USER'S MANUAL

EUROCOM

U N O   2 . 1

Multimedia PC

V12.1.00

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R&TTE Directive

This device is in compliance with the essential requirements and other relevant provisions of the R&TTE Directive 1999/5/EC.

This device will be sold in the following EEA countries: Austria, Italy, Belgium, Liechtenstein, Denmark, Luxembourg, Finland, Netherlands, France, Norway, Germany, Portugal, Greece, Spain, Iceland, Sweden, Ireland, United Kingdom, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Slovakia, Poland, Slovenia.

EuP-Standby and Off Mode Power Consumption Statement:

The figures below note the power consumption of this computer in compliance with European Commission (EC) regulations on power consumption in off mode or standby mode:

- Standby Mode   < 2W
- Off Mode   < 1W

CE Marking

This device has been tested to and conforms to the regulatory requirements of the European Union and has attained CE Marking. The CE Mark is a conformity marking consisting of the letters "CE". The CE Mark applies to products regulated by certain European health, safety and environmental protection legislation. The CE Mark is obligatory for products it applies to: the manufacturer affixes the marking in order to be allowed to sell his product in the European market.

This product conforms to the essential requirements of the R&TTE directive 1999/5/EC in order to attain CE Marking. A notified body has determined that this device has properly demonstrated that the requirements of the directive have been met and has issued a favorable certificate of expert opinion. As such the device will bear the notified body number 0560 after the CE mark.

The CE Marking is not a quality mark. Foremost, it refers to the safety rather than to the quality of a product. Secondly, CE Marking is mandatory for the product it applies to, whereas most quality markings are voluntary.

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, 4.74A (**90 Watts**).

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

Instructions for Care and Operation

The 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.

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.

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.

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

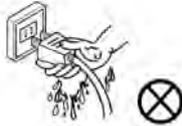# Power Safety

The computer has specific power requirements:

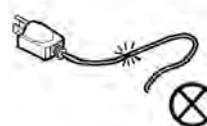> **⚠**
>
> **Power Safety Warning**
>
> Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines and power cord).

- 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.

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.*

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

🔔
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 restoring power to the system.

Also note the following when the cover is removed:

- Hazardous moving parts.
- Keep away from moving fan blades.

Ergonomics

We designed your Multimedia PC system to be functional as well as attractive. To get most out of it, here are some suggestions on how to position and use the computer:

- The top third of the LCD (screen) should be at eye-level or slightly below.

- The LCD should be at least 18"/45cm. directly in front of you.

- If the screen resolution makes you strain to read, then adjust the resolution to something more comfortable (see *"Video Features" on page 1 - 26*).

- Angle the LCD (see *"Tilting & Adjusting the LCD Screen Height" on page 1 - 7*) so that it doesn't reflect any light into your eyes.

- Use a chair which offers good back support (especially lower-back). The seat should allow your feet to rest flat on the floor or on a footrest directly in front of you.

- If possible, illuminate your work area with natural daylight or use a steady-glowing (non-flickering) light source.

- Place the keyboard and mouse so that your arms are at your sides and your forearms are roughly parallel to the floor. Your wrists should flex slightly downward as you work. Your neck and shoulders should also be relaxed.

- Take a break from the computer. Get up, stretch, flex your wrists, walk about, and look at something else for about 10 minutes every hour.

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.

☼

Carrying the Computer

We strongly recommend using both hands to move the computer (one hand gripping the handle area and the other gripping the computer) to avoid accidentally dropping it. Be careful that objects such as belt buckles etc. do not scratch the screen while it is being carried.

Wall Mounting Information

The computer may be mounted on a wall for display. The system meets VESA MIS-D Standard (100mm * 100mm) for wall mounting. However if you intend to wall mount the system please contact your service center for information in order to avoid personal injury, or damage to the computer.

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Preface

Chapter 1: Quick Start Guide

Overview

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

- **Chapter 2**   A guide to using some of the main features of the computer e.g. the **storage devices** (**hard disk**, **optical device**, **Multi-in-1 card reader**, **ExpressCard/34/54**) **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 **PC Camera, Wireless LAN, Bluetooth & WLAN Combo** and **Intel** 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** Information related to the *Windows 7* operating system.

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 User's Manual. You may also find the notes marked with a ✐ of interest to you.

 ✐

Notes

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

Beginners and Not-So-Advanced Users

If you are new to computers (or do not have an advanced knowledge of them) then the information contained in this Quick Start Guide should be enough to get you up and running. Eventually you should try to look through all the documentation (more detailed descriptions of the functions, setup and system controls are covered in the remainder of the User's Manual), but do not worry if you do not understand 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 8*) 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 in *Table 4 - 1, on page 4 - 4*. 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 *"What to Install" on page 4 - 1* for installation instructions.

Ports and Jacks

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

System Software

Your computer may already come with system software pre-installed. Where this is not the case, or where you are re-configuring your computer for a different system, you will find the *Windows 7 (with Service Pack 1 installed)* and *Windows 8* operating systems are supported.

The majority of this menu covers information covers information related to the *Windows 8* operating system, however for specific information on the *Windows 7* operating system see *Appendix D*.

Note: In order to run *Windows* without limitations or decreased performance, your computer requires a minimum **1GB** of system memory (RAM).

Windows 7/8 OS

In order to run *Windows 7 or 8 (32 Bit)* without limitations or decreased performance, your computer requires a minimum **1GB** of system memory (RAM), however if you are running *Windows 7 or 8 (64 bit)* your computer requires a minimum **2GB** of system memory (RAM).

System Startup

1. Remove all packing materials, CDs/DVDs and floppy disks etc.
2. Securely attach any peripherals you want to use with the computer to their ports (e.g keyboard and mouse etc.)
3. Attach the AC/DC adapter to the DC-In jack located under the LCD, then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter.
4. Push the power button at the front of the computer (under the LCD) to turn the computer "on".
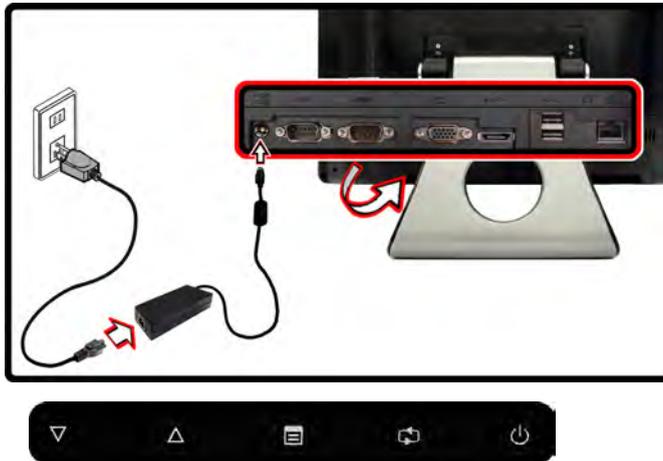
Power Button (located along the bottom of the LCD)

Figure 1 - 1 **- AC/DC Adapter Plugged-In/Power Button**

Shutdown

Note that you should always shut your computer down by choosing the **Shut Down** command from the bottom right of the **Start** menu in *Windows 7, or* by choosing the **Shut Down** command from the **Power** item in **Settings** in the **Charms Bar** (use the **Windows Logo Key + C** key combination to access the **Charms Bar**) in **Windows 8**. This will help prevent hard disk or system problems.

System Map: Front View

1. Built-In PC Camera
2. PC Camera LED
3. Built-In Microphone
4. LCD (With **Optional** Touch Panel for Windows 7 OS)
5. Power & System Activity LED Indicators
6. Function Buttons*
7. Power Button*
8. RJ-45 LAN Jack
9. 2 * USB Ports
10. eSATA Port
11. External Monitor Port
12. 2 * COM Ports
13. DC-In Jack
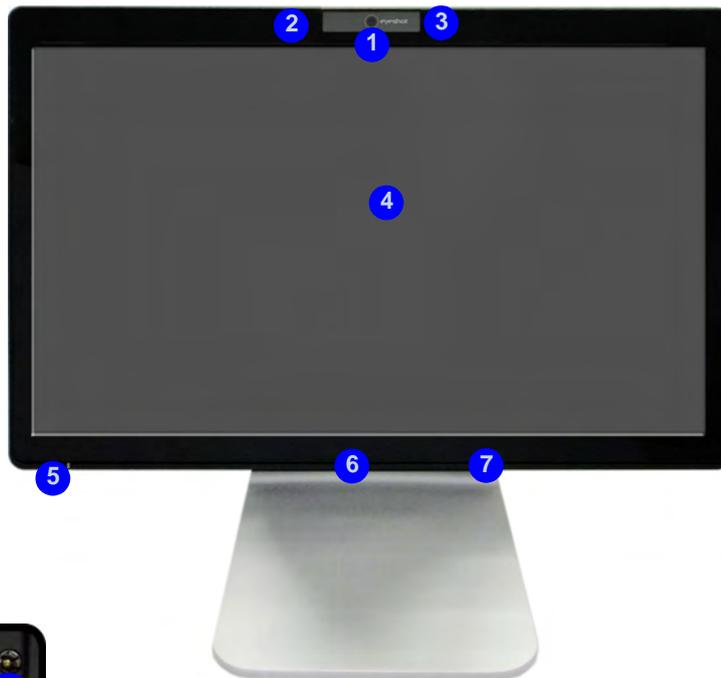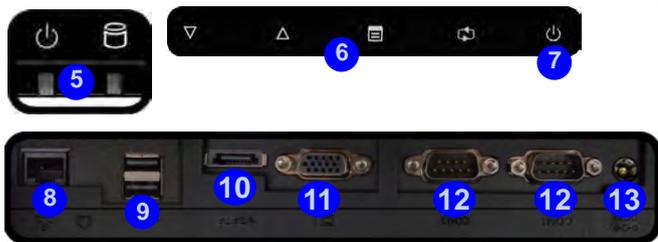
*Note the power and function buttons are located along the bottom underside of the LCD

Figure 1 - 2 **- Front View**

Tilting & Adjusting the LCD Screen Height

It is possible to tilt the LCD screen in order to get the best possible viewing angle of the screen without glare etc, and to raise/lower the screen height in order to get the best possible vertical viewing position of the screen.

- **Hold the left and right sides** of the computer **to raise/lower** the screen.
- **Do not hold the bottom of the screen** to adjust the viewing angle or height as the screen function buttons are located there.

Figure 1 - 3 **- LCD Screen Raise/Lower**

- Carefully **apply pressure at the top of the screen** to tilt it.
- Note that **the screen has no fixed lock position** and you are free to raise/lower and tilt the screen to any position the stand allows (do not force it beyond the point of resistance).

Figure 1 - 4 **- LCD Screen Tilt**

> $\mathscr{P}$
>
> **Moving the Computer**
>
> We strongly recommend using both hands to move the computer. You can use one hand to grip the computer by the stand, and the other to hold the top of the LCD screen.
>
> It is recommended that you carry the computer with the LCD facing your body to avoid scratching the surface against other objects. However take care not to scratch the LCD with any personal items, belt fittings or jewelry etc.(one hand gripping the stand and the other gripping the top of the computer to avoid accidentally dropping it).

LED Indicators & Buttons

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

Icon	Color	Description
⏻	Green	The computer is On
	Blinking Green	The computer is in Sleep Mode
	Orange	The AC/DC Adapter is Plugged in & the Computer is Powered Off
🗄	Green	System Activity

Table 1 - 1 **- LED Indicators**

The buttons located under the front panel icons allow you to make screen and input adjustments.

▽   △   ▣   ⏏   ⏻

Figure 1 - 5 **- Front Icons**

Icon	Description
▽ △	Decrease/Increase Buttons - Use the buttons to decrease/increase the brightness/volume
▣	Function Menu Toggle - Use this button to display the On Screen Display (see *"On Screen Display Indicators" on page 1 - 10*)
⏏	Screen Power Toggle - Use this button to toggle the LCD on/off

Table 1 - 2 **- Function Buttons**

On Screen Display Indicators

Press the function menu button ▤ (see *Table 1 - 2, on page 1 - 9*) to bring up the On Screen Display. The OSD provides visual indicators for brightness, volume, WLAN, Bluetooth and camera power toggle (note that the camera and Bluetooth power indicators will only display if the modules are included in your purchase configuration) are available when the **OSD** driver is installed (see *"On Screen Display" on page 4 - 6*).

OSD Icon		Description	OSD Icon	Description
	🔊	Volume Decrease/Increase	📶 📶	WLAN Power Toggle
	☀️	Brightness Decrease/Increase	📶 📶	Bluetooth Power Toggle
			🌐 🌐	Camera Power Toggle

Table 1 - 3 **- On Screen Display Indicators**

The indicators will appear when the computer boots up, or resumes from a power saving state, in order to display the current power status of the camera and/or Bluetooth/WLAN modules. The OSD indicators will appear if you adjust the brightness or volume, and will also allow you to adjust the power status of the camera and/or Bluetooth/WLAN modules by using the mouse to click on the icon (note that this system does not display the *Windows Mobility Center*). If your purchase configuration includes the **Multi-Touch Panel** (*Windows 7* only) you may use a finger to slide along the bars under the on-screen symbols to adjust the volume and brightness and controls, or to press the on/off buttons to toggle power to the camera and/or Bluetooth/WLAN modules.

System Map: Left View

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Multi-in-1 Card Reader

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

MMC (MultiMedia Card) / RSMMC
SD (Secure Digital) / Mini SD / SDHC /
SDXC Compatible
MS (Memory Stick) / MS Pro / MS Duo

USB 3.0 Port

USB 3.0 ports are denoted by their blue color; USB 2.0 ports are colored black. Note that the USB 3.0 ports require a driver for Windows 7 (see "*"USB 3.0 (Win 7 Only)" on page D - 24*") installation (Windows 8 does not require a driver installation) and do not support wake on USB.

1. Stand
2. Multi-in-1 Card Reader
3. ExpressCard Slot (see page *2 - 7*)
4. 3 * USB 3.0 Ports
5. Headphone/ Speaker-Out Jack
6. Microphone-In Jack

🖉

ExpressCard Slot

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

System Map: Right View

Figure 1 - 7 **- Right View**

1. Stand
2. Optical Device Drive Bay (for CD/DVD Device - see page *2 - 3*)
3. Security Lock Slot

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

> ✎
> ### Changing DVD Regional Codes
>
> Go to the **Control Panel** and double-click **Device Manager (Hardware and Sound)**, then click the **+** next to **DVD/CD-ROM drives**. Double-click on the DVD-ROM device to bring up the **Properties** dialog box, and select the **DVD Region** (tab) to bring up the control panel to allow you to adjust the regional code. You can select your module's region code 5 times (see *"DVD Region Note" on page 2 - 5*).

> 🔔
> ### Media Warning
>
> Don't try to remove the CD/DVD while the system is accessing it. This may cause the system to "crash".

System Map: Rear View

Figure 1 - 8
Rear View

1. Stand
2. Rear Component Cover
3. Vent/Fan Intake
4. Security Lock Slot
5. Carrying Handle Area

🔔
CPU

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

Overheating

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

🔔
Carrying the Computer

We strongly recommend using both hands to move the computer (one hand gripping the handle area and the other gripping the computer) to avoid accidentally dropping it. Be careful that objects such as belt buckles etc. do not scratch the screen while it is being carried.

Windows Control Panel

Most of the control panels, utilities and applications within *Windows* are accessed from the **Start** menu in **Windows 7** (Windows 7's standard interface is the desktop), and from the **Desktop** in *Windows 8* (see page *1 - 21* for more information on the *Windows 8* Control Panel).

Throughout this manual you will see an instruction to open the **Control Panel**. In *Windows 8* right-click the lower left hot corner to bring up the context menu (or use the **Windows Logo Key** ⊞ + **X** key combination) and select **Control Panel**. If you are using a **Touch Screen** then access the **Charms Bar** from the **desktop** (not the Start screen), tap **Settings**, and tap **Control Panel** or access it from the **All Apps** menu.

Move the mouse to the bottom left of the screen and right-click to access the menu.
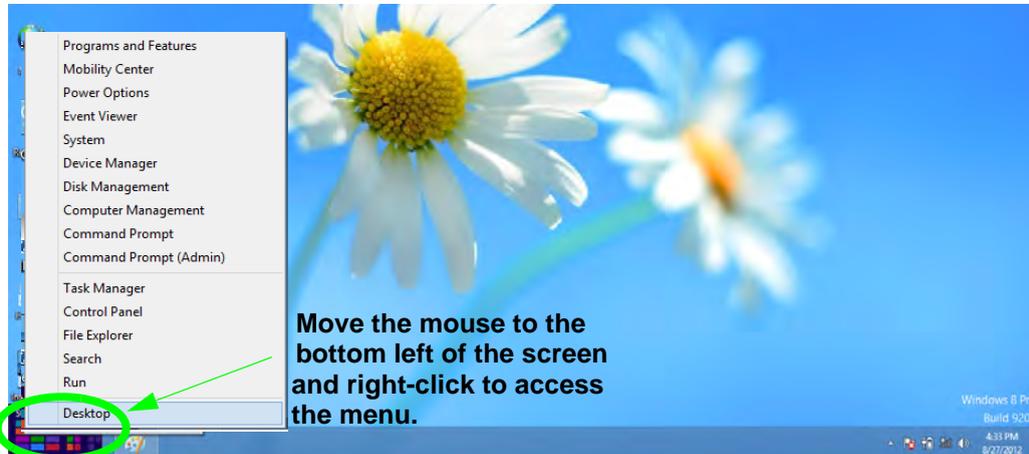
Figure 1 - 9 **- Windows 8 Context Menu & Charms Bar Settings (from Desktop App)**

Windows 8 Start Screen & Desktop

The apps, control panels, utilities and programs within *Windows 8* are accessed from the **Metro** user interface's **Start screen** and/or *Windows* **Desktop**. The **Desktop** (which runs as an app within the Start screen) can be accessed by clicking/tapping the **Desktop** item in the Start screen (or by using the **Windows Logo Key** ⊞ **+ D** key combination).

Figure 1 - 10 **- Windows Start Screen**

Apps & Tiles

The **Windows 8** Start screen will contain a number of apps, and many more will be installed as you add more applications etc. Not all of these apps can fit on one screen so you will often need use the **slider** at the bottom of the screen in order to view all the necessary Apps.

Accessing Pining/Unpinning All Apps

You can add and remove the tiles for apps and control panels in the Start **screen. Right-click on a blank area of the Metro UI Start screen** and you will see the **All Apps** icon. Click the **All Apps** icon to display all the installed applications etc. Right-click any icon, to bring up the menu at the bottom of the screen. You can then click the appropriate icon to **pin the App** to (or unpin from) the **Start** screen, or to the **taskbar** in the **Desktop application**.

Figure 1 - 11 **- All Apps**

Desktop Application

When the **Desktop** app is running (click the app in the Start screen or use the **Windows Logo Key** ⊞ + **D** key combination), and you are using a keyboard, you can use lower left hot corner to switch between the Start screen and the *Windows* **Desktop**. To do so move your mouse to hover over the bottom left corner of the screen and click the pop-up.

When you move to the lower left hot corner in the Start screen itself it will take you back to your most recently used app.

Move the mouse to the bottom left of the screen and click to switch back to the Start screen.

Figure 1 - 12 **- Desktop**

When the Desktop app is running you can right-click (**keyboard only**) the lower left hot corner (or use the **Windows Logo Key** ⊞ + **X** key combination) to bring up an advanced context menu of useful features such as Control Panel, Programs and Features, Power Options, Task Manager, Search, Windows Explorer, Command Prompt, Device Manager and Network Connections etc.

✎

Display Most Recently Used Apps

If you are in the **Start** screen, **Desktop** or an app you can move your mouse to the upper left corner of the screen to get back to the most recently used app.

To view all the most recently used Apps hover over the top left of the screen and then move the mouse down along the left side of the screen to display the list.

Move the mouse to the bottom left of the screen and right-click to access the menu.

Figure 1 - 13 - **Advanced Context Menu (Right-Click lower left hot corner)**

Windows 8 Charms Bar

The right side of the screen displays the *Windows 8 Charms Bar*. The Charms Bar contains the **Search**, **Share**, **Start**, **Devices** and **Settings** menus. To access up the Charms Bar move the cursor to the upper or lower right corners of the screen, and then hover over one of the items in the Charms Bar to activate it (the bar will be black when it is active), or use the **Windows Logo Key** ⊞ + **C** key combination.

Figure 1 - 14 **- Start Screen with Charms Bar**

Charms Bar Items

- **Search** 🔍: You can search for any file, application, Apps and control panel settings with instantaneous results.

- **Share** 🔗: This button is used to share information with people via mail or social networks.

- **Start** ⊞: Click to bring up the Start Menu (the same function as pressing the Windows Logo Key or clicking the bottom left of the screen).

- **Devices** ⬜: Click this button to change connected peripheral device settings e.g. an external display.

- **Settings** ⚙: This button gives instant access to the computer settings, such as Network, Audio, Notifications, Power and Keyboard (click **Change PC Settings** to activate the PC Settings menu).
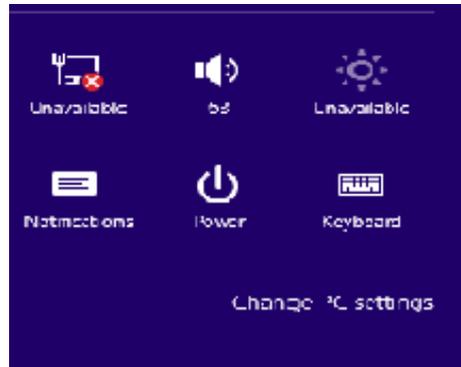
Figure 1 - 15 **- Settings Menu**

Windows 8 Control Panel

In many instances throughout this manual you will see an instruction to open the **Control Panel**. The Control Panel is much the same as that in *Windows 7*, however it can be accessed in a number of ways in *Windows 8*.

- Click **Search** in the **Windows Charms Bar** (see previous page) and the search pane will pop out. Type *Control Panel* and select it from the results to the left.

Figure 1 - 16 **- Search (Control Panel)**

- Click on **Computer** (you may need to pin Computer to the Start screen) in the **Start** screen, click on **Computer** in the top menu and select **Open Control Panel** from the ribbon.
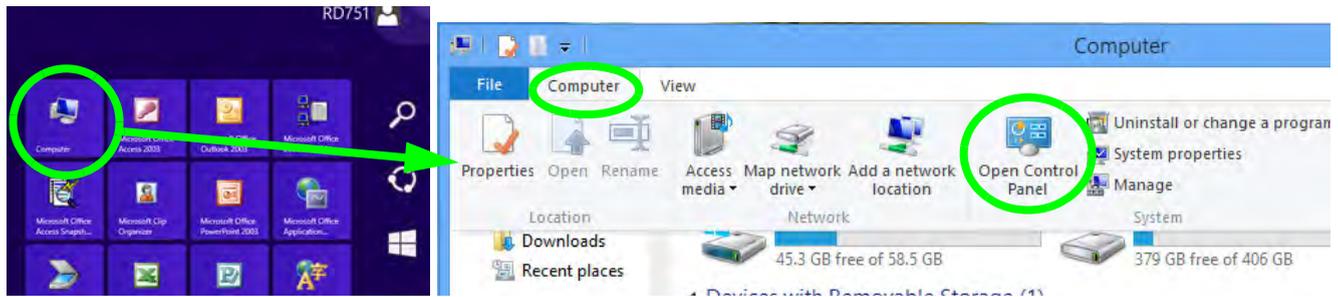
Figure 1 - 17 **- Open Control Panel (Computer)**

Windows 8 Control Panel 1 - 21

- When in the **Desktop** app (this does not apply to the Start screen) click on **Settings** in the **Windows Charms Bar** and select **Control Panel** from the menu.

Figure 1 - 18 **- Settings Charms Bar (Desktop App Only)**

- **Right-click on a blank area of the Metro UI Start screen**, click the **All Apps** icon and click Control Panel.

Figure 1 - 19 **- All Apps - Control Panel**

- Right-click the lower left hot corner to bring up the menu and select Control Panel (see *Figure 1 - 13 on page 1 - 18*).

🖉

Keyboard Shortcut to Control Panel

You can also use keyboard shortcuts to access the Control Panel. Press the **Windows logo key** 🪟 **and X** to bring up the context menu, and then press **P** to bring up the Control Panel. Alternatively press the **Windows logo key** 🪟 **and R** to bring up the **Run** dialog box, and then type "**Control Panel**" and press Enter to access the Control Panel.

Windows 8 Taskbar

In many instances throughout this manual you will see an instruction to access the **notification area of the taskbar**. In *Windows 8* the taskbar is accessed from the **Desktop** application. If you are in the Start screen you will need to click the Desktop app to switch to the Desktop.

The taskbar is displayed in much the same way as it was in *Windows 7*, and you can see the notification area of the taskbar in the bottom right of the screen. Some of the Control Panels and applications referred to during the course of this manual can be accessed from here.

Figure 1 - 20 **- Desktop Taskbar**

You can pin/unpin apps to/from the taskbar in much the same way as you can to the Start screen (see *"Accessing Pining/Unpinning All Apps" on page 1 - 16*).

Keyboard Shortcuts - Windows 8

If you are using a keyboard with this system then note the function of the **Windows Logo Key** & **Menu/Application Key** (in the **Start** screen). The following keyboard shortcuts are useful for navigation/operation in *Windows 8*.

Windows Logo 🪟 Key +	Description
Tap Winkey	Toggle between the **Start screen** and the foremost running app or the *Windows* **Desktop**
C	Display **Charms** menu
D	Switch to the *Windows* **Desktop** and toggle show Desktop
E	Switch to the Windows desktop and launch **Windows Explorer** with **Computer** displayed
F	Display file **Search**
I	Open the **Settings** charm
K	Open the **Connect** charm
L	Lock the computer and display the **Lock screen**
P	Display the **Second Screen** menu
R	Switch to the *Windows* **Desktop** and display the **Run** dialog box
Z	Access the **App Bar**

🖉

Windows Logo Keyboard Shortcut

Use the Windows logo key 🪟 **+ D key combination** to switch between the Start screen and Windows Desktop.

Menu/Application Keyboard Shortcut

When the Desktop app is running you can use the Menu/Application key 🗐 on the keyboard to display the context menu as per a mouse right-click. In the Start screen this function is useful to quickly display the **All Apps** icon.

Table 1 - 4
Windows 8 Keyboard Shortcuts

Video Features

You can switch display devices, and configure display options, from the **Display** control panel (in **Appearances and Personalization**) in *Windows 8* in the same manner as *Windows 7* running the **Desktop** app (see *"Desktop Application" on page 1 - 17* and *Appendix B*). In *Windows 8* it is possible to quickly configure external displays from the **Devices** menu item in the **Charms Bar** (see *"Windows 8 Charms Bar" on page 1 - 19*).

To Configure Displays from Devices (Charms Bar):

1. Attach your display to the external monitor port, and turn it on.
2. Go the **Charms Bar** and select **Devices**.
3. Click **Second Screen**.
4. Click on any one of the options from the menu to select Duplicate, Extend or a Single display.
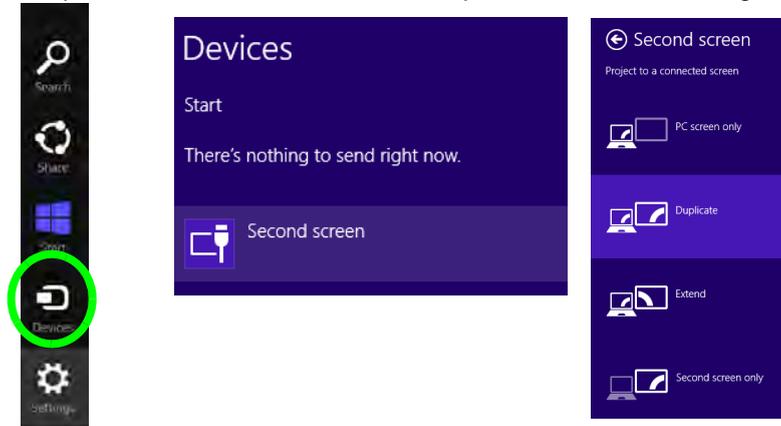
Figure 1 - 21 **- Second Screen (Devices)**

To access **Display (Control Panel) and Screen Resolution** in *Windows 8*:
1. Go to the **Control Panel**.
2. Click **Display** (icon) - In the **Appearance and Personalization** category.
3. **Adjust resolution**.

🖉

Right-Click Desktop App

1. You can right-click the desktop and select **Screen resolution** ① (*Figure 1 - 22*).
2. Use the dropbox to select the screen **Resolution** ② (*Figure 1 - 22*).
3. Click **Advanced settings** ③ (*Figure 1 - 22*) to bring up the **Advanced** properties tabs.
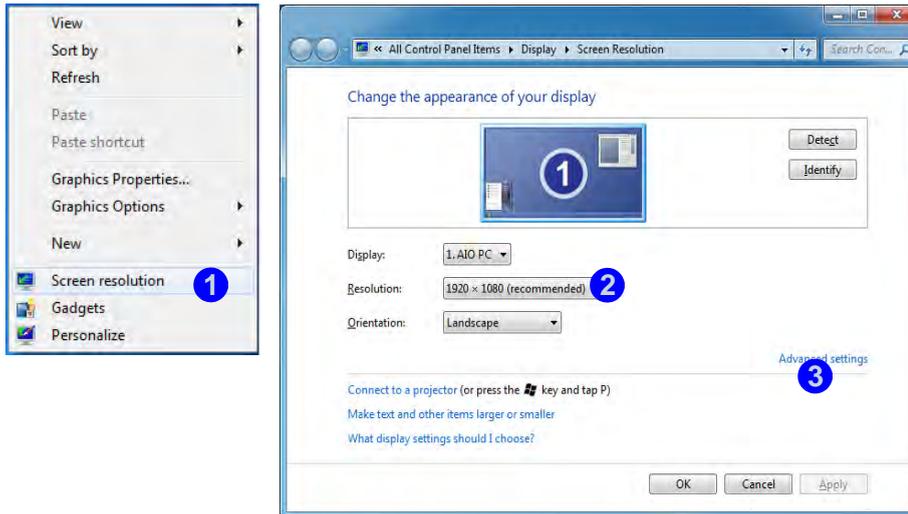
Figure 1 - 22 **- Screen Resolution**

Quick Start Guide

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

1. Click **Advanced settings** ❸ (*Figure 1 - 22 on page 1 - 27*) in the **Screen Resolution** control panel in *Windows*.
2. Click the **Intel(R)...** tab and click **Graphics Properties** (button) ❹ (*Figure 1 - 23 on page 1 - 28*).

OR

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

OR

4. Click the icon 📷 in the notification area of the Desktop taskbar and select **Graphics Properties** from the menu.
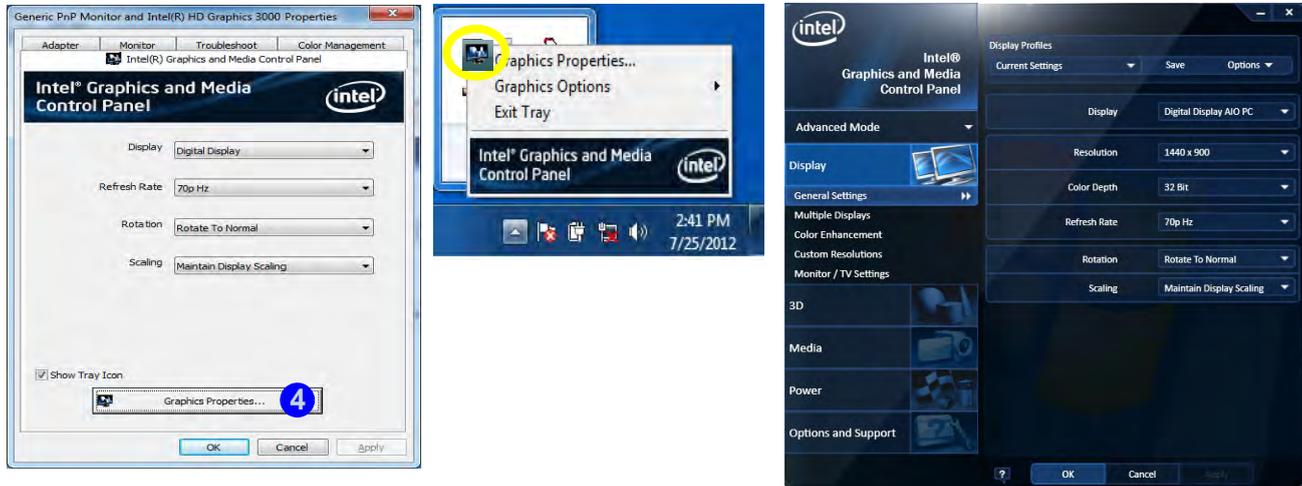
Figure 1 - 23 **- Intel GMA Driver for Mobile Control Panel**

Power Options

Power Options (**Hardware and Sound**) can be accessed from the Control Panel. The **Power Menu** item in **Settings** in the **Charms Bar** in *Windows 8* may be used to **Shut down** or **Restart** (you can also add **Hibernate/ Sleep** to the menu - see *"Adding Hibernate/Sleep to the Power Menu" on page 3 - 9*).

