USER'S MANUAL

notebook

V09.5.11

Notice

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FCC Statement
(Federal Communications Commission)

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

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

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

Operation is subject to the following two conditions:

1. This device may not cause interference.

   And

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

FCC RF Radiation Exposure Statement:

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

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

Warning

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

IMPORTANT SAFETY INSTRUCTIONS

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

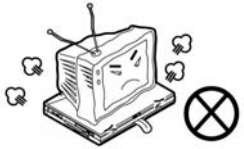
1. Do not use this product near water, for example near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using this equipment with a telephone line (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
5. This product is intended to be supplied by a Listed Power Unit (Full Range AC/DC Adapter – AC Input 100 - 240V, 50 - 60Hz, DC Output 19V, 1.57A/1.58A).

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

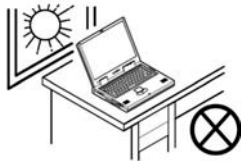
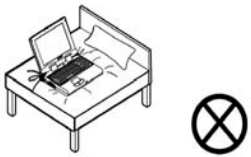
Instructions for Care and Operation

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.

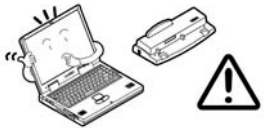
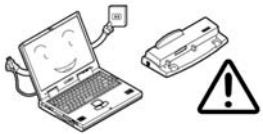
Do not expose it to excessive heat or direct sunlight.	*Do not leave it in a place where foreign matter or moisture may affect the system.*	*Don't use or store the computer in a humid environment.*	*Do not place the computer on any surface that will block the Vents/Fan Intakes.*
			

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.*
	

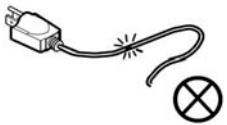
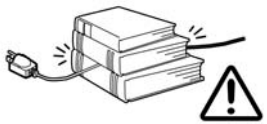
Power Safety

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

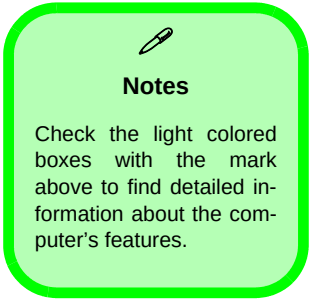
This Quick Start Guide is a brief introduction to the basic features of your computer, to navigating around the computer and to getting your system started. The remainder of the manual covers the following:

- **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**), **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** and **3.75G/HSPA** modules (some of which may be **optional** depending on your purchase configuration).
- **Chapter 8** A **troubleshooting** guide.
- **Appendix A** Definitions of the **interface**, **ports**/**jacks** which allow your computer to communicate with external devices.
- **Appendix B** Information on the **Intel Video driver controls**.
- **Appendix C** The computer's **specification**.
- **Appendix D** ***Windows 7*** driver installation information.

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



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 XP/Windows 7*) 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 ***"Notebook Ports and Jacks" on page A - 2*** for a description of the interface (ports & jacks) which allow your computer to communicate with external devices, connect to the internet etc.

Model Differences

This notebook series includes **two** different model types which differ slightly in design style. Note that your model's appearance may appear slightly different from those pictured throughout this manual.

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. See ***"Installed O/S (Advanced Menu)" on page 5 - 8*** for information on setting the O/S in the BIOS before installing the operating system.

Operating System & Version	Note
Windows XP (Home or Professional) with Service Pack 3	In order to run ***Windows XP*** without limitations or decreased performance, your computer requires a minimum **512MB** of system memory (RAM)
Windows 7	*See ***Appendix D*** for driver installation information on ***Windows 7***.

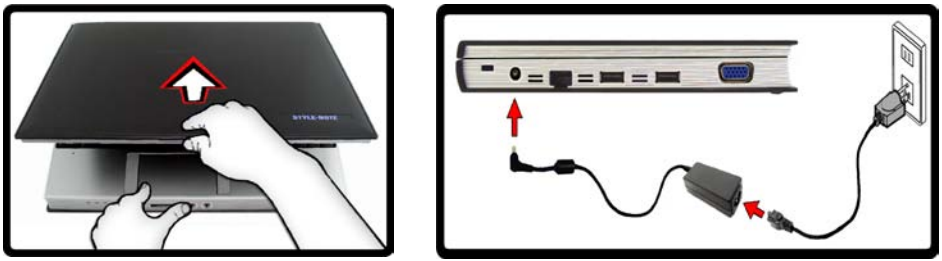
Table 1 - 1 **- Operating Systems Supported**

Windows Vista Service Pack 3

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

System Startup

1. Remove all packing materials, and place the computer on a stable surface.
2. Securely attach any peripherals you want to use with the notebook (e.g. keyboard and mouse) to their ports.
3. Attach the AC/DC adapter to the DC-In jack 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.
4. Use one hand to carefully raise the lid/LCD to a comfortable viewing angle, while using the other hand (as illustrated in ***Figure 1 - 1*** below) to support the base of the computer (**Note**: **Never** lift the computer by the lid/LCD).
5. Press the power button to turn the computer “on”.



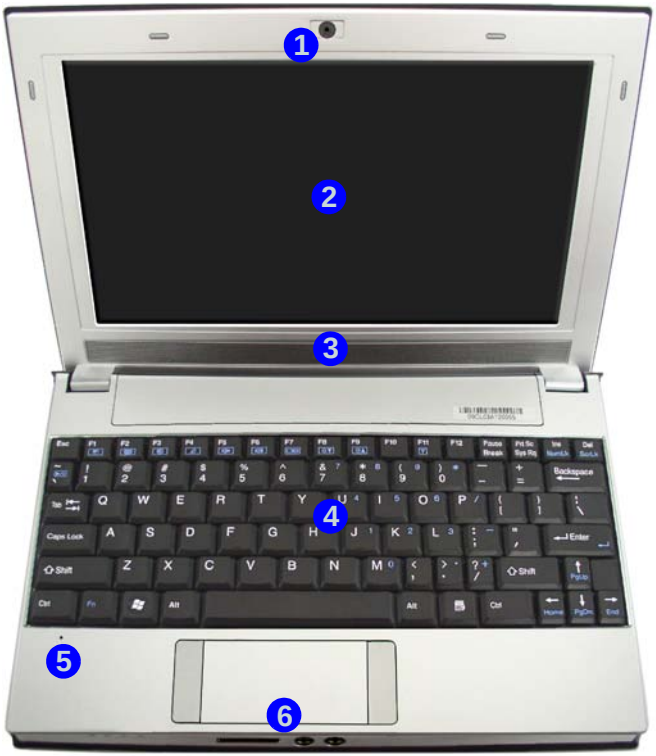
Shutdown

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

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

System Map: LCD Panel Open - Model A

Figure 1 - 2
LCD Panel Open Model A



1. Built-In PC Camera (**Optional**)
2. LCD
3. Speakers
4. Keyboard
5. Built-In Microphone
6. Touchpad & Buttons

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 **WLAN/ Bluetooth** modules, and check the LED indicator icon to see if the modules are powered on or not (see ***Table 1 - 2, on page 1 - 9***/ ***Table 1 - 3, on page 1 - 11***).

System Map: LCD Panel Open - Model B

Figure 1 - 3
LCD Panel Open Model B

1. Built-In PC Camera (**Optional**)
2. LCD
3. Speakers
4. Keyboard
5. Built-In Microphone
6. Touchpad & Buttons

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 **WLAN/ Bluetooth** modules, and check the LED indicator icon to see if the modules are powered on or not (see ***Table 1 - 2, on page 1 - 9*** / ***Table 1 - 3, on page 1 - 11***).

Keyboard

The keyboard has a numerical keypad for easy numeric data input, and features function keys to allow you to change operational features instantly. See *Table 1 - 2, on page 1 - 9* for details on the function keys.

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.

Figure 1 - 4 **- Keyboard**

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.

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 provided is installed. When the driver is installed, an icon will appear in the taskbar.

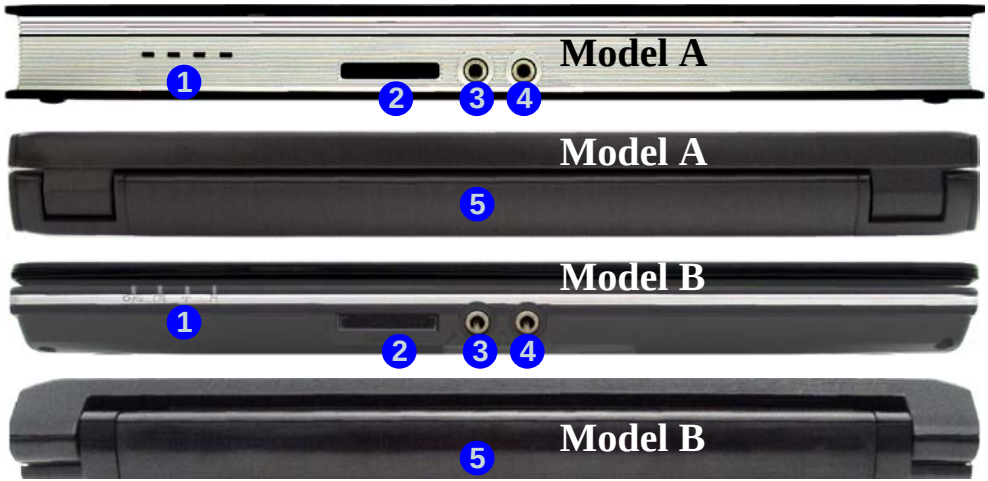
Keys	Function	Keys	Function
Fn + ~	Play/Pause (in Audio/Video Programs)	Fn + F8/F9	Brightness Decrease/Increase  
Fn + F1	TouchPad Toggle  	Fn + F10	PC Camera Power Toggle  
Fn + F2	Turn LCD Backlight Off (Press a key to or use TouchPad to turn on)	Fn + F11	WLAN Module Power Toggle  
Fn + F3	Mute Toggle  	Fn + F12	Bluetooth Module Power Toggle  
Fn + F4	Sleep Toggle	Fn + 	3.75G/HSPA Module Power Toggle 
Fn + F5/F6	Volume Decrease/Increase  	Fn + NumLk Fn + ScrLk Caps Lock	Number Lock Toggle  Scroll Lock Toggle  Caps Lock Toggle 
Fn + F7	Display Toggle		

Table 1 - 2 **- Function & Hot Key Indicators**

System Map: Front & Rear Views

Figure 1 - 5
Front & Rear Views

1. LED Power & Communication Indicators
2. 7-in-1 Card Reader
3. Microphone-In Jack
4. Headphone-Out Jack
5. Battery



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)

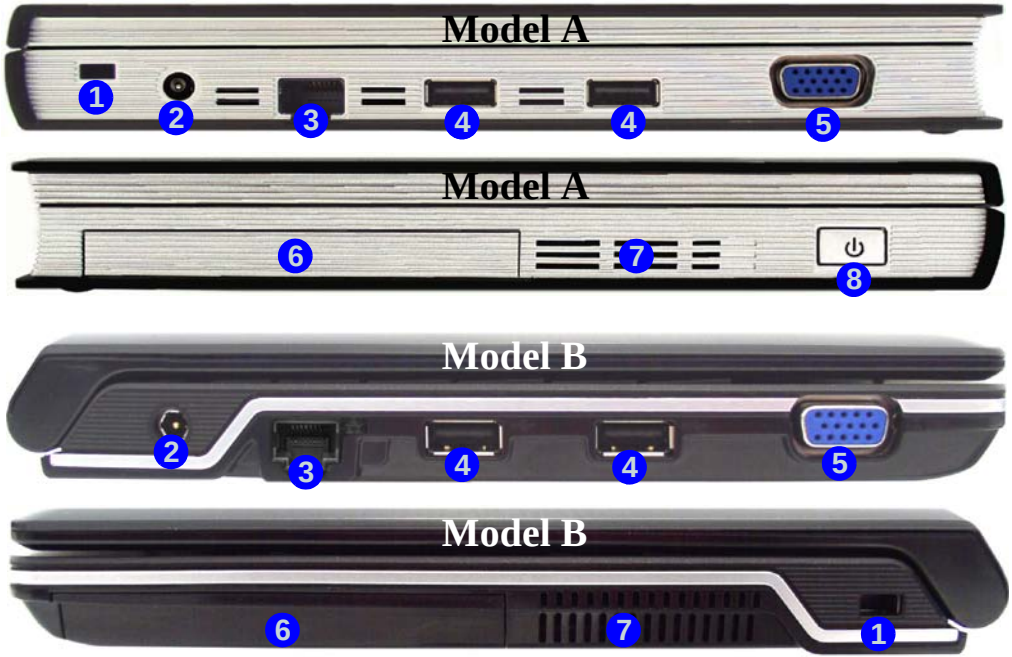
Icon	Color	Description
	Orange	DC Power is Plugged In
	Green	The Computer is On
	Blinking Green	The Computer is in Sleep Mode
	Orange	The Battery is Charging
	Green	The Battery is Fully Charged
	Blinking Orange	The Battery Has Reached Critically Low Power Status
	Green	Hard Disk Activity
	Green	The (**optional**)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

Table 1 - 3 **- LED Indicators**

System Map: Left & Right Views

Figure 1 - 6
Left & Right Views

1. Security Lock Slot
2. DC-In Jack
3. RJ-45 LAN Jack
4. 2 * USB 2.0 Ports
5. External Monitor Port
6. Hard Disk Drive Bay
7. Vent/Fan Intake/ Outlet
8. Power Button (**Model A** Computers Only)



External Optical (CD/DVD) Device Drives

To install applications and drivers etc. you will need to attach an external optical CD/DVD device to the USB ports. If you are having problems detecting external ODDs, enable the enhanced detection of these devices see *"Enhance USB ODD detection (Advanced Menu)" on page 5 - 10*.

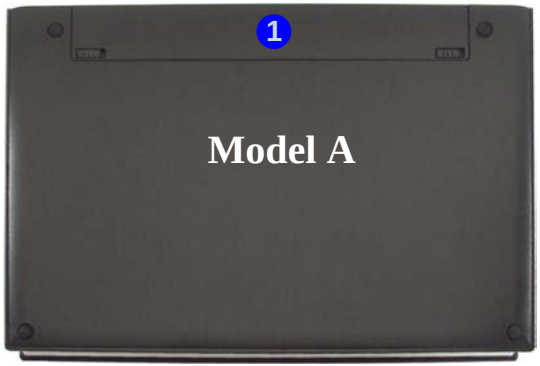
Overheating

To prevent your computer from overheating make sure nothing blocks the vent(s)/fan intake(s) while the computer is in use.

System Map: Bottom View

Figure 1 - 7
Bottom View

1. Battery
2. Vent/Fan Intake/ Outlet (**Model B** Computers Only)
3. Hard Disk Bay (**Model B** Computers Only)



CPU

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

3.75G/HSPA Module USIM Card

The 3.75G/HSPA module's USIM card location is located under the battery compartment. See page ***1 - 15*** for instructions on installing the 3.75G/HSPA USIM card.

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.

3.75G/HSPA Module USIM Card Installation

If you have included an optional 3.75G/HSPA module in your purchase option, follow the instructions below to install the USIM card (which will be provided by your service provider), and then run the **3G Watcher**/**HSPA Modem Interface** application. See *"3G Watcher" on page 7 - 20*/*"HSPA Modem Interface" on page 7 - 27*/*"Mobile Partner" on page 7 - 36* for instructions on installing the program etc.

