USER'S MANUAL

notebook

V09.6.00

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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.

> 泌
> **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.
>
> If your purchase option includes both **Wireless LAN** and **3.75G/HSPA** modules, then the appropriate antennas will be installed. Note that In order to comply with FCC RF exposure compliance requirements, the antenna must not be co-located or operate in conjunction with any other antenna or transmitter.

IMPORTANT SAFETY INSTRUCTIONS

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

1. Do not use this product near water, for example near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using this equipment with a telephone line (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
5. This product is intended to be supplied by a Listed Power Unit with an AC Input of 100 - 240V, 50 - 60Hz, DC Output of 19V, 3.42A (**65** Watts) minimum AC/DC Adapter for **Model A & B** computers, **OR** 19V, 4.74A (**90** Watts) minimum AC/DC Adapter for **Model C, D, E & F** computers.

CAUTION

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

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

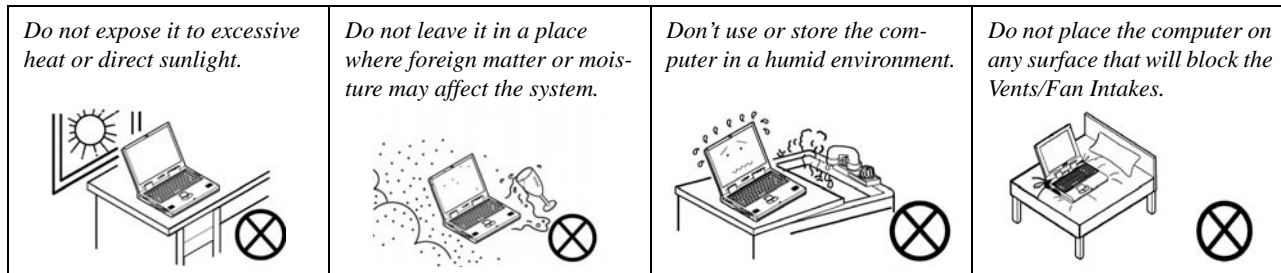## This Computer's Optical Device is a Laser Class 1 Product

Instructions for Care and Operation

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

1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.
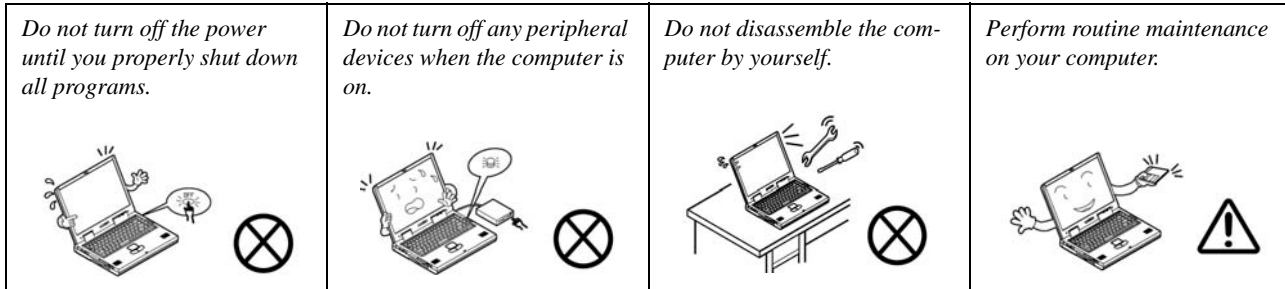
Do not expose the computer to any shock or vibration.	*Do not place it on an unstable surface.*	*Do not place anything heavy on the computer.*

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

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

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

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

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

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

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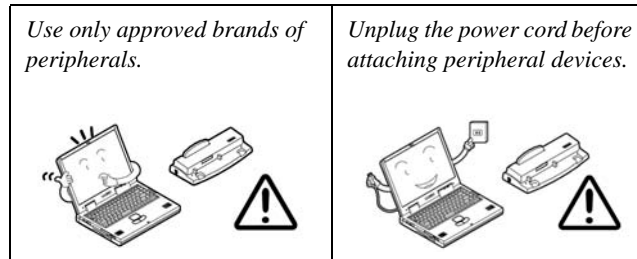
Power Safety

The computer has specific power requirements:

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

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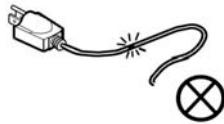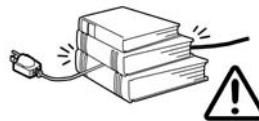
Power Safety Warning

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

Battery Precautions

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

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Battery Disposal & Caution

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

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used battery according to the manufacturer's instructions.

Cleaning

Do not apply cleaner directly to the computer; use a soft clean cloth.

Do not use volatile (petroleum distillates) or abrasive cleaners on any part of the computer.

Servicing

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

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

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

Travel Considerations

Packing

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

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

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

On the Road

In addition to the general safety and maintenance suggestions in this preface, and Chapter 8: 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 comfortable display viewing angle can reduce eye strain and muscle fatigue in your neck and shoulders.

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

LCD Screen Care

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

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

Preface

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Modules & Options

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NVIDIA Video Driver Controls

Specifications

Windows 7 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** & **Printer**.
- **Chapter 3**   The computer's **power** saving 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 **Fingerprint**, **Bluetooth**, **Wireless LAN**, **PC Camera** and **3.75G/ HSPA** 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 **Intel Video driver controls**.
- **Appendix C**   Information on the **NVIDIA Video driver controls**.
- **Appendix D**   The computer's **specification**.
- **Appendix E**   Information on the *Windows XP* OS.
- **Appendix F**   Information on the *Windows 7* 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 *"What to Install" on page 4 - 1*, *"BIOS Utilities" on page 5 - 1* and *"Upgrading The Computer" on page 6 - 1* in the reminder of the User's Manual. You may also find the notes marked with a 🖉 of interest to you.

Beginners and Not-So-Advanced Users

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Notes

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

If you are new to computers (or do not have an advanced knowledge of them) then the information contained in the 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 everything the first time. Keep this manual nearby and refer to it to learn as you go. You may find it useful to refer to the notes marked with a 🖉 as indicated in the margin. 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*/*Windows 7*) and applications (e.g. word processing, spreadsheet and database programs) have their own manuals, so please consult the appropriate manuals.

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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 drivers listed in *"Drivers & Utilities" on page 4 - 1*. 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. 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 *Chapter 4* for installation instructions.

Ports and Jacks

See *"Notebook 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.

Model Differences

This notebook series includes **six** different model types. The models differ as indicated in the table below.

Feature	Model A	Model B	Model C	Model D	Model E	Model F
Core Logic	Intel(R) GM45 + ICH9M Chipset		Intel(R) PM45 + ICH9M Chipset		Intel(R) GM45 + ICH9M Chipset	Intel(R) PM45 + ICH9M Chipset
Video Adapter	Intel Integrated Video System (Internal On Chip)		NVIDIA Discrete Video System (External On Board)		Intel Integrated Video System (Internal On Chip)	NVIDIA Discrete Video System (External On Board)
Windows Vista Operating System Supported	Windows Vista - SP1 **64-bit** Editions (see over for details)		Windows Vista - SP1 **32-bit** Editions (see over for details)			
AC/DC Adapter	**65W** (DC Output 19V, 3.42A)		**90W** (DC Output 19V, 4.74A)			
Display Type Supported	14.1" WXGA/ WXGA+ Glare Type TFT LCD	15.4" WXGA/ WXGA+/ WSXGA + Glare Type TFT LCD	14.1" WXGA/ WXGA+ Glare Type TFT LCD	15.4" WXGA/ WXGA+/ WSXGA + Glare Type TFT LCD	15.6" HD 16:9 TFT LCD	

Table 1 - 1 **- Model Differences**

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 - With Service Pack 3	In order to run **Windows XP** without limitations or decreased performance, your computer requires a minimum **512MB** of system memory (RAM)
Windows Vista - With Service Pack 2	In order to run **Windows Vista/Windows 7** without limitations or decreased performance, your computer requires a minimum **1GB** of system memory (RAM). 🖉 **Windows Vista Service Pack 2** Make sure you install **Windows Vista Service Pack 2** (or a **Windows Vista** version which includes Service Pack 2) **before installing any drivers**. Go to the Microsoft website for download details, or contact your service center.
Windows 7	

Table 1 - 2 **- Operating Systems Supported**

*Note: For information on the *Windows XP (with Service Pack 3) OS* or *Windows 7 OS* see *"Windows XP Information" on page E - 1*/*"Windows 7 Information" on page F - 1*.

Operating System Setup

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

1. Start-up the computer and press <**F2**> to enter the **BIOS**.
2. Go to the **Advanced** menu, select "*Installed O/S*" and make sure the appropriate operating system is selected.
3. Go to the **Exit** menu and select "*Exit Saving Changes"* (or press **F10** and select "**Yes**" then press Enter) and press Enter to exit the BIOS and reboot the computer.

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

                                            Item Specific Help
 ► Advanced Chipset Control
   Installed O/S:              [Vista]
   SATA Mode Selection:        [AHCI]     Select options for
   DFOROM (Robson) Support:    [Enabled]  Advanced Chipset
   Legacy USB Support:         [Enabled]  features.
   Boot-time Diagnostic Screen: [Disabled]
   Legacy OS Boot:             [Enabled]
   Reset Configuration Data:   [No]
   Power On Boot Beep          [Disabled]
   Battery Low Alarm Beep      [Disabled]

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

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

🖉

SATA Mode Selection

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

Figure 1 - 1 - **Advanced BIOS Menu**

System Startup

1. Remove all packing materials.
2. Place the computer on a stable surface.
3. Securely attach any peripherals you want to use with the notebook (e.g. keyboard and mouse) to their ports.
4. Attach the AC/DC adapter to the DC-In jack on the left of the computer, then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter.
5. Use one hand to raise the lid/LCD to a comfortable viewing angle (do not exceed 120 degrees); use the other hand (as illustrated in *Figure 1 - 2* below) to support the base of the computer (**Note**: **Never** lift the computer by the lid/LCD).
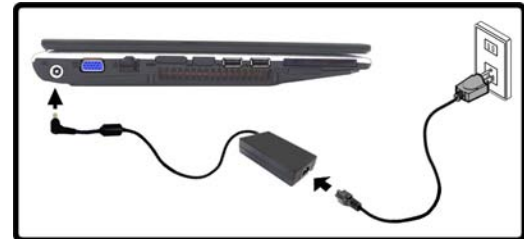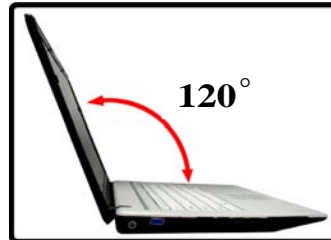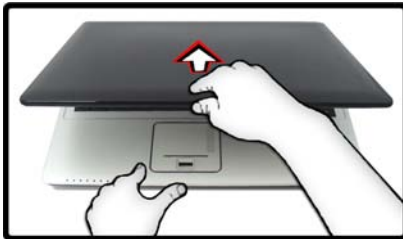
120°

🖉

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

Figure 1 - 3
**LCD Panel Open
(Model A & C
Computers)**

1. Built-In PC Camera
   (**Optional**)
2. LCD
3. Speakers
4. Power Button
5. Hot Key Buttons
6. Keyboard
7. Built-In Microphone
8. Touchpad &
   Buttons
9. Fingerprint Module
   (**Optional**)
10. LED Indicators

System Map: LCD Panel Open - Models A & C

Figure 1 - 3 LCD Panel Open (Model A & C Computers)

🔔

**Wireless Device
Operation Aboard Aircraft**

The use of any portable electronic trans-mission devices aboard aircraft is usual-ly prohibited. Make sure the module(s) are OFF if you are using the computer aboard aircraft.

Use the key combinations to toggle pow-er to the **3.75G/HSPA/WLAN/Blue-tooth** modules, and check the LED indicator icon to see if the modules are powered on or not (see *Table 1 - 5, on page 1 - 15*/ *Table 1 - 3, on page 1 - 11*).
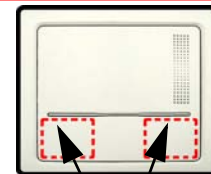
TouchPad button
(valid operation area)

System Map: LCD Panel Open - Models B & D

Figure 1 - 4
LCD Panel Open (Model B & D Computers)

1. Built-In PC Camera (**Optional**)
2. LCD
3. Speakers
4. Power Button
5. Hot Key Buttons
6. Keyboard
7. Built-In Microphone
8. Touchpad & Buttons
9. Fingerprint Module (**Optional**)
10. LED Indicators
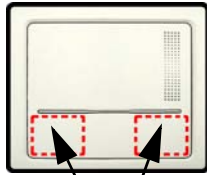
TouchPad button
(valid operation area)

Figure 1 - 5
**LCD Panel Open
(Model E & F
Computers)**

1. Built-In PC Camera
    (**Optional**)
2. LCD
3. Power Button
4. Hot Key Buttons
5. Keyboard
6. Built-In Microphone
7. Touchpad &
    Buttons
8. LED Indicators

Note: The **Optional Fin-
gerprint Reader** module is
optional not pictured here,
but is available as an op-
tion for Model E & F com-
puters.

System Map: LCD Panel Open - Models E & F
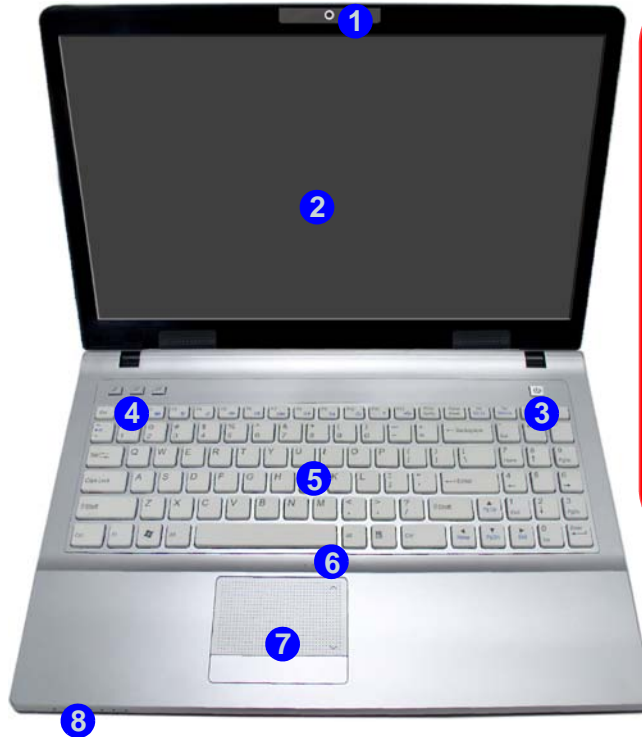
冰

**Wireless Device
Operation Aboard Aircraft**

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

Use the key combinations to toggle
power to the **3.75G/HSPA/WLAN/
Bluetooth** modules, and check the
LED indicator icon to see if the
modules are powered on or not
(see *Table 1 - 5, on page 1 - 15/
Table 1 - 3, on page 1 - 11*).
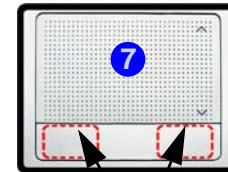
Touchpad Buttons (valid operation area)

LED Indicators

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

Icon	Color	Description
🛢	Green	Hard Disk Activity
🔒	Green	Number Lock Activated
🔒	Green	Caps Lock Activated
🔒	Green	Scroll Lock Activated (to activate press Fn & Scr Lk)
⏻	Orange	DC Power is Plugged In
	Green	The Computer is On
	Blinking Green	The Computer is in Sleep Mode
🔋	Orange	The Battery is Charging
	Green	The Battery is Fully Charged
	Blinking Orange	The Battery Has Reached Critically Low Power Status
((•))	Green	The (**optional**) Wireless LAN Module is Powered On
	Orange	The (**optional**) Bluetooth Module is Powered On

Table 1 - 3 **- LED Indicators**

Hot Key Buttons

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

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

Table 1 - 4 **- Hot Key Buttons**

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

Keyboard - Models A - D

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 - 5, on page 1 - 15* for full function key combination details.
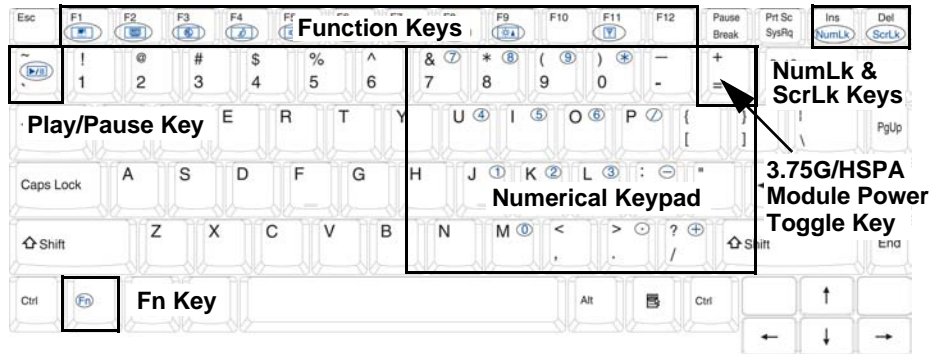
Figure 1 - 6 **- Keyboard - Models A - D**

Function Keys

NumLk & ScrLk Keys

Play/Pause Key

Numerical Keypad

3.75G/HSPA Module Power Toggle Key

Fn Key

🖉

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.

🖉

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.

Keyboard - Models E & F

The keyboard (Models E & F) has a numerical keypad on the right for easy numeric data input, and features function keys to allow you to change operational features instantly. See *Table 1 - 5, on page 1 - 15* for full function key combination details.
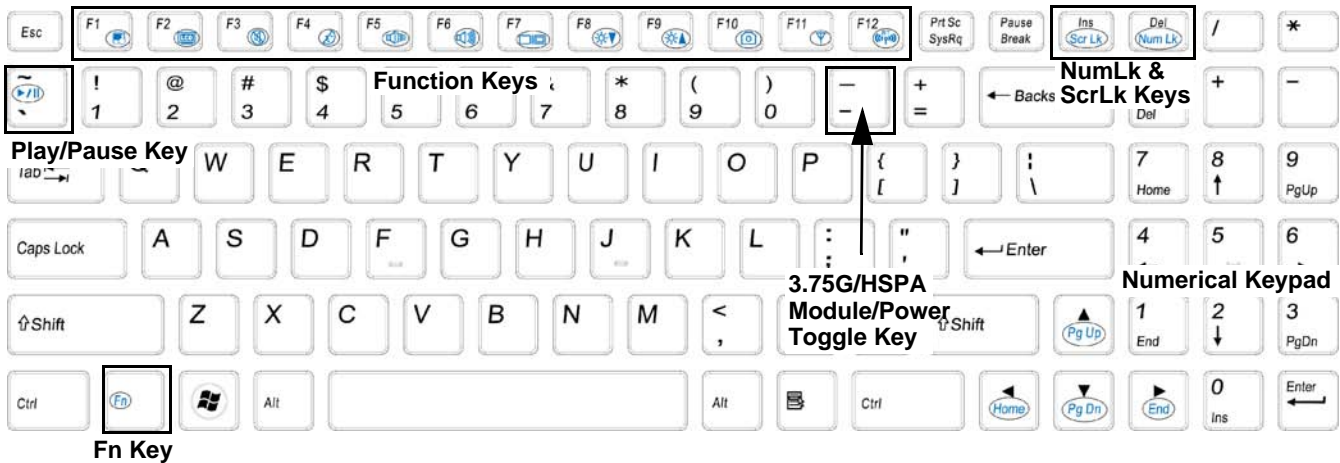
Figure 1 - 7 **- Keyboard - Models E & F**

1

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 are available when the hot key utility is installed (see *"Hot Key" on page 4 - 6*). When the driver is installed, an icon ▒ will appear in the taskbar.

Keys	Function	Keys	Function
Fn + ~	Play/Pause (in Audio/Video Programs)	Fn + F7	Display Toggle
Fn + ▢	3.75G/HSPA 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 - 5 **- Function & Hot Key Indicators**

System Map: Front & Left Views

Figure 1 - 8
Front & Left Views

1. LED Power & Communication Indicators
2. DC-In Jack
3. External Monitor Port
4. RJ-45 LAN Jack
5. e-SATA Port (see sidebar)
6. HDMI-Out Port
7. Vent/Fan Intake/Outlet
8. 2 * USB 2.0 Ports
9. ExpressCard Slot (see page *2 - 7*)
10. 7-in-1 Card Reader

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)

e-SATA Port

Note that **the Intel Matrix Storage driver is required to enable the e-SATA port** (see *"e-SATA Port Support" on page 7 - 59*).

System Map: Right & Rear Views

Figure 1 - 9
Right & Rear Views

1. S/PDIF-Out Jack
2. Microphone-In Jack
3. Headphone-Out Jack
4. USB 2.0 Port
5. Optical Device Drive Bay (for CD/DVD Device - see page *2 - 3*)
6. RJ-11 Phone Jack
7. Security Lock Slot
8. Battery

🔔

Disk Eject Warning

Don't try to eject a CD/DVD while the system is accessing it. This may cause the system to "crash". Stop the disk first then eject it, or press the stop button twice.

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".

🖉

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** dialog 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.

System Map: Bottom View - Models A - D
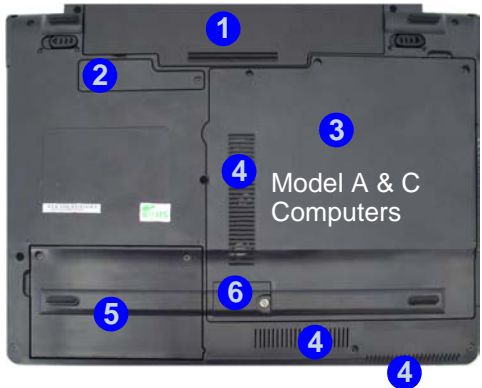
Model A & C
Computers

Model B & D
Computers

📎

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.

🔔

CPU
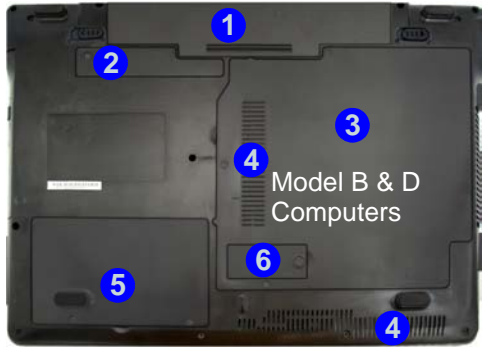
The CPU is not a user serviceable part. Accessing the CPU in any way, may violate your warranty.

Overheating

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

Figure 1 - 10
**Bottom View
(Models A - D)**

1. Battery
2. Bluetooth Module Cover
3. RAM & CPU Bay Cover
4. Vent/Fan Intake/ Outlet
5. Hard Disk Bay Cover
6. 3.75G/HSPA USIM Card Location

Figure 1 - 11
**Bottom View
(Models E & F
Computers)**

1. Battery
2. RAM & CPU Bay
   Cover
3. Vent/Fan Intake/
   Outlet
4. Hard Disk Bay
   Cover

Note: the 3.75G/HSPA
USIM Card is located un-
der the RAM & CPU Bay
Cover.

System Map: Bottom View - Models E & F

🖊

Battery Information

Always completely dis-
charge, 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 in-
structions.

🔔

CPU
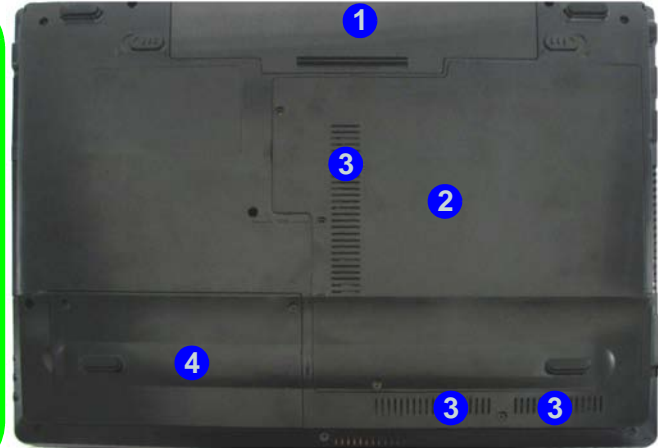
The CPU is not a user serviceable part.

Overheating

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

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 Classic View
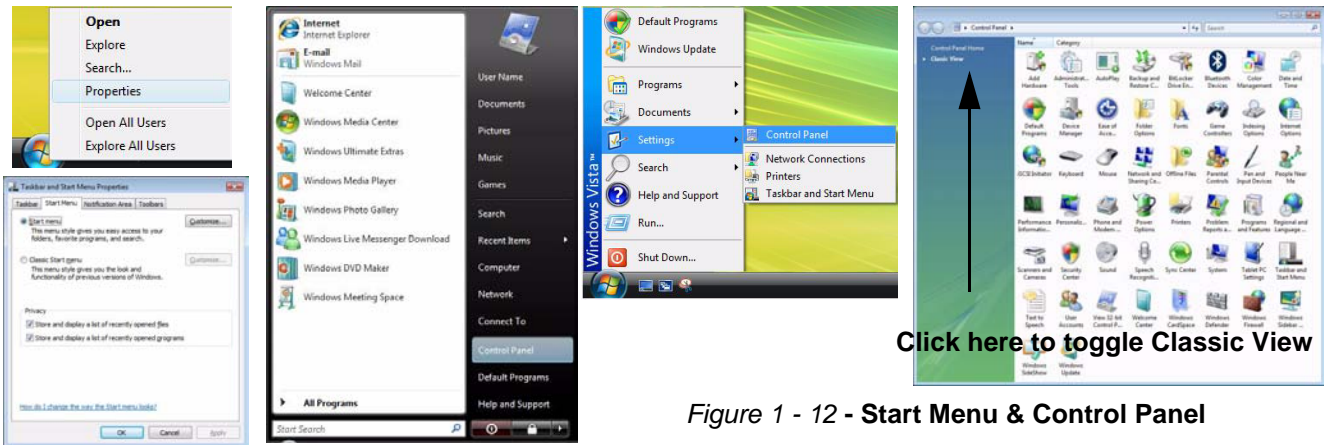
Figure 1 - 12 **- Start Menu & Control Panel**

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 to Classic View on.

Video Features

This computer features two different (either **Intel** integrated video for **Model A, B & E** computers or **NVIDIA** discrete video for **Models C, D & F** computers) video options. You can switch display devices, and configure display options, from the **Display Settings** control panel (in **Personalization**) in *Windows Vista*.

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

1. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
2. Click **Adjust screen resolution** under the **Appearance and Personalization** menu (or double-click **Personalization > Display Settings**).
3. Move the slider to the preferred setting in **Resolution:** ❶ (*Figure 1 - 13 on page 1 - 23*).
4. Click the arrow, and scroll to the preferred setting In **Colors:** ❷ (*Figure 1 - 13 on page 1 - 23*).

To access the *Intel GMA Driver for Mobile Control Panel (Models A, B & E)*:

1. The **Intel GMA** control panel can be accessed by clicking the icon in the taskbar and selecting **Graphics Properties** from the menu (or from the **Intel GMA Driver for Mobile Control Panel** in the *Windows* control panel).

To access the *NVIDIA Control Panel (Models C, D & F)*:

1. The **NVIDIA Control Panel** can 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 Settings & Video Control Panel
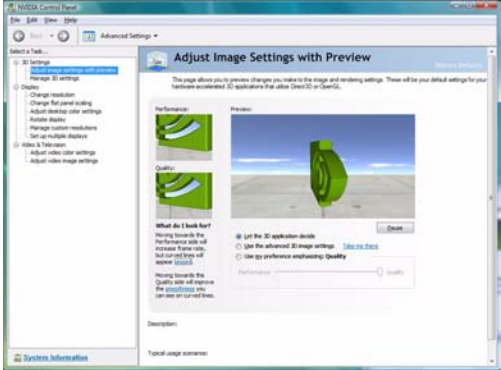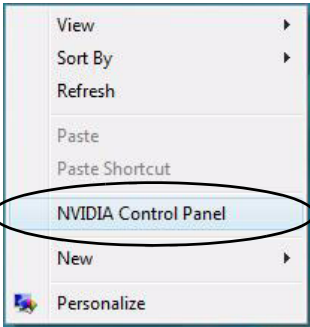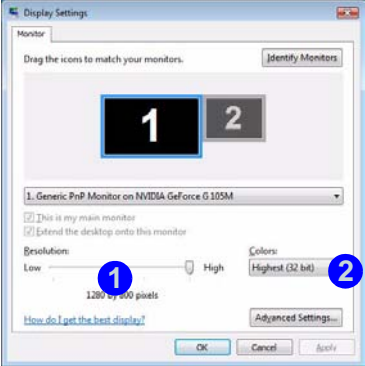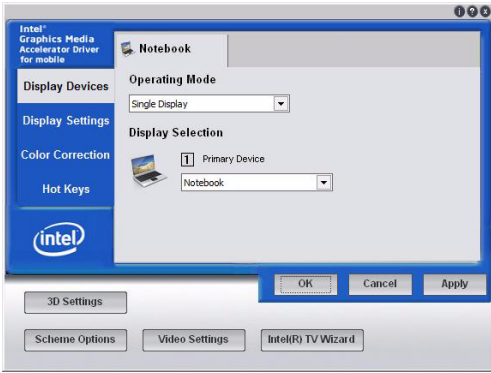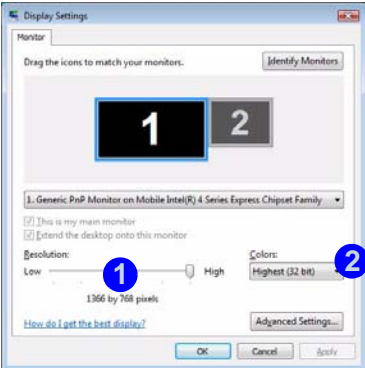
Figure 1 - 13 **- Display Settings & Video Control Panel**

Power Options

The **Power Options** (**Hardware and Sound** menu) control panel icon in *Windows* (see page *1 - 20*) 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*.
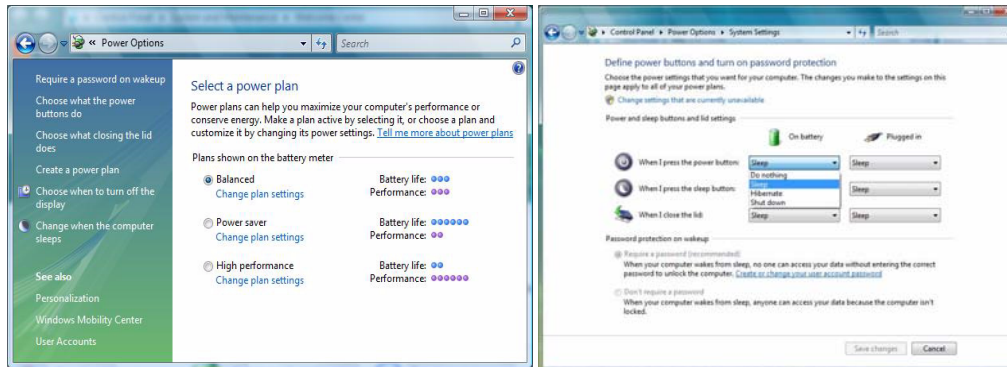
Note: **Sleep** is the default power saving state in *Windows Vista*

Figure 1 - 14 **- Power Options**

2

Chapter 2: Features & Components

Overview

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

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

2

☼

Power Safety

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

Figure 2 - 1
Hard Disk Location

Hard Disk Drive

The hard disk drive is used to store your data in the computer. The hard disk can be taken out to accommodate other 2.5" serial (SATA) hard disk drives (see *"Storage" on page D - 4*) with a height of 9.5 mm.

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

Models A & C   Models B & D   Models E & F

Optical (CD/DVD) Device

There is a bay for a 5.25" optical (CD/DVD) device (12.7mm height). The actual device will depend on the module you purchased (see *"Storage" on page D - 4*). 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 - 14*).

Loading Discs

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

> 🖉
>
> **Sound Volume Adjustment**
>
> How high the sound volume can be set depends on the setting of the volume control within *Windows*. Click the **Volume** icon on the taskbar to check the setting (see *"Audio Features" on page 2 - 9*).

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 - 18*.

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 *"CardReader" on page 4 - 6*).

*   MMC (MultiMedia Card)
*   SD (Secure Digital)
*   MS (Memory Stick)
*   MS Pro (Memory Stick Pro)

*   MS Duo (requires PC adapter*)
*   Mini SD (requires PC adapter*)
*   RS MMC (requires PC adapter*)

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

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

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

Inserting and Removing ExpressCards

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

🖉

**ExpressCard
Slot Cover**

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

Figure 2 - 4
Left View

1. Express Card Slot

Figure 2 - 5
**Inserting &
Removing Express
Cards**

2

Figure 2 - 6
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 (see pages *1 - 8*/*1 - 9*).

Once you have installed the TouchPad driver (see *"TouchPad" on page 4 - 6*) you
can configure the functions by double-clicking the TouchPad driver icon 🖳 on the
taskbar. You may then configure the TouchPad tapping, buttons, scrolling, pointer
motion and sensitivity options to your preferences. You will find further information
at www.synaptics.com.
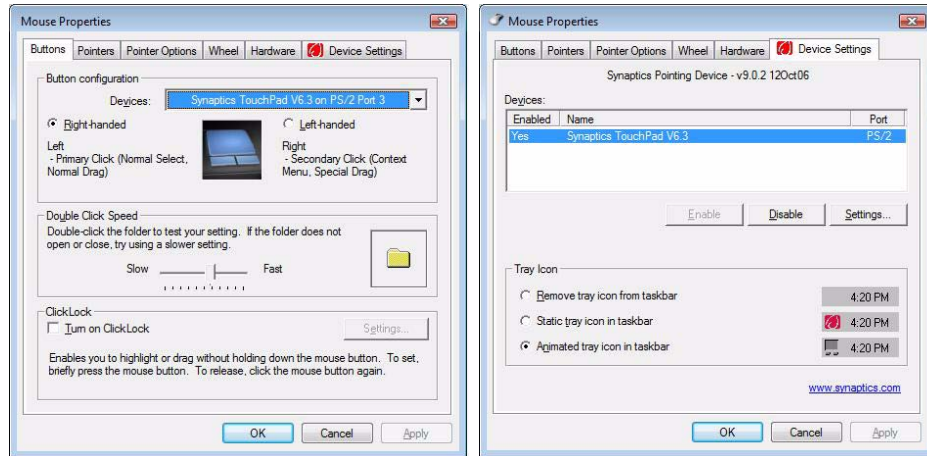
Audio Features

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.
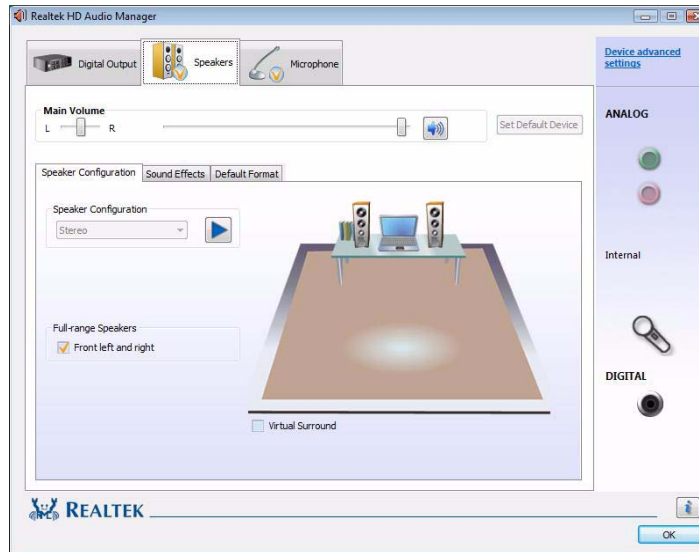
2

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 current 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, however 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.

OS Note

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

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

Hibernate Mode In Windows Vista SP1

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

3

The Power Sources

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

AC/DC Adapter

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

1. Attach the AC/DC adapter to the DC-in jack on the left of the computer.
2. Plug the AC power cord into an outlet, and then connect the AC power cord to the AC/DC adapter.
3. Raise the lid/LCD to a comfortable viewing angle.
4. Press the power button to turn "On".

Battery

The battery allows you to use your computer while you are on the road or when an electrical outlet is unavailable. Battery life varies depending on the applications and the configuration you're using. **To increase battery life, let the battery discharge completely before recharging** (see *"How do I completely discharge the battery?" on page 3 - 14*).

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

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.

🖉

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).

🖉

Shut Down

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

3

Password

It is recommended that
you enable a password
on system resume in or-
der 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**.

3

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**.

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

3

Figure 3 - 3
Lock Button Menu

3

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

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.

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) Orange (AC/DC adapter)	Press the Power Button
Display Turned Off	Green	Press a Key or Move the Mouse/Touchpad

🖉

Power Button

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

🖉

Closing the Lid

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

Table 3 - 1
Resuming Operation

3

3

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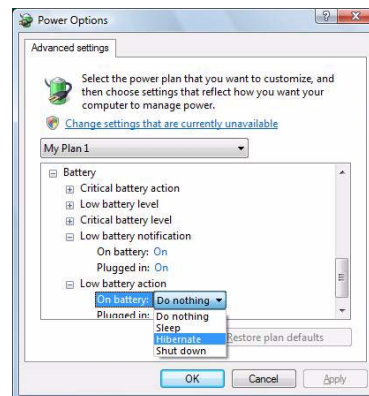
Figure 3 - 5
Battery Icon (Taskbar) & Battery Advanced Settings

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.