Shut Down, Restart or Sleep

1. Go to the **Charms Bar** and click **Settings**.
2. Click **Power** ⏻.
3. Select **Sleep**, **Shut Down** or **Restart**.
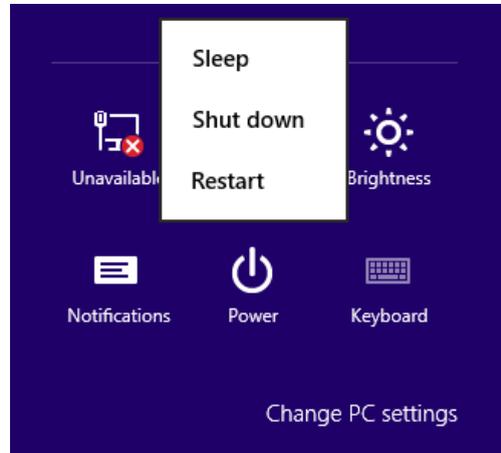
Figure 1 - 24 **- Power (Settings)**

Running Metro UI Apps

To run apps in the Metro UI in *Windows 8* you will need to check that the **Screen Resolution** and **User Account Control Settings** are compatible with the system requirements.

Screen Resolution Settings
1. Switch to the ***Windows*** Desktop (click the app or use the Windows logo key ▦ **+ D** key combination).
2. Right-click a blank area of the Windows Desktop and select **Screen Resolution**. Adjust the **Resolution** to make sure that it is at least **1024 * 768,** although preferably **1366 * 768** or above (see sidebar).

🔔
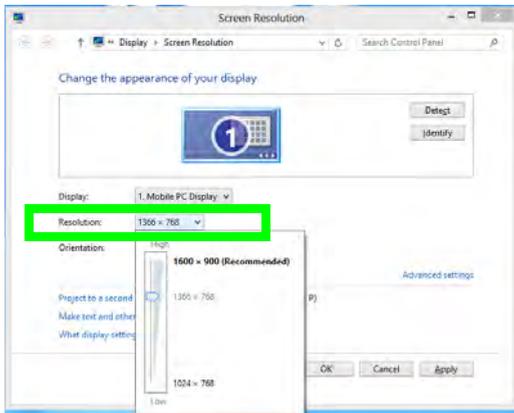
Screen Resolution for Metro Style Apps (Windows 8)

The minimum resolution in which Metro style Apps will run is **1024x768**.

The minimum resolution required to support all the features of Windows 8 (including multitasking with snap) is **1366x768**.

These specs are the minimum screen resolution that supports all the features of Windows 8 on a useful physical size.

Figure 1 - 25 **- Screen Resolution**

User Account Control Settings

If your computer meets the minimum screen resolution requirements, and still you can't run Metro apps, then that you have to check the status of **User Account Control** (UAC). Metro apps may fail to open when the UAC is turned off. To check whether the UAC is on or off, follow the instructions below.

1. Open the **Control Panel**.
2. Click on **User Accounts** and then click on **Change User Account Control settings** (or click **System and Security** and click **Change User Account Control Settings** under **Action Center**).
3. If the slider is in the **Never notify** position, then the UAC is disabled.
4. To enable or turn on the UAC, move the slider to **Always notify** or **Notify me when apps try to make changes to my computer (default)** position, and then click **OK**.
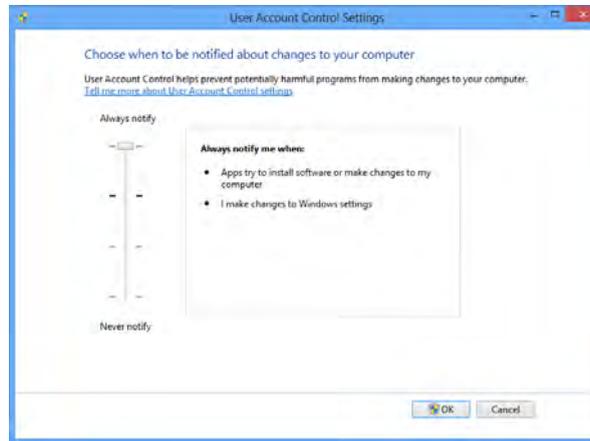
Figure 1 - 26 **- User Account Control**

1 **Quick Start Guide**

2

Chapter 2: Features & Components

Overview

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

- Hard Disk Drive
- Optical (CD/DVD) Device
- Multi-in-1 Card Reader
- ExpressCard Slot
- Audio Features

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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 two other 2.5"serial (SATA) hard disk drives with a height of 9.5 mm.

The hard disk is accessible from the rear of your computer as seen below. For further details see *"Upgrading the Hard Disk Drive" on page 6 - 6*.
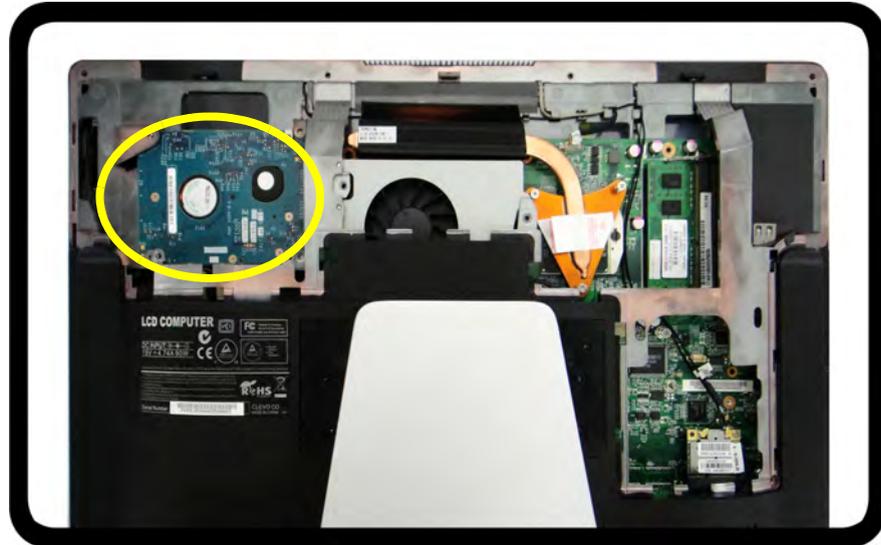
Figure 2 - 1
Hard Disk Location

2

Optical (CD/DVD) Device

There is a bay for a 5.25" optical (CD/DVD) device (12.7mm height). The actual device will depend on the module you purchased (see *"Storage" on page C - 3*). The optical device is usually labeled "**Drive D:**" and may be used as a boot device if properly set in the **BIOS** (see *"Boot Menu" on page 5 - 12*).

Loading Discs

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

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Volume Adjustment

The sound volume level can be set using the volume control in the *Settings* menu in the *Charms Bar* (see *"Audio Features" on page 2 - 8*).
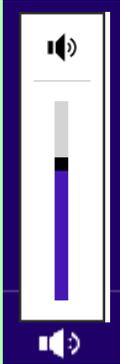
Figure 2 - 2
Optical Device

2

☼ CD Emergency Eject

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

Disk Eject Warning

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

Handling CDs or DVDs

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

Note the following:

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

2

DVD Regional Codes

To change the DVD regional codes:

1. Go to the **Control Panel**
2. Double-click **Device Manager (Hardware and Sound)**, then click the **+** next to **DVD/CD-ROM drives**.
3. 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.
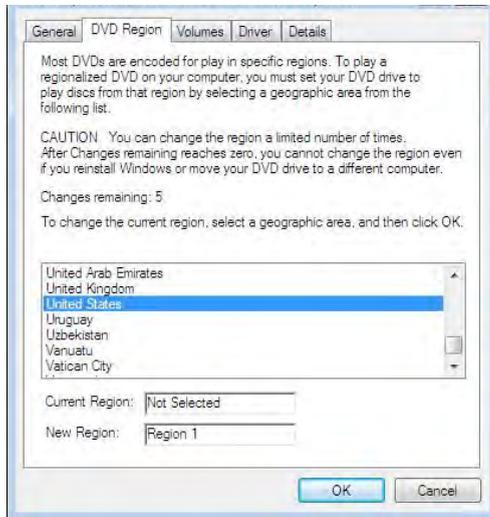
- **Region 1** - USA & Canada
- **Region 2** - Western Europe, Japan, South Africa, Middle East & Egypt
- **Region 3** - South-East Asia, Taiwan, South Korea, The Philippines, Indonesia, Hong Kong
- **Region 4** - South & Central America, Mexico, Australia, New Zealand
- **Region 5** - N Korea, Russia, Eastern Europe, India & Most of Africa
- **Region 6** - China

🖉

DVD Region Note

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.

Figure 2 - 3
DVD Region Codes

2

🖉

Card Reader Cover

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

Figure 2 - 4
Left View

1. Card Reader

Multi-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 *"ExpressCard/Card Reader" on page 4 - 7*).

- MMC (MultiMedia Card) / RSMMC
- SD (Secure Digital) / Mini SD / SDHC / SDXC
- MS (Memory Stick) / MS Pro / MS Duo

2

ExpressCard Slot

The computer is equipped with an **ExpressCard/34/54** slot that reads Express Card/34 and ExpressCard/54 formats. ExpressCards are the successors to PCMCIA (PC Cards).

ExpressCard/54 is used for applications which require a larger interface slot, e.g. CompactFlash card reader. The number denotes the card width; 54mm for the Express Card/54 and 34mm for the ExpressCard/34. Make sure you install the Card Reader driver (see *"ExpressCard/Card Reader" on page 4 - 7*).

Inserting and Removing ExpressCards

- Align the ExpressCard with the slot and push it in until it locks into place.
- To remove an ExpressCard, simply press the card to eject it.

🖉

ExpressCard Slot Cover

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

Figure 2 - 5
Left View

1. ExpressCard Slot

2
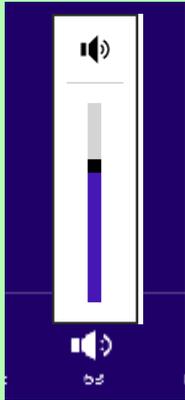
Figure 2 - 6
Realtek Audio Manager

Audio Features

You can configure the audio options on your computer from the **Sound** 🔊 control panel in *Windows*, or from the **Realtek HD Audio Manager** 🔊 icon in the taskbar notification area/control panel of the **Desktop app** (right-click the taskbar notification area icon 🔊 to bring up an audio menu). The volume may also be adjusted by means of the **volume icon in the taskbar or the audio slider in the Settings menu (see sidebar)**.

Right-click the icon 🔊 to access the menu above.

Note that many keyboards have built-in controls to allow you to adjust the audio volume.

2

Setup for Audio Recording

To record audio sources on your computer at optimum quality follow the instructions below:

1. Go to the **Control Panel**.
2. Click **Realtek HD Audio Manager** (**Hardware and Sound**), or right-click the taskbar icon 🔊 and select **Sound Manager**.
3. Click **Microphone Effects** (tab) in **Microphone** (tab), and then click to select **Noise Suppression** (button), or adjust the **Recording Volume** level to around **60**, to obtain the optimum recording quality.
4. Click **OK** to close the control panel and save the settings.
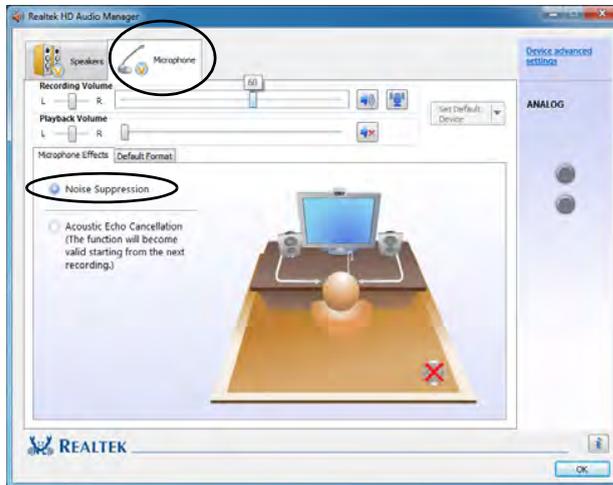
Figure 2 - 7
Realtek Audio Manager - Recording Setup

2

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:

- AC/DC Adapter
- Turning On the Computer
- Power Plans
- Power-Saving States
- Configuring the Power Buttons

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

Using some form of power management greatly increases the life span of the LCD.

3

_✎_

OS Note

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

(**Note**: All pictures used on the following pages are from the _Windows 8_ OS.)

Power Options

Power management in _Windows_ is configured from **Power Options** (**Hardware and Sound**), which can be accessed from the **Control Panel** (see page _1 - 21_).

3

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 located under the LCD.
2. Plug the AC power cord into an outlet, and then connect the AC power cord to the AC/DC adapter.
3. Adjust the LCD to a comfortable viewing angle.
4. Press the power button on the front of the computer **for about 2 - 3 seconds** to turn the computer "on" (note that the power LED on the front of the computer will turn from orange to green when the computer powers on).

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** (**Hardware and Sound**) in the *Windows* control panel to configure this feature.

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Shut Down

Note that you should always shut your computer down by choosing the **Shut Down** command from the **Power Menu** in the **Settings** menu in the *Windows 8 Charms Bar*.

This will help prevent hard disk or system problems. If you want to add **Hibernate/Sleep** to the **Power Menu** see *"Adding Hibernate/Sleep to the Power Menu" on page 3 - 9*.
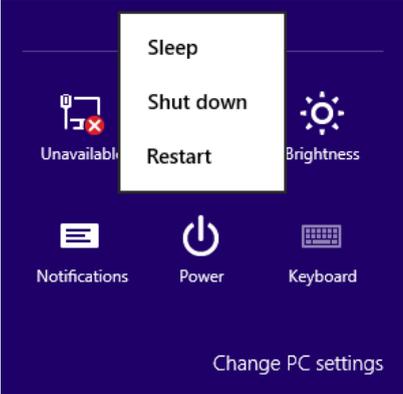
Figure 3 - 1
**Power Menu
(Settings - Charms Bar)**

3

Password

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

Figure 3 - 2
Power Plan Advanced Settings

Power Plans

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

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

Click *Change plan settings* and then click *Change advanced power settings* to access further configuration options in **Advanced Settings**.

Each *Windows* **power plan** will also adjust the processor performance of your machine in order to save power. This is worth bearing in mind if you are experiencing any reduced performance.

Choose **High performance** (you may need to click **Show additional plans** to view the High performance plan) for maximum performance. Choose the **Power saver** (bear in mind that this scheme may slow down the overall performance of the computer in order to save power) for maximum power saving when required.

Click to Show/Hide Additional Plans
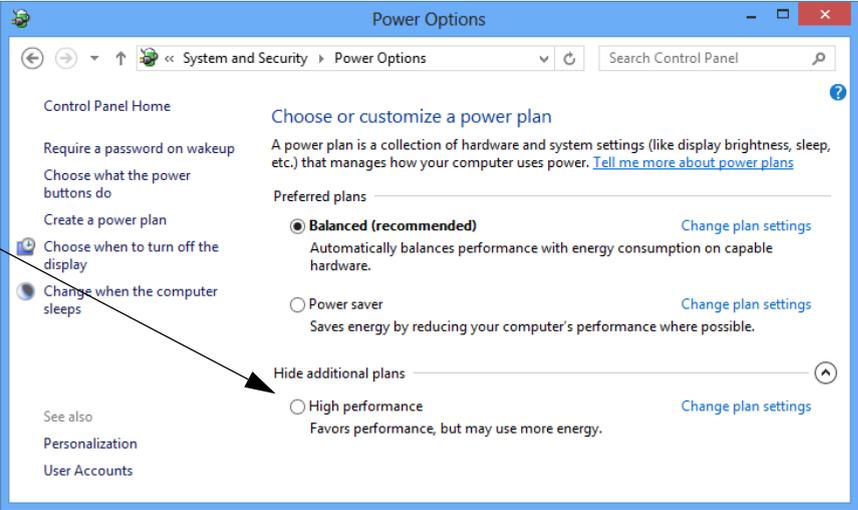
Figure 3 - 3
Power Plans

3

Power-Saving States

You can use power-saving states to stop the computer's operation and restart where you left off. *Win 8* uses the **Sleep, Hibernate** and **Shut Down** power-saving states.

Sleep

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

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

To add **Sleep** to the **Power Menu** see *"Adding Hibernate/Sleep to the Power Menu" on page 3 - 9*.

3

Hibernate

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

Shut down

You should **Shut down** the computer if you plan to install new hardware, plan to be away from the computer for several days, or you do not need it to wake up and run a scheduled task. Returning to full operation from **Shut down** takes longer than from **Sleep** or **Hibernate**.

Figure 3 - 4
Power Menu

3

Configuring the Power Buttons

The power button may be set to send the computer in to either **Sleep** or **Hibernate**. In **Sleep**, the LED ⏻ will blink green. In **Hibernate** the LED will be orange. If only the display is turned off, the LED will remain green. Click **Choose what the power buttons do** on the left menu in **Power Options** to bring up the menu.

Password Protection

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

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

Figure 3 - 5
Power Options Define Power Buttons
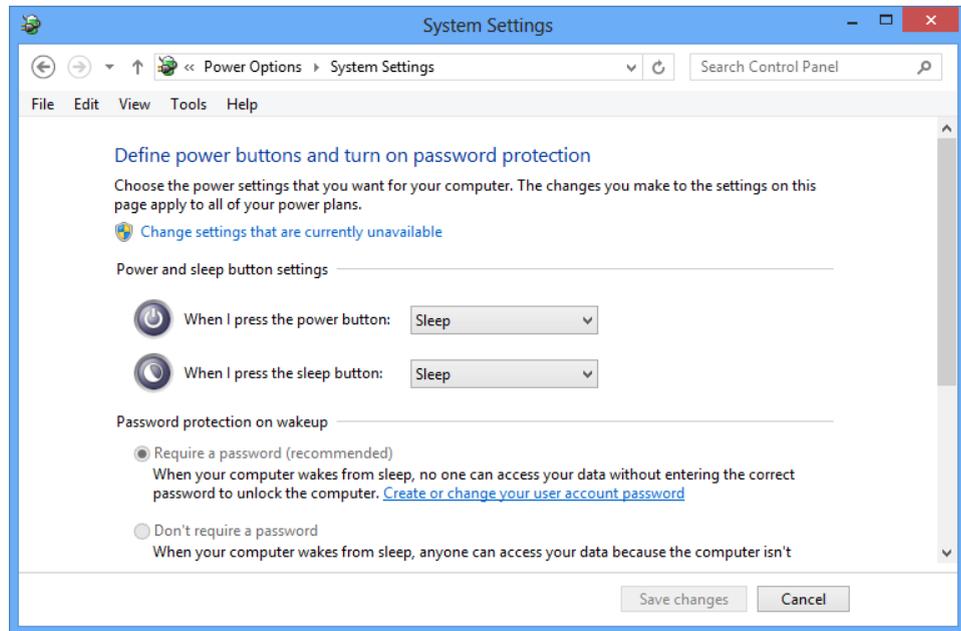
Adding Hibernate/Sleep to the Power Menu

Add **Hibernate/Sleep** to the **Power Menu** as follows.

2. Click "*Change settings that are currently unavailable*" 🛡 Change settings that are currently unavailable **.**
3. Click **Choose what the power buttons do**.
4. Click to put a tick in the **Hibernate/Sleep** box under **Shutdown settings**.
5. Click **Save Changes** and close the control panel.
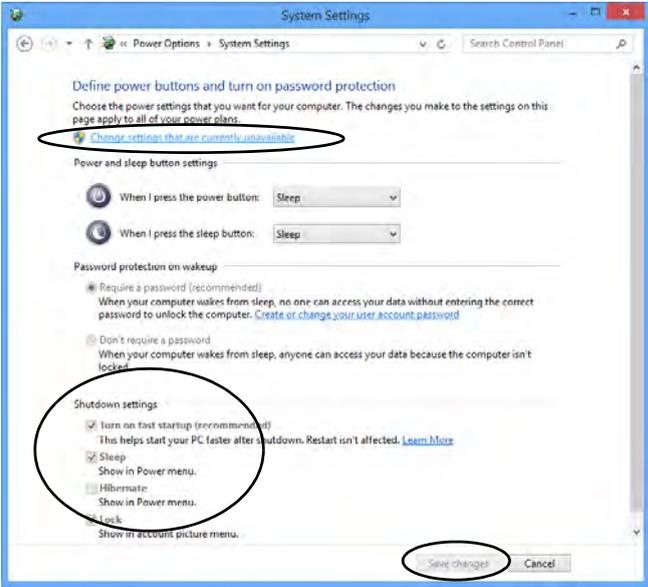
Figure 3 - 6
**Power Options
Define Power
Buttons - Shutdown
Settings**

3

Resuming Operation

You can resume operation from power-saving states by pressing the power button, or in some cases pressing the sleep button (see your keyboard documentation).

Table 3 - 1
**Resuming
Operation**

Power Status	Icon ⏻ Color	To Resume
Power Off	Off	Press the Power Button
Sleep	Blinking Green	Press the Power Button Press the Sleep Button (see your keyboard documentation)
Hibernate	Orange (AC/DC adapter)	Press the Power Button
Display Turned Off	Green	Press the 🔁 Screen Power Toggle Button

🖉

Power Button

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

Ctrl + Alt + Delete Key Combination

You can use the **CTRL** + **ALT** + **DEL** key combination from almost any of the *Windows 8* interfaces/apps to bring up a full-screen displaying **Lock**, **Switch User**, **Log off**, **Change a password** and **Task Manager** options. If you click the **Power** icon in the lower right corner of the screen a power management option menu appears to display **Sleep**, **Shut down**, and **Restart**.
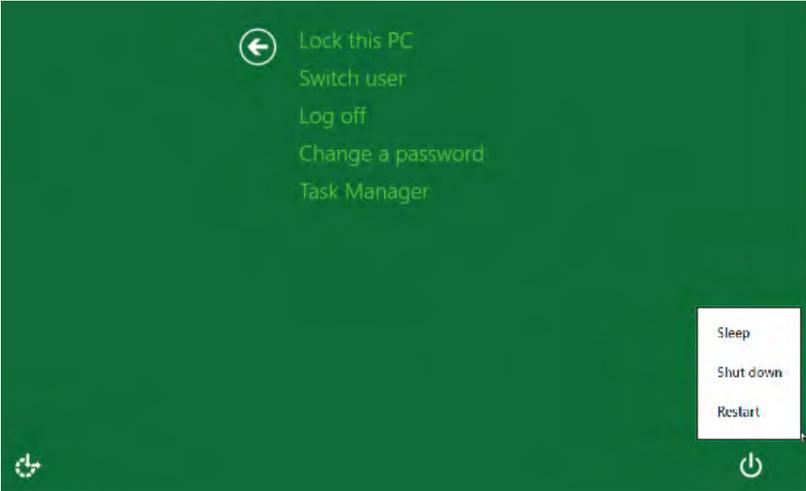
Figure 3 - 7
Ctrl + Alt + Delete Menu

To fully control all the power options (including Hibernate mode) go to the **Power Options** control panel and configure the power button and sleep button to perform the function selected.

Power Management

Drivers & Utilities

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.

For information on the *Windows 7* operating system see *Appendix D*.

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 - 4* lists what you need to install and **it is very important that the drivers are installed in the order indicated** (all drivers provided are for *Windows 8 & Windows 7 with Service Pack 1*).

The procedures for installing drivers for the **PC Camera**, **Wireless LAN** and **Bluetooth & WLAN Combo** modules are provided in *"Modules & Options" on page 7 - 1*.

> 冰
>
> **Driver Installation & Power**
>
> **When installing drivers make sure your computer is powered by the AC/DC adapter connected to a working power source**. Some drivers draw a significant amount of power during the installation procedure, and if the remaining battery capacity is not adequate this may cause the system to shut down and cause system problems (note that there is no safety issue involved here, and the battery will be rechargeable within 1 minute).

4

What to Install 4 - 1

Driver Installation (Windows 8)

1. Insert the *Device Drivers & Utilities + User's Manual* disc into the computer's DVD drive.
2. Click the message "**Tap to choose what happens with this disc**."
3. Click **Run autorun.exe**.

BD-RE Drive (E:) My Disc
Tap to choose what happens with this disc.

 🖉

Driver Installation

If you miss the message above you can eject the *Device Drivers & Utilities + User's Manual disc* and then reinsert it.

Alternatively **double-click the disc icon in Computer** (use the **Windows logo key** ⊞ **+ E** key combination to go to **Computer** in Windows Explorer).

BD-RE Drive (E:) My Disc
Choose what to do with this disc.

Install or run program from your media

Run autorun.exe

Other choices

Open folder to view files
File Explorer

Take no action

Figure 4 - 1 **- Autorun Driver Installation Disc**

4. Click *Install Drivers* (button), or *Option Drivers* (button) to access the **Optional** driver menu.
5. Check the driver installation order from *Table 4 - 1, on page 4 - 4* (**the drivers must be installed in this order**) which is the same as that listed in the *Drivers Installer* menu below.
6. Click to select the driver you wish to install, (you should note down the drivers as you install them).
7. Follow the instructions for each individual driver installation procedure as listed on the appropriate pages.

Follow the instructions to install the driver. Alternatively click **Start**, navigate (**Browse..**) to the executable file and then follow the manual setup instructions. Note: If you need to reinstall any driver, you should uninstall the driver first.

Figure 4 - 2 **- Drivers Installer Screens**

Windows 8 Driver	Page #	Windows 8 Driver	Page #
Chipset	*Page 4 - 7*	*PC Camera Module (Windows 8)* - No driver is required for *Windows 8*	
Video	*Page 4 - 7*	*Wireless LAN Module (Windows 8)*	*Page 7 - 9*
LAN	*Page 4 - 7*	*Bluetooth & WLAN Combo Module (Windows 8)*	*Page 7 - 17*
ExpressCard/Card Reader	*Page 4 - 7*	*Intel® Rapid Storage Technology*	*Page 7 - 23*
On Screen Display	*Page 4 - 7*	*Intel® Rapid Start Technology Driver*	*Page 7 - 24*
MEI Driver	*Page 4 - 7*	*Intel® Smart Connect Technology*	*Page 7 - 32*
Audio	*Page 4 - 7*	*Intel® Smart Connect Technology*	*Page 7 - 38*

Table 4 - 1 **- Driver Installation**

Note that you need to install both the WLAN & Bluetooth drivers for the WLAN & Bluetooth Combo modules.

See *Table D - 4, on page D - 21* for *Windows 7* driver installation information.

Manual Driver Installation

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

Windows Update

After installing all the drivers make sure you enable **Windows Update** in order to get all the latest security updates etc. (all updates will include the latest **hotfixes** from Microsoft). See *"Windows Update" on page 4 - 8* for instructions.

Updating/Reinstalling Individual Drivers

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

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

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

4

4

User Account Control

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

Windows Security Message

If you receive a *Windows* security message as part of the driver installation process. Just click *"Install this driver software anyway"* or *"Install"* to continue the installation procedure.

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

New Hardware Found

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

🖉

Driver Installation General Guidelines

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

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

Driver Installation Procedure

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

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

LAN

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

ExpressCard/Card Reader

1. Click **4.Install Cardreader Driver > Yes.**
2. Click **Finish**.

On Screen Display

1. Click **5.Install OSD Driver > Yes**.
2. Click **Next > Next**.
3. Click **Finish > Finish** to restart the computer.

MEI Driver

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

Audio

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

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

4

(see overleaf)
Windows Experience Index

After the drivers are installed follow this procedure to ensure an accurate rating from the *Windows Experience Index*:

1. Go to the **Control Panel**.
2. Click **Performance Information and Tools** (**System and Security > System > Check the Windows Experience Index**).
3. Click "**Rate this computer**".
4. The computer will take a few minutes to assess the system performance.
5. Close the control panel.

🖉

Windows Update

After installing all the drivers make sure you enable **Windows Update** in order to get all the latest security updates etc., (all updates will include the latest **hotfixes** from Microsoft).

To enable **Windows Update make sure you are connected to the internet**:

1. Go to the **Control Panel**.
2. Click **Windows Update** (System and Security).
3. Click **Check for updates** (button).
4. The computer will now check for updates (you need to be connected to the internet).
5. Click **Install now** (button) to begin checking for the updates.
6. Click **Install updates** (button) to install the updates.

Optional Drivers

See the pages indicated in *Table 4 - 1, on page 4 - 4* for the driver installation procedures for any modules included in your purchase option. Insert the *Device Drivers & Utilities + User's Manual* disc and click *Option Drivers* (button) to access the optional driver menu.

Figure 4 - 3 **- Optional Drivers**

4

Chapter 5: BIOS Utilities

Overview

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

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.

5

The Setup Utility

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.

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

To enter *Setup*, turn on the computer and press **F2** (give the system a few seconds to enter *Setup*). If the **Boot Logo** is enabled the **F2** on screen will be **highlighted** to illustrate that the system is processing the request during the **POST** (or press **F7** for boot options). 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.

To see the boot options press **F7** and choose your preferred boot device.

BIOS Settings Warning

Incorrect settings can cause your system to malfunction. To correct mistakes, return to *Setup* and restore the *Previous Values* with <F2>, or **Optimized Defaults** with **<F3>**.

UEFI Boot & POST

When UEFI Boot is enabled, then the prompts to **press F2 or F7 will not appear**. However you can still press F2 to enter the setup, or F7 to choose the preferred boot device, if you press the key immediately the system boots up.

5

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 distributor/supplier 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!) and you can then press **F7** (the **F7** on screen will be **highlighted** to illustrate that the system is processing the request) for boot options.

Press **F2** (give the system a few seconds to enter *Setup*; the **F2** on screen will be highlighted to illustrate that the system is processing the request) 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.

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.

Figure 5 - 1
Navigation Menu

5

Setup Screens

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

Instructions on how to navigate each screen are in the box at the bottom right side of the screen.


```
→←:Select Screen
↑↓:Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F3: Optimized Defaults
F4: Save Changes & Exit
ESC: Exit
```

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 upper 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.

