu.

*Figure 7 - 28*
**Control Center & Biomenu**



16. See *"Help & Manual" on page 7 - 29* for further details.
17. If you swipe your finger over the reader at any time you can access the **Biomenu** to **lock the computer**, **register websites**, open the **Control Center** and access the **Help** menu.
18. The **Control Center** allows you to change the **Settings**, **enroll Fingerprints** and get **Help**.

# Intel Turbo Memory Module

If you have included an *Intel Turbo Memory (Robson) NAND flash memory card module* in your purchase option, then you will need to enable the option in the BIOS (see *"Advanced Menu" on page 5 - 8*) BEFORE installing the *Windows Vista* operating system software (do not enable this option in *Windows XP* or on a *Windows Vista* operating system that has been installed without the option enabled).

*Intel Turbo Memory Technology* (also known as **Robson flash memory**) is an Intel technology that reduces the time it takes for a computer to boot up, to load applications, and to write data to the hard drive. *Intel Turbo Memory Technology* is supported in *Windows Vista* only (it also supports *Windows Vista* features such as ReadyBoost, ReadyDrive, and Superfetch).

### Intel Turbo Memory & Matrix Storage Setup and Driver Installation

1. Start-up your computer and press **F2** to enter the **BIOS**.
2. Go to the **Advanced** menu, select "*Installed O/S*" and make sure "*Vista*" is the selected option (see *"Advanced Menu" on page 5 - 8*).
3. Go to the "*SATA Mode Selection*" item and make sure "*AHCI*" is selected.
4. Go to the "*DFOROM (Robson) Support"* item and make sure *"Enabled"* is selected.
5. Go to the **Boot** menu (see *"Boot Menu" on page 5 - 13*).

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**e-SATA Port Hot-Swapping Support**

Note that **the Intel Matrix Storage driver is required to support e-SATA port** hot-swapping even if you have not included an *Intel Turbo Memory* module in your purchase configuration.

Follow the instructions provided here in order to install the driver.

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**ReadyBoost Issue**

When the **Intel® Turbo Memory Console** is opened immediately after powering on the system, *Windows ReadyBoost* may appear to be disabled.

This is expected behavior. The status appears as disabled while Microsoft generates the *Windows ReadyBoost* file. Once the file has been generated, the status should appear as Enabled again.

See the **Intel website** (*http://support.intel.com/support/chipsets/itm/sb/CS-025852.htm*) for the latest updated information on this issue.

**7**

6. Set the *CD/DVD-ROM Drive* (make sure the *Microsoft Windows Vista OS* disc is inserted) as the first device in the boot order from the **Boot priority order** menu.
7. Select *Exit Saving Changes* from the **Exit** menu (or press **F10** and **Enter**) and press **Enter** to exit the BIOS and reboot the computer.
8. As the computer starts up, press a key when you see the message "*Press any key to boot from CD or DVD*".
9. The system software will prompt you through the installation procedure (see the *Microsoft Windows Vista OS* documentation for more details).
10. Install the drivers as per the instructions in *Chapter 4* (make sure the drivers are installed in the order indicated in *Table 4 - 1, on page 4 - 3*).
11. Insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
12. Click **Option Drivers** and click **5.Install TM&iMSM Driver > Yes**.
13. Click **Next > Yes > Next > Next**.
14. Click **Finish** to restart the computer.

1.  Run the **Intel® Turbo Memory Console** from the **Programs/All Pro-grams** menu (**Intel® Turbo Memory**).



*Figure 7 - 29*
**Intel Turbo
Memory Console**
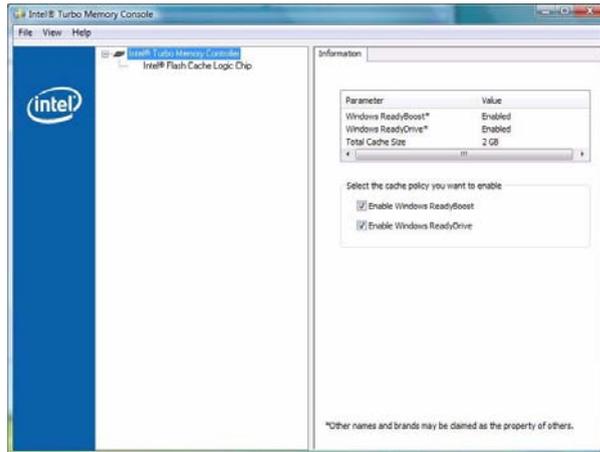
- **Windows ReadyBoost** - uses **flash memory** as a hard-drive caching solution.
- **Windows ReadyDrive** - uses **hybrid drives** as a hard-drive caching solution

**Modules**

# 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.

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# Basic Hints and Tips

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

- **Power** - Is the computer actually plugged into a working electrical outlet? If plugged into a **power strip**, make sure it is actually working. Check the **LED Power Indicators** (see *"LED Indicators" on page 1 - 7*) 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 *"Configuring the Power Buttons" on page 3 - 8*), the **Fn** + **F4** key combination, or power button to wake-up the system.

- **Brightness** - Check the brightness of the screen by pressing the **Fn** + **F8 and F9** keys to adjust the brightness (see *Table 1 - 4, on page 1 - 10*).

- **Display Choice** - Press **Fn** + **F7** to make sure the system is not set to "external only" display.

- **Boot Drive** - Make sure there are no **optical media and/or USB storage devices** in any connected drive when you start up your machine (this is a common cause of the message "*Invalid system disk - Replace the disk, and then press any key*" / "*Remove disks or other media. Press any key to restart*").

# Backup and General Maintenance

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

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

- Write down your passwords and keep them safe (away from your computer). This is especially important if you choose to use a **Boot** password for the SCU (see *"Security Menu" on page 5 - 11*).

- 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).

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# Upgrading and Adding New Hardware/Software

• Do not be tempted to make changes to your **Windows Registry** unless you are very sure of what you are doing, otherwise you will risk severely damaging your system.

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

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

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

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

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

## Troubleshooting

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

# Problems & Possible Solutions

| Problem | Possible Cause - Solution |
|---|---|
| You turned the **power on** but it doesn't work. | *Battery missing / incorrectly installed.* Check the battery bay, make sure the battery is present and seated properly (the design of the battery only allows it to go in one way). Make sure there's nothing interfering with the battery contacts. |
| The **Battery LED power** indicator ▭, is blinking orange. | *Low Battery.* Plug in the AC power source. If the computer doesn't start up immediately, turn it off then on again. |
| You are losing **battery power** too quickly. | *The system is using too much power.* If your *OS* has a *Power Options* scheme (see *"Power Plans" on page 3 - 4*/*"Power Schemes" on page D - 14*) check its settings. You may also be using an ExpressCard device/USB device/external device that is drawing a lot of power. |
| Actual **battery operating time** is shorter than expected. | *The battery has not been fully discharged before being recharged.* Make sure the battery is fully discharged and recharge it completely before reusing (see *"Battery Information" on page 3 - 10*/*"Battery Information" on page D - 18*). |
| | Check the settings of any active power plan (see *"Power Plans" on page 3 - 4*/*"Power Schemes" on page D - 14*). |
| | *A peripheral device/USB device is consuming a lot of power.* Turn off/remove the unused device to save power. |

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## Troubleshooting

| Problem | Possible Cause - Solution |
|---|---|
| The **computer feels too hot**. | Make sure the computer is properly ventilated and the vents/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 (see *"Overheating" on page 1 - 11*). Make sure you're using the correct adapter.<br><br>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 vents/fan intakes to be blocked. |
| **Nothing appears on screen**. | *The system is in a power saving mode.* Toggle the **Fn + F4** (see *"Configuring the Power Buttons" on page 3 - 8*/*"Configuring the Power Button" on page D - 17*). |
| | \ *The screen controls need to be adjusted.* Toggle the screen control **Fn + F8/F9** key combinations. 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 **Fn + F7** combination. 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 *"NVIDIA Video Driver Controls" on page B - 1*/*"Video Features" on page D - 6* for instructions on installing and configuring the video driver. |

| 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. |

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**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 *"Audio Features" on page 2 - 9*/*"Audio Features" on page D - 4*) to adjust. |
| The **compact disc** cannot be read. | *The compact disc is dirty.* Clean it with a CD-ROM cleaner kit. |
| The **compact disc tray** will not open when there is a disc in the tray. | *The compact disc is not correctly placed in the tray.* Gently try to remove the disc using the eject hole (see *"Loading Discs" on page 2 - 3*). |
| The **DVD regional codes** can no longer be changed. | *The code has been changed the maximum **5** times.* See *"DVD Regional Codes" on page 2 - 5*/*"DVD Regional Codes" on page D - 2*. |

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## Troubleshooting

| Problem | Possible Cause - Solution |
|---|---|
| The **TouchPad** doesn't work. | *The Touchpad has been disabled.* Press the Touchpad toggle (**Fn + F1**) key combination (make sure you have installed the Touchpad driver. |
| The **system freezes** or the screen goes dark. | *The system's power saving features have timed-out.* Use the AC/DC adapter, press a key on the keyboard, or press the sleep (**Fn + F4**) key combination, or press the power button if no LEDs are lit. |
| The system never goes into a **power saving mode**. | Power Options features are not enabled. Go to the *Windows* Power Options menu and enable the features you prefer (see *"Power-Saving States" on page 3 - 6*/*"System Power Options" on page D - 15*). Make sure you have enabled **Hibernate** mode from the control panel. |
| The **Wireless LAN/ Bluetooth/PC Camera modules** cannot be **detected**. | *The modules are off.* Check the appropriate LED indicator (("T")) to see if the modules are on or off (see *"LED Indicators" on page 1 - 7*). If the LED indicator is off, then press the appropriate function key combination in order to enable the modules. |
| 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 in *Chapter 7 "Modules"* for the appropriate module). |

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| 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):<br><br>1. Click **Start** (menu button).<br>2. Type "**cmd**" in the **Start Search** box .<br>3. Double click the **Command Prompt** cmd when it appears in the menu.<br>4. Type "**powercfg -h on**" in the Command Prompt window.<br>5. Close the Command Prompt window.<br>6. The **Hibernate** function will now be enabled. |
| When a **DVD** is played in **Windows Media Player/ Media Center**, the **audio track** in other languages (commentaries etc.) **is not clear** if connected to the S/PDIF-Out Jack. | *This is an issue with Windows Media Player/Media Center and audio output through the S/PDIF-Out Jack.* We recommend that you use the **Power DVD** application to play DVDs. |

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## Troubleshooting

| Problem | Possible Cause - Solution |
|---|---|
| Nothing appears on the screen when the **PC Camera** software is run. | *You have selected an external display as the default display device*. The PC Camera application software needs to be run while the *default notebook LCD* is the selected display device.<br>After a camera picture is obtained on the default notebook LCD, you may then use the **Fn + F7** to toggle through the display modes (give the screen time to refresh).<br>If you have selected an external display as your display device do not run the PC Camera software application until you have switched back to the notebook LCD. |
| 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. |
| **No sound** can be heard through an **HDMI** connected display device. | *You have not configured the HDMI audio output*. See *"HDMI Audio Configuration" on page B - 7*. |

