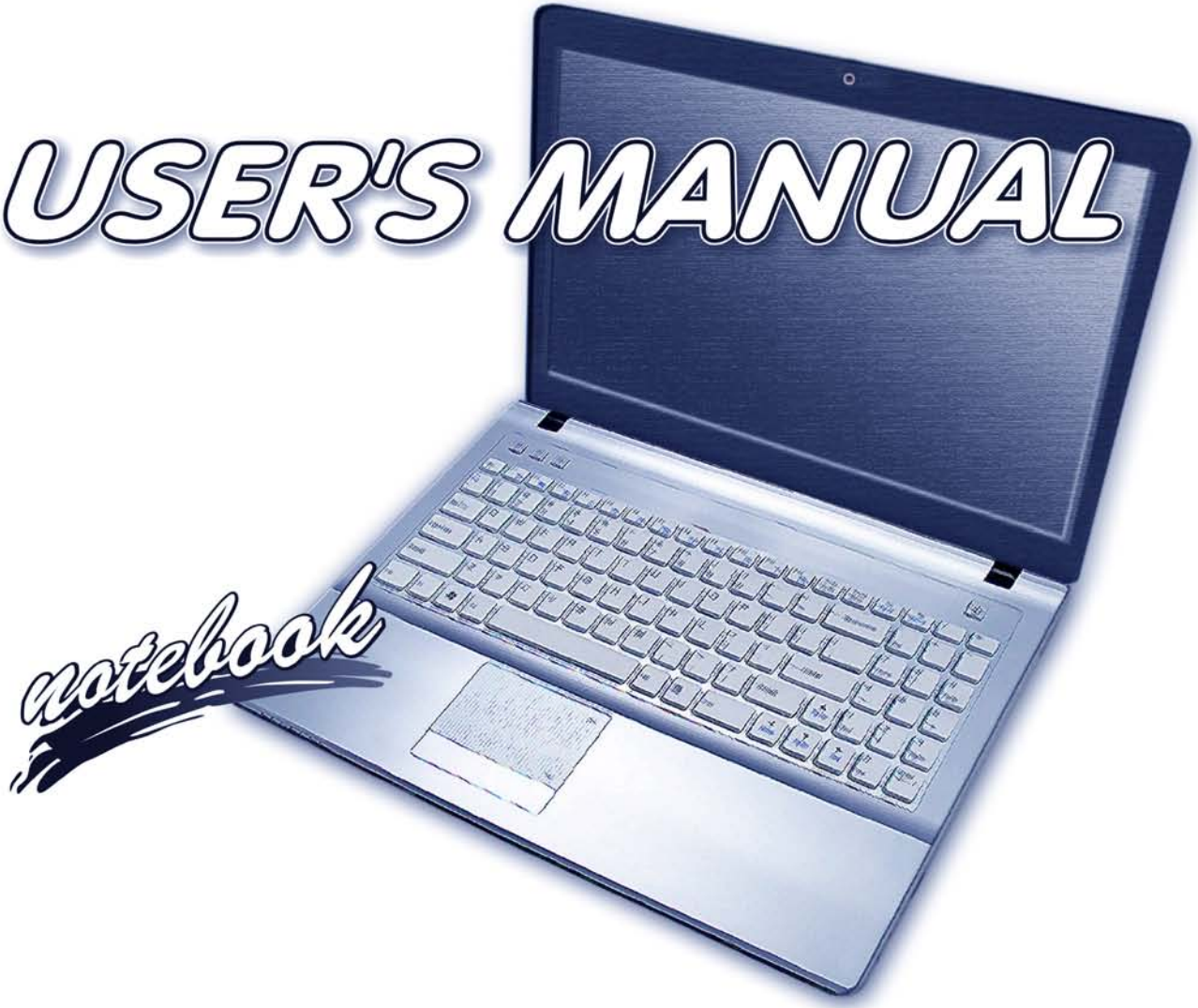
USER'S MANUAL

notebook



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FCC Statement
(Federal Communications Commission)

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

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

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

Operation is subject to the following two conditions:

1. This device may not cause interference.

   And

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

FCC RF Radiation Exposure Statement:

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

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

Warning

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

If your purchase option includes both **Wireless LAN** and **3.5G** 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, 4.74A (**90** Watts) minimum AC/DC Adapter.

CAUTION

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

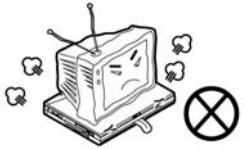
TO REDUCE THE RISK OF FIRE, USE ONLY NO. 26 AWG OR LARGER, TELECOMMUNICATION LINE CORD

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

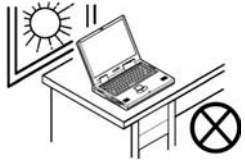
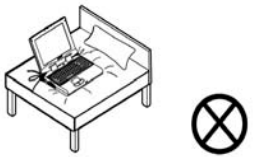
Instructions for Care and Operation

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

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

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

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

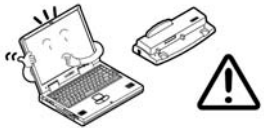
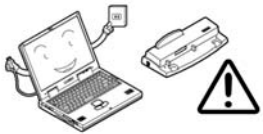
Do not expose it to excessive heat or direct sunlight.	*Do not leave it in a place where foreign matter or moisture may affect the system.*	*Don't use or store the computer in a humid environment.*	*Do not place the computer on any surface that will block the Vents/Fan Intakes.*
			

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

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

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

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

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

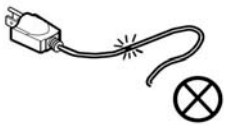
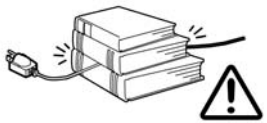
Power Safety

The computer has specific power requirements:

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

Power Safety Warning

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

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

Battery Precautions

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

Battery Disposal & Caution

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

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

Cleaning

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

Servicing

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

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

Removal Warning

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

Travel Considerations

Packing

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

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

Power Off Before Traveling

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

On the Road

In addition to the general safety and maintenance suggestions in this preface, and Chapter 8: 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.

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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 **Bluetooth**, **PC Camera**, **Wireless LAN**, **3.75G/HSPA** and **Fingerprint** 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 **ATI Video driver controls**.
- **Appendix C** The computer's **specification**.
- **Appendix D** Information on the ***Windows XP*** OS.

Advanced Users

If you are an advanced user you may skip over most of this Quick Start Guide. However you may find it useful to refer to *"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

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*) and applications (e.g. word processing, spreadsheet and database programs) have their own manuals, so please consult the appropriate manuals.

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

System 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 - 1*** below) to support the base of the computer (**Note**: **Never** lift the computer by the lid/LCD).

Shutdown

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

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

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.

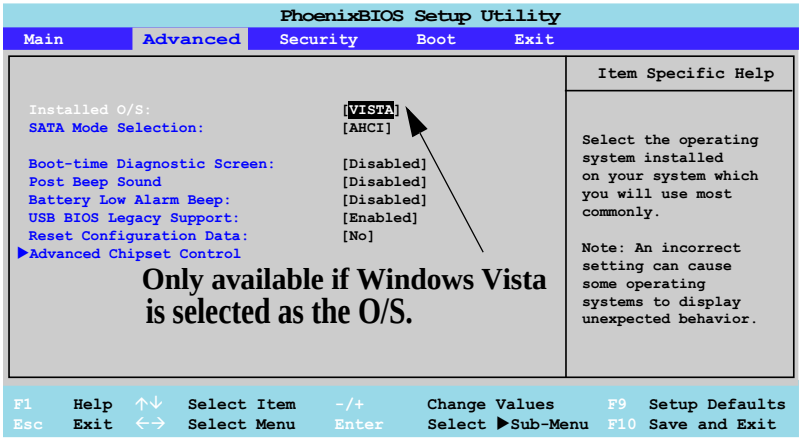


Figure 1 - 2 **- Advanced BIOS Menu**

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).

System Software

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

Operating System & Version	Note
*Windows XP (Home or Professional)	In order to run ***Windows XP*** without limitations or decreased performance, your computer requires a minimum **512MB** of system memory (RAM)
Windows Vista - SP1 (Home Basic, Home Premium, Business, Enterprise and Ultimate Editions)	In order to run ***Windows Vista*** without limitations or decreased performance, your computer requires a minimum **1GB** of system memory (RAM).

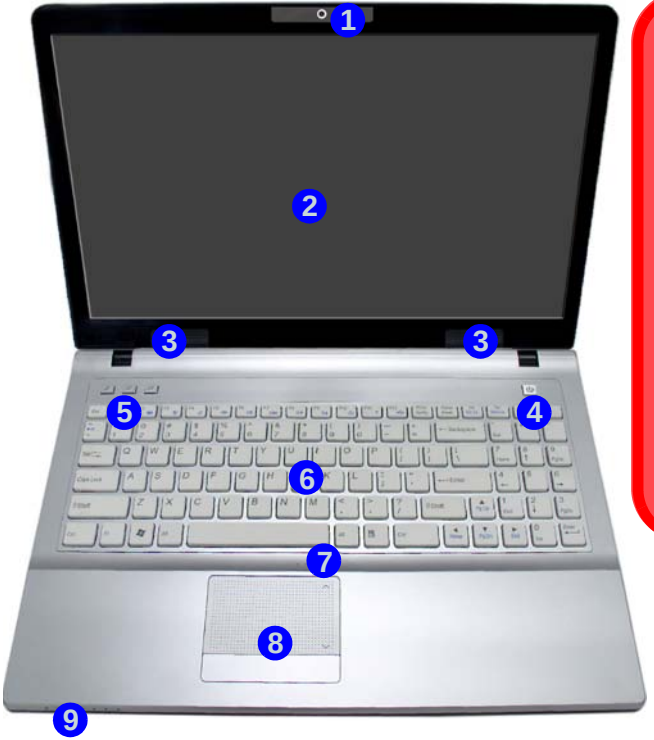
Table 1 - 1 **- Operating Systems Supported**

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

Windows Vista Service Pack 1

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

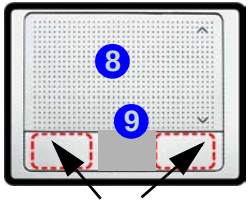
System Map: LCD Panel Open



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 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 - 11*/ *Table 1 - 3, on page 1 - 8*).



Touchpad Buttons (valid operation area)

Figure 1 - 3
LCD Panel Open

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 Reader (**Optional**)
10. LED Indicators

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)

Table 1 - 2 **- LED Status Indicators**

Icon	Color	Description
	Orange	DC Power is Plugged In
	Green	The Computer is On
	Blinking Green	The Computer is in Sleep Mode
	Orange	The Battery is Charging
	Green	The Battery is Fully Charged
	Blinking Orange	The Battery Has Reached Critically Low Power Status
	Green	The (**optional**) Wireless LAN Module is Powered On
	Orange	The (**optional**) Bluetooth Module is Powered On

Table 1 - 3 **- LED Power & Communication 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
	Activate the Default Internet Program
	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.

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

The keyboard 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 - 11* for full function key combination details.

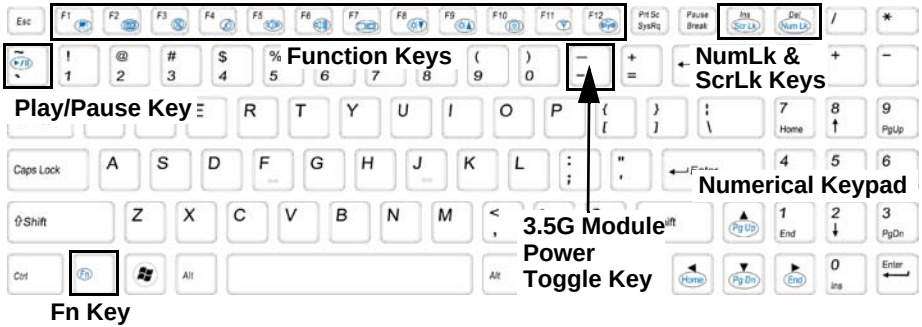


Figure 1 - 4 **- Keyboard**

Special Characters

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

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

Table 1 - 5 **- Function & Hot Key Indicators**

System Map: Front & Left Views

Figure 1 - 5
Front & Left Views

1. LED Indicators
2. DC-In Jack
3. External Monitor Port
4. RJ-45 LAN Jack
5. Vent/Fan Intake/ Outlet
6. 2 * USB 2.0 Ports
7. ExpressCard Slot (see page ***2 - 7***)
8. 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)

System Map: Right & Rear Views

Figure 1 - 6
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)
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.

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

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.

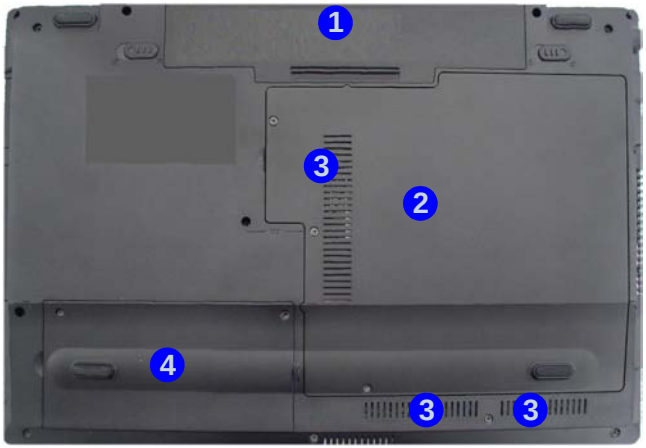


Figure 1 - 7
Bottom View

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

Note: the 3.5G USIM Card is located under the RAM & CPU Bay Cover.

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.

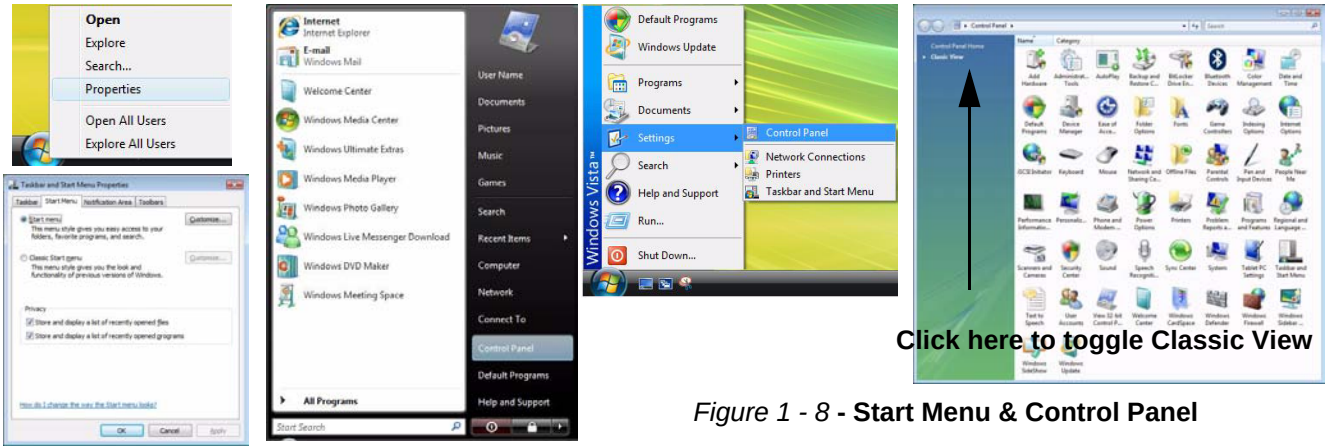


Figure 1 - 8 **- Start Menu & Control Panel**

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

Video Features

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

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

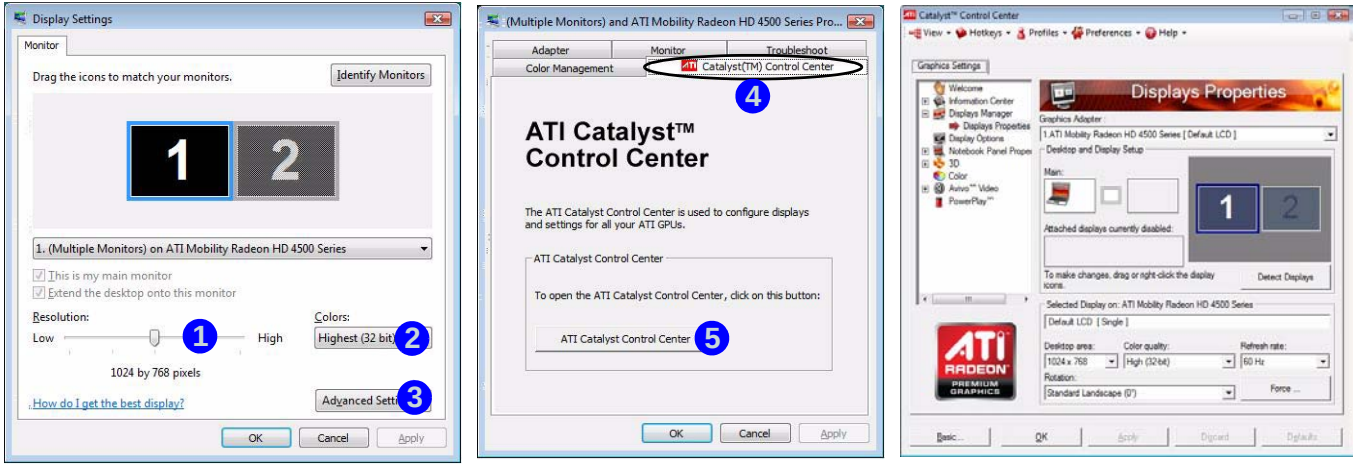
1. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
2. Click **Adjust screen resolution** under the **Appearance and Personalization** menu (or double-click **Personalization > Display Settings**).
3. Move the slider to the preferred setting in **Resolution:** 1 (***Figure 1 - 9 on page 1 - 18***).
4. Click the arrow, and scroll to the preferred setting In **Colors:** 2(***Figure 1 - 9 on page 1 - 18***).
5. Click **Advanced Settings** (button) 3 (***Figure 1 - 9 on page 1 - 18***).

To access the ***ATI Catalyst Control Center*** (See ***Appendix B*** for detailed information):

1. Click **Advanced Settings** (button) 3 (***Figure 1 - 9 on page 1 - 18***).
2. Click **ATI Catalyst Control Center** (tab) 4 (***Figure 1 - 9 on page 1 - 18***).
3. Click **ATI Catalyst Control Center** (button) 5 (***Figure 1 - 9 on page 1 - 18***) to access the control panel.
4. You can select **Basic** or **Advanced** options on the first run of the control panel (you can select **Basic** or **Advanced** views from the **View** menu at any time).

Display Devices & Options

Besides the built-in LCD, you can also use an **external VGA monitor** (CRT)/**external Flat Panel Display** as your display device.



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.

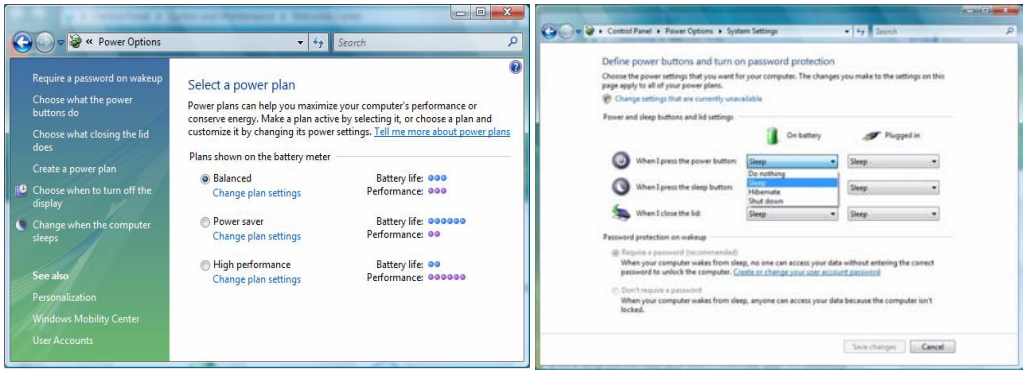
Figure 1 - 9 **- Display Settings & ATI Controls**

Power Options

The **Power Options** (**Hardware and Sound** menu) control panel icon in ***Windows*** (see page ***1 - 15***) allows you to configure power management features for your computer. You can conserve power by means of **power plans** and configure the options for the **power button**, **sleep button**, **computer lid (when closed)**, **display** and **sleep** mode from the left menu. Note that the **Power saver** plan may have an affect on computer performance.