Main Menu

```
           Aptio Setup Utility — Copyright (C) 2012 American Megatrends Inc.
 Main   Advanced   Security   Boot   Exit

    System Date                    [Tue 09/24/2012]        Set the Date. Use Tab to
    System Time                    [09:56:26]              switch between Date elements.

  ▶ SATA Port 0 ST9500325AS (500.1GB)
  ▶ SATA Port 1 Not Present
  ▶ SATA Port 2 Not Present
  ▶ SATA Port 4 Not Present
  ▶ SATA Port 5 TSSTcorp CDDVD ATAPI

    System Memory:                 640 KB
    Extended Memory:               2048 MB (DDR3)

    MB Series:                     **********
    BIOS Revision:                 **********            →←:Select Screen
    KBC/EC firmware Revision:      **********            ↑↓:Select Item
                                                         Enter: Select
                                                         +/-: Change Opt.
                                                         F1: General Help
                                                         F3: Optimized Defaults
                                                         F4: Save Changes & Exit
                                                         ESC: Exit



           Version ******** Copyright (C) 2012 American Megatrends. Inc.
```

Figure 5 - 2
Main Menu

5

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 # (Main Menu)
Pressing **Enter** opens the sub-menu to show the configuration of a optical Device/
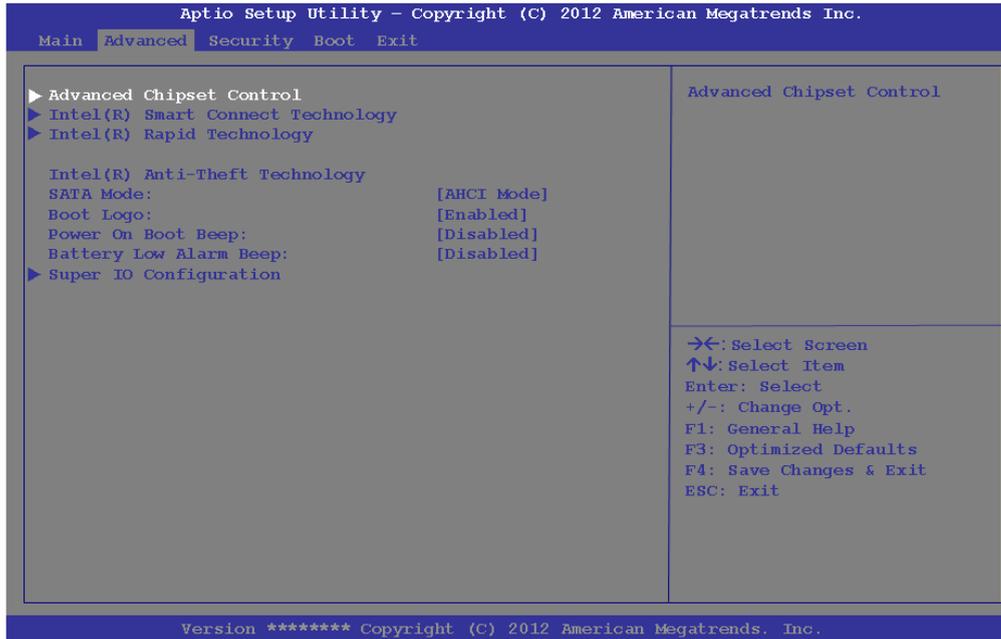HDD on the computer's SATA Ports.

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

5

MB Series / BIOS Revision / KBC/EC firmware Revision
This item contains information on the BIOS version etc., and is not user configu-
rable.

Advanced Menu

```
                    Aptio Setup Utility — Copyright (C) 2012 American Megatrends Inc.
        Main   Advanced   Security   Boot   Exit

   ▶ Advanced Chipset Control                              Advanced Chipset Control
   ▶ Intel(R) Smart Connect Technology
   ▶ Intel(R) Rapid Technology

     Intel(R) Anti-Theft Technology
     SATA Mode:                         [AHCI Mode]
     Boot Logo:                         [Enabled]
     Power On Boot Beep:                [Disabled]
     Battery Low Alarm Beep:            [Disabled]
   ▶ Super IO Configuration

                                                          →←:Select Screen
                                                          ↑↓:Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F3: Optimized Defaults
                                                          F4: Save Changes & Exit
                                                          ESC: Exit

                    Version ******** Copyright (C) 2012 American Megatrends. Inc.
```

Figure 5 - 3
Advanced Menu

5

Advanced Chipset Control (Advanced Menu)
The sub-menu here allows you to adjust the **Bluetooth Power Setting**.

5

Bluetooth Power Setting (Advanced Menu > Advanced Chipset Control)
You can adjust the Bluetooth module power setting to your preference. The default setting (**Disabled**) will see the Bluetooth module powered off when the system is started up or restarted. Enabling the power setting will have the module retain the last power status (on or off) before any restart or shut down.

Intel Smart Connect Technology (Advanced Menu)
Smart Connect is a technology that makes checks on web applications that are open, when the computer is in **Sleep** mode, and thus allows updates to be made without the need to turn the computer on. The sub-menu here allows you to enable/disable the technology itself (*ISCT Configuration*). See *"Intel® Smart Connect Technology" on page 7 - 93*.

Intel(R) Rapid Start Technology (Advanced Menu)
Enable/disable **Intel(R) Rapid Start Technology** from this menu. The rapid start hibernation mode can resume power within 5 to 6 seconds and can remember your computer's state with zero power.

Intel Anti-Theft Technology (Advanced Menu)
Anti-Theft Technology, which is built-in to the processor of the computer, allows system administrators to render your computer useless to thieves by sending a poison pillencrypted SMS message over a 3G network etc. Administrators can also remotely unlock a recovered computer quickly, or direct the system to send location information (GPS coordinates) back to a central server.

SATA Mode Selection (Advanced Menu)
You can configure SATA (Serial ATA) control to operate in **IDE** (native/compatible), **AHCI** (Advanced Host Controller Interface) modes from this menu. The **SATA Mode** should be set **BEFORE installing an operating system**, and after you have backed up all necessary files and data (see sidebar).

Boot Logo (Advanced Menu)
Use this menu item to enable/disable the **Boot Logo** screen at system startup. If you disable the **Boot Logo** you will not see the **F2 Enter Setup** or **F7 Boot Options** prompts on the screen, however you can still press these keys, while the boot screen is displayed, to perform the Enter Setup or Boot Option functions.

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

Battery Low Alarm Beep (Advanced Menu)
Use this menu item to enable/disable the battery low alarm beep.

Super IO Configuration (Advanced Menu)
Use this menu to enable/disable and configure the serial (RS-232) ports to your requirements. **Change Settings** allows you to change the IO and IRQ settings, and **Device Mode** allows you to set the ports to normal or high speed modes.

> 冰
> **SATA Mode Selection**
>
> If you have installed the *Windows* OS with either **IDE or AHCI** mode enabled, **DO NOT** disable the set mode (if you wish to disable the set mode you will need to reinstall the *Windows* OS).

5

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

```
                    Aptio Setup Utility — Copyright (C) 2012 American Megatrends Inc.
     Main  Advanced  Security  Boot  Exit

        Set Supervisor Password:                          Set Setup Supervisor Password
        Set User Password:
        Password on boot:              [Enabled]

        Platform Mode                  Setup
        Secure Boot                    Disabled

        Secure Boot Control            [Enabled]
        Secure Boot Mode               [Standard]

                                                          →←:Select Screen
                                                          ↑↓:Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F3: Optimized Defaults
                                                          F4: Save Changes & Exit
                                                          ESC: Exit

                    Version ******** Copyright (C) 2012 American Megatrends. Inc.
```

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**).

Set Supervisor Password (Security Menu)

You can set a password for access to the **Aptio Setup Utility**. This will not affect access to the computer OS (only the **Aptio Setup Utility**). If you set a supervisor password you can then add a **user password**.

Set User Password (Security Menu)

You can set a password for user mode access to the **Aptio 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 **Aptio Setup Utility** cannot be modified in user mode. **You can only set the user password after you have set the supervisor password**.

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.

Secure Boot (Advanced Menu)

Secure Boot prevents unauthorized operating systems and software from loading during the startup process. **Secure Boot** is available as a menu option if you have *Windows 8* set as your operating system, and have **enabled UEFI Boot** (see *"Boot Menu" on page 5 - 12*). Enabling Secure Boot will bring up the **Secure Boot Mode** menu to enable you to configure Secure Boot as **Standard** (with a fixed secure boot policy), or **Custom** (which enables you to make changes to the **Image Execution Policy** and **Key Management** database).

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

5

Boot Menu

```
                Aptio Setup Utility - Copyright (C) 2012 American Megatrends Inc.
    Main   Advanced   Security   Boot   Exit

    Boot Option Priorities:                           Sets the system boot order
    Boot Option #1              [P5: TSSTcorp DCDVDW...]
    Boot Option #2              [P0: ST9500325AS    ...]
    Boot Option #3              [Realtek PXE B02 D00]

    CD/DVD ROM Drive BBS Priorities
    Hard Drive BBS Priorities
    Network Device BBS Priorities

  ▶ OS Select

                                                      →←:Select Screen
                                                      ↑↓:Select Item
                                                      Enter: Select
                                                      +/-: Change Opt.
                                                      F1: General Help
                                                      F3: Optimized Defaults
                                                      F4: Save Changes & Exit
                                                      ESC: Exit



                Version ******** Copyright (C) 2012 American Megatrends. Inc.
```

When you turn the computer on it will look for an operating system (e.g. *Windows 7*) 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 Option Priorities**. Item specific help on the right is available to help you move devices up and down the order.

Boot Option Priorities (Boot Menu)

Use the arrow keys to move up and down the menu, and press Enter to select a device from the **Boot Option #** list. You can go to either **CD/DVD ROM Drive Priorities, Hard Drive BBS Priorities or Network Device BBS Priorities** and press Enter to select a device (the selected device will be highlighted in white).

OS Select (Boot Menu)

This item tells allows you to set the operating system you intend to use. This item should be set before you install an operating system.

UEFI Boot (Boot Menu > OS Select)

Enable/disable UEFI Boot from this menu. The Unified Extensible Firmware Interface (UEFI) specification provides a clean interface between operating systems and platform firmware at boot time. In contrast to BIOS, UEFI defines a set of standard boot and runtime services. The *Network Stack* item will be enabled as an option under UEFI Boot.

5

Exit Menu

Figure 5 - 5
Exit Menu

5

> ⚠
>
> **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.
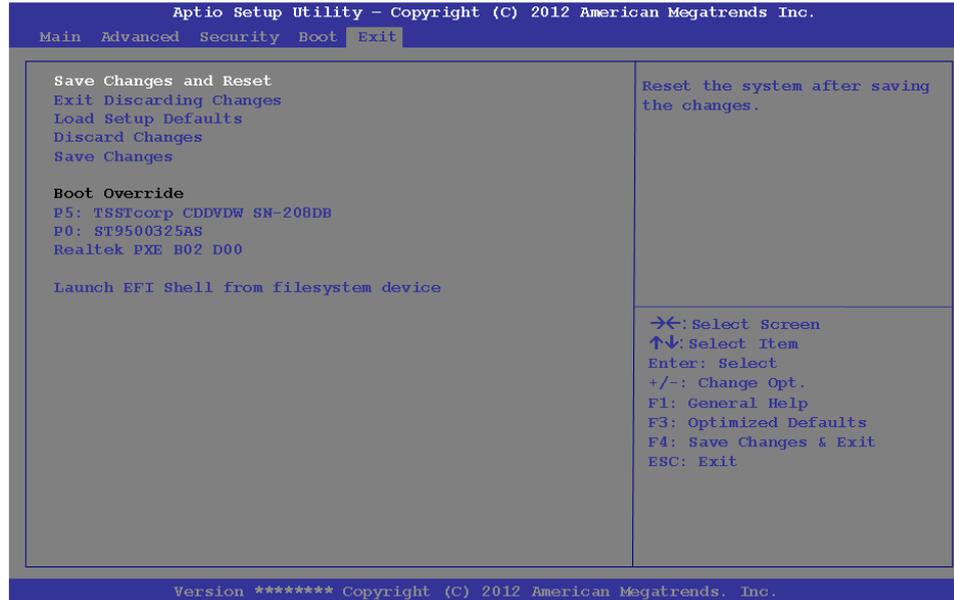
Click *Save Changes and Reset* to save all changes made. Choosing to *Discard Changes*, or *Exit Discarding Changes,* will wipe out any changes you have made to the *Setup*. You can also choose *Load Setup Defaults* to restore the original *Setup* defaults and return the *Setup* to its original state, 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 Rear Top Cover
- Upgrading the Hard Disk Drive
- Upgrading the System Memory (RAM)

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

Warranty Warning

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

6

☆
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 and power cord).

6

When Not to Upgrade

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

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

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

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

☆
Removal Warning

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

Also note the following when the cover is removed:
• Hazardous moving parts.
• Keep away from moving fan blades.

Removing the Rear Top Cover

Before undertaking any upgrade procedure it is necessary to remove the rear top cover to access the components.

1. Turn **off** the computer and disconnect all cables and peripherals.
2. Carefully place the computer flat with the LCD facing down (make sure you cover the LCD to avoid scratches) so that you may access the rear cover.
3. Remove screws **1** - **4**.
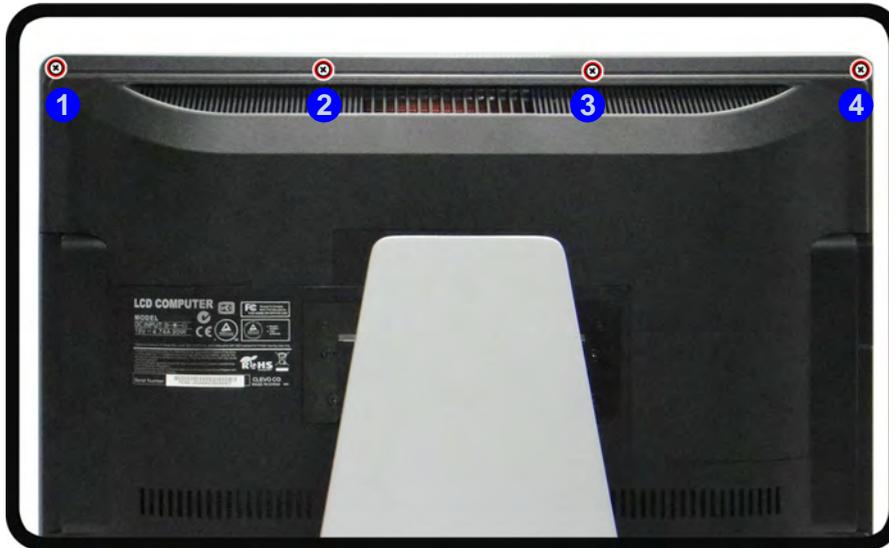
Figure 6 - 1
**Rear Top Cover
Screws**

6

4. Slide the rear top cover until the arrow is aligned with the unlock icon **5**.

Figure 6 - 2
**Rear Top Cover
Unlock**

6
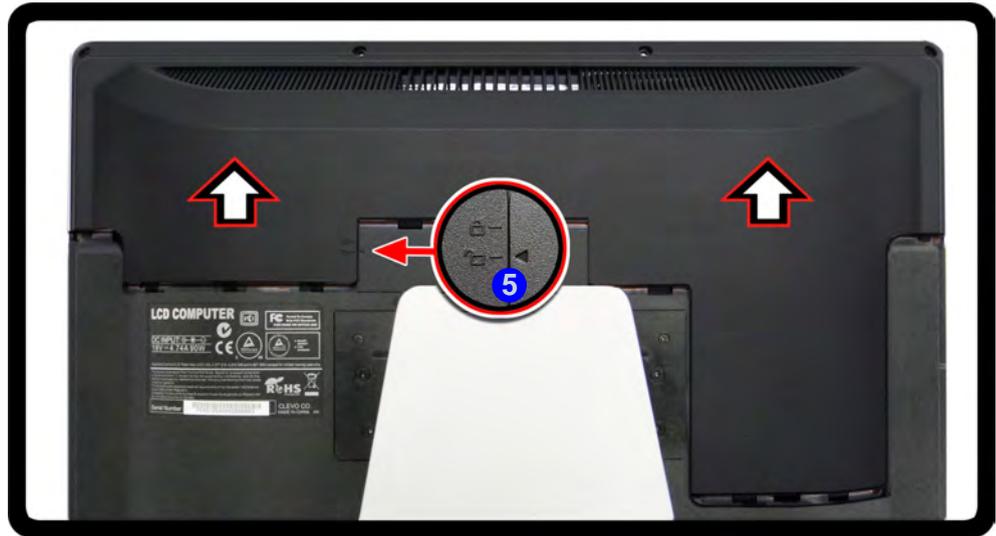
5. When the arrow is aligned with the unlock icon you can remove the rear top cover**6** .
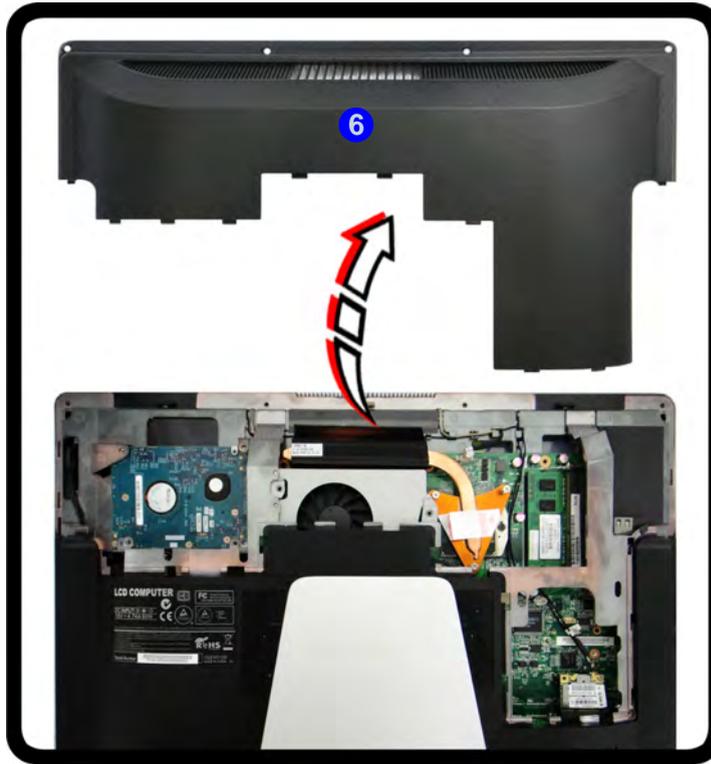
Figure 6 - 3
**Rear Top Cover
Removal**

6

Removing the Rear Top Cover 6 - 5

⚠️

HDD System Warning

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

Figure 6 - 4
Hard Disk Screws

Upgrading the Hard Disk Drive

The hard disk drive can be taken out to accommodate other 2.5" serial (SATA) hard disk drives with a height of 9.5mm (h) (see *"Storage" on page C - 3*). Follow your operating system's installation instructions, and install all necessary drivers and utilities (as outlined in *"Driver Installation Procedure" on page 4 - 5*), when setting up a new hard disk.

1. Remove the rear cover (see *"Removing the Rear Top Cover" on page 6 - 3*).
2. Remove screws **1** - **3**.

🖊
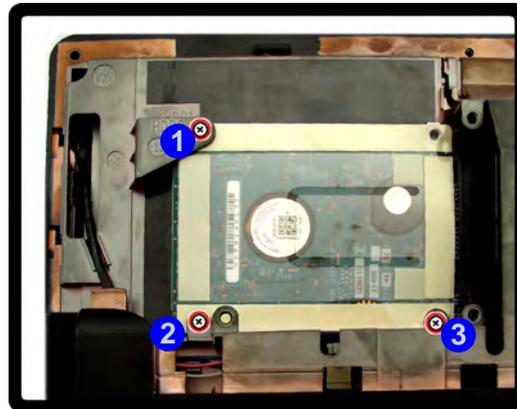
Hard Disk Slot

Make sure you install the hard disk into the lower slot on the mainboard.

3. Slide the hard disk in the direction of arrow **4**, and then slide it in the direction of arrow **5** to remove it.
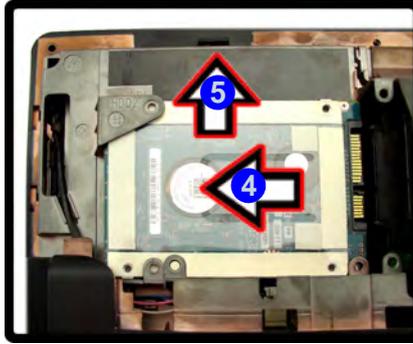
Figure 6 - 5
Hard Disk Assembly Removal

6

4. Remove the adhesive hard disk cover **6**.

Figure 6 - 6
Hard Disk Cover Removal

5. Reverse the process to install a new hard disk.

Upgrading the System Memory (RAM)

The computer has **two** memory sockets for 204 pin Small Outline Dual In-line (SO-DIMM) **DDRIII (DDR3)** 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. Remove the rear cover (see *"Removing the Rear Top Cover" on page 6 - 3*).
2. The RAM is located at point **1**.

⚠️ 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.

6
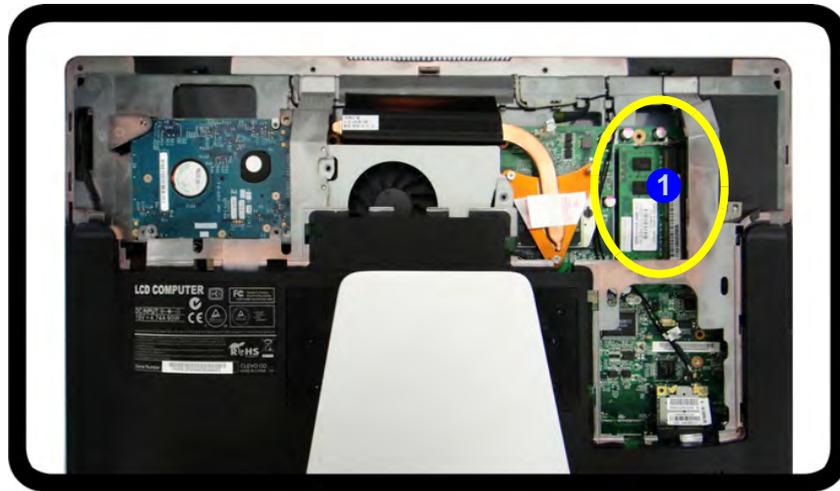
Figure 6 - 7
RAM Location

3. Gently pull the two release latches on the sides of the memory socket in the direction indicated by the arrows (**2** & **2**) in *Figure 6 - 8*.

Figure 6 - 8
RAM Module Release

4. The RAM module will pop-up, and you can remove it.
5. Pull the latches to release the second module if necessary.

6. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory socket (see sidebar note if you are inserting a single module).

Figure 6 - 9
RAM Module Removal

6

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Single Memory Module Installation

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

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. Replace the module bay cover and screws.
10. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

6 - 10 Upgrading the System Memory (RAM)

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.

6

Upgrading The Computer

Chapter 7: Modules & Options

Overview

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

- PC Camera Module (Windows 8)
- Wireless LAN Module (Windows 8)
- Bluetooth & WLAN Combo Module (Windows 8)
- Intel® Rapid Storage Technology
- Intel® Rapid Start Technology Driver
- Intel® Smart Connect Technology
- Intel® Wireless Display Application

For information on the *Windows 7* operating system see *Appendix D*.

PC Camera Module (Windows 8)

When the PC Camera application is run the LED indicator to the left of the camera will be illuminated in red (see ❷ *Figure 1 - 2 on page 1 - 6*). Note that you need to use the **Camera** app in *Windows 8* to take pictures and capture video.

No camera driver installation. is required for *Windows 8*. See *"PC Camera Module (Windows 7)" on page D - 27* for *Windows 7* configuration information.

7

PC Camera Audio Setup

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

1. Go to the **Control Panel**.
2. Click **Sound** (**Hardware and Sound**) and click **Recording** (tab).
3. Right-click, hold and release **Microphone** (Realtek High Definition Audio) and make sure the item is not disabled.
4. Double-click **Microphone** (or select **Properties** from the right-click menu).
5. Click **Levels** (tab), and adjust the **Microphone** and **Microphone Boost** sliders to the level required.
6. Click **OK** and close the control panels.
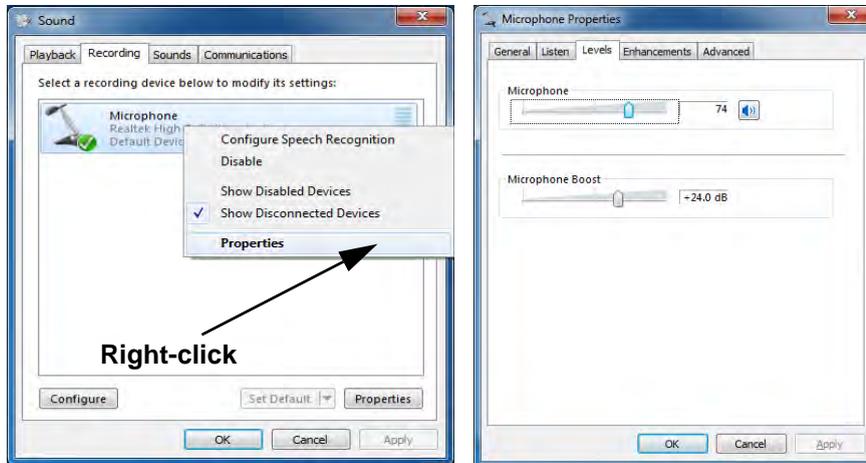
Figure 7 - 1
Audio Setup for PC Camera

Right-click

7

Metro UI Camera App

1. Run the **Camera** app from the Metro UI by clicking on the **Camera** app icon .
2. The camera interface is a translucent app bar with three buttons.
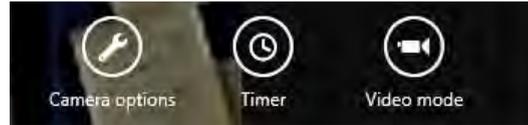
Figure 7 - 2
Camera App Bar

• **Camera options:**. Click this button to open a window with three main options:

7
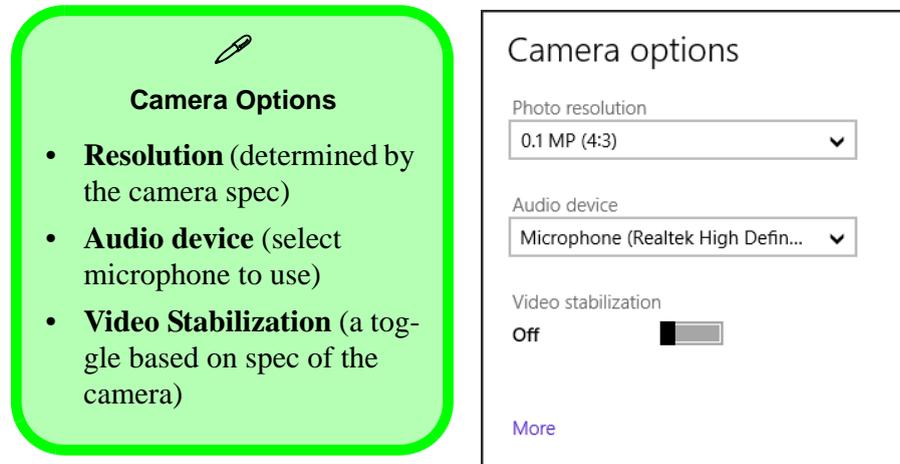
Figure 7 - 3
Camera Options

Camera Options

• **Resolution** (determined by the camera spec)

• **Audio device** (select microphone to use)

• **Video Stabilization** (a toggle based on spec of the camera)

You can also click on **More** to adjust **Brightness**, **Contrast** and **Flicker** (if you find that the video screen in the camera program is flickering, you can try to adjust the setting here).
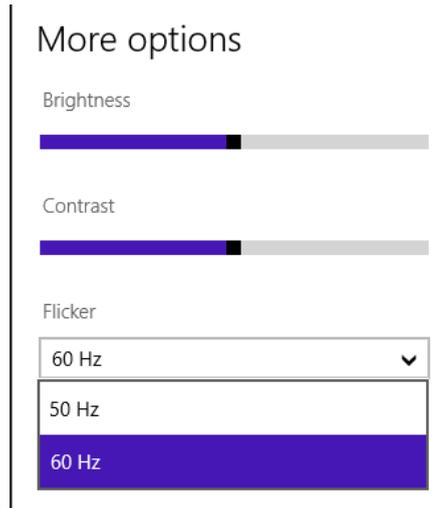
Figure 7 - 4
More Camera Options

7

- **Timer**: This button will start a three second countdown before the system takes a still photo or video recording starts.
- **Video Mode**: This button toggles between still photo mode (transparent button) and video recording mode (highlighted white button).

Taking Pictures/Capturing Video

1. Run the **Camera** app from the Metro UI by clicking on the **Camera** app icon .
2. Click to select the timer if you require a countdown before capture.
3. Click to select either photo or video modes.
4. Click in the main window to take a picture or start video capture (if video capture begins a timer will appear in the bottom right corner of the screen).
5. To stop video capture click the main window again.
6. Captured photos and videos will be saved to a **Camera Roll** folder within the **Picture** folder in **Libraries**.
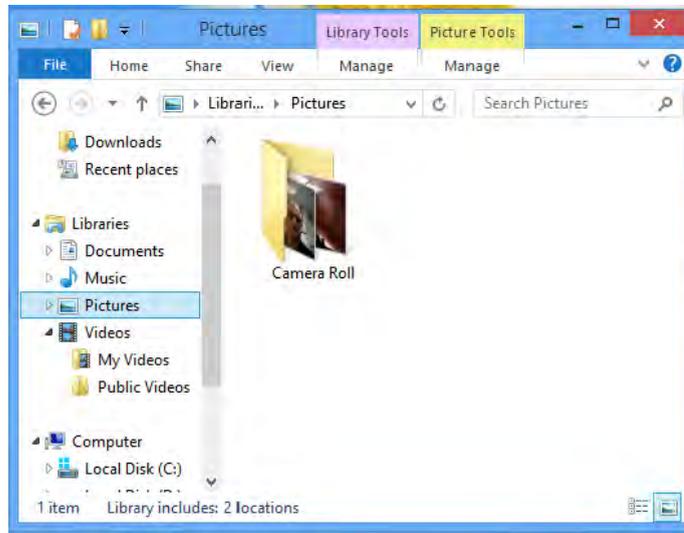
Figure 7 - 5
Libraries - Pictures

7. A scroll arrow will appear on the left side of the screen after any pictures/videos have been captured.
8. Click the arrows (on either side of the screen) to browse through the captured photos/video, and back to the Camera app.
9. Clicking on a captured photo will bring up an app bar with **Crop** and **Delete** buttons.

Figure 7 - 6
Crop & Delete Buttons (for Still Photos)

10. Use the handles to **Crop** any captured picture, and click **OK** to save the changes made.
11. Click **Delete** to delete any captured photo (note that no prompt will appear to confirm the delete).
12. Right-click any captured video to bring up app bar with **Trim** and **Delete** buttons.

Figure 7 - 7
Trim & Delete Buttons (for Video Files)

13. Use the buttons at either end of the slider to adjust the video length and click **OK** to save the changes made.

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 8* system requires a minimum of **16GB (32-bit)** or **20GB (64-bit)** of free space on the **C: drive** system partition. In order to prevent system problems it is recommended that you move any large sized captured video file to a location other than the **C: drive**, or reduce video resolution (see below).

To Reduce Video Resolution Output Size:

1. Run the **Camera** app.
2. Click the **Video resolution** dropbox and select a lower resolution size in order to reduce the captured file size.
3. Note that reducing video resolution will affect the video quality.

Wireless LAN Module (Windows 8)

If you have included an **Intel®** or **3rd Party** module in your purchase option see the following pages for driver installation and configuration information or see *"Wireless LAN Module (Windows 7)" on page D - 35* for *Windows 7* configuration information.

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

Note that you need to install both the WLAN & Bluetooth drivers for the WLAN & Bluetooth Combo modules.

7

3rd Party 802.11b/g/n Driver Installation

1. If you see the message "**Found New Hardware**" click **Cancel** to close the window.
2. Insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
3. Click **Option Drivers** (button).
4. Click **1.Install WLAN Driver > Yes**.
5. Choose the language you prefer and click **Next**.
6. Click **Next**.
7. Click **Finish** to restart the computer.

Note: The operating system is the default setting for Wireless LAN control in *Windows 8* (see page *7 - 12*). See *"Wireless LAN Module (Windows 7)" on page D - 35* for *Windows 7* configuration information.

7

Intel® WLAN Driver Installation

1. If you see the message "**Found New Hardware**" click **Cancel** to close the window.
2. Insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
3. Click **Option Drivers** (button).
4. Click **1.Install WLAN Driver > Yes**.
5. Click **Next > Next**.
6. Click the button to accept the license and click/tap **Next**.
7. Click **Typical > Install**.
8. Click **Finish**.

7

WLAN Configuration in Windows 8

You can configure a wireless connection using one of the following options before configuration begins.