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# 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**).
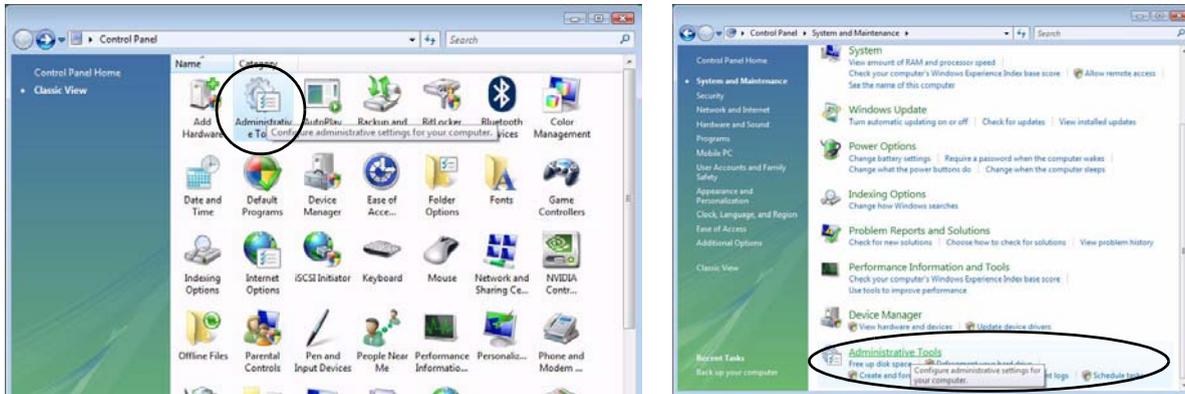2. Double-click **Task Scheduler (Schedule Tasks)**.



*Figure 8 - 1* **- Control Panel System and Maintenance**

3. Double-click **Task Scheduler Library > Microsoft > Windows**.
4. Click **MobilePC** to open the control panel.
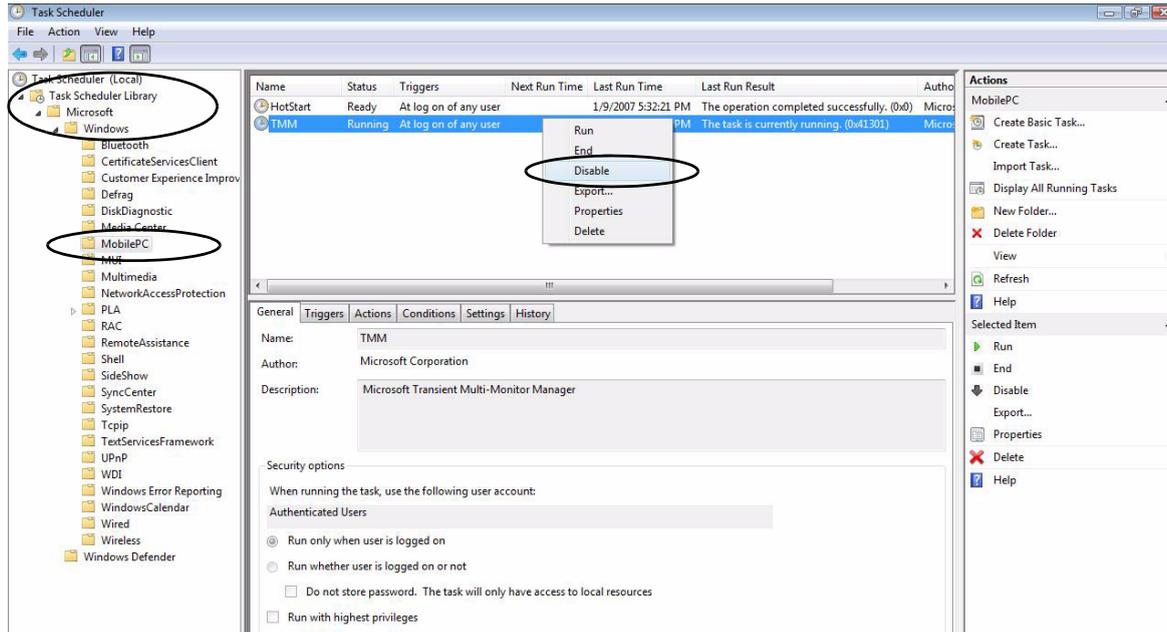5. Right-click **TMM** and select **Disable**.



*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 ports & jacks which allow your computer to communicate with external devices, connect to the internet etc.

**A**

# Ports and Jacks

| Item | Description |
|------|-------------|
| Card Reader<br>☐ MMC / SD / MS | The card reader allows you to use the following digital storage cards:<br><br>MMC (MultiMedia Card)   RS MMC (requires PC adapter)<br>SD (Secure Digital)   Mini SD (requires PC adapter)<br>MS (Memory Stick)   MS Duo (requires PC adapter)<br>MS (Memory Stick Pro) |
| DC-In Jack<br>— — — | Plug the supplied AC/DC adapter into this jack to power your computer. |
| DVI-Out Port<br>☐ | The DVI-Out (**Digital Visual Interface**) Port is a video connector interface. This allows you to connect an external monitor, TV or Flat Panel Display etc. as a display device (see *"Attaching Other Displays" on page B - 5*) by means of a DVI cable. If you are using an older type of monitor you will need to use a converter to convert the signal from DVI to VGA. |
| e-SATA/USB Port<br>e-SATA<br>/ •⇌ | This is a combined **e-SATA** (**external Serial Advanced Technology Attachment**)/ USB 2.0 compatible port.<br><br>Plug external Serial ATA hard drives into this **e-SATA** (**external Serial Advanced Technology Attachment**) port. See *"USB 2.0/1.1 Ports" on page A - 4* for USB port information.<br><br>Not: The eSATA port only supports hot-swapping if you have selected **AHCI** mode in *SATA Mode Selection in the BIOS* (see *"SATA Mode & eSata Port" on page 5 - 8*). If you have selected *IDE* mode, then hot-swapping devices connected to the eSATA port is not supported.<br><br>Note that hot-swapping is NOT supported in the *Windows XP* O/S. |

**A**

| Item | Description |
|---|---|
| HDMI-Out Port HDMI | The HDMI-Out (**High-Definition Multimedia Interface**) is an audio/video connector interface for transmitting uncompressed digital streams. This allows you to connect an external monitor, TV or Flat Panel Display etc. as a display device (see *"Attaching Other Displays" on page B - 5*) by means of a HDMI cable. **Note that HDMI carries both audio and video signals** (see *"HDMI Audio Configuration" on page B - 7*). |
| 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. |
| Mini-IEEE 1394 Port IEEE 1394 | This allows high-speed connection to various peripheral devices, e.g. external disk drives and digital cameras (**see note below**). <br><br> **IEEE 1394** <br> The Mini-IEEE 1394 ports only support **SELF POWERED** IEEE 1394 devices. |

A

## Interface (Ports & Jacks)

| Item | Description |
|---|---|
| RJ-11 Phone Jack | This port connects to the built-in modem. You may plug the telephone line directly into this RJ-11 telephone connection.<br>**Note**: Broadband (e.g. ADSL) modems usually connect to the LAN port. |
| RJ-45 LAN Jack | This port supports LAN (Network) functions.<br>**Note**: Broadband (e.g. ADSL) modems usually connect to the LAN port. |
| S/PDIF-Out Jack | This S/PDIF (**Sony/Philips Digital Interface Format**) Out Port allows you to connect your DVD-capable PC to a Dolby AC-3 compatible receiver for "5.1" or 'dts' surround sound. |
| 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. |
| USB 2.0/1.1 Ports | These USB (**Universal Serial Bus**) 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: NVIDIA Video Driver Controls

The basic settings for configuring the LCD are outlined in *"Video Features" on page 1 - 16*.

## NVIDIA Video Driver Installation

Make sure you install the drivers in the order indicated in *Table 4 - 1, on page 4 - 3*.

1. Insert the *Device Drivers & Utilities + User's Manual* disc and click **Install Drivers** (button).
2. Click **2.Install Video Driver > Yes**.
3. Click **Next**.
4. Click **Finish** to restart the computer.

🔔
**Resolution Error**

If you are experiencing screen resolution problems/screen flickering **after resuming from Sleep in** *Windows Vista* see page *8 - 13*.

🖉
**Video Card Options**

Note that card types, specifications and drivers are subject to continual updates and changes. Check with your service center for the latest details on video cards supported.

**B**

📝

**NVIDIA Control Panel**

To access the **Ge-Force..... control panel from the desktop**; right-click the **desktop**, then click **NVIDIA Control Panel**.
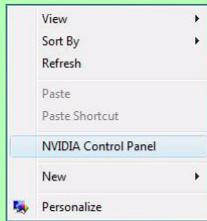
*Figure B - 1*
**NVIDIA GeForce Control Panel**

**B**

# NVIDIA Control Panel

More advanced video configuration options are provided in the **NVIDIA Control Panel** tab.

1. Open the **Display Settings** (see page *1 - 17*) control panel.
2. Click **Advanced Settings** (button).
3. Click **GeForce.....** (tab).
4. Click **Start the NVIDIA Control Panel** to make any video adjustments.

**OR**

1. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
2. Double-click **NVIDIA Control Panel** (click "**Classic View**" from the left of the menu if you are in **Control Panel Home**).
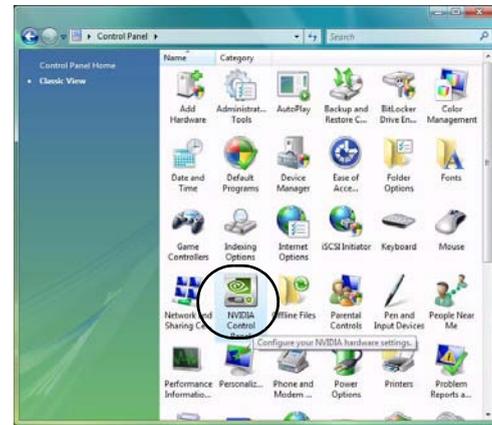
The **NVIDIA Control Panel** provides additional video configuration controls and tools which allow quick access to features such as display configuration, 3D Settings and Help menus etc.