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

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



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

Figure 1 - 10 **- Power Options**

Chapter 2: 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
- Adding a Printer

Power Safety

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

Hard Disk Drive

The hard disk drive is used to store your data in the computer. The hard disk can be taken out to accommodate other 2.5" serial (SATA) 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***.

Figure 2 - 1
Hard Disk Location

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 - 13*).

Loading Discs

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

Figure 2 - 2
Optical Device

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*).

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 - 14*.

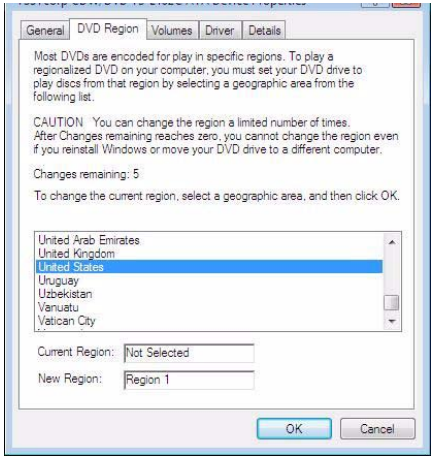
DVD Regional Coding		
Region	**Geographical Location**	
1	USA, Canada	
2	Western Europe, Japan, South Africa, Middle East & Egypt	
3	South-East Asia, Taiwan, South Korea, The Philippines, Indonesia, Hong Kong	
4	South & Central America, Mexico, Australia, New Zealand	
5	N Korea, Russia, Eastern Europe,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

Table 2 - 1
DVD Regional Coding

Card Reader Cover

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

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.

Figure 2 - 3
Left View

1. Card Reader

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.

Figure 2 - 4
Left View

1. Express Card Slot

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.

Figure 2 - 5
Inserting & Removing Express Cards

ExpressCard Slot Cover

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

Mouse Driver

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

TouchPad and Buttons/Mouse

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

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.

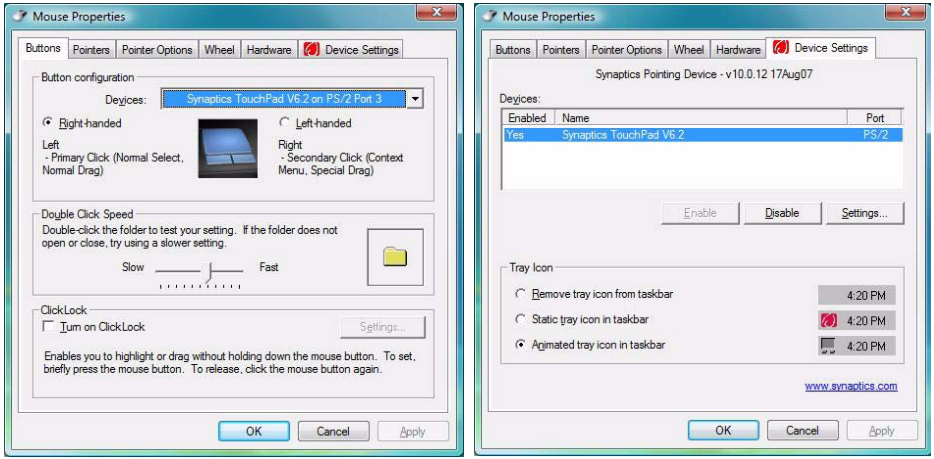


Figure 2 - 6
Mouse Properties

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 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.

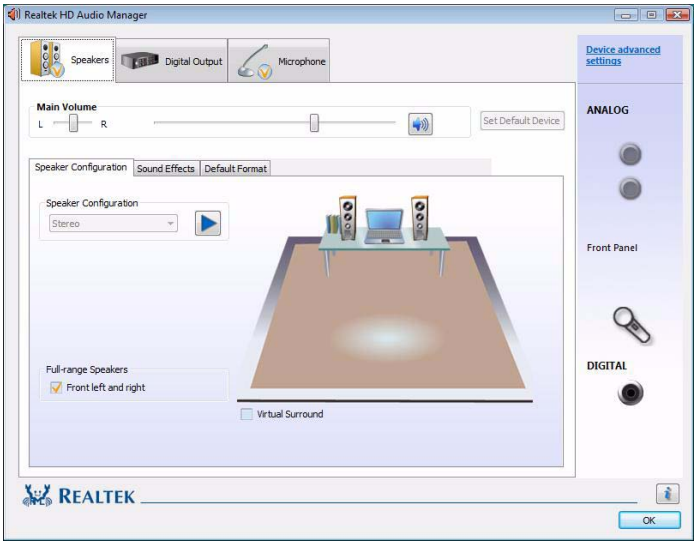


Figure 2 - 7
Realtek Audio Manager

Sound Volume Adjustment

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

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.

Parallel Printer

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

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

Turn ON the printer, then turn ON the computer.

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

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**.

Silent Mode

Use the key to toggle **Silent Mode** to reduce fan noise and save power consumption. Note this may reduce computer performance.

The Power Sources

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

AC/DC Adapter

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

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

Battery

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

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

Turning on the Computer

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

When the computer is on, you can use the power button as a Sleep/Hibernate 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

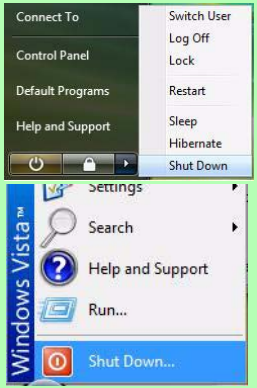
If the system "hangs", and the **Ctrl + Alt + Del** key combination doesn't work, press the power button for **4 seconds**, or longer, to force the system to turn itself off.

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.



Resuming Operation

See *Table 3 - 1, on page 3 - 9* 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.

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**.

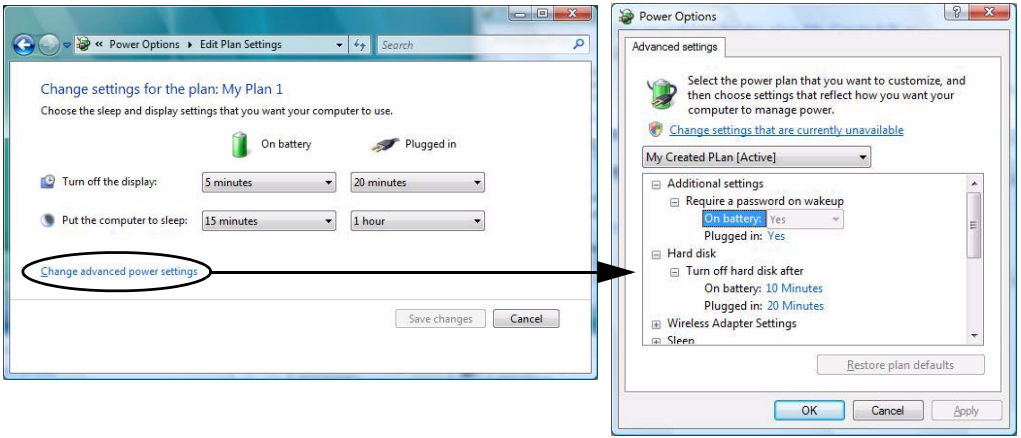


Figure 3 - 1
Power Plan Advanced Settings

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** 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.

ATI PowerPlay™

PowerPlay™ in the **ATI Catalyst Control Center** (in the Graphics Settings Tree View pane) allows you to set your graphics processor settings for higher performance or longer battery life.

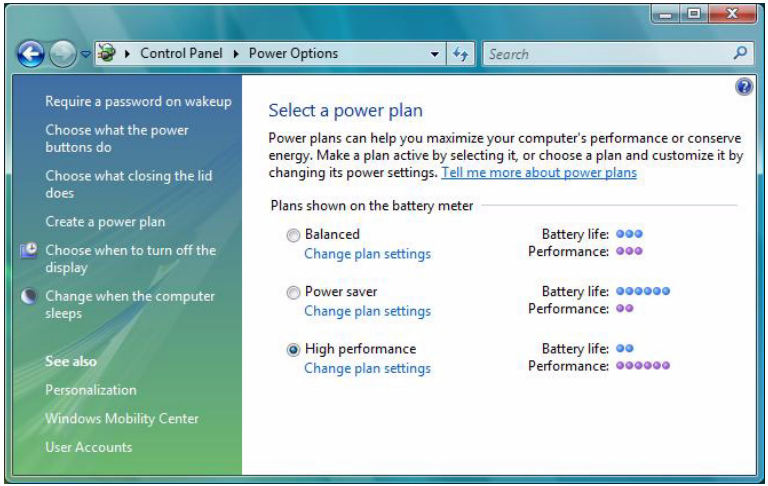


Figure 3 - 2
Power Plans

Power Button

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

Sleep Mode & Mobile PC Battery

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

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

Power-Saving States

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

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

Sleep

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

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

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

Hibernate

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

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**.

Shut Down

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

Figure 3 - 3
Lock Button Menu

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***).

Configuring the Power Buttons

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

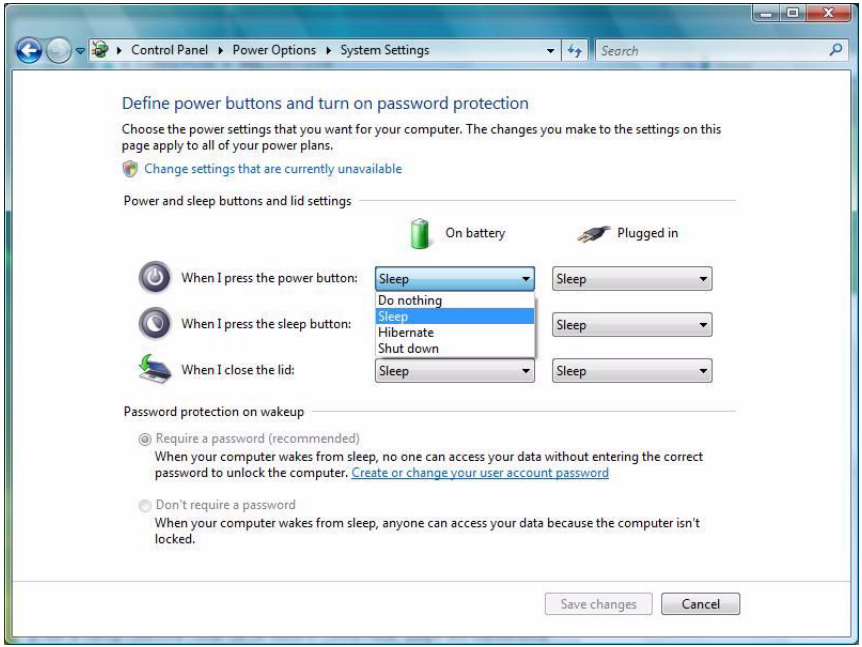


Figure 3 - 4
Power Options Define Power Buttons

Resuming Operation

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

Power Status	Icon Color	To Resume
Power Off	Off	Press the Power Button
Sleep	Blinking Green	Press the Power Button Press the Sleep Button (Fn + F4 Key Combo)
Hibernate	Off (battery) 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**

Low Battery Warning

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

Battery Information

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

Battery Power

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

Click the battery icon in the taskbar to see the current battery level and charge status.

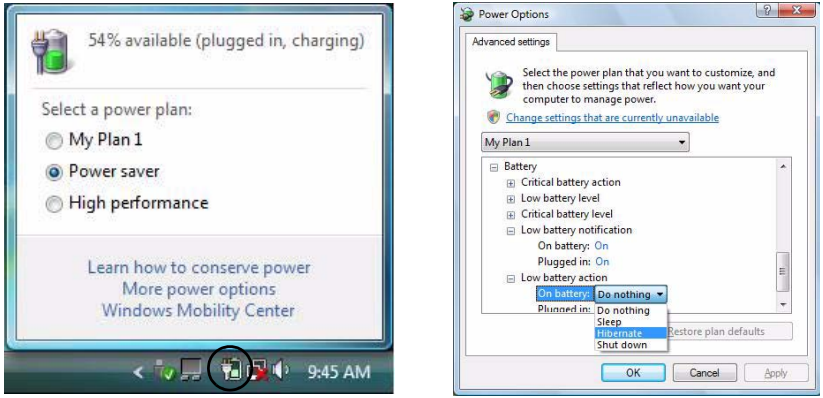


Figure 3 - 5
Battery Icon (Taskbar) & Battery Advanced Settings

Conserving Battery Power

- Use a **power plan** that conserves power (e.g **Power saver**), however note that this may have an affect on computer performance.
- Lower the brightness level of the LCD display. The system will decrease LCD brightness slightly to save power when it is not powered by the AC/DC adapter.
- Reduce the amount of time before the display is turned off.
- Close wireless, Bluetooth, modem or communication applications when they are not being used.
- Disconnect/remove any unnecessary external devices e.g. USB devices, ExpressCards etc.

Windows Mobility Center

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

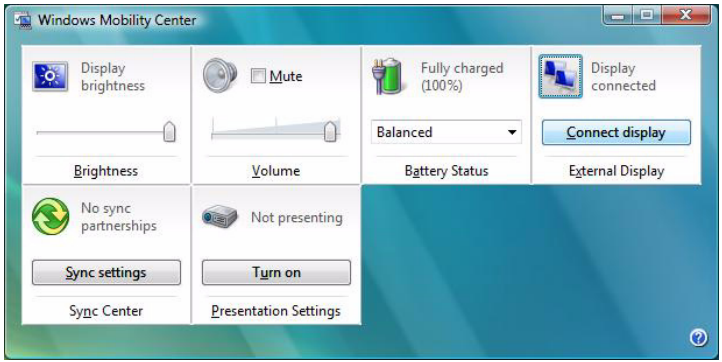


Figure 3 - 6
Windows Mobility Center

Battery Life

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

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

New Battery

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

Recharging the Battery with the AC/DC Adapter

The battery pack automatically recharges when the AC/DC adapter is attached and plugged into an electrical outlet. If the computer is powered on, and in use, it will take several hours to fully recharge the battery. When the computer is turned off but plugged into an electrical outlet, battery charge time is less. (Refer to ***"LED Indicators" on page 1 - 8*** 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.

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***.

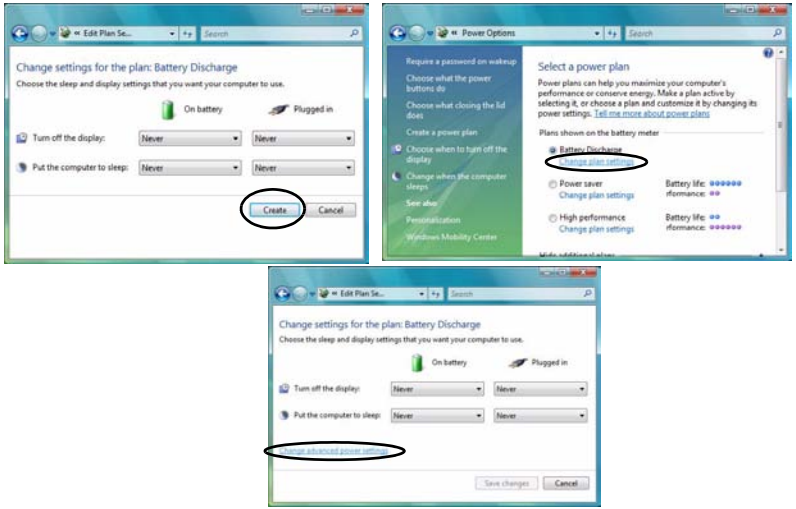


Figure 3 - 7
Power Plan Create

4. Scroll down to **Battery** and click **+** to expand the battery options.
5. Choose the options below (click **Yes** if a warning appears):

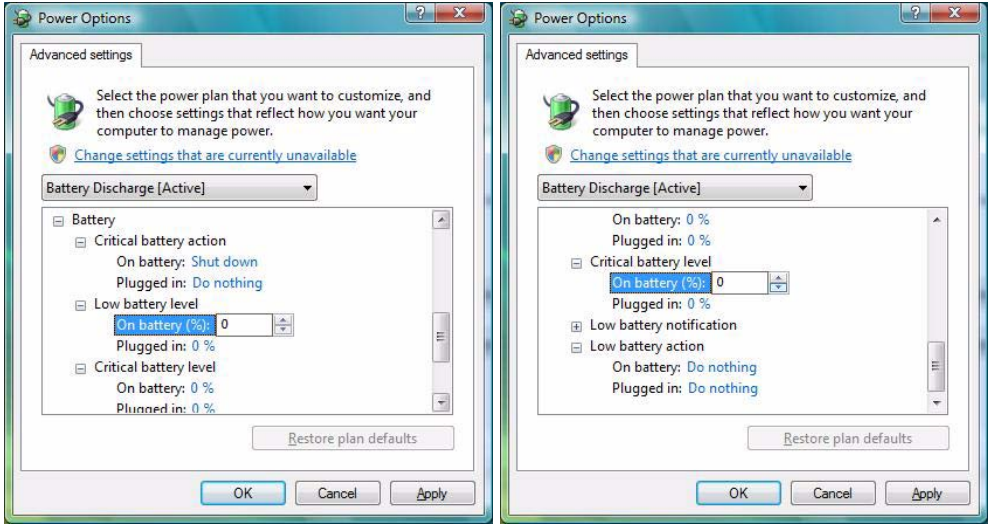


Figure 3 - 8
Power Options Advanced Settings - Battery

- 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

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

How do I maintain the battery?
Completely discharge and charge the battery at least once every 30 days or after about 20 partial discharges.

Chapter 4: Drivers & Utilities

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

What to Install

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

Table 4 - 1, on page 4 - 3 lists what you need to install and **it is very important that the drivers are installed in the order indicated** (see *"Driver Installation" on page D - 32* for ***Windows XP*** information).

Module Driver Installation

The procedures for installing drivers for the **PC Camera**, **Wireless LAN**, **3.75G/HSPA** and **Fingerprint** modules are provided in *"Modules & Options" on page 7 - 1*.

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 (you should uninstall the driver first).
3. Follow the instructions for each individual driver installation procedure as listed on the following pages.

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

Driver - *Windows Vista* with Service Pack 1	Page
Video	*Page 4 - 5*
Modem	*Page 4 - 6*
LAN	*Page 4 - 6*
TouchPad	*Page 4 - 6*
CardReader	*Page 4 - 6*
Hot Key	*Page 4 - 6*
Audio	*Page 4 - 7*
PC Camera Module	*Page 7 - 7*
Wireless LAN Module	*Page 7 - 14*
3.75G/HSPA Module	*Page 7 - 19*
Fingerprint Reader Module	*Page 7 - 28*

Table 4 - 1 **- Driver Installation**

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 ***"Windows Update" on page 4 - 7*** for instructions.

Windows Vista Service Pack 1

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

Updating/Reinstalling Individual Drivers

If you wish to update/reinstall individual drivers it may be necessary to uninstall the original driver.To do this go to the **Control Panel** in the ***Windows OS*** and double-click the **Programs and Features** icon (**Programs** > **Uninstall a program**). Click to select the driver (if it is not listed see below) and click **Uninstall**, and then follow the on screen prompts (it may be necessary to restart the computer). Reinstall the driver as outlined in this chapter.