Charms Bar

1. Go to the **Charms Bar**.
2. Select **Settings** and then click/tap the **WiFi icon** (it should read **Available** under the icon).
3. A list of available access points will appear.
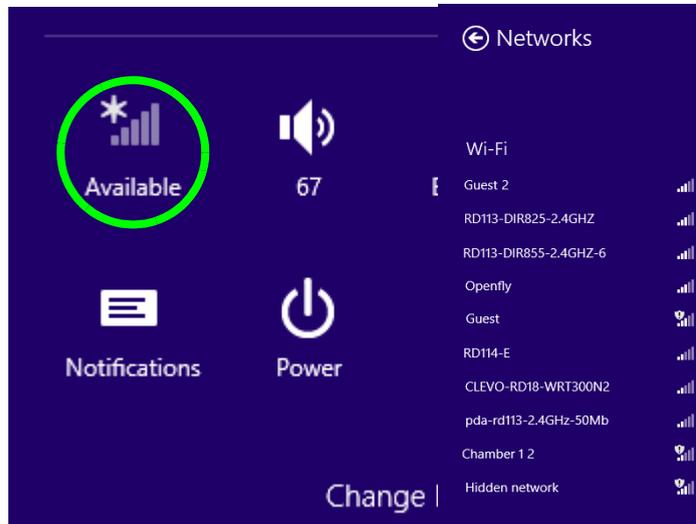
Figure 7 - 8
WiFi Settings (Charms Bar) & Networks

4. Double-click an access point to connect to it (or click it and click **Connect**).
5. Enter a network security key (password) if required, and click **Next**.
6. You can choose to share or connect to devices or not.
7. When you are connected to the network access point it will display the Connected icon `Connected` .
8. Select any connected network and click **Disconnect** `Disconnect` to disconnect from a connected access point.
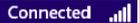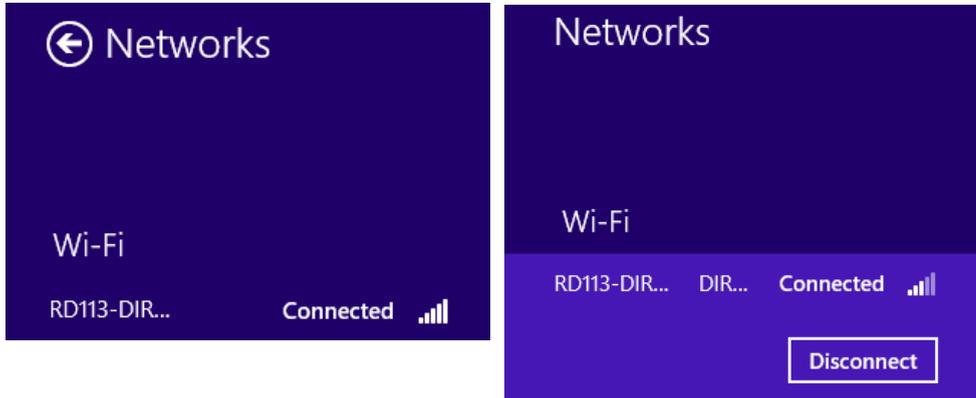
Figure 7 - 9
**Networks
Connected /
Disconnect**

Desktop Mode

1.   Switch to the Windows Desktop (click the app or use the Windows logo key ⊞ **+ D** key combination).
2.   Click the wireless icon 📶 in the notification area of the taskbar.
3.   A list of available access points will appear.
4.   Double-click an access point to connect to it (or click it and click **Connect**).
5.   Enter a network security key (password) if required, and click **Next**.
6.   You can choose to share or connect to devices or not.
7.   Select any connected network and click **Disconnect** to disconnect from a connected access point.

7
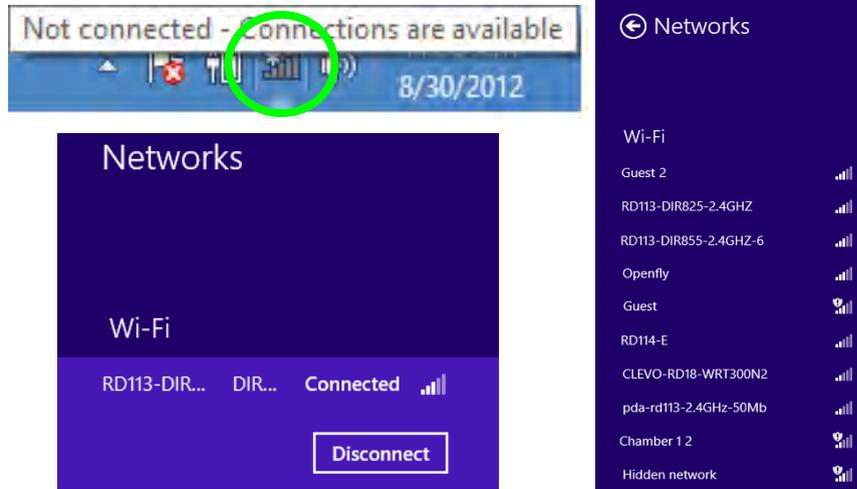
Figure 7 - 10
Windows Desktop Taskbar Notification Area WLAN Connection

Control Panel

If you are in **Category View do the following** (see over for Icon View):

1. Open the **Control Panel**.
2. Click the **Network and Internet** control panel.
3. Click **Connect to a network**.
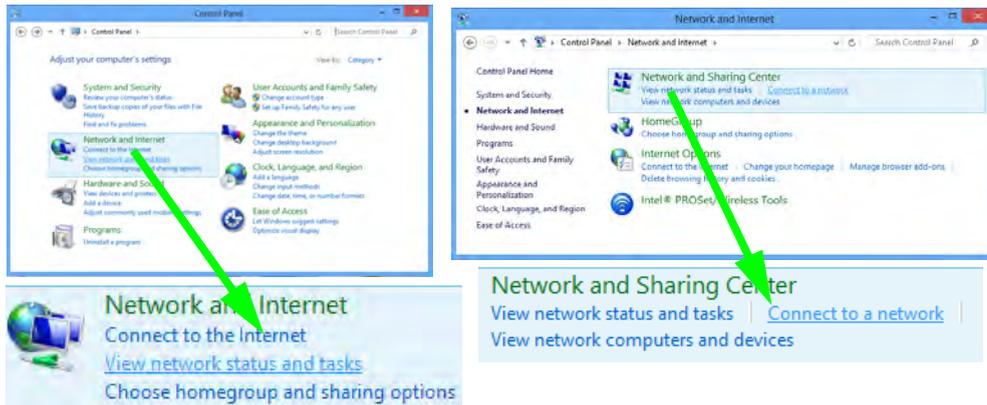
Figure 7 - 11
Network and Internet Control Panel

4. A list of available access points will appear.
5. Double-click an access point to connect to it (or click it and click **Connect**).
6. Enter a network security key (password) if required, and click **Next**.
7. You can choose to share or connect to devices or not.
8. Select any connected network and click **Disconnect** to disconnect from a connected access point.

If you are in **Icon View do the following:**

1. Open the **Control Panel**.
2. Click **Network and Sharing Center**.
3. Click **Change Adapter Settings**.
4. Double-click **Wi-Fi**.

Figure 7 - 12
Network and Sharing Center Control Panel

7

5. A list of available access points will appear.
6. Double-click an access point to connect to it (or click it and click **Connect**).
7. Enter a network security key (password) if required, and click **Next**.
8. You can choose to share or connect to devices or not.
9. Select any connected network and click **Disconnect** to disconnect from a connected access point.

Bluetooth & WLAN Combo Module (Windows 8)

If your purchase option includes the **Combination Wireless LAN & Bluetooth module** (either **Intel®** or **3rd Party**) then install the driver as instructed overleaf. See *"Bluetooth & WLAN Combo Module (Windows 7)" on page D - 54* for *Windows 7* configuration information.

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Bluetooth Data Transfer

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

7

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High Speed Bluetooth Data Transfer

The **Combination Wireless LAN & Bluetooth module** supports high speed data transfer. However to achieve such transfer speeds, **both devices must support high speed data transfer**.

To obtain high speed data transfer make sure that both the WLAN and Bluetooth modules are powered on.

Check your Bluetooth compatible device's documentation to confirm it supports high speed data transfer.

7

3rd Party Bluetooth (V4.0) Combo Driver Installation

Note this driver is required for the 3rd Party combo Bluetooth and WLAN module (Bluetooth V4.0) only.

1. If you see the message "**Found New Hardware**" click **Cancel** to close the window.
2. Insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
3. Click **Option Drivers** (button).
4. Click **2.Install Combo BT Driver > Yes**.
4. Click **Next**.
5. Click **Finish** to restart the computer.
6. See for configuration instructions.

Intel Bluetooth Combo Driver Installation

Note this driver is required only for the Intel combo Bluetooth and WLAN module only.

1. If you see the message "**Found New Hardware**" click Cancel to close the window.
2. Insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
3. Click **Option Drivers** (button).
4. Click **2.Install Combo BT Driver > Yes**.
5. Click **Next > Next**.
6. Click the button to accept the license and click **Next**.
7. Click **Next > Finish**.
8. See *"Bluetooth Configuration in Windows 8" on page 7 - 20* for configuration instructions.

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High Speed Bluetooth Data Transfer

The **Combination Wireless LAN & Bluetooth module** supports high speed data transfer. However to achieve such transfer speeds, **both devices must support high speed data transfer**.

To obtain high speed data transfer make sure that both the WLAN and Bluetooth modules are powered on.

Check your Bluetooth compatible device's documentation to confirm it supports high speed data transfer.

7

Bluetooth Configuration in Windows 8

You can configure a Bluetooth connection as below.

Desktop Mode

1. Switch to the Windows Desktop (click the App or use the Windows logo key ⊞ **+ D** key combination).
2. Click the notification area of the taskbar and double-click the Bluetooth icon 🔵 (or click and select **Show Bluetooth Devices**).
3. The **Devices** item in **PC Settings** will appear.
   OR

Charms Bar

1. Go to the **Charms Bar**.
2. Select **Settings** and then click/tap **Change PC Settings**.
3. The **Devices** item in **PC Settings** will appear.

Figure 7 - 13
Bluetooth Taskbar Icon & Change PC Settings (Charms Bar -Settings)
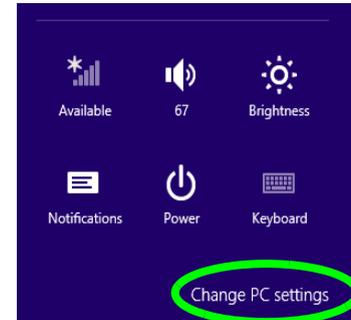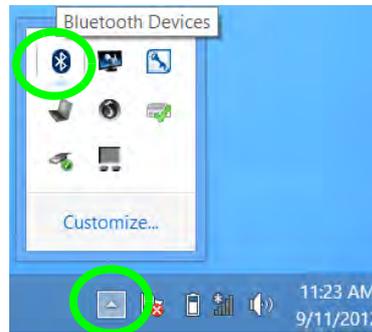
4. Click **Add a Device**.
5. Double-click the device you want to pair with the computer.
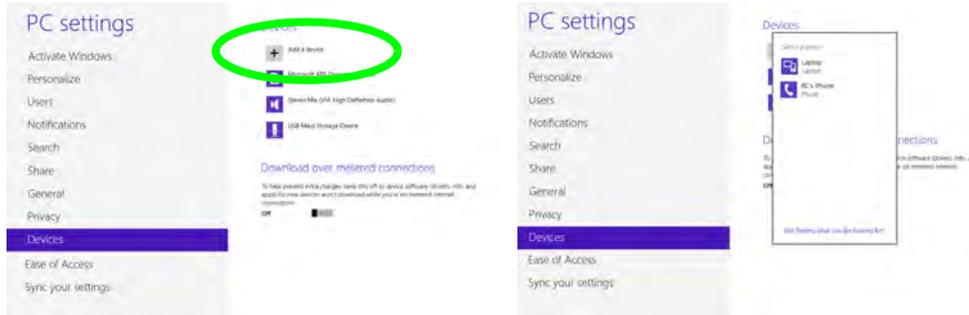
Figure 7 - 14
PC Settings (Devices) - Add A Device)

6. On first connection the computer will provide you with a pairing code to be entered onto the device.
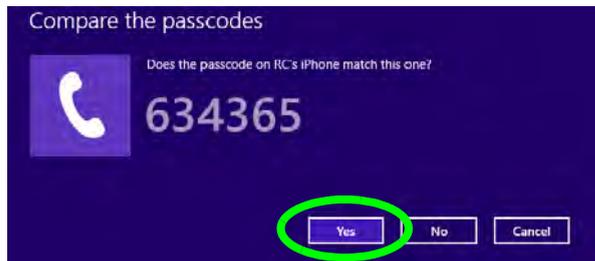
Figure 7 - 15
Enter the Passcode

7. Enter the code into your Bluetooth enabled device and click **Yes** on the computer to complete the pairing.

To Make your Computer Discoverable to Bluetooth Devices
1. Switch to the Windows Desktop (click/tap the app or use the Windows logo key ▦ **+ D** key combination).
2. Click the notification area of the taskbar, click/tap the Bluetooth icon 🟦 and click **Open Settings**.
3. Click **Options**, and make sure that *Allow Bluetooth devices to find this computer* check box (**Discovery**) has a tick inside it.
4. Make sure that the *Alert me when a new Bluetooth device wants to connect* check box (**Connections**) has a tick inside it, if you want to be notified when a Bluetooth device wants to connect.
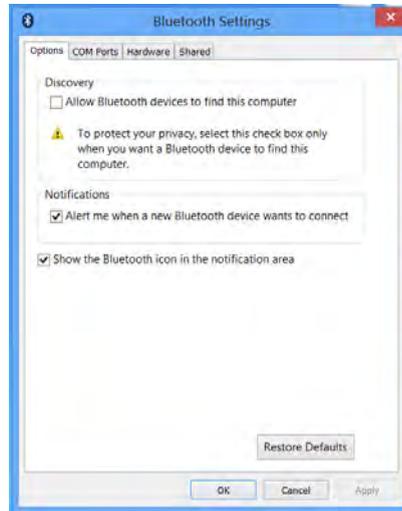
7

Figure 7 - 16
Bluetooth Settings

Intel® Rapid Storage Technology

Install the Intel Rapid Storage Technology to support your SATA drive if set up in AHCI mode in the BIOS (see *"SATA Mode Selection (Advanced Menu)" on page 5 - 9*).

IRST Driver Installation

1. Insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
2. Click **Option Drivers** (button).
3. Click **3.Install IRST Driver > Yes**.
4. Click (click the box to **Install Intel® Control Center**) to **Next > Yes > Next > Next**.
5. Click **Finish** to restart the computer.

Intel® Rapid Start Technology Driver

Intel(R) Rapid Start Technology can resume power from Hibernation within 5 to 6 seconds and can remember your computer's previous state with zero power.

System Requirements to support Intel® Rapid Start Technology:
- Rapid Start Technology should be enabled in the BIOS (see "*"Intel(R) Rapid Start Technology (Advanced Menu)" on page 5 - 8*).
- Intel Rapid Storage Technology software installed.
- A Solid State Drive (SSD) with a minimum capacity of 18.6GB.

See overleaf for instructions on enabling **Intel® Rapid Start Technology and see** *"Intel Smart Connect & Intel Rapid Start Technology" on page 7 - 36* for information on configuring Rapid Start and Smart Connect Technology.

7

Intel® Rapid Start Technology Configuration

1. Enable/disable **Intel(R) Rapid Start Technology** from the BIOS (see *"Intel(R) Rapid Start Technology (Advanced Menu)" on page 5 - 8*).
2. Go the *Windows* Control Panel and double-click **Administrative Tools** (**System and Security**)**> Computer Management > Storage > Disk Management**
3. Right-click the SSD and select **Shrink Volume** from the menu.
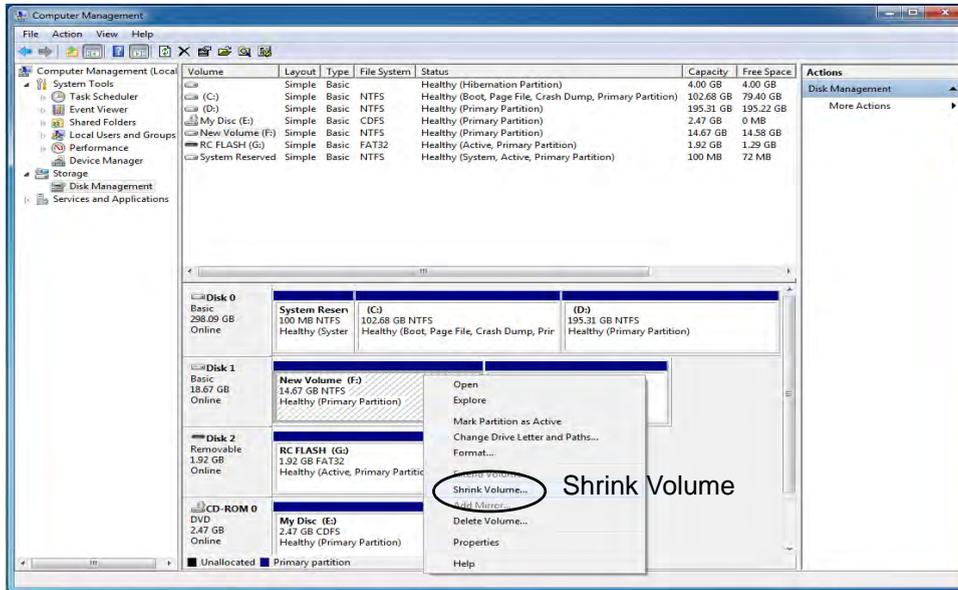
Figure 7 - 17
Computer Management (Shrink SSD Volume)

4. Enter the figure, **which should be equal to amount of system memory (RAM) in your computer,** in "**Enter the amount of space to shrink in MB**".

Figure 7 - 18
Shrink Volume Size
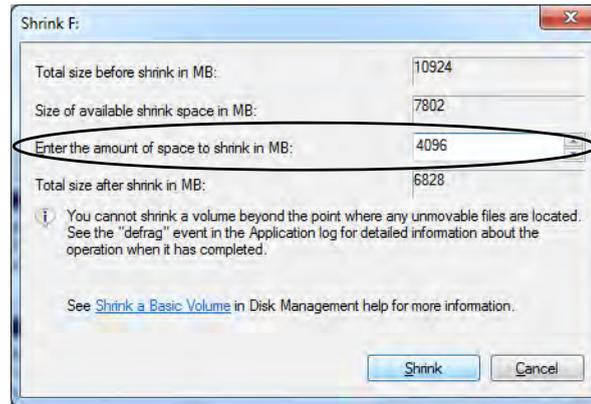
5. Click **Shrink** (any unallocated file space may be formatted for storage use).

Memory Size (Amount of Space to Shrink)

The figure entered in the "**Enter the amount of space to shrink in MB**" field above should be equal to the amount of system memory in your computer. In the example above the system memory is 4GB (**1024MB * 4 = 4096GB**). If you are unsure of your total system memory (RAM) then go to **System** control panel (System and Security) and check **Installed memory (RAM)**. The memory size will be displayed in GB so convert by multiplying the GB figure by 1024 to get the total in MB (e.g. 8GB = 8192MB).

6. Run the Desktop app and right-click the lower left hot corner (or use the *Windows Logo Key* ▦ + *X* key combination) and select **Command Prompt (Admin)**.

Figure 7 - 19
Search for CMD Prompt

7. Type "**DISKPART**".
8. At the DISKPART command type "**list disk**".

Figure 7 - 20
Diskpart - List Disk

9. Type "**select disk #**" (**#** is disk number where you want to create the store partition, so refer to the results obtained from "**list disk**" for exact disk number).
10. The message "**Disk # is now the selected disk.**" will appear.

Figure 7 - 21
Diskpart - Select Disk #
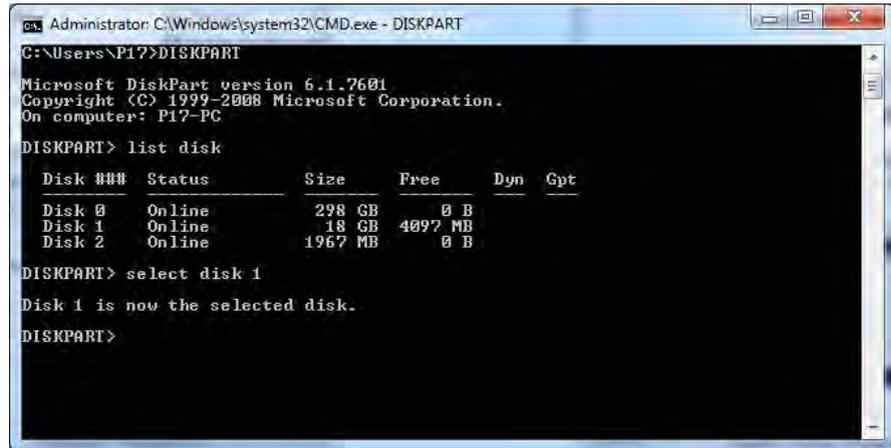
11. Type "**create partition primary**".
12. A "**DiskPart succeeded in creating the specified partition**." message should appear.

Figure 7 - 22
Diskpart - Create Partition
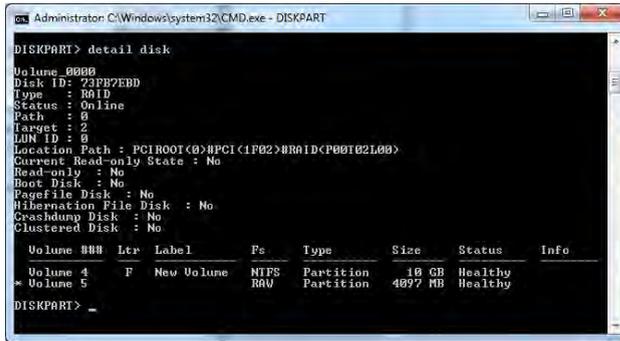
13. Type "**detail disk**".

Figure 7 - 23
Diskpart - Detail Disk

14. Type "**select Volume #**" (# is volume of your storage partition so refer to results obtained from "detail disk" for the exact volume number).
15. The message "**Volume # is now the selected volume.**" will appear.
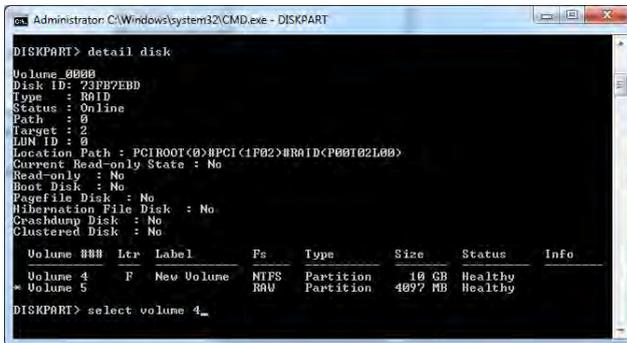
Figure 7 - 24
Diskpart - Select Volume #

7

16. Type "**set id=84 override**" (the id must be set to 84).

Figure 7 - 25
Diskpart - Set id=84 Override

17. The message "**DiskPart successfully set the partition ID.**" will appear.
18. Close the CMD window.
19. Go the *Windows* Control Panel and double-click **Administrative Tools** (**System and Security**)**> Computer Management > Storage > Disk Management.**
20. The disk partition should read **Healthy Hibernation Partition**.

Figure 7 - 26
Computer Management (Healthy Hibernation Partition)
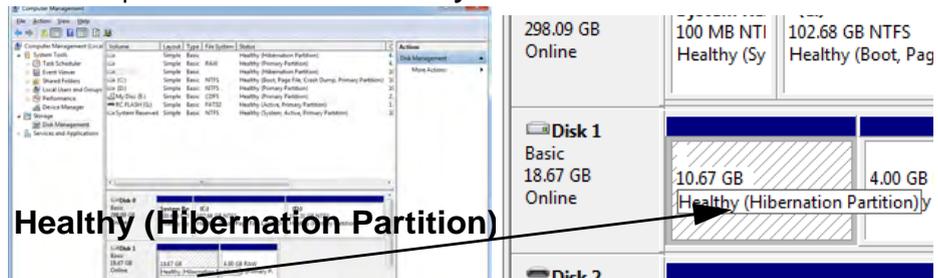
21. **Restart the computer** (install the driver as instructed overleaf).

Intel® Rapid Start Technology Driver Installation

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

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<table>
<tr><td>

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Intel® Smart Connect Technology System Requirements

Note that in order to support Intel® Smart Connect Technology your system will need to have the item enabled in the BIOS (see page *5 - 8*).

In addition only the following WLAN modules support this feature:

Intel® Centrino® Wireless-N 2230
Intel® Centrino® Wireless-N 135

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

Intel® Smart Connect Technology

Intel® Smart Connect Technology periodically, and briefly, wakes the computer from **Sleep** mode in order to update information for certain applications (e.g. to get mail from Microsoft Outlook) as required. These updates can therefore be made without having to turn the computer on, and applications will be up to date when the computer resumes from **Sleep** mode (make sure that *Intel Smart Connect Technology* is enabled in the BIOS - see *"Intel Smart Connect Technology (Advanced Menu)" on page 5 - 8*).

Note that the applications need to be on and running when the computer enters Sleep mode in order to get updates.

Intel® Smart Connect Technology Driver Installation

1. Insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
2. Click **Option Drivers** (button).
3. Make sure that *Intel Smart Connect Technology* is enabled in the BIOS - see *"Intel Smart Connect Technology (Advanced Menu)" on page 5 - 8*.
4. Click **5.Install ISCT Driver > Yes**.
5. Click **Next**.
6. Click the button to accept the license agreement and click **Next**.
7. Click **Next > Install > Finish**.
8. Click **Yes** to restart the computer.

Intel® Smart Connect Technology Configuration

1. Access the **Intel(R) Smart Connect Technology** application from the **Start** menu.
2. Click **Basic** (tab) and adjust the slider to set the update frequency (note that the slider balances between *"More Frequent Updates"* and *"More Battery Life"*).
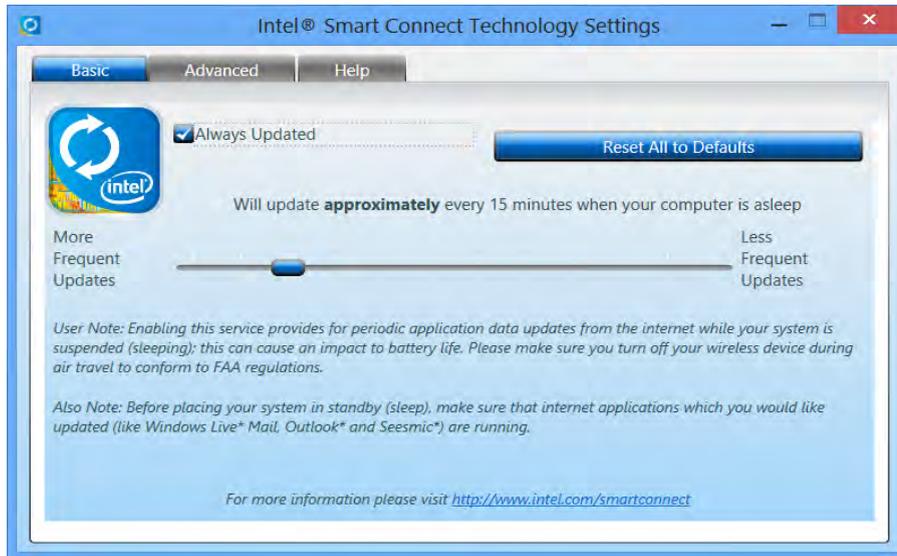3. In order to update any applications, they will need to be on and running when the computer enters **Sleep** mode.


Figure 7 - 27
iSCT Basic

4.   Click **Advanced** (tab) to access the **Extended Power Savings** settings.
5.   **Extended Power Savings** allows you to set a time period during which the computer will update less often (e.g. at night while you are asleep or whenever you are at work).

Figure 7 - 28
iSCT Advanced

6.   Updates set during this time period will be performed every two hours, and this will override the settings selected in the **Basic** tab in order to conserve power consumption.

7.   Click the **Help** tab and click **Topics** to access the main **Help** menu.
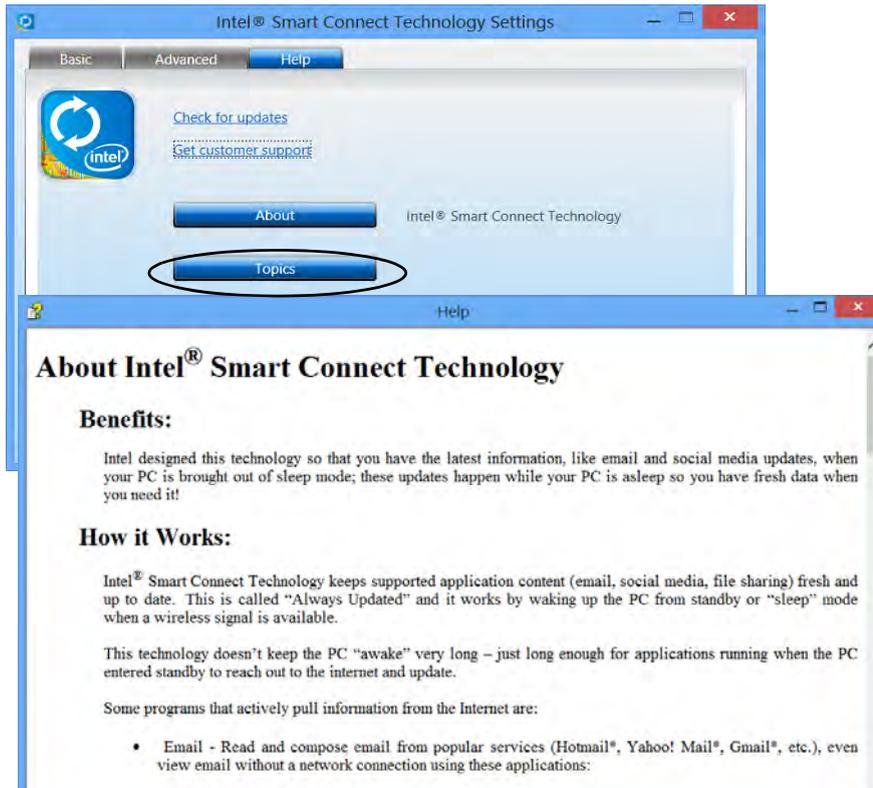
Figure 7 - 29
iSCT Help

Intel Smart Connect & Intel Rapid Start Technology

Intel® Smart Connect Technology wakes the computer from **Sleep** mode in order to update application information. **Intel(R) Rapid Start Technology** can resume power from **Hibernation** within 5 to 6 seconds and can remember your computer's previous state with zero power. **Intel(R) Rapid Start Technology** sends the computer into **Hibernate** mode and skips the **Sleep** mode. Therefore if Rapid Start is enabled, Smart Connect will be unable to wake the system as Sleep mode has been bypassed. In order to configure your system to run Smart Connect you will either need to disable or delay the system from running Rapid Start.

Disabling or Delaying Rapid Start Technology
1.   Run **Intel(R) Rapid Start Technology Manager** from the **Start** menu or double-click the icon in the notification area of the taskbar.

Figure 7 - 30
Intel® Rapid Start Technology Manager Access
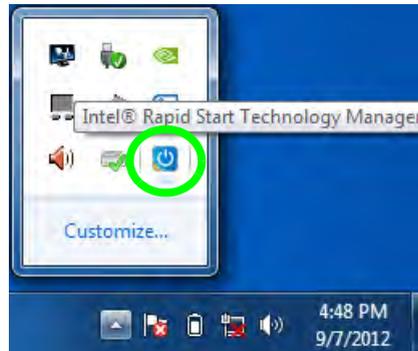
2. Disable Intel Rapid Start Technology by clicking the **Off** button, and clicking **Save**.
   OR
3. Click **Timer** to make sure it is on, and adjust the slider to select a time to delay entering Rapid Start from running, and click **Save**.

Figure 7 - 31
Intel® Rapid Start Technology Manager Settings

7

Intel® Wireless Display Application

The **Intel® Wireless Display Application** (**requires Intel® Centrino WLAN/ Combo module**), in conjunction with a **compatible video adapter** (purchased separately), allows you to display the contents of the notebook display on another display (e.g. HDTV) without the need to have cables stretching across a room. You can then play games, browse the internet, display videos or photo slide shows on your TV/external display without using HDMI or A/V cables.