🖉

**Navigating the Control Panel**

Navigate through the control panels in much the same way as you would a web page. Click on the sub-heading tasks in the left menu (and on the highlighted links) for information. Use the buttons on the top left to go back, forward etc.
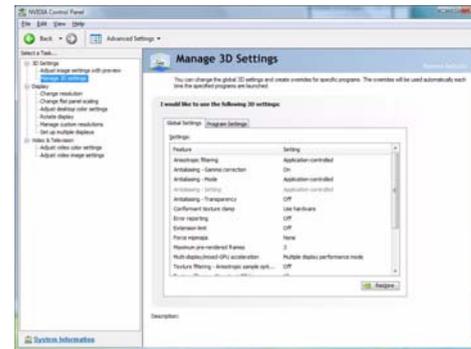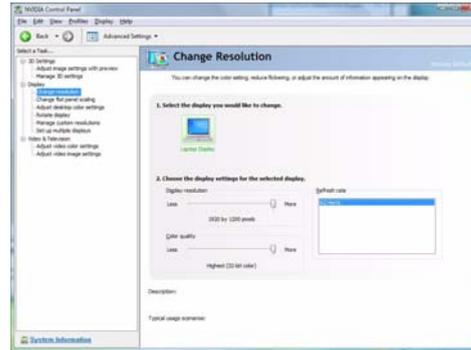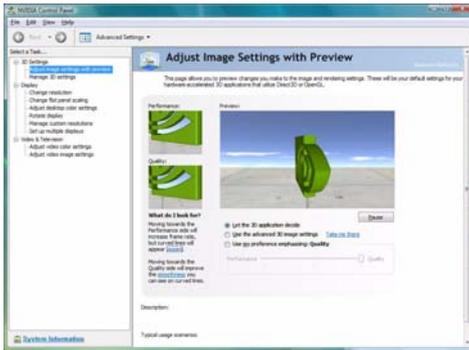
B

*Figure B - 2*
**NVIDIA Control Panels**

The **Help** menus provide index and search features, and direct links to the NVIDIA website etc.

*Figure B - 3*
**Help Menus**

# Attaching Other Displays

Note that you can use a DVI cable connected to the DVI-Out port, or an HDMI (High-Definition Multimedia Interface) cable connected to the HDMI-Out port to connect an external display (if you are using an older type of monitor you can use a converter to convert the signal from DVI to VGA). See your display device manual to see which formats are supported.

### Configuring an External Display in Windows Vista

1. Attach your external display to the DVI-Out Port or HDMI-Out port, and turn it on.
2. If a **New Display Detected** window does not appear in *Windows Vista*, go to the **Windows Mobility Center** control panel (**Mobile PC > Adjust commonly used mobility settings**) and click *Connect display*.
3. Click on any of the buttons to configure the displays to your preferences, or click **Display Settings** (in the *New Display Detected* window) to access the control panel.



🖉
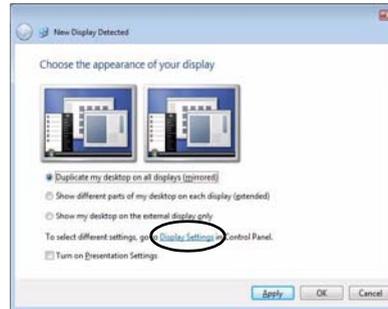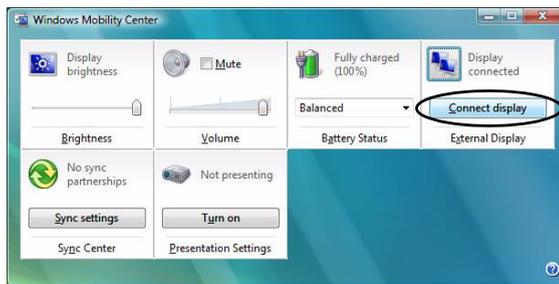
**Display Devices**

Besides the built-in LCD, you can also use an external monitor/flat panel display as your display device. The following are the display options:

- The built-in LCD.
- An external display connected to the DVI-Out port.
- An external display connected to the HDMI-Out port.

Note that HDMI supports video and audio signals.

*Figure B - 4*
**New Display Detected**

**B**

**Configuring an External Display using the NVIDIA Control Panel**

Alternatively you can use the **NVIDIA control panel** to configure any attached displays.

1. Attach your external display to the DVI-Out Port or HDMI-Out port, and turn it on.
2. Go to **NVIDIA Control Panel** (see *"NVIDIA Control Panel" on page B - 2*).
3. Click **Display,** and then click **Set up multiple displays**.
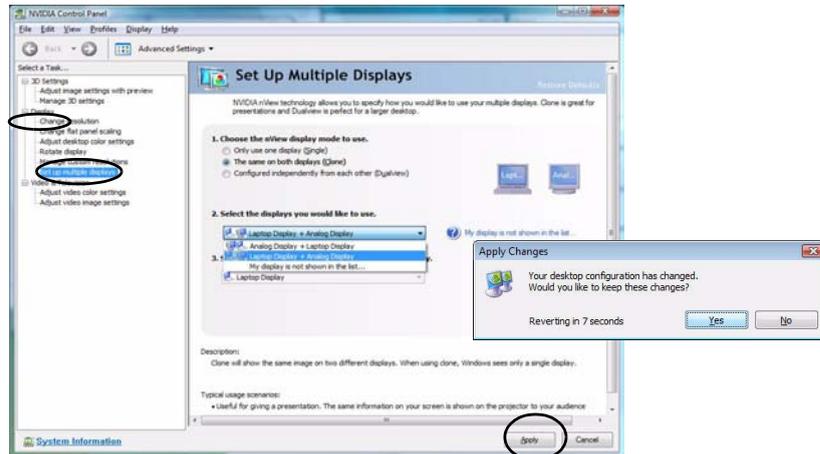


*Figure B - 5*

**Set Up Multiple Displays**

4. Click to select the **nView display mode** you wish to use (see page *B - 9*).
5. Select the display(s) you want to use (if your display is not shown click "***My Display is not shown in the list...***" or use the **Fn + F7** key combination), and choose which display is to be the primary display.
6. Click **Apply > Yes** to save the changes.

**B - 6 Attaching Other Displays**

# HDMI Audio Configuration

As HDMI (High-Definition Multimedia Interface) carries both **audio** and video signals you will need to configure the audio output as per the instructions below.

### Windows Audio Setup for HDMI

1. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
2. Click **Sound** ⚫ (**Hardware and Sound**).
3. Click **Playback** (tab), and click to select **Realtek Digital Output**.
4. Click **Set Default** (button).
5. Click **OK** to close the **Sound** ⚫ control panel.
6. You will now be able to hear audio sources when played in *Windows Media Player*.
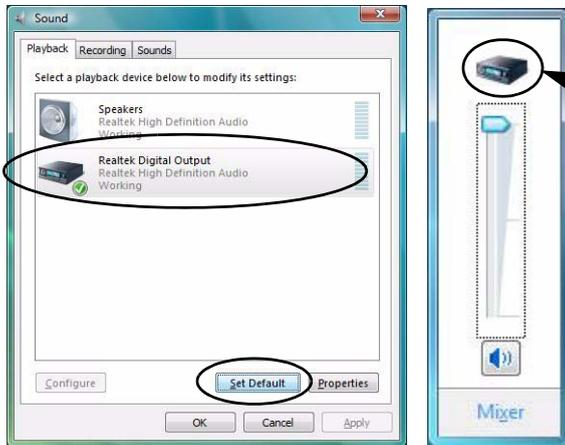


Click the taskbar volume indicator 🔊 when **Realtek Digital Output** is selected, and you will note that the icon at the top of the volume level indicator has changed.

*Figure B - 6*
**Realtek Digital Output**

**B**

## NVIDIA Video Driver Controls

$\mathscr{P}$

**Other Applications**

If you are using a third party application to play DVDs etc. you will need to consult the application's documentation to see the appropriate audio configuration (the application must support digital to analog translation).

### HDMI Notes

- Connect a device with HDMI support to the HDMI-Out port **BEFORE** attempting to play audio/video sources through the device.

- If you disconnect the HDMI cable the default audio playback device will not revert to speakers until the computer is restarted (if you do not wish to restart the computer then go to the **Sound** control panel and select **Speakers** as the default audio playback device).

### HDMI Video Configuration

1. Connect an HDMI cable from the HDMI-Out port to your external display.
2. Configure your external display as per the instructions in *"Configuring an External Display using the NVIDIA Control Panel" on page B - 6*.
3. Set up your external display (TV or LCD) for HDMI input (see your display device manual).
4. You can now play video/audio sources through your external display.

**B**

# Display Modes

### Single Display Mode

Only one of your displays is used.

### Clone Mode

Clone Mode simply shows an exact copy of the Primary display desktop on the other display(s). This mode will drive multiple displays with the same content.

### Dualview Mode

Dualview Mode treats both connected displays as separate devices, and they act as a virtual desktop resulting in a large workspace. When Dualview is enabled, you can drag any icons or windows across to the other display desktop. It is therefore possible to have one program visible in one of the displays, and a different program visible in the other display.

**Resolution Error**

If you are experiencing screen resolution problems/screen flickering **after resuming from Sleep in *Windows Vista*** see page *8 - 13*.

**Using New Display Detected to Enable Extended Mode**
1.  Attach your external display to the DVI-Out Port or HDMI-Out port, and turn it on.
2.  If a **New Display Detected** window does not appear in *Windows Vista*, go to the **Windows Mobility Center** control panel (**Mobile PC > Adjust commonly used mobility settings**) and click *Connect display*.
3.  Click to select *Show different parts of my desktop on each display (extended)*.
4.  Click **Right** or **Left** under **Extend your desktop**.
5.  Click **Apply > OK**.

*Figure B - 7*
**New Display Detected (Extended)**



**B**
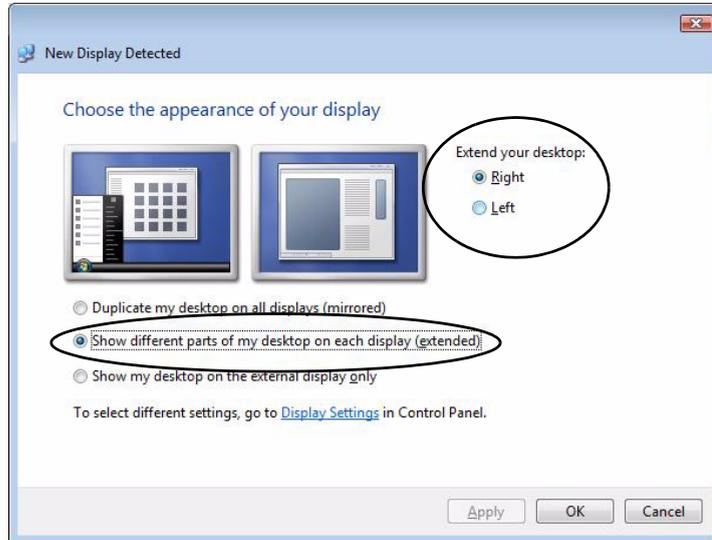
## Using Display Settings to Enable Extended Mode

1. Attach your external display to the DVI-Out Port or HDMI-Out port, and turn it on.
2. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
3. Click **Adjust screen resolution** under the **Appearance and Personalization** menu (or double-click **Personalization > Display Settings**).
4. Click the monitor icon (e.g. **2**), and make sure you have checked "**Extend the desktop onto this monitor**." and click **Apply**.
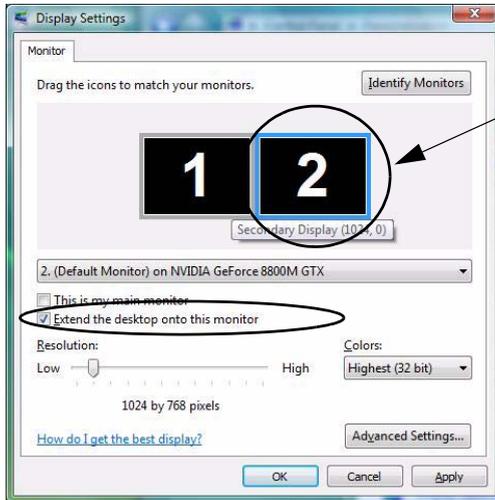


Click the appropriate monitor icon (e.g. **2**) to be able to select the option to extend the desktop on to it.