1. Turn **off** the computer, and turn it over and then remove the battery (slide the latches in the direction indicated below and slide the battery out).
2. Insert the USIM card as illustrated below until it clicks fully into position, and replace the battery.

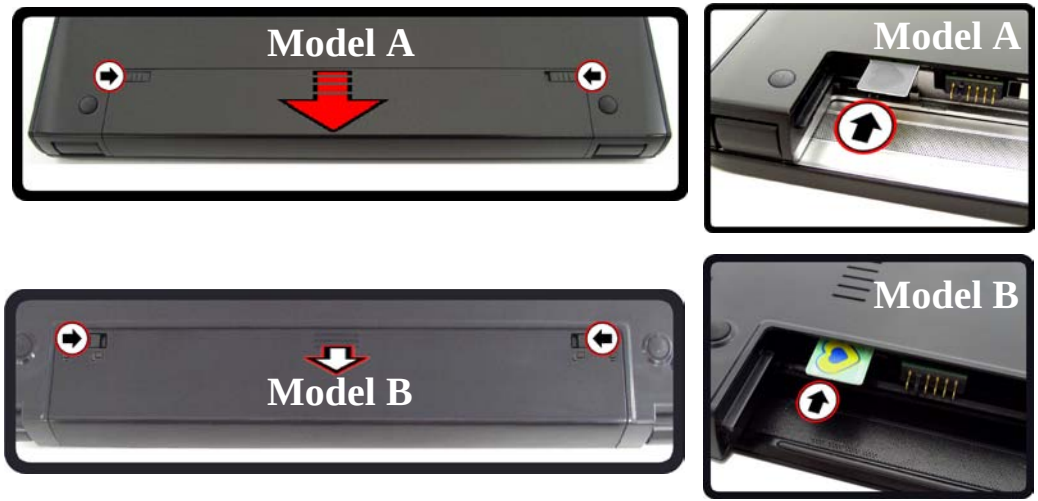


Figure 1 - 8 **- Battery Removal & USIM Card Insertion**

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 1 - 9 **- 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.

Video Features

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

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 1 - 10 on page 1 - 18***).
5. Click the arrow, and scroll to the preferred setting in **Color quality** 2 (***Figure 1 - 10 on page 1 - 18***).
6. You can also access **Display Properties** by right-clicking the desktop and scrolling down and clicking **Properties**. Click **Settings** (tab) and adjust as above.
7. Open the **Display Properties** control panel, and click **Advanced** (button) 3 (***Figure 1 - 10 on page 1 - 18***) to bring up the Advanced properties tabs.
8. Click the **Intel(R) Graphics Media Accelerator Driver for Mobile** tab, and click **Graphics Properties** (button) to make any video adjustments you require.
9. You can also access **Graphics Properties** from the ***Windows*** **Intel(R) GMA Driver for Mobile** control panel, or from the taskbar icon  .

Dynamic Video Memory Technology

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

Display & Graphics Properties

Taskbar Icon

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

If you cannot see the tray icon go to the **Intel(R) Graphics Media Accelerator Driver for Mobile** tab and click the "**Show Tray Icon**" tickbox. Alternatively right-click the desktop and select **Graphics Options > Tray Icon > Enable**.

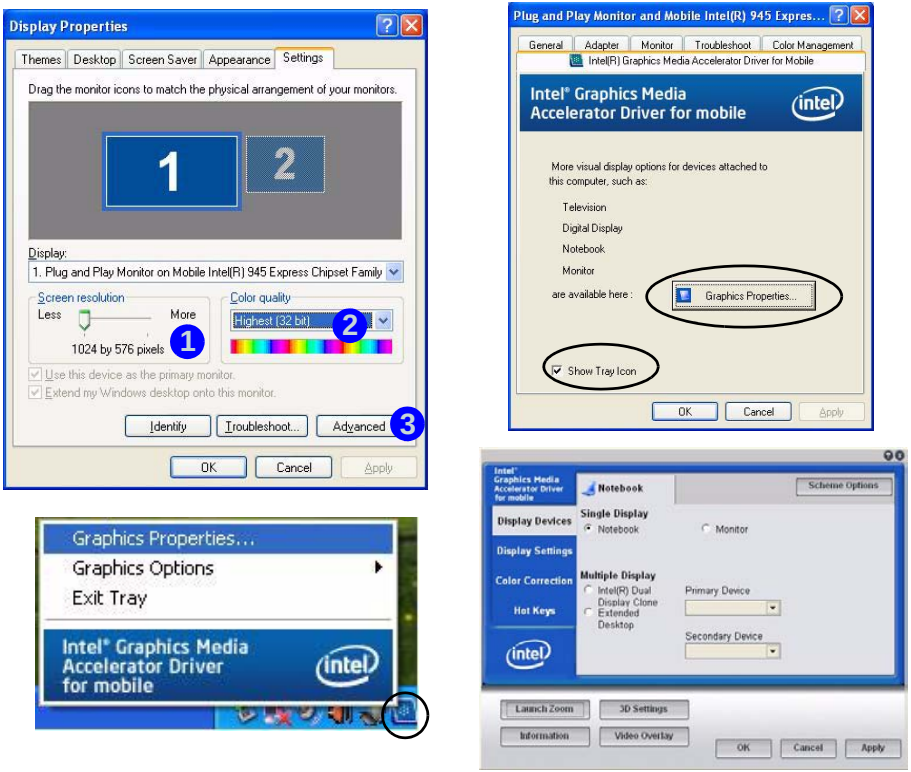


Figure 1 - 10 **- Display & Graphics Properties**

Power Management Features

The **Power Options** control panel icon in ***Windows*** allows you to configure power management features for your computer. You may conserve power through individual components such as the monitor or hard disk (by means of **Power Schemes**), or you may use either **Standby** or **Hibernate** mode to conserve power throughout the system (enable **Hibernate** support from the control panel as pictured in ***Figure 1 - 11***).

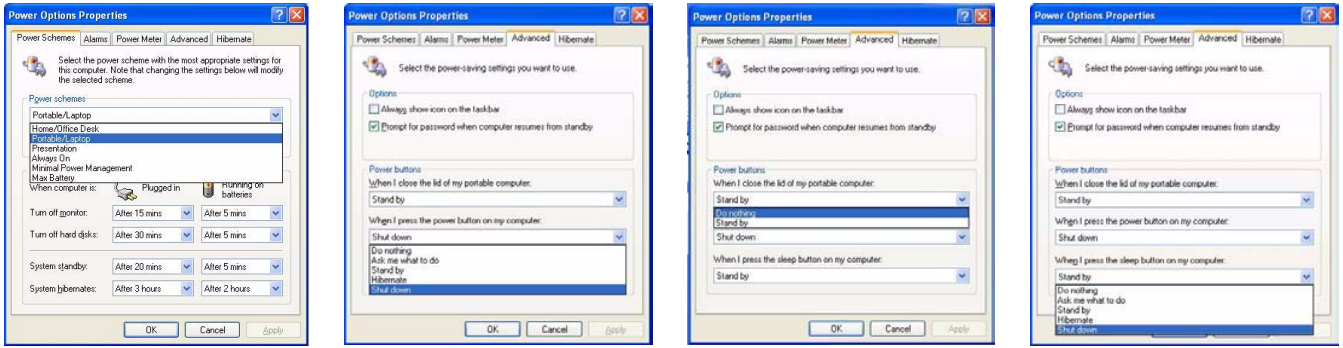


Figure 1 - 11 **- Power Options**

The computer's **power button**, **sleep button** (**Fn** + **F4** key combination), and **lid** (closing the lid) may be set to send the computer in to either **Standby** or **Hibernate** mode.

Power Saving and Performance

Power Schemes may have an affect on your computer performance.

Chapter 2: Features & Components

Overview

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

- Hard Disk Drive
- External USB Optical (CD/DVD) Device
- 7-in-1 Card Reader
- 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) HDDs with a height of 9.5 mm.

The HDD is located in the bay on the right of your computer, and this can be opened after elevating the keyboard and accessing the screw securing the hard disk assembly. For further details see ***"Upgrading the HDD" on page 6 - 4***.

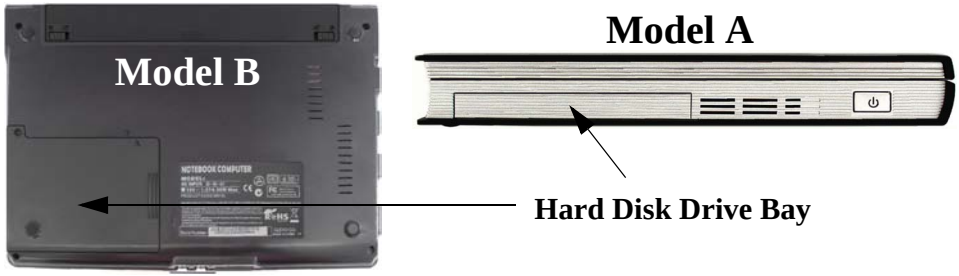


Figure 2 - 1
HDD Bay

Hard Disk Drive Speeds

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

HDD Bay

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

External USB Optical (CD/DVD) Device

An external USB optical (CD/DVD) device is available as an **option** for this computer. The optical device 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, simply slide the disc into the disc slot with label-side facing up. The busy indicator will light up while data is being accessed, or while a disc is playing. If power is unexpectedly interrupted, insert an object such as a straightened paper clip into the emergency eject hole to eject the disc.

External Optical (CD/DVD) Device Drives

To install applications and drivers etc. you will need to attach an external optical CD/DVD device to the USB ports. If you are having problems detecting external ODDs, enable the enhanced detection of these devices see *"Enhance USB ODD detection (Advanced Menu)" on page 5 - 10*.

USB Cables

You can connect the optional USB optical device using one of the USB cables. However if you are experiencing connection or power problems, connect both USB cables from the device to the computer.

Figure 2 - 2
Optional Optical Device Drive

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

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.

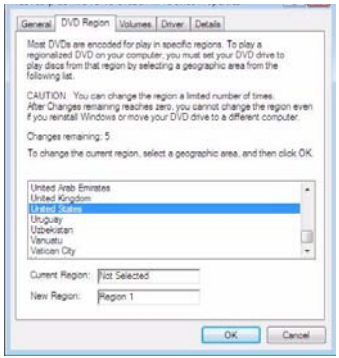
DVD Regional Coding		
Region	**Geographical Location**	
1	USA, Canada	
2	Western Europe, Japan, South Africa, Middle East & Egypt	
3	South-East Asia, Taiwan, South Korea, The Philippines, Indonesia, Hong Kong	
4	South & Central America, Mexico, Australia, New Zealand	
5	N Korea, Russia, Eastern Europe, 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 *"Card Reader" on page 4 - 5*).

- 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.

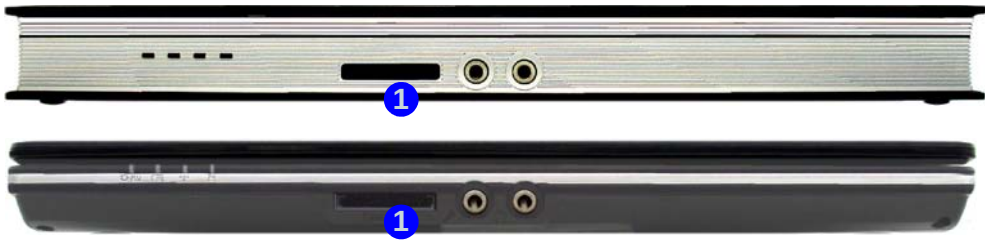


Figure 2 - 3
Right View

1. Card Reader

TouchPad and Buttons/Mouse

The TouchPad is an alternative to the mouse; however, you can also add a mouse to your computer through one of the USB ports. The TouchPad buttons function in much the same way as a two-button mouse. Make sure you have installed the TouchPad driver (see *"TouchPad" on page 4 - 5*).

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

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

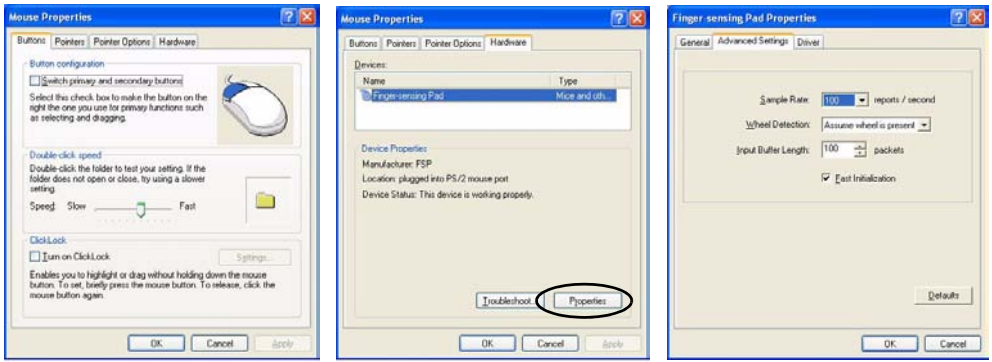


Figure 2 - 4
Mouse Properties

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.

Sound Volume Adjustment

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

Figure 2 - 5
Realtek HD Audio

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.

Audio Recording from Microphone

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

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

Figure 2 - 6
Mixer - Mic Volume

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 Schemes
- System Power Options
- Configuring the Power Button
- Battery Information

Advanced Configuration and Power Interface

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

OS Note

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

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

The Power Sources

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

AC/DC Adapter

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

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

Battery

The battery allows you to use your computer while you are on the road or when an electrical outlet is unavailable. Battery life varies depending on the applications and the configuration you're using. **To increase battery life, let the battery discharge completely before recharging** (see ***“How do I completely discharge the battery?” on page 3 - 12***).

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

Turning on the Computer

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

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

Forced Off

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

Power Button as Stand by or Hibernate Button

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

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.

Resuming Operation

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

Power Schemes

You can set your computer to conserve power through individual components by means of **Power Schemes**. You can also adjust the settings for each scheme to set the monitor to turn off after a specified time, and the computer's hard disk motor to turn off if the hard disk drive has not been accessed for a specified period of time (if the system reads or writes data, the hard disk motor will be turned back on). The schemes may also be set to set a specified time for the system to enter **Stand by** or **Hibernate** modes (see *"System Power Options" on page 3 - 6*).

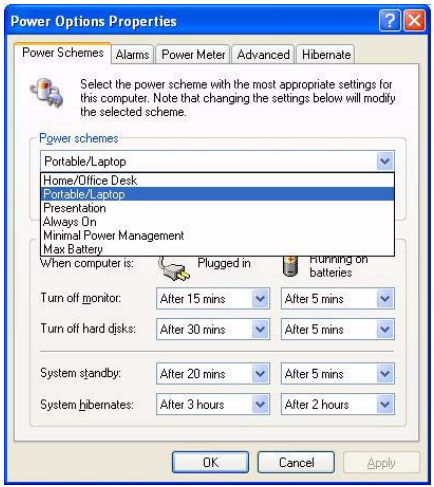


Figure 3 - 1
Power Schemes

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

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

Stand by/Hibernate or Shutdown Error

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

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

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

Download and install the Hotfix to correct this error.

System Power Options

You can use the system power options to stop the computer's operation and restart where you left off. This system features **Stand by** and **Hibernate** sleep mode levels (**Hibernate** mode will need to be enabled by clicking the option in the **Hibernate** tab in the **Power Options** control panel - see ***Figure 3 - 2 on page 3 - 7***).