Before configuring the **Intel® WiDi** application you will need to set up your **compatible adapter** with your display/speakers. Connect the adapter using an HDMI or A/V cable and turn on the display (or in the case of speakers connect them to the wireless speaker adapter with the cables provided with the adapter), and then set the display to the appropriate input channel (see the documentation supplied with your **compatible adapter** for full details).

Intel® WiDi Application Installation

1. Insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
2. Click **Option Drivers** (button).
3. Click **6.Install WiDi AP > Yes**.
4. Click **Next**.
5. Click the button to accept the license and click/tap **Next**.
6. Click **Finish**.

7

### Intel® WiDi Application Configuration

1. Double-click the **Intel(R) Wireless Display** icon on the desktop.
2. Click **I agree to the terms of this license** (button).
3. The application will scan for any connected compatible adapters (or you can click/tap the **Scan for available adapters** button to enable **Intel My WiFi Technology**).
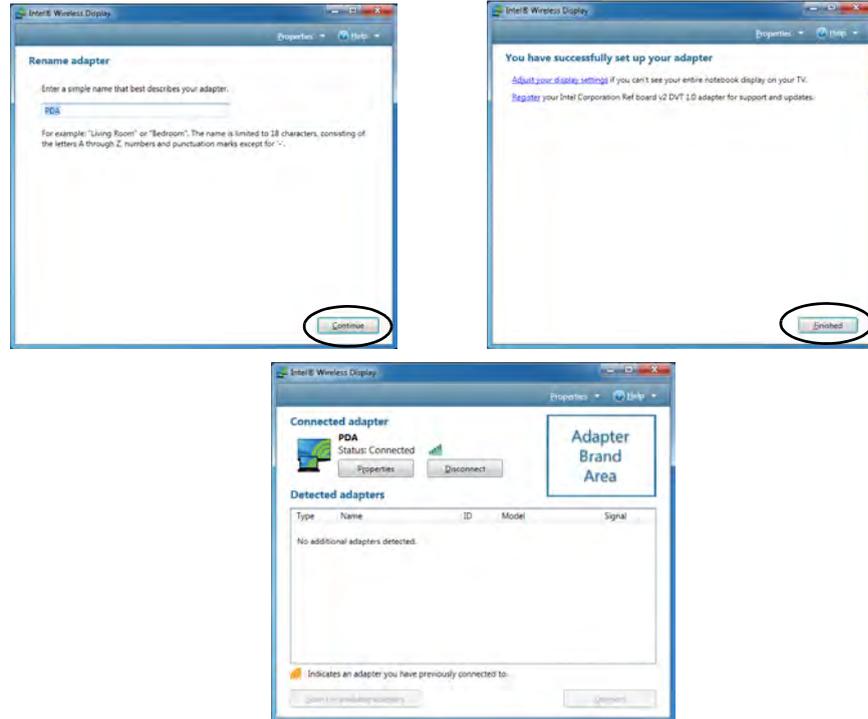
Figure 7 - 32
Intel® WiDi Scan

4. Click to select any detected adapters, and click **Connect**.
5. The system will then prompt you to enter the **4-digit security code** which will be displayed on the external TV Screen (or press the **connect** button on the wireless speaker adapter).
6. Enter the code for the video adapter and click **Continue**.
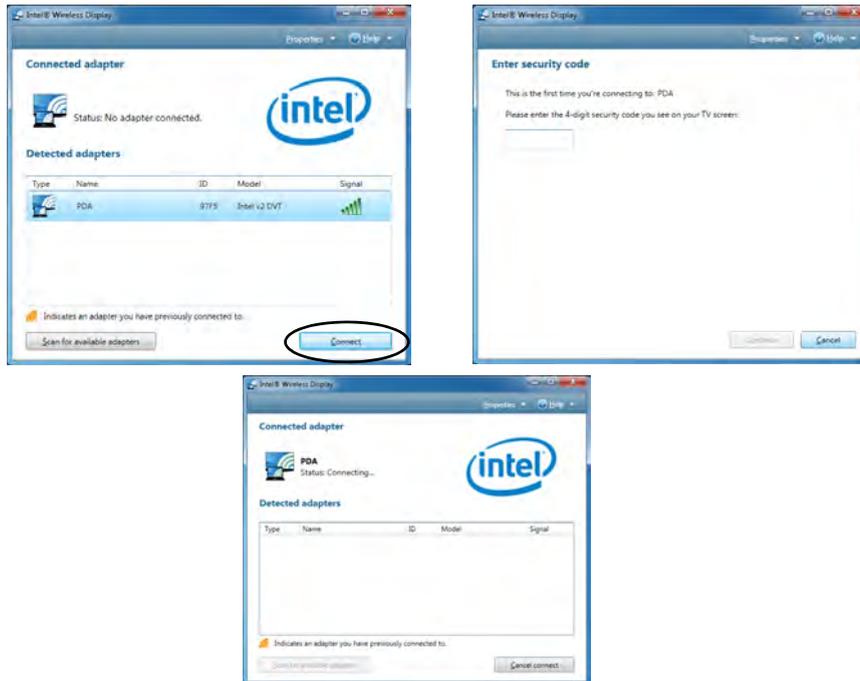
Figure 7 - 33
Intel® WiDi Connect & Enter Security Code

7. You will then be prompted to enter a name for the video adapter and click/tap **Continue**.
8. Click **Finished** to complete the setup.

Figure 7 - 34
**Intel® WiDi
Connected**

7

Chapter 8: Troubleshooting

Overview

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

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

8

Basic Hints and Tips

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

- **Power** - Is the computer actually plugged into a working electrical outlet? If plugged into a **power strip**, make sure it is actually working. Check the **LED Power & Communication Indicators** (see *"LED Indicators & Buttons" on page 1 - 9*) 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 Options*, or power button, to wake-up the system.

- **Brightness** - Check the brightness of the screen by pressing the brightness buttons to adjust the brightness.

- **Display Choice** - Make sure the system is not set to "external only" display if an external display is attached.

- **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*").

8

Backup and General Maintenance

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

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

- Write down your passwords and keep them safe (away from your computer). This is especially important if you choose to use a **Supervisor** password for the BIOS (see *"Security Menu" on page 5 - 10*).

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

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Warranty

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

Viruses

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

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

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

8

Upgrading and Adding New Hardware/Software

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

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

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

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

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

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 & Possible Solutions

Problem	Possible Cause - Solution
The computer feels too hot.	Make sure the computer is properly ventilated and the Vent/Fan intakes are not blocked. If this doesn't cool it down, put the system into **Hibernate** mode or turn it off for an hour. Make sure the computer isn't sitting on a thermal surface. Make sure you're using the correct adapter.
Nothing appears on screen.	*The system is in a power saving mode.* Press the power button or any configured sleep/resume key combination.
	The screen controls need to be adjusted. Press the brightness buttons to adjust the settings. If you're connected to an external monitor, make sure it's plugged in and turned on. You should also check any attached monitor's own brightness and contrast controls.
	*The **screen saver** is activated.* Press any key on the keyboard.
	*You have pressed the **Screen Power Toggle Button** ▥ to turn the display off.* A quick press of the button will toggle the display on/off (see ***Table 1 - 2, on page 1 - 9***).
No image appears on the external monitor I have plugged in and powered on.	*You haven't installed the **video driver** and configured it appropriately from the **Control Panel**.* See for instructions on installing and configuring the video driver.
The sound cannot be heard or the volume is very low.	*The volume might be set too low.* Check the volume control in the ***Settings*** menu in the ***Charms Bar*** in ***Windows 8*** (see ***"Audio Features" on page 2 - 8***), check the volume control in the ***Volume Control Panel*** in the ***Windows 7*** taskbar, or use the volume buttons to adjust the setting (see ***"Audio Features" on page D - 14***).

8

Troubleshooting

Problem	Possible Cause - Solution
The DVD-ROM cannot be read.	*The DVD-ROM is dirty.* Clean it with a DVD-ROM cleaner kit.
The **Optical Disk Drive tray** will not open when there is a disc in the tray.	*The compact disc is not correctly placed in the tray.* Gently try to remove the disc using the eject hole (see *"Loading Discs" on page 2 - 3*).
The DVD regional codes can no longer be changed.	*The code has been changed the maximum **5** times.* See *"DVD Regional Codes" on page 2 - 5*.
You forget the boot password.	*If you forget the password, you may have to discharge the battery of the CMOS.* Contact your service representative for help.

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Password Warning

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

Problem	Possible Cause - Solution
The **Wireless LAN/ Bluetooth/PC Camera modules** cannot be **configured**.	*The driver(s) for the module(s) have not been installed*. Make sure you have installed the driver for the appropriate module See the instructions in *Chapter 7 "Modules & Options"* for the appropriate module (no driver is required for the PC Camera module in *Windows 8*) in *Windows 8*, or *Appendix D*.
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
I cannot obtain high speed Bluetooth data transfer.	*To obtain high speed Bluetooth data transfer take into account the following*: • To achieve high speed transfer speeds, **both devices must support high speed data transfer** (i.e both the computer and the Bluetooth compatible device you are connecting to). • Check your Bluetooth compatible device's documentation to confirm it supports high speed data transfer, and for configuration information.

8

8

Appendix A: Interface (Ports & Jacks)

Overview

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

A

Computer Ports and Jacks

Item	Description
Card Reader Port ▯MMC/SD/MS	The card reader allows you to use some of the latest digital storage cards. Push the card into the slot and it will appear as a removable device.
DC-In Jack	Plug the supplied AC/DC adapter into this jack to power your computer.
e-SATA Port eSATA	This **e-SATA** (**external Serial Advanced Technology Attachment**) port allows you to plug-in external Serial ATA hard drives.
Headphone-Out Jack	Headphones or speakers may be connected through this jack. **Note**: Set your system's volume to a reduced level before connecting to this jack.
Microphone-In Jack	Plug an external microphone in to this jack to record on your computer.
RJ-45 LAN Jack	This port supports LAN (Network) functions. **Note**: Broadband (e.g. ADSL) modems usually connect to the LAN port.

A

Item	Description
RS-232 COM/Serial Ports IOIOI	The RS-232 COM/serial is a communication interface for data transfer, through which information transfers in or out one bit at a time. These ports can be used to connect the computer to devices such as terminals and peripherals.
Security Lock Slot	To prevent possible theft, a Kensington-type lock can be attached to this slot. Locks can be purchased at any computer store.
USB 2.0/1.1 Ports USB 3.0 Port 3.0	These USB (**Universal Serial Bus**) 2.0 compatible ports (USB 2.0 is fully USB 1.1 compliant) are for low-speed peripherals such as keyboards, mice or scanners, and for high-speed peripherals such as external HDDs, digital video cameras or high-speed scanners etc. Devices can be plugged into the computer, and unplugged from the computer, without the need to turn the system off (if the power rating of your USB device is 500mA or above, make sure you use the power supply which comes with the device). The USB 3.0 port is denoted by its blue color; USB 2.0 ports are colored black. USB 3.0 will transfer data much faster than USB 2.0, and is backwards-compatible with USB 2.0. Note that the USB 3.0 ports require a driver for *Windows 7* (see *"USB 3.0 (Win 7 Only)" on page D - 24*) installation (*Windows 8 does not require a driver installation*) and do not support wake on USB.

A

Interface (Ports & Jacks)

A

Appendix B: Intel Video Driver Controls

The basic settings for configuring the LCD are outlined in *"Video Features" on page 1 - 26*.

Intel Video Driver Installation

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

Video

1. Insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
2. Click **2.Install VGA 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 system memory (RAM) as needed (up to **1.7GB**) to the video system (**the video driver must be installed**). DVMT returns whatever memory is no longer needed to the operating system.

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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.

B

Intel® Graphics & Media Control Panel

Advanced video configuration options are provided by the **Intel® Graphics and Media Control Panel**. To access the control panel see below and overleaf:

1.   Click the **Intel® Graphics and Media Control Panel** icon in the **Start** screen.
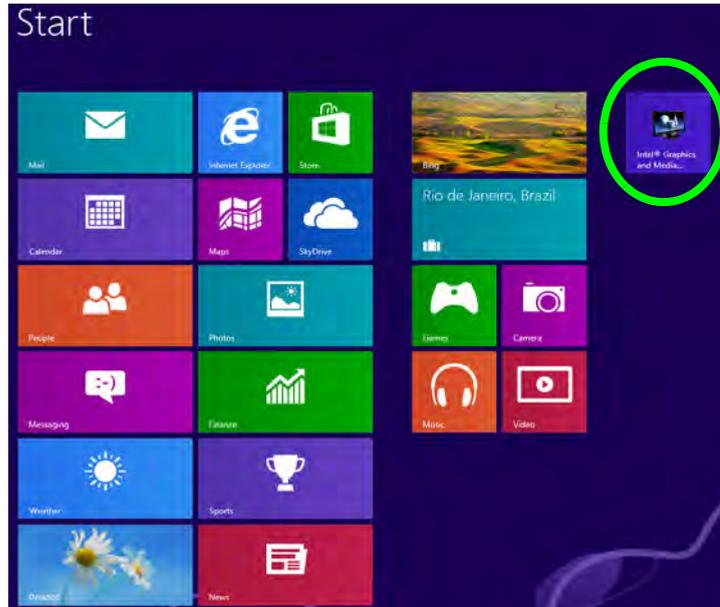
Figure B - 1
Start Screen
Intel® G&M Control
Panel

B

(see over)

OR

2.   Right-click the **Desktop** and select **Graphics Properties** from the menu.

OR

3.   Click **Advanced settings** in the **Screen Resolution** control panel in *Windows*.
4.   Click the **Intel(R)...** tab and click **Graphics Properties** (button).
5.   Double-click the **Intel(R) G&M** control panel in the *Windows Control Panel*.
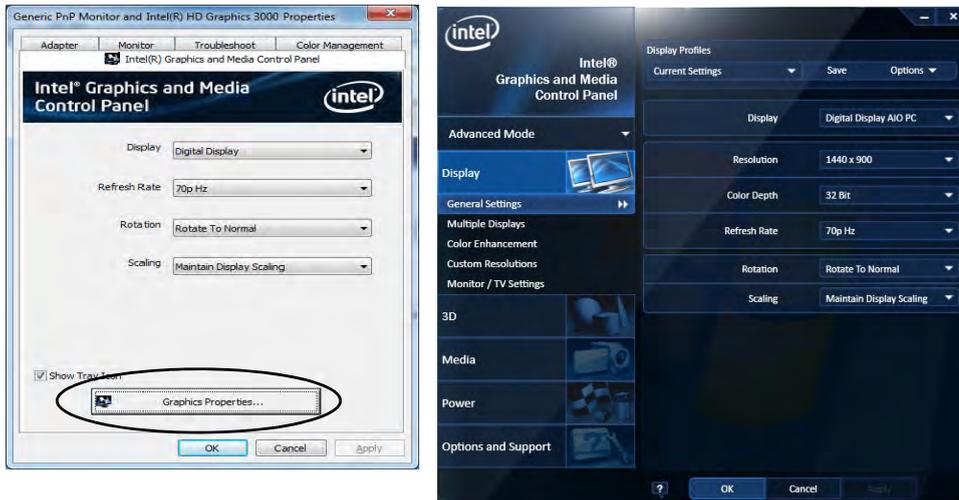
Figure B - 2
**Intel® G&M
Control Panel**

Intel Video Driver Controls

You may make changes to any of the graphics properties by clicking the appropriate menu tab on the left of the menu and adjusting the settings on the right.

Figure B - 3
**Intel® G&M
Control Panel Tabs**

B

Display Devices & Options

Besides the built-in LCD you can also use an external monitor/flat panel display/TV connected to the external monitor port as your display device. The table below outlines the display options.

> 🖉
>
> **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) G&M control panel to configure the full screen display.

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

> 🖉
>
> **Default Display Mode**
>
> The initial default display mode when first attaching an external display is set to **Extended Desktop Mode**.
>
> You can use the Intel(R) G&M control panel to adjust this setting.
>
> Subsequent to any restart/shutdown or removal of display device, the system will retain the last mode set before the restart/shutdown or removal of display device.

Table B - 1
Display Modes

B

Attaching Other Displays

If you prefer to use an external display, connect it to the external monitor port.

To Clone Displays:
1. Attach your display to the external monitor port and turn it on.
2. Go to the **Intel(R) G&M** control panel and click **Display > Multiple Displays**.
3. Click **Operating Mode** and select **Clone Displays** from the menu.
4. Click **Apply**, and **OK** to confirm the settings change.
5. You can switch the **Primary/Secondary Display** from the menu.

🖉

Multiple Display

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

General Settings

Click/tap **General Settings** to access settings the options for any attached display.

🖉

Default Display Mode

The initial default display mode when first attaching an external display is set to **Extended Desktop Mode**.

You can use the Intel(R) G&M control panel to adjust this setting.

Subsequent to any restart/shutdown or removal of display device, the system will retain the last mode set before the restart/shutdown or removal of display device.

Figure B - 4
Display > Multiple Displays (Clone)

B

To Enable Extended Desktop:
1. Attach your display to the external monitor port and turn it on.
2. Go to the **Intel(R) G&M** control panel and click **Display > Multiple Displays**.
3. Click **Operating Mode** and select **Extended Desktop** from the menu.
4. Click **Apply**, and **OK** to confirm the settings change.

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 **General Settings** to make any adjustments required.

🖉

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.

B

Figure B - 5
Display > Multiple Displays (Extended)

🖉

**Windows Logo Key
⊞ + P Key
Combination**

You can also use the ⊞ **+ P** key combination to quickly access the **Second Screen** menu in **Windows 8**.

Figure B - 6
**Second Screen
(Devices)**

B

To Configure Displays from Devices (Charms Bar)

1. Attach your display to the external monitor port and turn it on.
2. Go the **Charms Bar** and select **Devices**.
3. Click **Second Screen**.
4. Click on any one of the options from the menu to select Duplicate, Extend or a Single display.
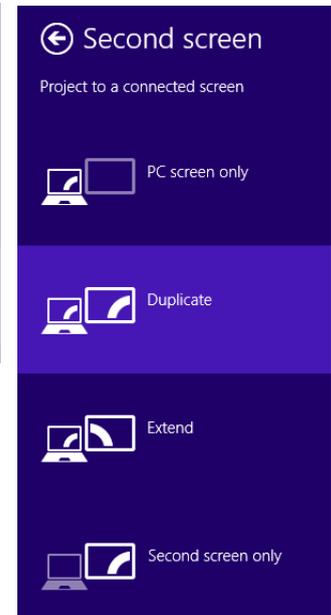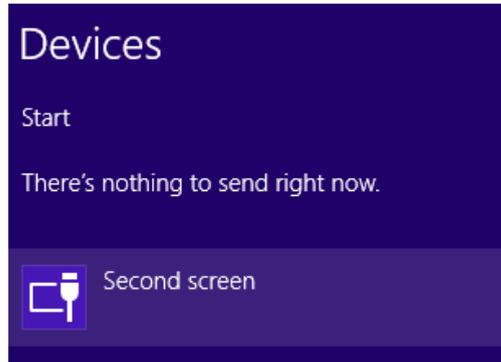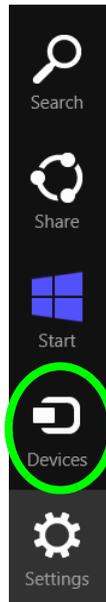
Configuring an External Display in Windows 8

You can also use the **Screen Resolution** control panel in *Windows 8* to configure an external display.

1. Attach your external display to the appropriate port, and turn it on.
2. Go to the **Screen resolution** control panel (see *"Video Features" on page 1 - 19*).
3. Click the **Detect** button.
4. The computer will then detect any attached displays.
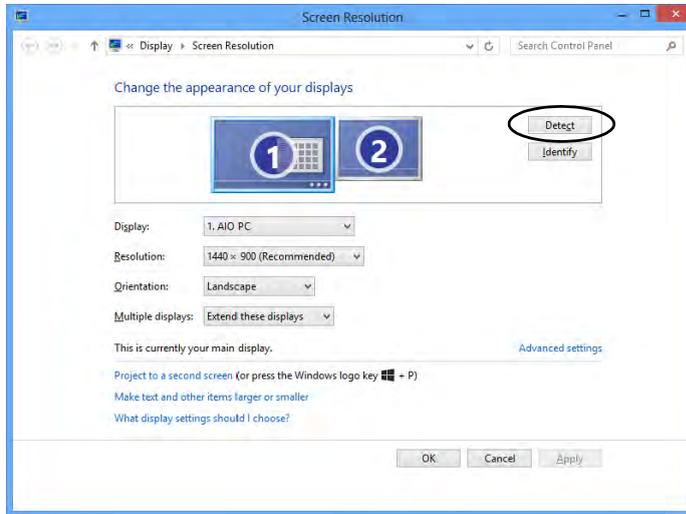
Figure B - 7
Screen Resolution
Multiple Displays

5. You can configure the displays from the **Multiple Displays** menu.
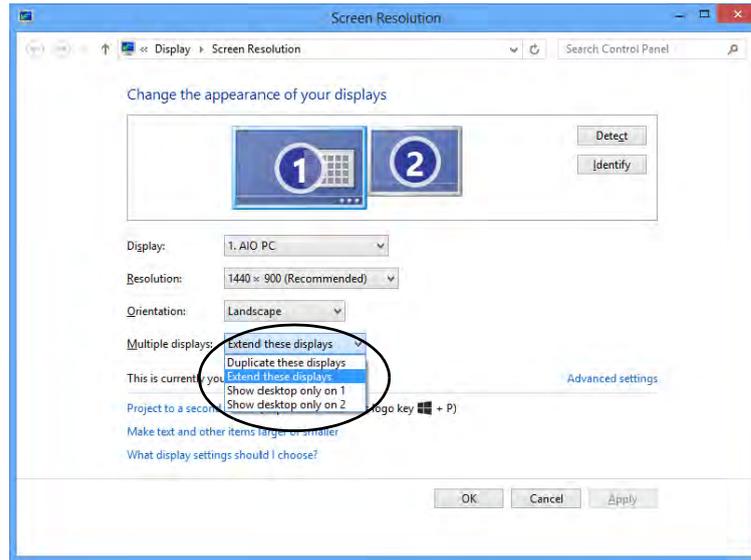
Figure B - 8
Screen Resolution Multiple Display Options

B

- 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.

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 or updated due to the manufacturer's release schedule. Check with your distributor/supplier for details.

C

Specifications

Processor

Intel® Core i7-3612QM (2.10GHz) Quad-Core Mobile Processor
6M L3 Cache, 22nm (22 Nanometer), DDR3-1600MHz, TDP 35W

Intel® Core i7-3520M (2.9GHz) Mobile Processor
4M L3 Cache, 22nm (22 Nanometer), DDR3-1600MHz, TDP 35W

Intel® Core i5-3360M (2.8GHz) Mobile Processor
3M L3 Cache, 22nm (22 Nanometer), DDR3-1600MHz, TDP 35W

Intel® Core i5-3320M (2.6GHz) Mobile Processor
3M L3 Cache, 22nm (22 Nanometer), DDR3-1600MHz, TDP 35W

Intel® Core i5-3210M (2.5GHz) Mobile Processor
3M L3 Cache, 22nm (22 Nanometer), DDR3-1600MHz, TDP 35W

Intel® Core i5-3110M (2.4GHz) Mobile Processor
3M L3 Cache, 22nm (22 Nanometer), DDR3-1600MHz, TDP 35W

Intel® Core i7-2640M (2.8GHz) Mobile Processor
4M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W

Intel® Core i5-2540M (2.6GHz) Mobile Processor
3M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W

Intel® Core i5-2520M (2.5GHz) Mobile Processor
3M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W

Intel® Core i5-2450M (2.5GHz) Mobile Processor
3M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W

Intel® Core i5-2430M (2.4GHz) Mobile Processor
3M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W

Processor

Intel® Core i3-2370M (2.4GHz) Mobile Processor
3M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W

Intel® Core i3-2350M (2.3GHz) Mobile Processor
3M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W

Intel® Pentium® B980 (2.3GHz)
2M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W

Intel® Pentium® B970 (2.3GHz)
2M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W

Intel® Pentium® B960 (2.2GHz)
2M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W

Intel® Pentium® B950 (2.1GHz)
2M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W

C

Core Logic

Mobile Intel® HM76 Express Chipset

Display

19"(48.26cm) WXGA+ (1440 * 900) 16:10 Panel

Adjustable Screen Height

Hard Glass (**Factory Option - Model A**)

Multi Touch Screen (Resistive Type for *Windows 7* Only - **Model B**)

Memory

Dual Channel **DDRIII (DDR3)**

Two 204 Pin SO-DIMM Sockets Supporting **DDRIII (DDR3)** 1333MHz/1600MHz Memory Modules

Memory Expandable up to **16GB** Compatible with 2GB/4GB/8GB Modules

Video Adapter

Intel® Integrated GPU (Intel® HD Graphics / Intel® HD Graphics 3000 / Intel® HD Graphics 4000):

Dynamic Frequency

Intel® DVMT Shared Memory Architecture up to 1748MB

Microsoft DirectX®10 Compatible (Intel® HD Graphics / Intel® HD Graphics 3000)

Microsoft DirectX®11 Compatible (Intel® HD Graphics 4000)

BIOS

One 48Mb SPI Flash ROM

AMI™ BIOS

Storage

Two Changeable 2.5", 9.5 mm (h) **SATA** (Serial) Hard Disk Drives

One 12.7 mm Super Multi/Blu-ray Combo SATA Optical Device Drive (**Factory Option**)

Audio

High Definition Audio

Built-In Microphone

2 Built-In Speakers

Interface

Two USB 2.0 Ports

Three USB 3.0 Ports

One eSATA Port

One External VGA Port

One Headphone-Out Jack

One Microphone-In Jack

One RJ-45 LAN Jack

2 * RS232 Serial COM Ports

One DC-in Jack

C

Specifications

Card Reader

Embedded Multi-In-1 Card Reader
- MMC/ RS MMC
- SD/ Mini SD / SDHC/ SDXC
- MS/ MS Pro/ MS Duo

Note: Some of these cards require PC adapters that are usually supplied with the cards.

Slots

ExpressCard/34/54 Slot

Two Mini Card Slots
Slot 1 for Half Size WLAN Combo Module with PCIe and USB Interface

Slot 2 for mSATA SSD Full Size with SATA Interface

Communication

Built-In 10/100/1000 Mb Base-TX Ethernet LAN

Intel® Centrino® Wireless-N 2230 2*2 (802.11 b/g/n) Half Mini-Card PCIe WLAN + Bluetooth V4.0+HS Combo Module (**Factory Option**)

Intel® Centrino® Wireless-N 135 1*1 (802.11 b/g/n) Half Mini-Card PCIe WLAN + Bluetooth Combo Module (**Factory Option**)

802.11b/g/n WLAN Half Mini-Card Module (**Factory Option**)

Combo WLAN (802.11b/g/n) **and Bluetooth v4.0 LE** Half Mini-Card Module (**Factory Option**)

2.0M HD PC Video Camera Module

Power Management

Supports Wake on LAN
Supports Wake on USB
Supports Wake RTC Alarm

Power

Full Range AC/DC Adapter – AC in 100 - 240V, 50 - 60Hz DC Output 19V, 4.74A (**90 Watts**)

Security

Security (Kensington® Type) Lock Slot
BIOS Password

Operating System

<u>Model A:</u>
Windows® 8 or *Windows® 7* with Service Pack 1
<u>Model B:</u>
Windows® 7 with Service Pack 1

Design Features

Textured Finish
Supports Intel® Rapid Start Technology
Supports Intel® Anti-Theft Technology
Supports Intel® Smart Connect Technology
VESA MIS-D 100 (100mm * 100mm)

LED Indicators
Power / Suspend, HDD/ODD, PC Camera

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

Physical Dimensions & Weight
450mm (w) * 312mm (d) * 53.5 - 151mm (h) **Model A:** 6.7Kg with ODD 7.1Kg with ODD and Hard Glass Screen **Model B:** 7.3Kg with ODD

C

Specifications

Appendix D: Windows 7

Overview

This Appendix contains information (including control panel information, driver installation etc.) for users of the Windows 7 OS.

You can refer to the main manual for details of hardware, BIOS, modules etc. However any information specific to *Windows 7* will be included in this Appendix, as well as details on how to access the applications and control panels etc.

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Windows 7/8 OS

In order to run *Windows 7 or 8 (32 Bit)* without limitations or decreased performance, your computer requires a minimum **1GB** of system memory (RAM), however if you are running *Windows 7 or 8 (64 bit)* your computer requires a minimum **2GB** of system memory (RAM).

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.

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Shut Down

Note that you should always shut your computer down by choosing the **Shut Down** command from the bottom right of the **Start** menu in *Windows*. This will help prevent hard disk or system problems.

LED Indicators & Buttons

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

Icon	Color	Description
⏻	Green	The computer is On
	Blinking Green	The computer is in Sleep Mode
	Orange	The AC/DC Adapter is Plugged in & the Computer is Powered Off
🖴	Green	System Activity

Table D - 1 **- LED Indicators**

The buttons located under the front panel icons allow you to make screen and input adjustments.

Figure D - 1 **- Front Icons**

Icon	Description
▽ △	Decrease/Increase Buttons - Use the buttons to decrease/increase the brightness/volume
▤	Function Menu Toggle - Use this button to display the On Screen Display (see *"On Screen Display Indicators/Buttons" on page D - 4*)
🔁	Screen Power Toggle - Use this button to toggle the LCD on/off

Table D - 2 **- Function Buttons**

Windows 7

On Screen Display Indicators/Buttons

Press the function menu button for about two seconds ☰ to bring up the On Screen Display. The OSD provides visual indicators for brightness, volume, camera power toggle and WLAN/Bluetooth power toggle (the camera, WLAN and Bluetooth power indicators will only display if the modules are included in your purchase configuration) when the **OSD** driver is installed (see page *"On Screen Display" on page D - 24*).

OSD Icon		Description	OSD Icon	Description
		Volume Decrease/Increase		Camera Power Toggle
		Brightness Decrease/Increase		Bluetooth Power Toggle
				WLAN Power Toggle

Table D - 3 **- On Screen Display Indicators**

The indicators will appear when the computer boots up, or resumes from a power saving state, in order to display the current power status of the camera and/or Bluetooth/WLAN modules. The OSD indicators will appear if you adjust the brightness or volume, and will also allow you to adjust the power status of the camera and/or Bluetooth/WLAN modules by using the mouse to click on the icon (note that this system does not display the *Windows Mobility Center*). If your purchase configuration includes the **Multi-Touch Panel** you may use a finger to slide along the bars under the on-screen symbols to adjust the volume and brightness and controls, or to press the on/off buttons to toggle power to the camera and/or Bluetooth/WLAN modules.

Windows 7 Start Menu & Control Panel

Most of the control panels, utilities and programs within *Windows 7* 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** to customize the appearance of the **Start** menu.

Click here to toggle Category View

Properties
Open Windows Explorer
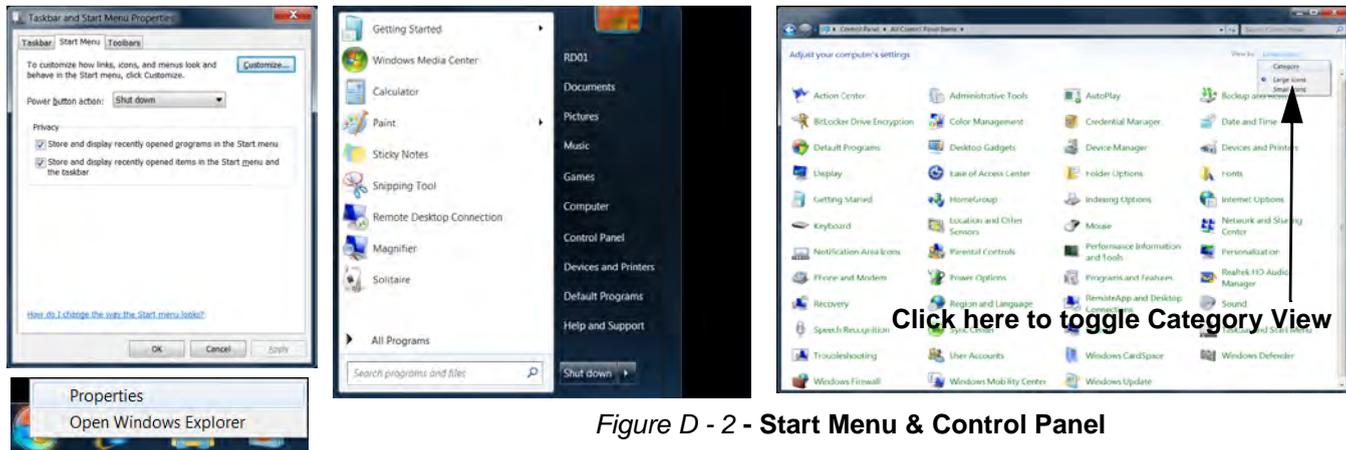
Figure D - 2 **- Start Menu & Control Panel**

In many instances throughout this manual you will see an instruction to open the **Control Panel**. The **Control Panel** is accessed from the **Start** menu, and it allows you to configure the settings for most of the key features in *Windows* (e.g. power, video, network, audio etc.). *Windows 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 7*. For more detailed video information see *Appendix B*.