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

🖉

**Display Settings Extended Desktop**

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

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

*Figure B - 8*
**Display Settings (Extend the Desktop)**

**B**

# Enabling TV Display

To display desktop images on a TV, connect the TV to your computer by using an HDMI cable/DVI cable from the TV to the HDMI-Out port/DVI-Out port at the rear of the computer.

You will need to enable the TV display from the **NVIDIA Control Panel** as per the instructions on *B - 5*. The TV will appear as a display option (*2. Select the displays you would like to use.*) when attached to the HDMI-Out port/DVI-Out port. **Apply** the settings, and then click **Yes** to save the changes.

**Detect Displays**

To get a full range of display options click "*My display is not shown in the list...*".

**HDMI Audio Setup**

See *"HDMI Audio Configuration" on page B - 7* for instructions on configuring audio for HDMI display devices.

Set up your external display (TV or LCD) for HDMI input (see your display device manual).
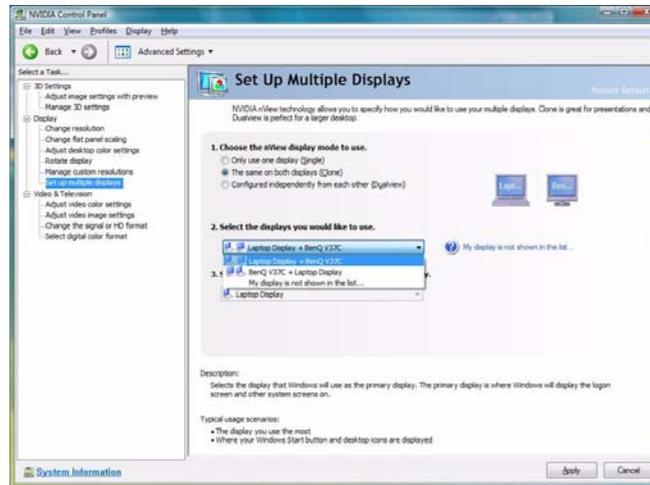
*Figure B - 9*
**Change Display Configuration (with TV connected)**

# Changing the TV Signal Format

1.  When the TV is enabled as a display device, click the sub-menus under **Video & Television**.
2.  Click "***Change the signal or HD format***".
3.  Select the TV signal format (the menu allows you to select TV format by country if you are unsure of your TV format).
4.  **Apply** the settings, and then click **Yes** to save the changes.
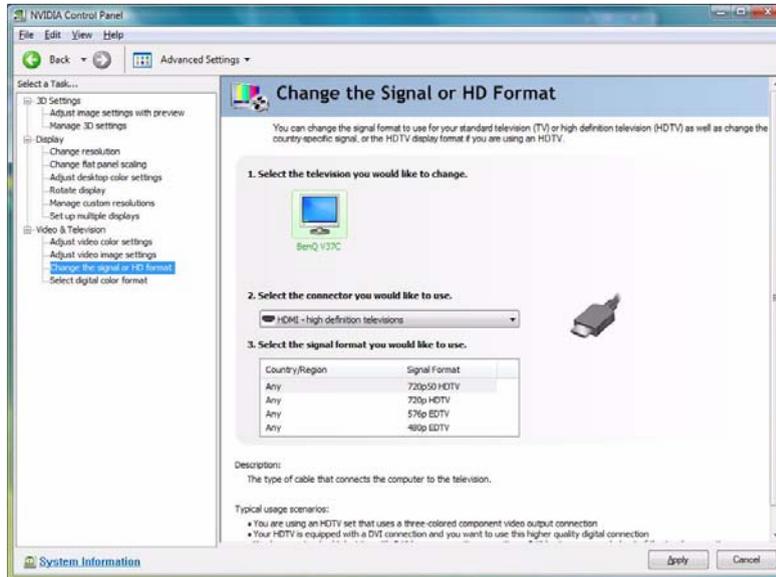


*Figure B - 10*
**Change the Signal or HD Format**

**B**

**NVIDIA Video Driver Controls**

B

# 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, updated or delayed due to the manufacturer's release schedule. Check with your service center for details.

**C**

## Specifications

| Feature | Specification | |
|---------|---------------|---|
| **Processor Types** | Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P **T9400/ T9600** | 45nm (45 Nanometer) Process Technology 6MB On-die L2 Cache & 1066MHz FSB (35W) **2.53GHz / 2.8GHz** |
| | Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P **P9500** | 45nm (45 Nanometer) Process Technology 6MB On-die L2 Cache & 1066MHz FSB (25W) **2.53GHz** |
| | Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P **P8400/ P8600** | 45nm (45 Nanometer) Process Technology 3MB On-die L2 Cache & 1066MHz FSB (25W) **2.26/ 2.40GHz** |
| **Core Logic** | Intel(R) PM45 + ICH9M Chipset | |
| **LCD** | Flat Panel TFT (For **One** of the Following Options) 15.4" WXGA (1280 * 800) TFT LCD (Glare Type) **OR** 15.4" WXGA+ (1440 * 900) TFT LCD **OR** 15.4" WSXGA+ (1680 * 1050) TFT LCD (Glare Type) **OR** 15.4" WUXGA (1920 * 1200) TFT LCD | |
| **Security** | Security (Kensington® Type) Lock Slot BIOS Password | Fingerprint Reader Module (**Factory Option**) |

**C**

| Feature | Specification |
|---|---|
| **Memory** | Two 204 Pin SO-DIMM Sockets Supporting **DDRIII (DDR3)** at 1066 MHz<br>Supports Dual Channel DDRIII (DDR3) SDRAM<br>64-bit Wide Per Data Channel<br>Memory Expandable up to 4GB (1024/ 2048 MB **DDRII** Modules) |
| **Video Adapter Options** | **NVIDIA GeForce 9600M GS**<br>256MB GDDR3 Video RAM On Board<br>Supports PCI-Express * 16<br>MS DirectX® 10.0 compatible<br>MXM Type-II<br>Supports HDCP      **NVIDIA GeForce 8800M GTX**<br>512MB GDDR3 Video RAM On Board<br>Supports PCI-Express * 16<br>MS DirectX® 10.0 compatible<br>MXM Type-II<br>Supports HDCP |
| | 🖉<br>**Video Card Options**<br>Note that card types, specifications and drivers are subject to continual updates and changes. Check with your service center for the latest details on video cards supported. |
| **BIOS** | One 32Mb SPI Flash ROM      Phoenix™ BIOS |
| **Storage** | One Changeable 12.7mm(h) SATA Optical Device (CD/DVD) Type Drive (see *"Optional" on page C - 6* for drive options)<br>Easy Changeable 2.5" 9.5 mm (h) SATA (Serial) HDD |

**C**

## Specifications

| Feature | Specification | |
|---|---|---|
| **Card Reader** | Embedded 7-in-1 Card Reader (MS/ MS Pro/ SD/ Mini SD/ MMC/ RS MMC/ MS Duo)<br>**Note:** MS Duo/ Mini SD/ RS MMC Cards Require a PC Adapter | |
| **Audio** | High Definition Audio<br>3D Stereo Enhanced Sound System<br>Sound-Blaster PRO™ Compatible | Built-In Microphone<br>2 * Built-In Speakers<br>S/PDIF Digital Output |
| **Keyboard & Pointing Device** | Full Size Winkey Keyboard with Numeric Keypad | Built-In TouchPad (Scroll Functionality Included) |
| **ExpressCard Slot** | ExpressCard/34/54 Slot | |
| **Mini-Card Slots** | One Mini-Card Slot for **3.5G Module**<br>One Mini-Card Slot for **Wireless LAN Module** | |
| **I/O Ports** | Four USB 2.0 Ports<br>One Combined eSATA Port/USB Port<br>eSATA Port (hot swapping supported in *Windows Vista* only):<br>    AHCI mode supports hot swapping<br>    IDE mode does not support hot swapping<br><br>One HDMI (High-Definition Multimedia Interface)<br>Port with 5.1Channel Support<br>One Headphone/Speaker-Out Jack<br>One Microphone-In Jack | One S/PDIF Out Jack<br>One RJ-45 LAN Jack<br>One RJ-11 Modem Jack<br>One Mini-IEEE1394a Port<br>One DC-In Jack<br>One DVI-Out Port (No HDCP Support) |

**C**

| Feature | Specification |
|---|---|
| **Communication** | Built-In 56K Fax Modem<br>Built-In 10/100/1000Mb Base-TX Ethernet LAN<br>Intel® WiFi Link 5300 Series (3*3 - 802.11a/g/n) Wireless LAN Mini-Card Module (**Option**)<br>Intel® WiFi Link 5100 Series (1*2 - 802.11a/g/n) Wireless LAN Mini-Card Module (**Option**)<br>Bluetooth 2.0 + EDR (Enhanced Data Rate) Module  (**Factory Option**)<br>1.3M or 2.0M Pixel PC Camera Module with USB interface (**Factory Option**)<br><br>**3.5G Module**:<br>UMTS/HSPDA-based 3.5G Mini-Card Module with USB Interface (Factory **Option**)<br> Quad-band GSM/GPRS (850 MHz, 900 MHz, 1800 MHz, 1900 MHz)<br> UMTS WCDMA FDD (2100 MHz)<br><br>涎<br>**UMTS Modes**<br>Note that UMTS modes CAN NOT be used in North America. |
| **Operating Systems Supported** | Windows XP SP2                                              Windows Vista 64bit SP1<br>                                                                           Home Premium/ Business/ Enterprise/ Ultimate |
| **Power Management** | Supports ACPI 3.0                                           Supports Resume from Modem Ring<br>                                                                           Supports Wake on LAN |

**C**

## Specifications

| Feature | Specification | |
|---|---|---|
| Power | Full Range AC/DC Adapter – AC in 100 - 240V, 50 - 60Hz DC Output 20V, 6A (120 Watts)<br>Easy Changeable 8-Cell Smart Lithium-Ion 4400mAH Main Battery | |
| Environmental Spec | **Temperature**<br>Operating:        5°C - 35°C<br>Non-Operating:    -20°C - 60°C | **Relative Humidity**<br>Operating:      20% - 80%<br>Non-Operating:   10% - 90% |
| Physical Dimensions & Weight | 364mm (w) * 269.5mm (d) * 29 ~ 41mm (h) | Around 3.2kg with 8 Cell Battery and ODD |
| Optional | **<u>SATA Optical Drive Module Options:</u>**<br>Combo DVD Drive Module<br>Super Multi Drive Module<br>Blu-Ray Drive Module<br><br>Intel® WiFi Link 5300/5100 Series (3*3/1*2 - 802.11a/g/n) Wireless LAN Mini-Card Module<br><br>Bluetooth 2.0 + EDR (Enhanced Data Rate) Module (**Factory Option**)<br><br>1.3M or 2.0M Pixel USB 2.0 PC Camera Module (**Factory Option**)<br><br>Fingerprint Reader Module (**Factory Option**) | UMTS/HSPDA-based 3.5G Module with Mini Card Interface (**Factory Option**)<br>    Quad-band GSM/GPRS (850 MHz, 900 MHz, 1800 MHz, 1900 MHz)<br>    UMTS WCDMA FDD (2100 MHz)<br><br>🔔<br>**UMTS Modes**<br>Note that UMTS modes CAN NOT be used in North America. |

**C**

# Appendix D: Windows XP Information

This Appendix contains information (including control panel information, driver installation etc.) for users of the *Windows XP OS*.