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

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

User Account Control (Win Vista)

If a **User Account Control** prompt appears as part of the driver installation procedure, click **Continue** 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 General Guidelines

The driver installation procedure outlined in this Chapter (and in **Chapter 7 Options & Modules**), are accurate at the time of going to press.

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

Driver Installation Procedure

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

Video

1. Click **1.Install Video Driver** > **Yes**.
2. Click **Next** > **Install** (button).
3. Click the **Express** (or **Custom** if you prefer to manually configure the driver installation settings) button and click **Next**.
4. Click **Accept** (button) and click **Yes**.
5. Click **Finish** > **Yes** to restart the computer.
6. After the computer has restarted, it will automatically restart again to refresh the video driver.

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 - 17***).

Modem

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

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 **3.Install Lan Driver > Yes**.
2. Click **Next**.
3. Click **Finish > Finish** to restart the computer.
4. The network settings can now be configured.

TouchPad

1. Click **4.Install Touchpad Driver > Yes**.
2. Click **Next**.
3. Click **Finish > Restart Now** to restart the computer.

CardReader

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

Hot Key

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

Audio

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

Note that after installing the audio driver the system will not return to the ***Drivers Installer*** screen. To install any of the optional drivers listed overleaf, eject the *Device Drivers & Utilities + User's Manual* disc and then reinsert it (or double-click the disc icon in **My Computer**), and click ***Option Drivers*** (button) to access the optional driver menu.

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 - 6***, and check the installation procedure.

Wireless LAN Module

See the introduction in ***"Wireless LAN Module" on page 7 - 14***, and check the installation procedure.

3.75G/HSPA Module

See the introduction in ***"3.75G/HSPA Module" on page 7 - 19***, and check the installation procedure.

Fingerprint Reader Module

See the introduction in ***"Fingerprint Reader Module" on page 7 - 27***, and check the installation procedure.

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 *Set-up* and restore the ***Set-up Defaults*** with <**F9**>.

POST Screen

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

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

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.

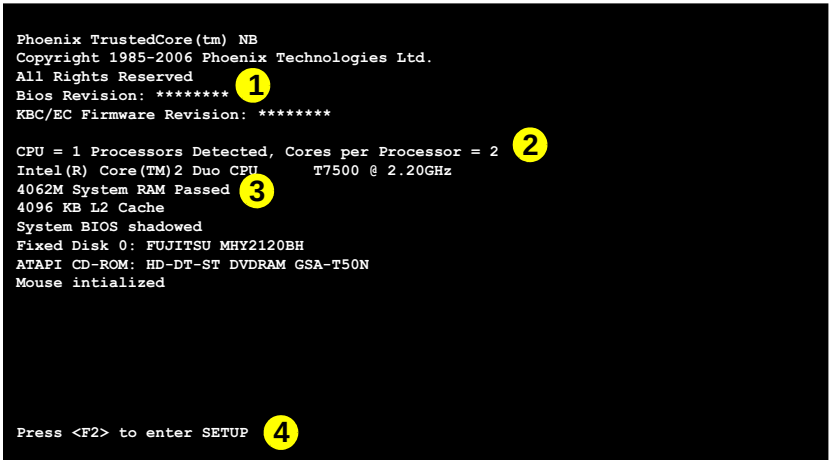


Figure 5 - 1
POST Screen

Failing the POST

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

Fatal Errors

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

Non-Fatal Errors

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

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

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

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

The Setup Program

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

Entering Setup

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

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

Setup Screens

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

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

Instructions on how to navigate each screen are in the box along the bottom of the screen. If these tools are confusing, press **F1** to call up a **General Help** screen, and then use the arrow keys to scroll up or down the page.

The **Item Specific Help** on the right side of each screen explains the highlighted item and has useful messages about its options.

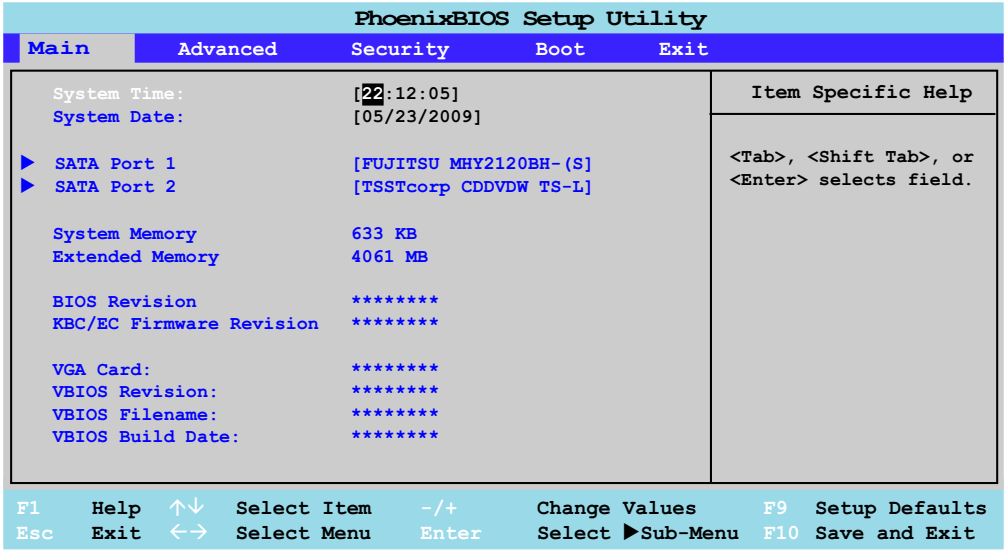
If you see an arrow ▶ next to an item, press **Enter** to go to a sub-menu on that subject. The sub-menu screen that appears has a similar layout, but the **Enter** key may execute a command.

Setup Menus

The **Setup** menus shown in this section are for **reference** only. Your computer's menus will indicate the configuration appropriate for your model and options.

Main Menu

Figure 5 - 2
Main Menu



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

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

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

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

VGA Card/VBIOS Revision/VBIOS Filename/VBIOS Build Date (Main Menu)
This item contains information on the video card installed and the video BIOS.

Advanced Menu

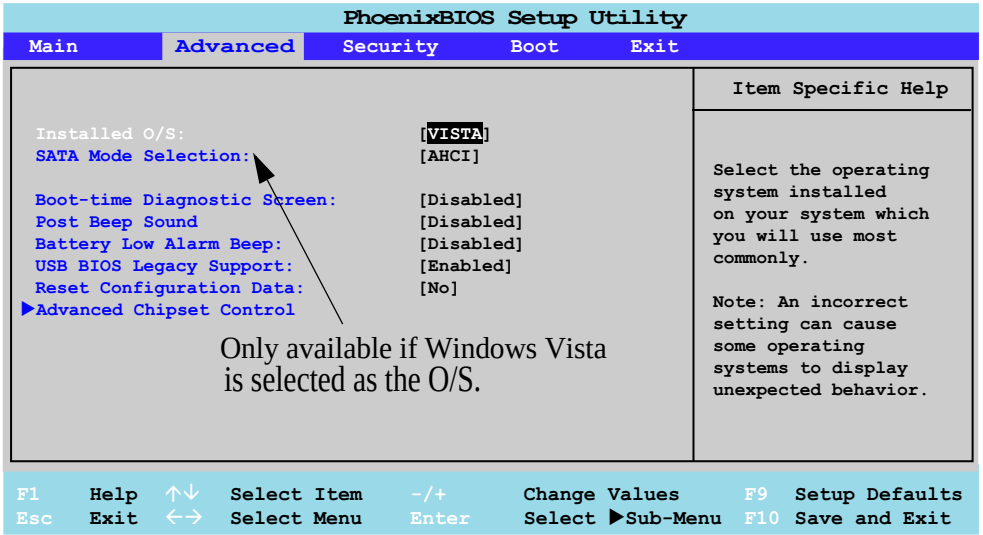


Figure 5 - 3
Advanced Menu

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

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

SATA Mode Selection

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

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

Post Beep Sound (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.

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

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.

Advanced Chipset Control > Battery Life Optimize (Advanced Menu)
The ***Battery Life Optimize*** sub-menu here allows you to enable/disable **Phoenix-BIOS Setup Utility** management and optimization of battery life.

Security Menu

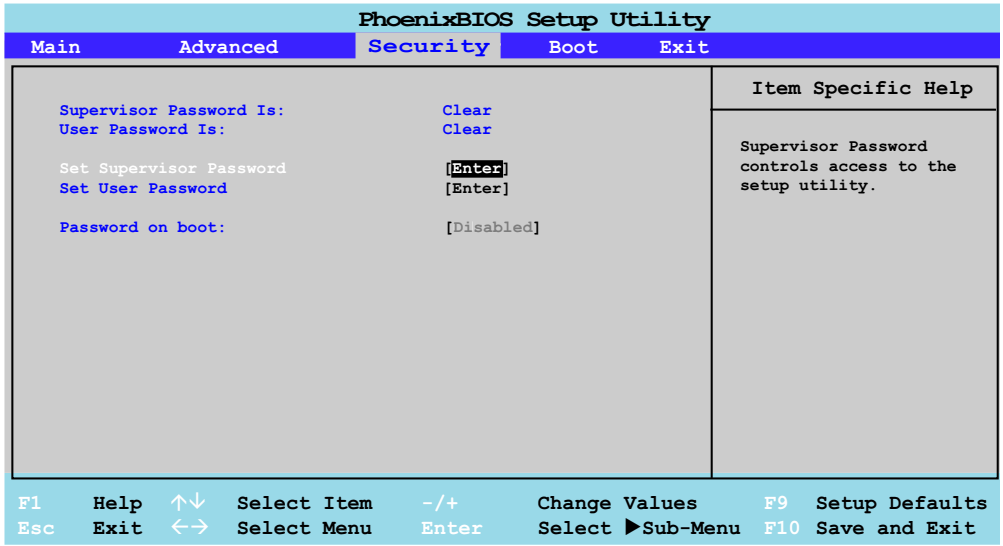


Figure 5 - 4
Security Menu

Set Supervisor Password (Security Menu)

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

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.

5

Password Warning

If you set a boot password (Password on boot is "Enabled"), **NEVER** forget your password.

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

Set User Password (Security Menu)

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

Password on boot: (Security Menu)

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

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

Boot Menu

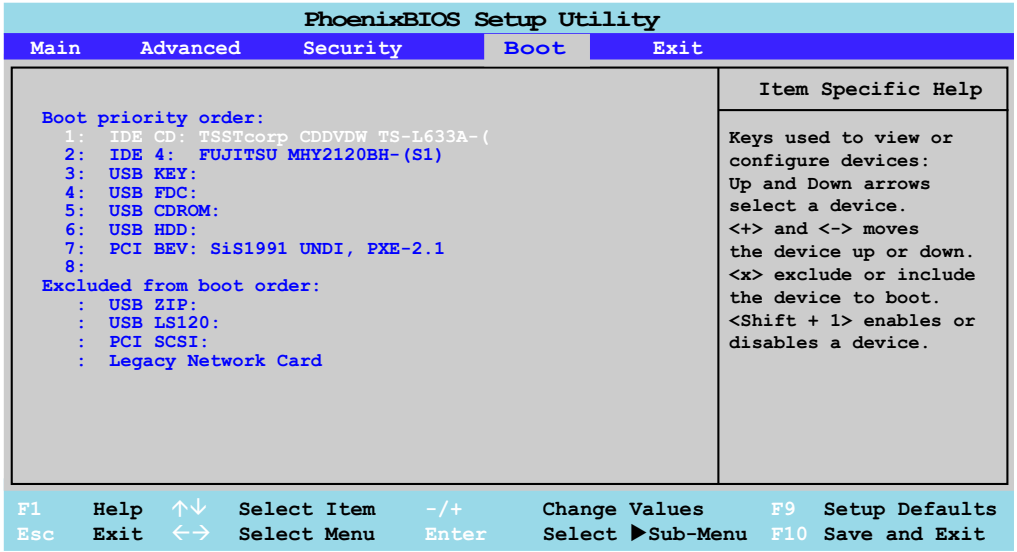
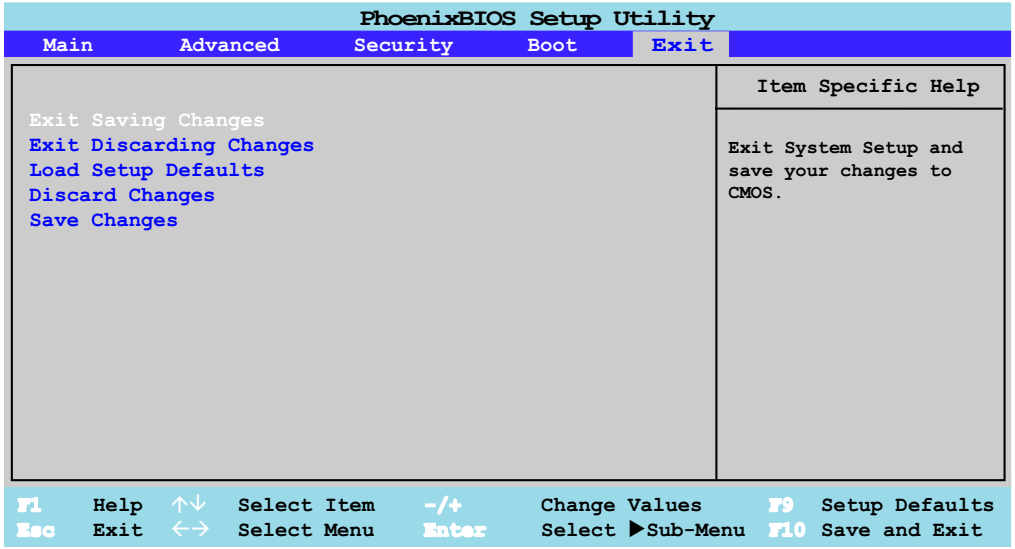


Figure 5 - 5
Boot Menu

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

Exit Menu

Figure 5 - 6
Exit Menu



Choosing to ***Discard Changes***, or ***Exit Discarding Changes***, will wipe out any changes you have made to the ***Setup***. You can also choose to restore the original ***Setup*** defaults that will return the ***Setup*** to its original state, and erase any previous changes you have made in a previous session.

Chapter 6: Upgrading The Computer

Overview

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

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

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

Warranty Warning

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

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.

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.

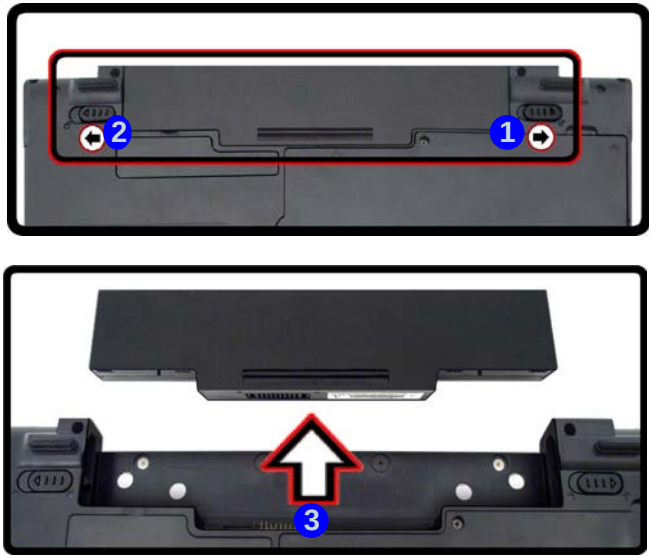
Upgrading the Processor

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.

Figure 6 - 1
Battery Removal

HDD System Warning

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

Upgrading the Hard Disk Drive

The hard disk drive can be taken out to accommodate other 2.5" 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.

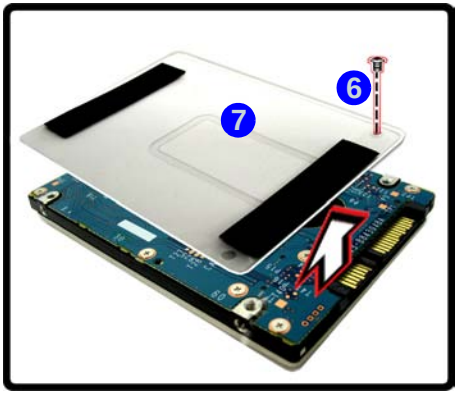
1. Turn **off** the computer, and turn it over and remove the battery.
2. Locate the hard disk bay cover and loosen screws 1 & 2.
3. Remove the hard disk bay cover 3.

Figure 6 - 2
Hard Disk Bay Cover Removal

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

Figure 6 - 3
HDD Removal

6. Remove the screw(s) 6 and the adhesive cover 7.
7. Reverse the process to install a new hard disk drive (do not forget to replace all the screws and covers).



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.

Figure 6 - 4
HDD Cover Removal

Upgrading the Optical (CD/DVD) Device

1. Turn **off** the computer, and turn it over and remove the battery.
2. Locate the hard disk bay cover and loosen screws 1 & 2.
3. Remove the hard disk bay cover 3.
4. Remove the screw at point 4, and use a screwdriver to carefully push out the optical device at point 5.
5. Reverse the process to install the new device.

Figure 6 - 5
Removing the Optical 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 C - 2* for details of supported module types).

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

Figure 6 - 6
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 - 7***.
6. The RAM module will 8 pop-up, and you can remove it.

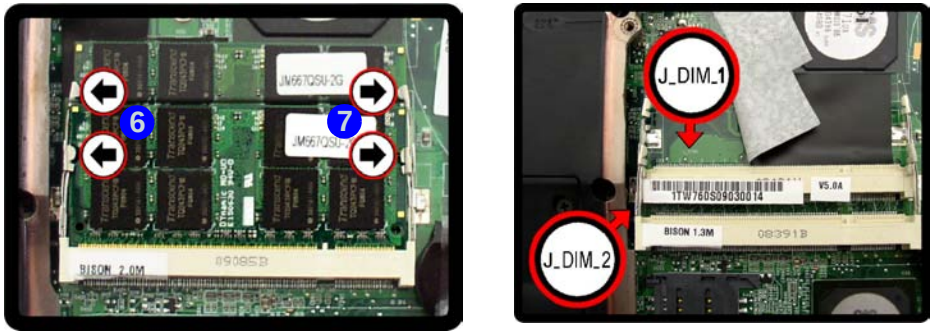


Figure 6 - 7
RAM Module Removal

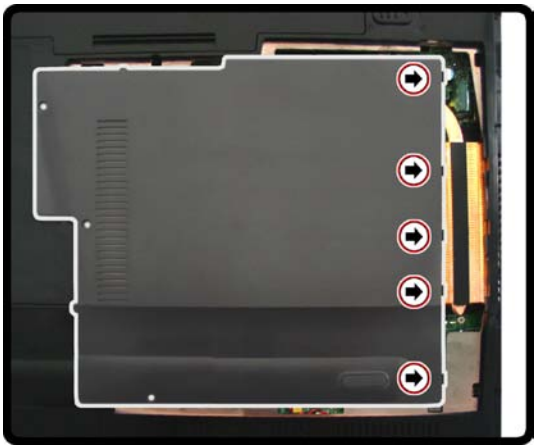
Contact Warning

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

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).

7. Pull the latches to release the second module if necessary.
8. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
9. The module's pin alignment will allow it to only fit one way. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE the module; it should fit without much pressure.
10. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
11. Replace the bay cover (see sidebar) and screws (**make sure you reconnect the fan cable before screwing down the bay cover**).



12. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

Cover Pins

Note that the computer has **five** cover pins. These pins need to be aligned with slots in the case to insure a proper cover fit, before screwing down the bay cover.

Figure 6 - 8
Cover Pin Alignment

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
- Wireless LAN Module
- 3.75G/HSPA Module
- Fingerprint Reader Module

Important Notice

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.

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 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 - 11*/ *Table 1 - 3, on page 1 - 8*).

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 *"Function/Hot Key Indicators" on page 1 - 11*) **to toggle power to the Bluetooth module**. When the Bluetooth module is powered on, the LED will be **orange** and the indicator will briefly be displayed.

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.

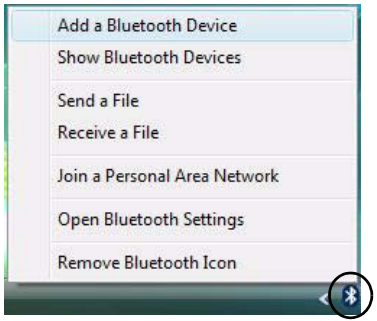


Figure 7 - 1
Bluetooth Devices & Click Icon Menu

Bluetooth Taskbar Icon

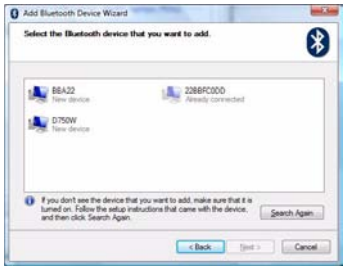
If you cannot see the Bluetooth icon in the taskbar, access the **Bluetooth Devices** control panel. Click **Options** (tab), and make sure that **Show Bluetooth icon in the notification area** check box (**Connections**) has a tick inside it.

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

To Add a Bluetooth Device

1. Access the **Bluetooth Devices** control panel.
2. Click **Options** (tab), and make sure that ***Allow Bluetooth devices to connect to this computer*** check box (**Connections**) has a tick inside it.
3. Click **Devices** (tab), and then click **Add**.
4. The **Add Bluetooth Device Wizard** will appear.
5. Click to select "***My device is set up and ready to be found***", and then click **Next**.

Figure 7 - 2
Add Bluetooth Device Wizard



6. The ***Wizard*** will then search for any available Bluetooth devices within range.
7. Click to select the device you want to communicate with, and click **Next**.
8. Select an appropriate passkey option and click **Next**.

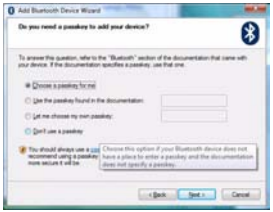


Figure 7 - 3
Passkey Option

9. Click **Finish**.

Passkey Options

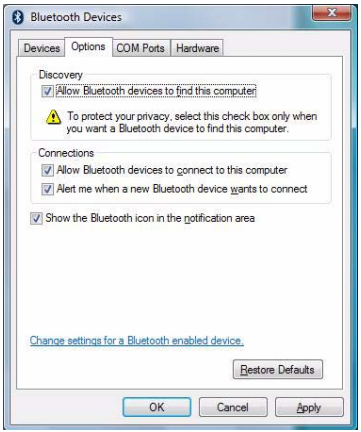
You can allow the system to choose a passkey for you. You will then be prompted to enter the generated passkey on your Bluetooth device.

To Change Settings for the Bluetooth Device

1. Access the **Bluetooth Devices** control panel.
2. Click on the device you want to change and click **Properties** to:
   - Change the **name** of the device (click **General**, type a new name and click **OK**).
   - Enable/Disable a **service** (click **Services**, clear/tick the check box next to the service and click **OK**).

To Make your Computer Discoverable to Bluetooth Devices

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



Bluetooth Help

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

Figure 7 - 4
Bluetooth Devices Options

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 Module

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 1 - 11***) **to toggle power to the PC Camera module**. When the PC Camera module is powered on, the indicator will briefly be displayed. Make sure you install the drivers in the order indicated in ***Table 4 - 1, on page 4 - 3***.

PC Camera Driver Installation

1. 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.PC Camera, Web cam > Yes**.
4. Choose the language you prefer and click **Next > Next**.
5. Click **Finish** to restart the computer.
6. Run the **BisonCap** application program from the **BisonCam** shortcut on the desktop, or from the **BisonCam** item in the **Start > Programs/All Programs** menu (if the hardware is turned off use the **Fn + F10** key combination to turn it on again).

2.0M PC Camera Screen Refresh

The 2.0M PC Camera module supports a frame rate of 12 fps. If you find that the screen refresh rate is subject to lag or stuttering, then **reduce the window size**, or adjust the **Output Size** and/or **Color Space Compression**.

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

PC Camera Audio Setup

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

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

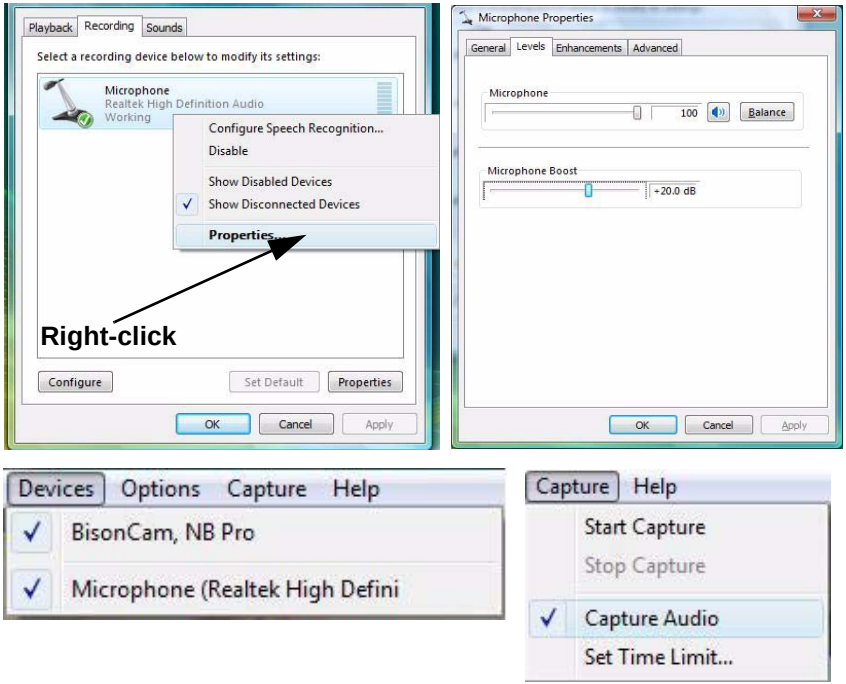


Figure 7 - 5
Audio Setup for PC Camera

Pre-Allocating File Space

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

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

See also *"Reducing Video File Size" on page 7 - 11*.

BisonCap

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

1. Run the **BisonCap** program from the **Start > Programs/All Programs > BisonCam** menu (it is recommended that you **set the capture file** before the capture process - **see Set Capture File below**).
2. Go to the **Capture** menu heading (if you wish to capture audio check *"PC Camera Audio Setup" on page 7 - 8*) and select **Start Capture**.
3. Click **OK** (the file location will be displayed in the pop-up box) to start capturing the video, and press **Esc** to stop the capture (you can view the file using the **Windows Media Player**).

Set Capture File

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

Note the important information in *"Reducing Video File Size" on page 7 - 11* 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 - 10***), limit the file size of the captured video (see ***"Pre-Allocating File Space" on page 7 - 10***) or reduce video resolution (see below).

To Reduce Video Resolution Output Size:

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

Eliminating Screen Flicker

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

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

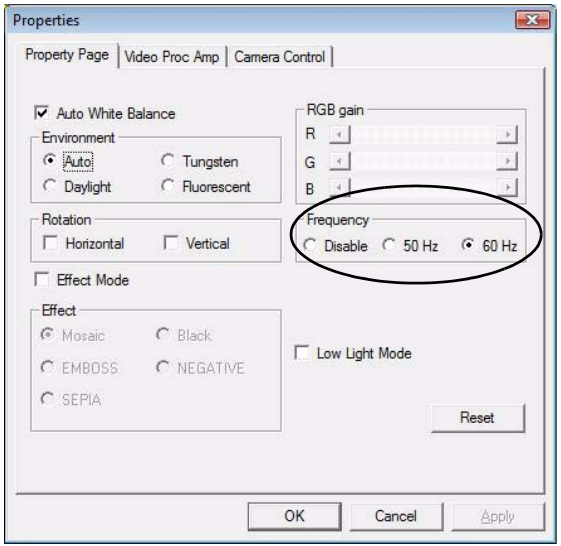


Figure 7 - 6
Video Capture Filter

Zoom

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

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

Figure 7 - 7
Zoom/Setting

Taking Still Pictures

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

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

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.

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 - 11*/ *Table 1 - 3, on page 1 - 8*).

Wireless LAN Module

If you have included a **802.11b/g WLAN module** in your purchase option, make sure that the Wireless LAN module is on before installing the driver. Use the **Fn + F11 key combination** (see *"Function/Hot Key Indicators" on page 1 - 11*) **to toggle power to the Wireless LAN module**. When the WLAN module is powered on, the LED will be **green** and the indicator will briefly be displayed. Make sure you install the drivers in the order indicated in *Table 4 - 1, on page 4 - 3*.

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 **2.Wireless Lan > 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).

Connecting to a Wireless Network

Make sure the Wireless LAN module is turned on.

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

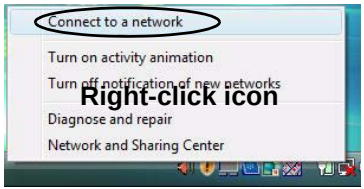


Figure 7 - 8
Taskbar Menus

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

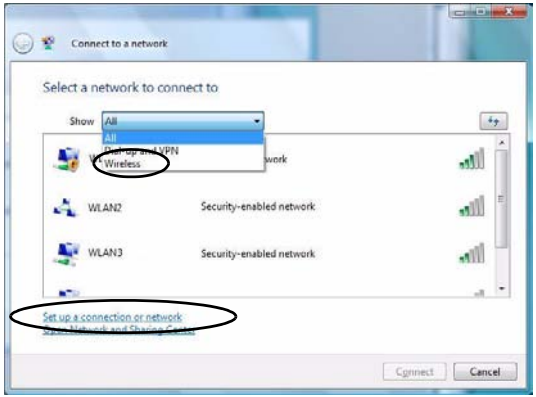


Figure 7 - 9
Connect to a Network

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.

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

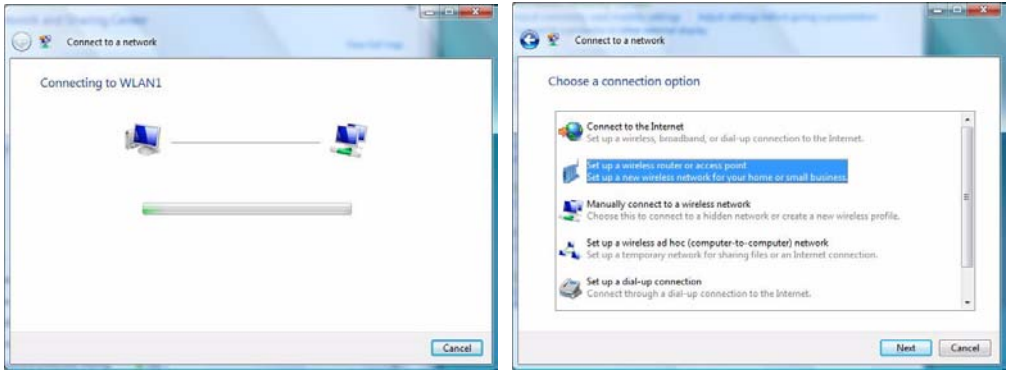


Figure 7 - 10
Connecting

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

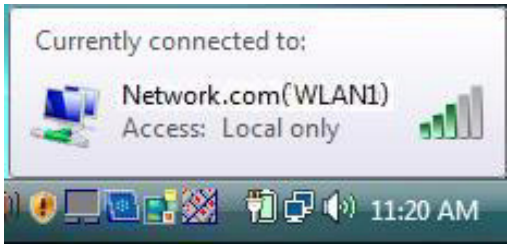


Figure 7 - 11
Connection Status

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

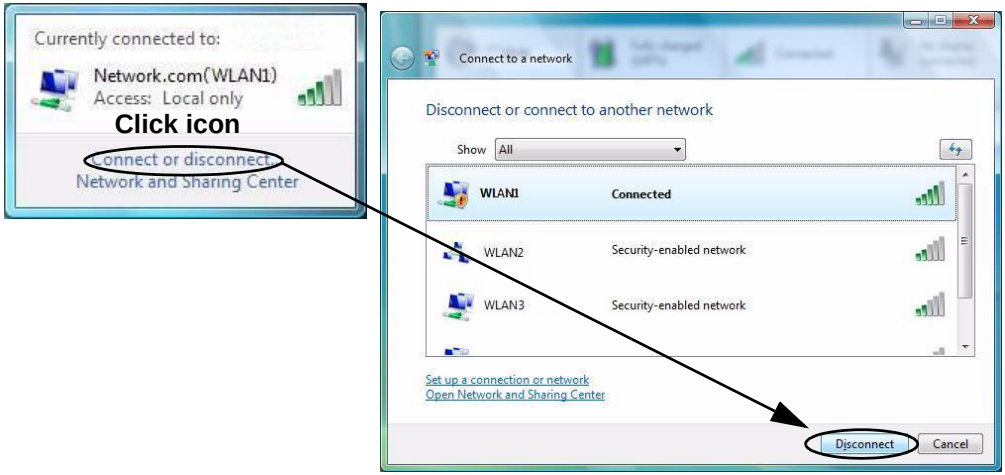


Figure 7 - 12
Disconnecting

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.

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.

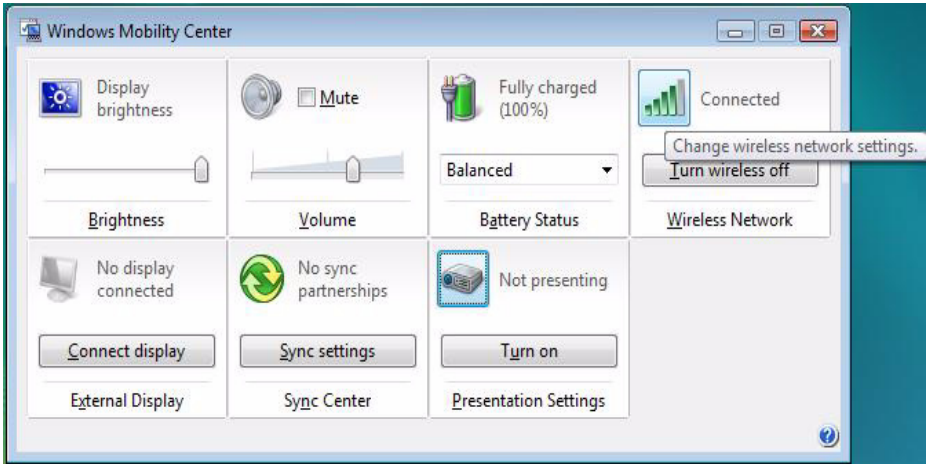


Figure 7 - 13
Windows Mobility Center

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 application provided for your module. Follow the instructions *on page 7 - 20* to install the USIM card (supplied by your service provider), and then install the application.

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/Hot Key Indicators" on page 1 - 11*) **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**.

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.

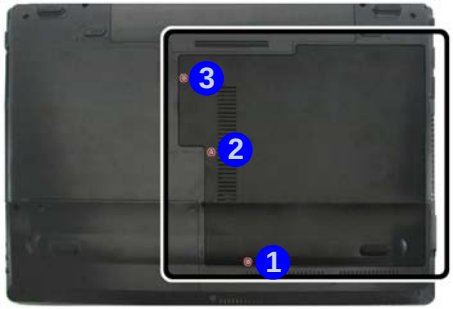
Important Notice - 3.75G/HSPA & Bluetooth/Wireless LAN Modules

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.

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.

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 (the SIMLOCK is located at point 4), then carefully (a fan and cable are attached to the under side of the cover) lift up the bay cover. Carefully disconnect the fan cable 5, and remove the cover.



Fan Cable

Make sure you reconnect the fan cable 5 before screwing down the RAM & CPU bay cover.

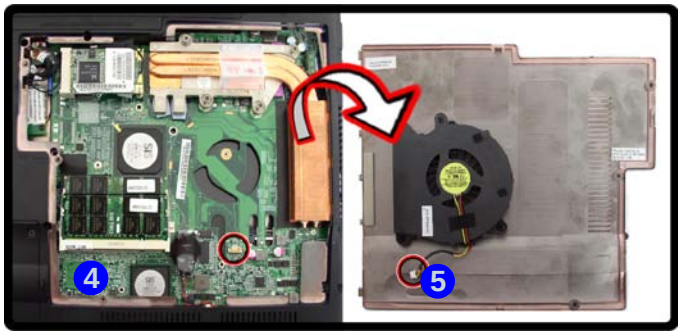


Figure 7 - 14
SIM Card Cover/Bay Cover Removal

3. Insert the USIM card as you would into your mobile phone.
4. Slide the SIMLOCK towards the hinge in order to release the lock and lift it up.
5. Insert the USIM card as illustrated in (***Figure 7 - 15***) and close the SIMLOCK.

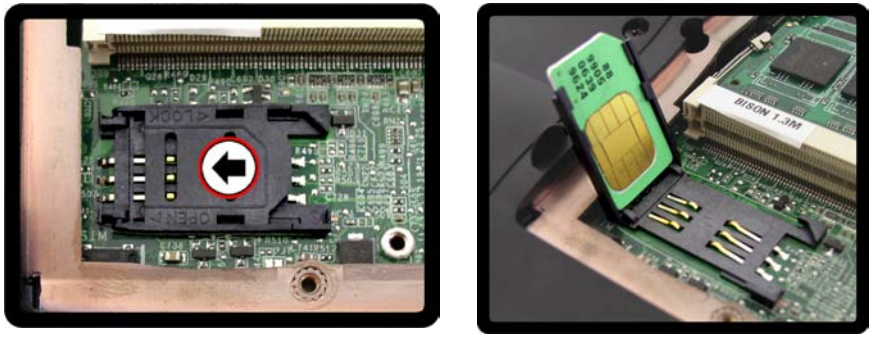


Figure 7 - 15
Insert the USIM Card

6. Lock the SIMLOCK by pushing it in the direction of the arrow in ***Figure 7 - 16*** until it clicks into the lock position.

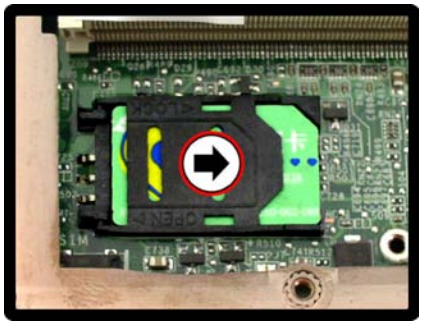


Figure 7 - 16
SIMLOCK Lock

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 - 11***/ ***Table 1 - 3, on page 1 - 8***).

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

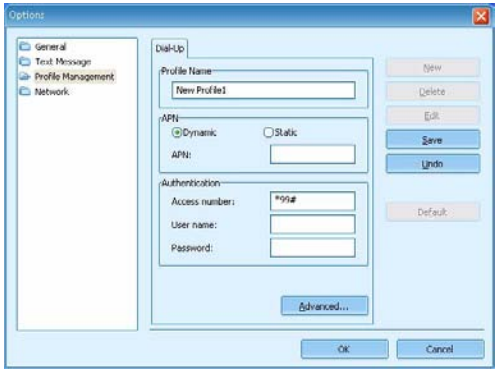
1. Enable power to the module by pressing the **Fn +** key combination (the on screen icon will indicate the module's power status). If a ***Found New Hardware*** window appears, click **Cancel** in all windows that appear, and then proceed to install the driver as below.
2. Insert the ***Device Drivers & Utilities + User's Manual*** disc into the CD/DVD drive.
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** and input the appropriate information for **Profile Name, APN** and **Authentication** etc. as supplied by your service provider.
5. Click **Save** to save the profile.