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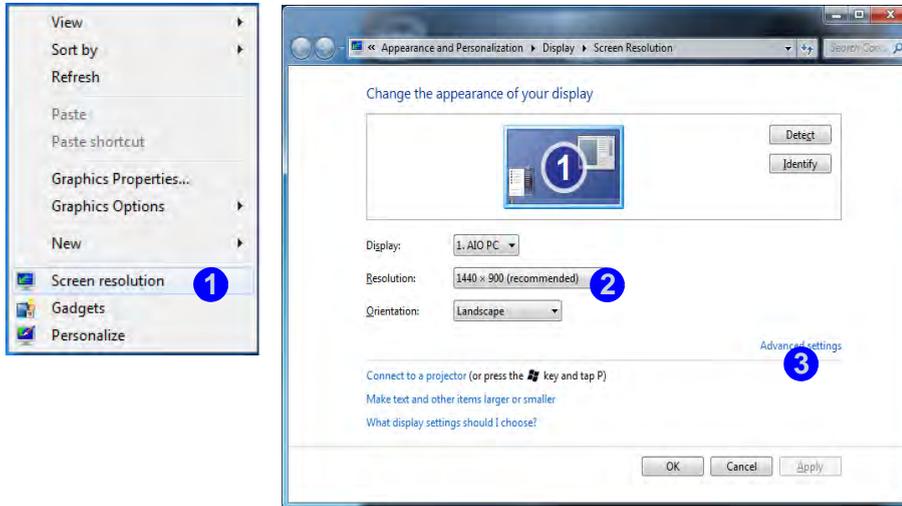
Figure D - 3 **- Screen Resolution**

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Right-Click Desktop

1. You can right-click the desktop and select **Screen resolution** ❶ (*Figure D - 3*).
2. Use the dropbox to select the screen **Resolution** ❷ (*Figure D - 3*).
3. Click **Advanced settings** ❸ (*Figure D - 3*) to bring up the **Advanced** properties tabs.

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

1. Click **Advanced settings** ❸ (*Figure D - 3 on page D - 6*) in the **Screen Resolution** control panel in *Windows*.
2. Click the **Intel(R)...** tab and click **Graphics Properties** (button) ❹ (*Figure D - 4 on page D - 7*) .

OR

3. Right-click (tap, hold and release) and select **Graphics Properties** from the menu.

OR

4. Click the icon 🖳 in the taskbar and select **Graphics Properties** from the menu.
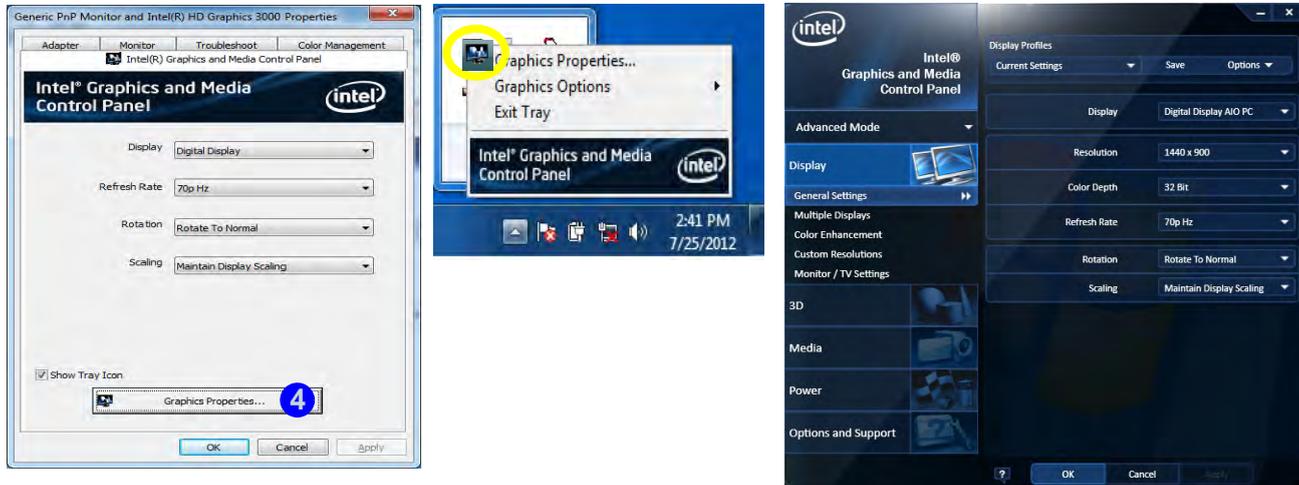
Figure D - 4 **- Intel GMA Driver for Mobile Control Panel**

Configuring an External Display in Windows 7

You can also use the **Screen Resolution** control panel in *Windows 7* to configure an external display.

1. Attach your display to the external monitor port and turn it on.
2. Go to the **Screen resolution** control panel (see *"Video Features" on page D - 6*).
3. Click the **Detect** button.
4. The computer will then detect any attached displays.
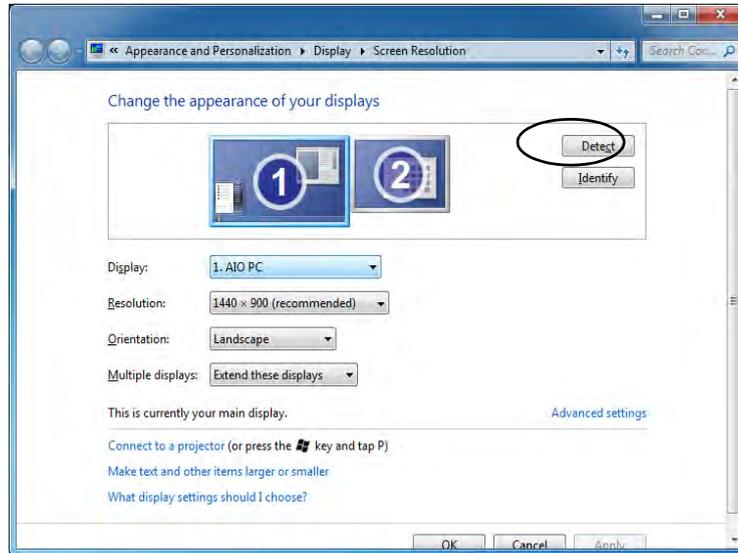
Figure D - 5 - **Screen Resolution Multiple Displays (Win 7)**

5. You can configure the displays from the **Multiple Displays** menu.
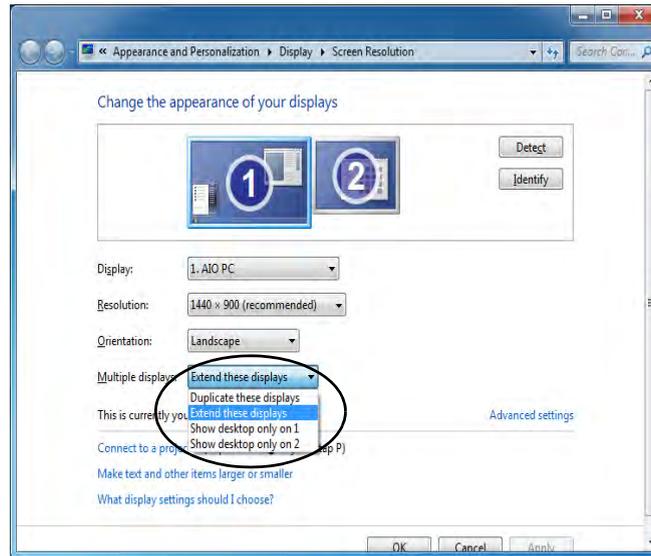
Figure D - 6 **- Screen Resolution Multiple Display Options (Win 7)**

- 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.

Using the Windows Logo Key ⊞ + P Key Combination to Switch Displays

You can also use the ⊞ + **P** key combination to quickly change display configuration and modes (this is particularly useful when attaching a projector) in *Windows 7*.

1. Attach your display to the external monitor port and turn it on.
2. Press the ⊞ + **P** key combination.
3. An on-screen menu will pop up.
4. Use the cursor keys (or ⊞ + **P**) to select the appropriate configuration from the menu, and press Enter to confirm the selection.
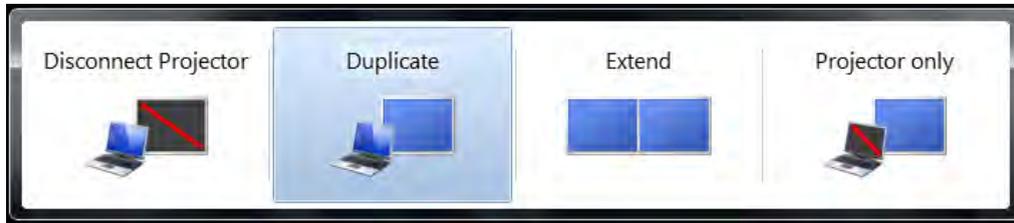
Figure D - 7 ⊞ **+ P Display Configuration Selection (Win 7)**

Power Options

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

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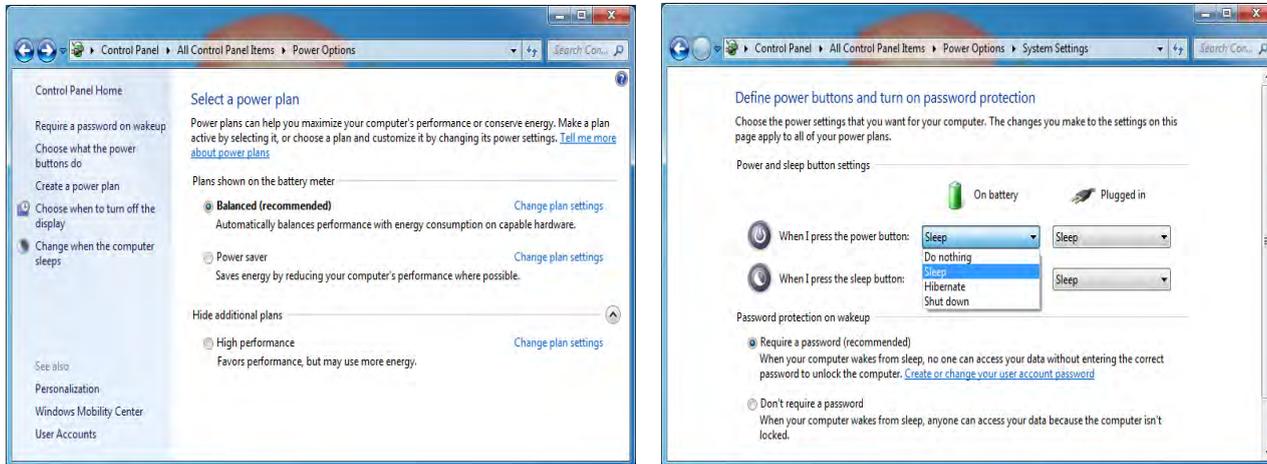
Figure D - 8 - **Power Options**

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Password

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

Power Plans

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

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

Click *Change plan settings* and then click *Change advanced power settings* to access further configuration options in **Advanced Settings**.

Figure D - 9
Power Plan Advanced Settings
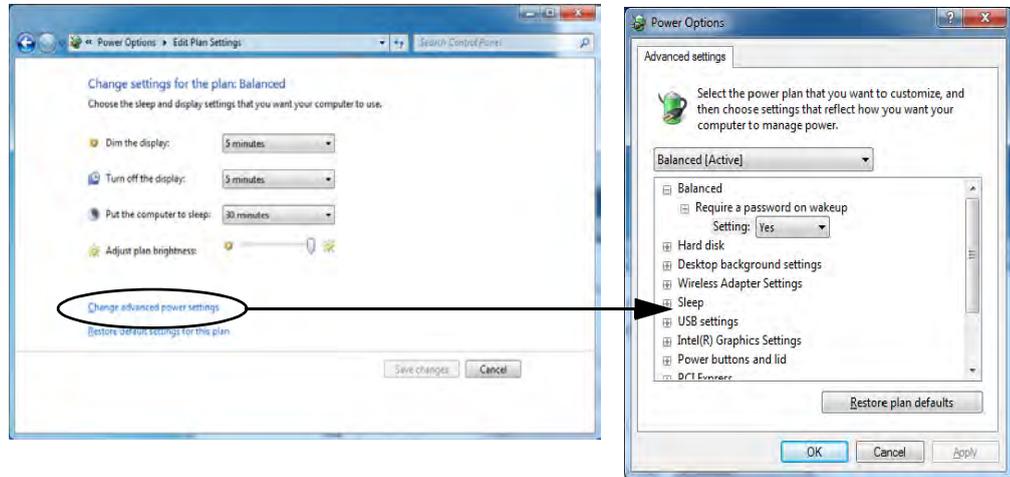
Adding Hibernate Shut Down Menu in Windows 7

Hibernate mode will not appear in the **Shut Down** menu by default. If you want to add **Hibernate** mode to the **Shut Down** menu do so as follows.

1. Go to the **Power Options** (**Hardware and Sound**) control panel.
2. Click *Change plan settings* for the currently active **power plan**.
3. Click *Change advanced power settings.*
4. Click **Sleep**.
5. Click the plus sign next to **Allow hybrid sleep.**
6. Change the setting to **Off**.
7. Click **Apply** and close the control panel.
8. **Hibernate** should now appear in the menu.
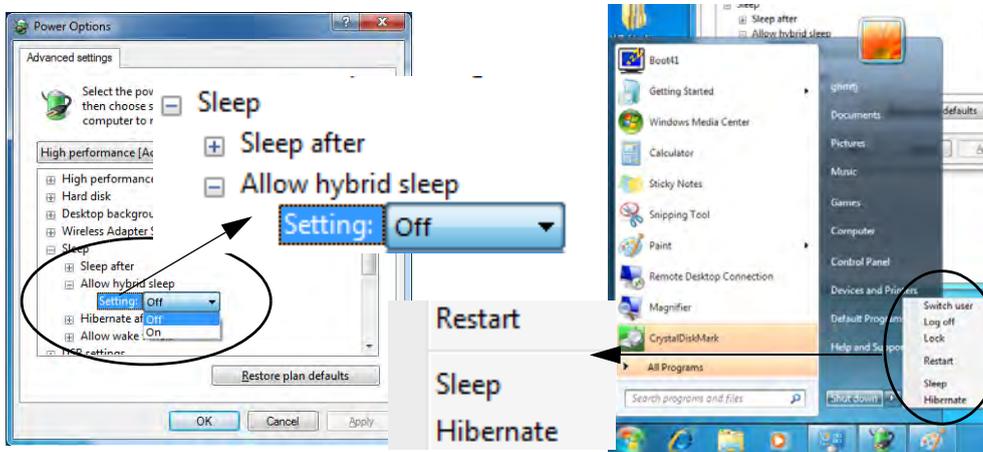
Figure D - 10
Adding Hibernate to Shut Down (Win 7)

Audio Features

You can configure the audio options on your computer from the **Sound** control panel in *Windows*, or from the **Realtek HD Audio Manager** icon in the notification area/control panel (right-click the taskbar notification area icon to bring up an audio menu). The volume may also be adjusted by means of the **volume icon in the taskbar** or the **On Screen Display Indicators** (see *Table D - 3, on page D - 4*).

Right-click the icon to access the menu above.

Note that many keyboards have built-in controls to allow you to adjust the audio volume.

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Volume Adjustment

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

Figure D - 11
Realtek Audio Manager

Setup for Audio Recording

To record audio sources on your computer at optimum quality follow the instructions below:

1. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**) and make sure you are in **Classic View**.
2. Click **Realtek HD Audio Manager** (or right-click the taskbar icon ▓ and select **Sound Manager**).
3. Click **Microphone Effects** (tab) in **Microphone** (tab), and then click to select **Noise Suppression** (button), or adjust the **Recording Volume** level to around **60**, to obtain the optimum recording quality.
4. Click **OK** to close the control panel and save the settings.

Figure D - 12 **- Realtek Audio Manager - Recording Setup**

Tablet PC Input Options for Touch Screen

Tablet PC settings (for touch screen input) may be customized from the **Tablet PC Settings** in *Windows 7*.

1. To access the control panel click **Start**, and then click **Control Panel**.
2. The Tablet **PC Settings** and **Pen and Touch** control panel are in the **Hardware and Sound** category.
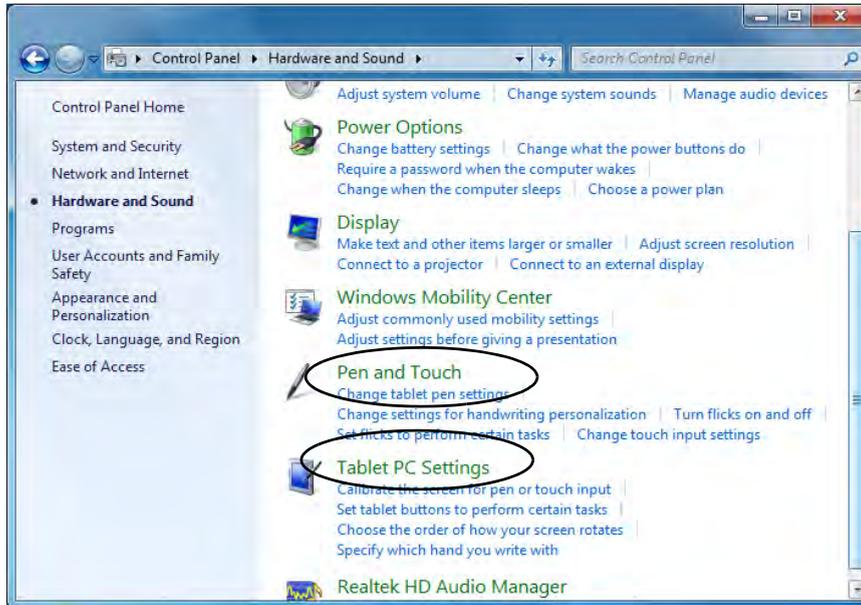
Figure D - 13 **- Pen and Touch & Tablet PC Settings Control Panels**

3. Click **Tablet PC Settings** and click **Other**.
4. Click **Go to Input Panel Settings** (in **Tablet PC Input Panel Options**) to configure where and how the **Tablet PC Input Panel** appears.
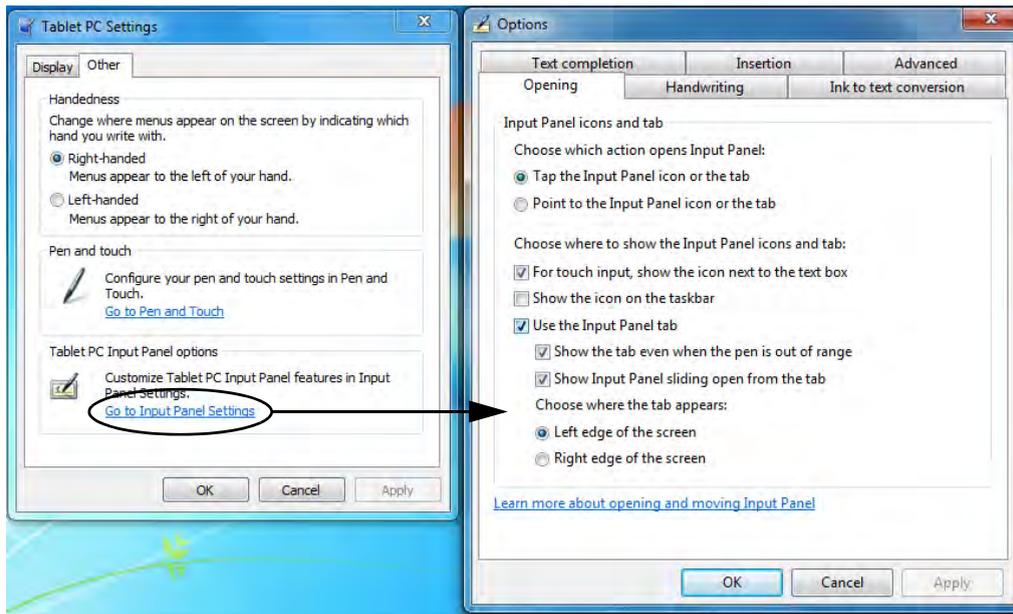
Figure D - 14 - **Input Panel Settings**

5. Click **Go to Pen and Touch** (in **Tablet PC Input Panel Options**) to configure the **Pen Options, flicks and handwriting etc**.
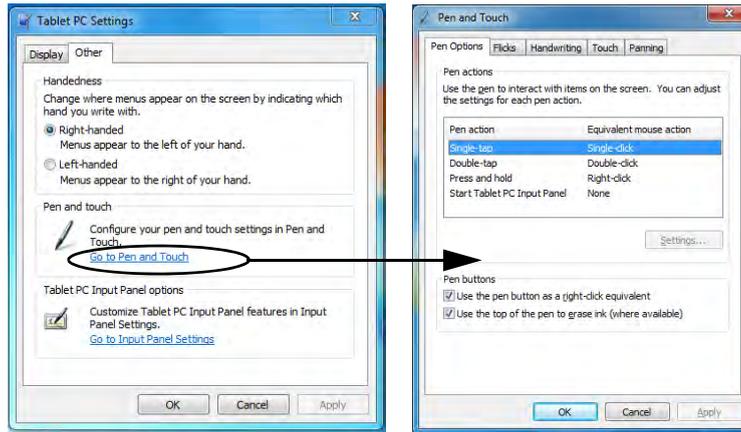
Figure D - 15 **- Pen and Touch Settings**

6. When not in use the **Tablet PC Input Panel** docks at the side of the screen (and may be docked at either side of the screen at any height) with just a small portion visible.
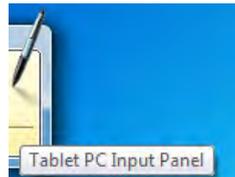
Figure D - 16 **- Tablet PC Input Panel**

D - 18 Tablet PC Input Options for Touch Screen

7. Move the pen over the TIC and then tap it to activate it. The input panel allows you to input text without the use of a keyboard.
8. You can use the writing pad (write continuously), character pad (write one character at a time) or touch keyboard to input text.
9. Use **Help topics** from the **Tools** menu for further information.
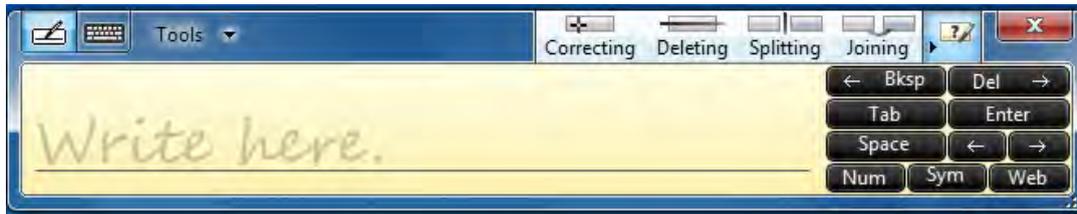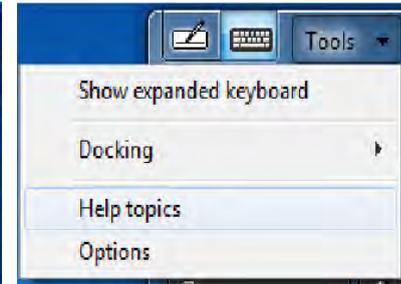
Figure D - 17 **- Touch Keyboard, Writing Pad & Help Topics**

Driver Installation

Insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive 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.

1. Check the driver installation order from *Table D - 4, on page D - 21* (**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, (you should note down the drivers as you install them).
3. Follow the instructions for each individual driver installation procedure as listed on the following pages.

Note: If you need to reinstall any driver, you should uninstall the driver first.

Figure D - 18 - **Drivers Installer Screen 1**

Figure D - 19 - **Drivers Installer Screen 2**

Win 7 SP1/Win 8 Driver	Page #	Win 7 SP1/Win 8 Driver	Page #
Chipset	*Page D - 24*	*PC Camera Module (Windows 7)* *(Not required for Windows 8)*	*Page D - 27*
Video	*Page D - 24*	*Wireless LAN Module (Windows 7)*	*Page D - 35*
LAN	*Page D - 24*	*Bluetooth & WLAN Combo Module (Windows 7)*	*Page D - 54*
ExpressCard/Card Reader	*Page D - 24*	*Intel® Rapid Storage Technology*	*Page D - 65*
On Screen Display	*Page D - 24*	*Intel® Rapid Start Technology Driver*	*Page D - 66*
USB 3.0 (Win 7 Only) *(Not required for Windows 8)*	*Page D - 24*	*Intel® Smart Connect Technology*	*Page D - 74*
MEI Driver	*Page D - 24*	*Intel® Wireless Display Application (Windows 7)*	*Page D - 79*
Audio	*Page D - 25*		

Table D - 4 **- Driver Installation**

Note that you need to install both the WLAN & Bluetooth drivers for the WLAN & Bluetooth Combo modules.

All drivers provided are for Windows 7 with Service Pack 1 or Windows 8.

Windows 7

Manual Driver Installation

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

Windows Update

After installing all the drivers make sure you enable **Windows Update** in order to get all the latest security updates etc. (all updates will include the latest **hotfixes** from Microsoft). See *"Windows 7 Update" on page D - 25* for instructions.

Updating/Reinstalling Individual Drivers

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

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

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

User Account Control

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

Windows Security Message

If you receive a *Windows* security message as part of the driver installation process. Just click *"Install this driver software anyway"* or *"Install"* to continue the installation procedure.

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

New Hardware Found

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

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Driver Installation General Guidelines

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

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

Driver Installation Procedure

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

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

LAN

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

ExpressCard/Card Reader

1. Click **4.Install Cardreader Driver > Yes.**
2. Click **Finish**.

On Screen Display

1. Click **5.Install OSD Driver > Yes**.
2. Click **Next > Next**.
3. Click **Finish > Finish** to restart the computer.

USB 3.0 (Win 7 Only)

1. Click **6.Install USB 3.0 Driver > Yes**.
2. Click **Next > Yes > Next > Next**.
3. Click **Finish** to restart the computer.

MEI Driver

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

Audio

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

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

Windows Experience Index

After the drivers are installed follow this procedure to ensure an accurate rating from the *Windows Experience Index*:

1. Click **Start**, and click **Control Panel**.
2. Click **Performance Information and Tools** (**System and Security > System > Check the Windows Experience Index**).

3. Click "**Rate this computer**".
4. The computer will take a few minutes to assess the system performance.
5. Close the control panel.

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Windows 7 Update

After installing all the drivers make sure you enable **Windows Update** in order to get all the latest security updates etc., (all updates will include the latest **hotfixes** from Microsoft).

To enable **Windows Update make sure you are connected to the internet**:

1. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
2. Click **Windows Update** (System and Security).
3. Click **Check for updates** (button).
4. The computer will now check for updates (you need to be connected to the internet).
5. Click **Install now** (button) to begin checking for the updates.
6. Click **Install updates** (button) to install the updates.

Optional Drivers

See the pages indicated in *Table D - 4, on page D - 21* for the driver installation procedures for any modules included in your purchase option. Insert the *Device Drivers & Utilities + User's Manual* disc and click **Option Drivers** (button) to access the optional driver menu.

Figure D - 20 - **Optional Drivers**

PC Camera Module (Windows 7)

Before installing the *Windows 7* PC Camera driver, make sure the PC Camera is on. Use the **On Screen Display** button (see page *D - 4*) to toggle power to the PC Camera module. When the PC Camera application is run the LED indicator to the left of the camera will be illuminated in red (see ❷ *Figure 1 - 2 on page 1 - 6*).

Install the camera driver as indicated overleaf and install all the drivers in the order indicated in *Table D - 4, on page D - 21*. **Make sure you access the camera application via the desktop shortcut**.

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PC Camera Application and Power-Saving States

If the computer enters **Sleep** or **Hibernate** mode while running the camera application, the program will stop running, and will need to be restarted when the system resumes from the power-saving state.

Latest PC Camera Driver Information

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

PC Camera Driver Installation

1. Insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
2. Make sure the camera module is on before beginning the installation process (use the On Screen Display to toggle power to the camera module - see page *D - 4*).
3. Click **Option Drivers** (button).
4. Click **1.Install Webcam Driver > Yes**.
5. Click **Finish** to restart the computer.
   OR
   Click **Next > Finish**.
6. Run the camera application program from the desktop shortcut (if the hardware is turned off use the **On Screen Display** button to turn it on again).

PC Camera Audio Setup

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

1. Click **Start**, and click **Control Panel** (or point to **Settings** and click **Control Panel**).
2. Click **Sound** (**Hardware and Sound**).
3. Click **Recording** (tab).
4. Right-click **Microphone** (Realtek High Definition Audio) and make sure the item is not disabled.
5. Double-click **Microphone** (or select **Properties** from the right-click menu).
6. Click **Levels** (tab), and adjust the **Microphone** and **Microphone Boost** sliders to the level required.
7. Click **OK** and close the control panels.
8. Run the camera application program from the desktop shortcut.
9. Go to the **Devices** menu heading and select **Microphone** (**Realtek....**) (it should have a tick alongside it).
10. Go to the **Capture** menu heading and select **Capture Audio** (it should have a tick alongside it).
11. To obtain the best sound recording quality enable **Noise Suppression** in the **Realtek HD Audio Manager** control panel (see).

Windows 7

Right-click
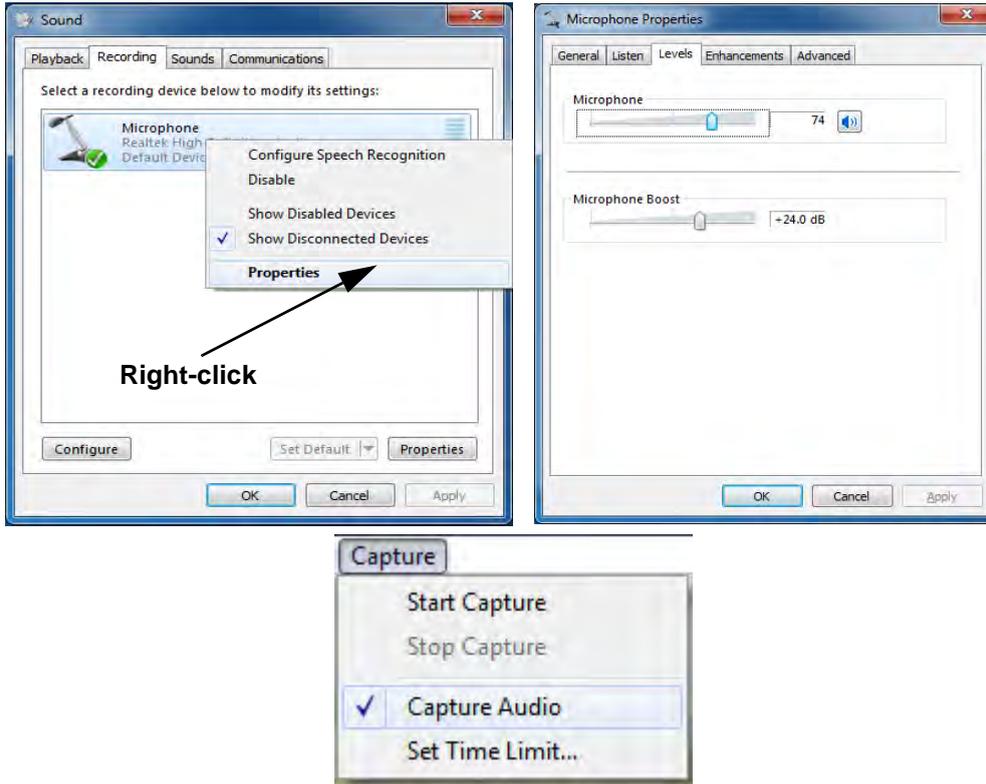
Figure D - 21 - **Audio Setup for PC Camera**

Camera Application

The camera 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 below**).
2. Go to the **Capture** menu heading (if you wish to capture audio check *"PC Camera Audio Setup" on page D - 29*) and select **Start Capture**.
3. Click **OK/Yes** (the file location will be displayed in the pop-up box) to start capturing the video, and press **Esc** to stop the capture (you can view the file using the **Windows Media Player**).