**D**

# DVD Regional Codes

✐
### Changing DVD Regional Codes

Go to the **Control Panel** and double-click **System > Hardware** (tab), click **Device Manager**, then click the **+** next to **DVD/CD-ROM drives**. Double-click on the DVD-ROM device to bring up the **Properties** dialogue box, and select the **DVD Region** (tab) to bring up the control panel to allow you to adjust the regional code.

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

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

*Table D - 1* **- DVD Region Codes**



*Figure D - 1* **- DVD Regions**

**D**

# Windows XP Start Menu & Control Panel

Most of the control panels, utilities and programs within *Windows XP* (and most other *Windows* versions) are accessed from the **Start** menu. When you install programs and utilities they will be installed on your hard disk drive, and a shortcut will usually be placed in the **Start** menu and/or the desktop. You can customize the look of the **Start** menu by right-clicking the **Start** menu and selecting **Properties** from the menu.

**Click here to toggle Category View**

*Figure D - 2* **- Start Menu & Control Panel**

In many instances throughout this manual you will see an instruction to open the **Control Panel**. The **Control Panel** is accessed from the **Start** menu, and it allows you to configure the settings for most of the key features in *Windows* (e.g. power, video, network, audio etc.). *Windows XP* provides basic controls for many of the features, however many new controls are added (or existing ones are enhanced) when you install the drivers. To see all controls it may be necessary to toggle off Category View.

**D**

*Figure D - 3*
**Realtek Audio
Configuration
Menus**

**D**

# Audio Features

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

# Function/Hot Key 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 *"Hot Key" on page D - 26*). After installing the driver an icon will appear in the taskbar.
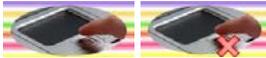
| Fn Keys | Function | | Fn Keys | Function | |
|---------|----------|---|---------|----------|---|
| Fn + ~ | Play/Pause (in Audio/Video Programs) | | Fn + F7 | Display Toggle | |
| Fn + | 3.5G Module Power Toggle | | Fn + F8/ F9 | Brightness Decrease/Increase | |
| Fn + F1 | TouchPad Toggle | | Fn + F10 | PC Camera Power Toggle | |
| Fn + F2 | Turn LCD Backlight Off (Press a key to or use TouchPad to turn on) | | Fn + F11 | WLAN Module Power Toggle | |
| Fn + F3 | Mute Toggle | | Fn + F12 | Bluetooth Module Power Toggle | |
| Fn + F4 | Sleep Toggle | | *A* | *Silent Mode Toggle | |
| Fn + F5/ F6 | Volume Decrease/ Increase | | *When enabled, **Silent Mode** will reduce fan noise and save power consumption. Note this may reduce computer performance. | | |

*Table D - 2* **- Function/Hot Key Combo Indicators**

**D**

# Video Features

You can switch display devices, and configure display options, from the **Display Properties** control panel in *Windows* as long as the appropriate **video driver** is installed.

To access Display Properties in *Windows*:

1.  Click **Start**, point to **Settings** and click **Control Panel** (or just click **Control Panel**).
2.  Double-click **Display** (icon) - In the **Appearances and Themes** category.
3.  Click **Settings** (tab) in the **Display Properties** dialog box.
4.  Move the slider to the preferred setting in **Screen resolution** ❶ (*Figure D - 4 on page D - 7*).
5.  Click the arrow, and scroll to the preferred setting in **Color quality** ❷ (*Figure D - 4 on page D - 7*).
6.  You can also access **Display Properties** by right-clicking the desktop and scrolling down and clicking **Properties**. Click **Settings** (tab) and adjust as above.
7.  Open the **Display Properties** control panel, and click **Advanced** (button) ❸ (*Figure D - 4 on page D - 7*) to bring up the Advanced properties tabs.
8.  Click **GeForce.....** (tab).
9.  Click **Start the NVIDIA Control Panel** ❹ (*Figure D - 4 on page D - 7*) to access the control panel.
10. The **NVIDIA Control Panel** can also be accessed by right-clicking the desktop, and then clicking **NVIDIA Control Panel** (or from the **NVIDIA Control Panel** in the *Windows* control panel).
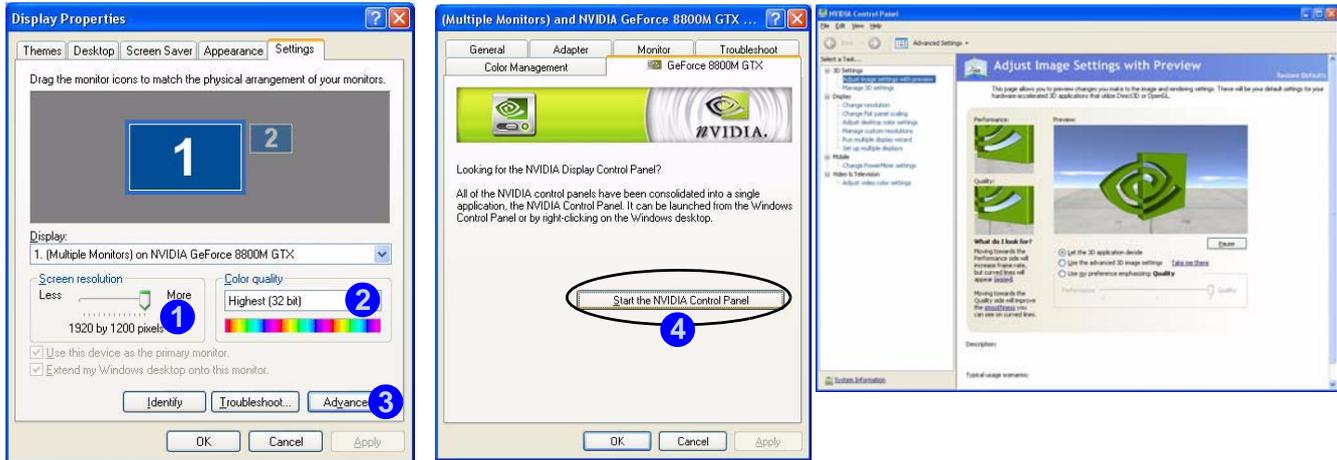
## Display Properties & NVIDIA Control Panel



*Figure D - 4* **- Display Properties & NVIDIA Control Panel**

🖉

**Video Card Options**

Note that card types, specifications and drivers are subject to continual updates and changes. Check with your service center for the latest details on video cards supported.

**D**

🖉

**Navigating the Control Panel**

Navigate through the control panels in much the same way as you would a web page. Click on the headings, menus and highlighted links for information. Use the buttons on the top left to go back, forward etc.

The **Help** menus provide index and search features, and direct links to the NVIDIA website etc.

*Figure D - 5*

**NVIDIA Control Panels**

# NVIDIA Video Driver Controls

Access the **NVIDIA Control Panel** as indicated . You may make changes to the video and display settings by clicking the appropriate menu item.
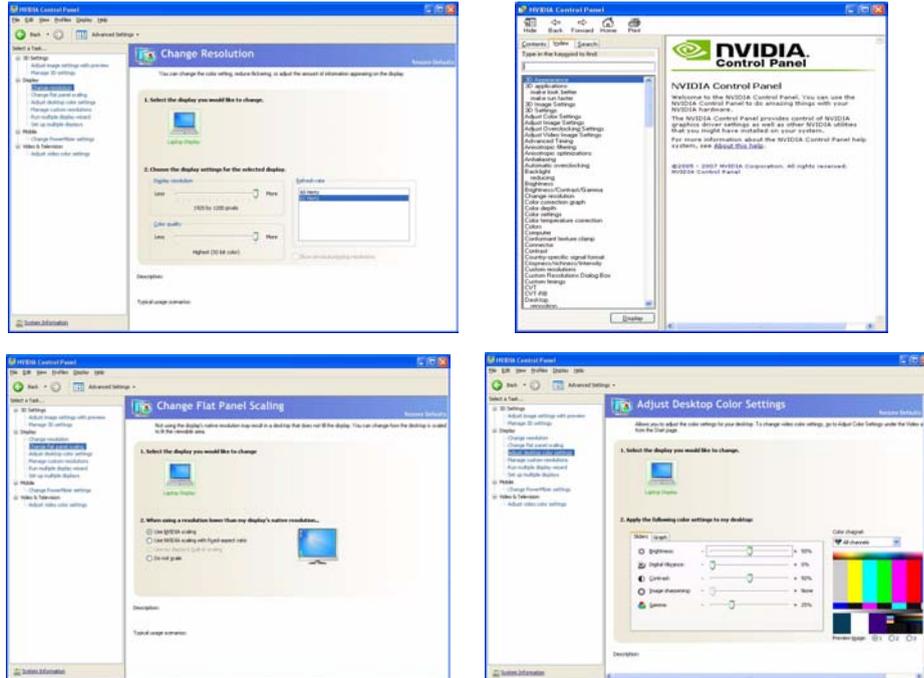
## Display Devices and Modes (NVIDIA)

Note that you can use a DVI cable connected to the DVI-Out port, or an HDMI (High-Definition Multimedia Interface) cable connected to the HDMI-Out port to connect an external display (if you are using an older type of monitor you can use an adapter to convert the signal from DVI to VGA). See your display device manual to see which formats are supported.

| nView Display Mode | Description |
|---|---|
| Single | One of the connected displays is used as the display device |
| Clone | Both connected displays output the same view |
| Dualview | 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*) |

*Table D - 3* **- Display Modes**

See *"HDMI Audio Configuration" on page D - 12* for instructions on configuring audio when setting up an HDMI display as an external device.

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**Display Devices**

You can use the **Fn + F7** key combination to toggle through the display options (see over).

- The built-in LCD.
- An external display connected to the DVI-Out port.
- An external display connected to the HDMI-Out port.

Note that HDMI supports video and audio signals.