Mobile Partner Help

To get help on **Mobile Partner** configuration and settings, click the **Help** menu and select **Online Help** or press **F1**.

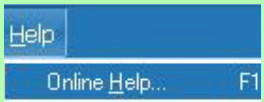


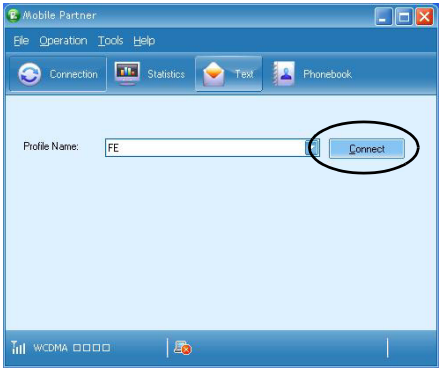
Figure 7 - 17
Profile Management

7

Connecting to the Service Provider

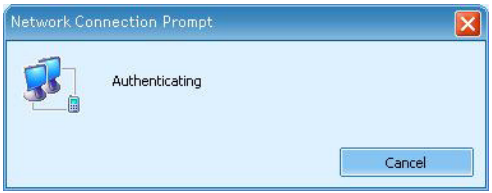
1. Power on the **3.75G/HSPA** module using the **Fn +** key combination.
2. Access the **Mobile Partner** application from the **Start** menu (**Start > Programs/ All Programs > Mobile Partner**), or by double-clicking the **Mobile Partner** icon on the desktop .
3. The software will run and you can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

Figure 7 - 18
Connect



5. The Mobile Partner application will then display the connection information.

Figure 7 - 19
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.

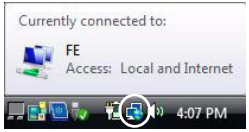
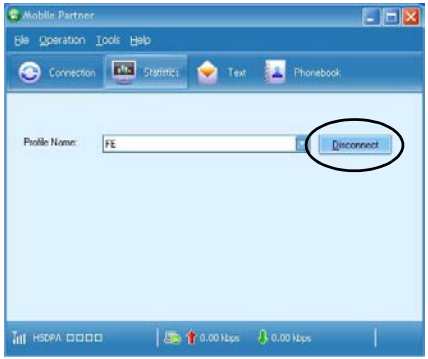


Figure 7 - 20
Connected Taskbar Notification

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**.



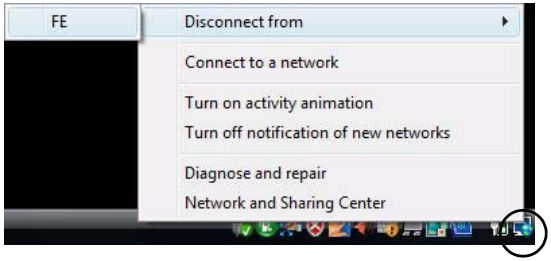
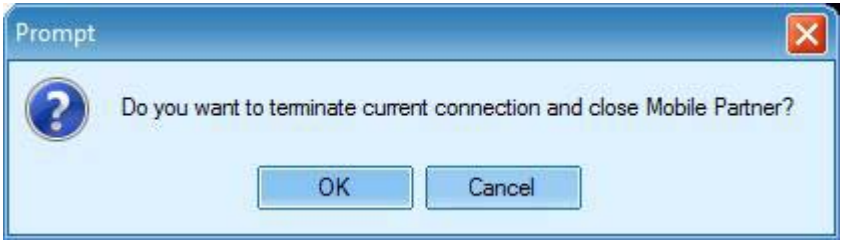


Figure 7 - 21
Disconnect

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 - 22
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 - 22***).
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.

Fingerprint Reader Module

The **optional fingerprint reader Protector Suite Software** provides a high level of security for your computer. A further level of security and control is provided in the BIOS (see ***"Security Menu" on page 5 - 11***).

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

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

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

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

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

Password Warning

If you set passwords for any of the security modules, **NEVER** forget your password.

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

Help & Manual

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

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

Fingerprint Reader Driver Installation

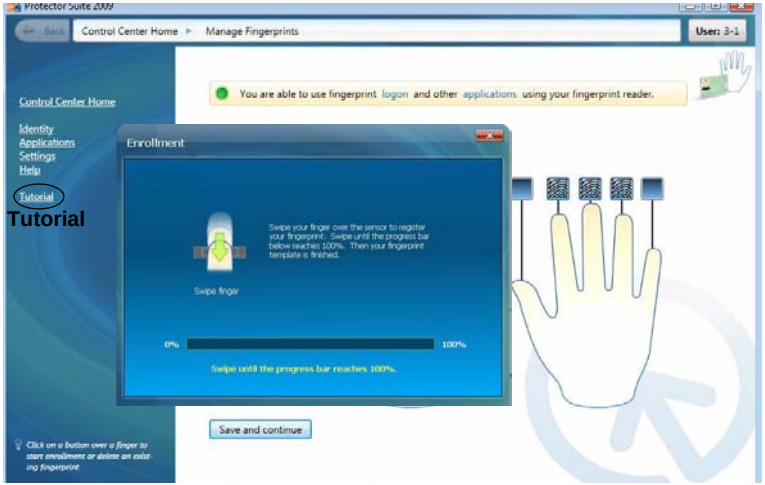
1. Insert the ***Device Drivers & Utilities + User's Manual*** disc into the CD/DVD drive.
2. Click **Option Drivers** (button).
3. Click **4.FingerPrint > Yes**.
4. Click **Software Installation**.
5. Click **Next > Next > Next**.
6. Click **Finish > Yes** to restart the computer.

User Enrollment

1. Click **Start > Programs/All Programs > Protector Suite > Control Center**, or double click the taskbar icon (click **Initialize**).
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).

Fingerprint Enrollment

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



Tutorial

Figure 7 - 23
Fingerprint Enrollment

7

Fingerprint Enrollment

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

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 **Save and Continue**.
9. Enter a backup password and click **Apply**.
10. Close the fingerprint status window.

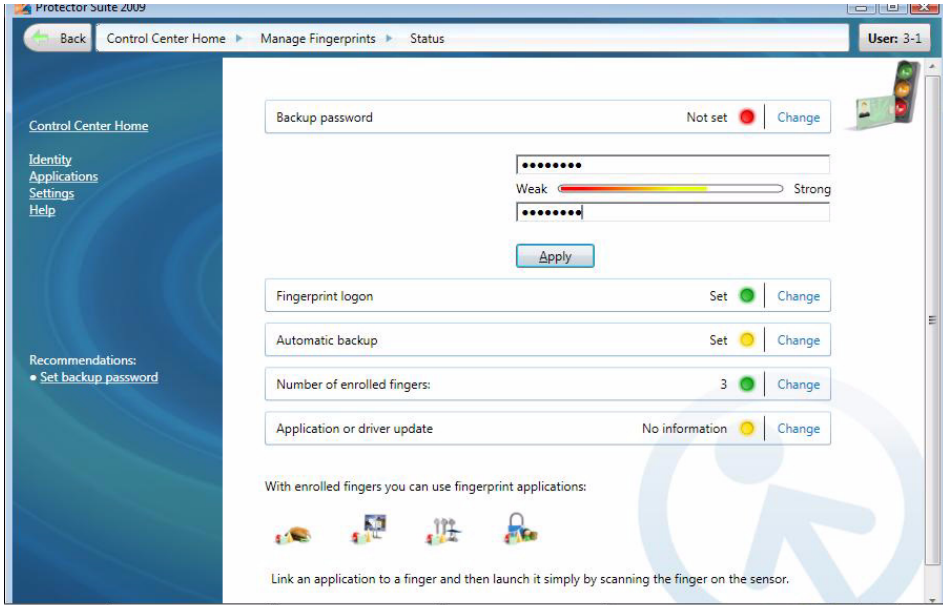


Figure 7 - 24
Fingerprint Status

11. Right-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** etc. from the **Protector Suite** item in the **Programs/All Programs** menu
12. Click "**Help**" in **Control Center Home** to get more information on any topic.
13. You can also run the **Tutorial**, or **Product Tour** video to get more information..

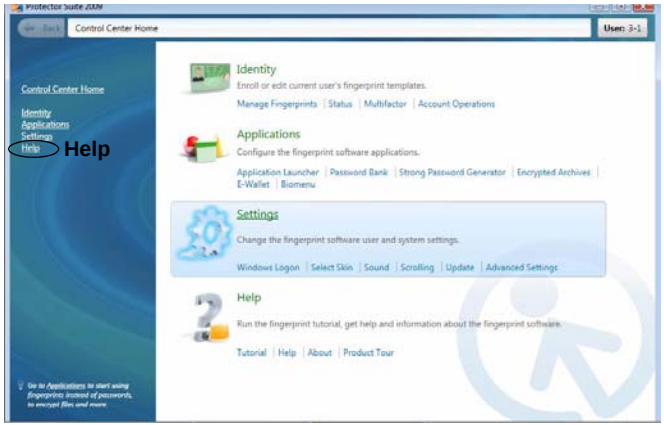


Figure 7 - 25
Control Center & Biomenu

14. See ***"Help & Manual" on page 7 - 28*** for further details.
15. If you swipe your finger over the reader at any time you can access the **Biomenu** to **lock the computer**, **register websites**, access the **Personal Safe, E-Wallet** or **Strong Password Generator,** open the **Control Center** and access the **Help** menu.

Help

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.

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.

Strong Password Generator

Strong Password Generator helps you to create complicated passwords resistant to dictionary attacks from the Internet.

E-Wallet

The **E-Wallet** provides biometric security for important personal information such as credit card details, account numbers 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.

Chapter 8: Troubleshooting

Overview

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

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

Basic Hints and Tips

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

- **Power** - Is the computer actually plugged into a working electrical outlet? If plugged into a **power strip**, make sure it is actually working. Check the **LED Power & Communication Indicators** (see ***"LED Indicators" on page 1 - 8***) 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 *"Security Menu" on page 5 - 11*).

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

Warranty

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

Viruses

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

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

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

Upgrading and Adding New Hardware/Software

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

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

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

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

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

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 D - 23***) 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 D - 28***). *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.

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 - 15***). 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***/ ***"Sleep Button" on page D - 27***). *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***//***"Video Features" on page D - 8*** for instructions on installing and configuring the video driver.

Problem	Possible Cause - Solution
You forget the **boot password**.	*If you forget the password, you may have to discharge the battery of the CMOS.* Contact your service representative for help.
 Password Warning If you choose to set a boot password, **NEVER** forget your password. The consequences of this could be serious. If you cannot remember your boot password you must contact your vendor and you may lose all of the information on your hard disk.	
The sound cannot be heard or the **volume is very low**.	*The volume might be set too low.* Check the volume control in the ***Volume Control Panel*** in the *Windows* taskbar, or use the key combination **Fn + F5** and **F6** (see ***"Function/Hot Key Indicators" on page 1 - 11***/***"Function Keys/Hot Key Indicators" on page D - 6***) 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 D - 3***.

Problem	Possible Cause - Solution
Unwelcome numbers appear when typing.	*If the LED* *is lit, then Num Lock is turned* ***ON****.* (see *"LED Indicators" on page 1 - 8*).

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 D - 25*). Make sure you have enabled **Hibernate** mode from the control panel.
The **Wireless LAN/Bluetooth/3.5G** modules cannot be detected.	*The modules are off.* Check the LED indicator and/or function key indicator to see if the WLAN/Bluetooth/3.5G module is on or off (see *"LED Indicators" on page 1 - 8*). If the LED indicator is off, then press the **Fn + F11 (WLAN)**, **Fn + F12 (Bluetooth) or Fn +** **(3.5G)** key combination(s) in order to enable the modules (see *"- Function & Hot Key Indicators" on page 1 - 11*).

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 - 11***/***"Function Keys/ Hot Key Indicators" on page D - 6***). Run the **BisonCap** program to view the camera picture.
The **Wireless LAN/Bluetooth/ PC Camera/3.5G** 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 D - 36***).
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.

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.

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)**.

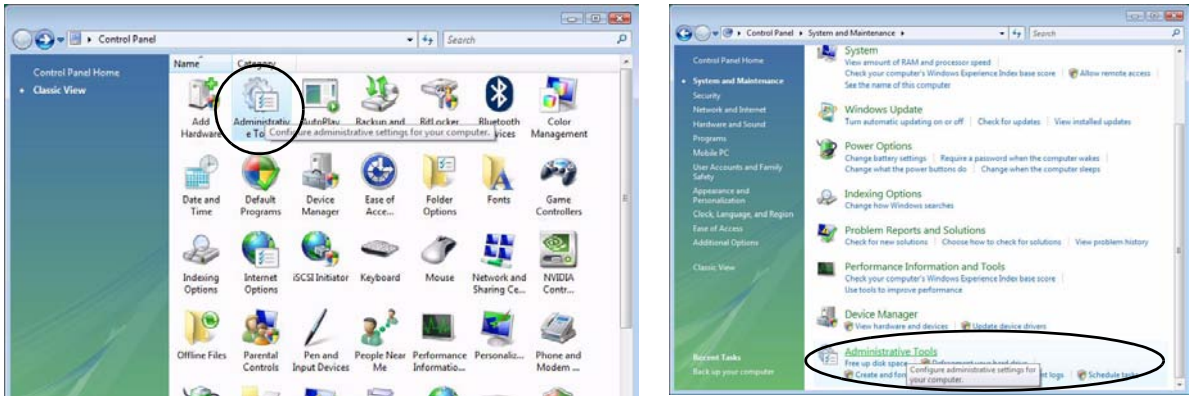


Figure 8 - 1 **- Control Panel System and Maintenance**

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

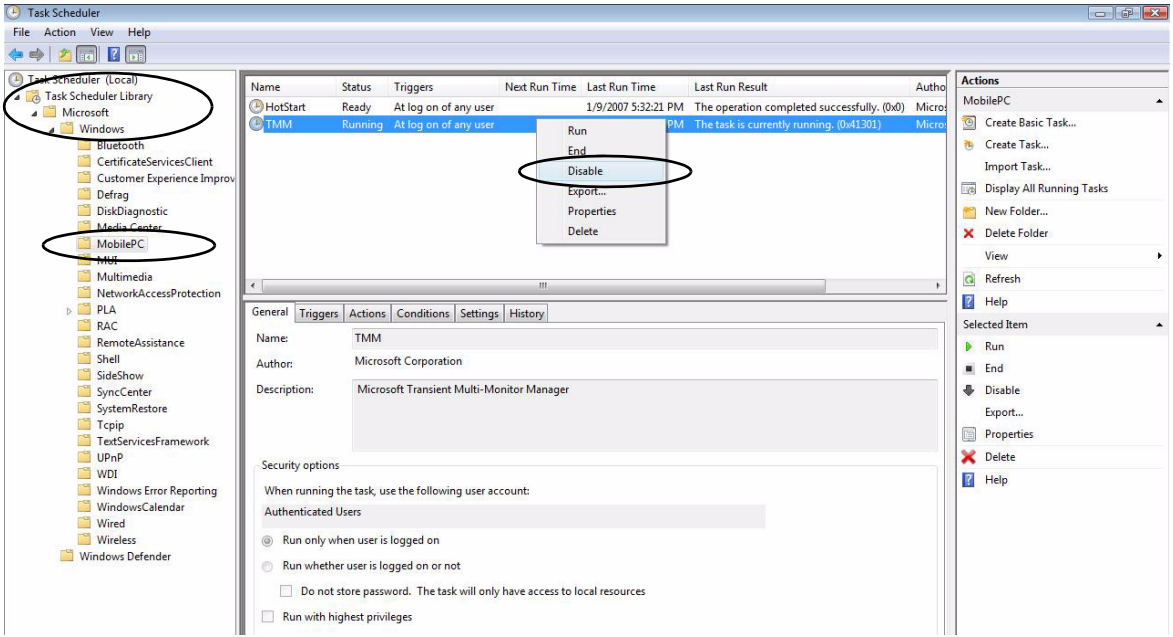


Figure 8 - 2 **- TMM Disable**

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.

Ports and Jacks

Item	Description
Card Reader Port	The card reader allows you to use some of the latest digital storage cards. Push the card into the slot and it will appear as a removable device.
DC-In Jack	Plug the supplied AC/DC adapter into this jack to power your computer.
External Monitor (VGA) Port	This port allows you to connect an external monitor, or Flat Panel Display, to get dual video or simultaneous display on the LCD and external monitor/FPD.
Headphone-Out Jack	Headphones or speakers may be connected through this jack. **Note**: Set your system's volume to a reduced level before connecting to this jack.
Microphone-In Jack	Plug an external microphone in to this jack to record on your computer.
RJ-11 Modem Jack	This port connects to the built-in modem. You may plug the telephone line directly into this RJ-11 telephone connection. **Note**: Broadband (e.g. ADSL) modems usually connect to the LAN port.

Item	Description
RJ-45 LAN Jack	This port supports LAN (Network) functions. **Note**: Broadband (e.g. ADSL) modems usually connect to the LAN port.
Security Lock Slot	To prevent possible theft, a Kensington-type lock can be attached to this slot. Locks can be purchased at any computer store.
S/PDIF-Out Jack	This S/PDIF (Sony/Philips Digital Interface Format) Out Jack allows you to connect your DVD-capable PC to a Dolby AC-3 compatible receiver for “5.1” or ‘dts’ surround sound.
USB 2.0/1.1 Ports	These USB 2.0 compatible ports (USB 2.0 is fully USB 1.1 compliant) are for low-speed peripherals such as keyboards, mice or scanners, and for high-speed peripherals such as external HDDs, digital video cameras or high-speed scanners etc. Devices can be plugged into the computer, and unplugged from the computer, without the need to turn the system off (if the power rating of your USB device is 500mA or above, make sure you use the power supply which comes with the device).

Appendix B: ATI Video Driver Controls

The basic settings for configuring the LCD are outlined in ***"Video Features" on page 1 - 17***.

ATI 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 **1.Install Video Driver > Yes**.
2. Click **Next > Install** (button).
3. Click the **Express** (or **Custom** if you prefer to manually configure the driver installation settings) button and click **Next**.
4. Click **Accept** (button) and click **Yes**.
5. Click **Finish** > **Yes** 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.

ATI Catalyst® Control Center

Adjust the video settings from the **ATI Catalyst® Control Center**.

1. Open the **Display Settings** (see page *1 - 17*) control panel.
2. Click **Advanced Settings** (button).
3. Click **Catalyst(R) Control Center** (tab) and then click **ATI Catalyst Control Center** (button) to start the control center
4. Select either **Basic** or **Advanced** and then click **Next**.
5. If you have selected **Basic** a wizard will help you set up the display options, or if you have selected **Advanced** you will be taken to the **ATI Catalyst Control Center** (you can change the options from the **Basic** menu or the **View** menu in the ATI Catalyst Control Center).

Note that the control panels pictured in the following pages are from the **Advanced** settings.