Set Capture File

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

Note the important information in *"Reducing Video File Size" on page D - 32* **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* system requires a minimum of **15GB** of free space on the **C: drive** system partition. In order to prevent system problems it is recommended that you save the captured video file to a location other than the **C: drive** (see *"Set Capture File" on page D - 31*), limit the file size of the captured video or reduce video resolution (see below).

To Reduce Video Resolution Output Size:

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

Eliminating Screen Flicker

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

1. Run the camera application from the desktop shortcut.
2. Go to **Options** and scroll down to select **Video Capture Filter...**.
3. Click either **50Hz** or **60Hz** under **Powerline Frequency (Anti Flicker)**.
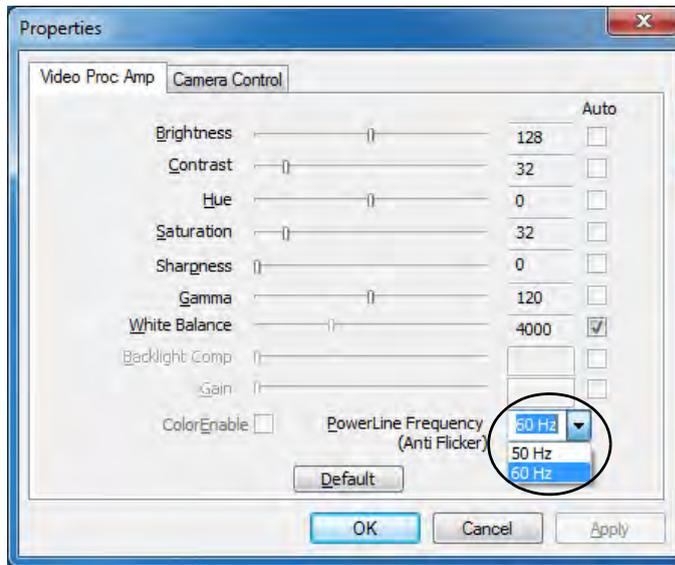
Figure D - 22 **- Video Capture Filter**

Latest PC Camera Driver Information

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

Windows 7

> 🔔
>
> **Snapshot Folder**
>
> The Snapshot folder's default location is on the desktop. Do not move this folder or an error may appear when you try to take a still picture.
>
> If you accidentally delete or move the folder, you can create a new Snapshot folder on the desktop in order to capture the files.

Taking Still Pictures

The 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**.
3. The picture (in JPEG format) will be placed in the **Snapshot** folder on the desktop.

Wireless LAN Module (Windows 7)

If you have included an **Intel®** or **3rd Party** module in your purchase option use the **On Screen Display** button (see page *D - 4*) to toggle power to the Wireless LAN module, and make sure that the module is on before installing the driver. See *"Wireless LAN Module (Windows 8)" on page 7 - 8* for **Windows 8** configuration information.

Make sure you install the drivers in the order indicated in *Table D - 4, on page D - 21*.

Note that you need to install both the WLAN & Bluetooth drivers for the WLAN & Bluetooth Combo modules.

Windows 7

3rd Party 802.11b/g/n Driver Installation

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

1. **Make sure the module is powered on**, and then insert the *Device Drivers & Utilities + User's Manual* disc into the 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 **Finish** to restart the computer.

Note: The operating system is the default setting for Wireless LAN control in *Windows* (see page *D - 40*). See *"Wireless LAN Module (Windows 8)" on page 7 - 8* for *Windows 8* configuration information.

Intel® WLAN Driver Installation

For a standard Intel® WLAN driver installation and configuration choose the **Typical Installation** below and use the *Windows OS* for Wireless LAN control (**see overleaf**). If you want to use **Intel® PROSet/Wireless WiFi Connection Utility** as your WLAN interface, and/or add **Intel® MyWifi Technology** (Personal Area Network) see overleaf.

Typical Installation:

1. If you see the message "**Found New Hardware**" click Cancel to close the window.
2. **Make sure the module is powered on**, and then insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
3. Click **Option Drivers** (button).
4. Click **2.Install WLAN Driver > Yes**.
5. Click **Next > Next**.
6. Click the button to accept the license and click **Next**.
7. Click **Typical > Install**.
8. Click **Finish**.

Note: The operating system is the default setting for Wireless LAN control in *Windows* (see page *D - 40*). See *"Wireless LAN Module (Windows 8)" on page 7 - 8* for *Windows 8* configuration information.

Windows 7

Intel® My WiFi

If you want to install **Intel® My WiFi Technology** (Intel® MWT) to transform your system into a Wi-Fi Personal Area Network see *"Intel® My WiFi Configuration" on page 8 - 23*.

Custom Installation (for Intel® PROSet/Wireless WiFi Connection Utility):

1. If you see the message "**Found New Hardware**" click Cancel to close the window.
2. **Make sure the module is powered on**, and then insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
3. Click **Option Drivers** (button).
4. Click **2.Install WLAN Driver > Yes**.
5. Click **Next > Next**.
6. Click the button to accept the license and click **Next** > **Custom**.
7. To install **Intel® PROSet/Wireless WiFi Connection Utility** click the + icon (if necessary) to display the items below it (**Administrator Toolkit** and **Intel® PROSet/Wireless Enterprise Software**). Click the icon 🖴▾ alongside the **Administrator Toolkit** and **Intel® PROSet/Wireless Enterprise Software** and select **"Entire feature will be installed on local hard drive"** (see *Figure D - 23 on page D - 39*)**.**
8. Click **Next > Install > Finish**.
9. See *"Connecting to a Wireless Network Using Intel® PROSet Wireless" on page D - 43* for further information.
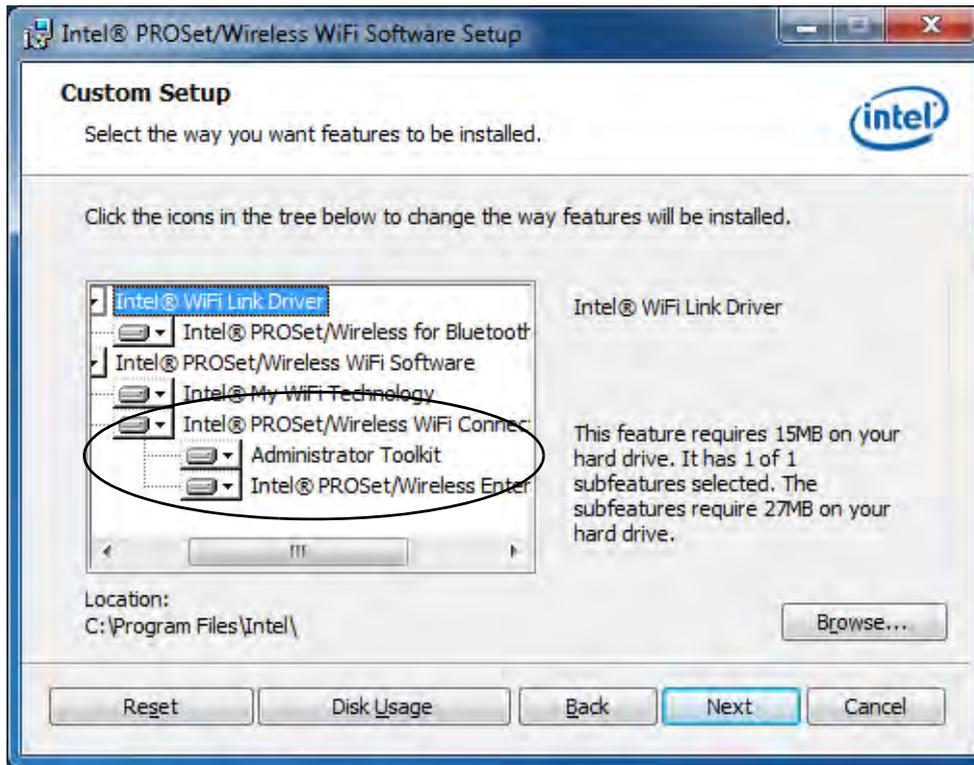
Figure D - 23
**Install Intel®
PROSet/Wireless
WiFi Connection
Utility**

Windows 7

Connecting to a Wireless Network in Windows 7

Make sure the Wireless LAN module is turned on.

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

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Network and Sharing Center

You can also use the **Network and Sharing Center** control panel in Windows (**Network and Internet**) to connect to any available wireless networks.
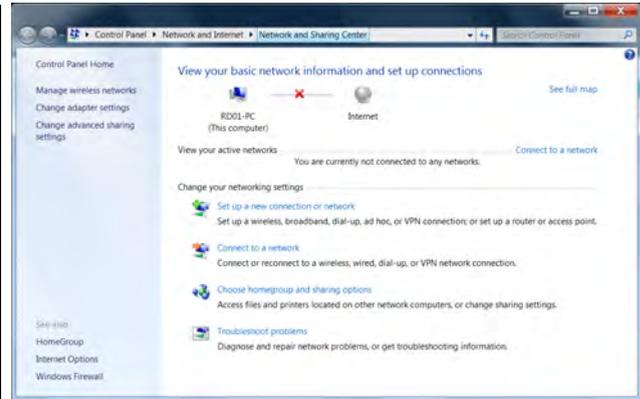
Figure D - 24 - **Click Taskbar Icon Menu & Network and Sharing Center**

2.   You may need to enter a security key for any access point to which you are trying to connect.
3.   Click to select a network location (e.g. **Home, Work or Public**).
4.   Click "**View or change settings in Network and Sharing Center"** to access further options for the connection.
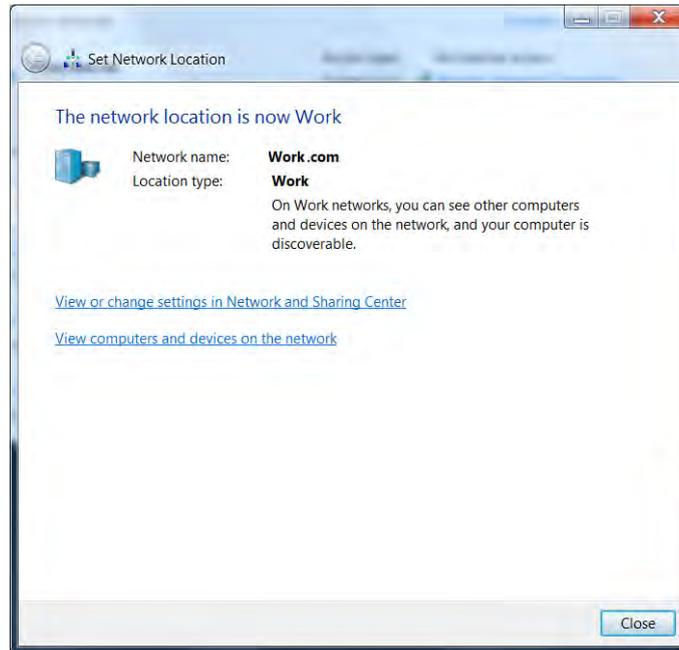
Figure D - 25 **- Network Location Set**

Windows 7

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

Figure D - 26 **- Click Taskbar Icon Menu - Disconnect**

D - 42 Wireless LAN Module (Windows 7)

Connecting to a Wireless Network Using Intel® PROSet Wireless

(For Intel® WLAN Modules Only)

1.   Make sure the Wireless LAN module is on.
2.   Access the **Intel® WiFi Connection Utility** from the **Start** menu (**Start** > **All Programs** > **Intel PROSet Wireless > WiFi Connection Utility**).
3.   Click to select a network from the found list WiFi network access points, or click **Refresh** to update the list.

Figure D - 27 **- Intel® PROSet/Wireless WiFi Connection Utility (Connect)**

4. Click **Connect** to connect to the select WiFi network access point.
5. If the access point is encrypted then you will need to enter the password and click **OK**.
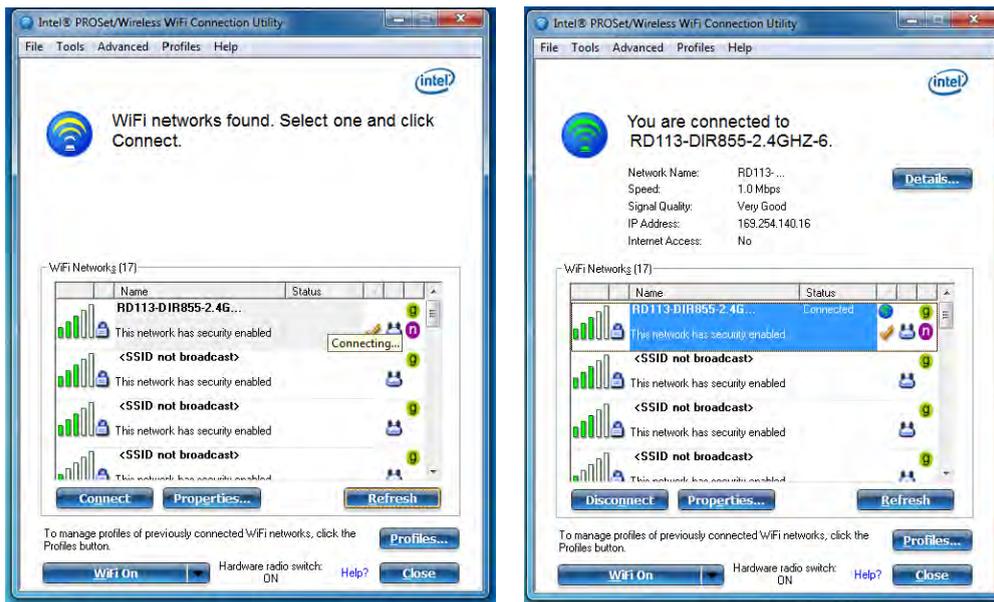
Figure D - 28 **- Intel® PROSet/Wireless WiFi Connection Utility (Connecting & Connected)**

6. You can turn **WiFi On**/**WiFi Off** from the button at the bottom of the Utility.
7. To disconnect, select the connected access point and click **Disconnect**.
8. Select **Help** from the menu at the top of the utility (or at the bottom right) to bring up the **Help** menu.

Installing Intel® MyWiFi Technology (for Intel® WLAN Modules Only)

If you want to install **Intel® MyWifi Technology** (Personal Area Network) then follow the procedure outlined here. Note that if you wish to install Intel® MyWiFi you will need to **install Microsoft.net Framework 4.0 (or later version) before installing the driver** as per the procedure below. To get the **Microsoft.net Framework** file go to the *Microsoft* website, search for the file, download it and then install it.

1. **Make sure the WLAN module is powered on**, and then insert the *Device Drivers & Utilities + User's Manual* disc into the CD/DVD drive.
2. Insert the *Device Drivers & Utilities + User's Manual disc* into the CD/DVD drive.
3. Click **Browse** and browse to the driver location (X: denotes your DVD drive):
- **X:\Options\02_WLAN\Intel_Combo\My_WiFi_Dashboard\Autorun.exe**
4. Click **Next > Next**.
5. Click the button to accept the license and click **Next** > **Next > Install**.
6. Click **Finish**.

Intel® My WiFi Configuration

You can configure the My WiFi settings as follows.

1.Make sure the Wireless LAN module is on.
2.Access the **Intel® WiFi Connection Utility** from the **Start** menu (**Start** > **All Programs** > **Intel PROSet Wireless > Intel(R) My WiFi Dashboard**), or click the icon 🌐 in the notification area of the taskbar (or right-click and select Open Dashboard).
3.An initial welcome message will appear on the first run of the program (click "***Don't show this message again***" to turn this off in future).

Figure D - 29
Intel® My WiFi Utility - Welcome

Intel® My WiFi Interface

Help

Wireless ON/OFF

Configuration Options & Preferences

Your Computer
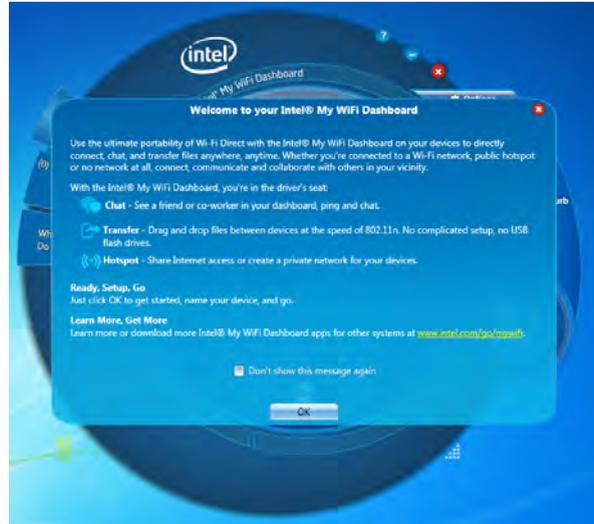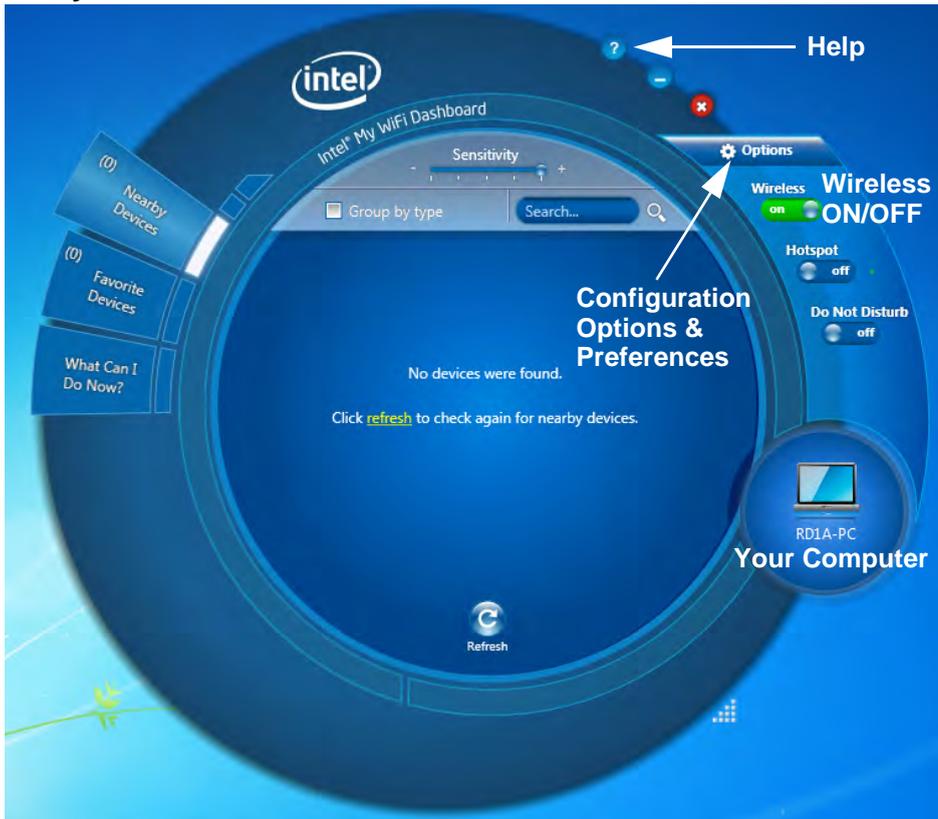
Figure D - 30
Intel® My WiFi Utility - Interface

Intel® My WiFi Help

Click the **Help** icon ⬚ in the dashboard to bring up the Help menu and select and item from the **Contents** menu to obtain the help information.
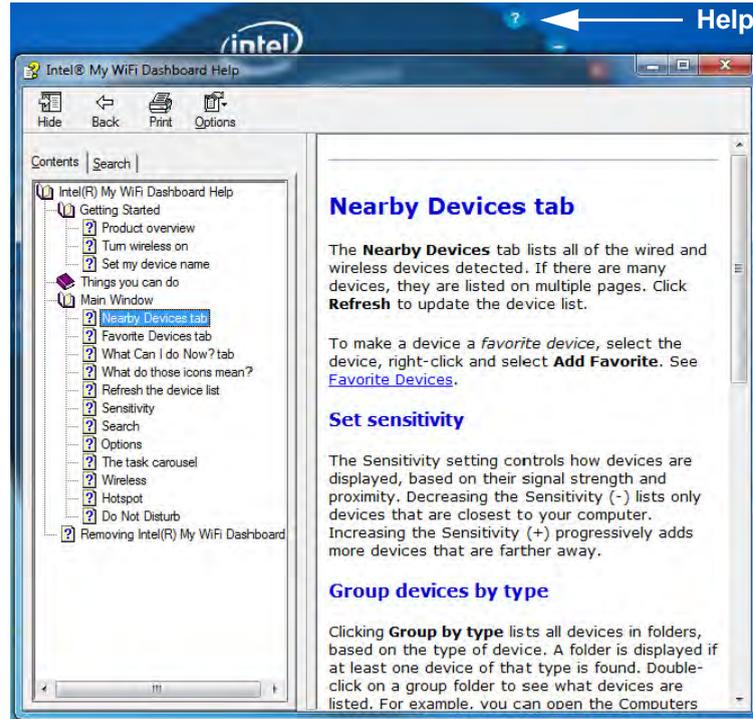
Figure D - 31
Intel® My WiFi
Utility - Help

Preferences

Click the **Options** icon ⚙ and select **Preferences** to configure the options.
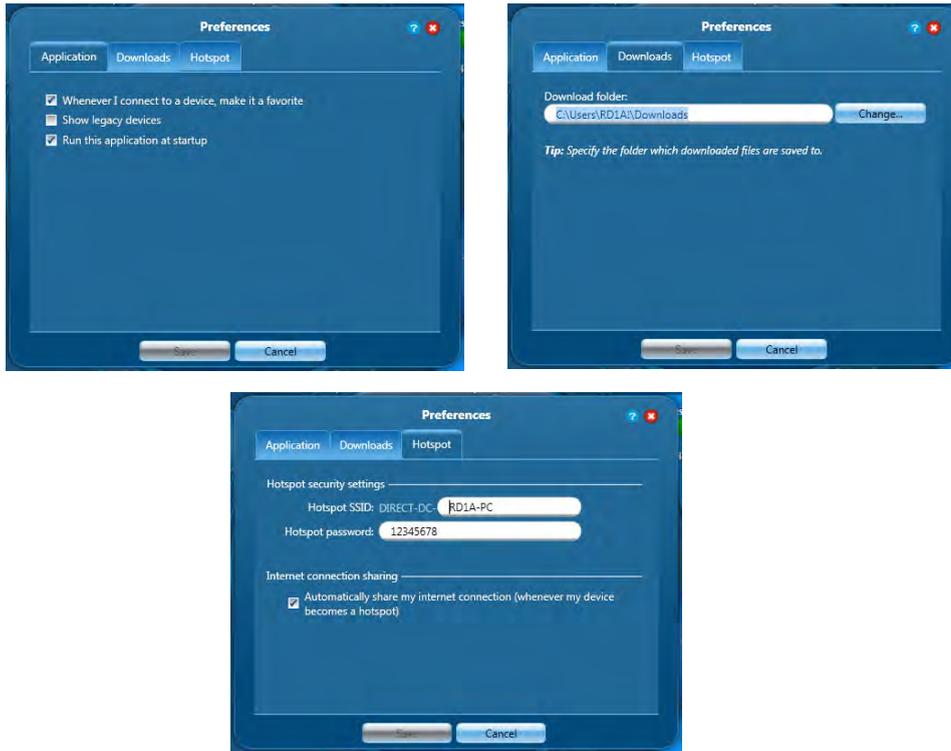
Figure D - 32
**Intel® My WiFi
Utility - Preferences**

Hotspot

You can turn the computer into a hotspot to allow other devices to connect to it (and any locally connected devices), and also (if available) the internet.

1.Click the **Hotspot** icon to turn the **Hotspot** on.
2.The **Hotspot** settings tab shows the SSID and password (you will need to enter this information when accessing the **Hotspot** from the client computer/device).
3.Click **OK** to close the **Hotspot** settings.

Figure D - 33
Intel® My WiFi
Utility - Hotspot
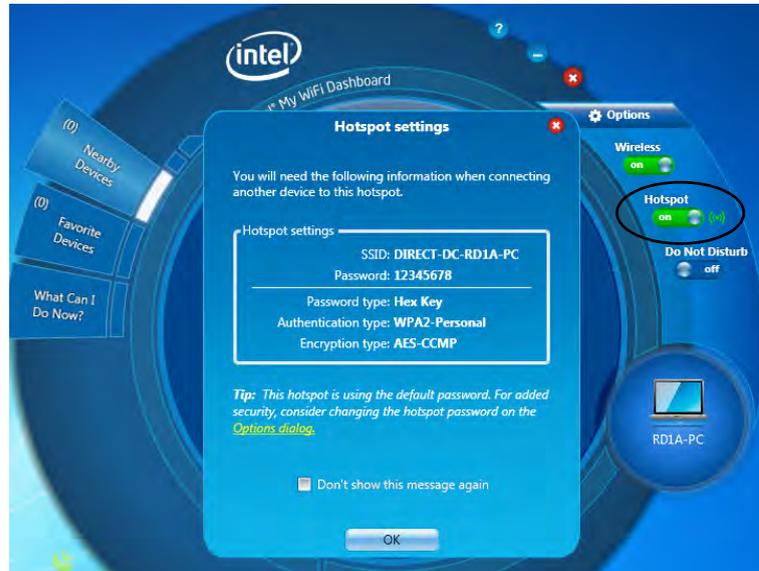
Finding Devices

You can find any **Nearby Devices** by clicking the **Refresh** button ⟳ in the main window. Click again at any time to update the list. If a lot of devices are found they will be listed on multiple pages and you can use the left ◄ or right ► buttons to turn the pages.

Sensitivity

The **Sensitivity** controls displays available devices based on their signal strength and proximity e.g decreasing (**-**) the sensitivity lists only devices closest to the computer's location.

Group Devices by Type

If you click **Group by type** it will list all devices according to their type in a folder group. Double-click on any group folder to see the devices of that type listed. There are 12 possible device types available.

Search

If you want to search for a particular device by name then enter the device name in the Search field to return results for devices matching the name of the device.

Favorite Devices

The **Favorite Devices** tab is where you keep devices to which you connect most often, and this is particularly useful in environments where many devices are listed nearby. A favorite device will display the icon ♥.

To make any device a favorite just click to select it and select **Add Favorite**.

Figure D - 34
Intel® My WiFi
Utility - Interface

Device as Favorite
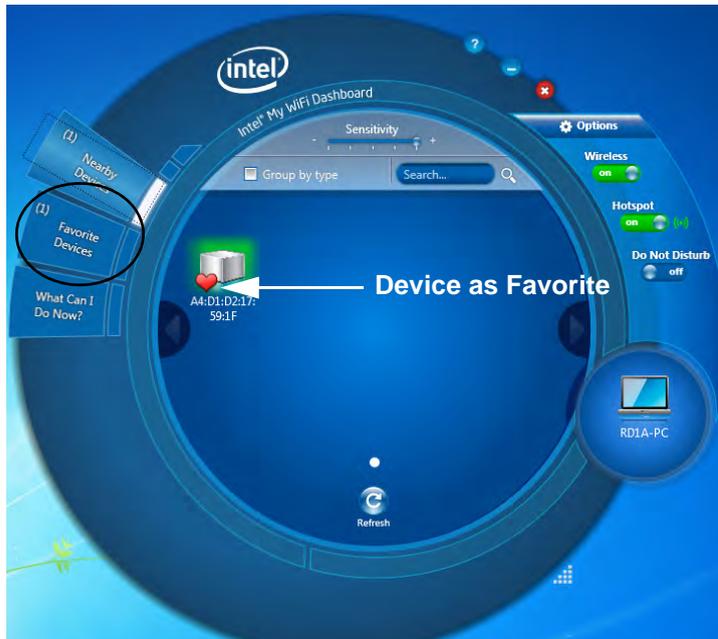
Connect to a Device

1. Click the device you want to connect to, and click the connect icon 🔵.
2. An invitation will be sent to the target device.
3. The user must then accept the invitation.
4. After the invitation is accepted the connection will be made.
5. Use the *Windows Network and Sharing Center* to set permissions for viewing and sharing the resources on your computer with another connected computer.

Further Information

For information on how to **block/unblock** devices, setting **Do Not Disturb**, **sharing an internet connection** and **chat** options see .

Windows 7

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Bluetooth Data Transfer

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

Bluetooth & WLAN Combo Module (Windows 7)

If your purchase option includes the Combination Wireless LAN & Bluetooth module (either **Intel®** or **3rd Party**) then install the driver as instructed from the appropriate page (see below). Use the **On Screen Display** button (see page *D - 4*) to toggle power to the Combination Wireless LAN & Bluetooth module.

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High Speed Bluetooth Data Transfer

The **Combination Wireless LAN Bluetooth module** supports high speed data transfer. However to achieve such transfer speeds, **both devices must support high speed data transfer**.

To obtain high speed data transfer make sure that the WLAN module is not turned off. Check your Bluetooth compatible device's documentation to confirm it supports high speed data transfer.

- **For 3rd party Bluetooth combo modules** see the information in *"3rd Party Bluetooth (V4.0) Combo Driver Installation" on page D - 55* and *"Standard Bluetooth Configuration in Windows 7" on page D - 57*.

- For **Intel Bluetooth combo modules** see the installation procedure in *"Intel Bluetooth Combo Driver Installation" on page D - 56* and *"Standard Bluetooth Configuration in Windows 7" on page D - 57*.

3rd Party Bluetooth (V4.0) Combo Driver Installation

Note this driver is required for the 3rd Party combo Bluetooth and WLAN module (Bluetooth V4.0) only.

1. **Before installing the driver make sure the Bluetooth module is powered on** (use the **On Screen Display** button to toggle power to the module), then insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive. If a *Found New Hardware* window appears, click **Cancel** in all windows that appear, and then proceed to install the driver as below.
2. Click **Option Drivers** (button).
3. Click **3.Install Combo BT Driver > Yes**.
4. Click **Next** (if a prompt appears to ask you to turn the Bluetooth power on, use the **On Screen Display** button to do so, otherwise the driver will not be installed).
5. Click **Finish** to restart the computer.
6. See *"Standard Bluetooth Configuration in Windows 7" on page D - 57* for configuration instructions.

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High Speed Bluetooth Data Transfer

The **Combination Wireless LAN & Bluetooth module** supports high speed data transfer. However to achieve such transfer speeds, **both devices must support high speed data transfer**.

To obtain high speed data transfer make sure that both the WLAN and Bluetooth modules are powered on.

Check your Bluetooth compatible device's documentation to confirm it supports high speed data transfer.

Windows 7

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High Speed Bluetooth Data Transfer

The **Combination Wireless LAN & Bluetooth module** supports high speed data transfer. However to achieve such transfer speeds, **both devices must support high speed data transfer**.

To obtain high speed data transfer make sure that both the WLAN and Bluetooth modules are powered on.

Check your Bluetooth compatible device's documentation to confirm it supports high speed data transfer.

Intel Bluetooth Combo Driver Installation

Note this driver is required only for the Intel combo Bluetooth and WLAN module only.

1. **Before installing the driver make sure the Bluetooth module is powered on** (use the **On Screen Display** button), then insert the *Device Drivers & Utilities + User's Manual* disc into an attached DVD drive. If a *Found New Hardware* window appears, click **Cancel** in all windows that appear, and then proceed to install the driver as below.
2. Click **Option Drivers** (button).
3. Click **3.Install Combo BT Driver > Yes**.
4. Click **Next > Next**.
5. Click the button to accept the license and click **Next**.
6. Click **Next > Finish**.
7. See for configuration instructions.