🖉

Windows Mobility Center

The **Windows Mobility Center** control panel provides an easy point of access for information on battery status, power plans used etc.
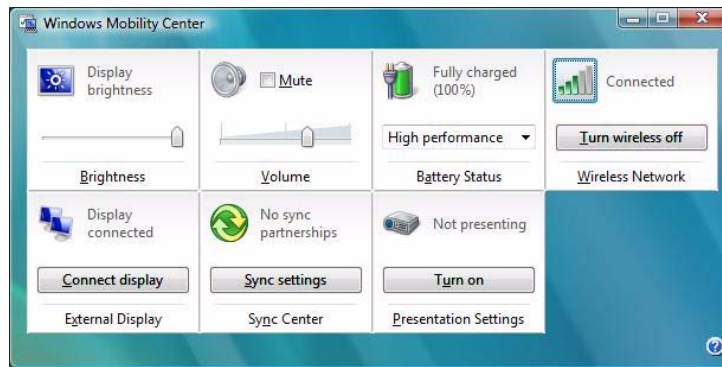
Figure 3 - 6
Windows Mobility Center

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 *"System Map: LCD Panel Open - Models E & F" on page 1 - 10* for information on the battery charge status, and to *"Battery Information" on page 3 - 10* for more information on how to maintain and properly recharge the battery pack.)

Proper handling of the Battery Pack

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

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

> 🔔
> **Caution**
>
> Danger of explosion if battery is incorrectly replaced.
>
> Replace only with the same or equivalent type recommended by the manufacturer. Discard used battery according to the manufacturer's instructions.

3

3

Battery FAQ

How do I completely discharge the battery?

Use the computer with battery power until it shuts down due to a low battery. Don't turn off the computer even if a message indicates the battery is critically low, just let the computer use up all of the battery power and shut down on its own.

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

Figure 3 - 7
Power Plan Create
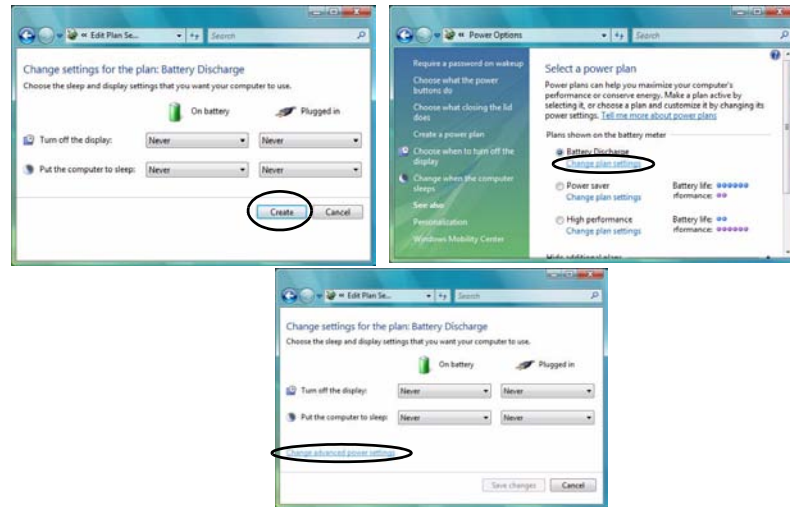
4. Scroll down to **Battery** and click **+** to expand the battery options.
5. Choose the options below (click **Yes** if a warning appears):
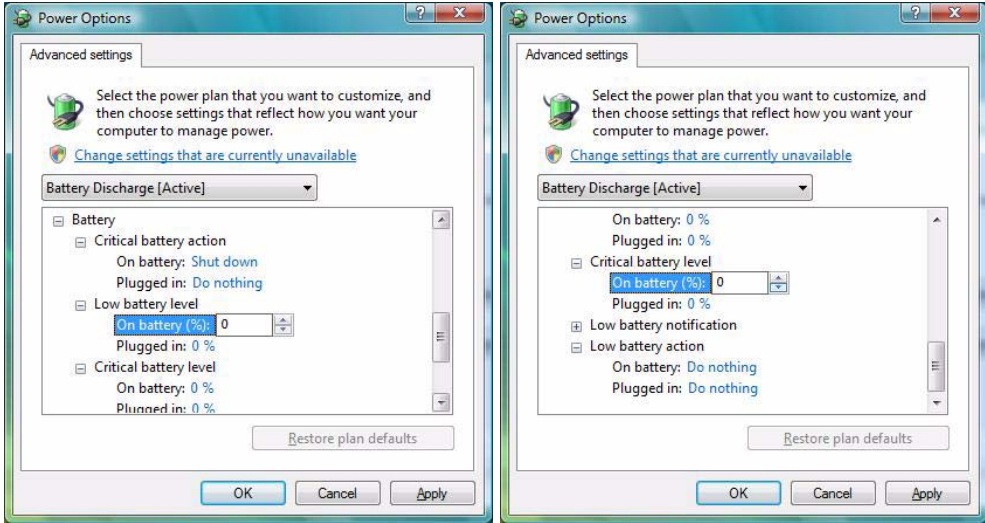
Figure 3 - 8
Power Options Advanced Settings - Battery

- 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 E - 33* for *Windows XP* information/see *"Driver Installation" on page F - 27* for *Windows 7* information).

Module Driver Installation

The procedures for installing drivers for the **PC Camera**, **3.75G/HSPA**, **Wireless LAN**, **Intel Turbo Memory** (and **Intel Matrix Storage**), and **Finger-Print** modules are provided in *"Modules & Options" on page 7 - 1*.

Make sure any modules (e.g. PC Camera, WLAN or 3.75G/HSPA) are **ON** before installing the appropriate driver.

Driver Installation

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

If you wish to install the drivers manually see overleaf for the driver path information.

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).
3. Follow the instructions for each individual driver installation procedure as listed on the following pages.

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

Driver - *Windows Vista* Service Pack 2	Page
Chipset	*Page 4 - 5*
Video	*Page 4 - 5*
Audio	*Page 4 - 6*
Modem	*Page 4 - 6*
LAN	*Page 4 - 6*
TouchPad	*Page 4 - 6*
CardReader	*Page 4 - 6*
Hot Key	*Page 4 - 6*
e-SATA Port Support	*Page 7 - 59*
PC Camera Module	*Page 7 - 8*
3.75G/HSPA Module	*Page 7 - 16*
Wireless LAN Module	*Page 7 - 42*
Intel Turbo Memory Module	*Page 7 - 59*
Fingerprint Reader Module	*Page 7 - 65*

Table 4 - 1 **- Driver Installation**

4

Manual Driver Installation

Click *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 for instructions.

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Windows Vista Service Pack 2

Make sure you install **Windows Vista Service Pack 2** (or a Windows Vista version which includes Service Pack 2) **before installing any drivers**. Go to the Microsoft website for download details, or contact your service center.

4

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** or **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).

> 🖉
>
> **Driver Installation General Guidelines**
>
> The driver installation procedures outlined in this Chapter (and in **Chapter 7 Options & Modules**), are accurate at the time of going to press.
>
> Drivers are always subject to upgrade and revision so the exact procedure for certain drivers may differ slightly. As a general guide follow the default on screen instructions for each driver (e.g. **Next > Next > Finish**) unless you are an advanced user. In many cases a restart is required to install the driver.
>
> Make sure any modules (e.g. PC Camera, WLAN or 3.75G/HSPA) are **ON** before installing the appropriate driver.

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**.

Models A, B & E (Intel):

2. Click **Next > Yes > Next > Next**.
3. Click **Finish** to restart the computer.
4. After the computer has restarted click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
5. Double-click **Performance Information and Tools** (in **System and Maintenance**).
6. Click "**Update my score**".
7. The computer will take a few minutes to assess the CPU performance.
8. Close the control panel.

Models C, D & F (NVIDIA):

1. Click **Next > Next**.
2. Click **Finish** to restart the computer.

4

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. Click **OK** to restart the computer.

OR

4. Click **4.Install Modem Driver > Yes**.
5. Click **OK**.
6. The modem is ready for dial-up configuration.

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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**.
4. The network settings can now be configured.

TouchPad

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

CardReader

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

Hot Key

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

e-SATA Support

See *"Intel Turbo Memory & Matrix Storage Setup and Driver Installation" on page 7 - 59* for instructions on installing this driver to enable the e-SATA port.

🖉

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 **- Drivers Installer - Option Drivers Menu**

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.

PC Camera Module

See the introduction in *"PC Camera Module" on page 7 - 7*, and check the installation procedure.

3.75G/HSPA Module

See the introduction in *"3.75G/HSPA Module" on page 7 - 16*, and check the installation procedure.

Wireless LAN Module

See the introduction in *"Wireless LAN Module" on page 7 - 41*, and check the installation procedure.

Intel Turbo Memory Technology Driver

See the introduction in *"Intel Turbo Memory Module" on page 7 - 59*, and check the installation procedure. **Note this driver is also required to enable support for the e-SATA port**.

Fingerprint Reader Module

See the introduction in *"Fingerprint Reader Module" on page 7 - 65*, and check the installation procedure.

4

4

Chapter 5: BIOS Utilities

Overview

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

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

Configuration: The *Setup* utility

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

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

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

5

5

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

CPU = 1 Processors Detected, Cores per Processor = 2
Intel(R) Core(TM)2 Duo CPU     T5450 @ 1.66GHz    ②
1918M System RAM Passed
2048 KB L2 Cache    ③
System BIOS shadowed
ATAPI CD-ROM: Optiarc CD-RW CRX880A
Fixed Disk 0: FUJITSU MHW2080BH PL
Mouse intialized




Press <F2> to enter SETUP
                    ④
```

Failing the POST

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

Fatal Errors

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

Non-Fatal Errors

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

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

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

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

The Setup Program

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

Entering Setup

To enter *Setup*, turn on the computer and press **F2** during the **POST**. The prompt (*Press F2 to Enter Setup*) seen on page *5 - 2* is usually present for a few seconds after you turn on the system. If you get a "Keyboard Error", (usually because you pressed **F2** too quickly) just press **F2** again.

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

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

                                                      Item Specific Help
     System Time:            [22:12:05]
     System Date:            [04/18/2008]
                                                   <Tab>, <Shift Tab>, or
  ▶  SATA Port 1             [FUJITSU MHW2080BH PL] <Enter> selects field.
  ▶  SATA Port 2             [Optiarc DVD RW AD-75]
  ▶  SATA Port 4             [None]

     System Memory:          640 KB
     Extended Memory:        1011 MB

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



    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.

5

Figure 5 - 3
Advanced Menu

🖉

SATA Mode & eSata Port

The eSATA port only supports hot-swapping if you have selected **AHCI** mode in *SATA Mode Selection*.

If you have selected *IDE* mode, then hot-swapping devices connected to the eSATA port is not supported.

Intel Turbo Memory

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

5

Advanced Menu

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

                                                  Item Specific Help

 ► Advanced Chipset Control
   Installed O/S:               [Vista]           Select options for
   SATA Mode Selection:         [AHCI]            Advanced Chipset
   DFOROM (Robson) Support:     [Enabled]         features.
   Legacy USB Support:          [Enabled]
   Boot-time Diagnostic Screen: [Disabled]
   Legacy OS Boot:              [Enabled]
   Reset Configuration Data:    [No]
   Power On Boot Beep           [Disabled]
   Battery Low Alarm Beep       [Disabled]

                    Only available if Windows Vista/Win 7
                    is selected as the O/S.

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

Advanced Chipset Control (Advanced Menu)
Pressing **Enter** here will access the sub-menu that allows you to enable/disable the automatic detection of any attached display (this can be disabled for power saving purposes).

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/Win7* 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.

5

SATA Mode Selection

If you have installed the *Windows* 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).

Intel Turbo Memory

Select AHCI mode in Sata Mode Selection if you have included an Intel Turbo Memory module in your purchase configuration. You should then enable support for Intel Turbo Memory from DFOROM (Robson) Support (see page *5 - 10*).

5

DFOROM (Robson) Support (Advanced Menu > SATA Mode Selection)
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 - 59*.

Legacy USB Support: (Advanced Menu)
Choose "**Enabled**" if you intend to use **USB** devices in systems which do not normally support USB functionality (e.g. DOS). The default setting is "**Enabled**" and does not need to be changed if you intend to use your USB devices in **Windows**.

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.

5

Security Menu

Security Menu

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

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

                                                     Item Specific Help

      Supervisor Password Is:        Clear
      User Password Is:              Clear          Supervisor Password
                                                    controls access to the
      Set Supervisor Password        [Enabled]      setup utility.
      Set User Password              [Disabled]

      Fixed disk boot sector:        [Normal]
      Password on boot:              [Disabled]




   F1    Help    áâ    Select Item   -/+     Change Values    F9    Setup Defaults
   Esc   Exit    ßà    Select Menu    Enter   Select uSub-Menu  F10  Save and Exit
```
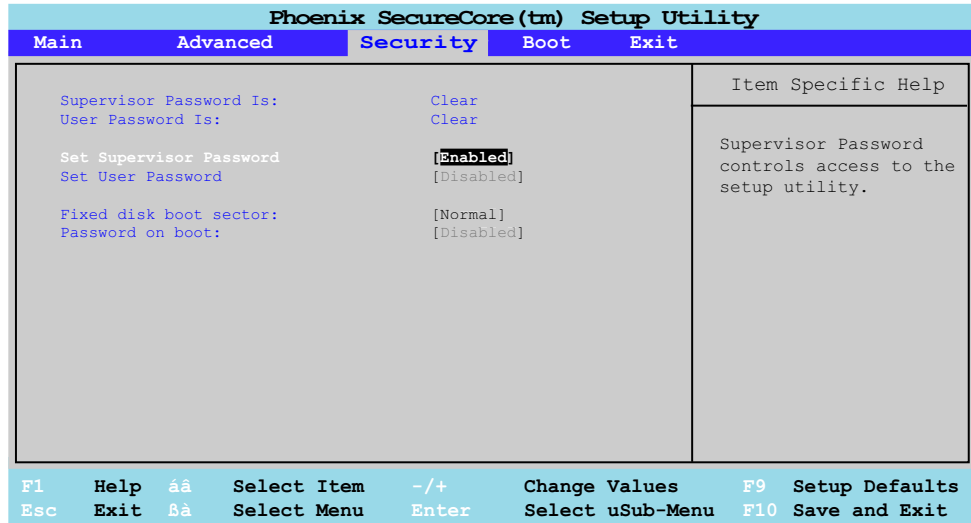
Set Supervisor Password (Security Menu)
You can set a password for access to the **Phoenix Setup Utility**. This will not affect access to the computer OS, (only the **Phoenix Setup Utility**).

Set User Password (Security Menu)
You can set a password for user mode access to the **PhoenixBIOS Setup Utility**. This will not affect access to the computer OS, (only the *Setup* utility) unless you choose to set a *Password on Boot* (see below). Many menu items in the **Phoenix-BIOS 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*".

�

Password Warning

If you set a boot pass-word (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 ven-dor and you may lose all of the information on your hard disk.

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

5

Boot Menu

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

                                                    Item Specific Help

    Boot priority order:
      1:  IDE CD: TSSTcorp CDDVDW TS-L633A-(       Keys used to view or
      2:  USB CDROM:                               configure devices:
      3:  IDE HDD: FUJITSU MHY2120BH-(PM)          Up and Down arrows
      4:  USB KEY:                                 select a device.
      5:  USB HDD:                                 <+> and <-> moves
      6:  IDE FDC:                                 the device up or down.
      7:  PCI BEV: Realtek Boot Agent              <f> and <r> specifies
      8:                                           the device fixed or
    Excluded from boot order:                      removable.
      :  USB ZIP:                                  <x> exclude or include
      :  USB LS120:                                the device to boot.
      :  PCI SCSI:                                 <Shift + 1> enables or
      :  Other USB:                                disables a device.
      :  PCI:                                      <1 - 4> loads default


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

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.
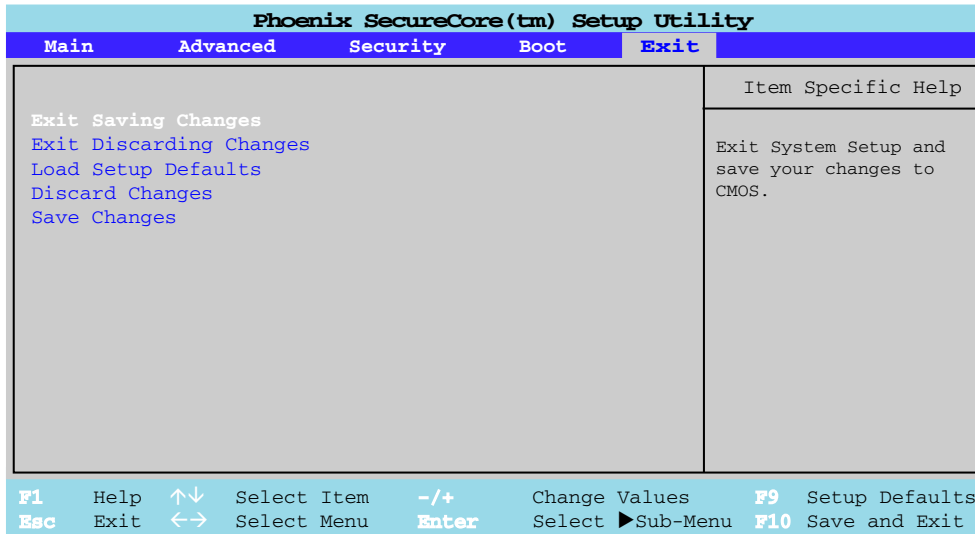
Exit Menu

```
              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
```

Figure 5 - 6
Exit Menu

5

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.

5

Chapter 6: Upgrading The Computer

Overview

This chapter contains information on upgrading the computer. Follow the steps outlined to make the desired upgrades. If you have any trouble or problems you can contact your service representative for further help. Before you begin you will need:

- A small crosshead or Phillips screwdriver
- A small regular slotted (flathead) screwdriver
- An antistatic wrist strap

Before working with the internal components you will need to wear an antistatic wrist strap to ground yourself because static electricity may damage the components.

The chapter includes:

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

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

☼

Warranty Warning

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

6

Upgrading The Computer

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.

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**, and turn it over.
2. Slide the latch **1** in the direction of the arrow.
3. Slide the latch **2** in the direction of the arrow, and hold it in place.
4. Slide the battery out in the direction of the arrow **3**.
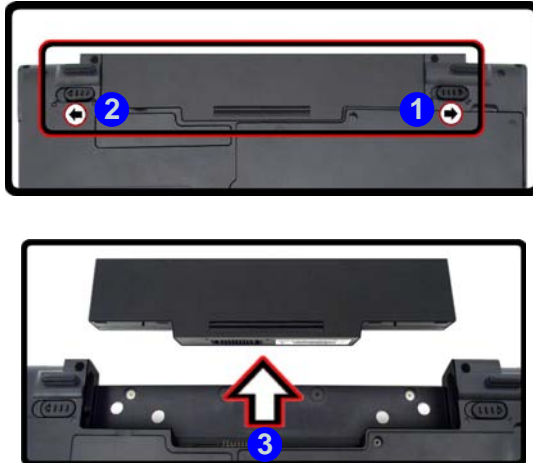
> ⚠
> **Warranty Warning**
>
> Please check with your service representative before undertaking any upgrade procedures to find out if this will VOID your warranty.

6

Figure 6 - 1
Battery Removal

6

🔔

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
Hard Disk Bay Cover Removal

Upgrading the Hard Disk Drive

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

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

4. Grip the tab and slide the hard disk in the direction of arrow 4.
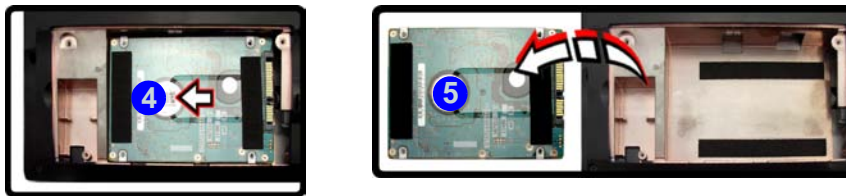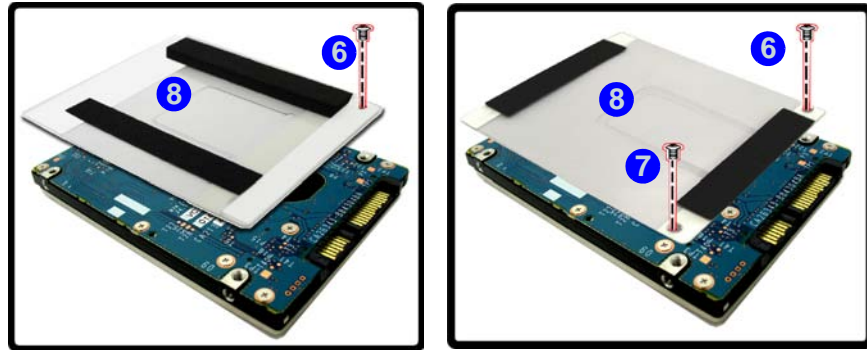5. Lift the hard disk out of the bay 5.

Models A & C
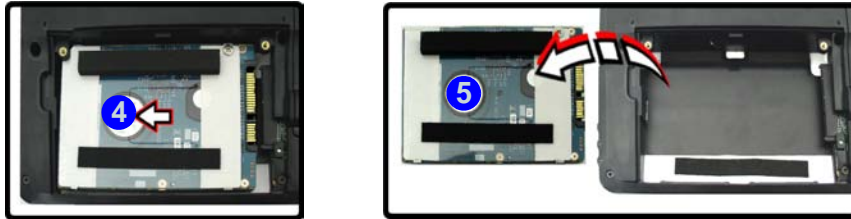
Figure 6 - 3
HDD Removal

Models B & D

Models E & F

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

Figure 6 - 4
HDD Cover Removal

🖉

Hard Disk Screws & Cover

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

Upgrading the Optical (CD/DVD) Device

1. Turn **off** the computer, and turn it over and remove the battery.
2. **Models A & C:** Locate the RAM & CPU bay cover and remove screws **1** - **3**.
3. Carefully (**a fan and cable are attached to the under side of the cover**) lift up the bay cover.
4. Carefully disconnect the fan cable **4**, and remove the cover **5**.
   OR
5. **Models B, D, E & F:** Locate the hard disk bay cover and loosen screws **1** & **2**.
6. Remove the hard disk bay cover **3**.

> 冰
> **Fan Cable**
>
> Make sure you recon-
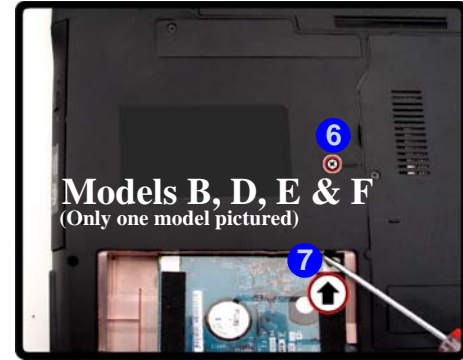> nect the fan cable **4**
> before screwing down
> the bay cover.

6
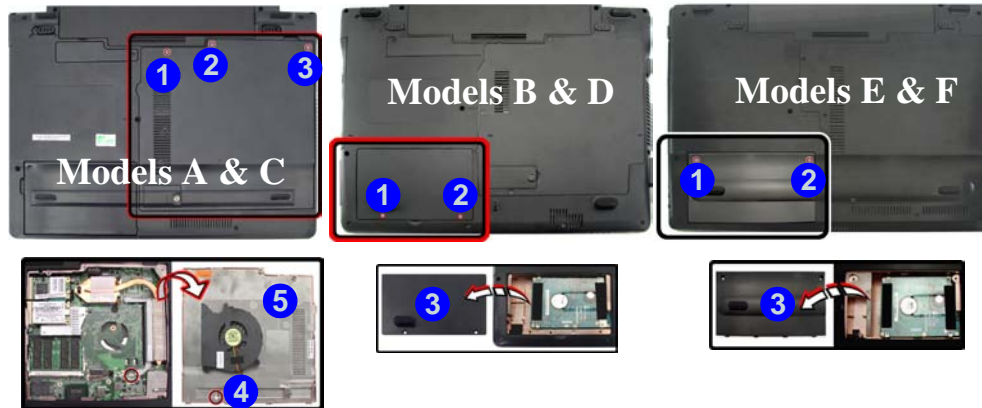
Figure 6 - 5
Removing the RAM & CPU Cover

7. Remove the screw at point **6**, and use a screwdriver to carefully push out the optical device at point **7**.
8. Reverse the process to install the new device.

Figure 6 - 6
Removing the Optical Device

6

6 - 8 Upgrading the Optical (CD/DVD) Device
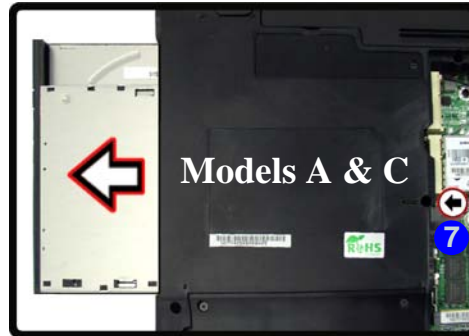
Upgrading the System Memory (RAM)

The computer has **two** memory sockets for 200 pin Small Outline Dual In-line (SO-DIMM) **DDRII (DDR2)** type memory modules (see *"Memory" on page D - 3* for details of supported module types). The total memory size is automatically detected by the POST routine once you turn on your computer.

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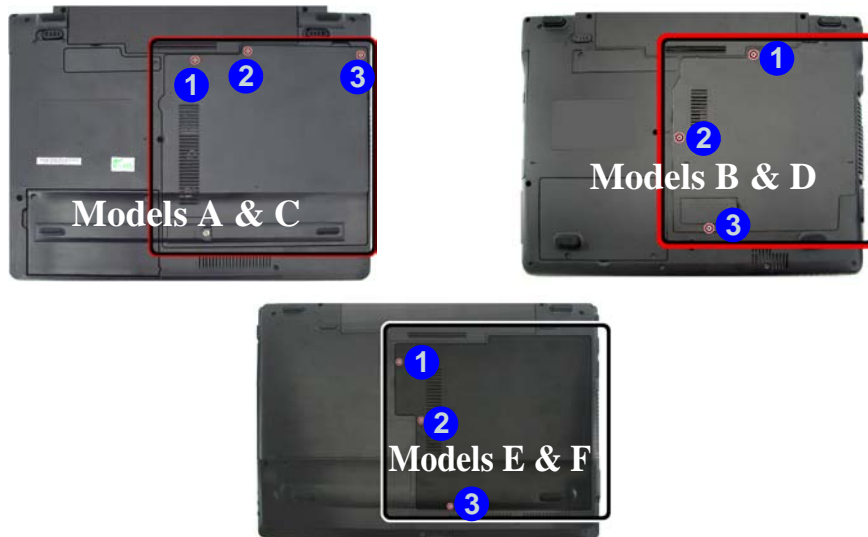2. Locate the RAM & CPU bay cover and remove screws ① - ③.

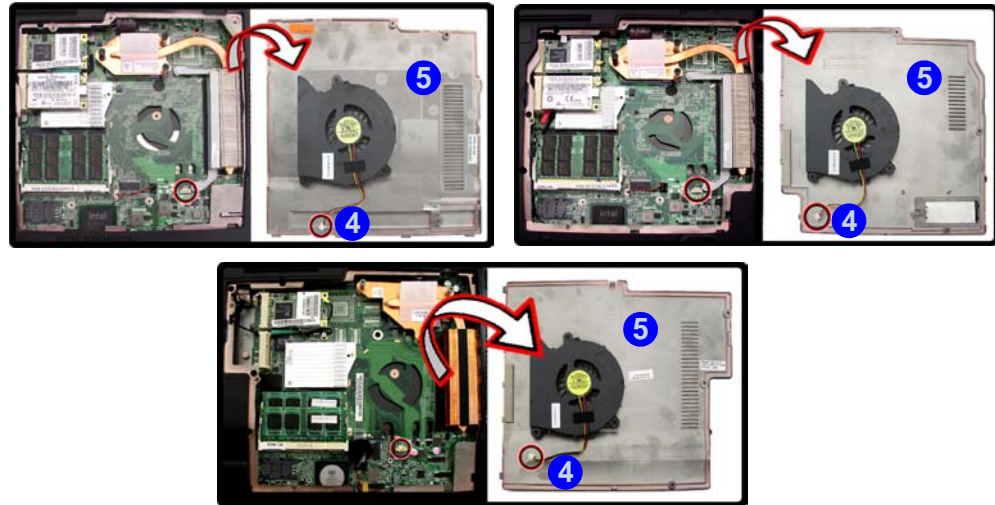*Figure 6 - 7*
RAM & CPU Bay Screws

6

Models A & C

Models B & D

Models E & F

3. Carefully (**a fan and cable are attached to the under side of the cover**) lift up the bay cover.
4. Carefully disconnect the fan cable **4**, and remove the cover **5**.

Figure 6 - 8
CPU/RAM Bay Cover Removed

🔔
Fan Cable

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

5. Gently pull the two release latches on the sides of the memory socket in the direction indicated by the arrows (**6** & **7**) in *Figure 6 - 10*.

Figure 6 - 9
**RAM Module
Release Latches**

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

🔔

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.

🖉

**Single Memory Module
Installation**

If your computer has a single memory module, then insert the module into the **Channel 0 (JDIMM1)** socket. In this case this is the **lower memory socket** (the socket closest to the mainboard).

Figure 6 - 10
**RAM Module
Removal**

6

Cover Pins

Note that **some models** have cover pins that need to be aligned with slots in the case to insure a proper cover fit, before screwing down the bay cover.

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 (see sidebar note if you are inserting a single module).
9. The module's pin alignment will allow it to only fit one way. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE the module; it should fit without much pressure.
10. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
11. Replace the bay cover (**note the sidebar note on cover pins**) and screws (**make sure you reconnect the fan cable before screwing down the bay cover**).
12. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

3.75G/HSPA and WLAN Module Location

The picture below indicates the location of the 3.75G/HSPA and WLAN modules for your information. Note that the 3.75G/HSPA module is a factory option, and the WLAN module is an option. Neither of these modules are user upgradeable/replaceable; for more information contact your customer service representative.
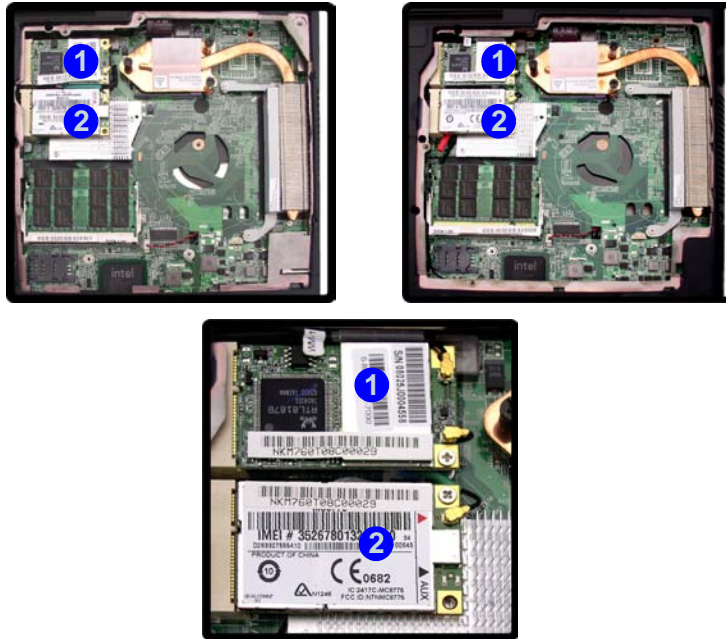
Figure 6 - 11
3.75G & WLAN Module Location

6

1. WLAN Module
2. 3.75G/HSPA Module

Upgrading The Computer

Chapter 7: Modules & Options

Overview

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

- Bluetooth Module
- PC Camera Module
- 3.75G/HSPA Module
- Wireless LAN Module
- Intel Turbo Memory Module
- Fingerprint Reader Module

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

7

> 〆
>
> **Important Notice**
>
> If your purchase option includes both **Wireless LAN** and **3.75G** modules, then the appropriate antennas will be installed. Note that in order to comply with FCC RF exposure compliance requirements, the antenna must not be co-located or operate in conjunction with any other antenna or transmitter.

☼

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 - 5, on page 1 - 15*/ *Table 1 - 3, on page 1 - 11*).

7

Bluetooth Module

The operating system's **Bluetooth Devices** control panel is used to configure the Bluetooth settings in *Windows Vista*, and therefore does not require a driver. **Use the Fn + F12 key combination** (see *Table 1 - 5, on page 1 - 15*) **to toggle power to the Bluetooth module**.

🖉

Bluetooth Data Transfer

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

Bluetooth Module & Resuming From Sleep Mode

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

Bluetooth Configuration in Windows Vista

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

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

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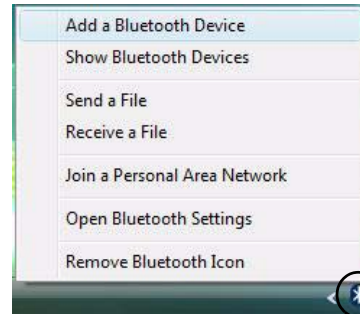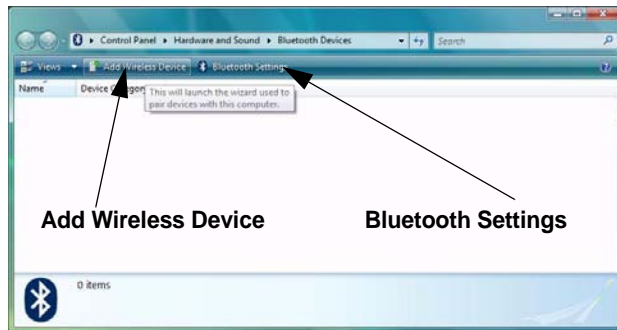
Add Wireless Device   **Bluetooth Settings**

🖊

Bluetooth Taskbar Icon

If you cannot see the Bluetooth icon in the taskbar, access the **Bluetooth Devices** control panel. Click **Bluetooth Settings > Options**, and make sure that **Show the 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

📎

Pairing Options

If a device has been pre-viously connected then the pairing option menu will appear when you at-tempt subsequent con-nections. You can choose to have the computer cre-ate a pairing code for you, use the device's existing pairing code or you can pair certain devices with-out using a code.
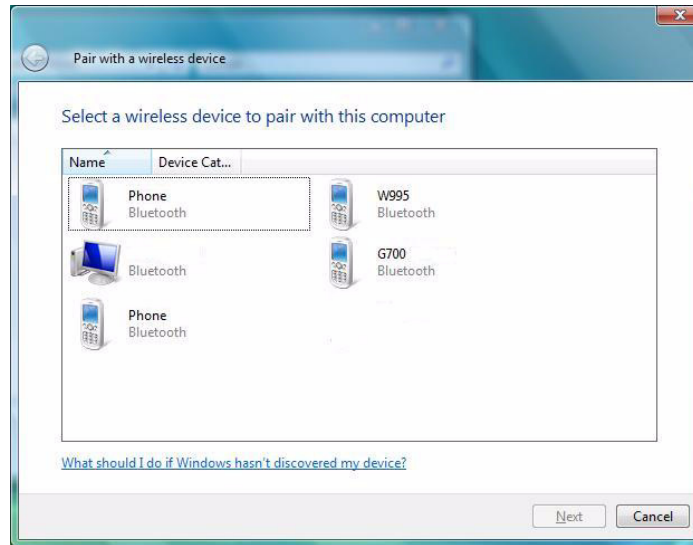
7

Figure 7 - 2
Pair with a wireless device

To Add a Bluetooth Device
1. Access the **Bluetooth Devices** control panel and click **Bluetooth Settings**.
2. Click **Options** (tab), and make sure that *Allow Bluetooth devices to connect to this computer* check box (**Connections**) has a tick inside it, and click **OK**.
3. Click **Add Wireless Device** in the **Bluetooth Devices** control panel.
4. Double-click the device you want to pair with the computer.

5. On first connection the computer will provide you with a pairing code to be entered onto the device.
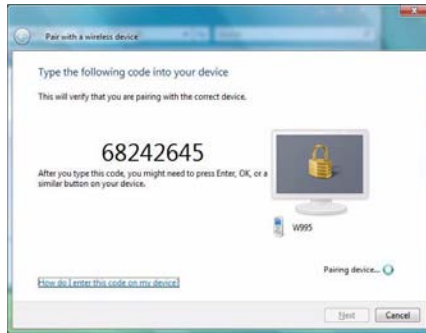
6. Enter the code into your Bluetooth enabled device and follow any on-screen instructions to complete the pairing.

Figure 7 - 3
Pairing Code

🖉

Pairing Codes

The example outlined here shows a connection to a mobile device. Other devices e.g. computers, may have a slightly different connection procedure, and may require you to confirm a pairing code is correct on both devices. Follow the on-screen instructions to complete the pairing.

7. *Windows* will check to see if any drivers are required to complete the pairing.
8. Follow any on-screen instructions on the computer if device drivers are required to be installed.
9. Click **Close**.

Figure 7 - 4
Pairing Complete & Bluetooth Device Enabled

7

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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 - 5
Bluetooth Settings - Options

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 **Bluetooth Settings > Options**, and make sure that *Allow Bluetooth devices to find this computer* check box (**Discovery**) has a tick inside it.
3. Make sure that the *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.
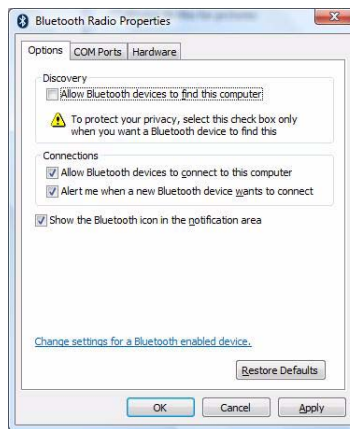
PC Camera Module

Before installing the **PC Camera** driver, make sure that the optional PC Camera is on. **Use the Fn** + **F10 key combination** (see *Table 1 - 5, on page 1 - 15*) **to toggle power to the PC Camera module**. Make sure you install the drivers in the order indicated in *Table 4 - 1, on page 4 - 3*.

There are a number of different camera modules available with this computer model series. You will have the appropriate application installed for your camera. **Make sure you access the application via the WebCam desktop shortcut**.