ATI Taskbar Icon

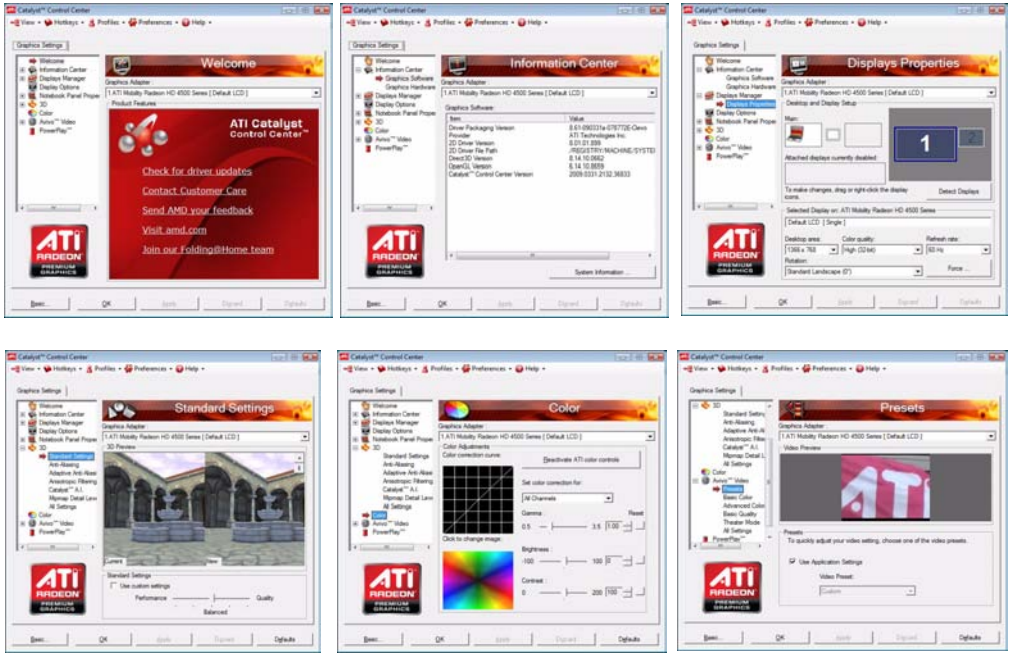
The **ATI Catalyst Control Center** can be accessed as above or by double-clicking the icon in the taskbar (or by right-clicking the icon and selecting **Catalyst Control Center**).

If you don't see the ATI icon in the taskbar, click **Preferences** (tab) in the **ATI Catalyst® Control Center**, and select **Enable System Tray Menu**.

Right-click the ATI icon to bring up the taskbar menu.

Figure B - 1
ATI Catalyst Control Center Basic Settings

The A**TI Catalyst® Control Center** provides additional video configuration controls and tools which allow quick access to features such as display options, 3D Settings, color and Help menus etc. Adjust settings from the options in the **Graphics Settings** Tree View pane.



Help Menus

Click **Help** (tab) and select an option from the drop down menu. Press **F1** to bring up **Help** for any currently selected page.

Figure B - 2
ATI Catalyst Control Center Advanced Settings

Attaching Other Displays

Display Devices

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

- The built-in LCD.
- An external monitor connected to the external monitor port.
- A flat panel display connected to the external monitor port.

Configuring an External Display in Windows Vista

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

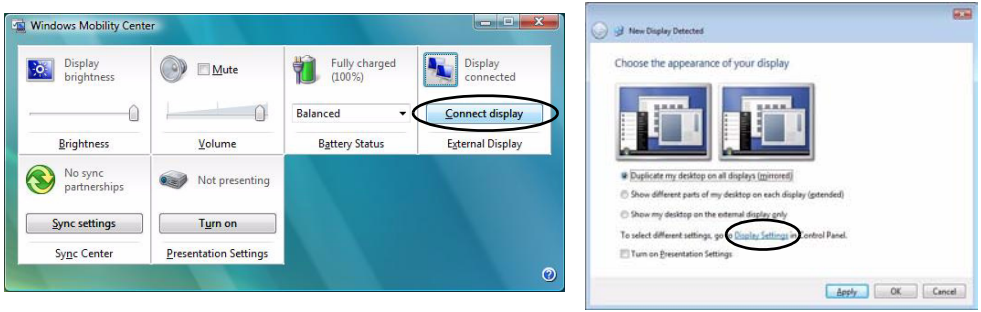


Figure B - 3
New Display Detected

Configuring an External Display using the ATI Catalyst Control Center

Alternatively you can use the **ATI Catalyst Control Center** to configure any attached displays.

1. Attach your external display to the external monitor port and turn it on.
2. Go to **ATI Catalyst Control Center** (see *"ATI Catalyst® Control Center" on page B - 2*).
3. Select **Displays Manager** from the **Graphics Settings** Tree View pane.
4. Attached displays will appear in the **Desktop and Display Setup** box.
5. Right-click, the attached display icon to bring up the Display Mode options (see *"Display Modes" on page B - 6*).
6. Select an option from the menu, and click **Yes** to accept the settings.
7. Click **OK** to save the changes.

Right-click the attached display icon and select an option (**Clone** or **Extend**) from the menu.

Detect Displays

Click **Detect Displays** (button) to automatically update the attached display information.

Configure the **Display Detection Option** from **Display Options** in the **Graphics Settings** Tree View pane. You can configure the **Catalyst® Control Center** to manually or automatically detect attached displays.

Figure B - 4
Displays Manager

Display Modes

Single

Only one of your displays is used.

Clone Mode

Clone Mode simply shows an exact copy of the Main display desktop on the other display(s). This mode will drive multiple displays with exactly the same content, resolution, refresh rates and color quality etc.

Extended Mode

Extended Mode treats both connected displays as **separate** devices, and they act as a virtual desktop resulting in a large workspace. When Extended Mode 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.

Function Keys

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

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

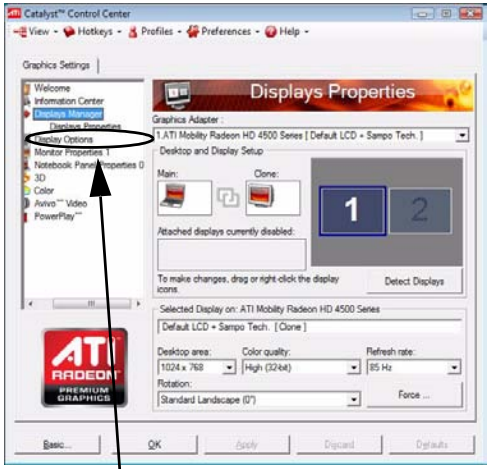
Give the displays enough time to refresh.

Swap Display Mapping

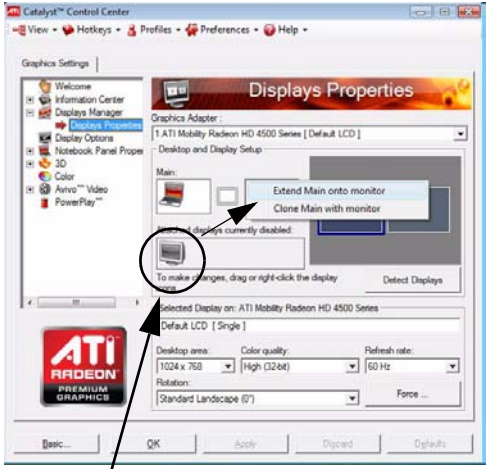
If you wish to switch the Main and Clone displays, right-click either the **Main** or **Clone** icon (Displays Manager), and then click **Swap Display Mapping**.

Clone Mode

Clone Mode simply shows an exact copy of the Main display desktop on the other display(s). This mode will drive multiple displays with the same content. Use this feature to display the screen through a projector for a presentation.



Click Monitor Properties to make adjustments for any attached displays.



Drag any attached display here to disable it, and simply drag it back to the Clone window to re-enable it.

Selecting Display Modes

Right-click the attached display icon and select an option (**Clone** or **Extend**) from the menu.

Figure B - 5
Displays Manager Clone Mode

B

Selecting Display Modes

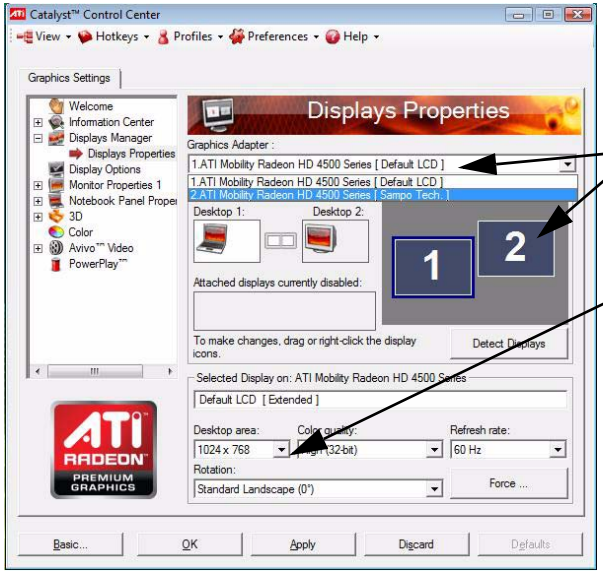
Right-click the attached display icon and select an option (**Clone** or **Extend**) from the menu.

Extended Mode

When 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.

Extended Mode

In Extended Mode each monitor can be configured separately with the ***Windows*** desktop stretched between the two monitors (except the taskbar). This configuration is recommended if you are using two monitors of different size, as you may configure the best resolution, refresh rates and color quality for each display.



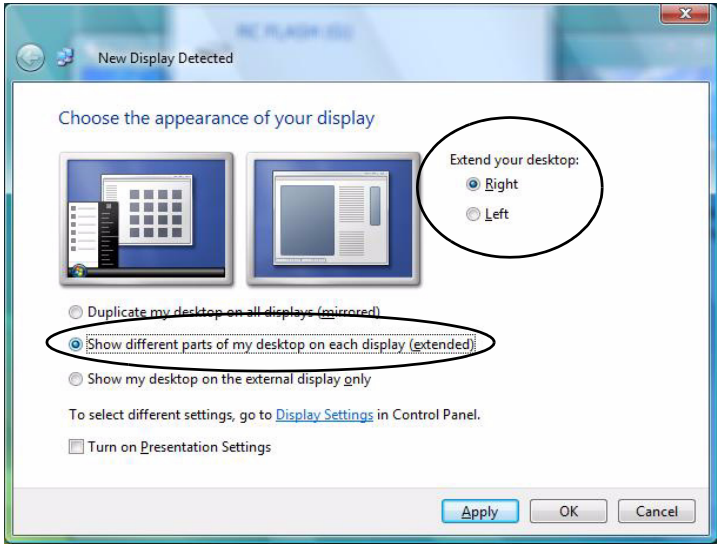
Click either the Graphics Adapter pop-up menu, or click the icon for the appropriate display.

Configure the settings from the **Selected Display....** menu.

Figure B - 6
Displays Manager Extended Mode

Using New Display Detected to Enable Extended Mode

1. Attach your external display to the external monitor 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**.



Display Settings Extended Desktop

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

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

Figure B - 7
New Display Detected

B

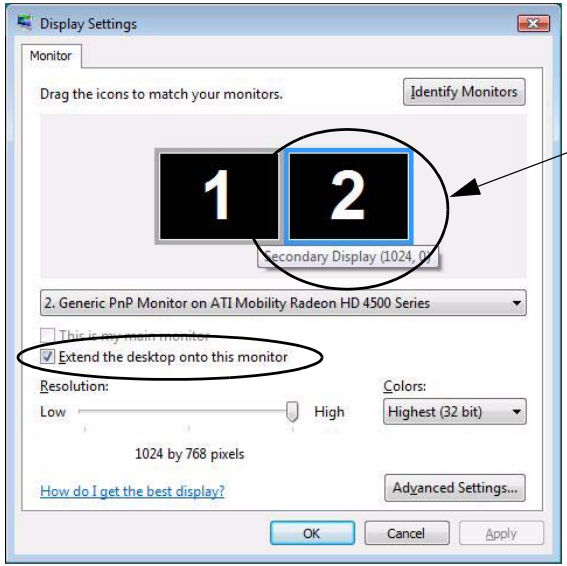
Display Settings Extended Desktop

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.

Using Display Settings to Enable Extended Mode

1. Attach your external display to the external monitor port and turn it on.
2. Open **Display Settings** (see *"Video Features" on page 1 - 17*) control panel.
3. Click the monitor icon (e.g. 2), and make sure you have checked "**Extend the desktop onto this monitor**" and click **Apply**.



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

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

Figure B - 8
Display Settings (Extend the Desktop)

Theater Mode

Theater Mode enables you to display video playback in full screen on a secondary monitor. Theater Mode can be configured from the **Avivo™ Video > Theater Mode** tab in the **Graphics Settings** Tree View pane.

Figure B - 9
Theater Mode

B

PowerPlay™

PowerPlay™ in the **Graphics Settings** Tree View pane allows you to set your graphics processor settings for higher performance or longer battery life.

Figure B - 10
PowerPlay™

Appendix C: Specifications

Latest Specification Information

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

Processor
Intel® Core™2 Duo Processor: **T8100 (2.1GHz) / T8300 (2.4GHz)** (478-pin) Micro-FC-PGA Package, Socket P, 45nm (45 Nanometer) Process Technology, 3MB On-die L2 Cache & 800MHz FSB - TDP 35W **T9300 (2.5GHz) / T9500 (2.6GHz)** (478-pin) Micro-FC-PGA Package, Socket P, 45nm (45 Nanometer) Process Technology, 6MB On-die L2 Cache & 800MHz FSB - TDP 35W **T7300 (2.0GHz) / T7500 (2.2GHz)** **T7700 (2.4GHz) / T7800 (2.6GHz)** (478-pin) Micro-FC-PGA Package, Socket P, 45nm (45 Nanometer) Process Technology, 4MB On-die L2 Cache & 800MHz FSB - TDP 35W

Processor (cont'd)
Intel® Celeron® Processor: **T1600 (1.66GHz) / T1700 (1.86GHz)** (478-pin) Micro-FC-PGA Package, Socket P, 65nm (65 Nanometer) Process Technology, 1MB On-die L2 Cache & 667MHz FSB - TDP 35W **575 (2.0GHz) / 585 (2.16GHz)** (478-pin) Micro-FC-PGA Package, Socket P, 65nm (65 Nanometer) Process Technology, 1MB On-die L2 Cache & 667MHz FSB - TDP 35W
Core Logic
SiS 671DX + SiS968 Chipset
Display
15.6" HD 16:9 Wide Screen (1366 * 768) TFT LCD

Memory
64-bit Wide **DDRII (DDR2)** Data Channel Two 200 Pin SO-DIMM Sockets Supporting **DDRII (DDR2)** 667MHz Memory Expandable up to **4GB** (1024MB/ 2048MB DDRII Modules)
Video Adapter
ATI Mobility Radeon HD 4570 Discrete Graphics On Board (PCIe * 16) 512MB GDDR2 Video RAM on board Supports Microsoft DirectX® 10.1
BIOS
One 8Mb SPI Flash ROM Phoenix™ BIOS
Storage
One Changeable 12.7mm(h) Optical Device (CD/DVD) Type Drive (see ***"Optional" on page C - 4***) Easy Changeable 2.5" 9.5 mm (h) **SATA** (Serial) HDD

Audio

High Definition Audio Compliant Interface
Compliant with Microsoft UAA (Universal Audio Architecture)
2 * Built-In Speakers
Built-In Microphone

Keyboard & Pointing Device

Full Size WinKey Keyboard
Built-in TouchPad (integrated scrolling key functionality)

Interface

Three USB 2.0 Ports
One Headphone-Out Jack
One Microphone-In Jack
One S/PDIF-Out Jack
One RJ-11 Modem Jack
One RJ-45 LAN Jack
One DC-In Jack
One External Monitor Port

Card Reader

Embedded 7-in-1 Card Reader (MS/ MS Pro/ SD/ Mini SD/ MMC/ RS MMC/ MS Duo) **Note:** MS Duo/ Mini SD/ RS MMC Cards require a PC adapter

Slots

One ExpressCard/34/54 Slot
Two Mini-Card Slots with USB interface:
Slot 1 for WLAN Module
Slot 2 for 3.5G Module (**Factory Option**)

Power

Full Range AC/DC Adapter
AC input 100 - 240V, 50 - 60Hz,
DC Output 19V, 4.74A (**90** Watts)
6 Cell Smart Lithium-Ion Battery Pack, 4400mAH
9 Cell Smart Lithium-Ion Battery Pack, 7200mAH (**Option**)

Power Management

Supports Wake on LAN
Supports Wake on USB
Supports Resume from Modem Ring

Security

Security (Kensington® Type) Lock Slot
Fingerprint ID Reader Module (**Factory Option**)
BIOS Password

Communication

56K Fax Modem
Built-In 10M/100Mb Base-TX Ethernet LAN
802.11b/g Wireless LAN Mini-Card Module with USB interface (**Option**)
1.3M or 2.0M Pixel USB PC Camera Module (**Factory Option**)

Bluetooth 2.1 + EDR (Enhanced Data Rate) Module (**Factory Option**)
OR
3.5G Module:
UMTS/HSPDA-based 3.5G Module with Mini-Card Interface (**Factory Option**)
Quad-band GSM/GPRS (850 MHz, 900 MHz, 1800 MHz, 1900 MHz)
UMTS WCDMA FDD (2100 MHz)

Note that UMTS modes CAN NOT be used in North America.

Operating System
Windows® Vista (with Service Pack 1) Windows® XP (with Service Pack 3)

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
374mm (w) * 256mm (d) * 25-37.9mm (h) 2.7 kg With 6 Cell Battery & ODD

Optional
Optical Drive Module Options: Super Multi Drive Module Blu-Ray Combo Drive Module 802.11b/g Wireless LAN Mini-Card Module with USB interface 9 Cell Smart Lithium-Ion Battery Pack, 7200mAH 1.3M or 2.0M Pixel USB PC Camera Module (**Factory Option**) Fingerprint ID Reader Module (**Factory Option**) Bluetooth 2.1 + EDR (Enhanced Data Rate) Module (**Factory Option**) **OR** UMTS/HSPDA-based 3.5G Module with Mini-Card Interface (**Factory Option**) Quad-band GSM/GPRS (850 MHz, 900 MHz, 1800 MHz, 1900 MHz) UMTS WCDMA FDD (2100 MHz)

Appendix D: Windows XP Information

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

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.

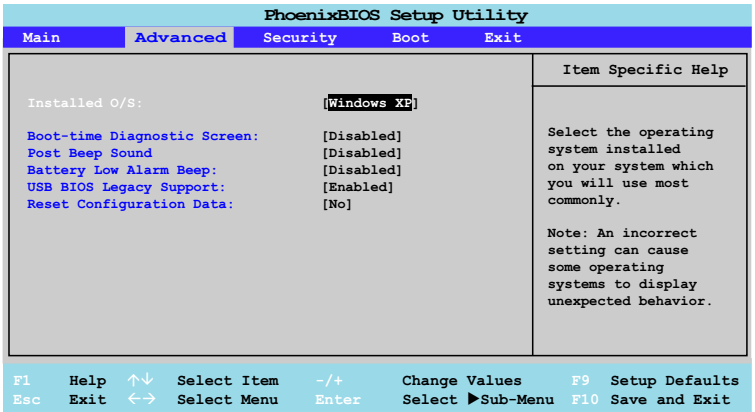


Figure D - 1 **- Advanced BIOS Menu**

DVD Regional Codes

Changing DVD Regional Codes

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

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

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

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

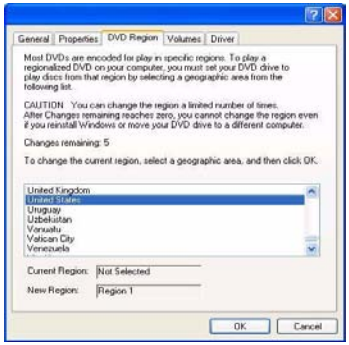


Figure D - 2 **- DVD Regions**

D

Windows XP Start Menu & Control Panel

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

Figure D - 3 **- 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 D - 35***) 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.