Hibernate Mode vs. Shutdown

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

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

You can use either method depending on your needs.

Stand by Mode vs. Hibernate Mode

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

Stand by

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

Hibernate

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

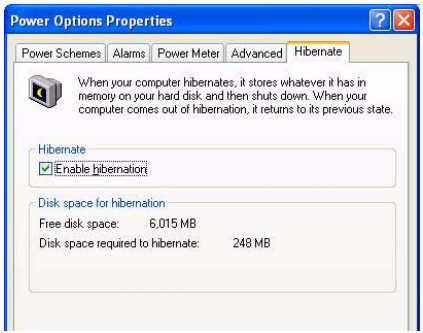


Figure 3 - 2
Enable Hibernation

System Resume

The system can resume from Stand by mode by:

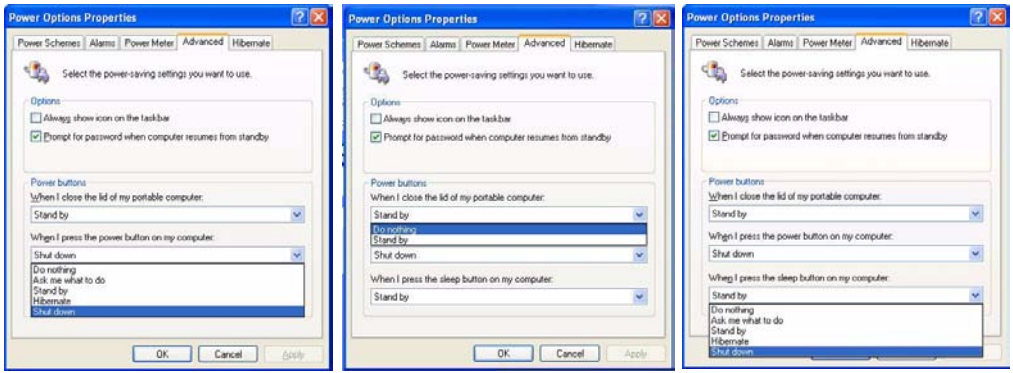
- Pressing the power button
- Pressing the **Sleep/ Resume** key combination
- An incoming call received on the modem (if enabled)
- Network card (Wake On LAN) activity (if enabled)

Sleep Button

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

Configuring the Power Button

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



Power Button | Lid | Sleep/Resume (Sleep) Button

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

Battery Information

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

New Battery

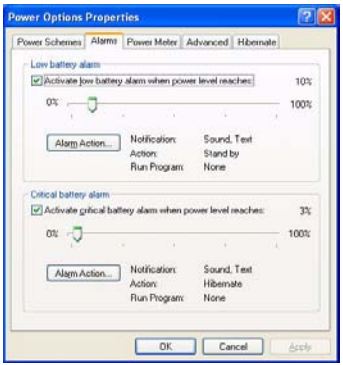
Always completely discharge, then fully charge, a new battery (see *"Battery FAQ" on page 3 - 12* for instructions on how to do this).

Battery Life

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

Low Battery Warning

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



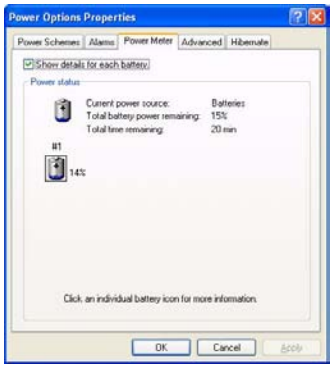


Figure 3 - 4
Power Options (Alarm & Power Meter)

Conserving Battery Power

To conserve battery power:

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

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

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

Disconnect any unnecessary external devices.

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

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

Recharging the Battery with the AC/DC Adapter

The battery pack automatically recharges when the AC/DC adapter is attached and plugged into an electrical outlet. If the computer is powered on, and in use, it will take several hours to fully recharge the battery. When the computer is turned off but plugged into an electrical outlet, battery charge time is less. (Refer to ***Table 1 - 3, on page 1 - 11*** for information on the battery charge status, and to ***"Battery Information" on page 3 - 9*** for more information on how to maintain and properly recharge the battery pack.)

Proper handling of the Battery Pack

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

Damaged Battery Warning

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

Caution

Danger of explosion if battery is incorrectly replaced.

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

Battery FAQ

How do I completely discharge the battery?

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

How do I fully charge the battery?

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

How do I maintain the battery?

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

Chapter 4: Drivers & 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 ***"Windows 7 Information" on page D - 1*** for information on installing drivers for the **Windows 7 OS**.

Module Driver Installation

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

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

Driver Installation

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

Follow the instructions to install the driver. Alternatively click **Start**, navigate (**Browse..**) to the executable file and then follow the manual setup instructions.

Figure 4 - 1 **- Drivers Installer Screen 1**

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

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

Driver - *Windows 7*	Page #
Chipset	*Page 4 - 5*
Video	*Page 4 - 5*
Audio	*Page 4 - 5*
LAN	*Page 4 - 5*
TouchPad	*Page 4 - 5*
Card Reader	*Page 4 - 5*
Hot Key	*Page 4 - 6*
PC Camera Module	*Page 7 - 7*
Wireless LAN Module	*Page 7 - 17*
3.75G/HSPA Module	*Page 7 - 18*

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 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**.

External Optical (CD/DVD) Device Drives

To install applications and drivers etc. you will need to attach an external optical CD/DVD device to the USB ports. If you are having problems detecting external ODDs, enable the enhanced detection of these devices see ***"Enhance USB ODD detection (Advanced Menu)" on page 5 - 10***.

Authorized Driver Message

If you receive a message telling you that the driver you are installing is not authorized (**Digital Signature Not Found)**, just click **Yes** or **Continue Anyway** to ignore the message and continue the installation procedure.

You will receive this message in cases where the driver has been released after the version of ***Windows*** you are currently using. All the drivers provided will have already received certification for ***Windows***.

New Hardware Found

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

Version Conflict Message

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

Updating/Reinstalling Individual Drivers

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

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

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

Driver Installation Procedure

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

Driver Installation General Guidelines

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

Chipset

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

Video

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

Audio

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

LAN

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

TouchPad

1. Click **5.Install Touch Pad Driver > Yes**.
2. Select the installation language and click **OK**.
3. Click **Next**.
4. Click **Finish > Yes** to restart the computer.

Card Reader

1. Click **6.Install Cardreader Driver > Yes**.
2. Click **Install > Finish** to complete the installation.

Hot Key

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

Optional Drivers

See the pages indicated overleaf 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 XP***, and **does not require a driver**. See ***"Bluetooth Module" on page 7 - 2*** for configuration instructions.

PC Camera Module

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

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

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

BIOS Screens

Note that the BIOS screens pictured on these pages are intended for guidance in setting up your system's BIOS.

BIOS versions are subject to constant change and revision, therefore your computer's actual screens may appear slightly different from those pictured on these pages.

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.

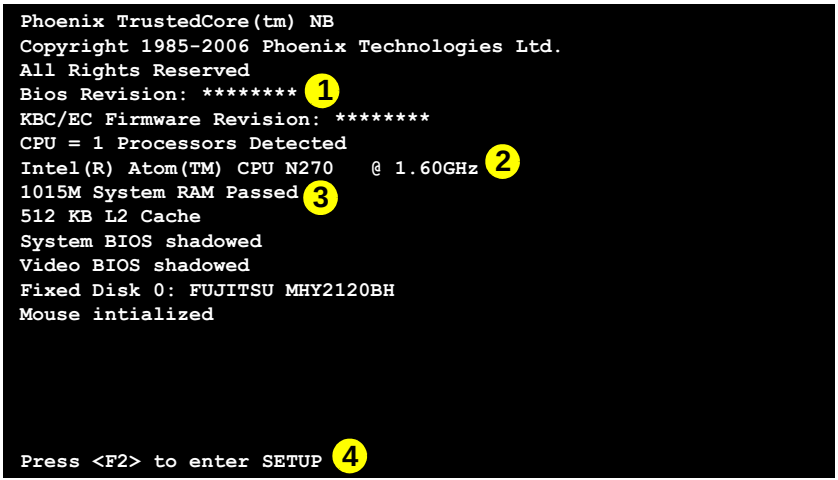


Figure 5 - 1
POST Screen

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.

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**>.

The Setup Utility

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

Entering Setup

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

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

Setup Screens

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

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

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

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

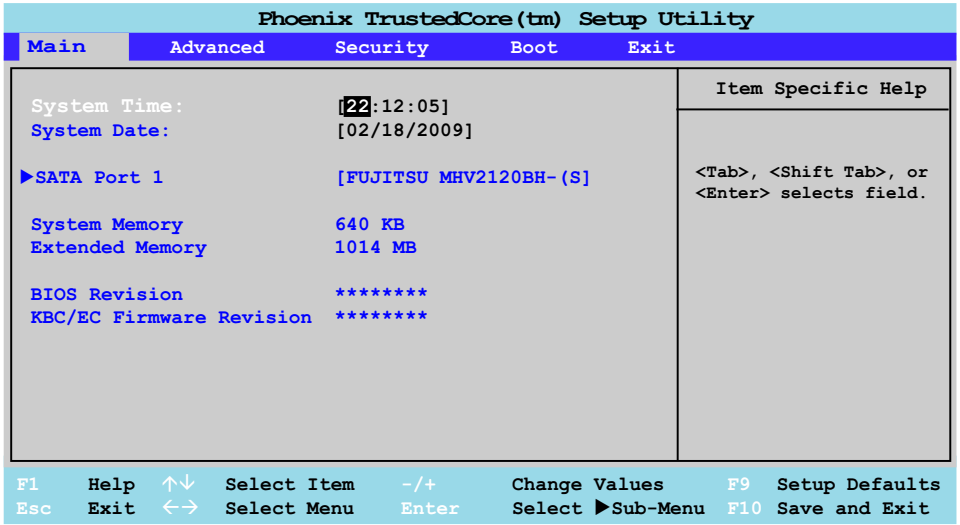
If you see an arrow ▶ next to an item, press **Enter** to go to a sub-menu on that subject. The sub-menu screen that appears has a similar layout, but the **Enter** key may execute a command.

Setup Menus

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

Main Menu

Figure 5 - 2
Main Menu



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

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

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

Advanced Menu

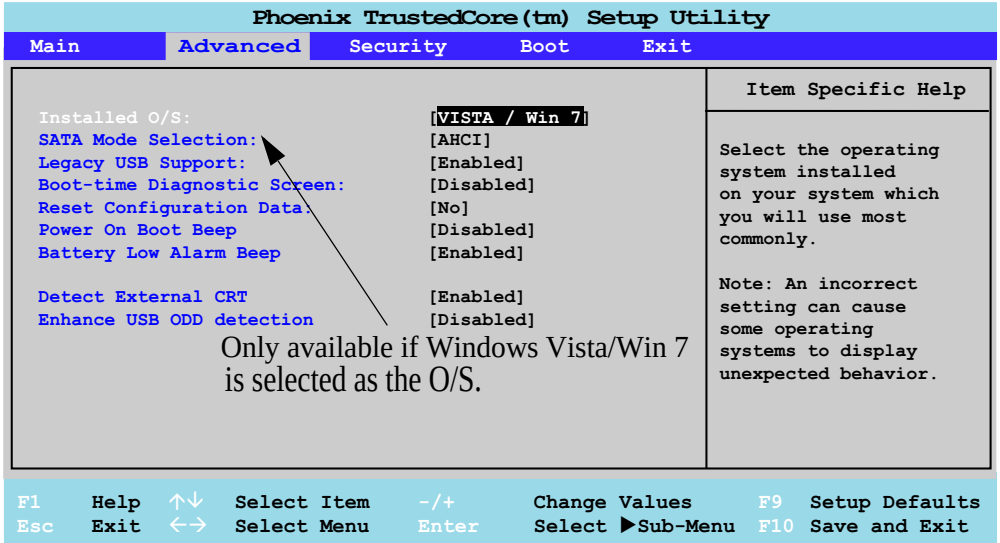


Figure 5 - 3
Advanced Menu

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/Win 7*** 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/Win 7*** 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/ Windows 7*** 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/ Windows 7*** OS).

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

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

Reset Configuration Data (Advanced Menu)
This item is set to **No** as default. You can change the setting to **Yes** if you have installed a new add-on which has reconfigured the system, resulting in such a serious system conflict that the operating system is unable to boot.

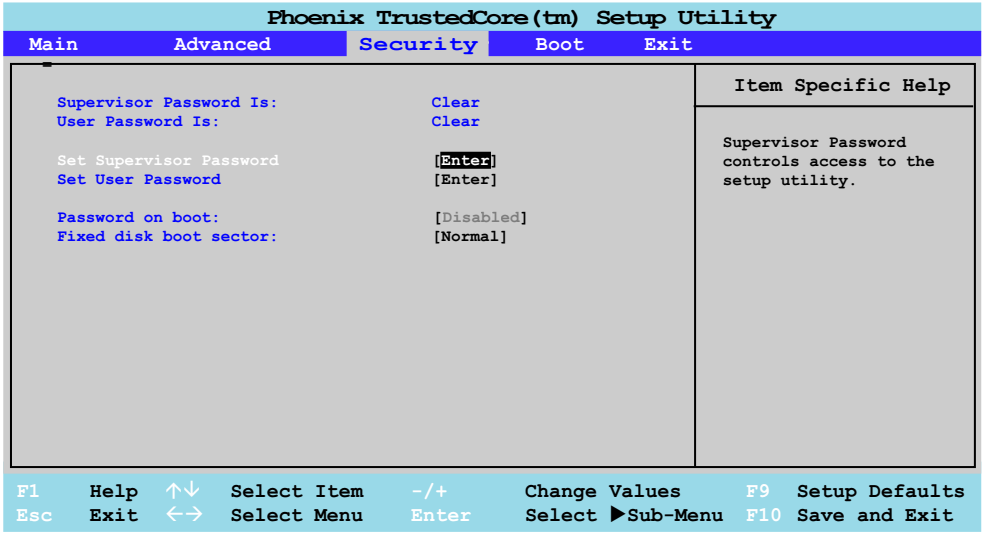
Power On Boot Beep (Advanced Menu)
Use this menu item to enable/disable the beep as the computer starts up.

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

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

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

Security Menu



Set Supervisor Password (Security Menu)

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

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.

Figure 5 - 4
Security Menu

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

Password on boot (Security Menu)

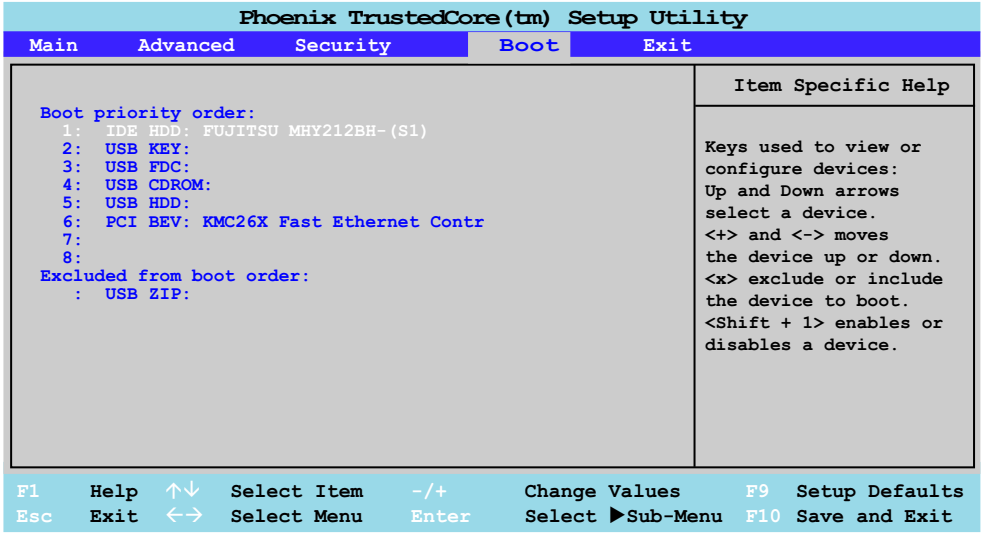
Specify whether or not a password should be entered to boot the computer (**you may only set a password on boot if a supervisor password is enabled**). If "***Enabled***" is selected, only users who enter a correct password can boot the system (**see the warning in the sidebar**). The default setting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

Fixed disk boot sector (Security Menu)

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

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

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.