> 冰
> **Latest PC Camera Driver Information**
>
> Check the disc, and any accompanying insert pages, for the latest updated information on the PC Camera driver, which may override the information provided here.
>
> Note that all the figures pictured in this section are correct at time of going to press. However drivers are subject to update and change without notice, and therefore the exact figures pictured may also change.

7

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PC Camera Screen Refresh

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

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

7

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 **1.Install WebCam Driver > Yes**.
4. Choose the language you prefer and click **Next > Next**.
5. Click **Finish** to restart the computer.
6. Run the camera application program from the desktop shortcut (if the hardware is turned off use the **Fn** + **F10** key combination to turn it on again).

PC Camera Audio Setup

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

1. 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 camera application program from the desktop shortcut.
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 - 6
Audio Setup for PC Camera
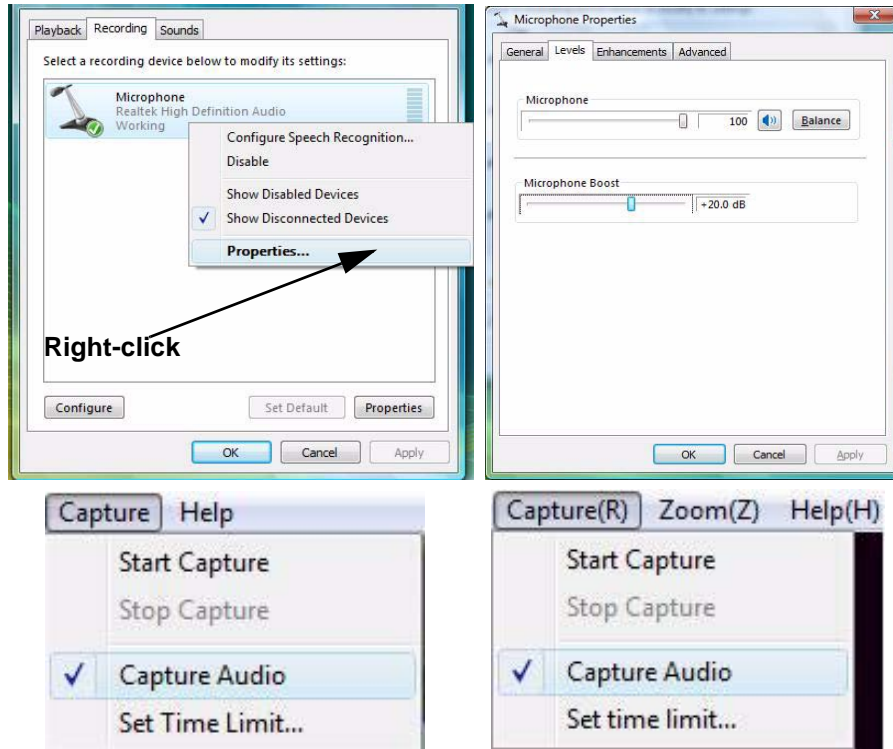
Right-click

7

Camera Application

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

1. Run the camera application from the desktop shortcut (it is recommended that you **set the capture file** before the capture process - **see** *"Set Capture File" on page 7 - 12*).
2. Go to the **Capture** menu heading (if you wish to capture audio check *"PC Camera Audio Setup" on page 7 - 9*) and select **Start Capture**.
3. Click **OK/Yes** (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**).

🖉

Pre-Allocating File Size/Space

You may pre-allocate the file size (**File > Allocate File Size/Space**) for the capture file in the camera program (you may need to set a folder location first).

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 - 13*.

7

Set Capture File

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

Note the important information in *"Reducing Video File Size" on page 7 - 13* **in order to save file space, and help prevent system problems.**

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 - 12*), limit the file size of the captured video (see *"Pre-Allocating File Size/Space" on page 7 - 11*) or reduce video resolution (see below).

7

<u>**To Reduce Video Resolution Output Size:**</u>

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

Eliminating Screen Flicker

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

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

7

Figure 7 - 7
Video Capture Filter

Zoom

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

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

Figure 7 - 8
Zoom/Setting

Taking Still Pictures

The WebCam program allows you to take still pictures.

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

Snapshot Folder

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.

7

7

3.75G/HSPA Module

If you have included an **optional 3.75G**/**HSPA** (High Speed Packet Access) module (see *"Communication" on page D - 5* for specification details) in your purchase option, you will have the appropriate software provided for your module. Follow the instructions overleaf to install the USIM card (supplied by your service provider), and then install the appropriate application.

Before installing the **application**, make sure that the **3.75G/HSPA** module is on. Use the **Fn**+(⬚) **key combination** (see *Table 1 - 5, on page 1 - 15*) **to toggle power to the 3.75G/HSPA module**. Make sure you install the drivers in the order indicated in *Table 4 - 1, on page 4 - 3*.

☀️

Important Notice - 3.75G/HSPA & Bluetooth/Wireless LAN Modules

In order to comply with FCC regulations you should NOT operate the 3.75G/HSPA module and the Bluetooth/Wireless LAN modules at the same time as this may disrupt radio frequency, and cause interference. When the 3.75G/HSPA module is powered on, make sure that the Bluetooth/Wireless LAN modules are powered off.

For Models A - D

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**.

For Models E - F

1. Turn **off** the computer, and turn it over and **remove the battery**.
2. Locate the RAM & CPU bay cover and remove screws **3** - **5**.
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 **6**, and remove the cover **7**.

> ⚠️
> **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.
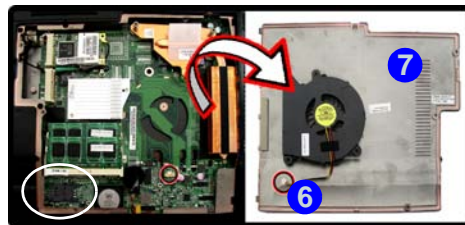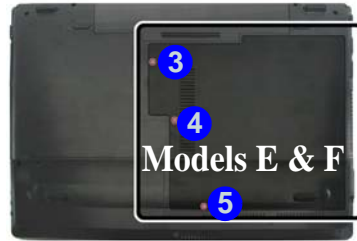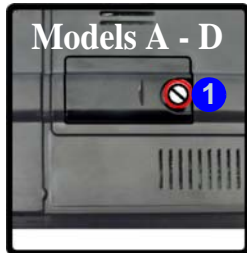
> ⚠️
> **Fan Cable**
>
> Make sure you reconnect the fan cable **6** before screwing down the bay cover.

Figure 7 - 9
SIM Card Cover/ RAM & CPU Bay Cover Removal

5. Insert the USIM card as you would into your mobile phone.
6. Slide the SIMLOCK towards the hinge (in the opposite direction to the arrow illustrated in *Figure 7 - 11*) in order to release the lock and lift it up.
7. Insert the USIM card as illustrated in (*Figure 7 - 10*) and close the SIMLOCK.

Figure 7 - 10
Insert the USIM Card

Models A - D

7

Figure 7 - 11
SIMLOCK Lock

8. Lock the SIMLOCK by pushing it in the direction of the arrow in *Figure 7 - 11* until it clicks into the lock position.

Models A - D

Models E & F

🖉

Cover Pins

Note that **Models E & F** have cover pins that need to be aligned with slots in the case to insure a proper cover fit, before screwing down the bay cover.
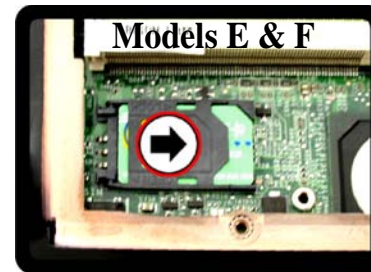
9. Replace the covers and screws (r**econnect the fan cable before screwing down the bay cover for Model E & F computers - see sidebar for note on cover pins**).

Before installing the application, make sure that the 3.75G/HSPA module is ON (installing the driver with the module off will not allow the software to detect the module hardware correctly). Use the **Fn +** ▨ **key combination** (see *Table 1 - 5, on page 1 - 15*) **to toggle power to the 3.75G/HSPA module**. When the 3.75G/HSPA 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*. **Note that exiting the application does NOT turn off the 3.75G/HSPA module**.

- **3G Watcher** - See *"3G Watcher Application" on page 7 - 20* for driver installation information and *"Setting Up a Carrier Profile" on page 7 - 21* for instructions on using the **3G Watcher** application.

- **HSPA Modem Interface** - See *"HSPA Modem Interface Installation" on page 7 - 27* for driver installation information and *"HSPA Modem Interface" on page 7 - 28* for instructions on using the **HSPA Modem Interface**.

- **Mobile Partner** - See *"Mobile Partner Application Installation" on page 7 - 36* for driver installation information and *"Mobile Partner Application" on page 7 - 37* for instructions on using the **Mobile Partner** application.

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3.75G/HSPA Modules & System Wake Up

Note that the 3.75G modules **DO NOT** support system wake up on 3.75G/HSPA modem activity.

7

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Wireless Device Operation Aboard Aircraft

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

Use the **Fn +** ⬚ key combination to toggle power to the 3.75G/HSPA module, and check the indicator to see if the module is powered on or not (see *Table 1 - 5, on page 1 - 15*/ *Table 1 - 3, on page 1 - 11*).

Figure 7 - 12
3G Watcher Application

3G Watcher Application

With the **3.75G**/**HSPA** and USIM card (provided by your service provider) installed you may then install the **3G Watcher** application. The 3G Watcher application allows you to directly access your 3.75G internet service from the computer.

3G Watcher Application Installation

1. Enable power to the module by pressing the **Fn +** ⬚ key combination (give the module about 10 seconds to power on - the on screen icon 🔲 will indicate the module's power status).
2. If a *Found New Hardware* window appears, click **Cancel** in all windows that appear, and then proceed to install the driver as below.
3. Insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
4. Click **Option Drivers** (button).
5. Click **2.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 - 12*) before clicking **Finish** (this allows the hardware to detect the 3.75G module).

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 in 3G Watcher.

1. Power on the 3.75G/HSPA 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**.
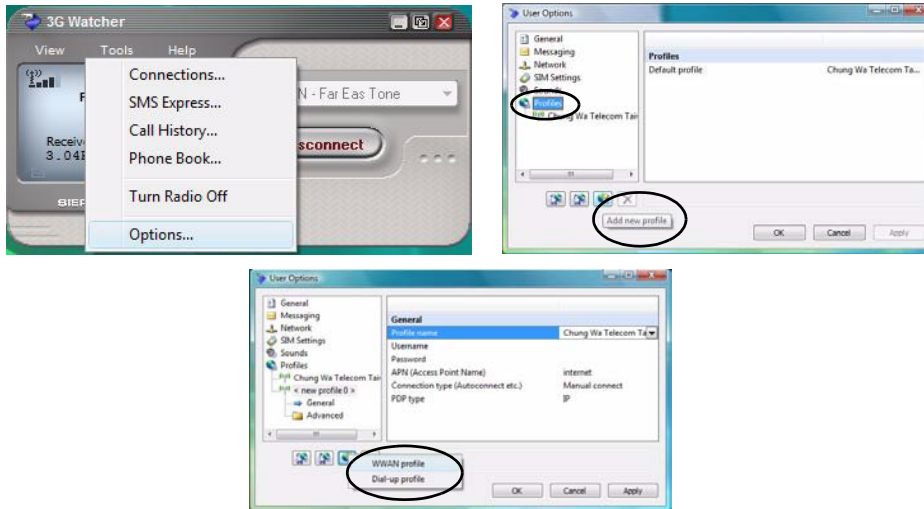
Figure 7 - 13
Add WWAN Profile

7

Figure 7 - 14
User Options

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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**).

Figure 7 - 15
Choose Profile

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).

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Profile Information

Click **General** and/or **Advanced** (and the **sub-menus** under **Advanced**) in the left menu, and then click in any of the fields to add the appropriate information supplied by your service provider.
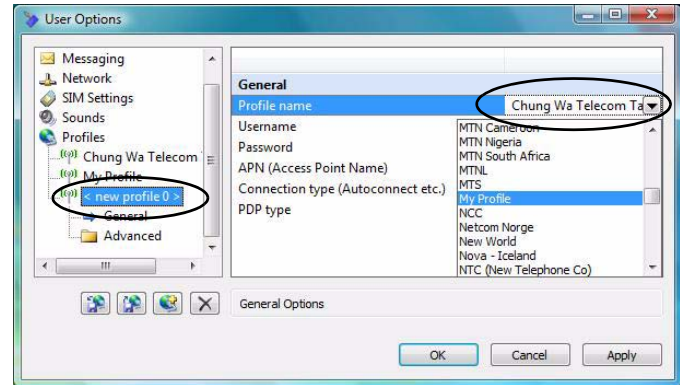
6. Click **Apply > OK** to save the information.
7. You can choose the profile from the pull-down menu.
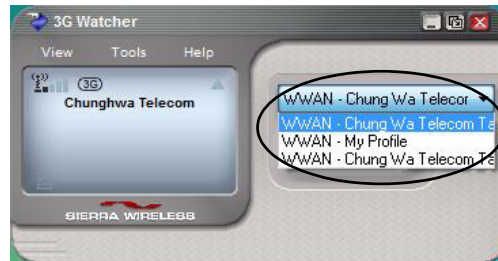
Connecting to the Service Provider

1. Power on the **3.75G/HSPA** 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 - 21*).


Figure 7 - 16
Connect Button

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

Figure 7 - 17
Connecting

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

Figure 7 - 18
**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** icon.

Figure 7 - 19
**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 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 - 20
Exit Warning

13. Exiting the program DOES NOT turn off the 3.75G/HSPA 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 - 20*).
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 3.75G/HSPA module is on and the computer is **Shut Down or Restarted**; the module will be **off** when the computer starts up.
- If the 3.75G/HSPA 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** application, 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.

7

HSPA Modem Interface

With the **3.75G**/**HSPA** module and USIM card (supplied by your service provider) installed you may then install the **HSPA Modem Interface**. The **HSPA Modem Interface** allows you to directly access your HSPA internet service from the computer.

HSPA Modem Interface Installation

1. Enable power to the module by pressing the **Fn** + ⬚ key combination (give the module about 10 seconds to power on - the on screen icon 🔋 will indicate the module's power status).
2. If a *Found New Hardware* window appears, click **Cancel** in all windows that appear, and then proceed to install the driver as below.
3. Insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
4. Click **Option Drivers** (button).
5. Click **2.Install 3G Driver > Yes**, and then click **Next**.
6. Click **Next > Install**.
7. Click **Finish** to restart the computer.
8. Access the **HSPA Modem Interface** from the **Start** menu (**Start > Programs/All Programs > HSPA modem**), or by double-clicking the **HSPA modem** icon on the desktop.


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Wireless Device Operation Aboard Aircraft

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

Use the **Fn** + ⬚ key combination to toggle power to the 3.75G/HSPA module, and check the indicator to see if the module is powered on or not (see *Table 1 - 5, on page 1 - 15*/ *Table 1 - 3, on page 1 - 11*).

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HSPA Modem Help

To get help on 3.75G/ HSPA module configu- ration and settings, click the help icon 🔲 and select **Help**.

HSPA Modem Interface

The connection information is stored on the USIM card supplied by the service pro- vider.

1. Power on the 3.75G/HSPA module using the **Fn +** 🔲 key combination.
2. Access the **HSPA Modem Interface** from the **Start** menu (**Start** > **Programs/All Programs** > **HSPA Modem > HSPA Modem**), or by double-clicking the desktop icon 📱.
3. If a USIM card is not installed then a message will appear to notify you of this (click **OK** to close the message and install the USIM card).
4. If you are required to enter a pin # then a message will appear to prompt you to enter a pin #. (**Note**: to change pin # go to **Settings** 🔵 and click **OK** in **PIN code**.)
5. Click the **Network connection** 🔵 button and the **HSPA Modem** interface window will display **Connection Manager**.

Figure 7 - 21
HSPA Modem Interface Window

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Connection Manager

The connection information is commonly stored on the USIM card supplied by the service provider. However if your ser- vice provider requires details such as **IP Address**, **User- name** and **Password** etc. to be entered before connection you can enter them in the **Connection Manager** tab, or save the details in **Profiles**.

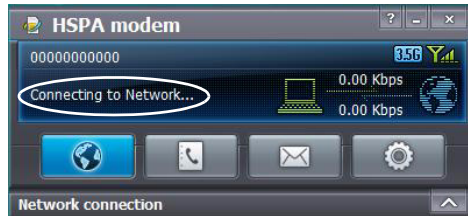6. Click **Connect** [Connect] to connect to your service provider.

Figure 7 - 22
Connecting to Network

7. The message "**Network is connected**" will be displayed when the network connection is successful.

Figure 7 - 23
Network is Connected

8. You can then access the internet, download e-mail etc. as per any internet connection.

9. While you are connected the upper right corner of the **HSPA Modem** interface will display the upload and download rates, and the taskbar icon will display the connection speed.

Figure 7 - 24
**Uploading/
Downloading Rates
and Speed**

10. To disconnect click the **Disconnect** [Disconnect] icon (**Connection Manager**).
11. The program will disconnect from the service provider.
12. The module will still be on, and you will need to press the **Fn +** ▢ key combination to turn it off.

Adding a Profile

1. Access the **HSPA Modem Interface** from the **Start** menu (**Start** > **Programs/All Programs** > **HSPA Modem > HSPA Modem**), or by clicking the desktop icon.
2. Click the **Network connection** ▢ , and click **Profiles** (tab).

Figure 7 - 25
Profiles

3. Click **Add** (button) and input any **Network Settings** required by your service provider.
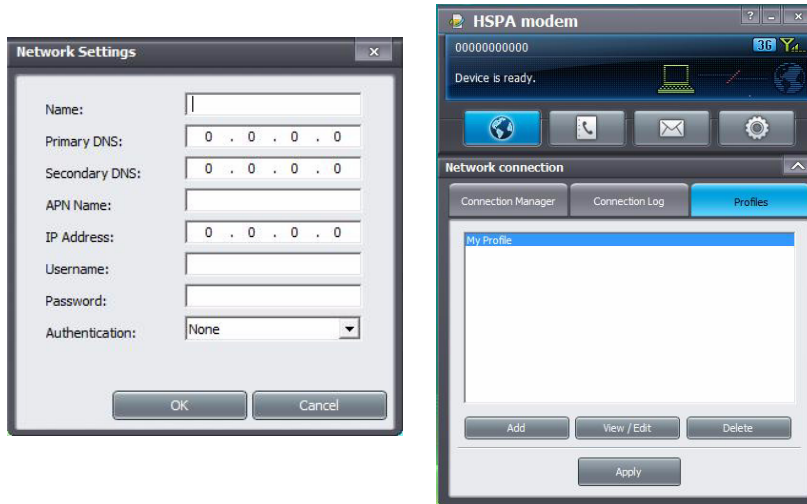4. Click **OK** to save the profile.

Figure 7 - 26
Network Settings & Profiles

5. You can **Edit** or **Delete** profiles from the **Profiles** tab.
6. To use a profile click to select it, and then click **Apply** (button) and the settings will be transferred to **Connection Manager**.

Contacts

1. Access the **HSPA Modem Interface** from the **Start** menu (**Start** > **Programs/All Programs** > **HSPA Modem > HSPA Modem**), or by clicking the desktop icon.
2. Click **Contacts** (button).

Figure 7 - 27
Network Settings & Profiles

3. Click **Refresh** (button) to download the contacts from the USIM card to the computer.
4. The **Contacts** will then be displayed.
5. Double-click any contact to edit the information (or right-click and select **Edit**).
6. You can also **Export/Import** contacts by clicking the appropriate button.
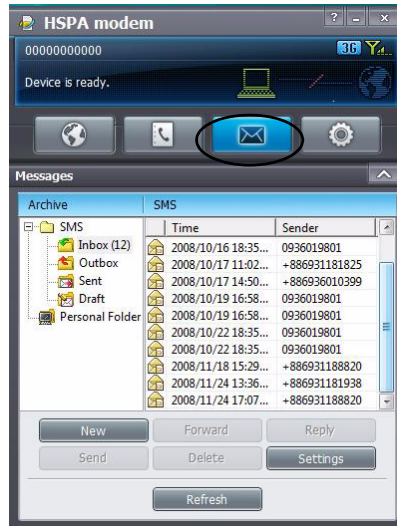
Messages

1. Access the **HSPA Modem Interface** from the **Start** menu (**Start** > **Programs/All Programs** > **HSPA Modem > HSPA Modem**), or by clicking the desktop icon.
2. Click **Messages** [✉] (button).

🖉

SMS Service

In addition to standard internet services you may also send and receive SMS text messages using the **HSPA Modem Interface**, if your service supports SMS.

Figure 7 - 28
Network Settings & Profiles

3. Click **Refresh** (button) to download the messages from the USIM card to the computer.
4. Click **New** (button) to create a new message.
5. You can either type the telephone number in the recipient field, or press **To** (button) to select the contact from the list.

6. Click to select a contact from the list and then click **Add** (button) and the phone number will automatically be added to the recipient field.
7. Type the message information into the message body and click **Send** (button) to send it, or **Save to draft** (button) to save the message.
8. Select any message to **forward** or **delete** it, or to **reply** to it.

Settings

1. Access the **HSPA Modem Interface** from the **Start** menu (**Start** > **Programs/All Programs** > **HSPA Modem > HSPA Modem**), or by clicking the desktop icon.
2. Click **Settings** 　 (button).

Figure 7 - 29
Settings
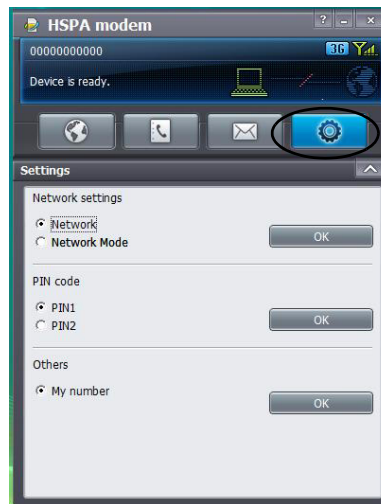
3. Click **OK** alongside any of the options to configure the settings.
4. The **Network** can be configured for an **Automatic** (usually from the USIM card) or **Manual** connection.
5. The **Network Mode** can be configured for any appropriate mode required.
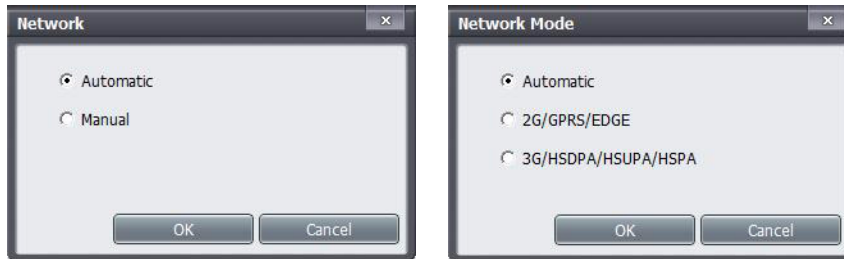

Figure 7 - 30
Settings - Network/ Network Mode

6. You can also change your settings for the Pin #, and input your phone number.
7. Exiting the program DOES NOT turn off the 3.75G/HSPA 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 - 27*).
8. 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 3.75G/HSPA module is on and the computer is **Shut Down or Restarted**; the module will be **off** when the computer starts up.
• If the 3.75G/HSPA module is on and the computer enters **Sleep or Hibernate**; the module will be **off** when the computer resumes from sleep.

7

Mobile Partner

With the **3.75G/HSPA** module and USIM card (supplied by your service provider) installed you may then install the **Mobile Partner** application. The **Mobile Partner** application allows you to directly access your HSPA internet service from the computer.
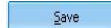
Mobile Partner Application Installation

1. Enable power to the module by pressing the **Fn** + 🔲 key combination (give the module about 10 seconds to power on - the on screen icon 🔋 will indicate the module's power status).
2. If a *Found New Hardware* window appears, click **Cancel** in all windows that appear, and then proceed to install the driver as below.
3. Click **Option Drivers** (button).
4. Click **2.Install 3G Driver > Yes**.
5. Choose the language you prefer and click **OK**.
6. Click **I Agree** (button) to accept the license agreement.
7. Click **Next > Install**.
8. Click **Finish** to restart the computer.
9. Access the **Mobile Partner** application from the **Start** menu (**Start > Programs/All Programs > Mobile Partner**), or by double-clicking the **Mobile Partner** icon on the desktop.

Mobile Partner Application

You will need to contact your service provider to obtain the exact details of how exactly to configure the settings on this page.

Profile Management

1. Power on the **3.75G/HSPA** module using the **Fn +** ▢ key combination.
2. Access the **Mobile Partner** application from the **Start** menu (**Start > Programs/ All Programs > Mobile Partner**), or by double-clicking the **Mobile Partner** icon on the desktop 🔲.
3. If you have not created a profile, click **Tools** and select Options, and then click **Profile Management**.
4. Click **New** [New] and input the appropriate information for **Profile Name, APN** and **Authentication** etc. as supplied by your service provider.
5. Click **Save** [Save] to save the profile.
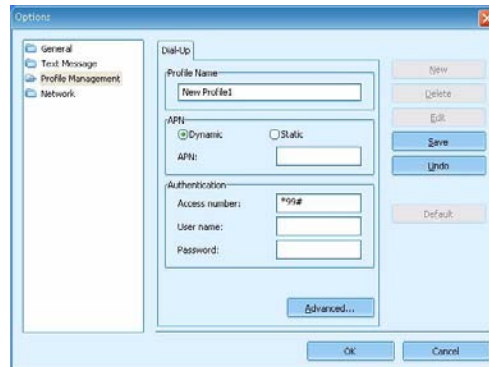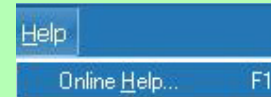
Figure 7 - 31
Profile Management

7

Connecting to the Service Provider

1. Power on the **3.75G/HSPA** module using the **Fn +** ▦ key combination.
2. Access the **Mobile Partner** application from the **Start** menu (**Start > Programs/ All Programs > Mobile Partner**), or by double-clicking the **Mobile Partner** icon on the desktop 📱.
3. The software will run and you can select the **Profile Name** from the menu.
4. Click **Connect** ☐ Connect ☐ to begin the connection process.

Figure 7 - 32
Connect
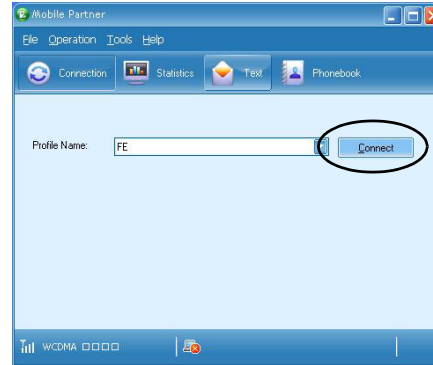
5. The Mobile Partner application will then display the connection information.

Figure 7 - 33
Network Connection Prompt

6. When the connection is successful you can move the cursor over the network icon in the taskbar to display the connection information.

Figure 7 - 34
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 indicators in the Mobile Partner window will display uploading and downloading icons and a network icon in the taskbar .

9. To disconnect click the **Disconnect** icon, or right click the taskbar icon and select **Disconnect**.
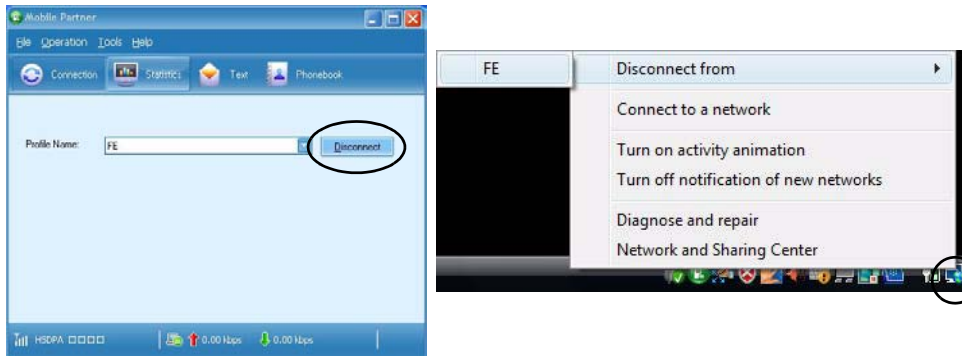
Figure 7 - 35
Disconnect

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 to turn it off.
12. If you click the **Mobile Partner** close icon ☒ a message will be displayed asking you to click **OK** to confirm the program exit and to **terminate the connection**.

Figure 7 - 36
Exit Prompt

13. Exiting the program terminates the connection, but DOES NOT turn off the 3.75G/HSPA 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 - 36*).
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 3.75G/HSPA module is on and the computer is **Shut Down or Restarted**; the module will be **off** when the computer starts up.
- If the 3.75G/HSPA module is on and the computer enters **Sleep or Hibernate**; the module will be **off** when the computer resumes from sleep.

Wireless LAN Module

If you have included an **Intel® Wi-Fi Link 5100/5300 Series (802.11 a/g/n), Intel® Wi-Fi Link 1000 Series (802.11 b/g/n) or 3rd Party 802.11b/g/n 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 - 5, on page 1 - 15*) **to toggle power to the Wireless LAN module**. Make sure you install the drivers in the order indicated in *Table 4 - 1, on page 4 - 3*.

The standard driver installation procedure for the **Intel® Wi-Fi Link Series** module is outlined overleaf. If you want to include **Intel® My WiFi Technology** as part of the installation procedure, **DO NOT install the driver as per the instructions overleaf**, instead see *"Intel® My WiFi Installation & Configuration" on page 7 - 46*.

If you have installed the standard driver (as per the instructions overleaf) and wish to enable **Intel® My WiFi Technology** at a later point you will need to reinstall the driver (choose **Unlock** from the Drivers Installer menu). Follow the driver installation procedure and choose **Modify** from the menu when the option appears, and then follow the remaining installation instructions in *"Intel® My WiFi Installation & Configuration" on page 7 - 46*.

> 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 + F11** key combination to toggle power to the WLAN module, and check the indicator to see if the module is powered on or not (see *Table 1 - 5, on page 1 - 15*/ *Table 1 - 3, on page 1 - 11*).

7

Intel® Wi-Fi Link 5100/5300/1000 Series Driver Installation

If you see the message "**Found New Hardware**" click **Cancel** to close the window.

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 **3.Install Wireless Lan Driver > Yes**.
4. Click **Next > Next**.
5. Click the button to accept the license and click **Next**.
6. Click **Next > Next > Finish**.

3rd Party 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 **3.Install Wireless Lan Driver > Yes**.
4. Choose the language you prefer and click **Next**.
5. Click **Next > Install**.
6. Click **Finish**.

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

7

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 - 37
Taskbar Menus

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

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Network and Sharing Center

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

Figure 7 - 38
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 - 39
Connecting
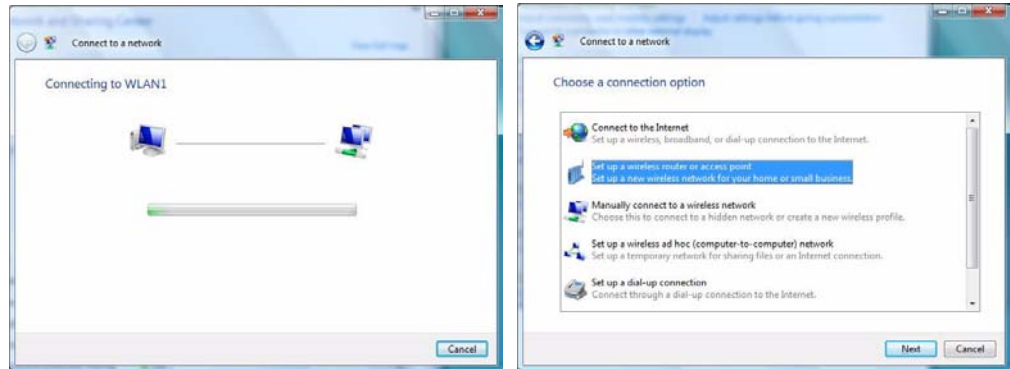
6. Move the cursor over the taskbar icon to see the connection status (see below).

Figure 7 - 40
Connection Status

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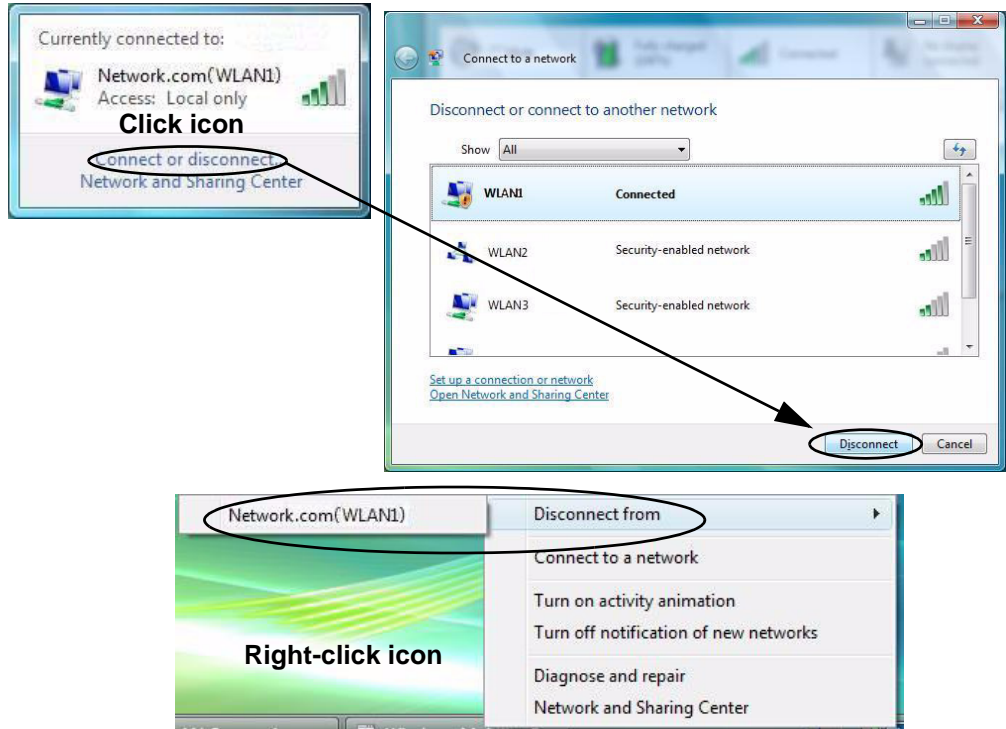
☼

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.

Figure 7 - 41
Disconnecting

✎

Intel® My WiFi Help

To get help on **Intel® My WiFi** configuration and settings, access the **Intel® My WiFi Utility** from the **Start** menu (Start > Programs/All Programs > Intel PROSet Wireless > Intel My WiFi Technology), or by clicking the taskbar icon 🖼. Click the **Help** icon 🔵 Help and select a help topic from the **Contents** menu.

Intel® My WiFi Installation & Configuration

Intel® My WiFi Technology uses your WLAN module to allow you to connect up to eight other WiFi enabled devices (e.g. digital cameras, other computers, cell phones, handheld devices etc.) to your computer (similar to Bluetooth), while still connecting to the Internet through your WiFi wireless connection. Intel® My WiFi Technology offers greater range and speed than other personal area networks, and does not require an access point.

Intel® Wi-Fi Link 5100/5300/1000 Series My WiFi Driver Installation

If you see the message "**Found New Hardware**" click **Cancel** to close the window.

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 **3.Install Wireless Lan Driver > Yes**.
4. Click **Next > Next**.
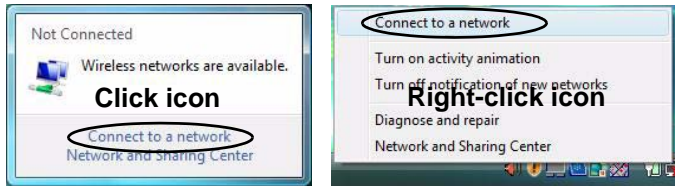5. Click the button to accept the license and click **Next > Next**.
6. Click **Custom** (button) and click **Next**.
7. Click **Intel(R) My WiFi Technology** (button) and select "**This feature will be installed on local hard drive.**"
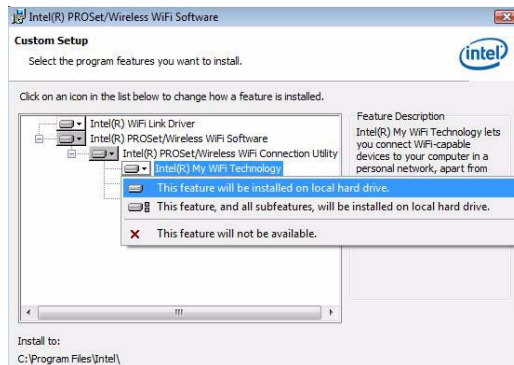
8. Click **Next > Finish**.

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Intel(R) PROSet/ Wireless

Access the **Intel PROSet Wireless** tools (Statistics and Diagnostic tools) from the Start menu (Start > Programs/All Programs > **Intel PROSet**). These tools provide diagnostic and statistical information only (use the WLAN control in *Windows Vista* to connect to a WLAN access point).

Figure 7 - 42
Intel(R) PRO Set Intel(R) My WiFi Technology Installation

7

Intel® My WiFi Configuration

You can configure the My WiFi settings as follows.