**D**

# Attaching Other Displays

1. Attach your external display to the DVI-Out Port or HDMI-Out port, and turn it on.
2. Go to the **NVIDIA Control Panel**.
3. Click **Display,** and then click **Set up multiple displays**.
4. Choose the **nView display mode** you wish to use.
5. Select the displays you want to use (if your display is not shown click "*My Display is not shown in the list...*" or use the **Fn + F7** key combination), and choose which display is to be the primary display.
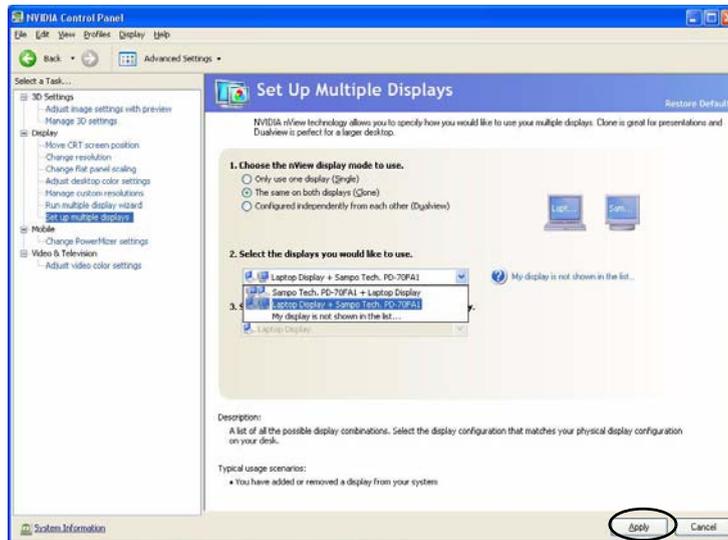6. Click **Apply**.



*Figure D - 6* **- Set Up Multiple Displays**

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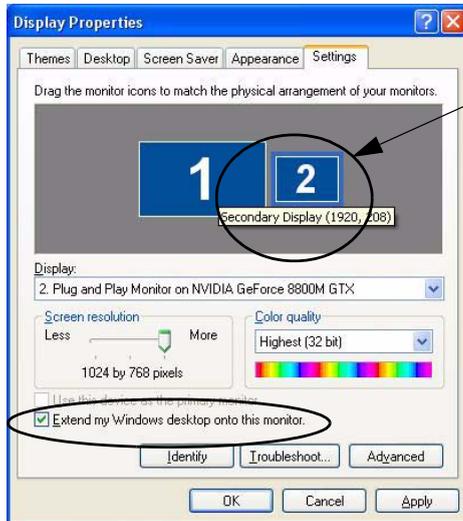
Click the appropriate monitor icon (e.g. **2**) to be able to select the option to extend the desktop on to it.

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



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**Display Settings Extended Desktop**

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

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

*Figure D - 7* **- Display Properties (Extended Desktop)**

**D**

## HDMI Audio Configuration

As HDMI (High-Definition Multimedia Interface) carries both **audio** and video sig-
nals you will need to configure the audio output as per the instructions below.

### Windows Audio Setup for HDMI

1. Connect a device with HDMI support to the HDMI-Out port.
2. Go to the **Start** menu and point to **Settings** (or just click **Control Panel**) and click
   **Control Panel**, then double-click the **Sounds & Audio Devices** icon (**Sounds,
   Speech, and Audio Devices** in Category View).
3. Click **Audio (tab)**.
4. Click **Default device** (**Sound Playback**) and select **NVIDIA HDMI Audio**.
5. Click **OK** to close the control panel (see overleaf).

*Figure D - 8*
**Sounds and Audio
Devices Properties**



**D**

## HDMI Video Configuration

1. Connect an HDMI cable from the HDMI-Out port to your external display.
2. Configure your external display as per the instructions in *"Attaching Other Displays" on page D - 10*.
3. Set up your external display (TV or LCD) for HDMI input (see your display device manual).
4. You can now play video/audio sources through your external display.

### HDMI Note

- Connect a device with HDMI support to the HDMI-Out port **BEFORE** attempting to play audio/video sources through the device.

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**Other Applications**

If you are using a third party application to play DVDs etc. you will need to consult the application's documentation to see the appropriate audio configuration (the application must support digital to analog translation).

---

**D**

# Power Management Features

The **Power Options** control panel icon in *Windows* (see page *D - 3*) allows you to configure power management features for your computer. You may conserve power through individual components such as the monitor or hard disk, or you may use either **Stand by** or **Hibernate** mode to conserve power throughout the system.

## Power Schemes

You can set your computer to conserve power through individual components by means of **Power Schemes**. You can also adjust the settings for each scheme to set the monitor to turn off after a specified time, and the computer's hard disk motor to turn off if the hard disk drive has not been accessed for a specified period of time (if the system reads or writes data, the hard disk motor will be turned back on). The schemes may also be set to set a specified time for the system to enter **Stand by** or **Hibernate** modes.



*Figure D - 9* **- Power Schemes**

$\mathscr{P}$

**Resuming Operation**

Press the **Sleep/Resume** key combination (**Fn + F4**), or power button to resume from Monitor or Hard Disk Stand by.

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

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

## System Power Options

You can use the system power options to stop the computer's operation and restart where you left off. This system features **Stand by** and **Hibernate** sleep mode levels (**Hibernate** mode will need to be enabled by clicking the option in the **Hibernate** tab in the **Power Options** control panel).

## Hibernate Mode vs. Shutdown

Hibernate mode and Shutdown are the same in that the system is off and you need to press the power button to turn it on. When you come back from hibernation, you can return to where you last left off (what was on your desktop) without reopening the application(s) and file(s) you last used.

## Stand by Mode vs. Hibernate Mode

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

**D**

## Stand by

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

## Hibernate

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



/ 
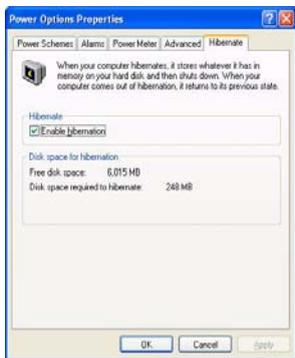
**System Resume**

The system can resume from Stand by mode by:

• Pressing the power button

• An incoming call received on the modem (if enabled)

• Network card activity (if enabled)

*Figure D - 10* **- Enable Hibernation**

**D**

# Configuring the Power Button

The power button may be set to send the computer in to either **Stand by** or **Hibernate** mode. In **Stand by** mode, the LED ⊃/⏻ will blink green. In **Hibernate** mode the LED will be off (battery). If you are in a power saving mode set to save power through individual components (e.g. hard disk, monitor), the LED will remain green.
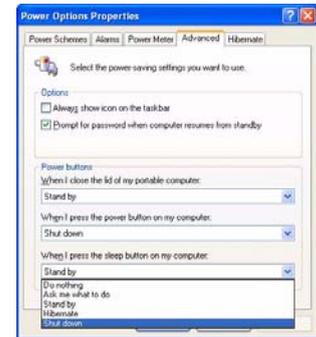


**Sleep Button**

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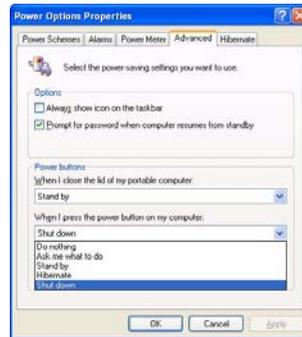
Power Button                     Lid                     Sleep/Resume
(Sleep) Button

*Figure D - 11* **- Power Options (Advanced - Power Buttons)**

**D**

# Battery Information

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

## New Battery

Always completely discharge, then fully charge, a new battery (see *"Battery FAQ" on page D - 21*).

## Battery Life

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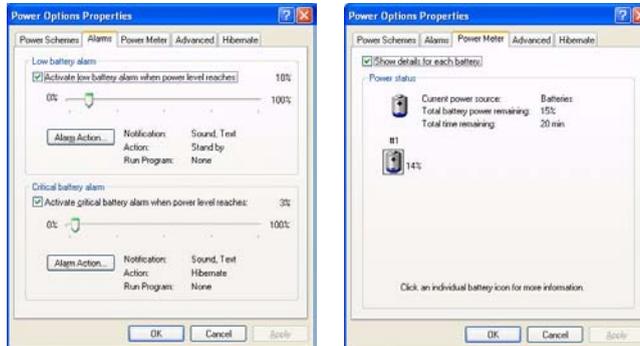


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**Low Battery Warning**

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

*Figure D - 12* **- Power Options (Alarm & Power Meter)**

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 see *"Removing the Battery" on page 6 - 3*.

## Recharging the Battery with the AC/DC Adapter

The battery pack automatically recharges when the AC/DC adapter is attached and plugged into an electrical outlet. If the computer is powered on, and in use, it will take several hours to fully recharge the battery. When the computer is turned off but plugged into an electrical outlet, battery charge time is less. (Refer to *"LED Indicators" on page 1 - 7* for information on the battery charge status, and to *"Battery Information" on page D - 18* for more information on how to maintain and properly recharge the battery pack.)

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**Conserving Battery Power**

To conserve battery power:

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

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

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

Disconnect any unnecessary external devices.

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## 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

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**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.

## Battery FAQ

**How do I completely discharge the battery?**

Use the computer with battery power until it shuts down due to a low battery. Don't turn off the computer by yourself even when you see a message that indicates the battery is critically low, just let the computer use up all of the battery power and shut down on its own. Disable the **Power Options** functions in the **Control Panel**, especially any **Alarms** (**unclick** the tickboxes - see page *D - 18*) and **Schemes** (change all the settings to **Never** - see page *D - 14*). As the battery nears the end of its life save and close any critical files.

**How do I fully charge the battery?**

When charging the battery, don't stop until the LED charging indicator light changes from orange to green.

**How do I maintain the battery?**

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

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> **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.

**D**

# Driver Installation

Insert the *Device Drivers & Utilities + User's Manual* disc and click *Install Drivers* (button), or *Optional* (button) to access the **Optional** driver menu.

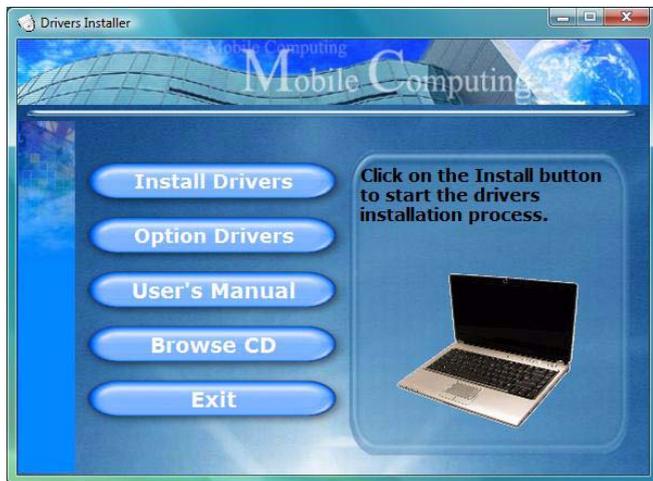If you wish to install the drivers manually see page *"Manual Driver Installation" on page D - 23*.