BIOS Screens

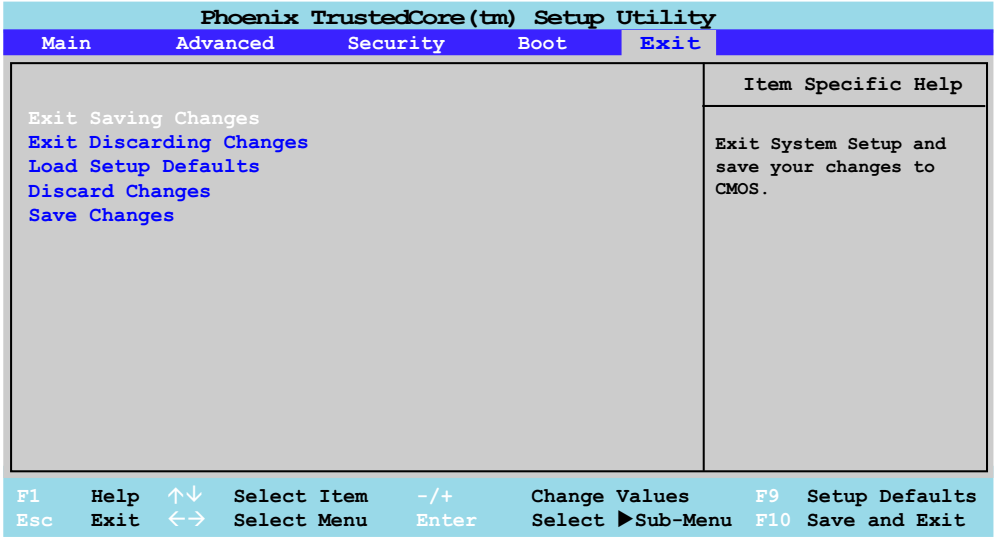
Note that the BIOS screens pictured on these pages are intended for guidance in setting up your system's BIOS.

BIOS versions are subject to constant change and revision, therefore your computer's actual screens may appear slightly different from those pictured on these pages.

Figure 5 - 5
Boot Menu

Exit Menu

Figure 5 - 6
Exit Menu



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

Chapter 6: Upgrading The Computer

Overview

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

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

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

The chapter includes:

- Removing the Battery
- Upgrading the HDD
- Upgrading the System Memory (RAM)

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

Warranty Warning

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

Power Safety Warning

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

When Not to Upgrade

These procedures involve opening the system's case, adding and sometimes replacing parts.

You should **not** perform any of these upgrades if:

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

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

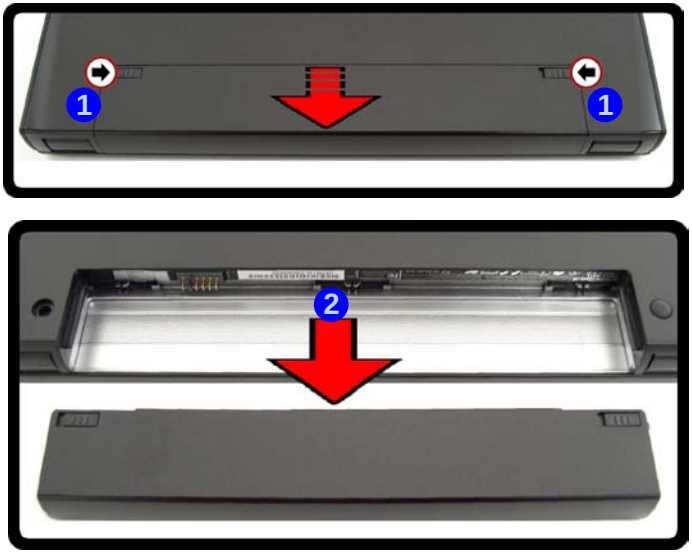
Removal Warning

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

Removing the Battery

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

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



Warranty Warning

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

Figure 6 - 1
Battery Removal

Upgrading the HDD

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

The procedure for hard disk removal differs from **Model A** to **Model B** computers:

- See ***"Hard Disk Removal - Model A Computers" on page 6 - 5***.
- See ***"Hard Disk Removal - Model B Computers" on page 6 - 8***.

HDD System Warning

New HDDs are blank. Before you begin make sure:
You have backed up any data you want to keep from your old drive.
You have all the CDs/DVDs required to install your operating system and programs.
If you have access to the internet, download the latest application and hardware driver updates for the operating system you plan to install. Copy these to a removable medium.

Figure 6 - 2
Keyboard Release

Hard Disk Removal - Model A Computers

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

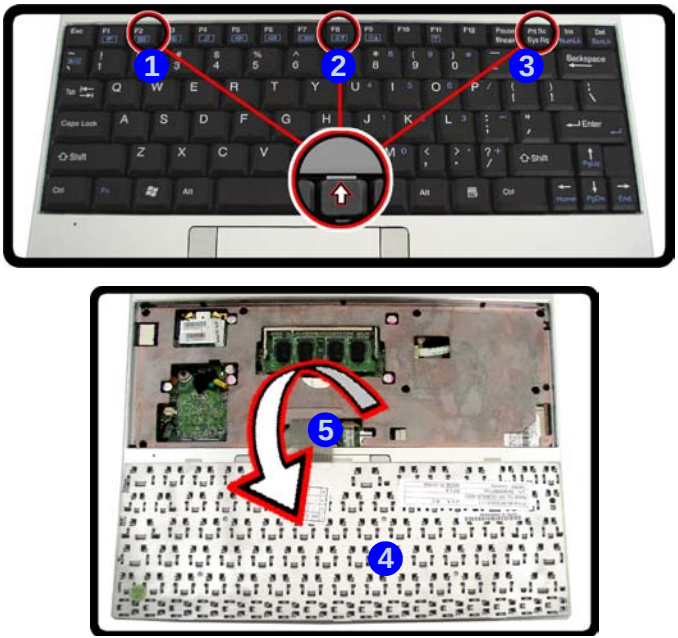


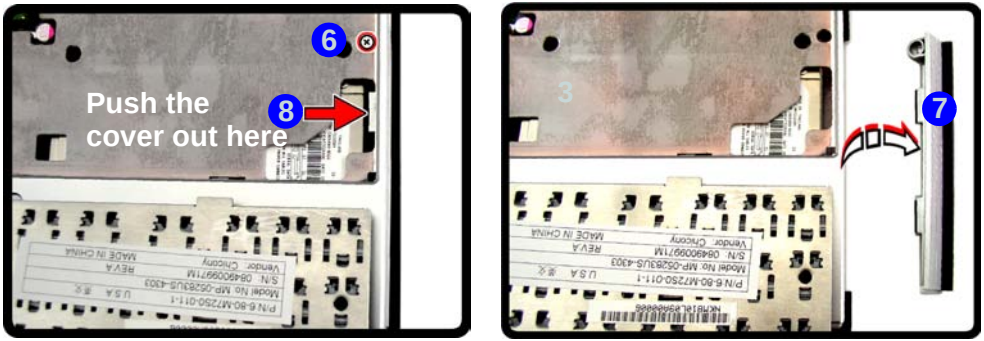
Figure 6 - 3
Keyboard Release (Model A Computers)

Hard Disk Drive Speeds

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

4. Remove screw 6 and then use a screwdriver to push out the hard disk bay cover 7 at the point 8 indicated in ***Figure 6 - 4***.

Figure 6 - 4
HDD Bay Cover Removal (Model A Computers)



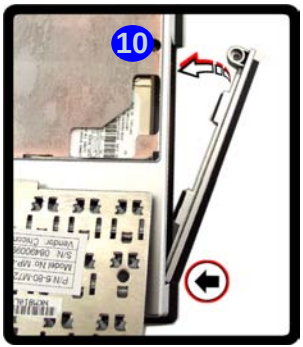
5. Use a screwdriver to push the hard disk out of the bay at point 9 (***Figure 6 - 5***).

Figure 6 - 5
HDD Removal (Model A Computers)

6. Carefully insert the hard disk into the bay until it is firmly connected (orientate the hard disk as illustrated in ***Figure 6 - 6***; don't force it as it only fits one way).

Figure 6 - 6
HDD Insertion (Model A Computers)

7. Insert the cover as illustrated in ***Figure 6 - 7*** and secure the cover with the screw at point 10.



Re-Inserting the Keyboard

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

Figure 6 - 7
HDD Bay Cover Insertion (Model A Computers)

8. Secure the keyboard, replace the battery and restart the computer to allow the system to detect the hard disk drive.

Hard Disk Drive Speeds

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

Hard Disk Removal - Model B Computers

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

Figure 6 - 8
Hard Disk Assembly Removal (Model B Computers)

5. Remove screws 4 - 7 from the hard disk assembly.
6. Separate the hard disk from the case.
7. Insert the new hard disk into the case and pay careful attention to the disk's orientation in the case.
8. Secure the disk with the four screws and then reinsert the hard disk assembly into the computer's hard disk bay.
9. Replace the hard disk bay screw (see ***Figure 6 - 8 on page 6 - 8***).

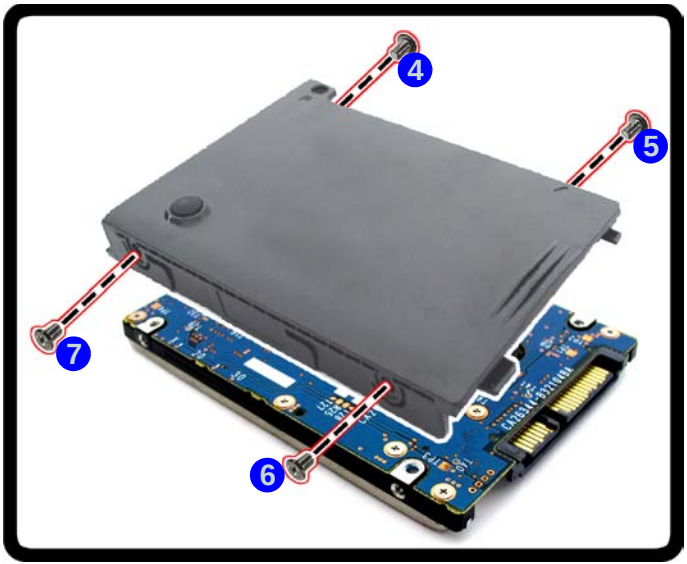


Figure 6 - 9
HDD Removal (Model B Computers)

Upgrading the System Memory (RAM)

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

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

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

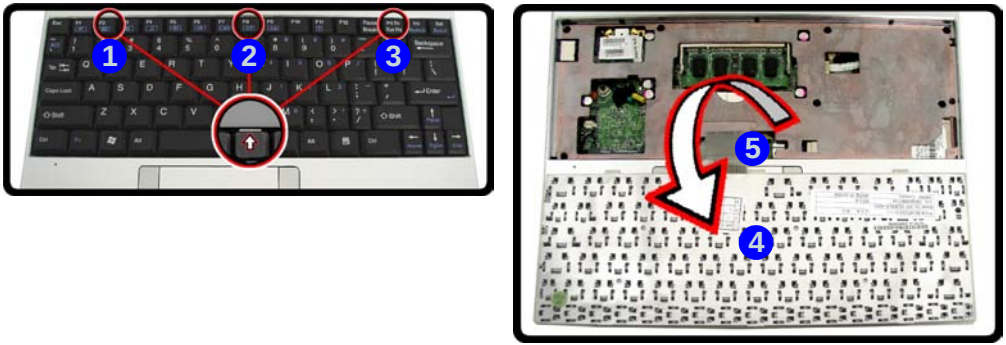


Figure 6 - 10
Keyboard Release

4. Gently pull the two release latches on the sides of the memory socket in the direction indicated by the arrows (6 & 7) in ***Figure 6 - 11***.

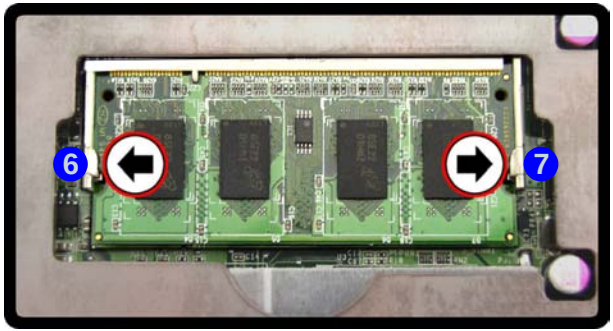
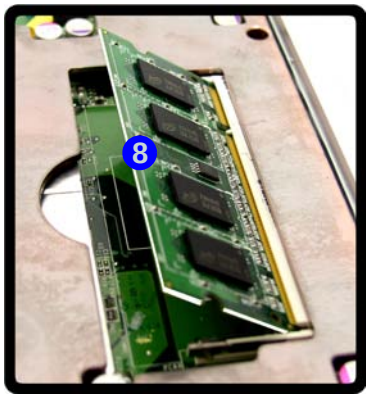


Figure 6 - 11
RAM Module Release Latches

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



Contact Warning

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

Figure 6 - 12
RAM Module Removal

Re-Inserting the Keyboard

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

6. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
7. The module's pin alignment will allow it to only fit one way. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE the module; it should fit without much pressure.
8. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
9. Secure the keyboard, replace the battery and restart the computer to allow the system to detect the hard disk drive.
10. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

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.

Warranty

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

Unauthorized tampering with the HDD may also violate your warranty.

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

Driver Installation & Module Power

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

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.

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 - 2, on page 1 - 9***/ ***Table 1 - 3, on page 1 - 11***).

Bluetooth Module

The operating system's **Bluetooth Devices** control panel is used to configure the Bluetooth settings in ***Windows XP***, and therefore does not require a driver. **Use the Fn + F12 key combination** (see ***"Function/Hot Key Indicators" on page 1 - 9***) to toggle power to the Bluetooth module.

Bluetooth Data Transfer

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

Bluetooth Module & Resuming From Sleep Mode

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

Bluetooth Local Area Connection Icon

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

1. Access the **Network Connections** control panel in ***Windows*** (**Start > Settings > Network Connections OR Start > Connect To > Show all Connections**) or by clicking the taskbar icon .
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).