1. Access the **Intel® My WiFi Utility** from the **Start** menu (**Start** > **Programs/All Programs** > **Intel PROSet Wireless > Intel My WiFi Technology**), or by clicking the taskbar icon 📶.
2. Click **Enable** Enable (on the first run of the program there will be no connected devices listed).
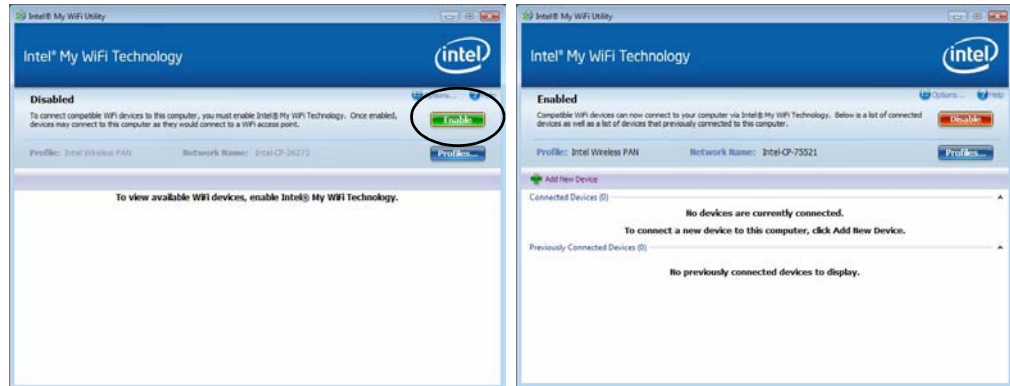
Figure 7 - 43
Intel® My WiFi Utility

3.   Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
4.   Click **Network and Sharing Center** (Network and Internet).
5.   Click **Manage Network Connections**.

Click **Manage Network Connections**

Figure 7 - 44
Network and Sharing Center

6.   Right-click **Intel My WiFi STA** (Station) in **Network Connections** and select **Properties**.

Right-click **Intel My WiFi STA** (Station) and select **Properties**.
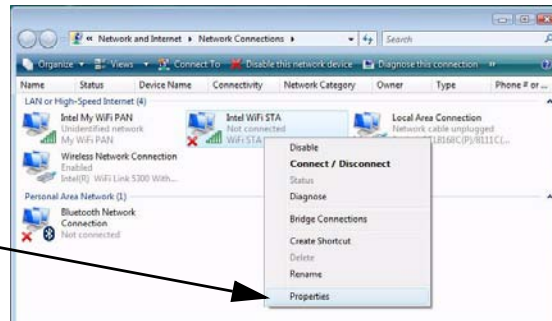
Figure 7 - 45
Intel My WiFi STA Properties (Network Connections)

7. Click **Sharing (tab)** and select "**Allow other network users to connect through this computer's Internet connection**".
8. Select **Intel My WiFi PAN** under **Home Networking Connection**.
9. Click **OK**.

Click "**Allow other network users to connect through this computer's Internet connection**".

Select **Intel My WiFi PAN**.
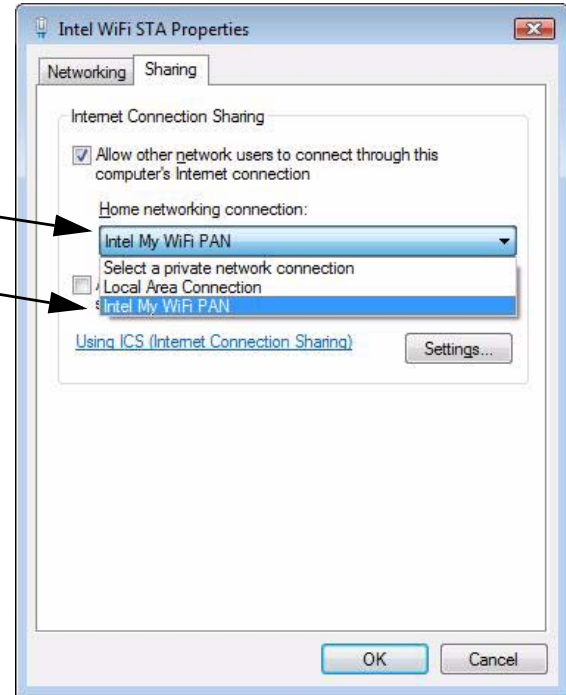
Figure 7 - 46
Intel WiFi STA Properties - Sharing

7

10. A message will appear to inform you that the LAN adapter will be set to use the IP address **192.168.0.1**.

11. Click **Yes** to enable Internet Connection Sharing.

Figure 7 - 47
IP Address Warning

IP Addresses

The Intel® My WiFi default gateway IP address is **192.168.0.1**. DO NOT use this address for any Wireless Access Point (or any other static IP address on your network).
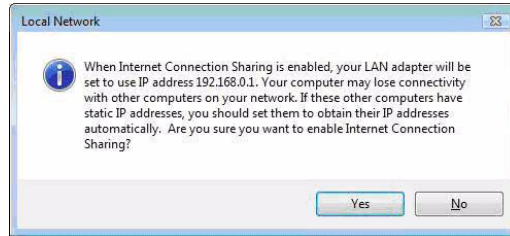
12. Access the **Intel® My WiFi Utility** from the **Start** menu (**Start** > **Programs/All Programs** > **Intel PROSet Wireless > Intel My WiFi Technology**), or by clicking the taskbar icon .

13. Click **Profiles** .

Figure 7 - 48
Intel® My WiFi Utility

7

14. Click **Profiles,** click **Intel Wireless PAN** and click **Edit**.

Figure 7 - 49
IP Address Warning

15. You can change the **Profile Name** and **Network Name** to your personal preferences in **General** (tab).

7

Figure 7 - 50
Intel® My WiFi Profile Settings - General

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Profile and Network Names

The **Profile Name** is the name as displayed on your computer in the **Network Connections** control panel (see *Figure 7 - 45 on page 7 - 49*).

The **Network Name (SSID)** is the name the devices see when they try to connect to your computer.

16. Click **Security** (tab).
17. Change the **Security Type** to **WEP** and the **Encryption Type** to **64bit**.
18. Enter a password (5 characters long) in the **Passphrase** box.
19. Click **OK**.

Figure 7 - 51
**Intel® My WiFi
Profile Settings -
Security**

20. Click **Sharing** (tab).
21. Make sure **Filter Network Traffic** and **DHCP and DNS Server** are **Disabled**.
22. Click **OK**.

Figure 7 - 52
**Intel® My WiFi
Profile Settings -
Sharing**

Set Filter Network Traffic & DHCP and DNS Servers to **Disabled**.

23. Click **Advanced** (tab).
24. Make sure the **Default Channel** is set to **Channel 1, 6** or **11**.
25. Click **OK**.
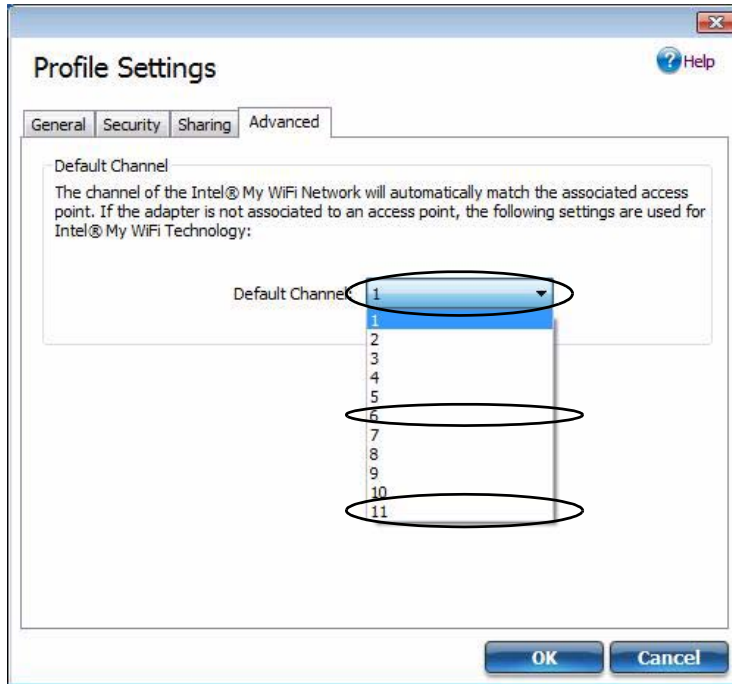
Figure 7 - 53
**Intel® My WiFi
Profile Settings -
Advanced**

7

26. Double-click **Intel My WiFi PAN** (Personal Area Network) in **Network Connections**.
27. Click **Details** to display the **Network Connection Details**.

Figure 7 - 54
Intel My WiFi PAN Network Connection Details (Network Connections)
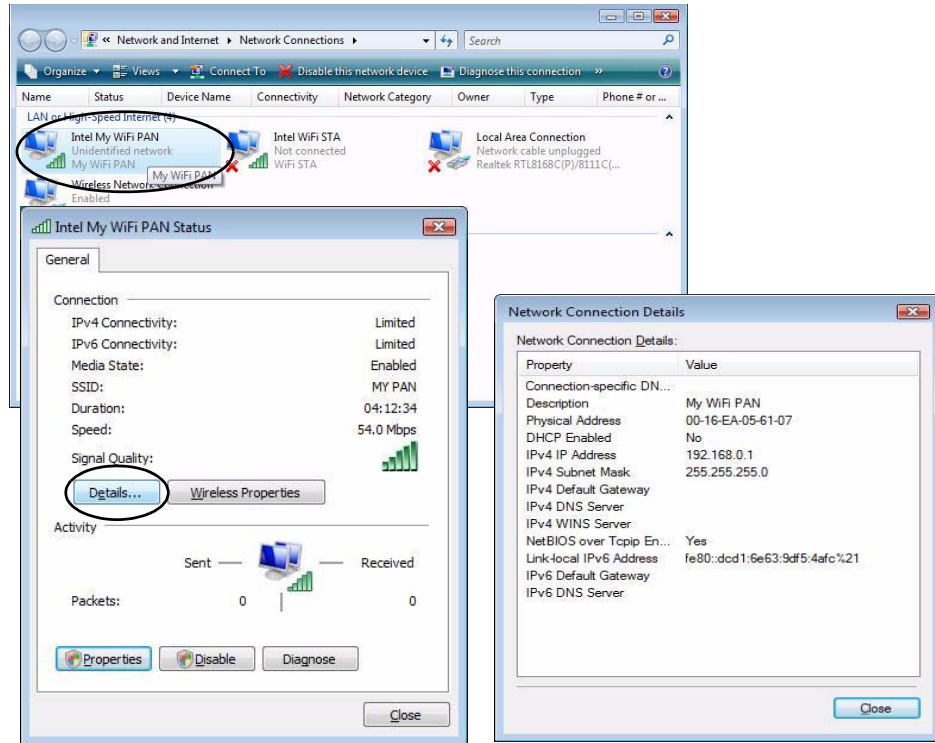
28. Access the **Intel® My WiFi Utility** from the **Start** menu (**Start** > **Programs/All Programs** > **Intel PROSet Wireless > Intel My WiFi Technology**), or by clicking the taskbar icon 🖼️.
29. To add a new device follow the instructions in the devices' user guide for connecting to a WiFi network.
30. Click **Add New Device** in **Intel® My WiFi Utility** to confirm the security settings detail.
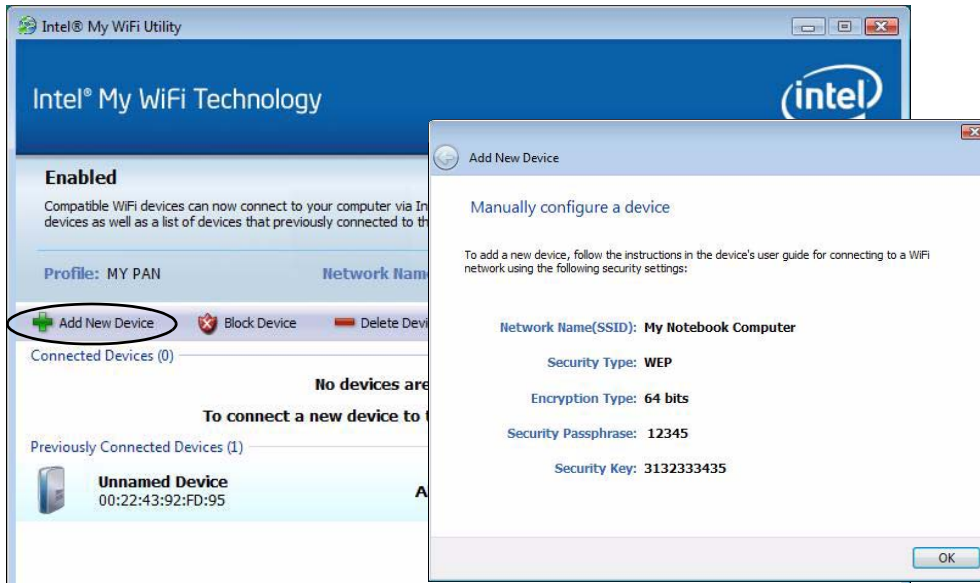
Figure 7 - 55
Intel® My WiFi Utility (Add New Device)

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 - 56
Windows Mobility Center

7 - 58 Wireless LAN Module
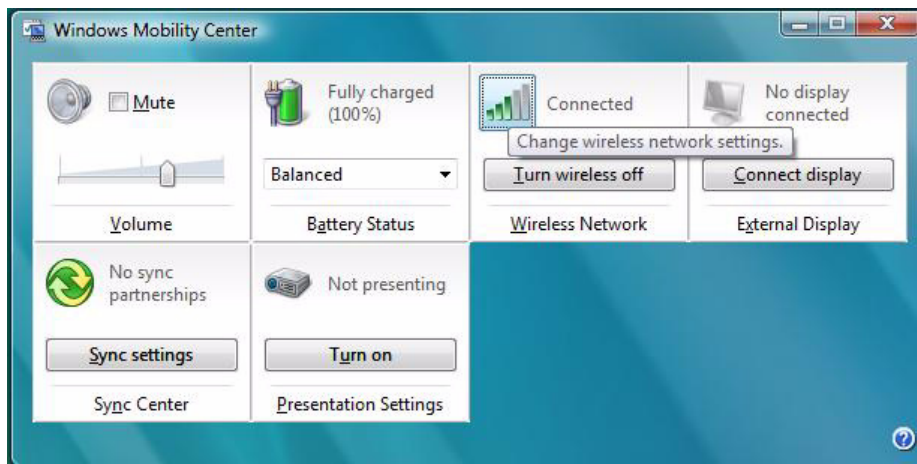
Intel Turbo Memory Module

If you have included an Intel Turbo Memory (Robson) NAND flash memory card module in your purchase option, then you will need to install the driver as per the instructions below (do not install this driver in *Windows XP*).

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 the computer and press <**F2**> to enter the **BIOS** (see *"The Setup Program" on page 5 - 4*).
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*" and select "*Enabled*".
5. Go to the **Exit** menu (see *"Exit Menu" on page 5 - 15*) and select "*Exit Saving Changes"* (or press **F10** and select "**Yes**" then press Enter) and press Enter to exit the BIOS and reboot the computer.
6. Install the driver as indicated overleaf.

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e-SATA Port Support

Note that **the Intel Matrix Storage driver is required to enable the e-SATA port** 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.

7

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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-tp://support.intel.com/support/chipsets/itm/sb/CS-025852.htm***)** for the latest updated information on this issue.

7. Insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
8. Click **Option Drivers** (button).
9. Click **4.Install TM&iMSM Driver > Yes**.
10. Click **Next > Yes > Next > Next**.
11. Click **Finish** to restart the computer.
12. For Turbo Memory modules that support **User Pinning** see *"Intel Turbo Memory Dashboard (User Pinning Supported Only)" on page 7 - 61*.
13. For Turbo Memory modules that **do not** support **User Pinning** see*"Intel Turbo Memory Console (All Modules)" on page 7 - 64*.

If the Turbo Memory module supports **User Pinning** then the **Intel Turbo Memory Dashboard** will be installed. If the Turbo Memory module does not support **User Pinning** then the **Intel Turbo Memory Dashboard** will not be installed.

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Intel Turbo Memory Dashboard (User Pinning Supported Only)

The **Intel Turbo Memory Dashboard** allows you to pin an application or file to load into the Intel Turbo Memory NAND cache for performance acceleration.

1. Run the **Intel® Turbo Memory Dashboard** from the **Programs/All Programs** menu (**Intel® Turbo Memory**) or from the desktop shortcut.
2. The **Pinning Capacity Consumption Meter** ❶ displays the amount of pinning space used.
3. The **Control and Profile Pull-Down Menu** ❷ allows you to select and manage profiles.
4. The **Application Window** ❸ lists all applications available for performance acceleration. When accelerated the applications/files will appear in the **Accelerated Window** ❹.
5. The **Custom Sets Window** ❺ allows you to select specific files to be pinned.

Help

Click the **Help** icon ❓ to bring up the menu and click to select and help topic.

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Figure 7 - 57
Intel Turbo Memory Dashboard

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Unpinning an Application

Click the application in the **Accelerated Window** and drag it back to the **Applications Window** to unpin the application.

You can also unpin the application by right-clicking it in the **Applications Window** and selecting "**Remove from Cache**."

Figure 7 - 58
Accelerated Applications

Pinning an Application (User Pinning Supported Only)

1. The **Intel® Turbo Memory Dashboard** allows you to select files and applications to accelerate and therefore open faster and display quicker.
2. Applications will be listed in the **Applications Window** on the right.
3. To accelerate any application drag the icon into the **Accelerated** pane on the left (the available memory is indicated in the top left).
4. A status bar indicates the pinning progress and will turn green when ready.

Custom File Sets (User Pinning Supported Only)

A Custom File Set allows you to group applications and files to accelerate. These sets can be moved easily in and out of the **Accelerated Window** which is of benefit when space is limited. You need to create the custom file set before dragging the set to the accelerated window.

1. Click **Custom File Sets** and type a name for the set, and then click **Next**.
2. Select the file set folder icon and click **Advanced**.
3. Click the **Browse** button and select the files and applications to accelerate.
4. Click the **Done** button when finished.
5. Drag the custom set across to the **Accelerated Window** from **Custom File Sets** to accelerate.

Figure 7 - 59
Create Custom File Set

$\diagdown$

Intel Turbo Memory Console

Note that the Intel Turbo Memory Console DOES NOT appear if you have not included a Turbo Memory module in your purchase configuration.

You can enable/disable the **ReadyBoost** and **ReadyDrive** from this console.
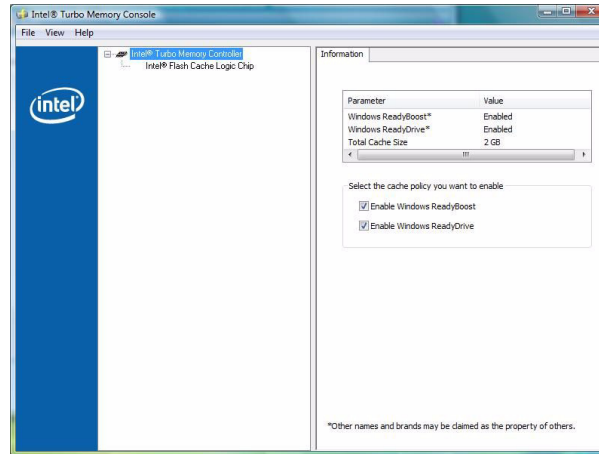
Figure 7 - 60
Intel Turbo Memory Console

Intel Turbo Memory Console (All Modules)

1. Run the **Intel® Turbo Memory Console** from the **Programs/All Programs** menu (**Intel® Turbo Memory**).
2. You can enable/disable **Windows ReadyBoost** and **Windows ReadyDrive** from the **Intel® Turbo Memory Console**.

• **Windows ReadyBoost** - uses **flash memory** as a hard-drive caching solution (Not supported if **User Pinning** is supported).
• **Windows ReadyDrive** - uses **hybrid drives** as a hard-drive caching solution.

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.
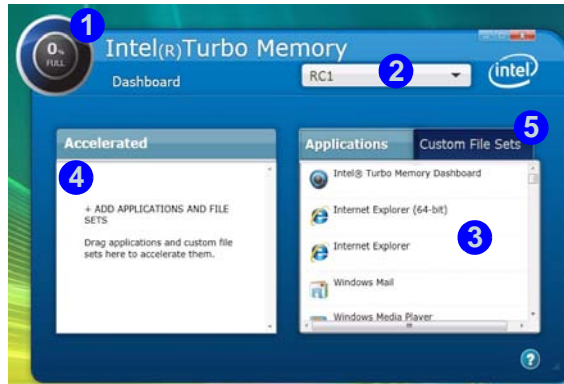
Fingerprint Reader Driver Installation

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

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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 **5.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).

7

User Enrollment

1. Click **Start > Programs/All Programs > Protector Suite QL > User Enrollment**, or double click the taskbar icon .
2. Click **Initialize**.

Figure 7 - 61
**Initialize
Fingerprints**
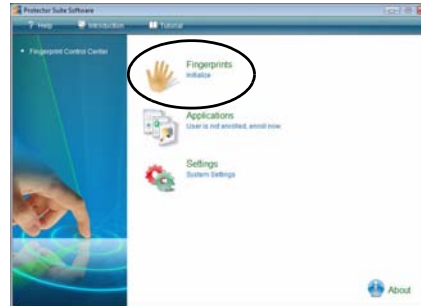
3. On the first run of the program you will be asked to click the button to accept the license, and then click **OK**.
4. Click **Next** and select "*Enrollment to the hard disk*", and click **Finish**.

Figure 7 - 62
Enroll to Hard Disk
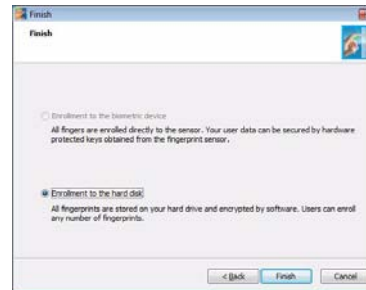
5. If you have not set a *Windows* password you will be prompted to do so (**note**: If you have not set a password **Protector Suite QL** cannot secure access to your computer).
6. Click **Next**.
7. You will then be prompted to enter your *Windows* password and click **Next**.
8. Select either to use the fingerprint reader alone for authentication, or choose both the fingerprint reader and the *Windows* password, and then click **Next**.
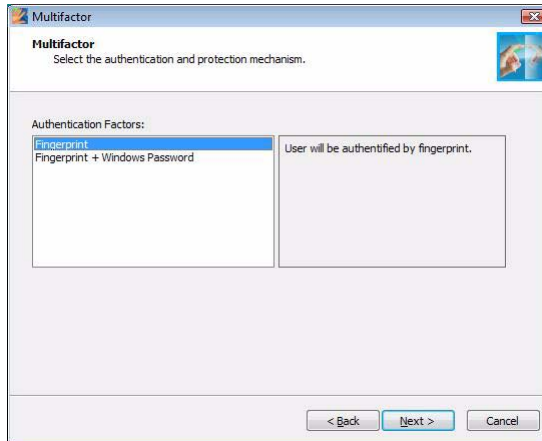
Figure 7 - 63
Multifactor

9. Click **Next > Next** (if you have the "*Run interactive tutorial*" tickbox selected you will run through the Fingerprint Tutorial).
10. Click **Next** for each window of the tutorial (you can click the button to "*skip tutorial*" at any time).

❄️

Fingerprint Enrollment

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

11. Click the button above any of the fingers to begin the enrollment process for that finger.
12. Swipe the finger **five** times to enroll that finger.
13. Repeat the process for all the fingers you wish to enroll (see sidebar), and then click **Next**.
14. Click **Finish**.
15. Click "**Help**" in the **Fingerprint Control Center** to get more information on any topic.
16. You can also run the **Tutorial**, or **Introduction** (to run the product tour video) to get more information.
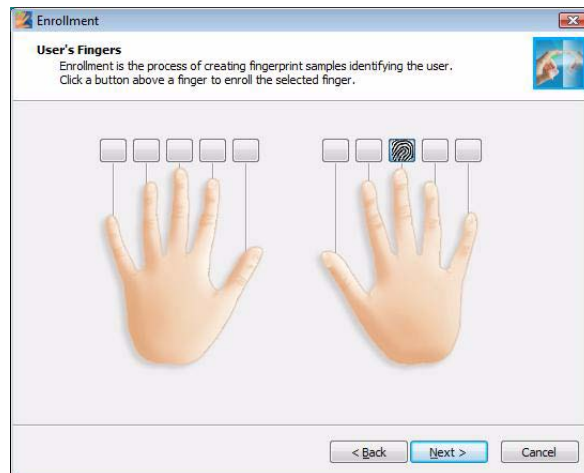
Figure 7 - 64
Fingerprint Enrollment

17. Right-click the taskbar icon 🖼 to bring up the **Control Center** that allows you to **Edit Fingerprints**, **register applications**, manage **Password Bank, File Safe** and 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.
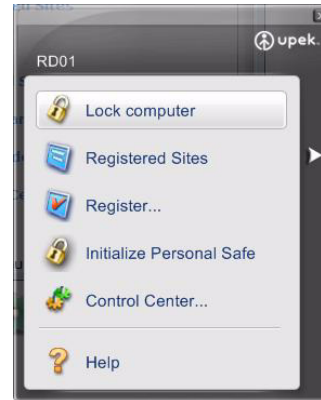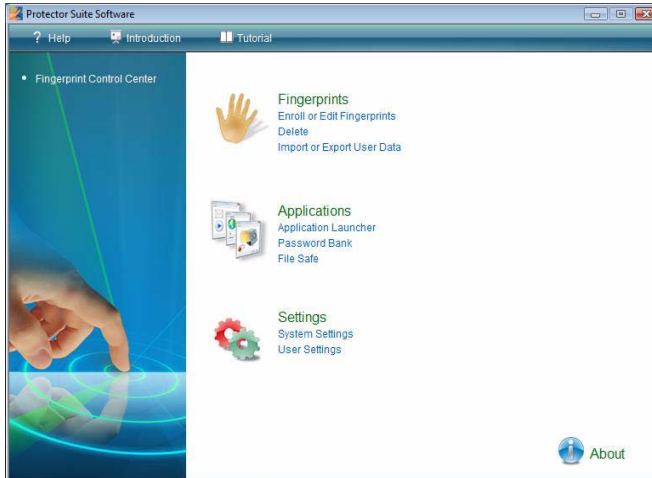
Figure 7 - 65
Control Center & Biomenu

18. See *"Help & Manual" on page 7 - 65* for further details.
19. If you swipe your finger over the reader at any time you can access the **Biomenu** to **lock the computer**, **register websites**, access the **Personal Safe** open the **Control Center** and access the **Help** menu.

Fingerprint Control Center Features

Application Launcher

The **Application Launcher** allows you to register applications to be launched when assigned to a particular finger. Simply copy the application icon on to one of the registered fingers and ten click OK to close the application window. Once registered the application will launch when you swipe the appropriate finger across the sensor.

Password Bank

The **Password Bank** stores registrations of user names, passwords and other settings for web sites etc.

File Safe

File Safe is an encrypted area assigned on your hard drive that allows you to store files and folders to be protected by fingerprint protection.

For more information on these and other features simply access "**Help**" in the **Fingerprint Control Center** and select the item from the menu on the left.

Chapter 8: Troubleshooting

Overview

Should you have any problems with your computer, before consulting your service representative, you may want to try to solve the problem yourself. This chapter lists some common problems and their possible solutions. This can't anticipate every problem, but you should check here before you panic. If you don't find the answer in these pages, make sure you have followed the instructions carefully and observed the safety precautions in the preface. If all else fails, talk to your service representative. You should also make a record of what happened and what remedies you tried.

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

8

Basic Hints and Tips

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

- **Power** - Is the computer actually plugged into a working electrical outlet? If plugged into a **power strip**, make sure it is actually working. Check the **LED Power & Communication Indicators** (see *"LED Indicators" on page 1 - 11*) to see the computer's power status.

- **Connections** - Check all the **cables** to make sure that there are no **loose connections** anywhere.

- **Power Savings** - Make sure that the system is not in **Hibernate** or **Sleep** mode by pressing the keys configured in your P*ower Options* (see *"Power-Saving States" on page 3 - 6*), the **Fn** + **F4** key combination, or power button to wake-up the system.

- **Brightness** - Check the brightness of the screen by pressing the **Fn** + **F8 and F9** keys to adjust the brightness.

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

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

Backup and General Maintenance

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

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

- Write down your passwords and keep them safe (away from your computer). This is especially important if you choose to use a **Supervisor** password for the BIOS (see *"The Power-On Self Test (POST)" on page 5 - 2*).

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

🔆
Warranty

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

8

Viruses

- Install an **Anti-Virus** program and keep the **definitions file** (the file which tells your program which viruses to look for) up to date. New computer viruses are discovered daily, and some of them may seriously harm your computer and cause you to lose data. **Anti-Virus** programs are commercially available and the **definitions file updates** are usually downloadable directly from the internet.

- Be careful when opening e-mail from sources you don't know. **Viruses** are often triggered from within **e-mail attachments** so take care when opening any attached file. You can configure most **Anti-Virus** programs to check all **e-mail attachments**. **Note**: You should also beware of files from people you know as the virus may have infected an **address book** and been automatically forwarded without the person's knowledge.

- Keep a "**Bootable CD-ROM/DVD-ROM/USB storage device**" (this CD/DVD/USB device provides basic information which allows you to startup your computer) handy. You may refer to your OS's documentation for instructions on how to make one, and many **Anti-Virus** programs will also provide such a disk (or at least instructions on how to make one).

8

Upgrading and Adding New Hardware/Software

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

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

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

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

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

8

Troubleshooting

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

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

Problems and Possible Solutions

Problem	Possible Cause - Solution
You turned on the **power** but it doesn't work.	*Battery missing / incorrectly installed.* Check the battery bay, make sure the battery is present and seated properly (the design of the battery only allows it to go in one way). Make sure there's nothing interfering with the battery contacts.
The battery **LED power** indicator ⬛, is blinking orange.	*Low Battery.* Plug in the DC power source. If the computer doesn't start up immediately, turn it off then on again.
You are **losing battery power** too quickly.	*The system is using too much power.* If your *OS* has a *Power Options* scheme (see *"Power Plans" on page 3 - 4*/*"Power Schemes" on page E - 24*) check its settings. You may also be using an ExpressCard/USB device/external device that is drawing a lot of power.
Actual **battery operating time** is shorter than expected.	*The battery has not been fully discharged before being recharged.* Make sure the battery is fully discharged and recharge it completely before reusing (see *"Battery Information" on page 3 - 10*/*"Battery Information" on page E - 29*).
	Power Options have been disabled. Go to the **Control Panel** in *Windows* and re-enable the options.
	A peripheral device/USB device/ExpressCard is consuming a lot of power. Turn off/remove the unused device to save power.

8

Problem	Possible Cause - Solution
The computer feels **too hot**.	Make sure the computer is properly ventilated and the Vent/Fan intakes are not blocked. If this doesn't cool it down, put the system into **Hibernate** mode or turn it off for an hour. Make sure the computer isn't sitting on a thermal surface (see *"Overheating" on page 1 - 19*). Make sure you're using the correct adapter. Make sure that your notebook is completely powered off before putting it into a travel bag (or any such container). Putting a notebook which is powered on in a travel bag may cause the Vent/Fan intakes to be blocked.
Nothing appears on screen.	*The system is in a power saving mode.* Toggle the sleep/resume key combination, **Fn + F4** (see *"Configuring the Power Buttons" on page 3 - 8*/ *"Configuring the Power Button" on page E - 28*). *The screen controls need to be adjusted.* Toggle the screen control key combinations **Fn + F8/F9**. If you're connected to an external monitor, make sure it's plugged in and turned on. You should also check the monitor's own brightness and contrast controls. *The computer is set for a different display.* Toggle the screen display key combination, **Fn + F7**. If an external monitor is connected, turn it on. *The* **screen saver** *is activated.* Press any key or touch the **TouchPad**.
No image appears on the **external monitor** I have plugged in and powered on.	*You haven't installed the video driver and configured it appropriately from the Control Panel.* See *Appendix B*/*Appendix C*/*"Video Features" on page E - 7* for instructions on installing and configuring the video driver.

8

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

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

Problem	Possible Cause - Solution
The sound cannot be heard or the **volume is very low**.	*The volume might be set too low.* Check the volume control in the *Volume Control Panel* in the *Windows* taskbar, or use the key combination **Fn + F5** and **F6** (see *Table 1 - 5, on page 1 - 15*) to adjust.
The CD/DVD **cannot be read**.	*The CD/DVD is dirty.* Clean it with a CD/DVD cleaner kit.
The CD/DVD **tray will not open** when there is a disc in the tray.	*The* CD/DVD *is not correctly placed in the tray.* Gently try to remove the disc using the eject hole (see *"Loading Discs" on page 2 - 3*).
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 E - 2*.
Unwelcome numbers appear when typing.	*If the LED ⬛ is lit, then Num Lock is turned **ON***. (see *"LED Indicators" on page 1 - 11*).

8

Troubleshooting

Problem	Possible Cause - Solution
Other Keyboards If your keyboard is damaged or you just want to make a change, you can use any standard USB keyboard. The system will detect and enable it automatically. However special functions/hot keys unique to the system's regular keyboard may not work.	
The **system freezes** or the screen goes dark.	*The system's power saving features have timed-out.* Use the AC/DC adapter, press the sleep (**Fn + F4**) key combination, or press the power button if no LEDs are lit.
The system never goes into a **power saving mode**.	Power Options features are not enabled. Go to the *Windows* Power Options menu and enable the features you prefer (see *"Power-Saving States" on page 3 - 6*/*"System Power Options" on page E - 26*). Make sure you have enabled **Hibernate** mode from the control panel.
The **Wireless LAN/Bluetooth/3.75G/HSPA** modules cannot be detected.	*The modules are off.* Check the LED indicator and/or function key indicator to see if the WLAN/Bluetooth/3.75G/HSPA module is on or off (see *"LED Indicators" on page 1 - 11*). If the LED indicator is off, then press the **Fn + F11 (WLAN)**, **Fn + F12 (Bluetooth) or Fn + (3.75G)** key combination(s) in order to enable the modules (see *"Function/Hot Key Indicators" on page 1 - 15*).

8

Problem	Possible Cause - Solution
The **PC Camera** module cannot be detected.	*The module is off.* Press the **Fn + F10** key combination in order to enable the module (see *"Function/Hot Key Indicators" on page 1 - 15*). Run the **BisonCap** program to view the camera picture.
The **Wireless LAN/PC Camera/3.75G/HSPA** modules cannot be configured.	The driver(s) for the module(s) have not been installed. Make sure you have installed the driver for the appropriate module (see the instructions for the appropriate module in *"Modules & Options" on page 7 - 1*/*"Module Drivers" on page E - 37*).
A file cannot be copied to/from a connected **Bluetooth** device.	*The transfer of data between the computer and a Bluetooth enabled device is supported **in one direction only (simultaneous data transfer is not supported)**.* If you are copying a file from your computer to a Bluetooth enabled device, you will not be able to copy a file from the Bluetooth enabled device to your computer until the file transfer process from the computer has been completed
The **Bluetooth** module is **off** after resuming from Sleep.	*The Bluetooth module's default state will be off after resuming from the Sleep power-saving state.* Use the key combination (**Fn + F12**) to power on the Bluetooth module after the computer resumes from Sleep.

8

Troubleshooting

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

8

Screen Resolution Error

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

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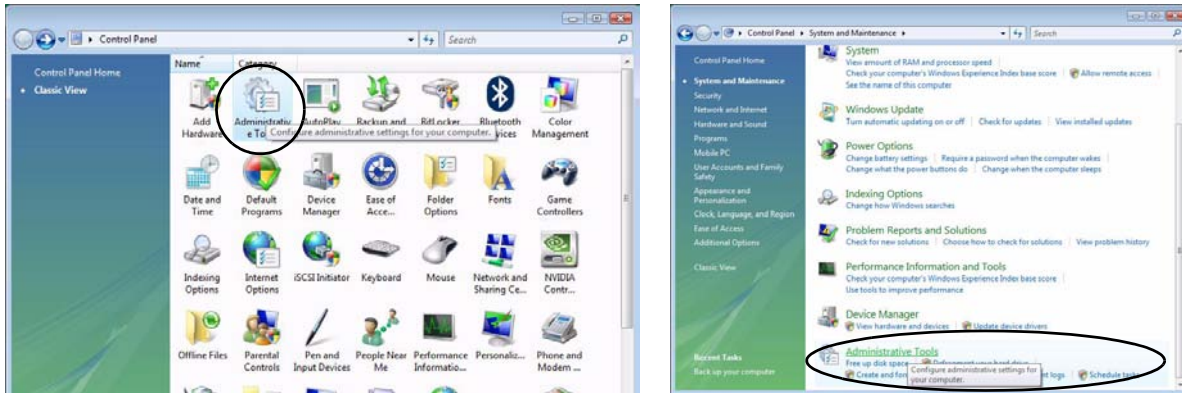
Figure 8 - 1 - **Control Panel System and Maintenance**

3. Double-click **Task Scheduler Library > Microsoft > Windows**.
4. Click **MobilePC** to open the control panel.
5. Right-click **TMM** and select **Disable**.
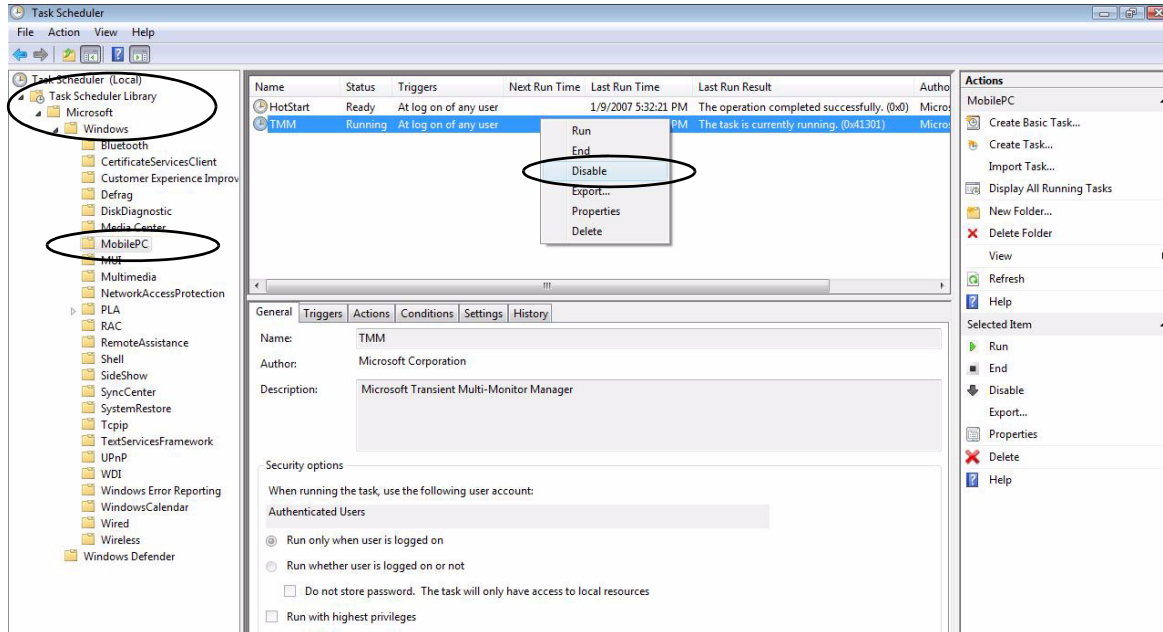
Figure 8 - 2 **- TMM Disable**

6. Close all the control panels.

Appendix A: Interface (Ports & Jacks)

Overview

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

A

Notebook Ports and Jacks

Item	Description
Card Reader Port ☐ MMC / SD / MS	The card reader allows you to use some of the latest digital storage cards. Push the card into the slot and it will appear as a removable device.
DC-In Jack	Plug the supplied AC/DC adapter into this jack to power your computer.
e-SATA Port e-SATA	Plug external Serial ATA hard drives into this **e-SATA** (**external Serial Advanced Technology Attachment**) port. 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. You will need to install the **Intel Matrix Storage** driver to enable the e-SATA port (see *"e-SATA Port Support" on page 7 - 59*). Note that hot-swapping is NOT supported in the *Windows XP* O/S.
External Monitor (VGA) Port	This port allows you to connect an external monitor, or Flat Panel Display, to get dual video or simultaneous display on the LCD and external monitor/FPD.