*Figure D - 13* **- Drivers Installer Screen 1**

1. Check the driver installation order from *Table D - 4, on page D - 23* (**the drivers must be installed in this order**) which is the same as that listed in the *Drivers Installer* menu below.
2. Click to select the driver you wish to install, after installing each driver it will become grayed out (if you need to reinstall any driver, click the **Unlock** button).
3. Follow the instructions for each individual driver installation procedure as listed on the following pages.



*Figure D - 14* **- Drivers Installer Screen 2**

| WinXP SP2 Driver | Page # | |
|---|---|---|
| *Chipset* | *D - 25* | **Manual Driver Installation**<br>Click the **Browse CD** button in the *Drivers Installer* application and browse to the executable file in the appropriate driver folder. |
| *Video* | *D - 25* | |
| *Audio* | *D - 25* | |
| *Modem* | *D - 25* | |
| *LAN* | *D - 26* | |
| *TouchPad* | *D - 26* | |
| *Card Reader/ExpressCard* | *D - 26* | |
| *Hot Key* | *D - 26* | |
| *Wireless LAN Module* | *D - 32* | |
| *802.11b/g WLAN Driver Instal-* | *D - 35* | |
| *3.5G Module* | *D - 43* | |
| *Fingerprint Reader Module* | *D - 44* | |

*Table D - 4* **- Driver Installation**

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## Updating/Reinstalling Individual Drivers

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

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

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

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**Windows XP Service Pack 2**

Make sure you install **Windows XP Service Pack 2** (or a Windows XP version which includes Service Pack 2) **before installing any drivers**. Service Pack 2 includes support for **USB 2.0.**

If you have **upgraded** the system by installing **Service Pack 2** (i.e. your Windows XP version does not include Service Pack 2) then follow these instructions:

1. Click **Start** (menu), point to **Settings** and click **Control Panel** (or click **Control Panel**).
2. Double-click **System** (icon); **System** (icon) is in **Performance and Maintenance** (category).
3. Click the **Hardware** (tab) > **Device Manager** (button).
4. Click "+" next to **Other Devices** (if its sub-items are not shown).
5. Right-click **Universal Serial Bus (USB) Controller** and select **Uninstall > OK** (if you don't see the item then there is no need to take any further action).
6. Restart the computer and it will find the USB 2.0 controller.

**D**

## Driver Installation Procedure

Insert the *Device Drivers & Utilities + User's Manual* disc and click *Install Drivers* (button).

## Found New Hardware Wizard

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

## Chipset

1.  Click **1.Install Chipset Driver > Yes**.
2.  Click **Next > Yes > Next > Next**.
3.  Click **Finish** to restart the computer.

## Video

1.  Click **2.Install Video Driver > Yes**.
2.  Click **Next**.
3.  Click "*Yes, I want to restart my computer now*" (button).
4.  Click **Finish** to restart the computer.

## Audio

1.  Click **3. Install Audio Driver > Yes**.
2.  Click **Next** (click **Cancel** if a *Found New Hardware Wizard* appears).
3.  Click **Finish** to restart the computer.

## Modem

1.  Click **4.Install Modem Driver > Yes**.
2.  Click **OK**.
3.  The modem is now ready for configuration.

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**Modem Country Selection**

Be sure to check if the modem country selection is appropriate for you (**Control Panel** > **Phone and Modem Options**).

## LAN

1. Click **5.Install LAN Driver > Yes**.
2. Click **Next** > **Install**.
3. Click **Finish**.
4. The network settings can now be configured.

## TouchPad

1. Click **6.Install Touchpad Driver > Yes**.
2. Click **Next > Next > Next**.
3. Click **Finish** to restart the computer.

## Card Reader/ExpressCard

1. Click **7.Install Cardreader Driver > Yes**.
2. Click **Next > Install**.
3. Click **Finish**.

## Hot Key

1. Click **8.Install HotKey Utility > Yes**.
2. Click **Next > Install**.
3. Click **Finish > Finish** to restart the computer.

# Module Drivers

See the following pages for the driver installation procedures for any of the **optional** modules included in your purchase configuration.

### Bluetooth & Wireless LAN Modules

**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.

**Power Toggle for the Wireless LAN and Bluetooth Modules**

Enable power to the modules as follows:

Fn + F11 = Wireless LAN Module Power Toggle
Fn + F12 = Bluetooth Module Power Toggle

When the WLAN module is on, the LED will be green.
When the Bluetooth module is on, the LED will be orange.

# Bluetooth Module

The operating system's **Bluetooth Devices** control panel is used to configure the Bluetooth settings in *Windows XP*, and therefore does not require a driver. **Use the Fn + F12 key combination** (see *"Function/Hot Key Indicators" on page D - 5*) 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.

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**D**

*Figure D - 15*

**Local Area Connection**

**Bluetooth Local Area Connection Icon**

If you want to display the Local Area Connection icon for the Bluetooth connection in the taskbar, set it up as follows:

1. Access the **Network Connections** control panel in *Windows* (**Start > Settings > Network Connections OR Start > Connect To > Show all Connections**) or by clicking the taskbar icon .
2. Right-click the Bluetooth connection icon, and select **Properties**.
3. Click to put a tick (if none is present) in the "*Show icon in the notification area when connected*" box and click **OK**.
4. Close the control panels and the icon  for the Bluetooth local area connection will be displayed in the taskbar **when connected** (see sidebar and overleaf).
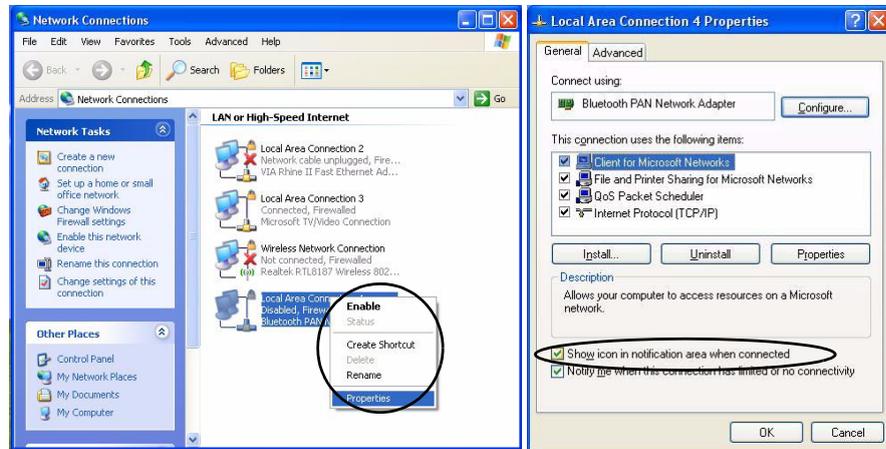
## Bluetooth Configuration in Windows XP

### 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** (**Network and Internet Connections**).
•   **Click/Right-click** the icon 🔷 and choose an option from the menu.
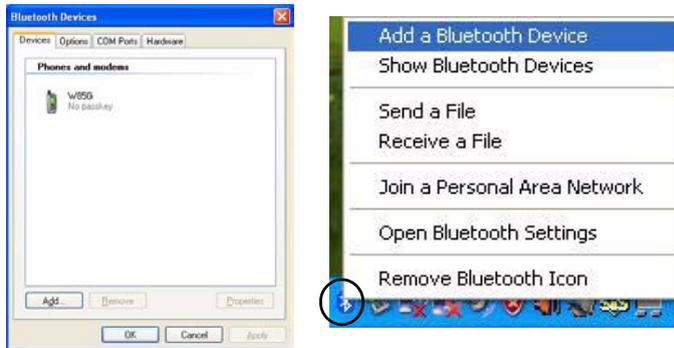


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**Bluetooth Taskbar Icon**

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 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 D - 16*
**Bluetooth Devices & Click Icon Menu**

**D**

## 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**.

*Figure D - 17*
**Add Bluetooth Device Wizard**



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**.



9. Click **Finish**.

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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 D - 18*
**Passkey Option**

**D**

### 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 *Turn discovery on* 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.

*Figure D - 19*
**Bluetooth Devices Options**

**D**

# Wireless LAN Module

If you have included an **Intel® Wi-Fi Link 5100/5300 Series (802.11 a/g/n) WLAN** module, or **3rd Party 802.11b/g WLAN module** in your purchase option, 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 page D - 5*) **to toggle power to the Wireless LAN module**. Make sure you install the drivers in the order indicated in *Table D - 4, on page D - 23*.

## Intel WLAN Driver Installation

1. Make sure the module is powered on, then insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
2. Make sure the computer has a working internet connection.
3. **Option Drivers** (button).
4. Click **1.Install Wireless Lan Driver > Yes**.
5. Click **Next > Next** to link to the required prerequisites on the internet.
6. Click **Download** (button) to download the **Windows Installer** executable (.exe) file to the computer's hard disk.
7. Double-click (or click the **Run** button) to install the **Windows Installer** file and follow the on-screen instructions for file installation.
8. You will be required to restart the computer to complete the file installation.
9. Repeat steps **1** to **4** to get to the appropriate download location**.**
10. Click **Download** (button) to download the **Microsoft MSXML** file to the computer's hard disk (if you are unsure of which file to download for you processor you can click **Run** instead of acknowledging the file, and you will be informed if the file is appropriate or not).
11. Follow the on-screen instructions for file installation.
12. After the files have been installed click **Next**.
13. Click the button to accept the license and click **Next > Next > Next**.
14. Click **Finish** to complete the installation.

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>
> **Download Prerequisite Files**
>
> Before beginning the driver installation process for *Windows XP* it is necessary to **make sure you have a working internet connection**. You will then be pointed to download the required **Windows Installer 3.1** and **Microsoft MSXML 6.0** files.

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15. Configure the settings by going to the **Intel PROSet Wireless WiFi Connection Utility** (**Start > Programs/All Programs > Intel PROSet Wireless WiFi Connection Utility**), or by double-clicking the taskbar icon .
16. Click to select any available network, and click **Connect** to establish a connection.
17. If you do not see your Wireless Access Point click **Refresh** (button).
18. Click **Help** (link) to bring up the **Help** Menu.
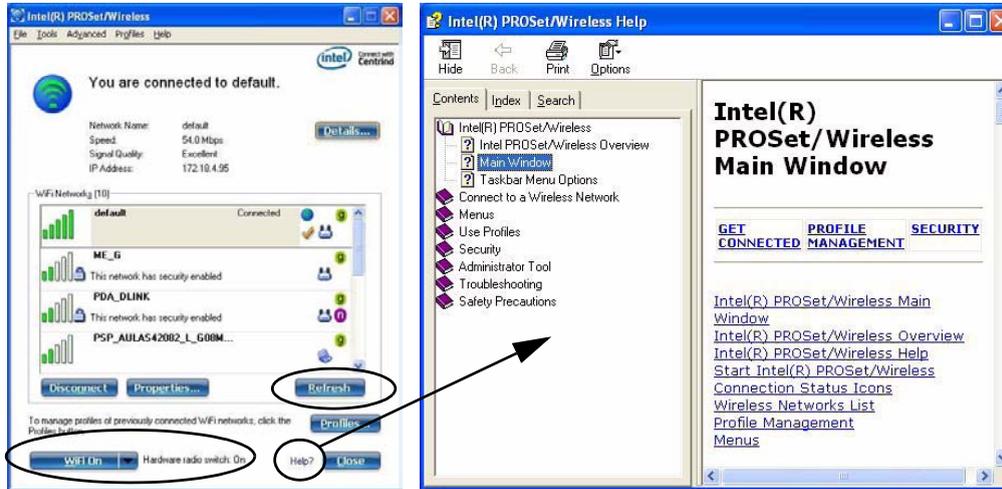19. Make sure that the **WiFi On** button is selected.