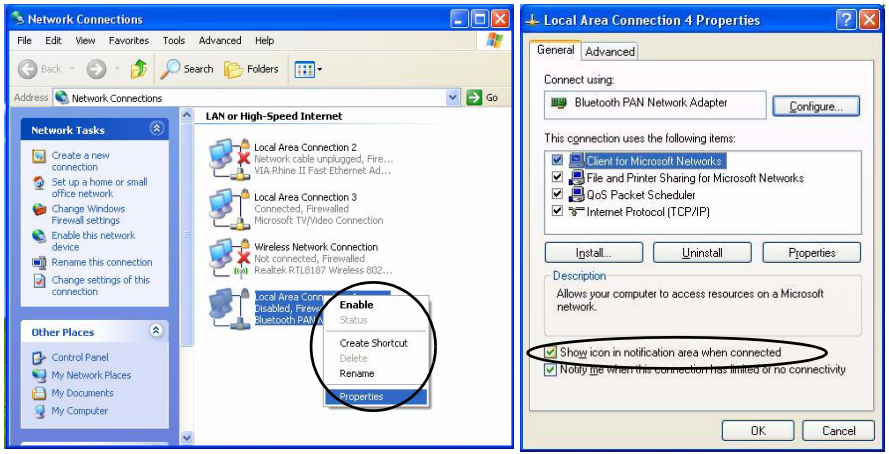


Figure 7 - 1
Local Area Connection

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.

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.

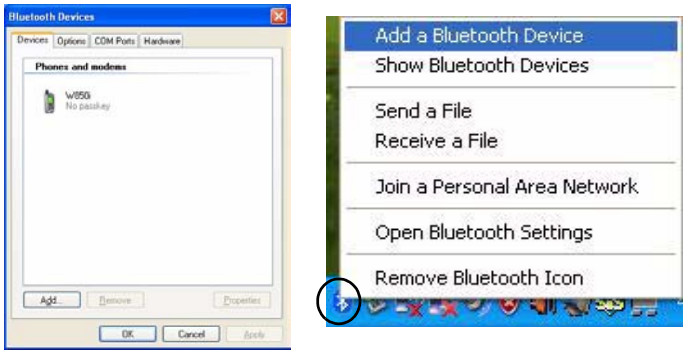


Figure 7 - 2
Bluetooth Devices & Click Icon Menu

To Add a Bluetooth Device

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

Figure 7 - 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**.

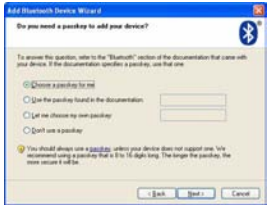


Figure 7 - 4
Passkey Option

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.

9. Click **Finish**.

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.

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 7 - 5
Bluetooth Devices Options

PC Camera Module

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

Use the Fn + F10 key combination (see ***"Function/Hot Key Indicators" on page 1 - 9***) **to toggle power to the PC Camera module**. Make sure you install the drivers in the order indicated in ***Table 4 - 1, on page 4 - 3***.

Taking Still Pictures

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

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

PC Camera Driver Installation

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

PC Camera Audio Setup

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

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

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*.

Camera Application

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

1. Run the camera application from the desktop shortcut (it is recommended that you **set the capture file** before the capture process - **see Set Capture File below**).
2. Go to the **Capture** menu heading (if you wish to capture audio check *"PC Camera Audio Setup" on page 7 - 9*) and select **Start Capture**.
3. Click **OK** (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/Save**, 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 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 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 camera application from the desktop shortcutGo to **Options** and scroll down to select **Video Capture Pin...**.
2. 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 camera application is flickering, you can try to adjust the setting in the **Video Capture Filter** options.

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

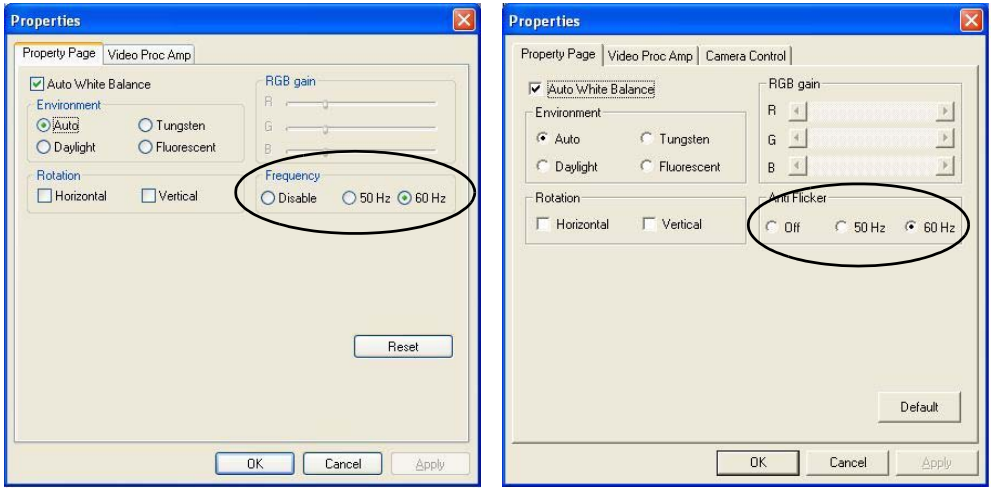


Figure 7 - 6
Video Capture Filter

Zoom

The camera application allows you to zoom the camera in and out.

1. Run the camera application from the desktop shortcut.
2. Go to **Zoom** and select **Zoom Out/Zoom In.**
3. Go to **Options** and scroll down to select **Setting** (Use the slider to adjust the zoom level, and click **OK** to save the setting).

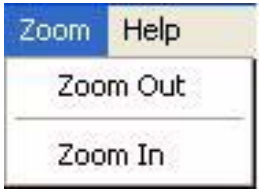


Figure 7 - 7
Zoom/Setting

Taking Still Pictures

The camera application allows you to take still pictures.

1. Run the camera application from the desktop shortcut.
2. Go to **Options** 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 LAN Module

If you have included an **Intel® Wi-Fi Link 1000 Series (802.11 b/g/n), 3rd Party 802.11b/g or 3rd Party 802.11b/g/n WLAN** module in your purchase option, make sure that the Wireless LAN module is on before installing the driver (the WLAN module's default power state is off).

Use the **Fn + F11 key combination** (see *"Function/Hot Key Indicators" on page 1 - 9*) **to toggle power to the Wireless LAN module**. Make sure you install the drivers in the order indicated in *Table 4 - 1, on page 4 - 3*. Your installation procedure will be dependent upon which WLAN module is included in your purchase option.

Wireless Device Operation Aboard Aircraft

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

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

Download Prerequisite Files (Intel WLAN module if Service Pack 3 is NOT installed)

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

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

Intel WLAN Driver Installation

1. **Make sure the module is powered on**, and then insert the ***Device Drivers & Utilities + User's Manual*** disc into the CD/DVD drive.
2. Make sure the computer has a working internet connection if **Service Pack 3** is not installed.
3. Click **Option Drivers** (button).
4. Click **2.Install WLAN Driver > Yes** (**if SP3 is installed go straight to step 12**).
5. Click **Next > Next** to link to the required prerequisites on the internet.
6. Click **Download** (button) to download the **Windows Installer** executable (.exe) file to the computer's hard disk.
7. Double-click (or click the **Run** button) to install the **Windows Installer** file and follow the on-screen instructions for file installation.
8. You will be required to restart the computer to complete the file installation.
9. Repeat steps **1** to **4** to get to the appropriate download location**.**
10. Click **Download** (button) to download the **Microsoft MSXML** file to the computer's hard disk (if you are unsure of which file to download for you processor you can click **Run** instead of acknowledging the file, and you will be informed if the file is appropriate or not).
11. Follow the on-screen instructions for file installation.
12. After the files have been installed click **Next > Next.**
13. Click the button to accept the license and click **Next > Next > Next**.
14. Click **Finish** to complete the installation.

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

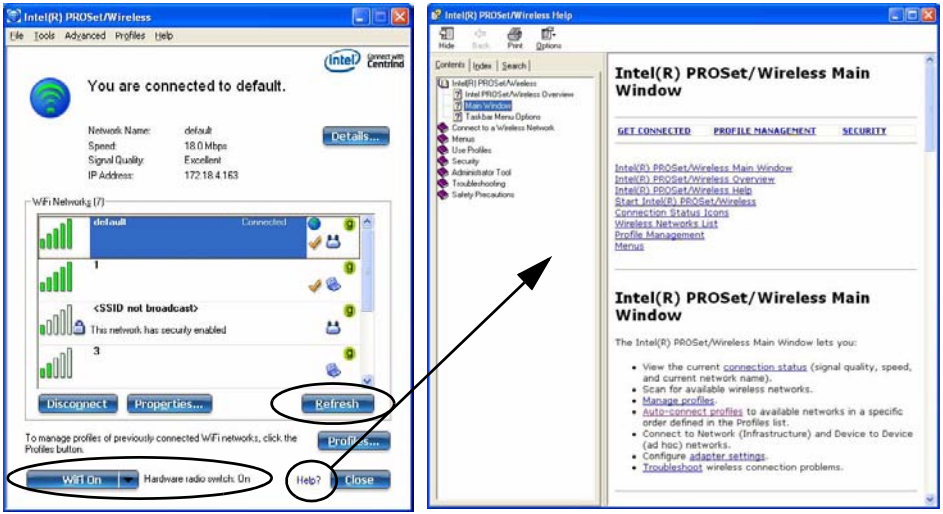


Figure 7 - 8 **- Intel PROSet Wireless WiFi Connection Utility**

3rd Party 802.11b/g or 802.11b/g/n WLAN Driver Installation

1. **Make sure the module is powered on**, and then insert the ***Device Drivers & Utilities + User's Manual*** disc into the CD/DVD drive.
2. Click **Option Drivers** (button).
3. Click **2.Install WLAN Driver > Yes**.
4. Choose the language you prefer and click **Next**.
5. Click **Next > Install**.
6. Click **Finish**.
7. The operating system is the default setting for Wireless LAN control in ***Windows XP***.
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**).

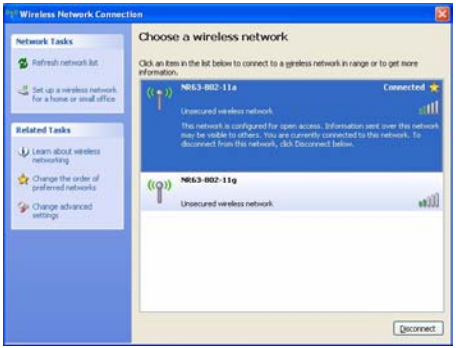


Figure 7 - 9
Wireless Network Control Panels

3.75G/HSPA Module Options

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

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

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

3.75G/HSPA Module

If you have included an **optional 3.75G/HSPA** (High Speed Packet Access) module in your purchase option, you will have the appropriate application (**3G Watcher**, **HSPA Modem Interface** or **Mobile Partner**) provided for your particular module. Follow the instructions ***on page 1 - 15*** to install the USIM card (supplied by your service provider), and then install the application (see over for further details).

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 - 9*) **to toggle power to the 3.75G/HSPA module**. **Note that exiting the application does NOT turn off the 3.75G/HSPA module**.

- **3G Watcher** - See *"3G Watcher Application Installation" on page 7 - 20* for driver installation information and *"Setting Up a Carrier Profile" on page 7 - 21* for instructions on using the **3G Watcher** application.
- **HSPA Modem Interface** - See *"HSPA Modem Interface Installation" on page 7 - 27* for driver installation information and *"HSPA Modem Interface" on page 7 - 28* for instructions on using the **HSPA Modem Interface**.
- **Mobile Partner** - See *"Mobile Partner Application Installation" on page 7 - 36* for driver installation information and *"Mobile Partner Application" on page 7 - 37* for instructions on using the **Mobile Partner** application.

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.

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 modem module, and check the indicator to see if the module is powered on or not (see ***Table 1 - 2, on page 1 - 9***/ ***Table 1 - 3, on page 1 - 11***).

3G Watcher

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

3G Watcher Application Installation

1. **Enable power to the module** by pressing the **Fn +** key combination (the module must be **ON** when the driver is being installed - give the module about 10 seconds to power on).
   If a ***Found New Hardware*** window appears, click **Cancel** (click **Cancel** for all ***Found New Hardware*** windows that appear).
2. Insert the ***Device Drivers & Utilities + User's Manual*** disc into the CD/DVD drive.
3. Click **Option Drivers** (button).
4. Click **3.3G Driver > Yes**, and then click **Next**.
5. Click the button to accept the license agreement, and then click **Install**.
6. When the next screen appears **wait (for about 2 minutes) until you see** the message bubble "**Found New Hardware**" in the taskbar **disappear** before clicking **Finish** (this allows the hardware to detect the 3.75G/HSPA module).
7. Access the **3G Watcher** application from the **Start** menu (**Start** > **Programs/All Programs** > **Sierra Wireless > 3G Watcher**), or by double-clicking the desktop icon .

Setting Up a Carrier Profile

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

1. Power on the **3.75G/HSPA** module using the **Fn +** key combination.
2. Access the **3G Watcher** application from the **Start** menu (**Start** > **Programs/All Programs** > **Sierra Wireless > 3G Watcher**), or by double-clicking the desktop icon .
3. Click **Tools** and select **Options**.
4. Click **Profiles** and then click the **Add new profile** button , and select **WWAN profile**.

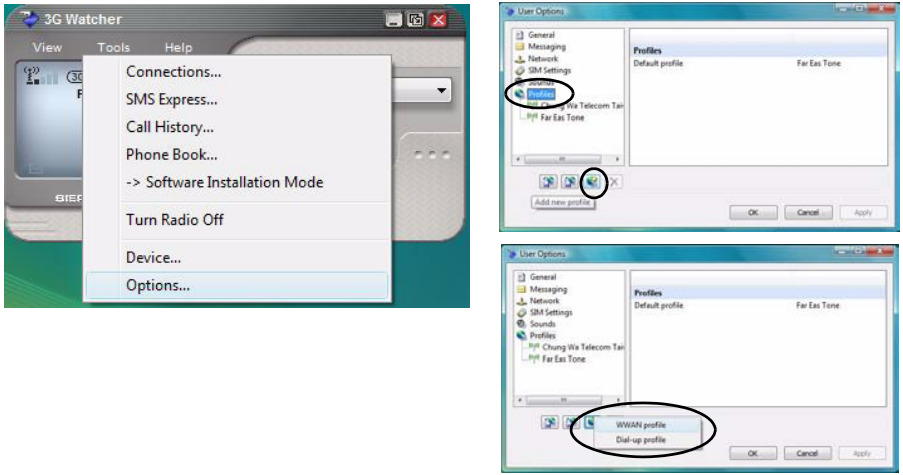
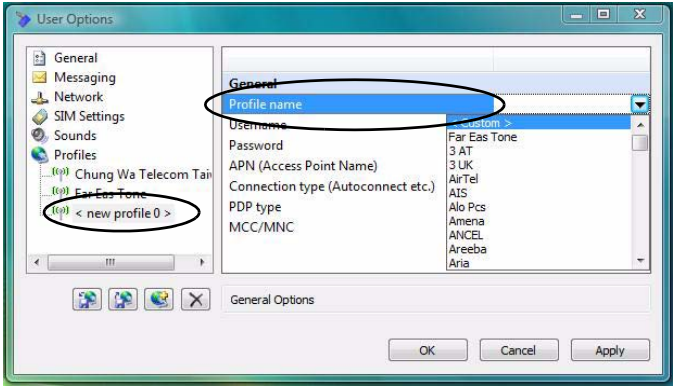


Figure 7 - 10
Add WWAN Profile

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

Figure 7 - 11
User Options



Profile Details

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

Profile Information

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

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

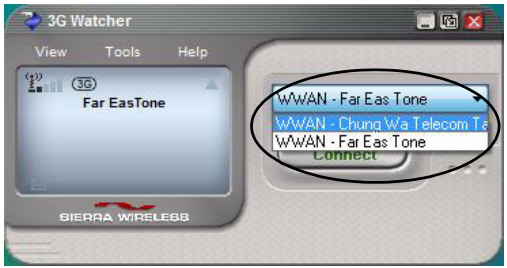


Figure 7 - 12
Choose Profile

Connecting to the Service Provider

1. Power on the **3.75G/HSPA** module using the **Fn +** key combination.
2. You can access the **3G Watcher** application from the **Start** menu (**Start** > **Programs/All Programs** > **Sierra Wireless > 3G Watcher**), or by double-clicking the desktop icon .
3. The software will run and display the service provider name (see ***"Setting Up a Carrier Profile" on page 7 - 21***).