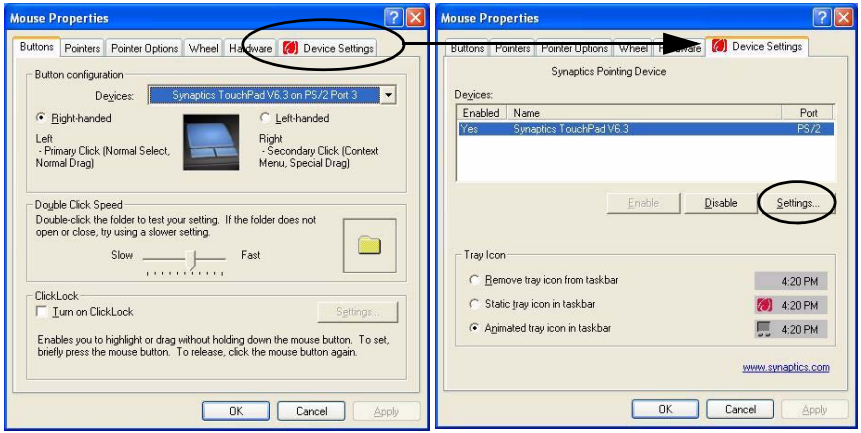


Figure D - 4 **- Mouse Properties**

Function Keys/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 D - 35*). 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 +	3.5G Module Power Toggle	Fn + F8/F9	Brightness Decrease/Increase
Fn + F1	TouchPad Toggle	Fn + F10	PC Camera Power Toggle
Fn + F2	Turn LCD Backlight Off (Press a key to or use TouchPad to turn on)	Fn + F11	WLAN Module Power Toggle
Fn + F3	Mute Toggle	Fn + F12	Bluetooth Module Power Toggle
Fn + F4	Sleep Toggle		*Silent Mode Toggle
Fn + F5/F6	Volume Decrease/Increase	*When enabled, **Silent Mode** will reduce fan noise and save power consumption. Note this may reduce computer performance.	

Table D - 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.

Sound Volume Adjustment

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

Figure D - 5 **- Realtek Audio Configuration Menus**

Video Features

You can configure display options, from the **Display Settings** control panel in ***Windows*** as long as the appropriate **video driver** is installed. For more detailed video information see ***"ATI Video Driver Controls" on page D - 10***. To access **Display Settings** in ***Windows***:

To access **Display Properties** in ***Windows***:

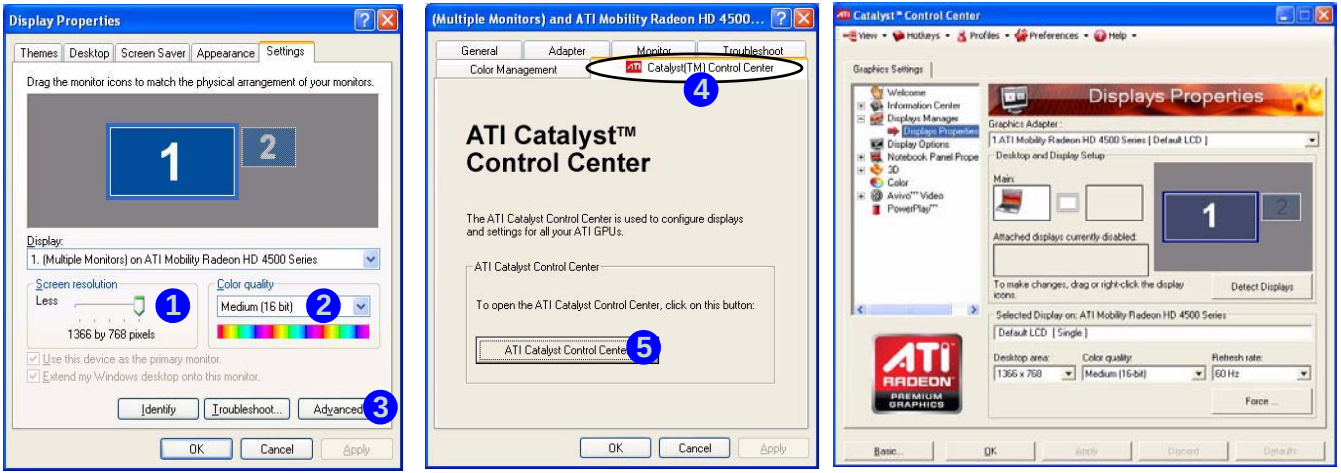
1. Click **Start**, point to **Settings** and click **Control Panel** (or just click **Control Panel**).
2. Double-click **Display** (icon) - In the **Appearances and Themes** category.
3. Click **Settings** (tab) in the **Display Properties** dialog box.
4. Move the slider to the preferred setting in **Screen resolution** 1 (***Figure D - 6 on page D - 9***).
5. Click the arrow, and scroll to the preferred setting in **Color quality** 2(***Figure D - 6 on page D - 9***).
6. Click **Advanced** (button) 3 (***Figure D - 6 on page D - 9***) to bring up the Advanced properties tabs.

To access the ***ATI Catalyst Control Center*** (See***"ATI Video Driver Controls" on page D - 10*** for details):

1. Click **Advanced Settings** (button) 3 (***Figure D - 6 on page D - 9***).
2. Click **ATI Catalyst Control Center** (tab) 4 (***Figure D - 6 on page D - 9***).
3. Click **ATI Catalyst Control Center** (button) 5 (***Figure D - 6 on page D - 9***) to access the control panel.
4. You can select **Basic** or **Advanced** options on the first run of the control panel (you can select **Basic** or **Advanced** views from the **View** menu at any time).

Display Devices & Options

Besides the built-in LCD, you can also use an **external VGA monitor** (CRT)/**external Flat Panel Display** as your display device.



Video Options

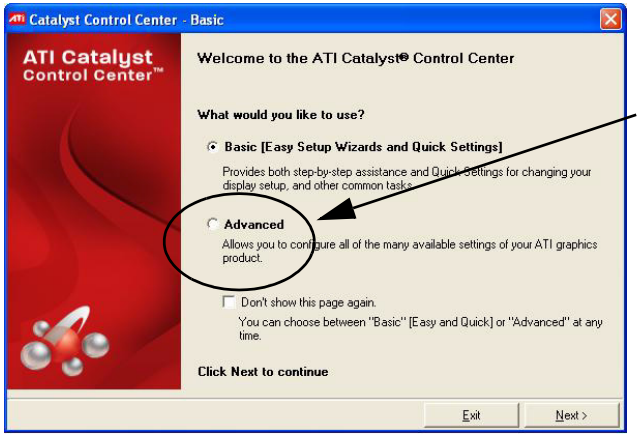
Note that card types, specifications and drivers are subject to continual updates and changes. Check with your service center for the latest details on video cards supported.

Figure D - 6 **- Display Properties & ATI Controls**

ATI Video Driver Controls

Adjust the video settings from the **ATI Catalyst® Control Center**.

1. Open **Display Properties** (see *"Video Features" on page D - 8*) control panel.
2. Click **Advanced Settings** (button).
3. Click **Catalyst(R) Control Center** (tab) and then click **ATI Catalyst Control Center** (button) to start the control center
4. Select either **Basic** or **Advanced** and then click **Next**.
5. If you have selected **Basic** a wizard will help you set up the display options, or if you have selected **Advanced** you will be taken to the **ATI Catalyst Control Center** (you can change the options from the **Basic** menu or the **View** menu in the ATI Catalyst Control Center).



Note that the control panels pictured in the following pages are from the **Advanced** settings.

Figure D - 7
ATI Catalyst Control Center Basic

ATI Taskbar Icon

The **ATI Catalyst Control Center** can be accessed as above or by double-clicking the icon in the taskbar (or by right-clicking the icon and selecting **Catalyst Control Center**).

If you don't see the ATI icon in the taskbar, click **Preferences** (tab) in the **ATI Catalyst® Control Center**, and select **Enable System Tray Menu**.

Right-click the ATI icon to bring up the taskbar menu.

D

The A**TI Catalyst® Control Center** provides additional video configuration controls and tools which allow quick access to features such as display options, 3D Settings, color and Help menus etc. Adjust settings from the options in the **Graphics Settings** Tree View pane.

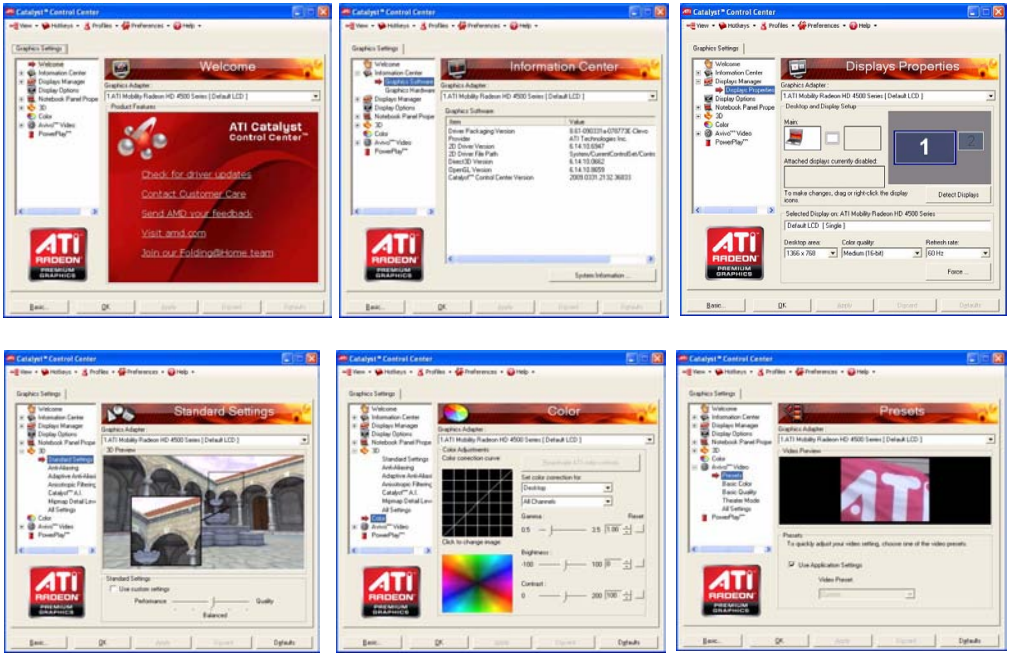


Figure D - 8
ATI Catalyst Control Center Advanced Settings

Help Menus

Click **Help** (tab) and select an option from the drop down menu. Press **F1** to bring up **Help** for any currently selected page.

D

Attaching Other Displays

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

Single

Only one of your displays is used.

Clone Mode

Clone Mode simply shows an exact copy of the Main display desktop on the other display(s). This mode will drive multiple displays with exactly the same content, resolution, refresh rates and color quality etc.

Extended Mode

Extended Mode treats both connected displays as **separate** devices, and they act as a virtual desktop resulting in a large workspace. When Extended Mode 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.

Stretched Mode

Stretched mode (horizontally or vertically) treats both connected displays as a **single** device, and they act as a virtual desktop resulting in a large workspace.

Display Devices

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

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

Make sure you give the displays enough time to refresh.

Swap Display Mapping

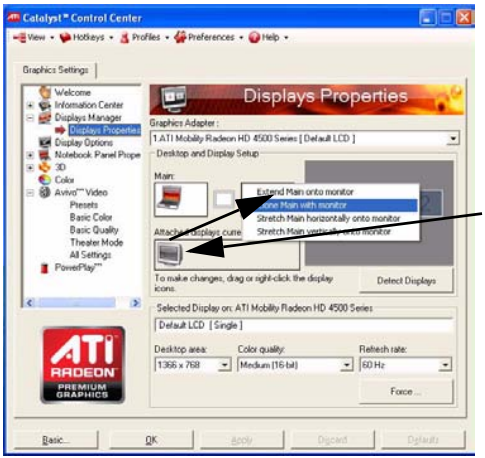
If you wish to switch the Main and Clone displays, right-click either the **Main** or **Clone** icon (Displays Manager), and then click **Swap Display Mapping**.

D

Configuring an External Display (ATI Catalyst Control Center)

You can use the **ATI Catalyst Control Center** to configure any attached displays.

1. Attach your external display to the external monitor port and turn it on.
2. Go to **ATI Catalyst Control Center** (see page ***D - 10***).
3. Select **Displays Manager** from the **Graphics Settings** Tree View pane.
4. Attached displays will appear in the **Desktop and Display Setup** box (if disabled the display they will appear in the box below).
5. Right-click, the attached display icon to bring up the **Display Mode** options.
6. Select an option from the menu, and click **Yes** to accept the settings.
7. Click **OK** to save the changes.



Right-click the attached display icon and select an option (**Clone**, **Extend** or **Stretch**) from the menu.

Detect Displays

Click **Detect Displays** (button) to automatically update the attached display information.

Configure the **Display Detection Option** from **Display Options** in the **Graphics Settings** Tree View pane. You can configure the **Catalyst® Control Center** to manually or automatically detect attached displays.

Figure D - 9
Displays Manager

D

Selecting Display Modes

Right-click the attached display icon and select an option (**Clone**, **Extend or Stretch**) from the menu.

Clone Mode

Clone Mode simply shows an exact copy of the Main display desktop on the other display(s). This mode will drive multiple displays with the same content. Use this feature to display the screen through a projector for a presentation.

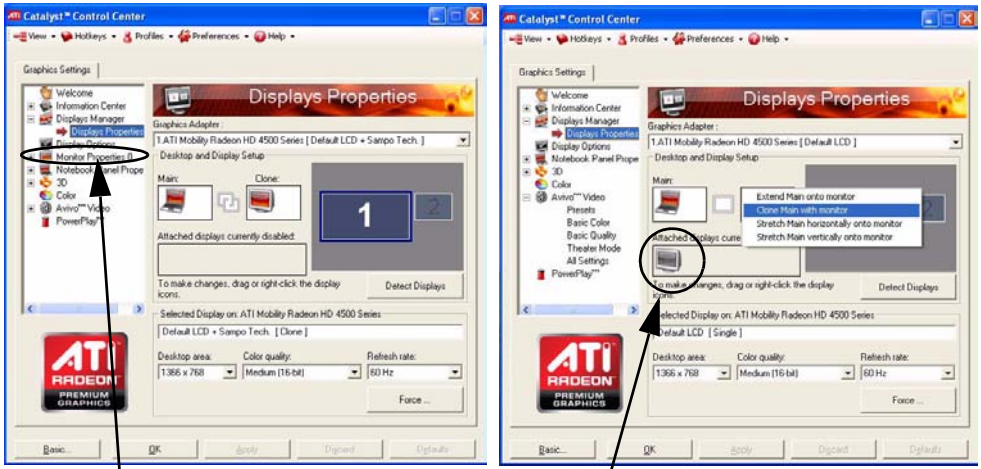


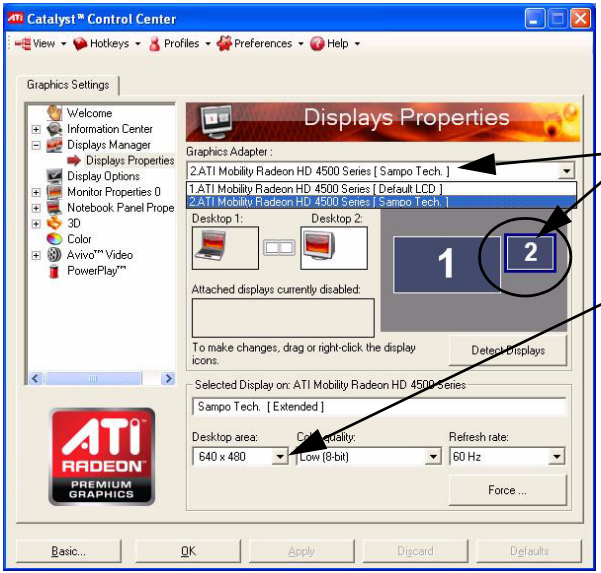
Figure D - 10
Displays Manager Clone Mode

Click Monitor Properties to make adjustments for any attached displays.

Drag any attached display here to disable it, and simply drag it back to the Clone window to re-enable it.

Extended Mode

In Extended Mode each monitor can be configured separately with the ***Windows*** desktop stretched between the two monitors (except the taskbar). This configuration is recommended if you are using two monitors of different size, as you may configure the best resolution, refresh rates and color quality for each display.



Click either the Graphics Adapter pop-up menu, or click the icon for the appropriate display.

Configure the settings from the **Selected Display....** menu.

Selecting Display Modes

Right-click the attached display icon and select an option (**Clone**, **Extend or Stretch**) from the menu.

Extended Mode

When 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.

Figure D - 11
Displays Manager Extended Mode

Selecting Display Modes

Right-click the attached display icon and select an option (**Clone**, **Extend or Stretch**) from the menu.

Stretched Mode

When 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.

Stretched Mode

In Stretched Mode the desktop can be though of as equal to the sum of the two individual monitors, depending on the stretch mode chosen. Therefore if the monitors are stretched **horizontally,** and both are running at 1024 (H) * 768 (V), then the desktop area can be considered as 2048 (H) * 768 (V).

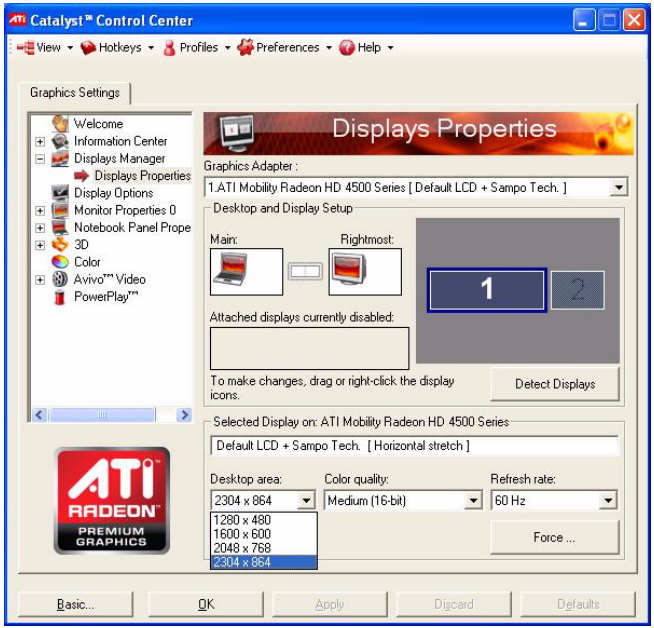
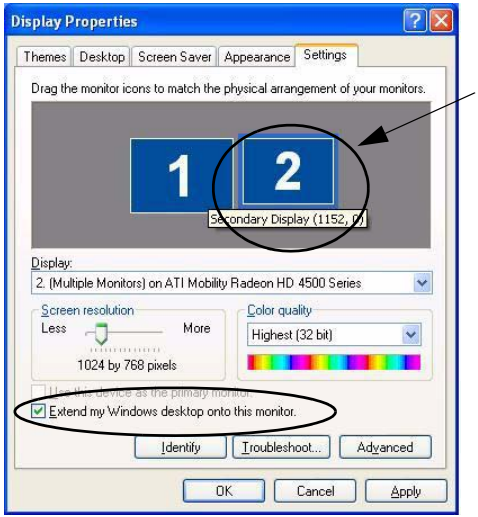


Figure D - 12
Displays Manager Stretched Mode

To Enable Extended Desktop (Windows Display Properties)

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



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

In this example the Primary monitor 1 is on the left, the secondary display 2 is on the 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 D - 13 **- Display Properties (Extended Desktop)**

Theater Mode

Theater Mode enables you to display video playback in full screen on a secondary monitor. Theater Mode can be configured from the **Avivo™ Video > Theater Mode** tab in the **Graphics Settings** Tree View pane.