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 by means of a HDMI cable. **Note that HDMI carries both audio and video signals**.
Headphone-Out Jack	Headphones or speakers may be connected through this jack. **Note**: Set your system's volume to a reduced level before connecting to this jack.
Microphone-In Jack	Plug an external microphone in to this jack to record on your computer.
RJ-11 Modem Jack	This port connects to the built-in modem. You may plug the telephone line directly into this RJ-11 telephone connection. **Note**: Broadband (e.g. ADSL) modems usually connect to the LAN port.
RJ-45 LAN Jack	This port supports LAN (Network) functions. **Note**: Broadband (e.g. ADSL) modems usually connect to the LAN port.
Security Lock Slot	To prevent possible theft, a Kensington-type lock can be attached to this slot. Locks can be purchased at any computer store.

A

Interface (Ports & Jacks)

Item	Description
S/PDIF-Out Jack SPDIF	This S/PDIF (Sony/Philips Digital Interface Format) Out Jack allows you to connect your DVD-capable PC to a Dolby AC-3 compatible receiver for "5.1" or 'dts' surround sound.
USB 2.0/1.1 Ports	These USB 2.0 compatible ports (USB 2.0 is fully USB 1.1 compliant) are for low-speed peripherals such as keyboards, mice or scanners, and for high-speed peripherals such as external HDDs, digital video cameras or high-speed scanners etc. Devices can be plugged into the computer, and unplugged from the computer, without the need to turn the system off (if the power rating of your USB device is 500mA or above, make sure you use the power supply which comes with the device).

A

Appendix B: Intel Video Driver Controls

The basic settings for configuring the LCD are outlined in *"Video Features" on page 1 - 22*.

Intel Video Driver Installation

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

Video

1. Insert the *Device Drivers & Utilities + User's Manual* disc into the CD/ DVD drive.
2. Click **Next > Yes > Next > Next**.
3. Click **Finish** to restart the computer.
4. After the computer has restarted click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
5. Double-click **Performance Information and Tools** (in **System and Maintenance**).
6. Click "**Update my score**".
7. The computer will take a few minutes to assess the CPU performance.
8. Close the control panel.

Note: After installing the video driver go to the **Display Settings** control panel to adjust the video settings to the highest resolution (see *"Video Features" on page 1 - 22*).

B

Dynamic Video Memory Technology

Intel® DVMT automatically and dynamically allocates as much (up to **256MB**) system memory (RAM) as needed to the video system (**the video driver must be installed**). DVMT returns whatever memory is no longer needed to the operating system.

Intel Graphics Properties

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

1. Open the **Display Settings** control panel (see *"Video Features" on page 1 - 22*) and click **Advanced Settings** (button).
2. Click the **Intel(R)...** tab and click **Graphics Properties** (button).

🖉
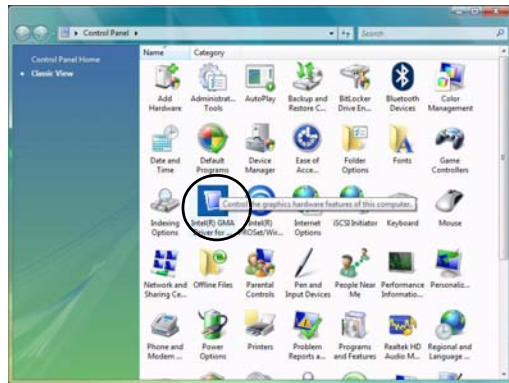
Taskbar Icon

The **Intel GMA** control panel can also be accessed by clicking the icon 🖵 in the taskbar and selecting **Graphics Properties** from the menu.

If you cannot see the tray icon click the "**Show Tray Icon**" tickbox in the **Intel(R) Graphics Media Accelerator for Mobile** tab.

Figure B - 1
Intel Graphics Properties

B

Intel Video Driver Controls

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

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

B

Scheme Options

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

1. Open the **Display Settings** control panel and click **Advanced Settings** (button).
2. Click the **Intel(R)...** tab and click **Graphics Properties** (button).
3. Configure your display configuration, resolution etc. as per your requirements from **Display Settings**.
4. Click on **Scheme Options** (button).
5. Type a name for the scheme then click **Save**.
6. If you want to automatically launch an application when the scheme is applied, click the tickbox ("**Automatically launch an application when the scheme is applied**") and then click on **Browse** (button).
7. **Browse** to the executable file for the application you want to set the scheme for (see sidebar), and click **Open** to select it.
8. Click **Save (Save > OK)** to save the settings (you can click in the "**Restore the display settings after exiting this application**" box to return to your original settings when you exit the program).
9. Click **OK** to exit the window.
10. Click the taskbar icon and **Select Scheme** to run the scheme.
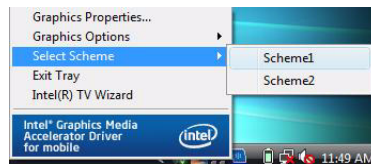
> 🖉
>
> **Application.exe**
>
> You will need to locate the actual **application executable (.exe) file**, not just the shortcut. To find the application right-click its **shortcut** on the desktop click **Properties**. Click the **Shortcut** (tab) and see where the executable file is located by clicking the **Find Target** (button). Note the location and you will then be able to browse to this file.

B

Figure B - 3
Select Scheme

Attaching Other Displays

Besides the built-in LCD you can also use an external monitor/flat panel display/TV (TV through HDMI-Out port only), connected to the external monitor port or to the HDMI-Out port (High-Definition Multimedia Interface) as your display device. The following are the display options:

1. The built-in LCD **OR** an external monitor/flat panel display connected to the external monitor port or HDMI-Out port (**Single Display**).
2. The built-in LCD **AND** an external monitor/flat panel display connected to the external monitor port or HDMI-Out port (**Multiple Display**).

Configuring Other Displays from Windows Vista

1. Attach your external display to the external monitor port or HDMI-Out port, and turn it on.
2. 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 preference, or click **Display Settings** to access the control panel.

Display Devices

You can use the **Fn + F7** key combination (see page *B - 9*) to toggle through 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.
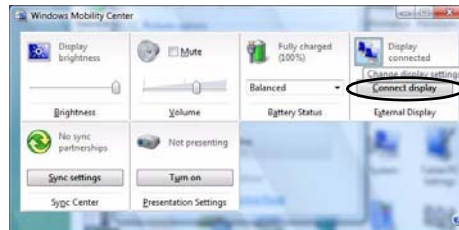
Figure B - 4
Windows Mobility Center & New Display Detected

Configuring Other Displays from Intel® GMA Driver for Mobile

1. Attach your external display to the external monitor port or HDMI-Out port, and turn it on.
2. Go to the **Intel(R) GMA Driver for mobile** control panel (see *"Intel Graphics Properties" on page B - 3*) and click **Display Devices**.
3. Click to choose the display mode from the **Operating Mode** menu.
4. Choose which device is to be the **Primary Device/Secondary Device** from the **Display Selection** menu.
5. Click **Apply** (and **OK** to confirm the settings change) and **OK** (button).

🖉

Display Selection

At least one other display must be attached in order to view multiple **Display Selection** options.
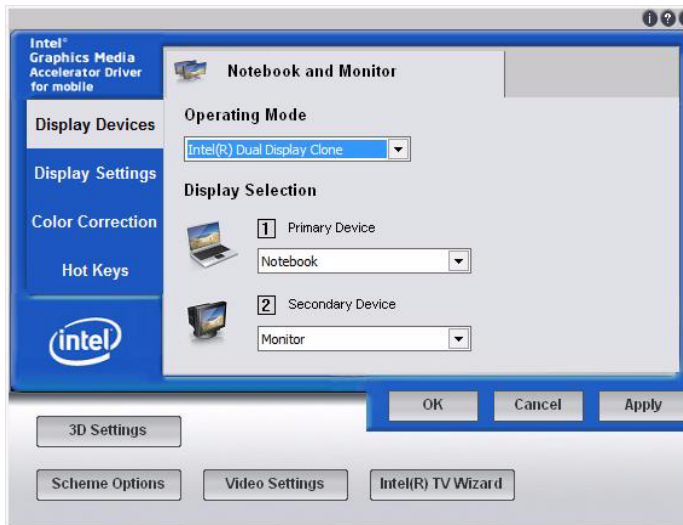
Figure B - 5
Display Devices

B

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. Connect a device with HDMI support to the HDMI-Out port.
2. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
3. Click **Sound** (**Hardware and Sound**).
4. Click **Playback** (tab), and click to select **HDMI Device**.
5. Click **Set Default** (button).
6. Click **OK** to close the **Sound** control panel.

Figure B - 6
HDMI Device
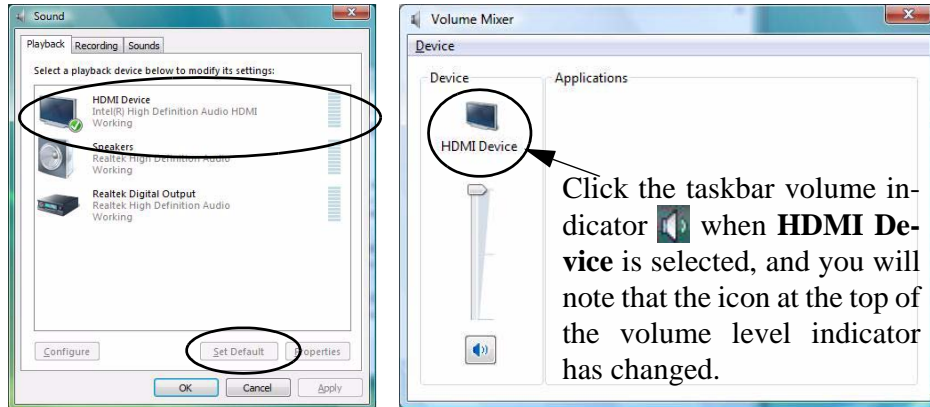
Click the taskbar volume indicator when **HDMI Device** is selected, and you will note that the icon at the top of the volume level indicator has changed.

B

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 Other Displays from Intel® GMA Driver for Mobile" on page B - 7*.
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.

🖉

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).

Fn + F7 & HDMI Connection

Note that the **Fn + F7** key combination will be disabled in certain driver versions. If this is the case go to the **Intel(R) GMA Driver for mobile control panel** to configure displays.

B

Display Modes

Single Display

Only one of your attached displays is used.

Intel(R) Dual Display Clone (mirrored)

This mode will drive multiple displays with the same content. Each device may be configured independently for different resolutions, refresh rates, color quality etc. Use this feature to display the screen through a projector for a presentation.

Extended Desktop (extended)

This mode allows a desktop to span multiple displays and acts as a large workspace. This creates a lot more screen area for display. Use the **Display Properties** control panel to drag the monitors to match the physical arrangement you wish to use, or you may also use the **Extended Desktop Settings** control panel tab in **Graphics Properties** to configure the relative size and position.

B

To Enable Intel(R) Dual Display Clone
1. Attach your external display to the external monitor port or HDMI-Out port, and turn it on.
2. Go to the **Intel(R) GMA Driver for mobile** control panel (see *"Intel Graphics Properties" on page B - 3*) and click **Display Devices**.
3. Click to choose **Intel(R) Dual Display Clone (Operating Mode)**.
4. Choose which device is to be the **Primary Device/Secondary Device** from the **Display Selection** menu.
5. Click **Apply**, and **OK** to confirm the settings change.
6. Click **Display Settings** to adjust the settings for the attached devices.

Figure B - 7
Display Devices & Settings

B

Intel Video Driver Controls

Figure B - 8
Extended Desktop Mode

B

To Enable Extended Desktop
1. Attach your external display to the external monitor port or HDMI-Out port, and turn it on.
2. Go to the **Intel(R) GMA Driver for mobile** control panel (see *"Intel Graphics Properties" on page B - 3*) and click **Display Devices**.
3. Click to choose **Extended Desktop (Operating Mode)**.
4. Choose which device is to be the **Primary Device/Secondary Device** from the **Display Selection** menu.
5. Click **Apply**, and **OK** to confirm the settings change.
6. Click **Display Settings** to adjust the settings for the attached devices.

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

Click Display Settings to make any adjustments required.

Using Windows Vista to Enable Extended Mode

1. Attach your external display to the external monitor port or HDMI-Out port, and turn it on.
2. 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**.

🖉

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.

B
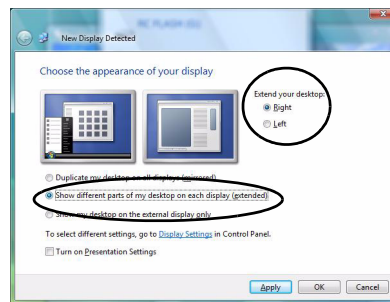
Figure B - 9
Windows Mobility Center & New Display Detected

Using Display Settings to Enable Extended Mode

1. Attach your external display to the external monitor port or HDMI-Out port, and turn it on.
2. Open the **Display Settings** control panel (see *"Video Features" on page 1 - 22*).
3. Click the monitor icon (e.g. **2**), and make sure you have checked "**Extend the desktop onto this monitor**" and click **Apply**.

Figure B - 10
Display Properties (Extended Desktop)
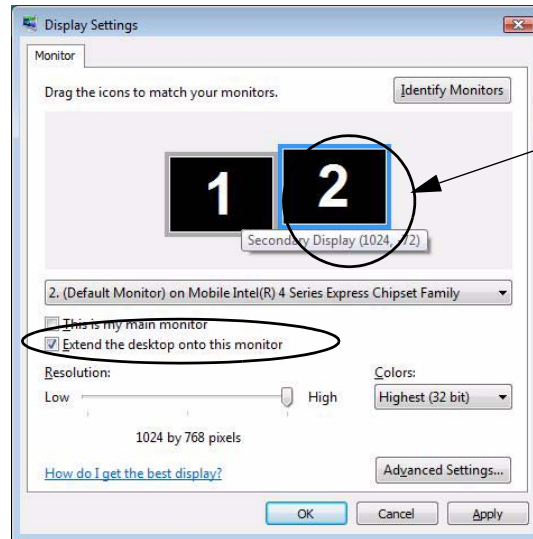
Click the appropriate monitor icon (e.g. **2**) to be able to select the option to extend the desktop on to it.

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

B

Intel Clear Video Technology

Intel Clear Video Technology (**for *Windows Vista* 32-bit versions only**) is designed to help users get high-quality video playback, sharp image quality, precise color control and advanced support for the latest High Definition displays without the need for expensive video cards etc.

1. Attach your external display to the external monitor port or HDMI-Out port, and turn it on.
2. Go to the **Intel(R) GMA Driver for mobile** control panel (see *"Intel Graphics Properties" on page B - 3*) and configure your external display as the **Single** display from the **Operating Mode** menu.
3. Click **Intel(R) TV Wizard Intel(R) GMA Driver for mobile** control panel.
4. The wizard will now take you through the steps to set up high quality video support for your external display (configure in either **Automatic** or **Manual** modes).

🖉

TV Wizard

Use the TV Wizard to configure the external display settings either manually or automatically.

The wizard will take you though any necessary steps in order to configure the optimal video settings e.g **HDTV Format**, **Display Size** and **Position** etc.
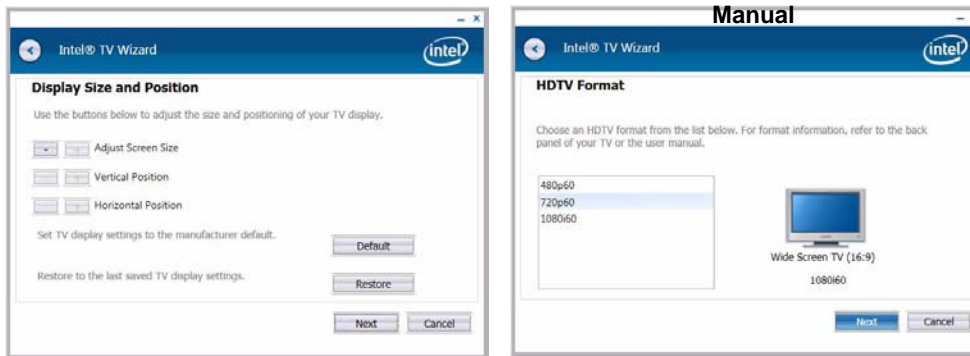
Figure B - 11
Intel® TV Wizard

B

Intel Video Driver Controls

Appendix C: NVIDIA Video Driver Controls

The basic settings for configuring the LCD are outlined in *"Video Features" on page 1 - 22*.

NVIDIA Video Driver Installation

Make sure you install the drivers in the order indicated in *Table 4 - 1, on page 4 - 3*. Insert the *Device Drivers & Utilities + User's Manual* disc and click *Install Drivers* (button).

1. Click **Next > Next**.
2. Click **Finish** to restart the computer.

> ✏
>
> **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.

Note: After installing the video driver go to the **Display Settings** control panel to adjust the video settings to the highest resolution (see *"Video Features" on page 1 - 22*).

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

C

NVIDIA Control Panel

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

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**).

<div align="center">**OR**</div>

3. RIght-click the **desktop**.
4. Click **NVIDIA Control Panel**.

Figure C - 1
NVIDIA Control Panel

C
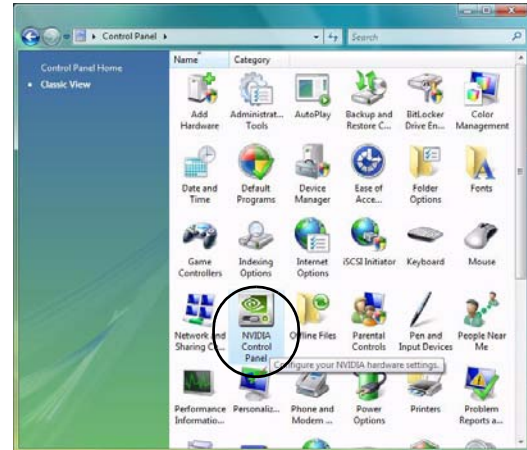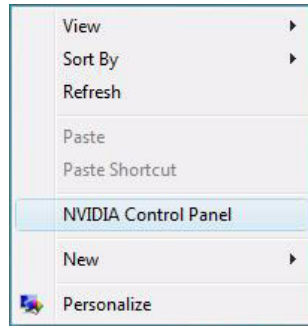
The **NVIDIA Control Panel** provides additional video configuration controls and tools which allow quick access to features such as display configuration, 3D Settings and Help menus etc.

✎

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.
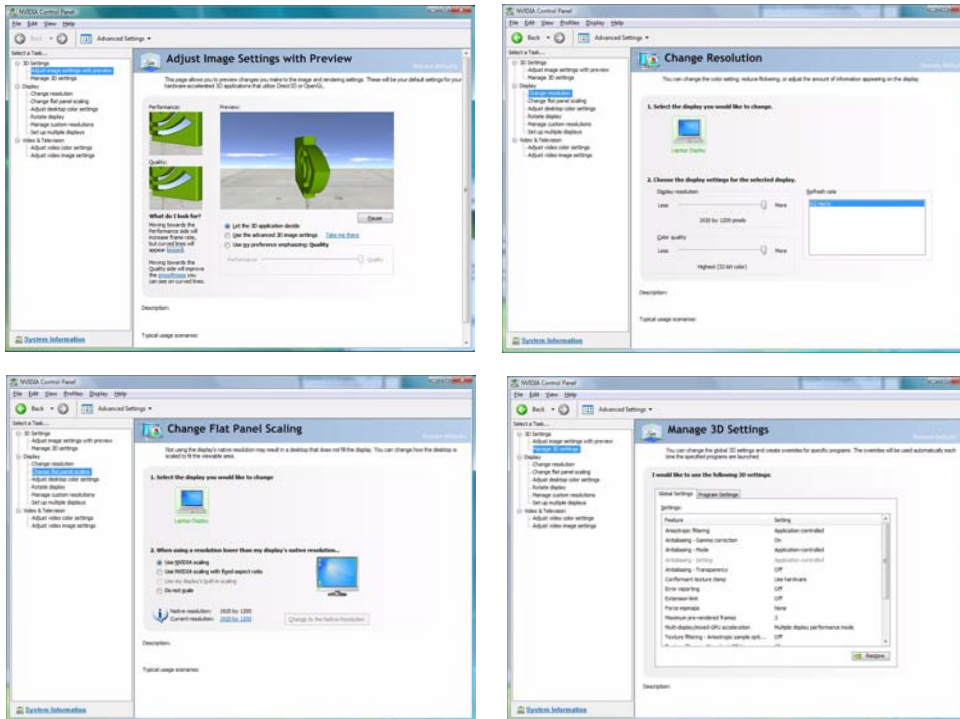
Figure C - 2
NVIDIA Control Panels

C

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

Figure C - 3
Help Menus

C

Attaching Other Displays

Besides the built-in LCD you can also use an external monitor/flat panel display/TV (TV through HDMI-Out port only), connected to the external monitor port or to the HDMI-Out port (High-Definition Multimedia Interface) as your display device. The following are the display options:

Configuring an External Display in Windows Vista

1. Attach your external display to the external monitor 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 <u>**Display Settings**</u> (in the *New Display Detected* window) to access the control panel.
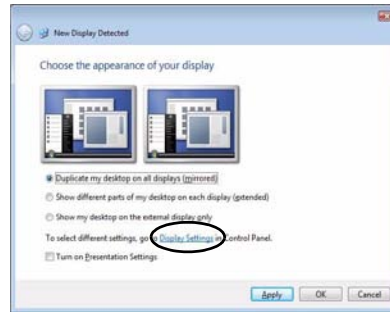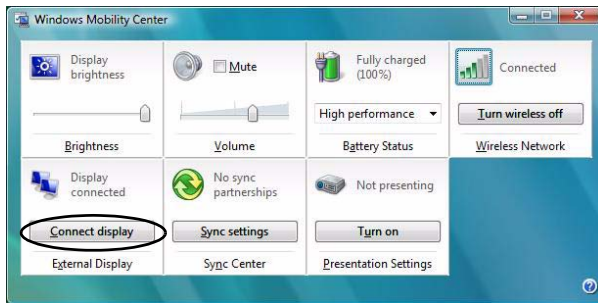
> 🖉
>
> ### Display Devices
>
> You can use the **Fn + F7** key combination to toggle through the display options.
>
> - The built-in LCD.
> - An external display connected to the DVI-Out port.
> - An external display connected to the HDMI-Out port.
>
> Note that HDMI supports video and audio signals.

Figure C - 4
New Display Detected

C

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 external monitor 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 **Set up multiple displays (Display)**.

Figure C - 5
Set Up Multiple Displays
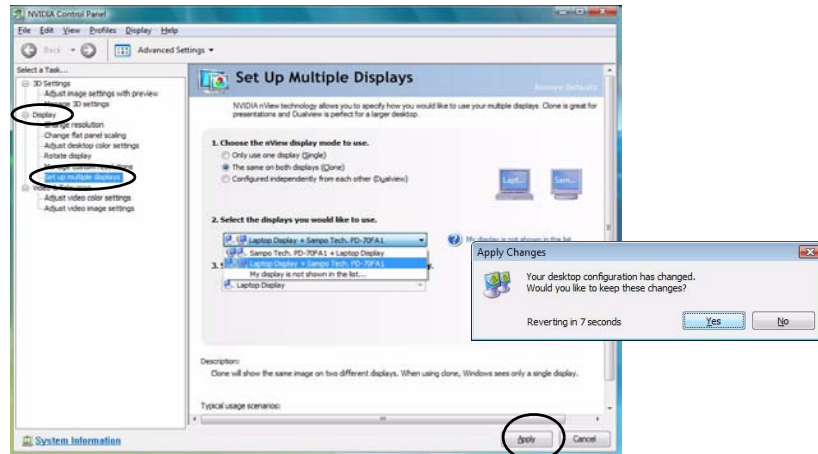
4. Click to select the nView **display mode** you wish to use (see page *C - 9*).
5. Select the display(s) you want to use (if your display is not shown click "*My Display is not shown in the list...*"), and choose which display is to be the primary display.
6. Click **Apply** to execute the change.

C

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. Connect a device with HDMI support to the HDMI-Out port.
2. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
3. Click **Sound** 🔊 (**Hardware and Sound**).
4. Click **Playback** (tab), and click to select **NVIDIA HDMI Output**.
5. Click **Set Default** (button).
6. Click **OK** to close the **Sound** 🔊 control panel.

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

Figure C - 6
NVIDIA HDMI Output

C

NVIDIA Video Driver Controls

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 C - 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.

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.

C

Using New Display Detected to Enable Extended Mode

1. Attach your external display to the external monitor 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 C - 7
**New Display
Detected
(Extended)**
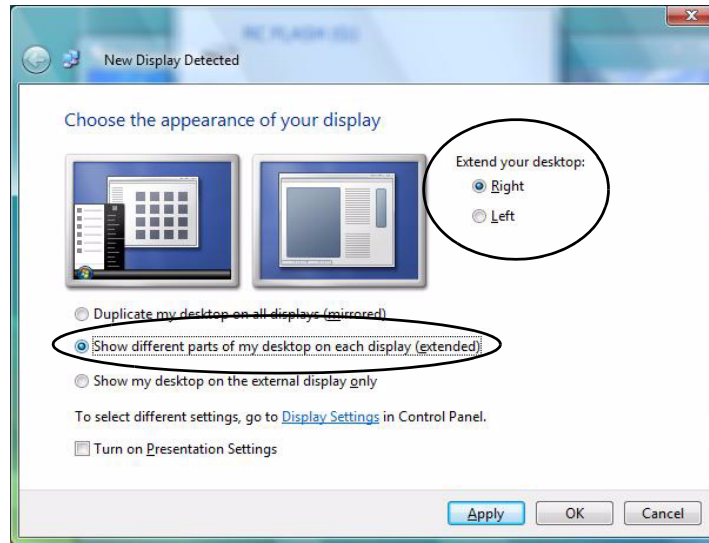
Using Display Settings to Enable Extended Mode

1. Attach your external display to the external monitor 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.

$\mathscr{P}$

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 C - 8
Display Settings (Extend the Desktop)

C

NVIDIA Video Driver Controls

C

Appendix D: Specifications

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

Specifications

Feature	Specification	
Processor	Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P TDP: 35W **T9400/ T9550/ T9600/ T9800**	45nm (45 Nanometer) Process Technology 6MB On-die L2 Cache & 1066MHz FSB **2.53/ 2.66/ 2.8/ 2.93 GHz**
	Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P TDP: 25W **P9500/ P9600**	45nm (45 Nanometer) Process Technology 6MB On-die L2 Cache & 1066MHz FSB **2.66/ 2.53 GHz**
	Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P TDP: 25W **P8400/ P8600/ P8700**	45nm (45 Nanometer) Process Technology 3MB On-die L2 Cache & 1066MHz FSB **2.26/ 2.40/ 2.53 GHz**
	Intel® Celeron® Processor (478-pin) Micro-FC-PGA Package, Socket P **T1600/ T1700**	65nm (65 Nanometer) Process Technology 1MB On-die L2 Cache & 667MHz FSB - TDP 35W **1.66/ 1.86 GHz**
	Intel® Celeron® M Processor (478-pin) Micro-FC-PGA Package, Socket P **575/ 585**	65nm (65 Nanometer) Process Technology 1MB On-die L2 Cache & 667MHz FSB - TDP 31W **2.0/ 2.16 GHz**
Core Logic	**Models A, B & E:** Intel(R) GM45 + ICH9M Chipset	**Models C, D & F:** Intel(R) PM45 + ICH9M Chipset

D

Feature	Specification	
LCD	**Models A & C:** 14.1" WXGA (1280*800)/ WXGA+ (1440*900) Glare Type TFT LCD	**Models B & D:** 15.4" WXGA (1280*800)/ WXGA+ (1440*900) Glare Type TFT LCD
	Models E & F: 15.6" HD 16:9 (1366 * 768) TFT LCD	
Video Adapter	**Models A, B & E:** **Intel GM45 Integrated Video** High Preference 3D/2D Graphic Accelerator Supports Dynamic Video Memory Technology DVMT (up to **256MB** dynamically allocated from system memory where needed) Supports DirectX10	**Models C, D & F:** **nVIDIA GeForce G 105M Discrete Graphics On-Board** **512MB** of **GDDR2** Video Memory On-Board TurboCache™ Supporting Total Graphics Memory up to **512MB** (depending on system memory) Supports DirectX 10.0
Memory	64-bit Wide **DDRII (DDR2)** Data Channel Supports Dual Channel DDR2 SDRAM Two 200 Pin SO-DIMM Sockets Supporting **DDRII (DDR2)** 667MHz/ 800MHz Memory Expandable up to **4GB** (1024MB/ 2048MB **DDRII** Modules)	
Security	Security (Kensington® Type) Lock Slot Fingerprint ID Reader Module (**Factory Option**)	BIOS Password Built-in Trusted Platform Module
BIOS	One 32Mb SPI Flash ROM	Phoenix™ BIOS

D

Specifications

Feature	Specification	
Storage	One Changeable 12.7mm(h) Optical Device (CD/DVD) Type Drive (see *"Optional" on page D - 7*) Easy Changeable 2.5" 9.5 mm (h) **SATA** (Serial) HDD	
Audio	Intel® High Definition Audio (HDA) Interface 3D Enhanced Sound System	S/PDIF Digital Output 2 * Built-In Speakers (1W, 8Ω) Built-In Microphone
Keyboard & Pointing Device	Winkey Keyboard	Built-In TouchPad with Scrolling Function
Interface	Three USB 2.0 Ports One HDMI-Out Port (High-Definition Multimedia Interface) One Headphone-Out Jack One Microphone-In Jack One S/PDIF-Out Jack	One eSATA Port (supported in *Windows Vista/7* only): AHCI mode supports hot swapping IDE mode does not support hot swapping One RJ-11 Modem Jack One RJ-45 LAN Jack One DC-In Jack One External Monitor Port
Card Reader	Embedded 7-in-1 Card Reader (MS/ MS Pro/ SD/ Mini SD/ MMC/ RS MMC/ MS Duo) **Note:** MS Duo/ Mini SD/ RS MMC Cards require a PC adapter	
ExpressCard Slot	One ExpressCard/34(54) Slot	
Mini-Card Slots	One Mini-Card Slot for **Wireless LAN Module** One Mini-Card Slot for **3.75G/HSPA Module** OR **Intel Turbo Memory Module**	

D

Feature	Specification	

Communication
 	
 涎
 UMTS Modes
 Note that UMTS modes CAN NOT be used in North America.
	Built-In 56K MDC Modem, V.90 & V.92 Compliant
	 Built-In Gigabit Ethernet LAN
	 Bluetooth 2.1 + EDR (Enhanced Data Rate) Module (**Factory Option**)
	 1.3M or 2.0M Pixel USB PC Camera Module (**Factory Option**)
	
	 <u>**Wireless LAN Module:**</u>
	 Intel® WiFi Link 5300 Series (3*3 - 802.11a/g/n) Wireless LAN Mini-Card Module (**Option**)
	 Intel® WiFi Link 5100 Series (1*2 - 802.11a/g/n) Wireless LAN Mini-Card Module (**Option**)
	 Intel® WiFi Link 1000 Series (802.11b/g/n) Wireless LAN Half Mini-Card Module (**Option**)
	 3rd Party 802.11b/g Wireless LAN Mini-Card Module with USB interface (**Option**)
	
	 <u>**3.75G/HSPA Module:**</u>
	 UMTS/HSPDA-based 3.75G/HSPA Module with Mini-Card Interface (**Factory Option**)
	     Quad-band GSM/GPRS (850 MHz, 900 MHz, 1800 MHz, 1900 MHz)
	     UMTS WCDMA FDD (2100 MHz)	

Power Management	Supports ACPI 3.0 Supports Wake on LAN	Supports Resume from Modem Ring Supports Wake on USB
Power	<u>**Models A & B:**</u> Full Range AC/DC Adapter AC input 100 - 240V, 50 - 60Hz, DC Output 19V, 3.42A (**65** Watts)	<u>**Models C, D, E & F:**</u> Full Range AC/DC Adapter AC input 100 - 240V, 50 - 60Hz, DC Output 19V, 4.74A (**90** Watts)
Battery	6 Cell Smart Lithium-Ion Battery Pack, 4400mAH 9 Cell Smart Lithium-Ion Battery Pack, 7200mAH (**Option**)	

D

Specifications

Feature	Specification	
Environmental Spec	Temperature Operating: 5°C - 35°C Non-Operating: -20°C - 60°C	Relative Humidity Operating: 20% - 80% Non-Operating: 10% - 90%
Dimensions & Weight	<u>**Models A & C:**</u> 336mm (w) * 250mm (d) * 24.8 - 35.7mm (h) Around 2.3 kg With 6 Cell Battery <u>**Model E & F:**</u> 374mm (w) * 256mm (d) * 25 - 37.9mm (h) 2.6 kg With 6 Cell Battery and ODD	<u>**Models B & D:**</u> 359mm (w) * 268mm (d) * 24.8 - 37mm (h) 2.6 kg With 6 Cell Battery

D

Feature	Specification	

Optional	**Optical Drive Module Options:**
	DVD-Dual (Super Multi) Device Module
	Blu-ray Device Module
	
	Wireless LAN Module Options:
	Intel® WiFi Link 5300/5100 Series (3*3/1*2 - 802.11a/g/n) Wireless LAN Mini-Card Module
	Intel® WiFi Link 1000 Series (802.11b/g/n) Wireless LAN Half Mini-Card Module
	3rd Party 802.11b/g Wireless LAN Mini-Card Module with USB interface
	
	9 Cell Smart Lithium-Ion Battery Pack
	
	1.3M or 2.0M Pixel USB PC Camera Module (**Factory Option**)
	
	Intel Turbo Memory (Robson) NAND Flash 2G/4G Memory Card Module (**Factory Option**)
		Fingerprint ID Reader Module (**Factory Option**)
		
		Bluetooth 2.1 + EDR (Enhanced Data Rate) Module (**Factory Option**)
		
		UMTS/HSPDA-based 3.75G/HSPA Module with Mini-Card Interface (**Factory Option**)
		    Quad-band GSM/GPRS (850 MHz, 900 MHz, 1800 MHz, 1900 MHz)
		    UMTS WCDMA FDD (2100 MHz)
		
		UMTS Modes
		Note that UMTS modes CAN NOT be used in North America.

Specifications

Appendix E: Windows XP Information

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

DVD Regional Codes

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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 E - 1 **- DVD Region Codes**
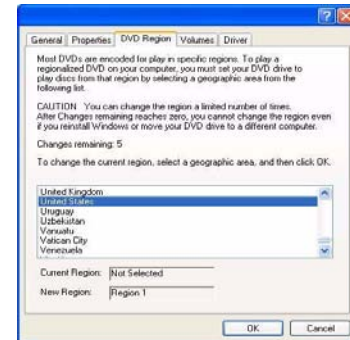
Figure E - 1 **- DVD Regions**

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 E - 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.

TouchPad and Buttons/Mouse

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

Once you have installed the TouchPad driver (see *"TouchPad" on page E - 36*) you can configure the functions by double-clicking the TouchPad driver icon 🖥 on the **taskbar**. You may then configure the TouchPad tapping, buttons, scrolling, pointer motion and sensitivity options to your preferences. You will find further information at www.synaptics.com.