Figure 7 - 13
Connect Button

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

Figure 7 - 14
Connecting

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

Figure 7 - 15
Connected Taskbar Notification

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

Figure 7 - 16
3GWatcher Connected

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

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

Figure 7 - 17
Exit Warning

13. Exiting the program DOES NOT turn off the 3.75G/HSPA module, and you will need to press the **Fn +** key combination to turn off the module (pay careful attention to this aboard aircraft - see ***"Wireless Device Operation Aboard Aircraft" on page 7 - 20***).
14. If the module is on and the computer enters a power-saving state, then the power status of the module on resuming from the power-saving state will be as below:

- If the 3.75G/HSPA module is on and the computer is **Shut Down or Restarted**; the module will be **off** when the computer starts up.
- If the 3.75G/HSPA module is on and the computer enters **Sleep or Hibernate**; the module will be **off** when the computer resumes from sleep.

Short Messaging Service

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

Reading SMS Messages

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

Creating and Sending SMS Messages

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

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

HSPA Modem Interface

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

HSPA Modem Interface Installation

1. **Enable power to the module** by pressing the **Fn +** key combination (the module must be **ON** when the driver is being installed - give the module about 10 seconds to power on).
   If a ***Found New Hardware*** window appears, click **Cancel** (click **Cancel** for all ***Found New Hardware*** windows that appear).
2. Insert the ***Device Drivers & Utilities + User's Manual*** disc into the CD/DVD drive.
3. Click **Option Drivers** (button).
4. Click **3. 3G Driver > Yes**, and then click **Next**.
5. Click **Next > Install**.
6. Click **Finish** to restart the computer.
7. Access the **HSPA modem** interface from the **Start** menu (**Start > Programs/All Programs > HSPA modem**), or by double-clicking the **HSPA modem** icon on the desktop.

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 modem module, and check the indicator to see if the module is powered on or not (see ***Table 1 - 2, on page 1 - 9***/ ***Table 1 - 3, on page 1 - 11***).

HSPA Modem Interface Help

To get help on HSPA Modem Interface configuration and settings, click the help icon and select **Help**.

HSPA Modem Interface

The connection information is stored on the USIM card supplied by the service provider.

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

Connection Manager

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

Figure 7 - 18
HSPA Modem Interface Window

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

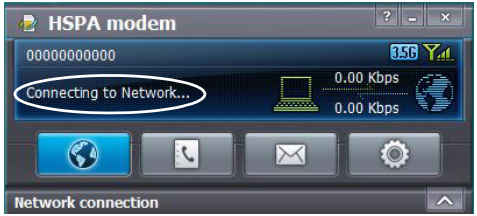


Figure 7 - 19
Connecting to Network

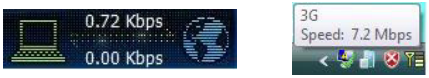
7. The message "**Network is connected**" will be displayed when the network connection is successful.

Figure 7 - 20
Network is Connected

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

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

Figure 7 - 21
Uploading/ Downloading Rates and Speed



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

Adding a Profile

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

Figure 7 - 22
Profiles

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

Figure 7 - 23
Network Settings & Profiles

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

Contacts

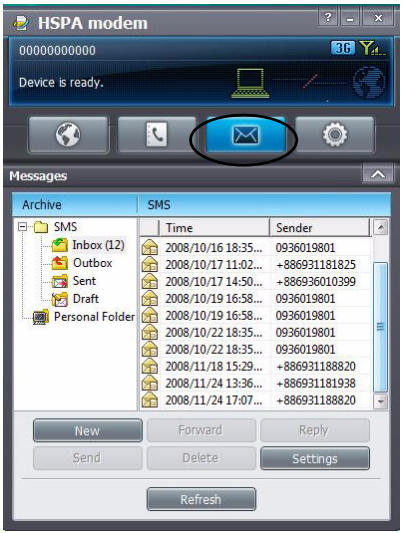
1. Access the **HSPA Modem Interface** from the **Start** menu (**Start** > **Programs/All Programs** > **HSPA Modem > HSPA Modem**), or by clicking the desktop icon.
2. Click **Contacts**  (button).

Figure 7 - 24
Network Settings & Profiles

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

Messages

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



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

SMS Service

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

Figure 7 - 25
Network Settings & Profiles

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

Settings

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

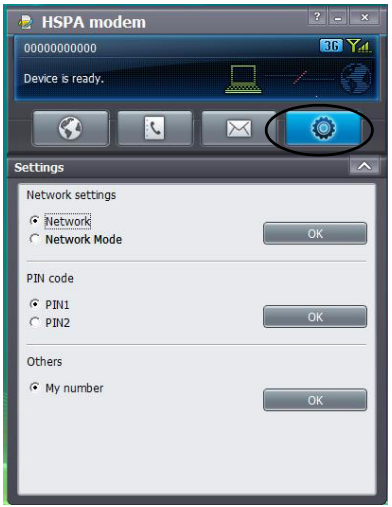


Figure 7 - 26
Settings

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

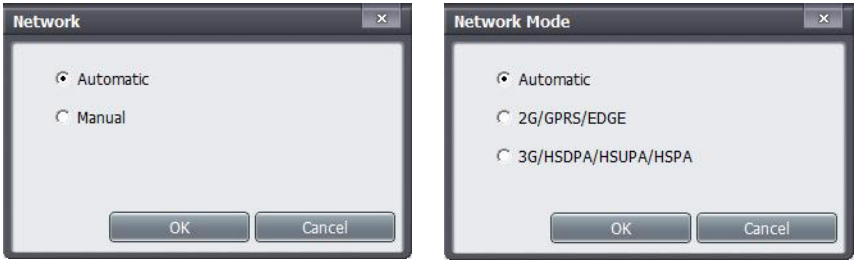


Figure 7 - 27
Settings - Network/ Network Mode

6. You can also change your settings for the Pin #, and input your phone number.
7. Exiting the program DOES NOT turn off the HSPA modem module, and you will need to press the **Fn +** key combination to turn off the module (pay careful attention to this aboard aircraft - see ***"Wireless Device Operation Aboard Aircraft" on page 7 - 27***).
8. If the module is on and the computer enters a power-saving state, then the power status of the module on resuming from the power-saving state will be as below:

- If the 3.75G/HSPA module is on and the computer is **Shut Down or Restarted**; the module will be **off** when the computer starts up.
- If the 3.75G/HSPA module is on and the computer enters **Sleep or Hibernate**; the module will be **off** when the computer resumes from sleep.

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 + _ (F)** key combination to toggle power to the 3.75G/HSPA modem module, and check the indicator to see if the module is powered on or not (see ***Table 1 - 2, on page 1 - 9*** / ***Table 1 - 3, on page 1 - 11***).

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

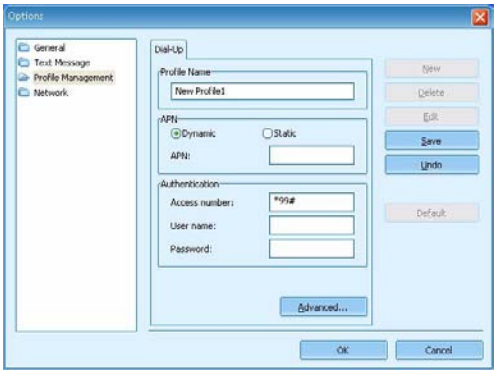
1. **Enable power to the module** by pressing the **Fn +** F key combination (the module must be **ON** when the driver is being installed - give the module about 10 seconds to power on).
   If a ***Found New Hardware*** window appears, click **Cancel** (click **Cancel** for all ***Found New Hardware*** windows that appear).
2. Insert the ***Device Drivers & Utilities + User's Manual*** disc into the CD/DVD drive.
3. Click **Option Drivers** (button).
4. Click **3. 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

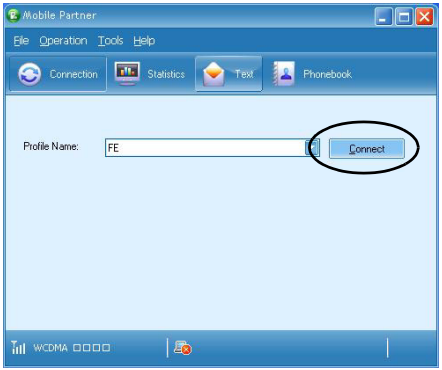
To get help on **Mobile Partner** configuration and settings, click the **Help** menu and select **Online Help** or press **F1**.

Figure 7 - 28
Profile Management

Connecting to the Service Provider

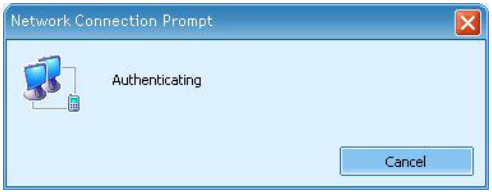
1. Power on the **3.75G/HSPA** module using the **Fn +** key combination.
2. Access the **Mobile Partner** application from the **Start** menu (**Start > Programs/ All Programs > Mobile Partner**), or by double-clicking the **Mobile Partner** icon on the desktop .
3. The software will run and you can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

Figure 7 - 29
Connect



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

Figure 7 - 30
Network Connection Prompt



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

Figure 7 - 31
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** Disconnect icon, or right click the taskbar icon and select **Disconnect**.

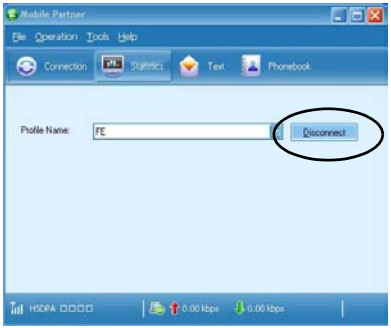


Figure 7 - 32
Disconnect

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 - 33
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 - 20***).
14. If the module is on and the computer enters a power-saving state, then the power status of the module on resuming from the power-saving state will be as below:

- If the 3.75G/HSPA module is on and the computer is **Shut Down or Restarted**; the module will be **off** when the computer starts up.
- If the 3.75G/HSPA module is on and the computer enters **Sleep or Hibernate**; the module will be **off** when the computer resumes from sleep.

Text Messaging Service

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

Reading SMS Messages

1. An icon will blink at the bottom of the **Mobile Partner** interface to notify you of any new messages received.
2. Click the **Text** icon in the **Mobile Partner** Interface.
3. Select the **Local > Inbox** or **SIM/USIM Card** folder and select any message to read it.
4. Right-click the message and choose an option to reply, forward or delete the message.

Creating and Sending SMS Messages

1. Click the **Text** icon in the **Mobile Partner** Interface.
2. Click the **New** button.
3. Enter the recipient's number in the **Send To...** field or click the **Send To...** button to select an entry from the phone book, and click **OK**.
4. Type in the message details.
5. Click the **Send** button, **Save** button to send the message later or **Close > Yes** to save in the **Draft** folder.

For more details on SMS click the **Help** menu and select **Online Help** or press **F1** and select **SMS**.

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 ***Table 1 - 3, on page 1 - 11***) to see the computer's power status.
- **Connections** - Check all the **cables** to make sure that there are no **loose connections** anywhere.
- **Power Savings** - Make sure that the system is not in **Hibernate** or **Sleep** mode by pressing the keys configured in your *Power Management/Power Options* (see ***"Configuring the Power Button" on page 3 - 8***), the **Fn + F4** key combination, or power button to wake-up the system.
- **Brightness** - Check the brightness of the screen by pressing the **Fn** + **F8 and F9** keys to adjust the brightness.
- **Display Choice** - Press **Fn** + **F7** to make sure the system is not set to "external only" display.
- **Boot Drive** - Make sure there are no **optical media and/or USB storage devices** in any connected drive when you start up your machine (this is a common cause of the message "***Invalid system disk - Replace the disk, and then press any key***" / "***Remove disks or other media. Press any key to restart***").

Backup and General Maintenance

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

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

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

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

Warranty

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

Viruses

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

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

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

Upgrading and Adding New Hardware/Software

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

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

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

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

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

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 Schemes" on page 3 - 4***) check its settings. You may also be using a USB device/external device that is drawing a lot of power.
Actual **battery operating time** is shorter than expected.	*The battery has not been fully discharged before being recharged.* Make sure the battery is fully discharged and recharge it completely before reusing (see ***"Battery Information" on page 3 - 9***). *Power Options have been disabled.* Go to the **Control Panel** in *Windows* and re-enable the options. *A peripheral device is consuming a lot of power.* Turn off the unused device to save power.

Problem	Possible Cause - Solution
The computer feels **too hot**.	Make sure the computer is properly ventilated and the Vent/Fan intakes are not blocked. If this doesn't cool it down, put the system into **Hibernate** mode or turn it off for an hour. Make sure the computer isn't sitting on a thermal surface (see ***"Overheating" on page 1 - 13***). Make sure you're using the correct adapter. Make sure that your notebook is completely powered off before putting it into a travel bag (or any such container). Putting a notebook which is powered on in a travel bag may cause the Vent/Fan intakes to be blocked.
Nothing appears on screen.	*The system is in a power saving mode*. Toggle the sleep/resume key combination, **Fn + F4** (see ***"Hibernate" on page 3 - 7***/***"Configuring the Power Button" on page 3 - 8***). *The screen controls need to be adjusted.* Toggle the screen control key combinations **Fn + F8/F9**. If you're connected to an external monitor, make sure it's plugged in and turned on. You should also check the monitor's own brightness and contrast controls. *The computer is set for a different display.* Toggle the screen display key combination, **Fn + F7**. If an external monitor is connected, turn it on. *The **screen saver** is activated.* Press any key or touch the **TouchPad**.

Problem	Possible Cause - Solution
No image appears on the **external monitor** I have plugged in and powered on.	*You haven't installed the video driver and configured it appropriately from the* ***Control Panel****.* See ***"Display Devices & Options" on page B - 5*** for instructions on installing and configuring the video driver.
You forget the **boot password**.	*If you forget the password, you may have to discharge the battery of the CMOS.* Contact your service representative for help.
Password Warning If you choose to set a boot password, **NEVER** forget your password. The consequences of this could be serious. If you cannot remember your boot password you must contact your vendor and you may lose all of the information on your hard disk.	
The sound cannot be heard or the **volume is very low**.	*The volume might be set too low.* Check the volume control in the ***Volume Control Panel*** in the *Windows* taskbar, or use the key combination **Fn + F5** and **F6** (see ***"Function/Hot Key Indicators" on page 1 - 9***) to adjust.
Audio cannot be recorded from the built-in or external microphone.	The audio recording options need to be configured from the **Realtek HD Audio Manager**. See ***"Audio Recording from Microphone" on page 2 - 9*** for configuration information, and ***"PC Camera Audio Setup" on page 7 - 9*** for information on recording audio from the PC Camera.