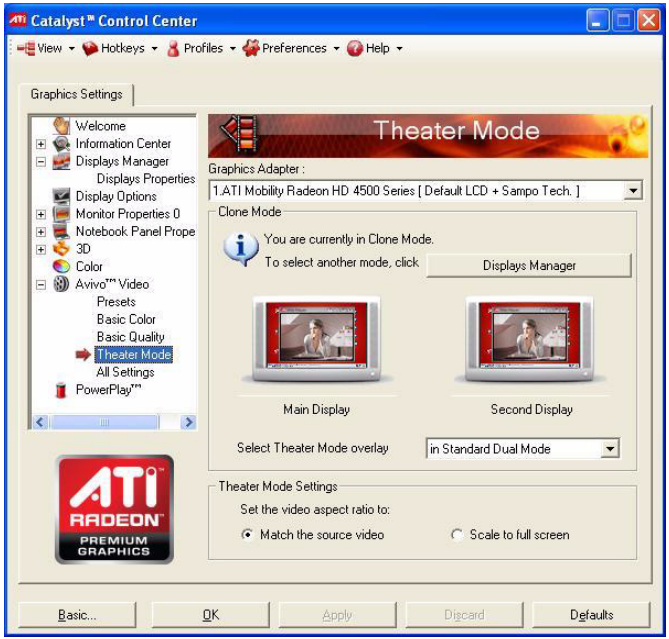


Figure D - 14
Theater Mode

PowerPlay™

PowerPlay™ in the **Graphics Settings** Tree View pane allows you to set your graphics processor settings for higher performance or longer battery life.

Figure D - 15
PowerPlay™

D

OS Note

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

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

Power Management Features

To conserve power, especially when using the battery, your 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 ***D - 4***) 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*.

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 D - 31***).

We recommend that you do not remove the battery. For more information on the battery, please refer to ***“Battery Information” on page D - 28***.

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.

Silent Mode

Use the key to toggle **Silent Mode** to reduce fan noise and save power consumption. Note this may reduce computer performance.

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 D - 27*** for details).

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 D - 25*).

Resuming Operation

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

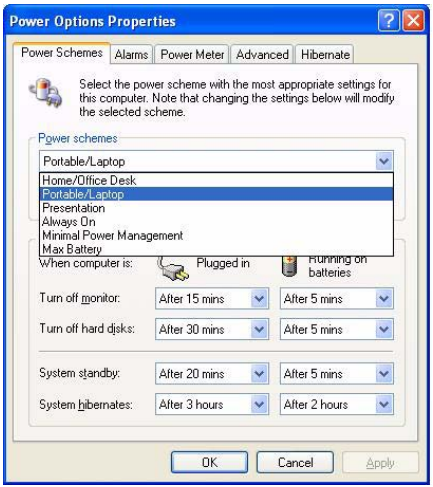


Figure D - 16
Power Schemes

D

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

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

System Power Options

You can use the system power options to stop the computer's operation and restart where you left off. This system features **Stand by** and **Hibernate** sleep mode levels (**Hibernate** mode will need to be enabled by clicking the option in the **Hibernate** tab in the **Power Options** control panel - see ***"Hibernate" on page D - 26***).

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/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 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)

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**.

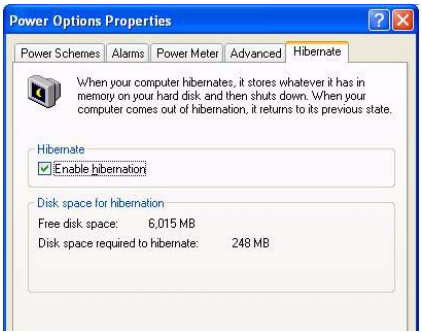


Figure D - 17
Enable Hibernation

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.

Power Button

Lid

Sleep/Resume (Sleep) Button

Sleep Button

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

Figure D - 18
Power Options (Advanced - Power Buttons)

Battery Information

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

New Battery

Always completely discharge, then fully charge, a new battery (see ***"Battery FAQ" on page D - 31*** for instructions on how to do this).

Battery Life

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

Low Battery Warning

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

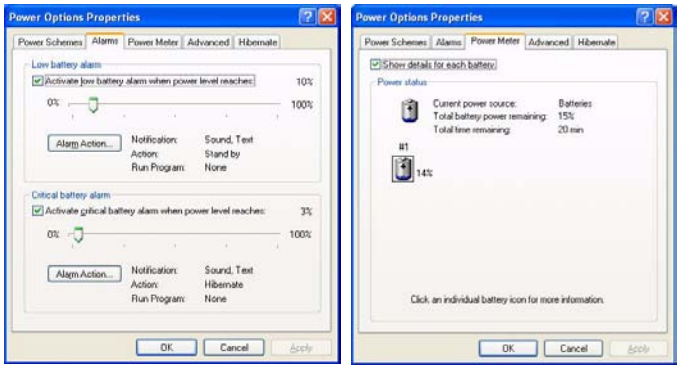


Figure D - 19
Power Options (Alarm & Power Meter)

Battery Level

A battery that drops below a level of **10%** will not allow the computer to boot up. Make sure that any battery that drops below **10%** is recharged within one week.

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

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

Recharging the Battery with the AC/DC Adapter

The battery pack automatically recharges when the AC/DC adapter is attached and plugged into an electrical outlet. If the computer is powered on, and in use, it will take several hours to fully recharge the battery. When the computer is turned off but plugged into an electrical outlet, battery charge time is less. (Refer to ***"Battery Life" on page D - 28*** for information on the battery charge status, and to ***"Battery Information" on page D - 28*** 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.

Battery Guidelines

The following can also apply to any backup batteries you may have.

- If you do not use the battery for an extended period, then remove the battery from the computer for storage.
- Before removing the battery for storage charge it to 60% - 70%.
- Check stored batteries at least every 3 months and charge them to 60% - 70%.

Battery FAQ

How do I completely discharge the battery?

Use the computer with battery power until it shuts down due to a low battery. Don't turn off the computer by yourself even when you see a message that indicates the battery is critically low, just let the computer use up all of the battery power and shut down on its own. Disable the **Power Options** functions in the **Control Panel**, especially any **Alarms** (**unclick** the tickboxes - see page ***D - 28***) and **Schemes** (change all the settings to **Never** - see page ***D - 23***). 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.

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.

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.

Figure 5 **- Drivers Installer Screen 1**

1. Check the driver installation order from ***Table D - 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 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 6 **- Drivers Installer Screen 2**

WinXP SP2 Driver	Page #
Video	*Page D - 34*
Audio	*Page D - 35*
Modem	*Page D - 35*
LAN	*Page D - 35*
TouchPad	*Page D - 35*
CardReader	*Page D - 35*
Hot Key	*Page D - 35*
PC Camera Module	*Page D - 42*
WLAN Module	*Page D - 48*
3.75G/HSPA Module	*Page D - 50*
Fingerprint Reader Module	*Page D - 52*

Table D - 3 **- 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**.

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.

Driver Installation Procedure

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

Video

1. Click **1.Install Video Driver > Yes**.
2. Click **Next > Yes**.
3. Click the **Express** (or **Custom** if you prefer to manually configure the driver installation settings) button.
4. Click **Finish** to restart the computer.
5. After the computer has restarted, it will automatically restart again to refresh the video driver.

Note: After installing the video driver go to the **Display Properties** control panel to adjust the video settings to the highest resolution (see ***"Video Features" on page D - 8***).

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**.
3. The modem is ready for dial-up configuration.

Modem Country Selection

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

LAN

1. Click **4.Install Lan Driver > Yes**.
2. Click **Next**.
3. Click **Finish > Finish** to restart the computer.
4. The network settings can now be configured.

TouchPad

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

Module Drivers

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

Figure 7 **- Option Drivers**

Wireless LAN, Bluetooth & 3.75G/HSPA Modules

Wireless Device Operation Aboard Aircraft

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

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 + [ ] = 3.5G Module Power Toggle

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

D

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 D - 6***) to toggle power to the Bluetooth module. When the Bluetooth module is powered on, the LED will be **orange** and the indicator will briefly be displayed.

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.

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.

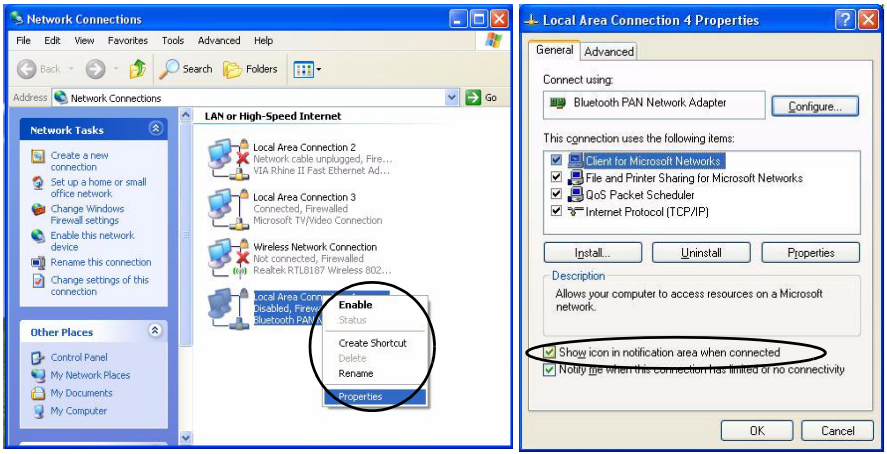
Use the **Fn + F12** key combination to toggle power to the Bluetooth module, and check the LED indicator to see if the module is powered on or not (see ***Table D - 2, on page D - 6***/ ***Table 1 - 5, on page 1 - 11***).

Figure D - 1
Local Area Connection

Bluetooth Local Area Connection Icon

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

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



Bluetooth Configuration in Windows XP

Setup your Bluetooth Device so the Computer Can Find it

1. Turn your Bluetooth device (e.g. PDA, mobile phone etc.) on.
2. Make the device discoverable (to do this check your device documentation).

To Turn the Bluetooth Module On

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

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

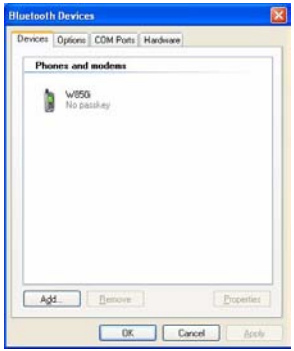


Figure D - 2
Bluetooth Devices & Click Icon Menu

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.

D

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.

To Add a Bluetooth Device

1. Access the Bluetooth Devices control panel.
2. Click **Options** (tab), and make sure that ***Allow Bluetooth devices to connect to this computer*** check box (**Connections**) has a tick inside it.
3. Click **Devices** (tab), and then click **Add**.
4. The **Add Bluetooth Device Wizard** will appear.
5. Click to select "***My device is set up and ready to be found***", and then click **Next**.

Figure D - 3
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**.

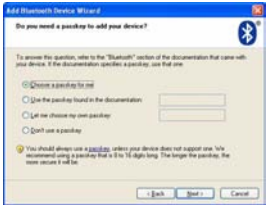


Figure D - 4
Passkey Option

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 D - 5
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. The PC Camera module uses the **BisonCap** application to capture video files. When the PC Camera module is powered on, the indicator will briefly be displayed.

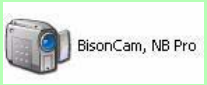
PC Camera Driver Installation

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.PC Camera, Web cam > Yes**.
4. Choose the language you prefer and click **Next > Next**.
5. Click **Finish** to restart the computer.
6. Run the **BisonCap** application program from the **BisonCam** shortcut on the desktop, or from the **BisonCam** item in the **Start > Programs/All Programs** menu (if the hardware is turned off use the **Fn + F10** key combination to turn it on again).

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.



D

PC Camera Audio Setup (all camera modules)

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

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

Pre-Allocating File Space

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

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

See also *"Reducing Video File Size" on page D - 45*.

BisonCap

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

1. Run the **BisonCap** application from the **Start > Programs/All Programs > BisonCam** menu (it is recommended that you **set the capture file** before the capture process - **see Set Capture File below**).
2. Go to the **Capture** menu heading (if you wish to capture audio check *"PC Camera Audio Setup (all camera modules)" on page D - 43*) and select **Start Capture**.
3. Click **OK** (the file location will be displayed in the pop-up box) to start capturing the video, and press **Esc** to stop the capture (you can view the file using the **Windows Media Player**).

Set Capture File

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

Note the important information in *"Reducing Video File Size" on page D - 45* 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 XP*** system requires a minimum of **1.5GB** of free space on the **C: drive** system partition. In order to prevent system problems it is recommended that you save the captured video file to a location other than the **C: drive** (see ***"Set Capture File" on page D - 44***), limit the file size of the captured video (see ***"Pre-Allocating File Space" on page D - 44***) or reduce video resolution (see below).

To Reduce Video Resolution Output Size:

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

Eliminating Screen Flicker

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

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

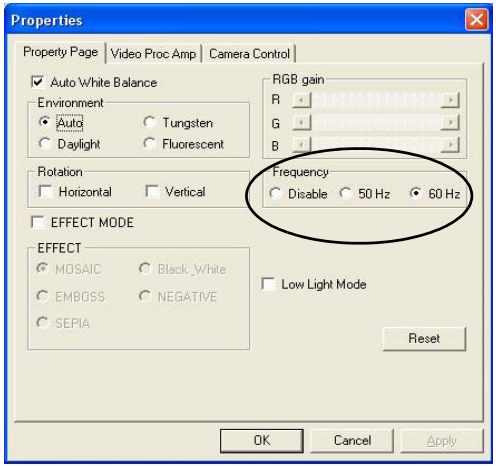


Figure D - 6
Video Capture Filter

Zoom

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

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

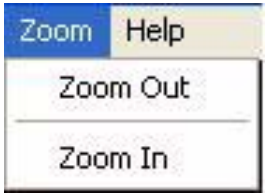


Figure D - 7
Zoom/Setting

Taking Still Pictures

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

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

on the desktop.

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.

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.

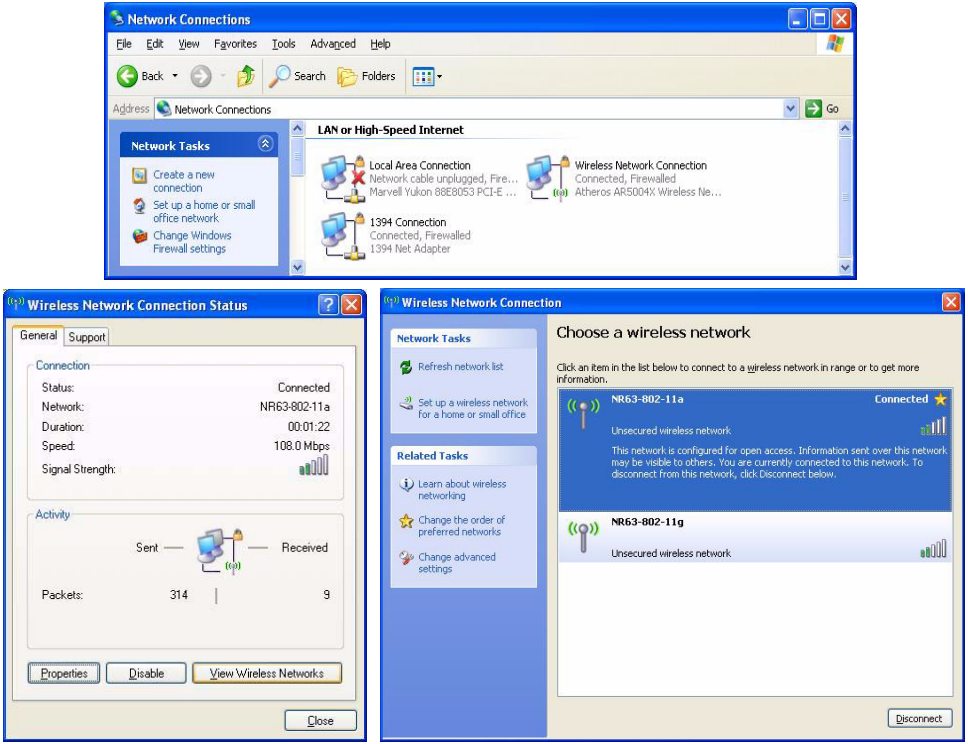
Use the **Fn + F11** key combination to toggle power to the WLAN module, and check the indicator to see if the module is powered on or not (see ***Table D - 2, on page D - 6***/ ***Table 1 - 3, on page 1 - 8***).

WLAN Module

Before installing the optional **802.11b/g USB WLAN** module driver use the **Fn + F11** key combination to toggle power to the module. When the WLAN module is powered on, the LED will be **green** and the indicator will briefly be displayed.

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 **2.Wireless Lan > 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 D - 8
Wireless Network Control Panels

D

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 application provided for your module. Follow the instructions *on page 7 - 20* to install the USIM card (supplied by your service provider), and then install the application.

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/Hot Key Indicators" on page 1 - 11*) **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**.

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.

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.

Mobile Partner Application Installation

1. Enable power to the module by pressing the **Fn +** key combination (the on screen icon will indicate the module's power status).
2. If a ***Found New Hardware Wizard*** appears, click **Cancel**.
3. Insert the ***Device Drivers & Utilities + User's Manual*** disc into the CD/DVD drive.
4. Click **Option Drivers** (button).
5. Click **3.3G 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 - 23*** for instructions on using the **Mobile Partner** application.

Fingerprint Reader Module

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

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

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

Fingerprint Reader Driver Installation

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

Help & Manual

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

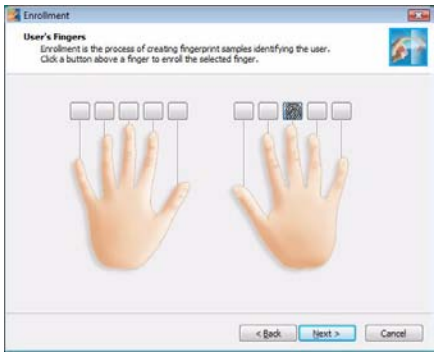
Insert the *Device Drivers & Utilities + User's Manual disc* and click ***Option Drivers*** (button). Click **Unlock** (button) and then click **4.FingerPrint > Yes**.

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 and click **Initialize**.
2. On the first run of the program you will be asked to click the button to accept the license, and then click **OK**.
3. Click **Next** and "***Enrollment to the hard disk***" will be automatically selected.
4. If you have not set a ***Windows*** password you will be prompted to do so (**note**: If you have not set a password **Protector Suite QL** cannot secure access to your computer).
5. Click **Next**, and you will then be prompted to enter your ***Windows*** password and click **Next**.
6. Select either to use the fingerprint reader alone for authentication, or choose both the fingerprint reader and the *Windows* password, and then click **Next**.
7. Click **Next > Next** (if you have the "***Run interactive tutorial***" tickbox selected you will run through the Fingerprint Tutorial).
8. Click **Next** for each window of the tutorial (you can click the button to "***skip tutorial***" at any time).
9. Click the button above any of the fingers to begin the enrollment process for that finger.



Fingerprint Enrollment

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

Figure D - 9 **- Fingerprint Enrollment**

10. Swipe the finger **five** times to enroll that finger.
11. Repeat the process for all the fingers you wish to enroll (see sidebar), and then click **Next** > **Finish**.
12. Click "**Help**" in the **Fingerprint Control Center** to get more information on any topic.
13. You can also run the **Tutorial**, or **Introduction** (to run the product tour video) to get more information.
14. 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 D - 10 **- Control Center & Biomenu**

15. See ***"Help & Manual" on page D - 52*** for further details.
16. 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.