🖉

Mouse Driver

If you are using an external mouse your operating system may be able to auto-configure your mouse during its installation or only enable its basic functions. Be sure to check the device's user documentation for details.
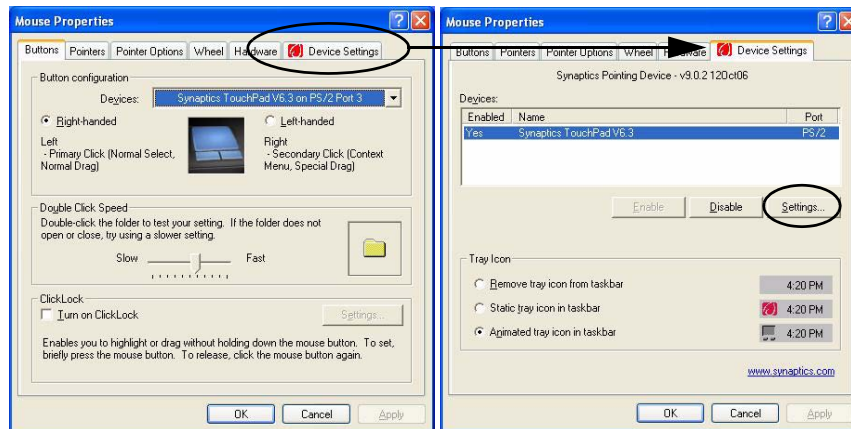
Figure E - 3 **- Mouse Properties**

Function Keys/Hot Key Indicators

The **function keys** will act as **hot keys** when pressed while the **Fn** key is held down. In addition to the basic function key combinations; visual indicators are available (except for **Models C & D** for **F3, F5 & F6**) when the hot key utility is installed (see page *E - 37*). When the driver is installed, an icon will appear in the taskbar.
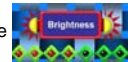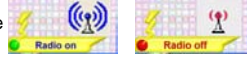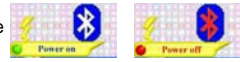
Keys	Function	Keys	Function
Fn + ~	Play/Pause (in Audio/Video Programs)	Fn + F7	Display Toggle
Fn +	3.75G/HSPA Module Power Toggle	Fn + F8/F9	Brightness Decrease/Increase
Fn + F1	TouchPad Toggle	Fn + F10	PC Camera Power Toggle
Fn + F2	Turn LCD Backlight Off (Press a key to or use TouchPad to turn on)	Fn + F11	WLAN Module Power Toggle
Fn + F3	Mute Toggle (No visual indicators for **Models C & D**)	Fn + F12	Bluetooth Module Power Toggle
Fn + F4	Sleep Toggle		*Silent Mode Toggle
Fn + F5/F6	Volume Decrease/Increase (No visual indicators for **Models C & D**)		*When enabled, **Silent Mode** will reduce fan noise and save power consumption. Note this may reduce computer performance.

Table E - 2 **- Hot Key Functions & Indicators**

Audio Features

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

Figure E - 4 **- Realtek Audio Configuration Menus**

Video Features

This computer features two different (either **Intel** integrated video for **Model A, B & E** computers or **NVIDIA** discrete video for **Models C, D & F** computers) video options. 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. For further information see either *"Intel GMA Driver Controls" on page E - 9* (pages *E - 9* to *E - 14*) or *"NVIDIA Video Driver Controls" on page E - 15* (pages *E - 15* to *E - 18*).

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 E - 5 on page E - 8*).
5. Click the arrow, and scroll to the preferred setting in **Color quality** ❷ (*Figure E - 5 on page E - 8*).
6. Open the **Display Properties** control panel, and click **Advanced** (button) ❸ (*Figure E - 5 on page E - 8*) to bring up the Advanced properties tabs.

To access the *Intel GMA Driver for Mobile Control Panel (Models A, B & E)*:

1. The **Intel GMA** control panel can be accessed by clicking the icon 🖼 in the taskbar and selecting **Graphics Properties** from the menu (or from the **Intel GMA Driver for Mobile Control Panel** in the *Windows* control panel).

To access the *NVIDIA Control Panel (Models C, D & F)*:

1. The **NVIDIA Control Panel** can 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 & Intel Utility Manager/NVIDIA Control Panel

Right-click taskbar icon

Right-click desktop
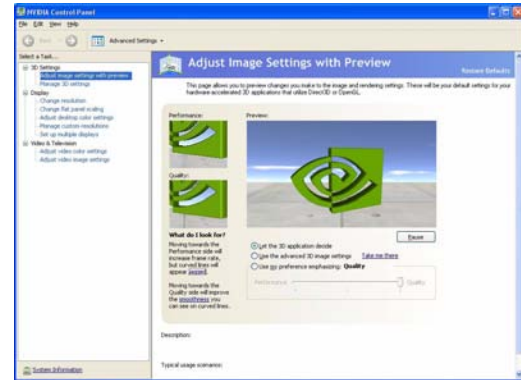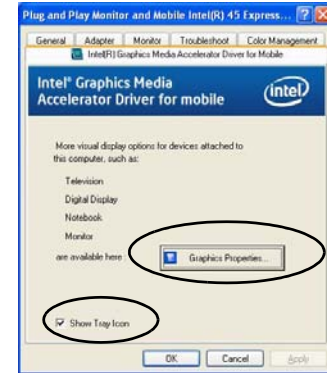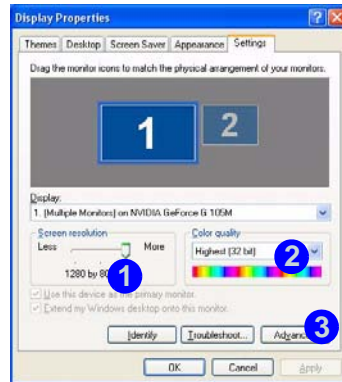
Figure E - 5 **- Display Properties & Video Control Panels**

Intel GMA Driver Controls

(Models A, B & E)

Access the **Intel GMA** control panel as indicated . You may make changes to the Display Devices, Display Settings, Color Correction, Hot Keys etc. by clicking the appropriate menu item.
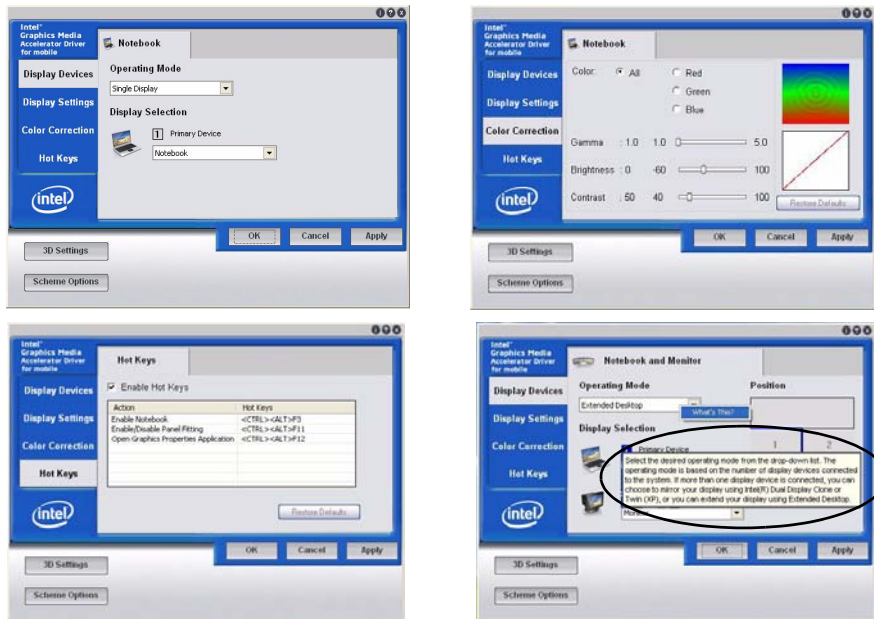
Figure E - 6 **- Intel GMA Driver for Mobile**

> 🖉
>
> **Help Menus**
>
> Right-click on many of the items in the tabs to bring up the "**What's This?**" button.
>
> Click the "**What's This?**" button to bring up the help menu.
>
> **Display Selection**
>
> At least one other display must be attached in order to view multiple **Display Selection** 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.

Dynamic Video Memory Technology

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

Display Devices & Options

Besides the built-in LCD you can also use an external monitor/flat panel display/TV (TV through HDMI-Out port only), connected to the external monitor port or to the HDMI-Out port (High-Definition Multimedia Interface) as your display device. The following are the display options:

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

Figure E - 7 **- Display Options**

See for instructions on configuring audio when setting up an HDMI display as an external device.

Attaching Other Displays (Intel GMA)

1. Attach your external display to the external monitor port or HDMI-Out port, and turn it on.
2. Go to the **Intel GMA** control panel and click **Display Devices**.
3. Click to choose the display option from the **Operating Mode** menu.
4. Click to choose the display selection from the **Display Selection** menu.
5. Click **Apply**, and **OK** to confirm the settings change.
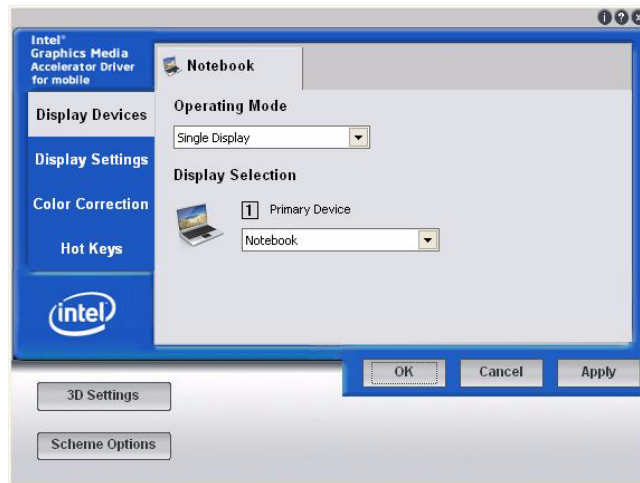
Figure E - 8 **- Display Devices**

<table>
<tr><td>

🖉

Fn + F7 & HDMI Connection

Note that the **Fn + F7** key combination will be disabled in certain driver versions. If this is the case go to the **Intel(R) GMA Driver for mobile control panel** to configure displays.

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

E

Intel GMA Driver Controls E - 11

To Enable Intel(R) Dual Display Clone (Intel GMA)

1. Attach your external display to the external monitor port or HDMI-Out port, and turn it on.
2. Go to the **Intel GMA** control panel and click **Display Devices**.
3. Click to choose **Intel(R) Dual Display Clone** from the **Operating Mode** menu.
4. Choose which device is to be the **Primary Device** from the **Display Selection** menu.
5. Click **Apply**, and **OK** to confirm the settings change.
6. Click **Display Settings** to adjust the settings for the attached devices.
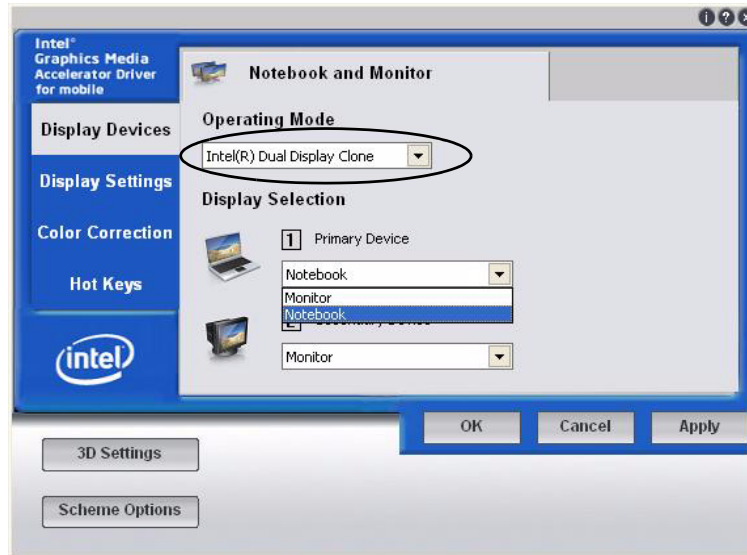
Figure E - 9 - **Display Devices - Intel(R) Dual Display Clone**

To Enable Extended Desktop (Intel GMA)
1. Attach your external display to the external monitor port or HDMI-Out port, and turn it on.
2. Go to the **Intel GMA** control panel and click **Display Devices**.
3. Click to choose **Extended Desktop** from the **Operating Mode** menu.
4. Choose which device is to be the **Primary Device** from the **Display Selection** menu.
5. Click **Apply**, and **OK** to confirm the settings change.
6. Click **Display Settings** to adjust the settings for the attached devices.

🖉

**Display Settings
Extended Desktop**

You can have different Color Quality, Screen Resolution and Refresh Rates for each display device **provided your monitor can support them**.

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

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

Click Display Settings to make any adjustments required.

Figure E - 10 **- Display Devices - Extended Desktop**

E

Intel GMA Driver Controls E - 13

Windows XP Information

To Enable Extended Desktop (Windows Display Properties)

1. Attach your external display to the external monitor 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.

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 E - 11 **- Display Properties (Extended Desktop)**

NVIDIA Video Driver Controls

(**Models C, D & F**)

Access the **NVIDIA Control Panel** as indicated . You may make changes to the video and display settings by clicking the appropriate menu item.
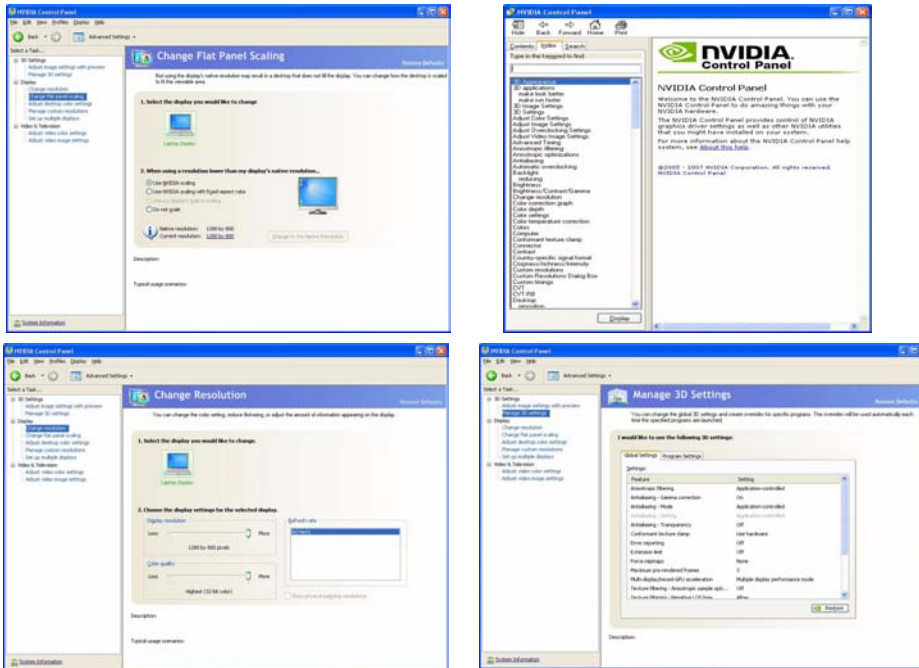
Figure E - 12

NVIDIA Control Panels

HDMI Connection (NVIDIA WinXP)

Note for external displays connected to the **HDMI-Out port**:

If you disconnect the HDMI cable, and later reconnect it, you will then need to go to the **NVIDIA Control Panel** to reconfigure the connected displays in either **Clone/Extended Mode**.

Display Devices and Modes (NVIDIA)

Besides the built-in LCD you can also use an external monitor/flat panel display/TV (TV through HDMI-Out port only), connected to the external monitor port or to the HDMI-Out port (High-Definition Multimedia Interface) as your display device. The following are the display options:

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 E - 3 **- Display Modes**

See *"HDMI Audio Configuration" on page E - 19* for instructions on configuring audio when setting up an HDMI display as an external device.
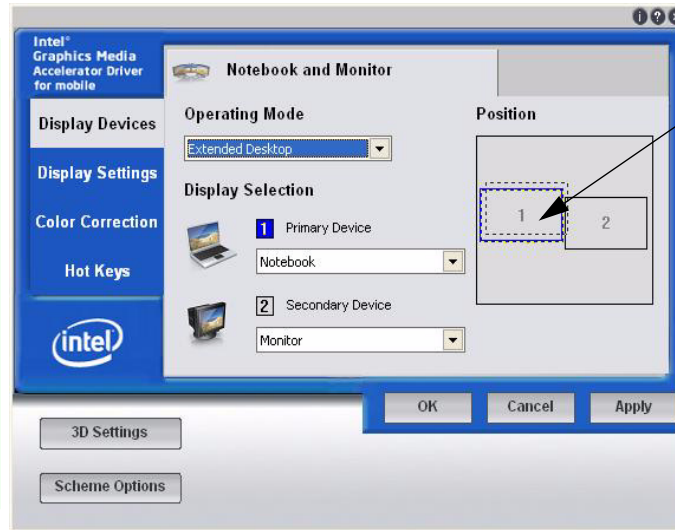
Attaching Other Displays (NVIDIA)

1. Attach your external display to the external monitor 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**.
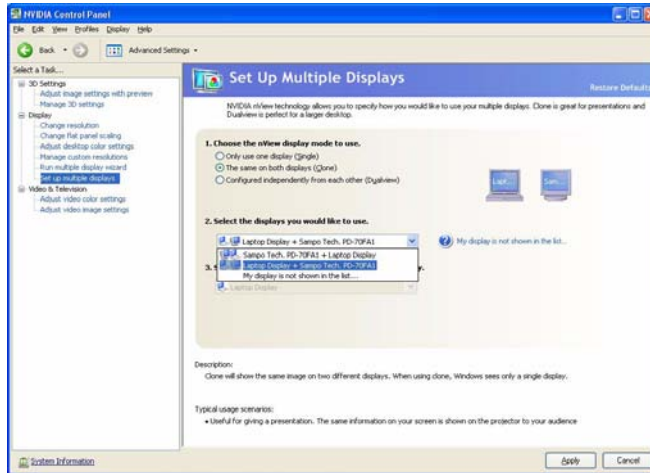
Figure E - 13 **- Set Up Multiple Displays**

E

NVIDIA Video Driver Controls E - 17

Windows XP Information

To Enable Extended Desktop (Windows Display Properties)

1. Attach your external display to the external monitor 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.

🖉

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 E - 14 **- Display Properties (Extended Desktop)**

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. 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 **HDMI Device/NVIDIA HDMI Audio**.
5. Click **OK** to close the control panel (see overleaf).
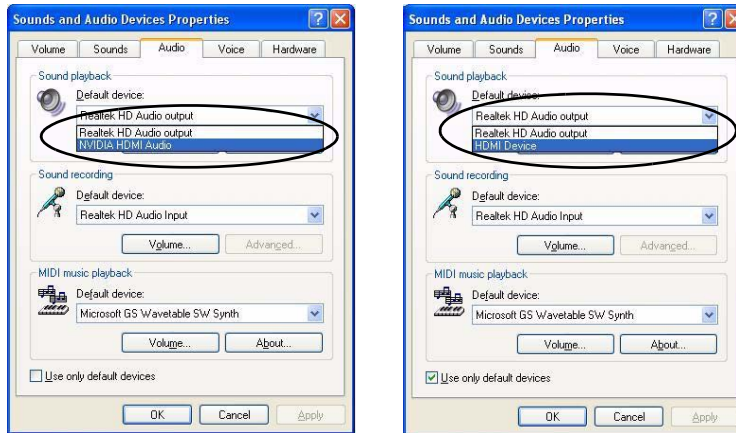
Figure E - 15
Sounds and Audio Devices Properties

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 *"Attaching Other Displays (Intel GMA)" on page E - 11*/*"Attaching Other Displays (NVIDIA)" on page E - 17*.
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.

Power Management Features

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

The **Power Options** control panel icon in *Windows* (see page *E - 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.

Advanced Configuration and Power Interface

The **ACPI** interface provides the computer with enhanced power saving techniques and gives the operating system (OS) direct control over the power and thermal states of devices and processors. For example, it enables the OS to set devices into low-power states based on user settings and information from applications. ACPI is fully supported in *Windows XP*.

🖊

OS Note

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

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

E

The Power Sources

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

AC/DC Adapter

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

1. Attach the AC/DC adapter to the DC-in jack on the left of the computer.
2. Plug the AC power cord into an outlet, and then connect the AC power cord to the AC/DC adapter.
3. Raise the lid/LCD to a comfortable viewing angle.
4. Press the power button to turn "On".

Battery

The battery allows you to use your computer while you are on the road or when an electrical outlet is unavailable. Battery life varies depending on the applications and the configuration you're using. **To increase battery life, let the battery discharge completely before recharging** (see *"How do I completely discharge the battery?" on page E - 32*).

We recommend that you do not remove the battery. For more information on the battery, please refer to *"Battery Information" on page E - 29*.

Turning on the Computer

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

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

🖉

Shutdown

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

🖉

Forced Off

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

Power Button as Stand by or Hibernate Button

If you are using a fully ACPI-compliant OS, (such as Windows XP) you can use the OS's "Power Options" control panel to set the power button to send the system into Stand by or Hibernate mode (see your OS's documentation, or *"Configuring the Power Button" on page E - 28* for details).

E

Power Schemes

You can set your computer to conserve power through individual components by means of **Power Schemes**. You can also adjust the settings for each scheme to set the monitor to turn off after a specified time, and the computer's hard disk motor to turn off if the hard disk drive has not been accessed for a specified period of time (if the system reads or writes data, the hard disk motor will be turned back on). The schemes may also be set to set a specified time for the system to enter **Stand by** or **Hibernate** modes (see *"System Power Options" on page E - 26*).

Figure E - 16
Power Schemes
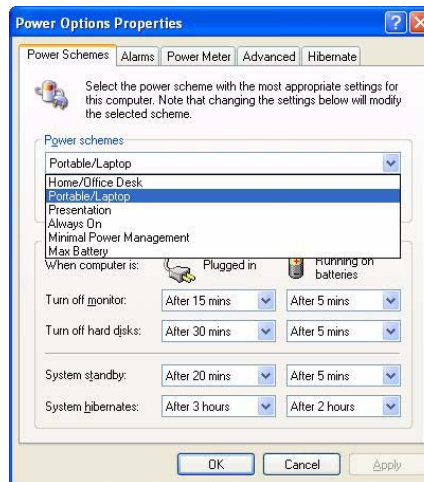
Each *Windows* **Power Scheme** will also adjust the processor performance of your machine in order to save power. This is worth bearing in mind if you are experiencing any reduced performance (especially under DC/battery power).

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

☼

Stand by/Hibernate or Shutdown Error

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

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

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

Download and install the Hotfix to correct this error.

System Power Options

You can use the system power options to stop the computer's operation and restart where you left off. This system features **Stand by** and **Hibernate** sleep mode levels (**Hibernate** mode will need to be enabled by clicking the option in the **Hibernate** tab in the **Power Options** control panel - see *"Hibernate" on page E - 27*).

Hibernate Mode vs. Shutdown

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

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

You can use either method depending on your needs.

Stand by Mode vs. Hibernate Mode

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

Stand by

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

Hibernate

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

🖉
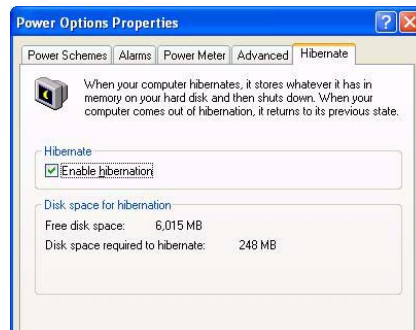
System Resume

The system can resume from Stand by mode by:

• Pressing the power button

• Pressing the **Sleep/ Resume** key combination

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

• Network card (Wake On LAN) activity (if enabled)

Figure E - 17
Enable Hibernation

Configuring the Power Button

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

Figure E - 18
**Power Options
(Advanced - Power
Buttons)**
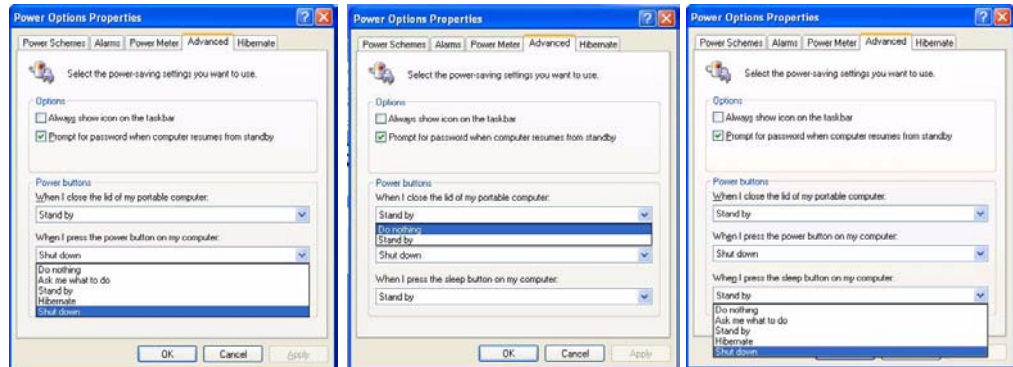
Power Button   Lid   Sleep/Resume
(Sleep) Button

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 E - 32* for instructions on how to do this).

Battery Life

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

> 泌
> **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.
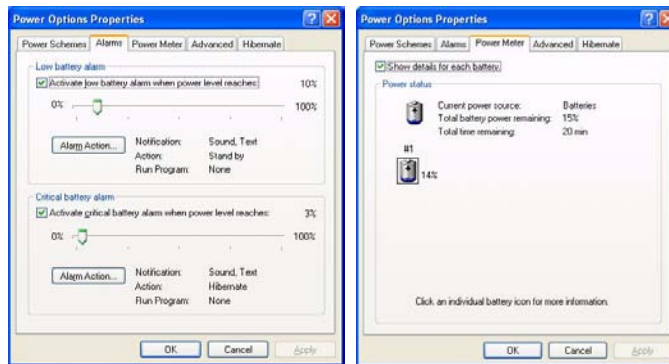
Figure E - 19
Power Options (Alarm & Power Meter)

Windows XP Information

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

We recommend that you do not remove the battery yourself. If you need to remove the battery for any reason, see *"Removing the Battery" on page 6 - 3*.

Recharging the Battery with the AC/DC Adapter

The battery pack automatically recharges when the AC/DC adapter is attached and plugged into an electrical outlet. If the computer is powered on, and in use, it will take several hours to fully recharge the battery. When the computer is turned off but plugged into an electrical outlet, battery charge time is less. (Refer to *"LED Indicators" on page 1 - 11* for information on the battery charge status, and to *"Battery Information" on page E - 29* for more information on how to maintain and properly recharge the battery pack.)

🖉

Conserving Battery Power

To conserve battery power:

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

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

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

Disconnect any unnecessary external devices.

Proper handling of the Battery Pack

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

☼

Damaged Battery Warning

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

> ⚠
>
> **Caution**
>
> Danger of explosion if battery is incorrectly replaced.
>
> Replace only with the same or equivalent type recommended by the manufacturer. Discard used battery according to the manufacturer's instructions.

Battery FAQ

How do I completely discharge the battery?

Use the computer with battery power until it shuts down due to a low battery. Don't turn off the computer by yourself even when you see a message that indicates the battery is critically low, just let the computer use up all of the battery power and shut down on its own. Disable the **Power Options** functions in the **Control Panel**, especially any **Alarms** (**unclick** the tickboxes - see page *E - 29*) and **Schemes** (change all the settings to **Never** - see page *E - 24*). 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.

Driver Installation

Insert the *Device Drivers & Utilities + User's Manual* disc, click *Install Drivers/Option Drivers* (button) and then click the appropriate driver name from the *Drivers Installer* menu. Follow the instructions to install the driver. Alternatively click **Start**, navigate (**Browse..**) to the executable file and then follow the manual setup instructions.

1. Check the driver installation order from *Table 6* (**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 greyed 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 E - 20 **- Drivers Installer Screen 1**

Figure E - 21 **- Drivers Installer Screen 2**

WinXP SP3 Driver	Page #
Chipset	*Page E - 35*
Audio	*Page E - 35*
Video	*Page E - 36*
Modem	*Page E - 36*
LAN	*Page E - 36*
TouchPad	*Page E - 36*
CardReader	*Page E - 36*
Hot Key	*Page E - 37*
PC Camera Module	*Page E - 43*
3.75G/HSPA Module	*Page E - 51*
WLAN Module	*Page E - 55*
Fingerprint Reader Module	*Page E - 58*

Table 6 **- Driver Installation**

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.

⚠️
Windows XP Service Pack 3

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

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Driver Installation General Guidelines

The driver installation procedures outlined in this Chapter are accurate at the time of going to press.

Drivers are always subject to upgrade and revision so the exact procedure for certain drivers may differ slightly. As a general guide follow the default on screen instructions for each driver (e.g. **Next > Next > Finish**) unless you are an advanced user. In many cases a restart is required to install the driver.

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.

Audio

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

Video

1. Click **3.Install Video Driver > Yes**.

Models A, B & E (Intel):

2. Click **Next > Yes > Next > Next**.
3. Click **Finish** to restart the computer.

Models C, D & F (NVIDIA):

4. Click **Next**.
5. Click "*Yes, I want to restart my computer now.*" (button).
6. Click **Finish** to restart the computer.

Modem

1. Click **4.Install Modem Driver > Yes**.
2. Click **OK**.
3. Click **OK** to restart the computer.

OR

1. Click **4.Install Modem Driver > Yes**.
2. Click **OK**.
3. The modem is ready for dial-up 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**.
3. Click **Install > 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.

CardReader

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.

Figure E - 22 **- Drivers Installer -
Option Drivers Menu**

Wireless LAN, Bluetooth & 3.75G/HSPA Modules

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Wireless Device Operation Aboard Aircraft

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

🖉

Wireless LAN, Bluetooth & 3.75G/HSPA Modules Power Toggle

Enable power to the modules as follows:

Fn + F11 = Wireless LAN Module Power Toggle
Fn + F12 = Bluetooth Module Power Toggle
Fn + ⬚ = 3.75G/HSPA Module Power Toggle

The LED indicator (📶) will be **green** if the WLAN module is on, and **orange** if the Bluetooth module is on.

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 Keys/Hot Key Indicators" on page E - 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.

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 [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 [icon] for the Bluetooth local area connection will be displayed in the taskbar **when connected** (see sidebar and overleaf).

<table>
<tr><td>

🔔

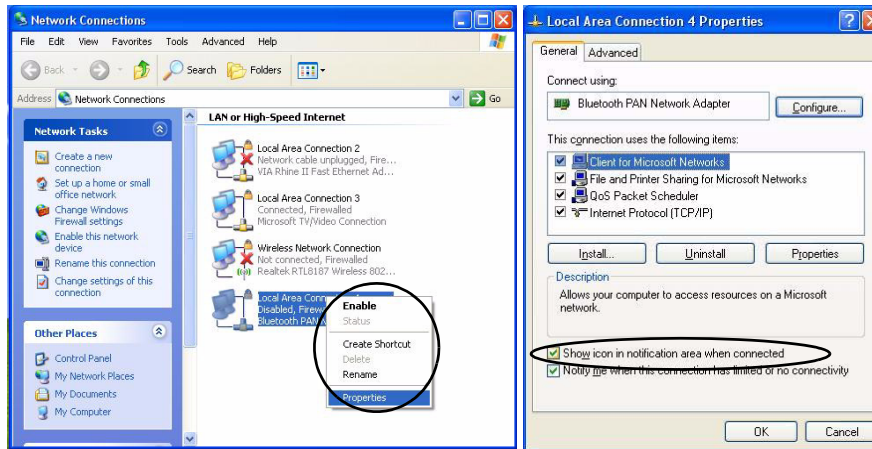**Wireless Device Operation Aboard Aircraft**

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 E - 2, on page E - 5*/ *Table 1 - 4, on page 1 - 12*).

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

Figure E - 23
Local Area Connection

E

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.
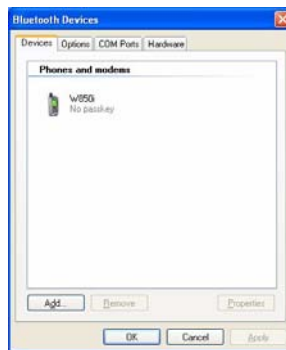
Figure E - 24
Bluetooth Devices & Click Icon Menu

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 E - 25
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**.

 🖉

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 E - 26
Passkey Option

9. Click **Finish**.

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

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

To Make your Computer Discoverable to Bluetooth Devices
1. Access the **Bluetooth Devices** control panel.
2. Click **Options**, and make sure that *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 E - 27
Bluetooth Devices Options
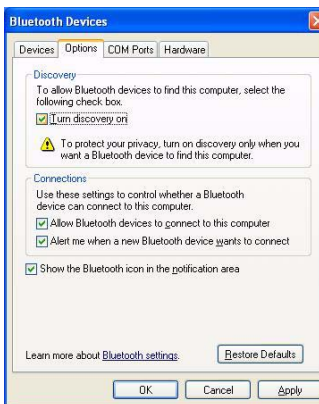
PC Camera Module

Before installing the optional **PC Camera** module driver use the **Fn** + **F10** key combination to toggle power to the module. There are a number of different camera modules available with this computer model series. You will have the appropriate application installed for your camera. Some camera models use the **BisonCap** application, and others use the **AveoCap** application. **Make sure you access the application via the WebCam desktop shortcut**.

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 **1.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/AveoCap** application program from the **WebCam** desktop shortcut (if the hardware is turned off use the **Fn** + **F10** key combination to turn it on again).

🖉

Taking Still Pictures

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

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

PC Camera Audio Setup

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

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

BisonCap/AveoCap are video viewers for general purpose video viewing and testing, and for capturing video files to .avi format.

1. Run the **BisonCap/AveoCap** application from the desktop shortcut (it is recommended that you **set the capture file** before the capture process - **see** *"Set Capture File (BisonCap)" on page E - 46*/*"Set Capture File Folder (AveoCap)" on page E - 46*).
2. Go to the **Capture** menu heading (if you wish to capture audio check *"PC Camera Audio Setup" on page E - 44*) and select **Start Capture**.

For BisonCap:

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

For AveoCap:

4. Click **Yes** to start capturing the video, and press **Esc** to stop the capture (you can view the file using the **Windows Media Player**).

🖉

Pre-Allocating File Size/Space

You may pre-allocate the file size (**File > Allocate File Size/Space**) for the capture file in the **Bison-Cap/AveoCap** program (you will need to set a folder first for the **Aveo-Cap** 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 E - 47*.

Set Capture File (BisonCap)

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

Set Capture File Folder (AveoCap)

Prior to capturing video files you may select the **Set capture file Folder...** and browse to the folder where you want to save the captured files (in **AveoCap** you will need to create a folder on the hard disk first) and then **Set File Size** and click **OK**. You can then start the capture process as on the previous page.

Note the important information in *"Reducing Video File Size" on page E - 47* **in order to save file space, and help prevent system problems.**

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 (BisonCap)" on page E - 46*/*"Set Capture File Folder (AveoCap)" on page E - 46*), limit the file size of the captured video (see *"Pre-Allocating File Size/Space" on page E - 45*) or reduce video resolution (see below).

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

Eliminating Screen Flicker

If you find that the video screen in the **BisonCap/AveoCap** program is flickering, you can try to adjust the setting in the **Video Capture Filter** options.
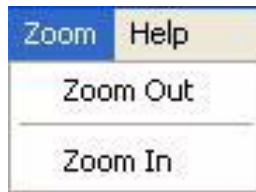
1. Run the **BisonCap/AveoCap** application program from the desktop shortcut.
2. Go to **Options** and scroll down to select **Video Capture Filter...**.
3. Click either **50Hz** or **60Hz** under **Frequency/Anti Flicker** in **Property Page** (tab).

Zoom

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

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

Figure E - 28
Zoom/Setting

🔔
Snapshot Folder

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

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

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

Taking Still Pictures

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

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

3.75G/HSPA Module

If you have included an optional **3.75G**/**HSPA module** in your purchase option fol-low the instructions 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 3.75G/HSPA module is on. Use the **Fn** + 🔲 **key combination** (see) **to toggle power to the 3.75G/HSPA module**.

🔔

Important Notice - 3.75G/HSPA & Bluetooth/Wireless LAN Modules

In order to comply with FCC regulations you should NOT operate the 3.75G/HSPA module and the Bluetooth/Wireless LAN modules at the same time as this may disrupt radio fre-quency, and cause interference. When the 3.75G/HSPA module is powered on, make sure that the Bluetooth/Wireless LAN modules are powered off.

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3.75G/HSPA Module Options

There are **three optional** 3.75G/HSPA modules available for this series of computer models. Each module is supplied with the appropriate application software.

The module type supplied may depend upon the com-puter model purchased. Check with your service center for details.

Install the driver from the Drivers Installer menu and check the instructions for the appropriate application on the following pages.

Windows XP Information

Before installing the application, make sure that the 3.75G/HSPA module is ON (installing the driver with the module off will not allow the software to detect the module hardware correctly). Use the **Fn +** ▧ **key combination** (see *"Function Keys/Hot Key Indicators" on page E - 5*) **to toggle power to the 3.75G/HSPA module**. When the 3.75G/HSPA module is powered on, the indicator 📶 🔌 will briefly be displayed. Make sure you install the drivers in the order indicated in *Table 6, on page E - 34*. **Note that exiting the application does NOT turn off the 3.75G/HSPA module**.

- **3G Watcher** - See *"3G Watcher Application Installation" on page E - 51* for driver installation information and *"Setting Up a Carrier Profile" on page 7 - 21* for instructions on using the **3G Watcher** application.

- **HSPA Modem Interface** - See *"HSPA Modem Interface Installation" on page E - 52* for driver installation information and *"HSPA Modem Interface" on page 7 - 28* for instructions on using the **HSPA Modem Interface**.

- **Mobile Partner** - See *"Mobile Partner Application Installation" on page E - 53* for driver installation information and *"Mobile Partner Application" on page 7 - 37* for instructions on using the **Mobile Partner** application.

3G Watcher Application Installation

1. Enable power to the module by pressing the **Fn** + ▢ key combination (give the module about 10 seconds to power on - the on screen icon 🔋 will indicate the module's power status).
2. If a *Found New Hardware* window appears, click **Cancel** in all windows that appear, and then proceed to install the driver as below.
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 - 12 on page 7 - 20*) before clicking **Finish** (this allows the hardware to detect the 3.75G/HSPA module).
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. See *"Setting Up a Carrier Profile" on page 7 - 21* and *"Connecting to the Service Provider" on page 7 - 23* for instructions on using the **3G Watcher** application.