Problem	Possible Cause - Solution
Unwelcome numbers appear when typing.	*Check that Num Lock is not turned **ON**.*

Other Keyboards

If your keyboard is damaged or you just want to make a change, you can use any standard USB keyboard. The system will detect and enable it automatically. However special functions/hot keys unique to the system's regular keyboard may not work.

The **system freezes** or the screen goes dark.	*The system's power saving features have timed-out*. Use the AC/DC adapter, press the sleep (**Fn + F4**) key combination, or press the power button if no LEDs are lit.
The system never goes into a **power saving mode**.	Power Options features are not enabled. Go to the ***Windows*** Power Options menu and enable the features you prefer (see ***"System Power Options" on page 3 - 6***). Make sure you have enabled **Hibernate** mode from the control panel.
The **Wireless LAN or Bluetooth** modules cannot be detected.	*The modules are off.* Check the LED indicator and/or function key indicator to see if the WLAN or Bluetooth module is on or off (see ***Table 1 - 3, on page 1 - 11***). If the LED indicator is off, then press the **Fn + F11 (WLAN)** or **Fn + F12 (Bluetooth)** key combination(s) in order to enable the modules (see ***"Function/ Hot Key Indicators" on page 1 - 9***).

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 - 9***). Run the **WebCam** application to view the camera picture.
The **Wireless LAN, Bluetooth** or **PC Camera** modules cannot be configured.	The driver(s) for the module(s) have not been installed. Make sure you have installed the driver for the appropriate module (see the instructions for the appropriate module in ***"Modules & Options" on page 7 - 1***).
A file cannot be copied to/from a connected **Bluetooth** device.	*The transfer of data between the computer and a Bluetooth enabled device is supported* ***in one direction only (simultaneous data transfer is not supported)***. If you are copying a file from your computer to a Bluetooth enabled device, you will not be able to copy a file from the Bluetooth enabled device to your computer until the file transfer process from the computer has been completed
The **Bluetooth** module is **off** after resuming from Sleep.	*The Bluetooth module's default state will be off after resuming from the Sleep power-saving state*. Use the key combination (**Fn + F12**) to power on the Bluetooth module after the computer resumes from Sleep.
The **Card Reader/Network (LAN) Device** does not appear in the **Device Manager** in ***Windows***.	*This is a power saving feature*. When not in use the Card Reader/Network (LAN) Device will not appear in the ***Windows*** **Device Manager** as they are not consuming any power. However as soon as the Card Reader is reading from/ writing to an inserted card, or the LAN card is experiencing network activity, the device will reappear in the ***Windows*** **Device Manager**.

Appendix A: Interface (Ports & Jacks)

Overview

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

Notebook Ports and Jacks

Item	Description
Card Reader Port 	The card reader allows you to use some of the latest digital storage cards. Push the card into the slot and it will appear as a removable device.
DC-In Jack	Plug the supplied AC/DC adapter into this jack to power your computer.
External Monitor Port	This port allows you to connect an external monitor, or Flat Panel Display, to get dual video or simultaneous display on the LCD and external monitor/FPD.
Headphone-Out Jack 	Headphones or speakers may be connected through this jack. **Note**: Set your system's volume to a reduced level before connecting to this jack.
Microphone-In Jack 	Plug an external microphone in to this jack to record on your computer (see ***"Audio Recording from Microphone" on page 2 - 9*** for configuration information).
RJ-45 LAN Jack	This port supports LAN (Network) functions. **Note**: Broadband (e.g. ADSL) modems usually connect to the LAN port.
Security Lock Slot	To prevent possible theft, a Kensington-type lock can be attached to this slot. Locks can be purchased at any computer store.

Item	Description
USB 2.0/1.1 Ports	These USB 2.0 compatible ports (USB 2.0 is fully USB 1.1 compliant) are for low-speed peripherals such as keyboards, mice or scanners, and for high-speed peripherals such as external HDDs, digital video cameras or high-speed scanners etc. Devices can be plugged into the computer, and unplugged from the computer, without the need to turn the system off (if the power rating of your USB device is 500mA or above, make sure you use the power supply which comes with the device).

Appendix B: Intel Video Driver Controls

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

Intel Video Driver Installation

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

Video

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

Dynamic Video Memory Technology

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

DVMT Notes

DVMT is not local video memory.

DVMT is not user-configurable.

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

Intel Graphics Properties

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

1. Open **Display Properties** (see *"Video Features" on page 1 - 17*) and click **Advanced**.
2. Click the **Intel(R)...** tab and click **Graphics Properties** (button).
3. You can also access **Graphics Properties** from the ***Windows*** **Intel(R) GMA Driver for Mobile** control panel, or from the taskbar icon .

Taskbar Icon

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

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

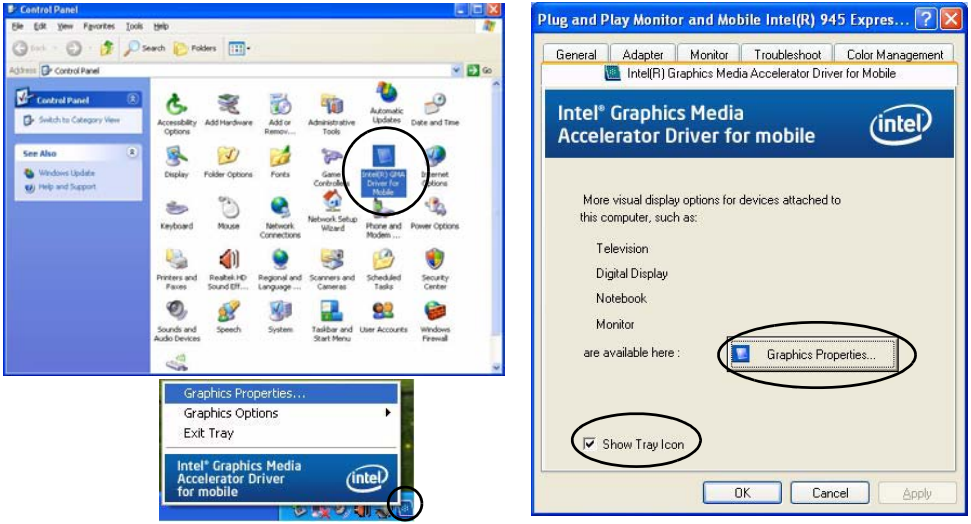
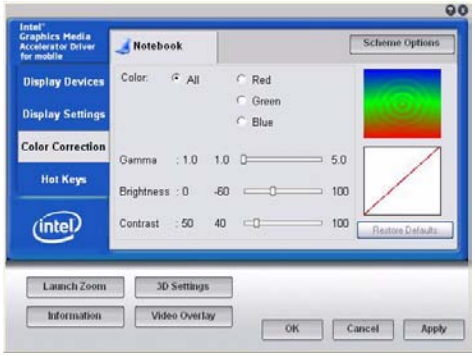
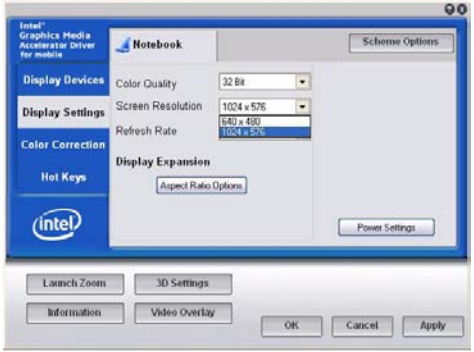
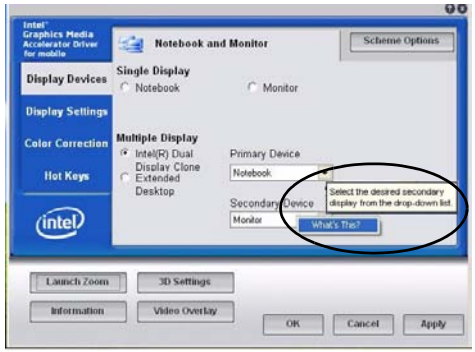


Figure B - 1
Intel Graphics Properties

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







Help Menus

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

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

Multiple Display

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

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

Scheme Options

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

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

Figure B - 3
Select Scheme

Application.exe

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

Display Devices & Options

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

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

Table B - 1
Display Modes

Function Key Combination

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

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

Make sure you give the displays enough time to refresh.

Attaching Displays

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

Attaching Other Displays

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

To Enable Intel(R) Dual Display Clone Mode

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

Multiple Display

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

BIOS Setting

Make sure that you have not disabled external display detection in the BIOS if attempting to connect external displays (see ***"Detect External CRT (Advanced Menu)" on page 5 - 10***).

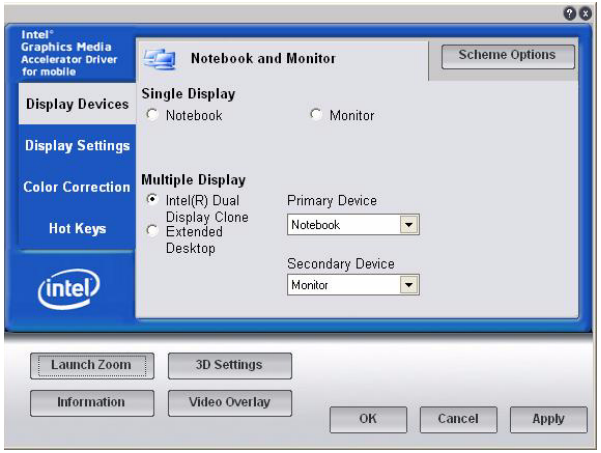


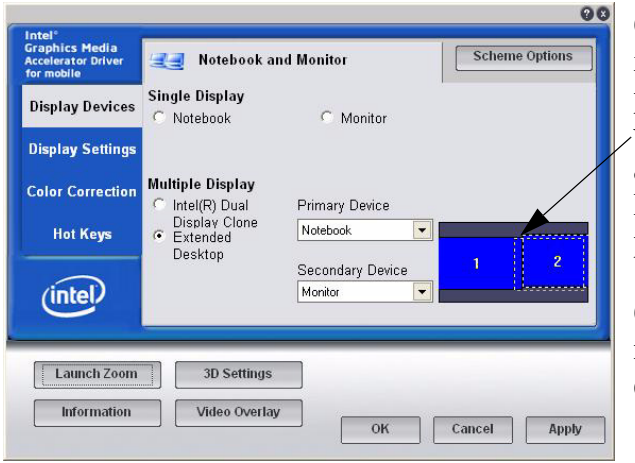
Figure B - 4
Display Devices

Video Settings

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

To Enable Extended Desktop Mode:

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



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

Click Display Settings to make any adjustments required.

Figure B - 5
Extended Desktop Mode

Display Settings Extended Desktop

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

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

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

Display Settings Extended Desktop

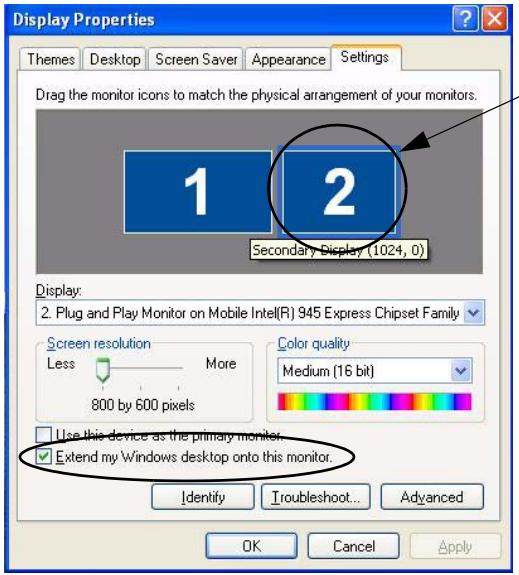
Use the control panel to drag the monitors to match the physical arrangement you wish to use.

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 - 6
Display Properties (Extended Desktop)

To Enable Extended Desktop (Windows Display Properties)

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



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

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

Appendix C: Specifications

Latest Specification Information

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

Processor
Intel® Atom® Processor **N270** (**1.6 GHz** 512KB On-die L2 Cache & 533MHz FSB - BGA Package) Intel® Atom® Processor **N280** (**1.66 GHz** 512KB On-die L2 Cache & 533MHz FSB - BGA Package)
Core Logic
Intel® 82945GSE +82801GBM
Display
10.1” WSVGA (1024 * 576) TFT LCD
Memory
One 200 Pin SO-DIMM Socket Supporting **DDRII (DDR2**) 533 MHz Memory Memory Expandable up to 2GB

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

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

Communication

10Mb/100Mb Base-T Ethernet LAN

802.11b/g Wireless LAN Half Mini-Card Module (**Option**)

802.11b/g/n Wireless LAN Half Mini-Card Module (**Option**)

1.3M Pixel USB PC Camera Module (**Factory Option**)

*Bluetooth 2.1 + EDR (Enhanced Data Rate) Module (**Factory Option**)

*UMTS/HSPDA-based 3.75G/HSPA Module with Mini Card Interface (**Factory Option**)

Operating System

Windows XP with Service Pack 3
Windows 7

Card Reader

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

Slot

Two Mini-Card Slots (USB & PCIE)
Slot 1: for Wireless LAN Module (Half Mini-Card)
Slot 2: for 3.75G/HSPA Module

Power Management

Wake On LAN
Wake On USB
Energy Star Compliant System

Power

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

Battery

Polymer Battery Pack, 3550mAh

Environmental Spec

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

Dimensions & Weight

Model A:
272mm (w) * 188.6mm (d) * 26.4 - 29.5mm (h)
Around 1.2 kg With Battery
Model B:
271mm (w) * 188.6mm (d) * 19.5 - 28mm (h)
Around 1.2 kg With Battery

Optional
802.11b/g Wireless LAN Module
802.11b/g/n Wireless LAN Module
Intel® WiFi Link 1000 Series (802.11b/g/n) Wireless LAN PCIe interface Half Mini-Card Module
External USB Super Multi Optical Device Drive
1.3M Pixel USB PC Camera Module (**Factory Option**)
*Bluetooth 2.1 + EDR Module (**Factory Option**)
*UMTS/HSPDA-based 3.75G/HSPA Module (**Factory Option**)

Appendix D: Windows 7 Information

This Appendix contains information on the driver installation for the ***Windows 7 OS***. Note that control panels (e.g. power and video) and configuration of certain items in ***Windows 7*** may be different from ***Windows Vista***. Consult your ***Windows 7*** documentation, or item specific help for further information.

Windows 7 Start Menu & Control Panel

Most of the control panels, utilities and programs within ***Windows 7*** (and most other ***Windows*** versions) are accessed from the **Start** menu. When you install programs and utilities they will be installed on your hard disk drive, and a shortcut will usually be placed in the **Start** menu and/or the desktop. Right-click the **Start menu** icon , and then select **Properties** if you want to customize the appearance of the **Start** menu.