*Figure D - 20* **- Intel PROSet Wireless WiFi Connection Utility**

## 802.11b/g WLAN Driver Installation

1. Make sure the module is powered on, and then insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
2. Click **Option Drivers** (button).
3. Click **1.Install WLAN Driver > Yes**.
4. Choose the language you prefer and click **Next**.
5. Click **Next > Install**.
6. Click **Finish** to restart the computer.
7. The operating system is the default setting for Wireless LAN control in *Windows XP* (see overleaf).
8. Access any available wireless networks from **Network Connections > Wireless Network Connection** menu in *Windows* (or click the icon 🛜 in the taskbar), and click **View Wireless Connections**.

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**Network Connection**

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

*Figure D - 21*
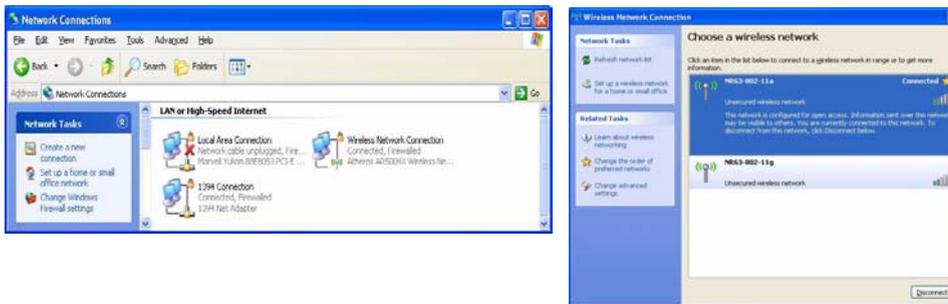**Wireless Network Control Panels**



**D**

BisonCam, NB Pro

# PC Camera Module

Before installing the optional **PC Camera** module driver use the **Fn** + **F10** key combination to toggle power to the module. The **PC Camera** module uses the **BisonCap** application to capture video files.

**PC Camera Display**

The PC Camera application software needs to be run while the *default notebook LCD* is the selected display device.

After a camera picture is obtained on the default notebook LCD, you may then use the **Fn + F7** to toggle through the display modes (give the screen time to refresh).

**Latest PC Camera Driver Information**

Check the **PC Camera CD**, and any accompanying insert pages, for the latest updated information on the PC Camera driver, which may override the information provided here.

## PC Camera Driver Installation

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

## PC Camera Audio Setup (all camera modules)

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

1. Go to the **Start** menu and point to **Settings** (or just click **Control Panel**) and click **Control Panel**, then double-click the **Sounds & Audio Devices** icon (**Sounds, Speech, and Audio Devices** in Category View).
2. Click **Advanced** in the **Volume > Device volume** tab.
3. Click **Options** and scroll down and click **Properties**.
4. Select **Realtek HD Audio input** from the **Mixer device** menu.
5. Make sure the **Mic Volume** (check box) is checked, then click **OK**.
6. Boost the volume in the **Recording** section (in the Recording Control menu) as high as it will go.
7. Close the **Recording Control** window, and then click **OK**.
8. Run the **BisonCap** application program from the **Start > Programs/All Programs > BisonCam** menu.
9. Go to the **Devices** menu heading and select **Realtek HD Audio input** (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).

## 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 from the **Start > Programs/All Programs > Bison-Cam** menu (it is recommended that you **set the capture file** before the capture process - **see Set Capture File below**).
2. Go to the **Capture** menu heading (if you wish to capture audio check *"PC Camera Audio Setup (all camera modules)" on page D - 38*) and select **Start Capture**.
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 above.

**Note the important information in** *"Reducing Video File Size" on page D - 40* **in order to save file space, and help prevent system problems.**

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**Pre-Allocating File Space**

You may pre-allocate the file size (**File > Allocate File Space**) for the capture file in the **BisonCap** program.

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

See also *"Reducing Video File Size" on page D - 40*.

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## 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 XP* system requires a minimum of **1.5GB** 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 D - 39*), limit the file size of the captured video (see *"Pre-Allocating File Space" on page D - 39*) or reduce video resolution (see below).

**To Reduce Video Resolution Output Size:**

1.  Run the **BisonCap** program.
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.

## 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** program.
2. Go to **Options** and scroll down to select **Video Capture Filter...**.
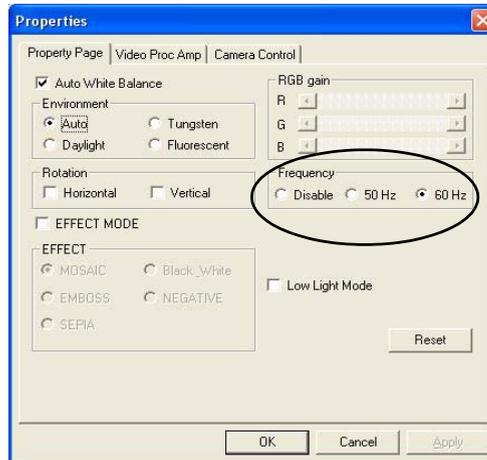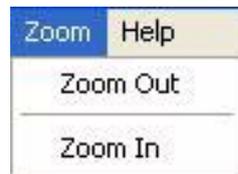3. Click either **50Hz** or **60Hz** under **Frequency** in **Property Page** (tab).

*Figure D - 22*
**Video Capture Filter**

**Zoom**

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

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

*Figure D - 23*
**Zoom/Setting**



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**Snapshot Folder**

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.

**Taking Still Pictures**

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

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

**D**

**D - 42 PC Camera Module**

# 3.5G Module

If you have included an optional **3.5G module** in your purchase option follow the instructions *on page 7 - 19* to install the USIM card (which will be provided by your service provider), and then install the application.

Before installing the application, make sure that the 3.5G module is on. Use the **Fn** + ▢ **key combination** (see *"Function/Hot Key Indicators" on page D - 5*) **to toggle power to the 3.5G module**.

## 3G Watcher Application Installation

1. Enable power to the module by pressing the **Fn** + ▢ key combination (the icon ◌ will be green).
2. If a *Found New Hardware Wizard* appears, click **Cancel**.
3. Insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
4. Click **Option Drivers** (button).
5. Click **3.Install 3G Driver > Yes**.
6. Click **Next**, click the button to accept the license agreement, and then click **Install**.
7. **When the next screen appears wait about 2 minutes before clicking Finish** (to allow the hardware to detect the 3.5G module).
8. The **3G Watcher** icon ▨ will appear on the desktop.
9. You can access the **3G Watcher** application from the **Start** menu (**Start** > **Programs/All Programs** > **Sierra Wireless > 3G Watcher**), or by clicking the desktop icon ▨.
10. Make sure you enable power to the module by pressing the **Fn** + ▢ key combination (the icon ◌ will be green).
11. See *"Setting Up a Carrier Profile" on page 7 - 22* and *"Connecting to the Service Provider" on page 7 - 24* for instructions on using the **3G Watcher** application.

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# Fingerprint Reader Module

If you have included the fingerprint reader in your purchase option you will need to install the driver as per the instructions below.

Make sure you have administrator's rights to your computer, and have a *Windows* password enabled for full security protection.

Before beginning the enrollment process it is recommended that you go through the fingerprint tutorial. To run the tutorial click **Start > Programs/All Programs > Protector Suite QL > Fingerprint Tutorial** after installing the driver.

### Fingerprint Reader Driver Installation

1. Insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
2. Click **Option Drivers** (button).
3. Click **4.Install FingerPrint Driver > Yes**.
4. Click **Software Installation**.
5. Click **Next > Next > Next**.
6. Click **Finish > Yes** to restart the computer.
7. See overleaf for information on enrolling fingerprints etc.

## Help & Manual

Right-click the taskbar icon to bring up the menu to select **Help**.

Insert the *Device Drivers & Utilities + User's Manual disc* and click *Option Drivers* (button). Click **Unlock** (button) and then click **4.Install FingerPrint Driver > Yes**.

Click **Documentation** to open the folder containing the manual in .pdf format.

To install the Adobe Acrobat Reader software to read the file, insert the *Device Drivers & Utilities + User's Manual disc* and click *User's Manual* (button), and click **Install Acrobat Reader** (button).

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## User Enrollment

1. Click **Start > Programs/All Programs > Protector Suite QL > User Enrollment**, or double click the taskbar icon .
2. On the first run of the program you will be asked to click the button to accept the license, and then click **OK**.
3. Click **Next** and select "*Enrollment to the hard disk*", and click **Finish**.
4. Click **Next** and you will then be prompted to enter your *Windows* password (**note**: If you have not set a password **Protector Suite QL** cannot secure access to your computer).
5. Click **Next > Next** (tick the "*Run interactive tutorial*" tickbox to run through the Fingerprint Tutorial).
6. Click **Next** for each window of the tutorial (you can click the button to "*skip tutorial*" at any time).
7. Click the button above any of the fingers to begin the enrollment process for that finger.
8. Swipe the finger three times to enroll that finger.
9. Repeat the process for all the fingers you wish to enroll (see below), and then click **Next**.
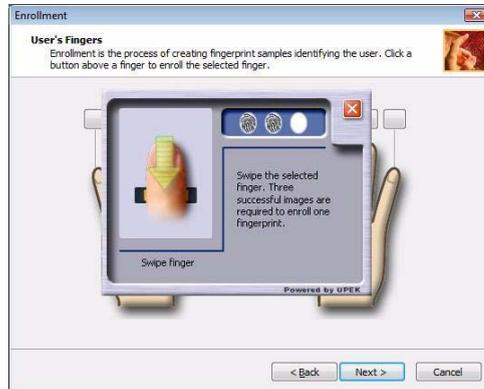


*Figure D - 24* **- Fingerprint Enrollment**

10. Click **Finish**.
11. Click any of the headings under "**Learn more about**:" to get more information on any topic.
12. Click **Close**.
13. Right-click the taskbar icon 🔲 to bring up the menu that allows you to **Edit Fingerprints**, start **Control Center**, access the **Help** menu etc. You can also run the **Control Center** etc. from the **Protector Suite QL** item in the **Programs/All Programs** menu.
14. See *"Help & Manual" on page D - 44* for further details.
15. If you swipe your finger over the reader at any time you can access the **Biomenu** to **lock the computer**, **register websites**, open the **Control Center** and access the **Help** menu.



*Figure D - 25* **- Control Center & Biomenu**