HSPA Modem Interface Installation

1. Enable power to the module by pressing the **Fn** + ⬚ key combination (give the module about 10 sec-
    onds to power on - the on screen icon 🔋💬 will indicate the module's power status).
2. If a *Found New Hardware* window appears, click **Cancel** in all windows that appear, and then pro-
    ceed to install the driver as below.
3. Insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
4. Click **Option Drivers** (button).
5. Click **2.Install 3G Driver > Yes**, and then click **Next**.
6. Click **Next > Install > Finish**.
7. Access the **HSPA Modem Interface** from the **Start** menu (**Start > Programs/All Programs > HSPA
    modem**), or by double-clicking the **HSPA modem** icon on the desktop.
8. See *"HSPA Modem Interface" on page 7 - 28* for instructions on using the **HSPA Modem Interface**
    application.

Mobile Partner Application Installation

1. Enable power to the module by pressing the **Fn** + ▦ key combination (give the module about 10 seconds to power on - the on screen icon 🔋💠 will indicate the module's power status).
2. If a *Found New Hardware* window appears, click **Cancel** in all windows that appear, and then proceed to install the driver as below.
3. Insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
4. Click **Option Drivers** (button).
5. Click **3.3G Driver > Yes**.
6. Choose the language you prefer and click **OK**.
7. Click **I Agree** (button) to accept the license agreement.
8. Click **Next > Install**.
9. Click **Finish** to restart the computer.
10. Access the **Mobile Partner** application from the **Start** menu (**Start > Programs/All Programs > Mobile Partner**), or by double-clicking the **Mobile Partner** icon on the desktop.
11. See *"Mobile Partner Application" on page 7 - 37* for instructions on using the **Mobile Partner** application.

WLAN Module

If you have included an **Intel® Wi-Fi Link 5100/5300 Series (802.11 a/g/n), Intel® Wi-Fi Link 1000 Series (802.11 b/g/n) or 3rd Party 802.11b/g/n WLAN** module in your purchase option, use the **Fn + F11** key combination to toggle power to the module. Your installation procedure will be dependent upon which WLAN module is included in your purchase option.

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Download Prerequisite Files (Intel WLAN modules if Service Pack 3 is not installed)

Make sure you install **Windows XP Service Pack 3** (or a Windows XP version which includes Service Pack 3) **before installing the Intel WLAN driver**. If you DO NOT have Service Pack 3 installed then **make sure you have a working internet connection** before beginning the driver installation process for *Windows XP*.

You will be pointed to download the required **Windows Installer 3.1** and **Microsoft MSXML 6.0** files. as part of the installation procedure overleaf. This information applies to Intel WLAN modules only.

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. Click **Option Drivers** (button).
4. Click **3.Install Wireless Lan Driver > Yes** (**if SP3 is installed go straight to step 12**).
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 > Next.**
13. Click the button to accept the license and click **Next > Next > Next**.
14. Click **Finish** to complete the installation.
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.
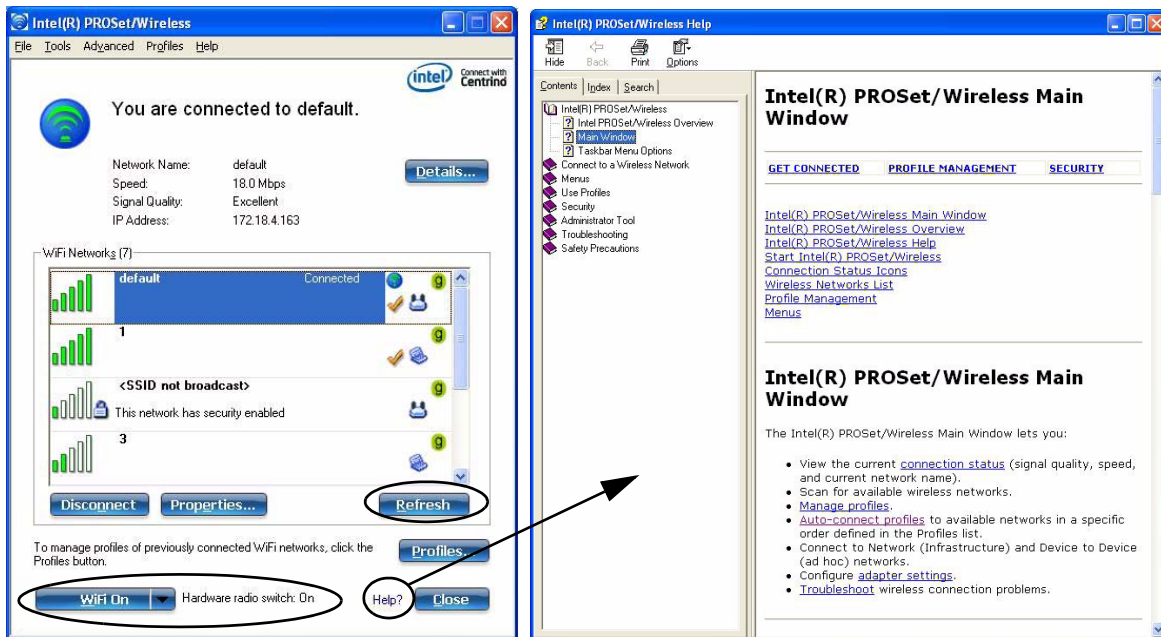19. Make sure that the **WiFi On** button is selected.

Figure E - 29 **- Intel PROSet Wireless WiFi Connection Utility**

3rd Party 802.11b/g 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. Click **Option Drivers** (button).
3. Click **3.Install Wireless Lan Driver > Yes**.
4. Choose the language you prefer and click **Next**.
5. Click **Next > Install**.
6. Click **Finish** to complete the installation.
7. The operating system is the default setting for Wireless LAN control in *Windows XP*.
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**.

🖉

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**).
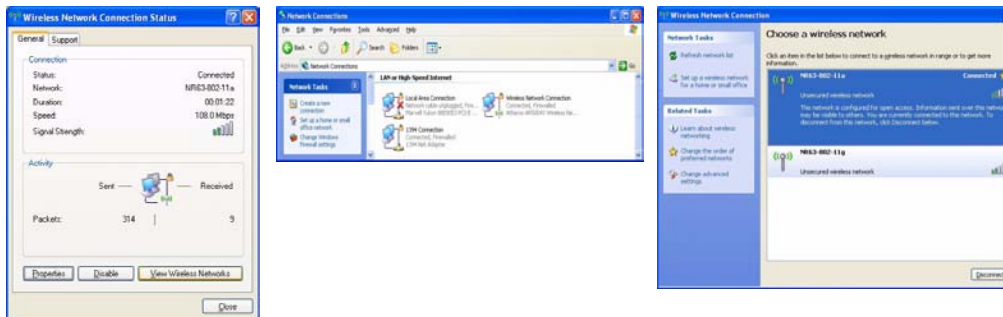
Figure E - 30
Wireless Network Control Panels

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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 **6.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 **6.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).

User Enrollment

1. Click **Start > Programs/All Programs > Protector Suite QL > User Enrollment**, or double-click the taskbar icon .
2. Click **Initialize**.
3. On the first run of the program you will be asked to click the button to accept the license, and then click **OK**.
4. Click **Next** and select "*Enrollment to the hard disk*", and click **Finish**.
5. 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).
6. Click **Next**, and you will then be prompted to enter your *Windows* password and click **Next**.
7. Select either to use the fingerprint reader alone for authentication, or choose both the fingerprint reader and the *Windows* password, and then click **Next**.
8. Click **Next > Next** (if you have the "*Run interactive tutorial*" tickbox selected you will run through the Fingerprint Tutorial).
9. Click **Next** for each window of the tutorial (you can click the button to "*skip tutorial*" at any time).
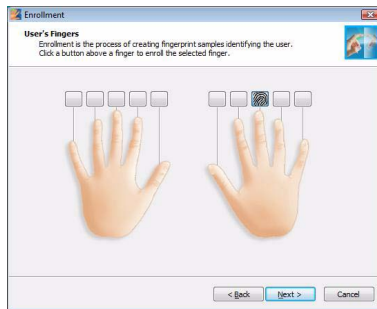10. Click the button above any of the fingers to begin the enrollment process for that finger.

Figure E - 31 **- Fingerprint Enrollment**

11. Swipe the finger **five** times to enroll that finger.
12. Repeat the process for all the fingers you wish to enroll (see sidebar), and then click **Next** > **Finish**.
13. Click "**Help**" in the **Fingerprint Control Center** to get more information on any topic.
14. You can also run the **Tutorial**, or **Introduction** (to run the product tour video) to get more information.
15. Right-click the taskbar icon 🔲 to bring up the **Control Center** that allows you to **Edit Fingerprints**, **register applications**, manage **Password Bank, File Safe** and 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.
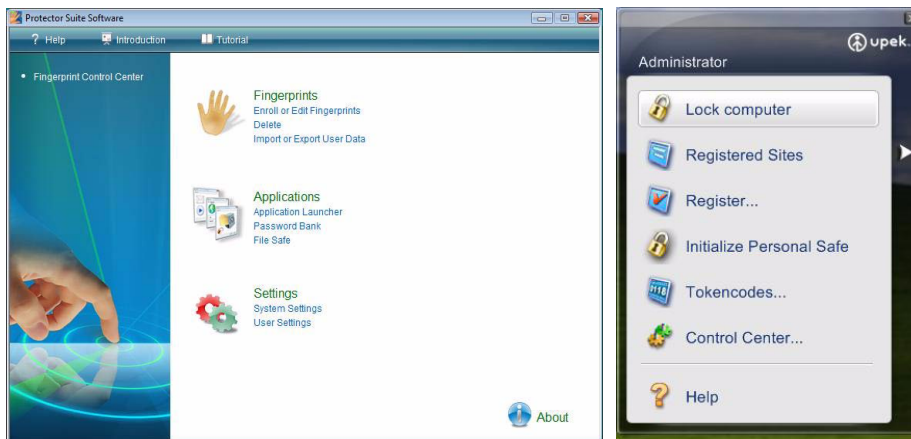

Figure E - 32 **- Control Center & Biomenu**

16. See *"Help & Manual" on page E - 58* 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**, access the **Personal Safe** open the **Control Center** and access the **Help** menu.

Fingerprint Control Center Features

Application Launcher
The **Application Launcher** allows you to register applications to be launched when assigned to a particular finger. Simply copy the application icon on to one of the registered fingers and ten click OK to close the application window. Once registered the application will launch when you swipe the appropriate finger across the sensor.

Password Bank
The **Password Bank** stores registrations of user names, passwords and other settings for web sites etc.

File Safe
File Safe is an encrypted area assigned on your hard drive that allows you to store files and folders to be protected by fingerprint protection.

For more information on these and other features simply access "**Help**" in the **Fingerprint Control Center** and select the item from the menu on the left.

Windows XP Information

Appendix F: Windows 7 Information

This Appendix contains information (including control panel information, driver installation etc.) for users of the *Windows 7 OS* where there are significant differences from *Windows Vista*, or where is it helpful to have essential information or features repeated. For items not specifically covered here see the remainder of the manual for information.

Operating System Setup

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

1. Start-up the computer and press <**F2**> to enter the **BIOS**.
2. Go to the **Advanced** menu, select "*Installed O/S*" and make sure the appropriate operating system is selected.
3. Go to the **Exit** menu and select "*Exit Saving Changes"* (or press **F10** and select "**Yes**" then press Enter) and press Enter to exit the BIOS and reboot the computer.
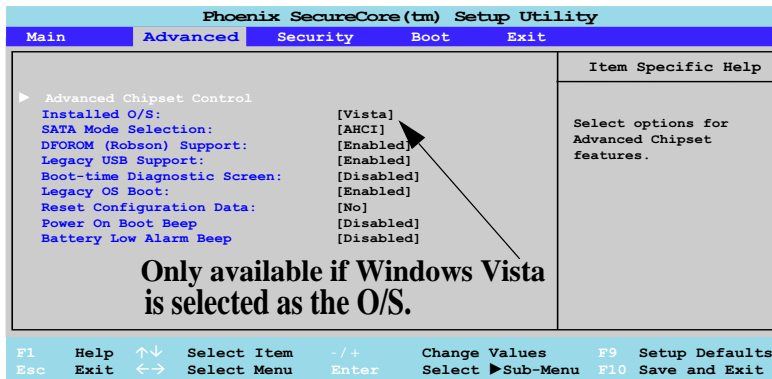

Figure F - 1 **- Advanced BIOS Menu**

DVD Regional Codes

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Changing DVD Regional Codes

Go to the **Control Panel** and double-click **Device Manager (System and Security > System)**, 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 F - 1 **- DVD Region Codes**
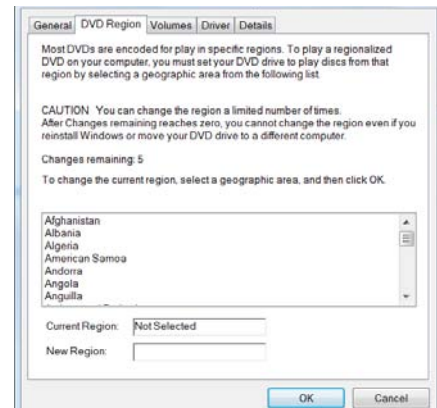
Windows 7 Start Menu & Control Panel

Most of the control panels, utilities and programs within *Windows 7* (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.
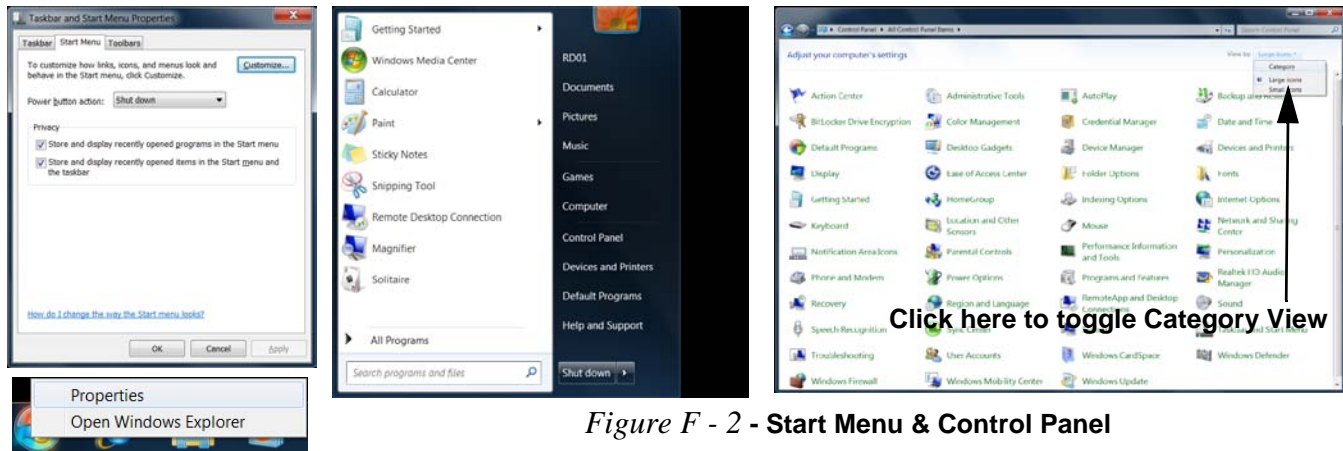
Figure F - 2 **- Start Menu & Control Panel**

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 7* 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* to view the control panel icons.

LED Indicators

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

Icon	Color	Description
🛢	Green	Hard Disk Activity
🔒1	Green	Number Lock Activated
🔒A	Green	Caps Lock Activated
🔒↓	Green	Scroll Lock Activated (to activate press Fn & Scr Lk)
⊶/⏻	Orange	DC Power is Plugged In
	Green	The Computer is On
	Blinking Green	The Computer is in Sleep Mode
🔋	Orange	The Battery is Charging
	Green	The Battery is Fully Charged
	Blinking Orange	The Battery Has Reached Critically Low Power Status
(((•)))	Green	The (**optional**) Wireless LAN Module is Powered On
	Orange	The (**optional**) Bluetooth Module is Powered On

Table F - 2 **- LED Indicators**

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 are available when the hot key utility is installed (see *"Hot Key" on page F - 31*). When the driver is installed, an icon will appear in the taskbar.
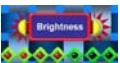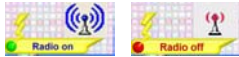
Keys	Function	Keys	Function
Fn + ~	Play/Pause (in Audio/Video Programs)	Fn + F7	Display Toggle
Fn +	3.75G/HSPA Module Power Toggle	Fn + F8/F9	Brightness Decrease/Increase
Fn + F1	TouchPad Toggle	Fn + F10	PC Camera Power Toggle
Fn + F2	Turn LCD Backlight Off (Press a key to or use TouchPad to turn on)	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 F - 3 **- Function & Hot Key Indicators**

Video Features

This computer features two different (either **Intel** integrated video for **Model A, B & E** computers or **NVIDIA** discrete video for **Models C, D & F** computers) video options. You can switch display devices, and configure display options, from the **Display Settings** control panel (in **Personalization**) in *Windows Vista*. For more detailed video information seeFor more detailed video information see *Chapter B"Intel Video Driver Controls" from page B - 1/ Chapter C"NVIDIA Video Driver Controls" from page C - 1*.

To access **Display (Control Panel) and Screen Resolution** in *Windows*:
1. Click **Start** and click **Control Panel**.
2. Click **Display** (icon) - In the **Appearances and Personalization** category.
3. Click **Adjust Screen Resolution/Adjust resolution**.

OR
4. Alternatively you can right-click the desktop and select **Screen resolution** (see right).
5. Use the dropbox to select the screen **Resolution** ❶ (*Figure F - 3 on page F - 8*).
6. Click **Advanced settings** ❷ (*Figure F - 3 on page F - 8*) to bring up the **Advanced** properties tabs.
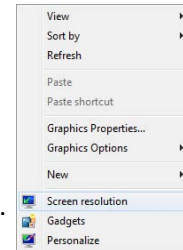
To access the *Intel GMA Driver for Mobile Control Panel (Models A, B & E)*:
The **Intel GMA** control panel can be accessed by clicking the icon in the taskbar and selecting **Graphics Properties** from the menu (or from the **Intel GMA Driver for Mobile Control Panel** in the *Windows* control panel). Note that Intel(R) TV Wizard is not available for Windows 7.

To access the *NVIDIA Control Panel (Models C, D & F)*:
The **NVIDIA Control Panel** can be accessed by right-clicking the desktop, and then clicking **NVIDIA Control Panel** (or from the **NVIDIA Control Panel** in the *Windows* control panel).

Screen Resolution

Besides the built-in LCD, you can also use an **external VGA monitor** (CRT)/**external Flat Panel Display** as your display device.
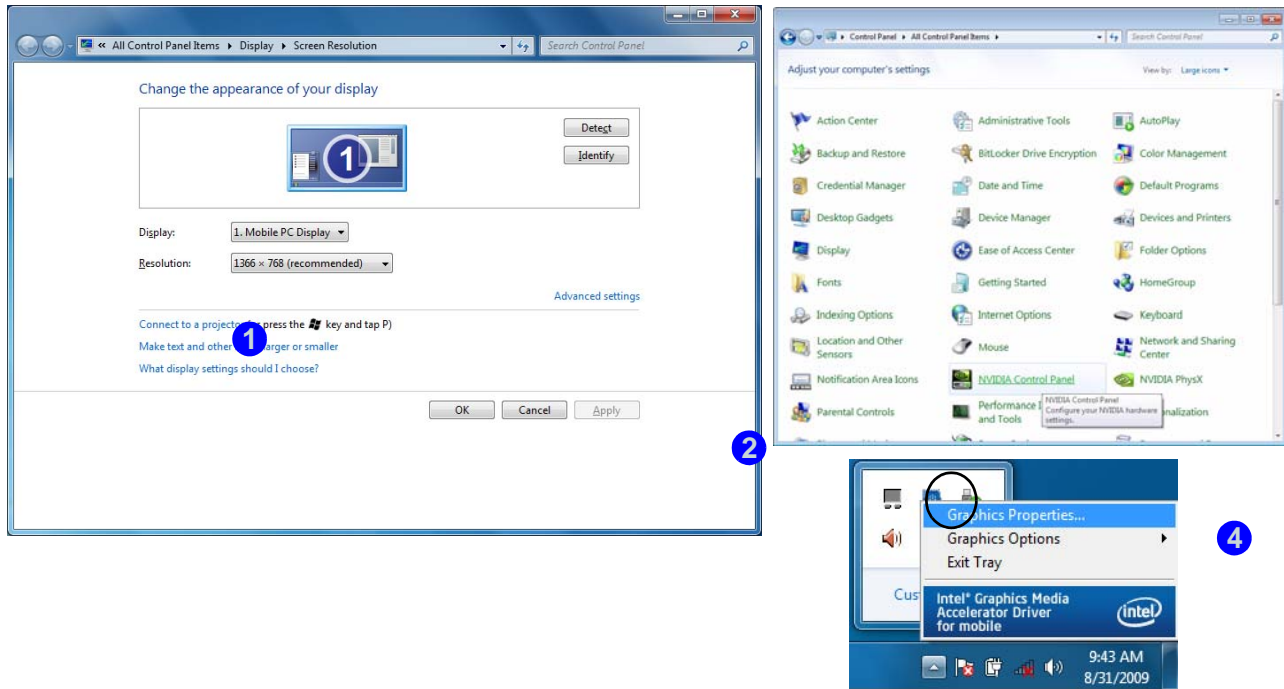
Figure F - 3 - **Screen Resolution & ATI Controls**

Attaching Other Displays

Configuring an External Display in Windows 7

1. Attach your external display to the external monitor port/HDMI-Out port and turn it on.
2. Go to the **Screen resolution** control panel.
3. Click the **Detect** button.
4. The computer will then detect any attached displays.

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Video 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.
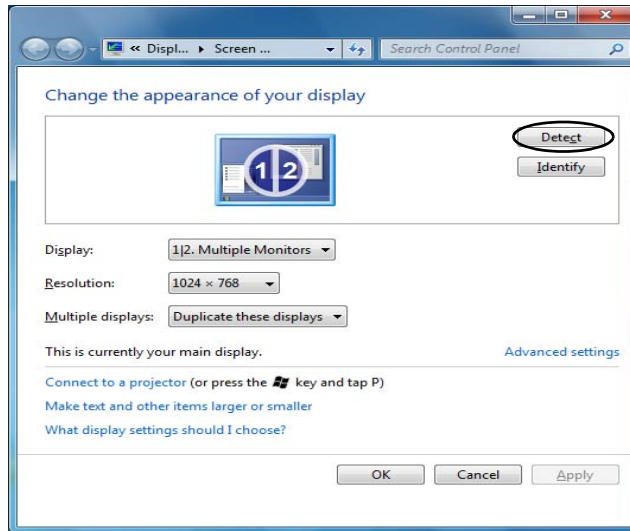
Figure F - 4 **- Screen Resolution - Multiple Displays**

5. You can configure the displays from the **Multiple Displays** menu.
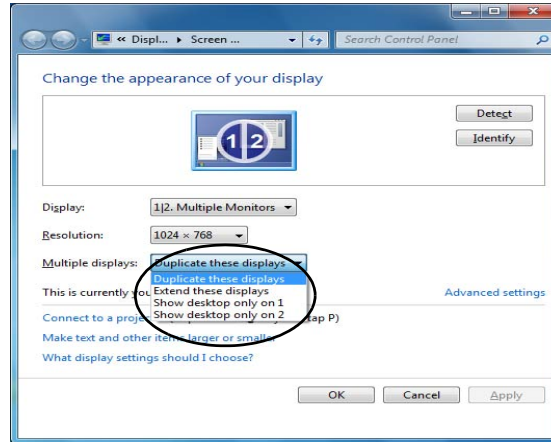
Figure F - 5 **- Screen Resolution - Multiple Display Options**

- Duplicate these displays - Shows an exact copy of the main display desktop on the other display(s)
- Extend these displays - Treats both connected displays as **separate** devices
- Show desktop only on 1/2 - Only one of your displays is used.

See *"Display Modes" on page B - 9* for more details on the above modes when using the **Intel** driver to configure attached displays (see *Chapter B"Intel Video Driver Controls" from page B - 1* for other details). See over for information on using the NVIDIA driver to configure attached displays (see *Chapter C"NVIDIA Video Driver Controls" from page C - 1* for other details).

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 page *F - 7*).
3. Double-click **Display** (if the sub-menus are not visible)**,** and then click **Set up multiple displays**.
4. Any attached display will appear under "**1.Select the displays you want to use.**"
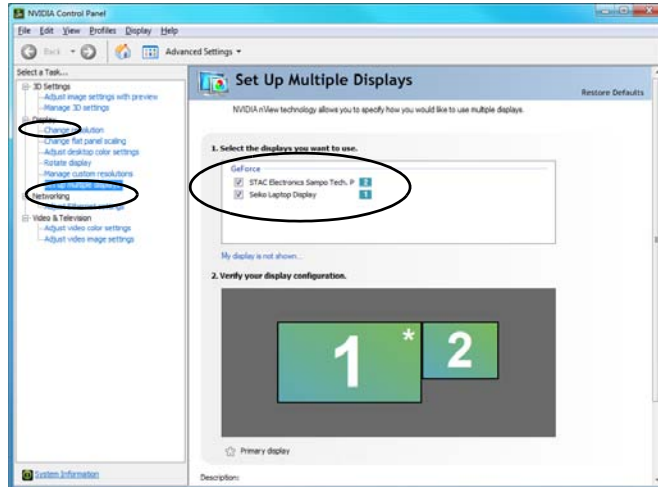
5. Click the tickbox alongside any display you wish to use.
6. Click **Apply > Yes** to save any changes made.

$\mathscr{P}$

Display Not Shown

If the attached display does not appear in the *"1.Select the displays you want to use."* window, click *"My Display is not shown..."* and then click the appropriate button to force detection of the missing display.

Figure F - 6
Set Up Multiple Displays

Windows 7 Information

Enabling Clone or Dualview Modes

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 page *F - 7*).
3. Double-click **Display** (if the sub-menus are not visible)**,** and then click **Set up multiple displays**.
4. Any attached display will appear under *"1.Select the displays you want to use."*
5. Click the tickbox alongside any display you wish to use.
6. Right-click one of the display icons and click "**Clone....**" (a tick will appear alongside it) to Clone the display or click to remove the tick to use Dualview mode,
7. Click **Apply > Yes** to save the changes.
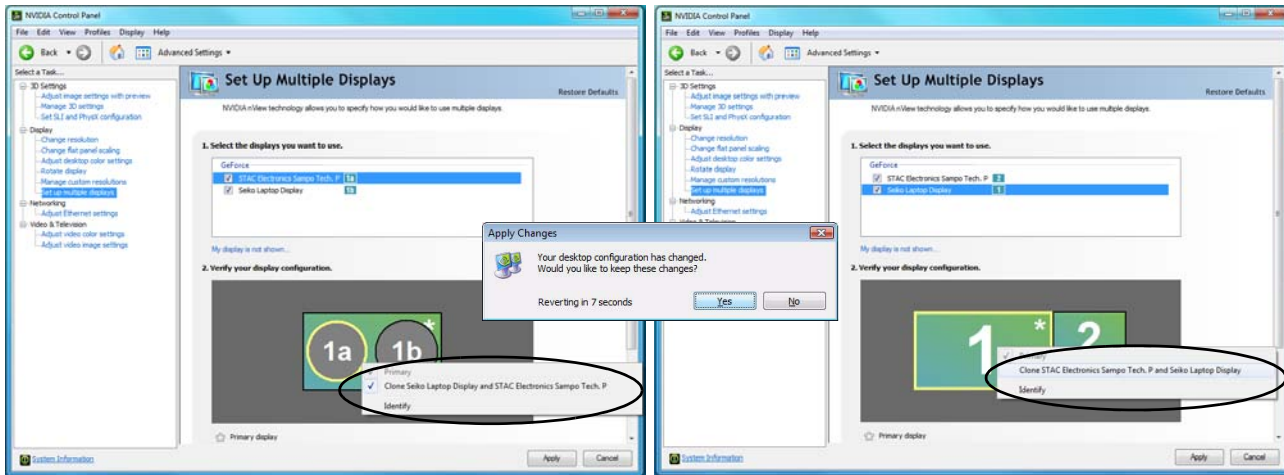
Figure F - 7 **- Enabling Clone/Extended Modes**

The Power Sources

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

AC/DC Adapter

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

1. Attach the AC/DC adapter to the DC-in jack on the left of the computer.
2. Plug the AC power cord into an outlet, and then connect the AC power cord to the AC/DC adapter.
3. Raise the lid/LCD to a comfortable viewing angle.
4. Press the power button to turn "On".

Battery

The battery allows you to use your computer while you are on the road or when an electrical outlet is unavailable. Battery life varies depending on the applications and the configuration you're using. **To increase battery life, let the battery discharge completely before recharging** (see *"How do I completely discharge the battery?" on page F - 25*).

We recommend that you do not remove the battery. For more information on the battery, please refer to *"Battery Information" on page F - 21*.

Turning On the Computer

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

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

🖉

Forced Off

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

Power Button as Stand by or Hibernate Button

You can use the OS's "Power Options" control panel to set the power button to send the system into Stand by or Hibernate mode (see your OS's documentation, or *"Configuring the Power Buttons" on page F - 19* 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 7*. This will help prevent hard disk or system problems.
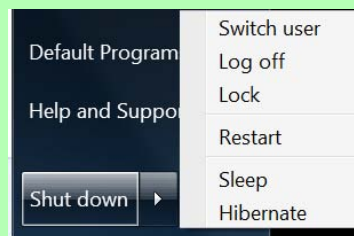
Default Program
Help and Suppor
Shut down ▶
Switch user
Log off
Lock
Restart
Sleep
Hibernate

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**.

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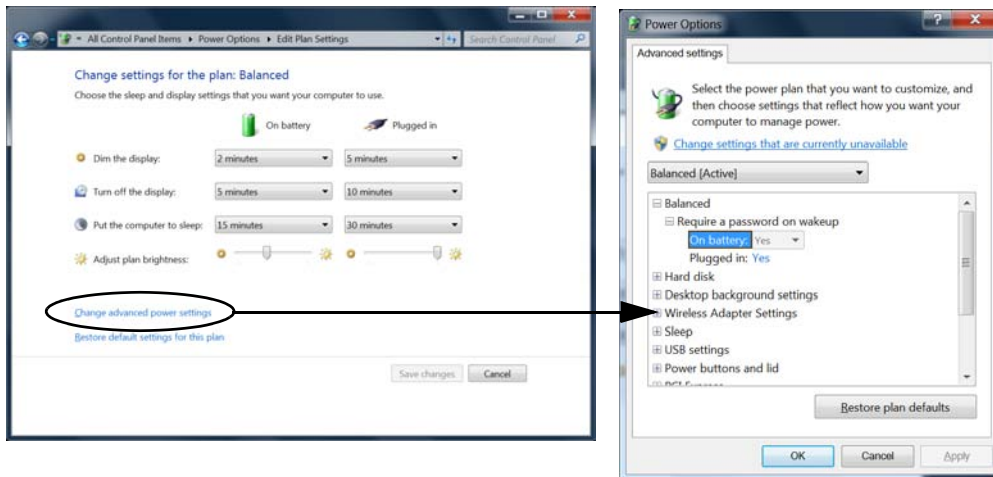
Resuming Operation

See *Table F - 4, on page F - 20* for information on how to resume from a power-saving state.

Password

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

Figure F - 8
Power Plan 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** (you may need to click **Show additional plans** to view the High performance plan) 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 F - 9
Power Plans

Click to Show/Hide additional power plans
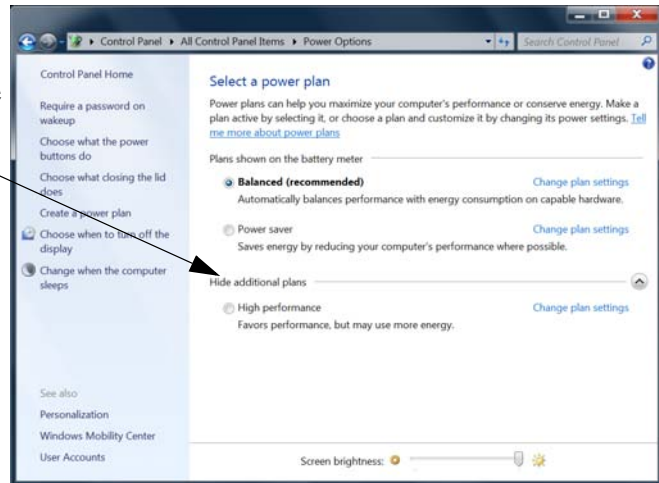
Power-Saving States

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 7*.

Earlier versions of *Windows* used Stand By and Hibernate as system power-saving states. *Windows 7* 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 F - 10
Lock Button Menu
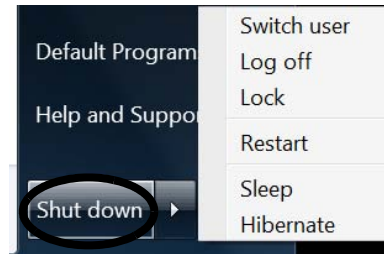
Configuring the Power Buttons

The power/sleep button (**Fn** + **F4** key combo) and closed lid may be set to send the computer in to a power-saving state. Click **Choose what the power buttons do** on the left menu in **Power Options** to bring up the menu.

> ✎
>
> **Password Protection**
>
> It is recommended that you enable a password on wake up in order to protect your data.
>
> However you can disable this setting from the **Power Options** menu by clicking *Require a password on wakeup* in the left menu, and selecting the options (click *Change settings that are currently unavailable*).

Figure F - 11
Power Options Define Power Buttons
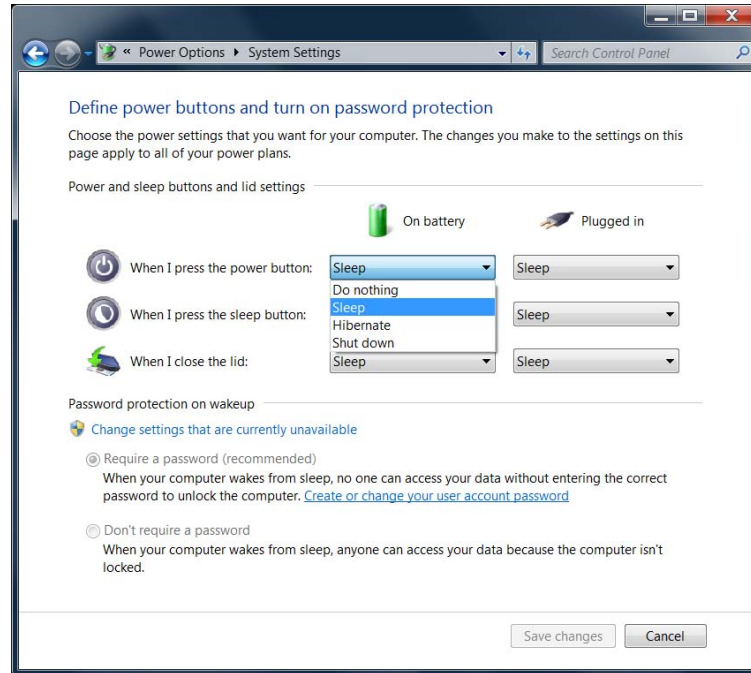
Windows 7 Information

Resuming Operation

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

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

🖉

Power Button

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

🖉

Closing the Lid

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

Table F - 4
Resuming Operation

Battery Information

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 pro-grams 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 **Change plan settings > Change advanced power settings** (see *Figure F - 8 on page F - 15*).

Click the battery icon 🔋 in the taskbar to see the current battery level and charge status.
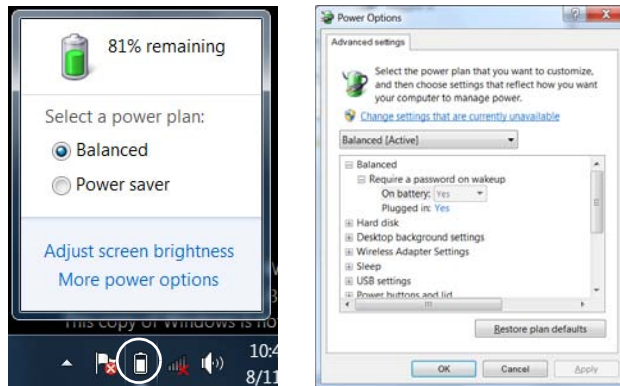
> 🔔
> **Low Battery Warning**
>
> When the battery is criti-cally low, immediately connect the AC/DC adapter to the computer or save your work, oth-erwise, the unsaved data will be lost when the power is depleted.

Figure F - 12
Battery Icon (Taskbar) & Battery Advanced Settings

[pen icon]

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 F - 13
Windows Mobility Center

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.

Battery Life

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

We recommend that you do not remove the battery yourself. If you do need to remove the battery for any reason (e.g. long term storage) see *"Removing the Battery" on page 6 - 3*.

New Battery

Always completely discharge, then fully charge, a new battery (see *"Battery FAQ" on page F - 25* 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 - 9* for information on the battery charge status, and to *"Battery Information" on page F - 21* for more information on how to maintain and properly recharge the battery pack.)

Caution

Danger of explosion if battery is incorrectly re-placed.