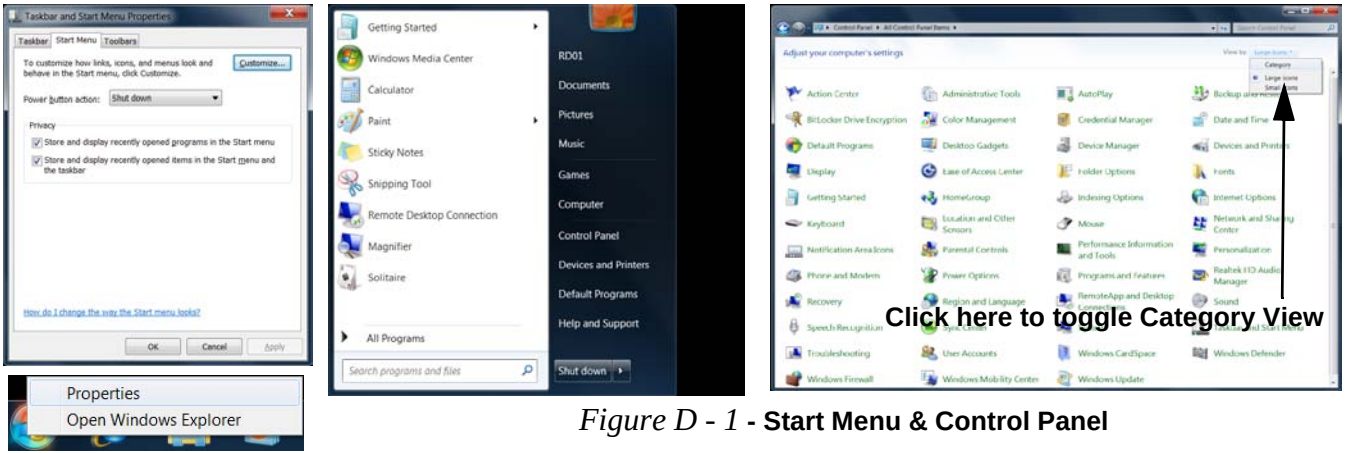
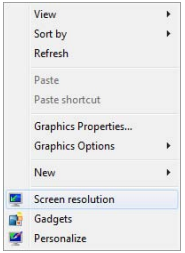


Figure D - 1 **- Start Menu & Control Panel**

In many instances throughout this manual you will see an instruction to open the **Control Panel**. The **Control Panel** is accessed from the **Start** menu, and it allows you to configure the settings for most of the key features in ***Windows*** (e.g. power, video, network, audio etc.). ***Windows 7*** provides basic controls for many of the features, however many new controls are added (or existing ones are enhanced) when you install the drivers. To see all controls it may be necessary to toggle off ***Category View*** to view the control panel icons.

Video Features

You can configure display options from the **Display (Control Panel) and Screen Resolution** in ***Windows***. For more detailed video information see ***Chapter B"Intel Video Driver Controls" from page B - 1***.



To access **Display (Control Panel) and Screen Resolution** in ***Windows***:

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

OR

4. Alternatively you can right-click the desktop and select **Screen resolution** (see right).
5. Use the dropbox to select the screen **Resolution** 1 (***Figure D - 2 on page D - 4***).
6. Click **Advanced settings** 2 (***Figure D - 2 on page D - 4***) to bring up the **Advanced** properties tabs.

To access the ***Intel(R) Graphics Media Accelerator Driver for mobile*** control panel:

1. Click **Advanced settings** 2 (***Figure D - 2 on page D - 4***) in the **Screen Resolution** control panel in ***Windows***.
2. Click the **Intel(R)...** tab 3 (***Figure D - 2 on page D - 4***) and click **Graphics Properties** (button).

OR

3. Right-click the desktop and select **Graphics Properties** from the menu.

OR

4. The **Intel GMA** control panel can also be accessed by clicking the icon in the taskbar and selecting **Graphics Properties** 4 (***Figure D - 2 on page D - 4***) from the menu.

D

Screen Resolution

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

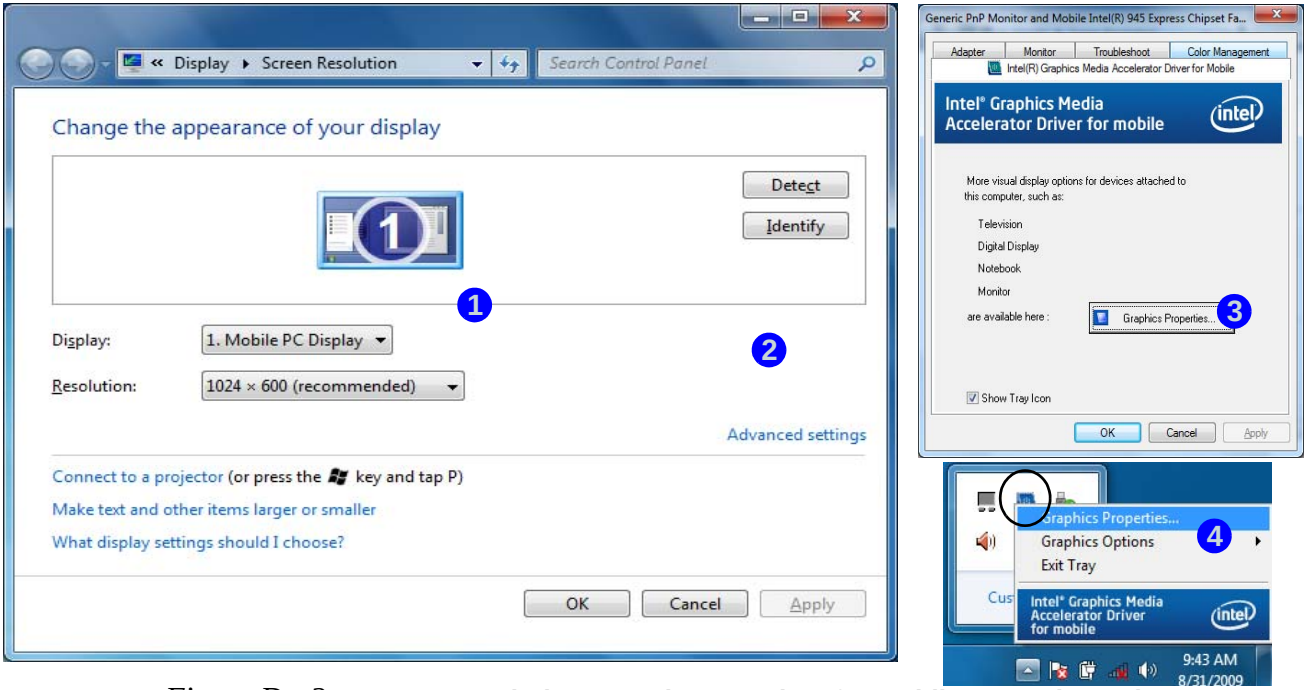


Figure D - 2 **- Screen Resolution & Intel GMA Driver for Mobile Control Panel**

D

Attaching Other Displays

Configuring an External Display in Windows 7

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

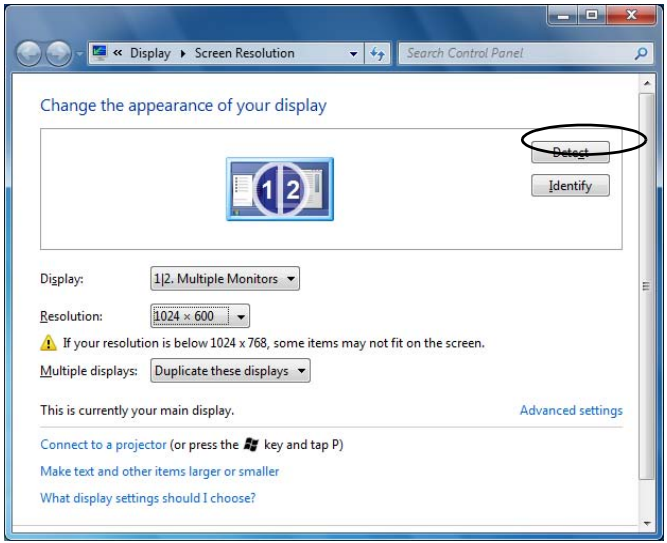


Figure D - 3 **- Screen Resolution - Multiple Displays**

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.

D

5. You can configure the displays from the **Multiple Displays** menu.

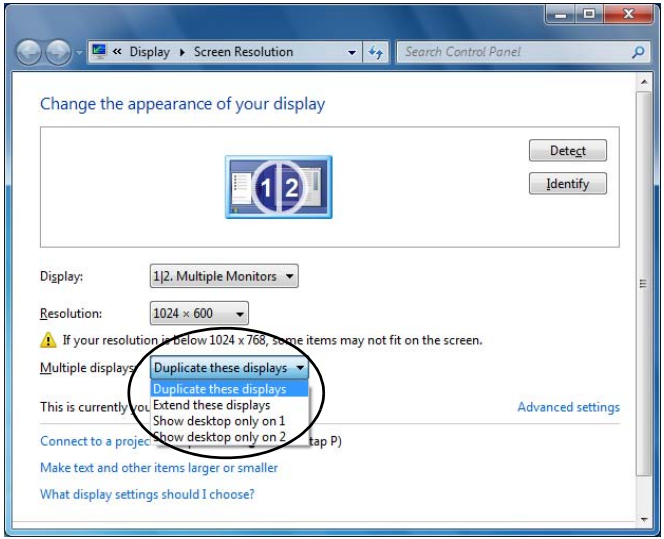


Figure D - 4 **- Screen Resolution - Multiple Display Options**

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

D

See ***"Display Modes" on page B - 8*** for more details on the above modes when using the Intel driver to configure attached displays.

Windows 7 Driver Installation

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

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

Figure D - 5 **- Drivers Installer Screen 1**

1. Check the driver installation order from ***Table D - 1, on page D - 8*** (**the drivers must be installed in this order**) which is the same as that listed in the ***Drivers Installer*** menu below.
2. Click to select the driver you wish to install, after installing each driver it will become grayed out (if you need to reinstall any driver, click the **Unlock** button).
3. Follow the instructions for each individual driver installation procedure as listed on the following pages.

Figure D - 6 **- Drivers Installer Screen 2**

Driver - *Windows 7*	Page #
Chipset	*Page D - 10*
Video	*Page D - 10*
Audio	*Page D - 10*
LAN	*Page D - 10*
TouchPad	*Page D - 10*
Card Reader	*Page D - 10*
Hot Key	*Page D - 11*
PC Camera Module	*Page D - 13*
Wireless LAN Module	*Page D - 15*
3.75G/HSPA Module	*Page D - 18* *Page D - 19*

Table D - 1 **- Driver Installation**

Updating/Reinstalling Individual Drivers

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

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

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

Driver Installation 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).

Chipset

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

Video

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

Audio

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

LAN

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

TouchPad

1. Click **5.Install Touch Pad Driver > Yes**.
2. Select the installation language and click **OK**.
3. Click **Next**.
4. Click **Finish > Restart Now** to restart the computer.

Card Reader

1. Click **6.Install Cardreader Driver > Yes**.
2. Click **Install > Finish** to complete the installation.

Hot Key

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

Optional Drivers

The following pages provide driver installation procedures for any modules included in your purchase option. Refer to **Chapter 7** as indicated for further configuration information, however note that ***Windows 7*** configuration may be slightly different from that indicated in ***Windows Vista***.

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

Figure D - 7 **- Drivers Installer - Option Drivers Menu**

PC Camera Module

Before installing the **PC Camera** driver, make sure that the optional PC Camera is on. **Use the Fn + F10 key combination** (see *"Function/Hot Key Indicators" on page 1 - 9*) **to toggle power to the PC Camera module**. Make sure you install the drivers in the order indicated in *Table D - 1, on page D - 8*.

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

PC Camera Screen Refresh

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

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

PC Camera Driver Installation

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

See ***"PC Camera Module" on page 7 - 7*** for driver installation and configuration information.

Wireless LAN Module

If you have included an **Intel® Wi-Fi Link 1000 Series (802.11 b/g/n), 3rd Party 802.11b/g or 3rd Party 802.11b/g/n WLAN** module in your purchase option, make sure that the Wireless LAN module is on before installing the driver (the WLAN module's default power state is off).

Use the **Fn + F11 key combination** (see *"Function/Hot Key Indicators" on page 1 - 9*) **to toggle power to the Wireless LAN module**. Make sure you install the drivers in the order indicated in *Table D - 1, on page D - 8*. Your installation procedure will be dependent upon which WLAN module is included in your purchase option.

Wireless Device Operation Aboard Aircraft

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

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

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.

Intel® Wi-Fi Link Series Driver Installation

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

1. Make sure the module is powered on, then insert the ***Device Drivers & Utilities + User's Manual*** disc into the CD/DVD drive.
2. Click **Option Drivers** (button).
3. Click **2.Install WLAN Driver** > **Yes**.
4. An on-screen message will appear to show the progress of the WLAN installation.
5. When the message disappears the driver will be installed.

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

3rd Party 802.11b/g or 802.11b/g/n WLAN Driver Installation

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

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

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

3.75G/HSPA Module

If you have included an **optional 3.75G/HSPA** (High Speed Packet Access) module in your purchase option, you will have the appropriate application (**HSPA Modem Interface** or **Mobile Partner**) provided for your particular module. Follow the instructions *on page 1 - 15* to install the USIM card (supplied by your service provider), and then install the application (see over for further details).

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.

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 modem module, and check the indicator to see if the module is powered on or not (see *Table 1 - 2, on page 1 - 9*/ *Table 1 - 3, on page 1 - 11*).

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 - 9*) **to toggle power to the 3.75G/HSPA module**. **Note that exiting the application does NOT turn off the 3.75G/HSPA module**.

- **HSPA Modem Interface** - See *"HSPA Modem Interface Installation" on page D - 18* for driver installation information and *"HSPA Modem Interface" on page 7 - 27* for instructions on using the **HSPA Modem Interface (note that some Windows Vista information may appear slightly different from Windows 7)**.
- **Mobile Partner** - See *"Mobile Partner Application Installation" on page D - 19* for driver installation information and *"Mobile Partner Application" on page 7 - 37* for instructions on using the **Mobile Partner** application **(note that some Windows Vista information may appear slightly different from Windows 7)**.

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.

HSPA Modem Interface Installation

1. **Enable power to the module** by pressing the **Fn +** key combination (the module must be **ON** when the driver is being installed - give the module about 10 seconds to power on).
   If a ***Found New Hardware*** window appears, click **Cancel** (click **Cancel** for all ***Found New Hardware*** windows that appear).
2. Insert the ***Device Drivers & Utilities + User's Manual*** disc into the CD/DVD drive.
3. Click **Option Drivers** (button).
4. Click **3. 3G Driver > Yes**, and then click **Next**.
5. Click **Next > Install**.
6. Click **Finish** to restart the computer.
7. Access the **HSPA modem** interface from the **Start** menu (**Start > Programs/All Programs > HSPA modem**), or by double-clicking the **HSPA modem** icon on the desktop.

Mobile Partner Application Installation

1. **Enable power to the module** by pressing the **Fn +** key combination (the module must be **ON** when the driver is being installed - give the module about 10 seconds to power on).
   If a ***Found New Hardware*** window appears, click **Cancel** (click **Cancel** for all ***Found New Hardware*** windows that appear).
2. Insert the ***Device Drivers & Utilities + User's Manual*** disc into the CD/DVD drive.
3. Click **Option Drivers** (button).
4. Click **3. 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.

Other Notes:

Bluetooth Module

Note: The operating system is the default setting for **Bluetooth** control in ***Windows 7***, and does not require a driver. See your ***Windows 7*** documentation for specific information.

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.

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 - 2, on page 1 - 9***/ ***Table 1 - 3, on page 1 - 11***).