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

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 dam-aged 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 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 creating it) and click *Change plan settings > Change advanced power settings*.
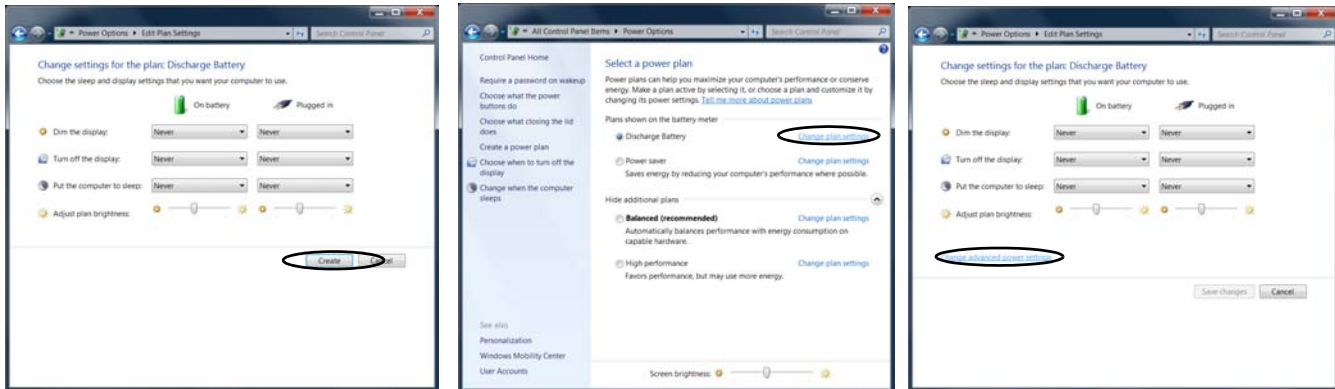
Figure F - 14 - **Create Power Plan - Discharge Battery**

4. Scroll down to **Battery** and click **+** to expand the battery options.
5. Choose the options below (click **Yes** if a warning appears):
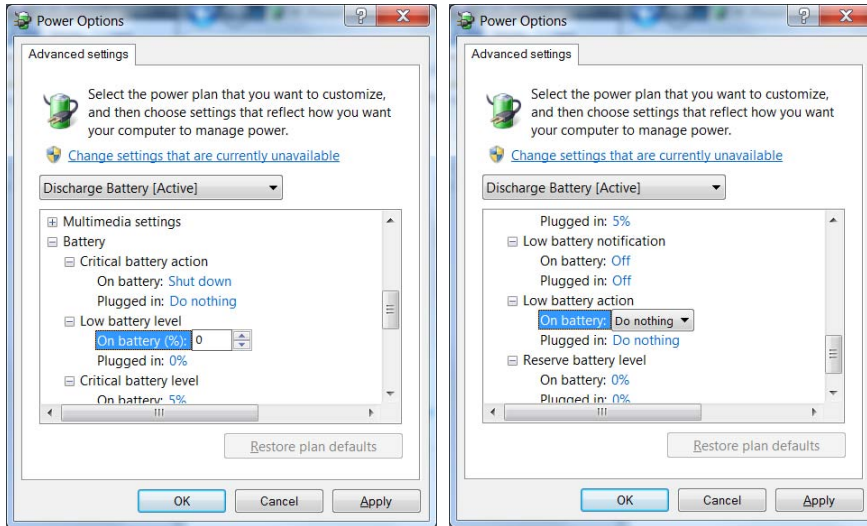
Figure F - 15 **- Power Options Advanced Settings - Battery**

Battery Charging & Maintenance

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.

- 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

Driver Installation

Insert the *Device Drivers & Utilities + User's Manual* disc into an attached CD/DVD drive and click *Install Drivers/Option Drivers* (button).

If you wish to install the drivers manually see overleaf for the driver path information.

Figure F - 16 **- Drivers Installer Screen 1**

1. Check the driver installation order from *Table F - 5, on page F - 28* (**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 F - 17 **- Drivers Installer Screen 2**

Driver - *Windows 7*	Page #
Video	*Page F - 30*
Audio	*Page F - 30*
Modem	*Page F - 30*
LAN	*Page F - 30*
TouchPad	*Page F - 30*
CardReader	*Page F - 31*
Hot Key	*Page F - 31*
Wireless LAN Module (Win 7)	*Page F - 39*
PC Camera Module (Win 7)	*Page F - 45*
3.75G/HSPA Module	*Page 7 - 16*
Intel Turbo Memory Module (Win 7)	*Page F - 53*
Fingerprint Reader Module (Win 7)	*Page F - 59*

Table F - 5 **- Driver Installation**

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** item (**Programs > Uninstall a program**). **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 **Programs and Features** item:

1. Click **Start** and click **Control Panel**.
2. Double-click **System** (icon); System (icon) is in **System and Security** (category).
3. Click **Device Manager** (in the left menu).
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.

Driver Installation Procedure

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

> 🖉
>
> **Driver Installation General Guidelines**
>
> The driver installation procedure outlined in this Chapter are accurate at the time of going to press.
>
> Drivers are always subject to upgrade and revision so the exact procedure for certain drivers may differ slightly. As a general guide follow the default on screen instructions for each driver (e.g. **Next > Next > Finish**) unless you are an advanced user. In many cases a restart is required to install the driver.

Video

1. Click **1.Install Video Driver > Yes**.

Models A, B & E (Intel):

2. Click **Next > Yes > Next > Next**.
3. Click **Finish** to restart the computer.

Models C, D & F (NVIDIA):

1. Click **Next > Next**.
2. Click **Finish** to restart the computer.

Audio

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

Modem

1. Click **3.Install Modem Driver > Yes**.
2. Click **OK**.

LAN

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

TouchPad

1. Click **5.Install Touchpad Driver > Yes**.
2. Click **Next**.
3. Click the button to accept the license agreement and click **Next**.
4. Click **Finish > Restart Now** to restart the computer.

CardReader

1. Click **6.Install Cardreader Driver > Yes**.
2. Click **Install**.
3. Click **Finish**.

Hot Key

1. Click **7.Install Hotkey Driver > Yes**.
2. Click **Next > Install**.
3. Click **Finish > Finish** to restart the computer.

e-SATA Support

See *"Intel Turbo Memory & Matrix Storage Setup and Driver Installation" on page F - 54* for instructions on installing this driver to support the e-SATA port.

Optional Drivers

See the pages indicated for the driver installation procedures for any modules included in your purchase option. Where *Windows 7* information differs from *Windows Vista* it will be included in this chapter; if *Windows 7* information is the same as *Windows Vista* then refer to **Chapter 7** as indicated on the following page.

Figure F - 18 **- Drivers Installer - Option Drivers Menu**

Bluetooth Module (Win 7)

Note: The operating system is the default setting for **Bluetooth** control in *Windows 7*, and does not require a driver. See *"Bluetooth Module (Win 7)" on page F - 34* for configuration instructions.

Wireless LAN Module (Win 7)

See the specific **Windows 7** driver installation and configuration information in *"Wireless LAN Module (Win 7)" on page F - 39*.

PC Camera Module (Win 7)

See *"PC Camera Module (Win 7)" on page F - 45* for driver installation and configuration information.

3.75G/HSPA Module

See *"3.75G/HSPA Module" on page 7 - 16* for USIM card and driver installation, and configuration information as appropriate for your particular module.

Intel Turbo Memory Technology Driver

See the introduction in *"Intel Turbo Memory Module (Win 7)" on page F - 53*, and check the installation procedure. **Note this driver is also required to support the e-SATA port**.

Fingerprint Reader Module

See the introduction in *"Fingerprint Reader Module (Win 7)" on page F - 59*, and check the installation procedure.

Bluetooth Module (Win 7)

The operating system's **Bluetooth Devices** control panel is used to configure the Bluetooth settings in *Windows 7*, and therefore does not require a driver. **Use the Fn + F12 key combination** (see *Table F - 3, on page F - 6*) **to toggle power to the Bluetooth module**.

<svg>bell icon</svg>

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 F - 3, on page F - 6*/ *Table F - 2, on page F - 5*).

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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 7

### 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.
3. You can then do any of the following to access the **Bluetooth Devices** control panel.

• **Double-click** the taskbar icon ⊠ to access the **Bluetooth Devices** control panel.
• **Click/Right-click** the taskbar icon ⊠ and choose an option from the menu.

Add a device
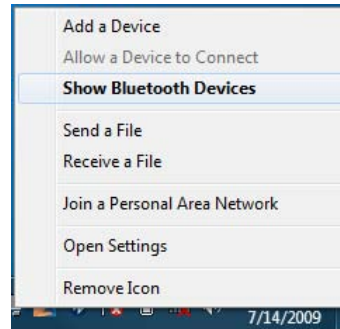
Right-Click Taskbar Icon ⊠

🖉

Add a Device

Click **Start**, and click **Control Panel** and then click **Devices and Printers (Hardware and Sound)**. Click **Add a device** to search for any available Bluetooth devices.

Figure F - 19
Bluetooth Devices & Click Icon Menu

Pairing Options

If a device has been previously connected then the pairing option menu will appear when you attempt subsequent connections. You can choose to have the computer create a pairing code for you, use the device's existing pairing code or you can pair certain devices without using a code.

Figure F - 20
Add a Device

To Add a Bluetooth Device

1. Access the **Bluetooth Devices** control panel and click **Add a device**.
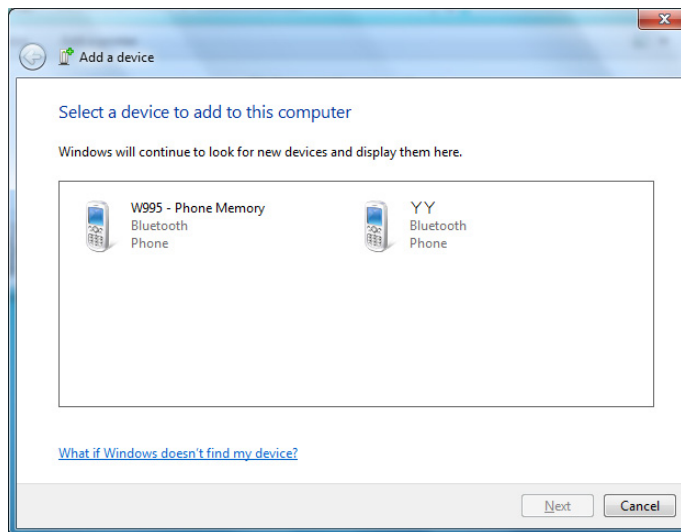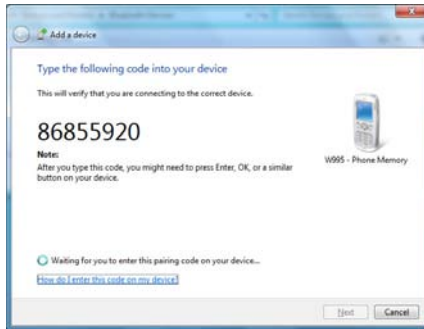2. Double-click the device you want to pair with the computer.

3. On first connection the computer will provide you with a pairing code to be entered onto the device.

4. Enter the code into your Bluetooth enabled device and follow any on-screen instructions to complete the pairing.

🖉

Pairing Codes

The example outlined here shows a connection to a mobile device. Other devices e.g. computers, may have a slightly different connection procedure, and may require you to confirm a pairing code is correct on both devices. Follow the on-screen instructions to complete the pairing.

Figure F - 21
Pairing Code Example

5. *Windows* will check to see if any drivers are required to complete the pairing.
6. Follow any on-screen instructions on the computer if device drivers are required to be installed.
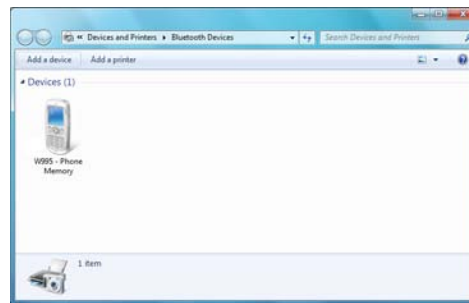7. Click **Close**.

Figure F - 22
Pairing Complete & Bluetooth Device Enabled

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 F - 23
Bluetooth Settings - Options

To Change Settings for the Bluetooth Device

1. Click the taskbar icon and select **Show Bluetooth Devices**.
2. Right-click on the device you want to change and click **Properties** to:

- Change the **name** of the device (click **Bluetooth**, 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. Click the taskbar icon and select **Open Settings**.
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 the *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.
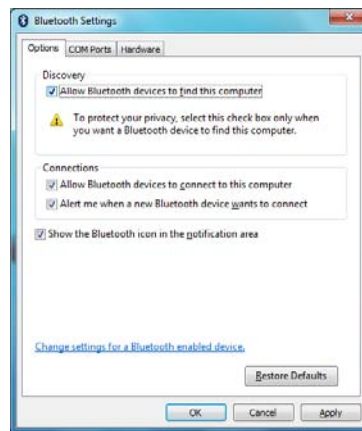
Wireless LAN Module (Win 7)

If you have included an **Intel® Wi-Fi Link 5100/5300 Series (802.11 a/g/n), Intel® Wi-Fi Link 1000 Series (802.11 b/g/n) or 3rd Party 802.11b/g/n 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 F - 6*) **to toggle power to the Wireless LAN module**. Make sure you install the drivers in the order indicated in *Table F - 5, on page F - 28*.

> 泛
>
> **Wireless Device Operation Aboard Aircraft**
>
> The use of any portable electronic transmission devices aboard aircraft is usually prohibited. Make sure the module(s) are OFF if you are using the computer aboard aircraft.
>
> Use the **Fn + F11** key combination to toggle power to the WLAN module, and check the indicator to see if the module is powered on or not (see *Table F - 3, on page F - 6/ Table F - 2, on page F - 5*).

Intel® Wi-Fi Link Series Driver Installation

If you see the message "**Found New Hardware**" click **Cancel** to close the window.

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. An on-screen message will appear to show the progress of the WLAN installation.
5. When the message disappears the driver will be installed.

Note: The operating system is the default setting for Wireless LAN control in *Windows 7* (see overleaf).

3rd Party 802.11b/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. Choose the language you prefer and click **Next**.
5. Click **Next > Install**.
6. Click **Finish**.

Note: The operating system is the default setting for Wireless LAN control in *Windows 7* (see overleaf).

Connecting to a Wireless Network

Make sure the Wireless LAN module is turned on.

1. **Click** the taskbar wireless icon 📶, and then double-click an access point to connect to or click to **Open Network and Sharing Center** if you do not see a network you want to connect to in the taskbar menu (a list of options will appear allowing setting changes, and creating a new network).
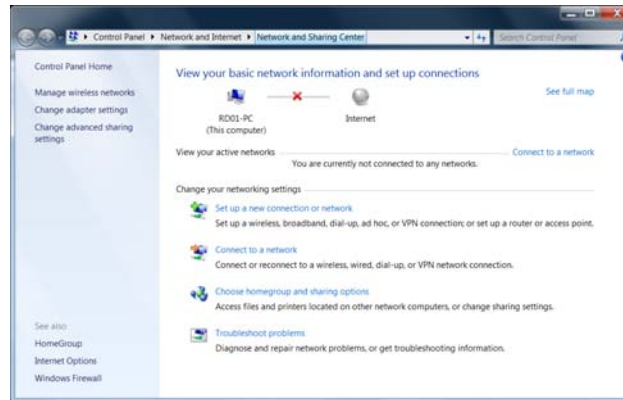
🖉

Network and Sharing Center

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

Figure F - 24
Click Taskbar Icon Menu & Network and Sharing Center

2. You may need to enter a security key for any access point to which you are trying to connect.
3. Click to select a network location (e.g. **Home, Work or Public**).
4. Click "**View or change settings in Network and Sharing Center"** to access further options for the connection.

Figure F - 25
Network Location Set
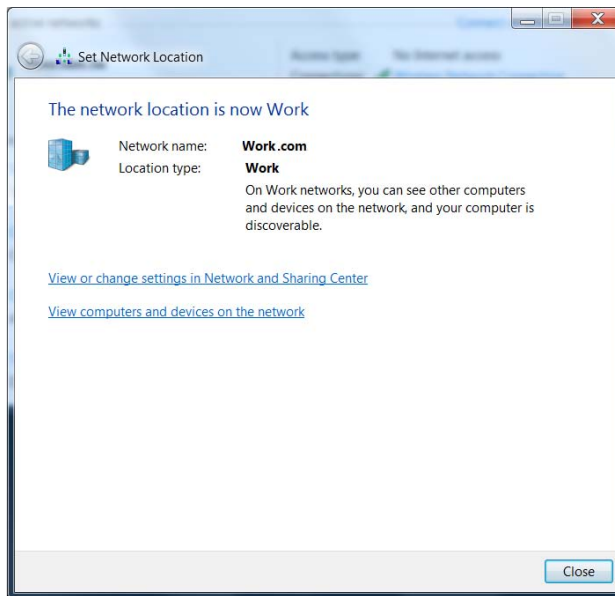
5. Click the taskbar icon 📶 to see any currently connected networks.
6. To disconnect from the wireless network you can click the taskbar wireless icon 📶, click the active connection and then click **Disconnect** (button).

Security Enabled Networks

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

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

Figure F - 26
Click Taskbar Icon Menu - Disconnect

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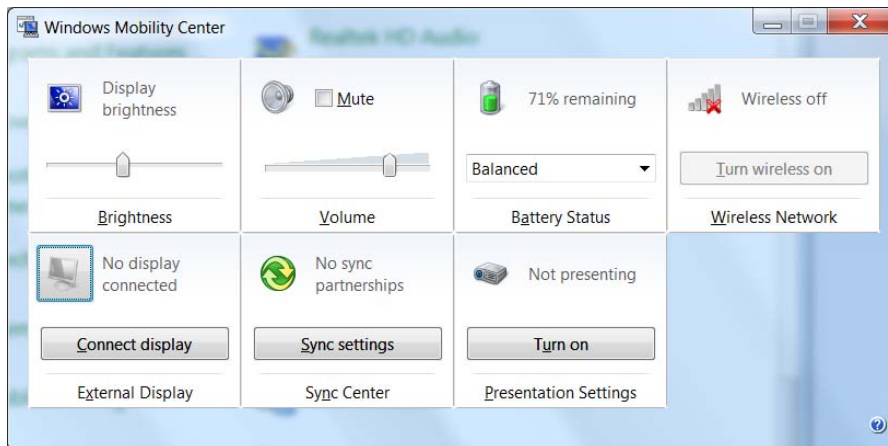
1. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
2. Double-click **Windows Mobility Center** (**Mobile PC**).
3. Click the button to **Turn wireless off/on**, or click the icon 📶 to access the network menu.

Figure F - 27
Windows Mobility Center

PC Camera Module (Win 7)

If you have included a **PC Camera module** in your purchase option, make sure that the PC Camera module is on before installing the driver. **Use the Fn + F10 key combination** (see *"Function/Hot Key Indicators" on page F - 6*) **to toggle power to the PC Camera module**. Make sure you install the drivers in the order indicated in *Table F - 5, on page F - 28*.

There are a number of different camera modules available with this computer model series. You will have the appropriate application installed for your camera. **Make sure you access the application via the WebCam desktop shortcut**.

PC Camera 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 **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 camera application program from the desktop shortcut (if the hardware is turned off use the **Fn + F10** key combination to turn it on again).

> 泌
> **Latest PC Camera Driver Information**
>
> Check the *Device Drivers & Utilities + User's Manual disc*, and any accompanying insert pages, for the latest updated information on the PC Camera driver, which may override the information provided here.

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 camera application program from the desktop shortcut.
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).

Camera Application

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

1. Run the camera application from the desktop shortcut (it is recommended that you **set the capture file** before the capture process - **see** *"Set Capture File" on page F - 48*).
2. Go to the **Capture** menu heading (if you wish to capture audio check *"PC Camera Audio Setup" on page F - 46*) and select **Start Capture**.
3. Click **OK/Yes** (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**).

🖉

Pre-Allocating File Size/Space

You may pre-allocate the file size (**File > Allocate File Size/Space**) for the capture file in the camera program (you may need to set a folder location first).

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 F - 48*.

Set Capture File

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

Note the important information in reducing video file size below in order to save file space, and help prevent system problems.

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 above), limit the file size of the captured video (see *"Pre-Allocating File Size/Space" on page F - 47*) or reduce video resolution (see below).

To Reduce Video Resolution Output Size:

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

Eliminating Screen Flicker

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

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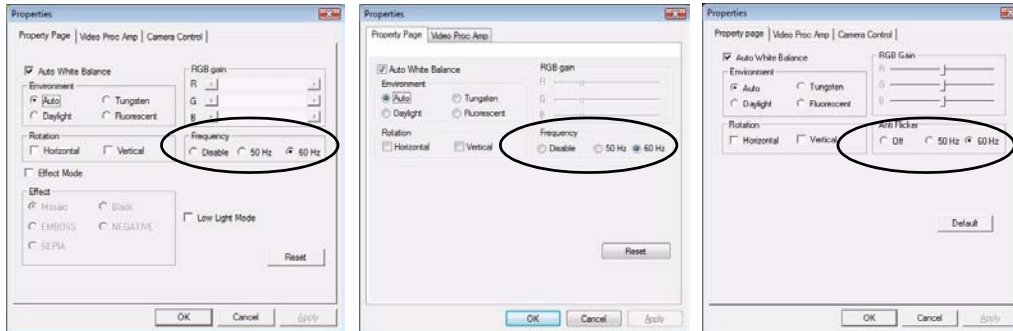3. Click either **50Hz** or **60Hz** under **Frequency/Anti Flicker** in **Property Page** (tab).

Figure F - 28
Video Capture Filter

Zoom

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

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

Figure F - 29
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 WebCam program allows you to take still pictures.

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

3.75G/HSPA Module

If you have included an **optional 3.75G**/**HSPA** (High Speed Packet Access) module (see *"Communication" on page D - 5* for specification details) in your purchase option, you will have the appropriate software provided for your module. Follow the instructions on page *7 - 17* to install the USIM card (supplied by your service provider), and then install the appropriate application.

Before installing the **application**, make sure that the **3.75G/HSPA** module is on. Use the **Fn**+(🔲) **key combination** (see *"Function/Hot Key Indicators" on page F - 6*) **to toggle power to the 3.75G/HSPA module**.

🔔

Important Notice - 3.75G/HSPA & Bluetooth/Wireless LAN Modules

In order to comply with FCC regulations you should NOT operate the 3.75G/HSPA module and the Bluetooth/Wireless LAN modules at the same time as this may disrupt radio frequency, and cause interference. When the 3.75G/HSPA module is powered on, make sure that the Bluetooth/Wireless LAN modules are powered off.

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3.75G/HSPA Module Options

There are **three optional** 3.75G/HSPA modules available for this series of computer models. Each module is supplied with the appropriate application software.

The module type supplied may depend upon the computer model purchased. Check with your service center for details.

Install the driver from the Drivers Installer menu and check the instructions for the appropriate application on the following pages.

Windows 7 Information

3.75G/HSPA Modules & System Wake Up

Note that the 3.75G modules **DO NOT** support system wake up on 3.75G/HSPA modem activity.

Before installing the application, make sure that the 3.75G/HSPA module is ON (installing the driver with the module off will not allow the software to detect the module hardware correctly). Use the **Fn +** ▢ **key combination to toggle power to the 3.75G/HSPA module**. When the 3.75G/HSPA module is powered on, the indicator ▢ will briefly be displayed. **Note that exiting the application does NOT turn off the 3.75G/HSPA module**.

- **3G Watcher** - See *"3G Watcher Application" on page 7 - 20* for driver installation information and *"Setting Up a Carrier Profile" on page 7 - 21* for instructions on using the **3G Watcher** application.

- **HSPA Modem Interface** - See *"HSPA Modem Interface Installation" on page 7 - 27* for driver installation information and *"HSPA Modem Interface" on page 7 - 27* for instructions on using the **HSPA Modem Interface**.

- **Mobile Partner** - See *"Mobile Partner Application Installation" on page 7 - 36* for driver installation information and *"Mobile Partner Application" on page 7 - 37* for instructions on using the **Mobile Partner** application.

Intel Turbo Memory Module (Win 7)

If you have included an *Intel Turbo Memory (Robson) NAND flash memory card module* in your purchase option, then you will need to enable AHCI in the BIOS (see) **BEFORE** installing the *Windows 7* operating system software.

Note that if you are adding an *Intel Turbo Memory (Robson) NAND flash memory card module* to a computer that already has an operating system and drivers etc. installed, you will need to reinstall the OS and all necessary drivers and utilities (make sure you back up all your important data before doing so).

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/7* (it also supports *Windows Vista/7* features such as ReadyBoost, ReadyDrive, and Superfetch).

🖉

e-SATA Port Support

Note that **the Intel Matrix Storage driver is required to support the e-SATA port** 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.

Intel Turbo Memory & Matrix Storage Setup and 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 TM&iMSM Driver > Yes**.
4. Click **Next > Yes > Next > Next**.
5. Click **Finish** to restart the computer.
6. You may need to click **Restart Now** (to restart the computer a second time) in order to complete the installation.
7. For Turbo Memory modules that support **User Pinning** see *"Intel Turbo Memory Dashboard (User Pinning Supported Only)" on page F - 55*.
8. For Turbo Memory modules that **do not** support **User Pinning** see*"Intel Turbo Memory Console (All Modules)" on page F - 58*.

If the Turbo Memory module supports **User Pinning** then the **Intel Turbo Memory Dashboard** will be installed. If the Turbo Memory module does not support **User Pinning** then the **Intel Turbo Memory Dashboard** will not be installed.

Intel Turbo Memory Dashboard (User Pinning Supported Only)

The **Intel Turbo Memory Dashboard** allows you to pin an application or file to load into the Intel Turbo Memory NAND cache for performance acceleration.

1. Run the **Intel® Turbo Memory Dashboard** from the **Programs/All Programs** menu (**Intel® Turbo Memory**) or from the desktop shortcut.
2. The **Pinning Capacity Consumption Meter** **1** displays the amount of pinning space used.
3. The **Control and Profile Pull-Down Menu** **2** allows you to select and manage profiles.
4. The **Application Window** **3** lists all applications available for performance acceleration. When accelerated the applications/files will appear in the **Accelerated Window** **4**.
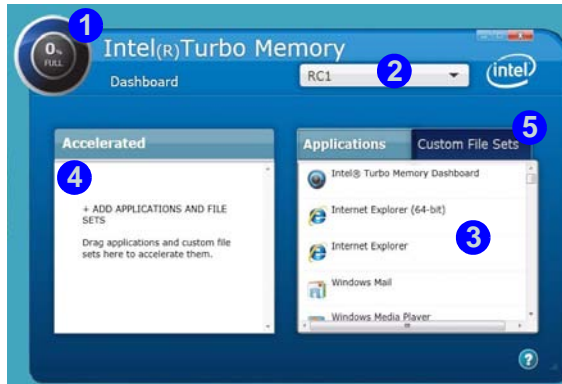5. The **Custom Sets Window** **5** allows you to select specific files to be pinned.

Help

Click the **Help** icon to bring up the menu and click to select and help topic.

Figure F - 30
Intel Turbo Memory Dashboard
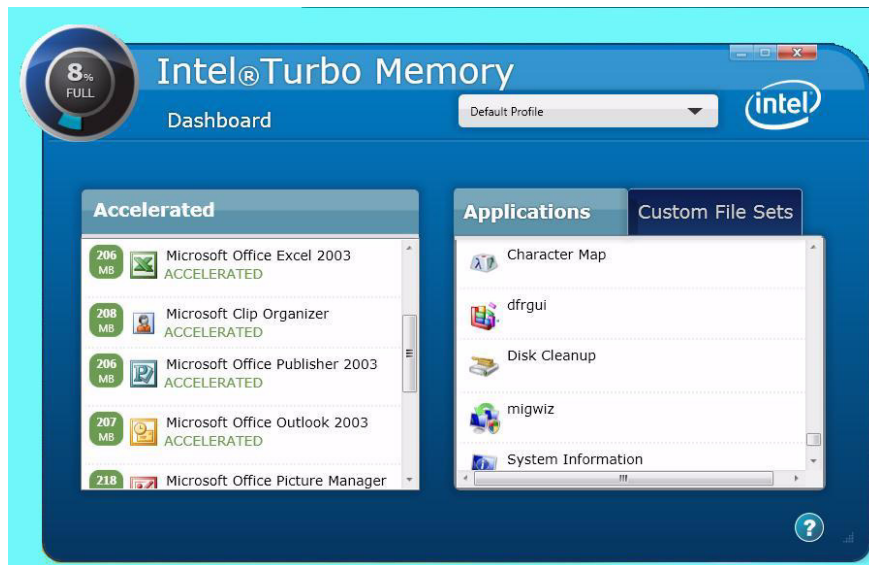
Unpinning an Application

Click the application in the **Accelerated Window** and drag it back to the **Applications Window** to unpin the application.

You can also unpin the application by right-clicking it in the **Applications Window** and selecting "**Remove from Cache**."

Figure F - 31
Accelerated Applications

Pinning an Application (User Pinning Supported Only)

1. The **Intel® Turbo Memory Dashboard** allows you to select files and applications to accelerate and therefore open faster and display quicker.
2. Applications will be listed in the **Applications Window** on the right.
3. To accelerate any application drag the icon into the **Accelerated** pane on the left (the available memory is indicated in the top left).
4. A status bar indicates the pinning progress and will turn green when ready.

Custom File Sets (User Pinning Supported Only)

A Custom File Set allows you to group applications and files to accelerate. These sets can be moved easily in and out of the **Accelerated Window** which is of benefit when space is limited. You need to create the custom file set before dragging the set to the accelerated window.

1. Click **Custom File Sets** and type a name for the set, and then click **Next**.
2. Select the file set folder icon and click **Advanced**.
3. Click the **Browse** button and select the files and applications to accelerate.
4. Click the **Done** button when finished.
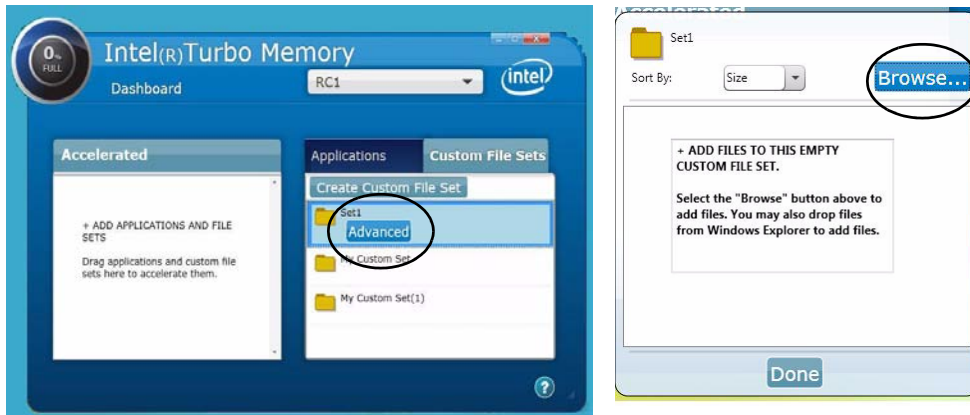5. Drag the custom set across to the **Accelerated Window** from **Custom File Sets** to accelerate.

Figure F - 32
**Create Custom File Set**

> ✎
>
> **Windows ReadyBoost**
>
> If your module supports **User Pinning** (i.e. the **Intel Turbo Memory Dashboard** is installed) then **ReadyBoost is not supported** (the item will be grayed out).
>
> Note that the Intel Turbo Memory Console DOES NOT appear if you have not included a Turbo Memory module in your purchase configuration.

Figure F - 33
Intel Turbo Memory Console

Intel Turbo Memory Console (All Modules)

1. Run the **Intel® Turbo Memory Console** from the **Programs/All Programs** menu (**Intel® Turbo Memory**).
2. You can enable/disable **Windows ReadyBoost** and **Windows ReadyDrive** from the **Intel® Turbo Memory Console**.
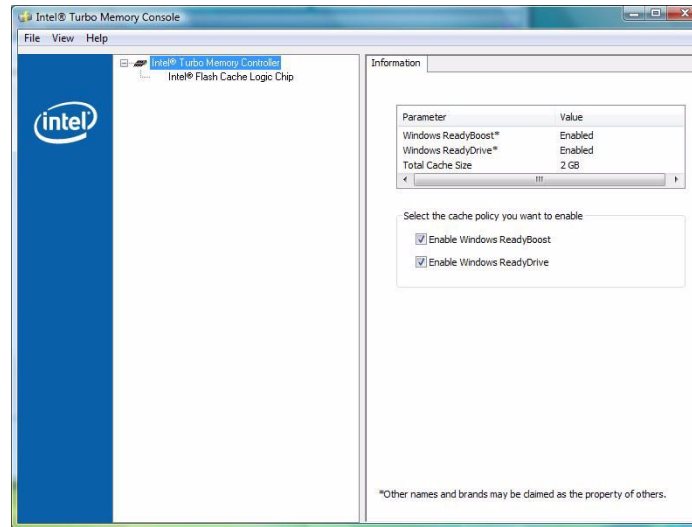
- **Windows ReadyBoost** - uses **flash memory** as a hard-drive caching solution (Not supported if **User Pinning** is supported).
- **Windows ReadyDrive** - uses **hybrid drives** as a hard-drive caching solution.

Fingerprint Reader Module (Win 7)

The fingerprint reader module provides a high level of security for your computer. 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.

🖉

Help

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

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 **5.Install FingerPrint Driver > Yes**.
4. Click **Next > Next > Next**.
5. Click **Finish > Yes** to restart the computer.
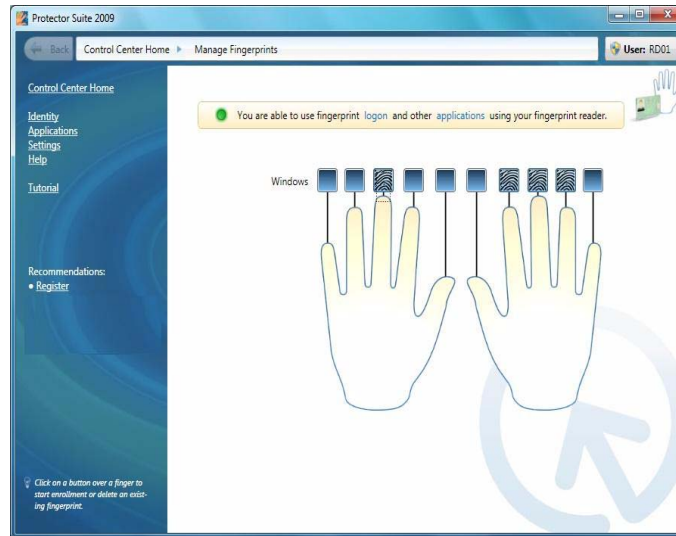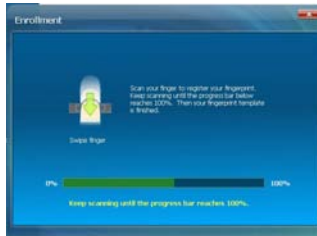
User Enrollment

1. Click Start > Control Center (Start > All Programs > Protector Suite > Control Center), or double click the taskbar icon .
2. On the first run of the program you will be asked to click the **Accept** button to accept the license.
3. 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** cannot secure access to your computer).
4. Click **Submit** when you have entered password.
5. You will then be prompted to enroll your fingerprints (you can click **Tutorial** to get help with fingerprint enrollment at any time).

Figure F - 34
Fingerprint Enrollment
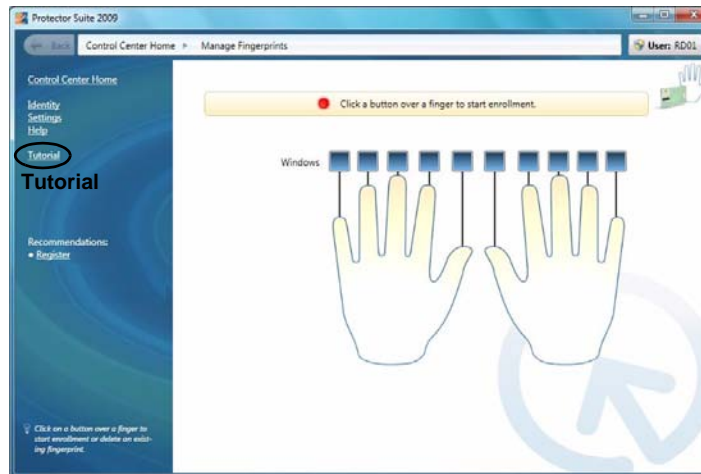
6. Click the button above any of the fingers to begin the enrollment process for that finger.
7. Swipe the finger until the progress bar reaches **100%** to enroll that finger.
8. Repeat the process for all the fingers you wish to enroll (see sidebar), and then click the close ☒ button to close the window.

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

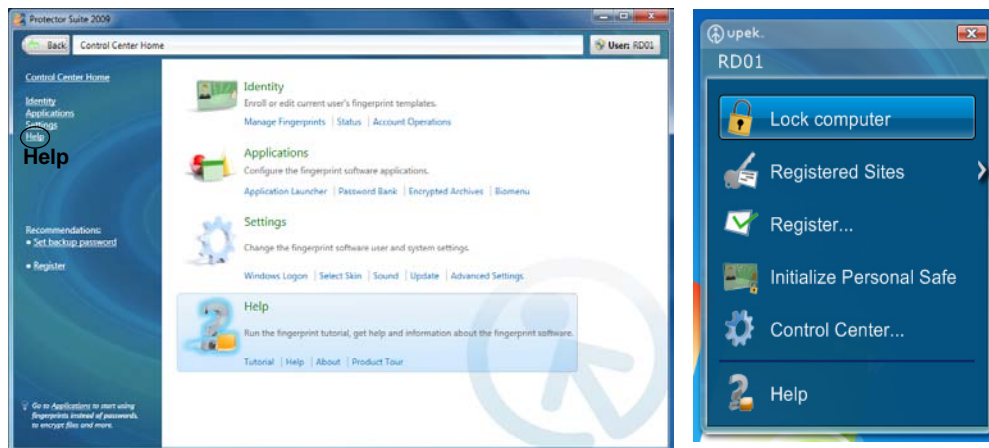*Figure F - 35*
Fingerprints Enrolled

9. Click the taskbar icon 🖼 and select **Start Control Center** (and then swipe a finger) to allow you to **Edit Fingerprints**, register **Applications**, edit **Settings** and access the **Help** menu etc. You can also run the **Control Center** from the **Start** menu or **Protector Suite > Control Center** item in the **All Programs** menu.
10. Click "**Help**" in **Control Center Home** to get more information on any topic.
11. You can also run the **Tutorial**, or **Product Tour** video to get more information.

Figure F - 36
Fingerprint Control Center & Biomenu

12. If you swipe your finger over the reader at any time you can access the **Biomenu** to **lock the computer**, **register websites**, access the **Personal Safe,** open the **Control Center** and access the **Help** menu.