Standard Bluetooth Configuration in Windows 7

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

To Turn the Bluetooth Module On
1. Press the **On Screen Display** button to power on the Bluetooth module.
2. A Bluetooth icon 🔵 will appear in the taskbar.
3. You can then do any of the following to access the **Bluetooth Devices** control panel.

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

Add a device
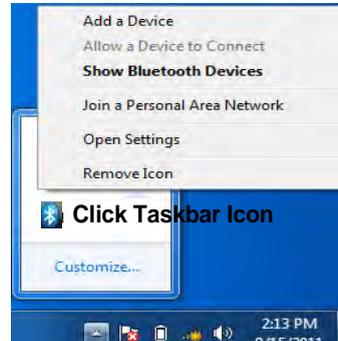
Figure D - 35 **- Bluetooth Devices & Click Icon Menu**

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Add a Device

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

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 **On Screen Display** button to power on the Bluetooth module after the computer resumes from Sleep.

Windows 7

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

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Pairing Options

If a device has been pre-viously connected then the pairing option menu will appear when you at-tempt subsequent con-nections. You can choose to have the computer cre-ate a pairing code for you, use the device's existing pairing code or you can pair certain devices with-out using a code.
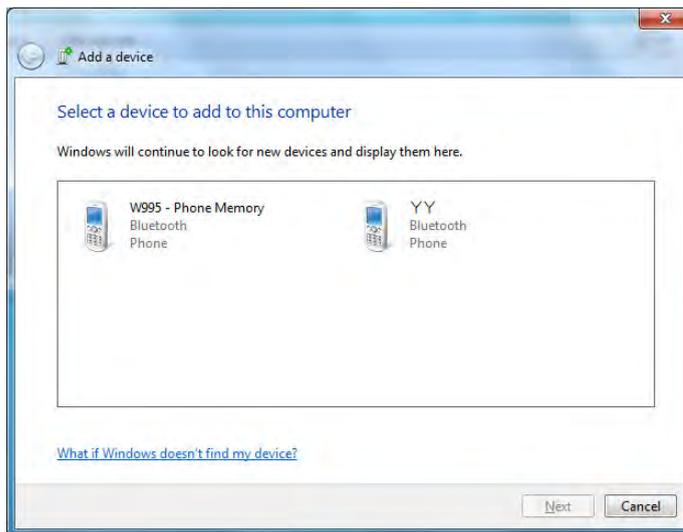
Figure D - 36 **- Add a Device**

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

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

P
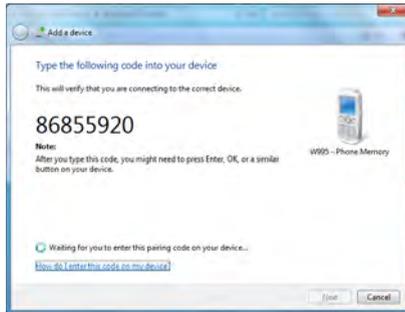
Pairing Codes

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

Figure D - 37 **- Pairing Code Example**

5. *Windows* will check to see if any drivers are required to complete the pairing.
6. Follow any on-screen instructions on the computer if device drivers are required to be installed.
7. Click **Close**.
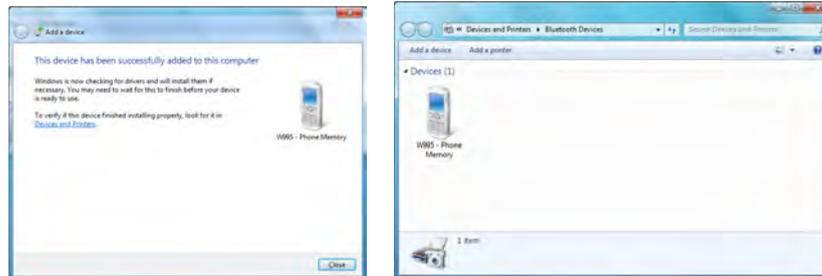
Figure D - 38 **- Pairing Complete & Bluetooth Device Enabled**

Windows 7

To Change Settings for the Bluetooth Device

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

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

To Make your Computer Discoverable to Bluetooth Devices

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

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Bluetooth Help

To get help on Bluetooth configuration and settings, select **Help and Support** from the **Start** menu. Type Bluetooth in the **Search Help** box, and select an item from the returned search results to get more information.
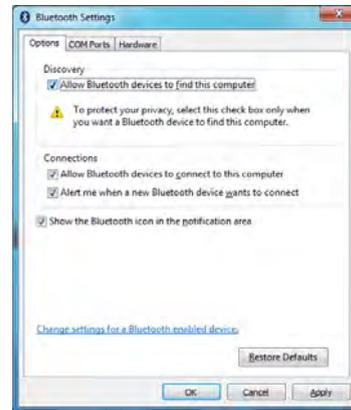
Figure D - 39 **- Bluetooth Settings - Options**

Bluetooth Connection Problems

If you are experiencing problems connecting to some Bluetooth devices (in particular certain mobile phones and headsets) it maybe necessary to download and install the **Windows Mobile Device Center** software (for *Windows Vista* and *Windows 7*). Go to the Microsoft website and search for the **Microsoft Windows Device Center Driver for *Windows Vista* (*64-bit or 32-bit*) and *Windows 7* (*64-bit or 32-bit*)**, and then download the driver.

1. Install the *Microsoft Windows Device Center Driver* as appropriate for your operating system.
2. *Windows Vista* will automatically configure the driver for you, however *Windows 7* requires further configuration.
3. Make sure the Bluetooth device is powered on.
4. Go the *Windows 7* control panel and double-click **Device Manager** (**Hardware and Sound > Devices and Printers**).
5. **Bluetooth Peripheral Device(s)** will be listed under **Other Devices** (note this will only be listed if you have connected, or tried to connect to, a Bluetooth device previously).
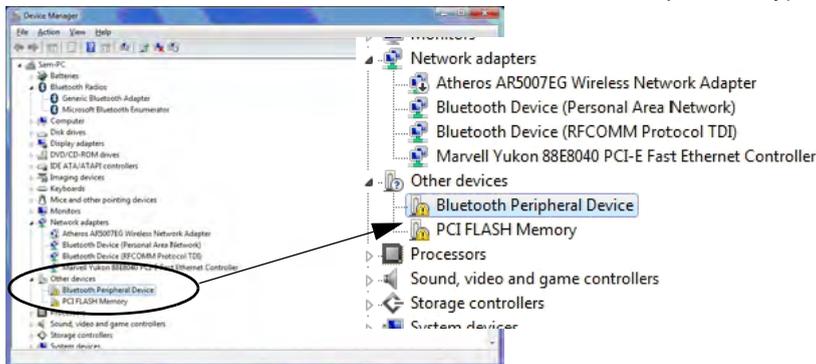
Figure D - 40 **- Device Manager**

> 🖉
>
> **Bluetooth Peripheral Devices**
>
> You will need to repeat the procedure listed here for all **Bluetooth Peripheral Devices** listed under **Other Devices** i.e. until there are no more **Bluetooth Peripheral Devices** listed under this menu heading.

Windows 7

Bluetooth Connection Problems D - 61

6. Right-click **Bluetooth Peripheral Device** and click on *Update Driver Software*.
7. Click **Browse my computer for driver software**.
8. Click **Let Me pick from a list of device drivers on my computer**.
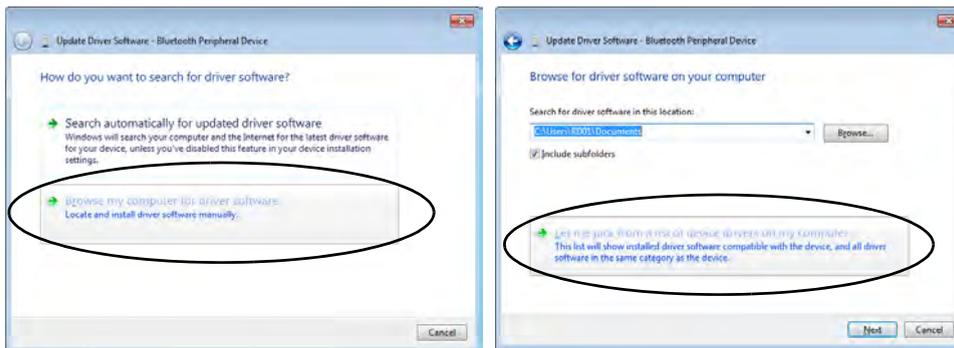
Figure D - 41 **- Browse my computer.../Let me pick from...**

9. Select **Bluetooth Radios** from the list.
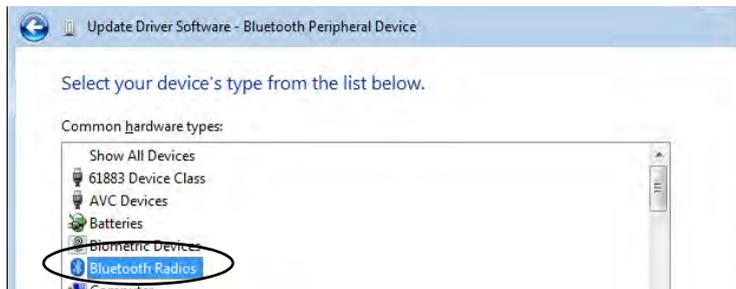
Figure D - 42 **- Select Bluetooth Radios**

10. A list of drivers will appear with **Manufacturer** on one side and **Model** in the other.
11. Choose **Microsoft Corporation** (make sure you choose the full name **Microsoft Corporation** and do not choose **Microsoft** - Note that you must have installed the **Microsoft Windows Device Center Driver** for **Microsoft Corporation** to appear in the list).
12. Select **Windows Mobile-based device support** from the **Model** list.

Make sure you select **Microsoft Corporation**
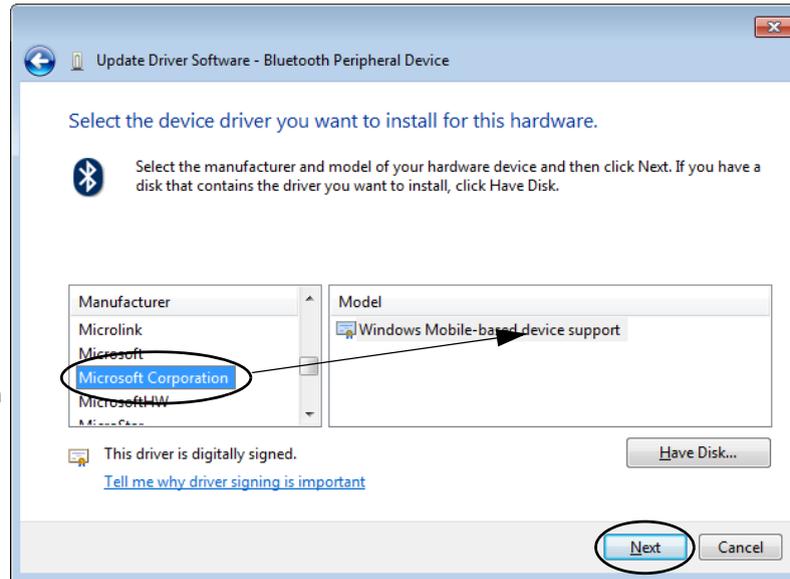
Figure D - 43 **- Select Device Driver**

13. Click **Next > Yes** and the driver will install.
14. Click **Close** to complete the installation.

15. The **Device Manager** should now display the **Windows Mobile-based device support** under **Bluetooth Radios**.
16. You will need to repeat the process for any other **Bluetooth Peripheral Devices** listed under **Other Devices**.
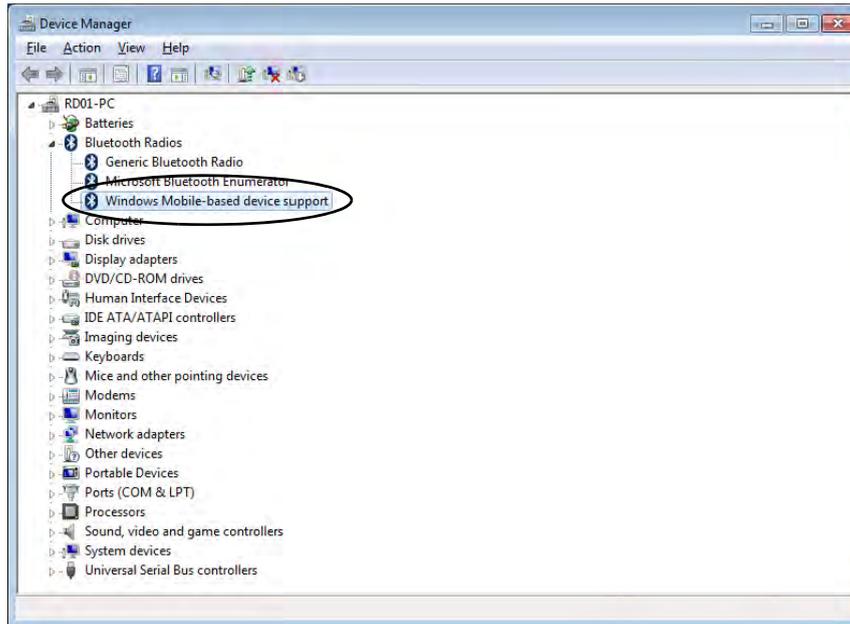
Figure D - 44 **- Device Manager - Bluetooth Radio**

D - 64 Bluetooth Connection Problems

Intel® Rapid Storage Technology

Install the Intel Rapid Storage Technology to support your SATA drive if set up in AHCI mode in the BIOS (see *"SATA Mode Selection (Advanced Menu)" on page 5 - 9*).

IRST Driver Installation

1. Insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
2. Click **Option Drivers** (button).
3. Click **4.Install IRST Driver > Yes**.
4. Click (click the box to **Install Intel® Control Center**) to **Next > Yes > Next > Next**.
5. Click **Finish** to restart the computer (you will need to restart the computer again after it has rebooted).

Intel® Rapid Start Technology Driver

Intel(R) Rapid Start Technology can resume power from Hibernation within 5 to 6 seconds and can remember your computer's previous state with zero power.

System Requirements to support Intel® Rapid Start Technology:
- Rapid Start Technology should be enabled in the BIOS (see "*"Intel(R) Rapid Start Technology (Advanced Menu)" on page 5 - 8*).
- Intel Rapid Storage Technology software installed.
- A Solid State Drive (SSD) with a minimum capacity of 18.6GB.

See overleaf for instructions on enabling **Intel® Rapid Start Technology and see** *"Intel Smart Connect & Intel Rapid Start Technology" on page D - 78* for information on configuring Rapid Start and Smart Connect Technology.

Intel® Rapid Start Technology Configuration

1. Enable/disable **Intel(R) Rapid Start Technology** from the BIOS (see *"Intel(R) Rapid Start Technology (Advanced Menu)" on page 5 - 8*).
2. Go the *Windows* control panel and double-click **Administrative Tools** (**System and Security**)**> Computer Management > Storage > Disk Management**
3. Right-click the SSD and select **Shrink Volume** from the menu.
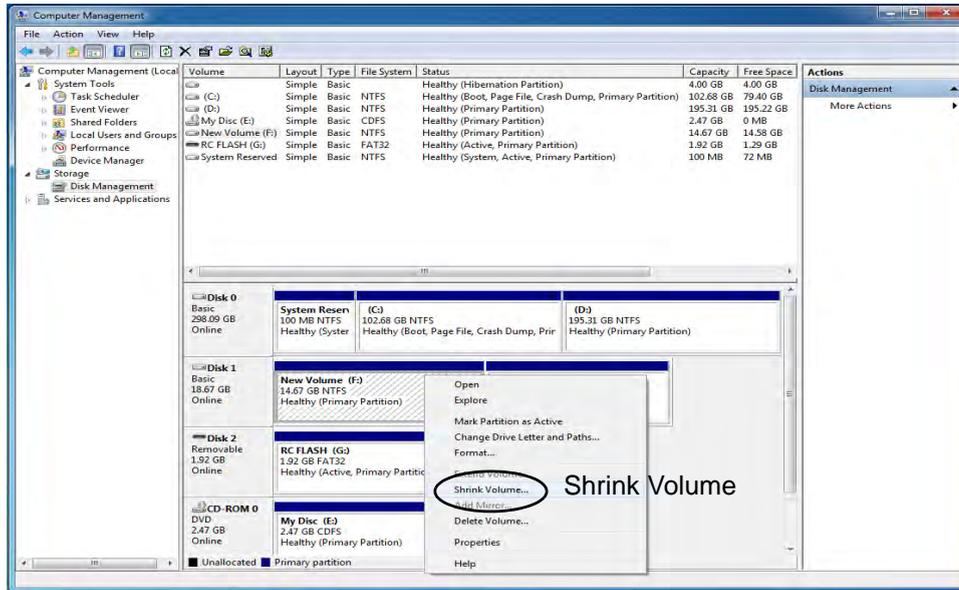
Figure D - 45
Computer Management (Shrink SSD Volume)

4. Enter the figure, **which should be equal to amount of system memory (RAM) in your computer,** in "**Enter the amount of space to shrink in MB**".

Figure D - 46
Shrink Volume Size
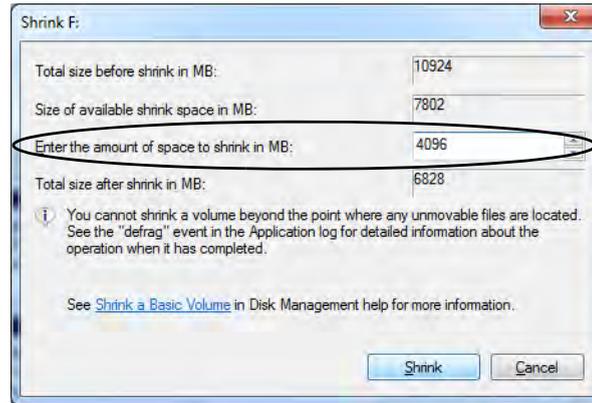
5. Click **Shrink** (any unallocated file space may be formatted for storage use).

✎

Memory Size (Amount of Space to Shrink)

The figure entered in the "**Enter the amount of space to shrink in MB**" field above should be equal to the amount of system memory in your computer. In the example above the system memory is 4GB (**1024MB * 4 = 4096GB**). If you are unsure of your total system memory (RAM) then go to **System** control panel (System and Security) and check **Installed memory (RAM)**. The memory size will be displayed in GB so convert by multiplying the GB figure by 1024 to get the total in MB (e.g. 8GB = 8192MB).

6. Click the **Start** menu and type "**CMD**" in the search box.
7. Click **CMD** from the found list.
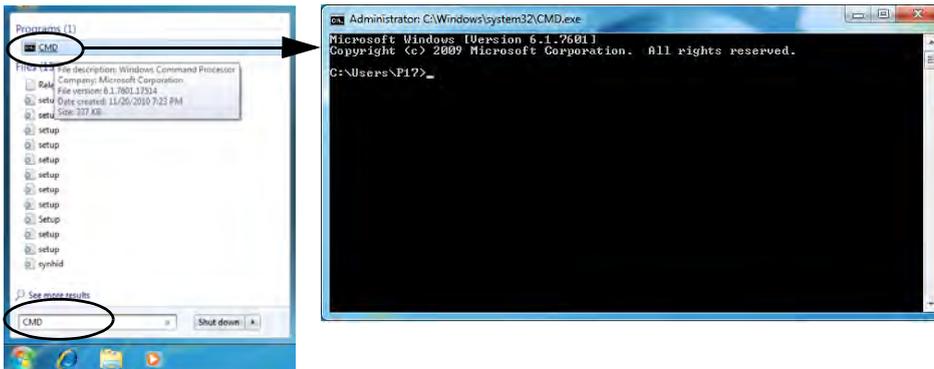
Figure D - 47
Search for CMD Prompt

8. Type "**DISKPART**".
9. At the DISKPART command type "**list disk**".

Figure D - 48
Diskpart - List Disk

10. Type "**select disk #**" (**#** is disk number where you want to create the store partition, so refer to the results obtained from "**list disk**" for exact disk number).
11. The message "**Disk # is now the selected disk.**" will appear.

Figure D - 49
Diskpart - Select Disk #

12. Type "**create partition primary**".
13. A "**DiskPart succeeded in creating the specified partition.**" message should appear.

Figure D - 50
Diskpart - Create Partition

14. Type "**detail disk**".

15. Type "**select Volume #**" (# is volume of your storage partition so refer to results obtained from "detail disk" for the exact volume number).
16. The message "**Volume # is now the selected volume.**" will appear.

17. Type "**set id=84 override**" (the id must be set to 84).

Figure D - 53
**Diskpart - Set
id=84 Override**
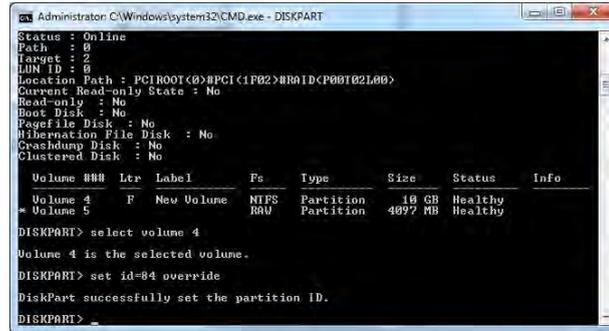
18. The message "**DiskPart successfully set the partition ID.**" will appear.
19. Close the CMD window.
20. Go the *Windows* control panel and double-click **Administrative Tools** (**System
    and Security**)**> Computer Management > Storage > Disk Management.**
21. The disk partition should read **Healthy Hibernation Partition**.

Figure D - 54
**Computer
Management
(Healthy
Hibernation
Partition)**

22. **Restart the computer**.

Intel® Rapid Start Technology Driver Installation

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

Intel® Smart Connect Technology

Intel® Smart Connect Technology periodically, and briefly, wakes the computer from **Sleep** mode in order to update information for certain applications (e.g. to get mail from Microsoft Outlook) as required. These updates can therefore be made without having to turn the computer on, and applications will be up to date when the computer resumes from **Sleep** mode (make sure that *Intel Smart Connect Technology* is enabled in the BIOS - see *"Intel Smart Connect Technology (Advanced Menu)" on page 5 - 8*).

Note that the applications need to be on and running when the computer enters Sleep mode in order to get updates.

Intel® Smart Connect Technology Driver Installation

1. Insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
2. Click **Option Drivers** (button).
3. Click **6.Install ISCT Driver > Yes**.
4. Click **Next**.
5. Click the button to accept the license agreement and click **Next**.
6. Click **Next > Install > Finish**.
7. Click **Yes** to restart the computer.

Intel® Smart Connect Technology Configuration

1. Access the **Intel(R) Smart Connect Technology** application from the **Start** menu.
2. Click **Basic** (tab) and adjust the slider to set the update frequency (note that the slider balances between *"More Frequent Updates"* and *"More Battery Life"*).
3. Note the sidebar warning about the use of **Intel(R) Smart Connect Technology** aboard aircraft and make sure your wireless LAN module is off during air travel.
4. In order to update any applications, they will need to be on and running when the computer enters **Sleep** mode.
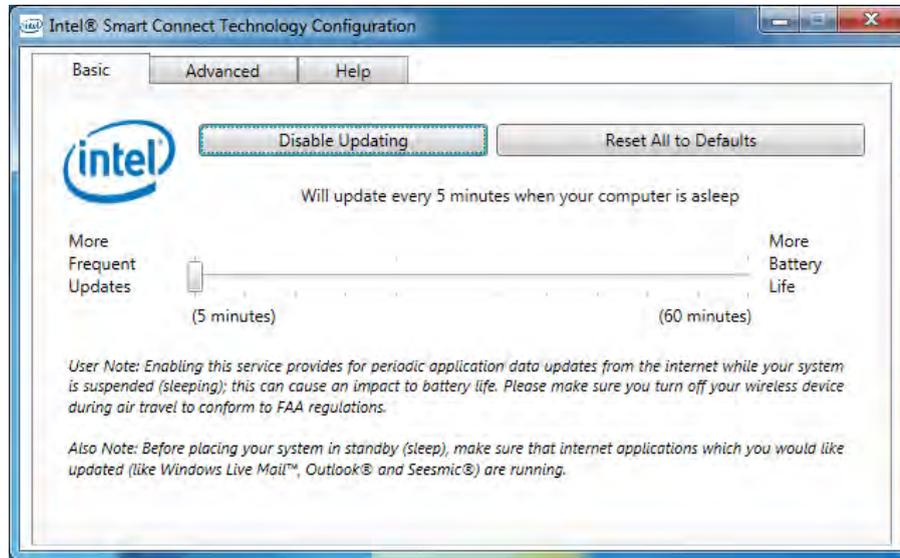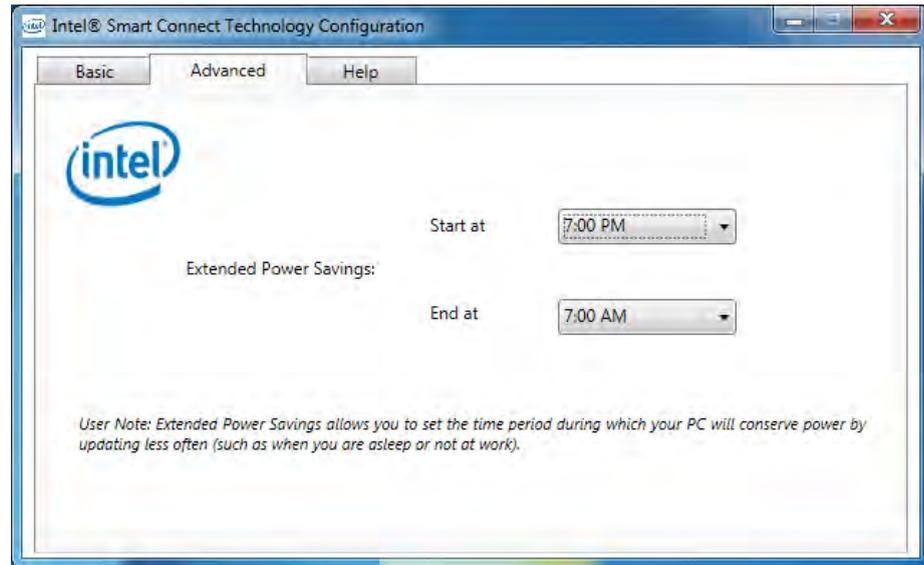

*Figure D - 55*
iSCT Basic

5. Click **Advanced** (tab) to access the **Extended Power Savings** settings.
6. **Extended Power Savings** allows you to set a time period during which the computer will update less often (e.g. at night while you are asleep or whenever you are at work).

Figure D - 56
iSCT Advanced

7. Updates set during this time period will be performed every two hours, and this will override the settings selected in the **Basic** tab in order to conserve power consumption.

8. Click the **Help** tab and click **Topics** to access the main **Help** menu.
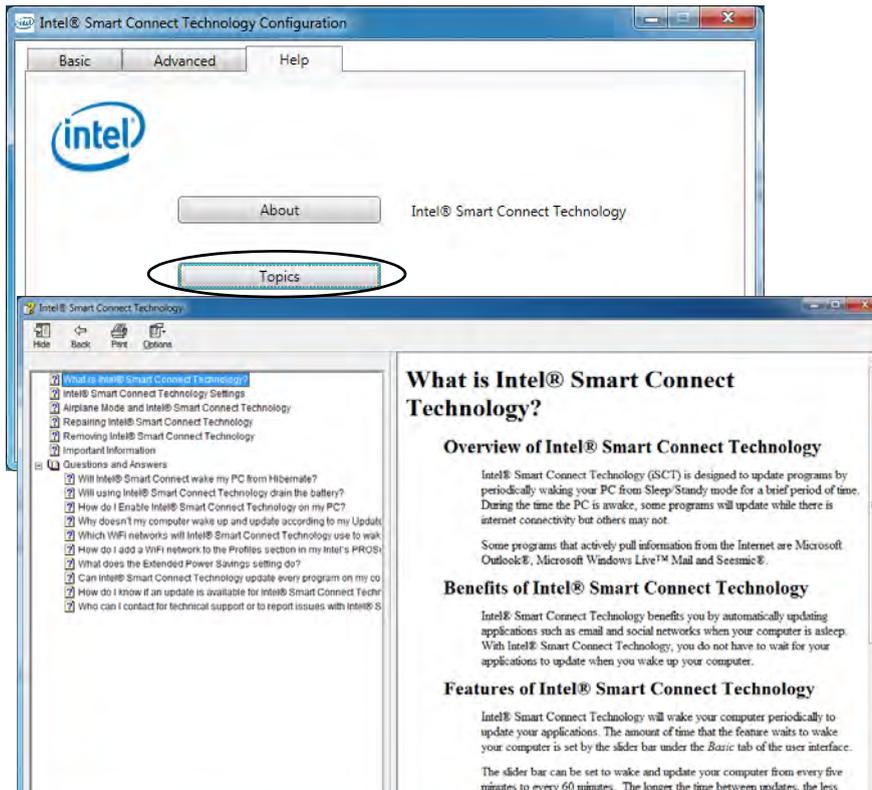
Figure D - 57
iSCT Help

Intel Smart Connect & Intel Rapid Start Technology

Intel® Smart Connect Technology wakes the computer from **Sleep** mode in order to update application information. **Intel(R) Rapid Start Technology** can resume power from **Hibernation** within 5 to 6 seconds and can remember your computer's previous state with zero power. **Intel(R) Rapid Start Technology** sends the computer into **Hibernate** mode and skips the **Sleep** mode. Therefore if Rapid Start is enabled, Smart Connect will be unable to wake the system as Sleep mode has been bypassed. In order to configure your system to run Smart Connect you will either need to disable or delay the system from running Rapid Start.

Disabling or Delaying Rapid Start Technology

Figure D - 58
Intel® Rapid Start Technology Manager Access

1. Click **Start > All Programs > Intel > Intel(R) Rapid Start Technology Manager**, or double-click the icon 🔵 in the notification area of the taskbar.
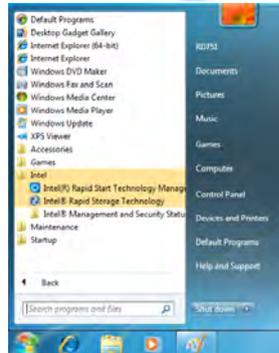
Intel® Wireless Display Application (Windows 7)

The **Intel® Wireless Display Application (requires Intel® Centrino WLAN/ Combo module)**, in conjunction with a **compatible video adapter** (purchased separately), allows you to display the contents of the notebook display on another display (e.g. HDTV) without the need to have cables stretching across a room. You can then play games, browse the internet, display videos or photo slide shows on your TV/external display without using HDMI or A/V cables.

Before configuring the **Intel® WiDi** application you will need to set up your **compatible adapter** with your display/speakers. Connect the adapter using an HDMI or A/V cable and turn on the display (or in the case of speakers connect them to the wireless speaker adapter with the cables provided with the adapter), and then set the display to the appropriate input channel (see the documentation supplied with your **compatible adapter** for full details).

🖉

Compatible Adapters

For a list of compatible display and audio adapters check the Intel website, or your distributor/ supplier.

Windows 7

Intel® WiDi Application Installation

1. Insert the *Device Drivers & Utilities + User's Manual* disc into an attached DVD drive.
2. Click **Option Drivers** (button).
3. Click **7.Install WiDi AP > Yes**.
4. Click **Next**.
5. Click the button to accept the license and click **Next**.
6. Click **Finish**.

Intel® WiDi Application Configuration

1. Click **Start > All Programs > Intel Corporation > Intel(R) Wireless Display > Intel(R) Wireless Display**, or double click the icon on the desktop.
2. Click **I agree to the terms of this license** (button).
3. The application will scan for any connected compatible adapters (or you can click the **Scan for available adapters** button to enable **Intel My WiFi Technology**).

Figure D - 59 **- Intel® WiDi Scan**

4. Click to select any detected adapters, and click **Connect**.
5. The system will then prompt you to enter the **4-digit security code** which will be displayed on the external TV Screen (or press the **connect** button on the wireless speaker adapter).
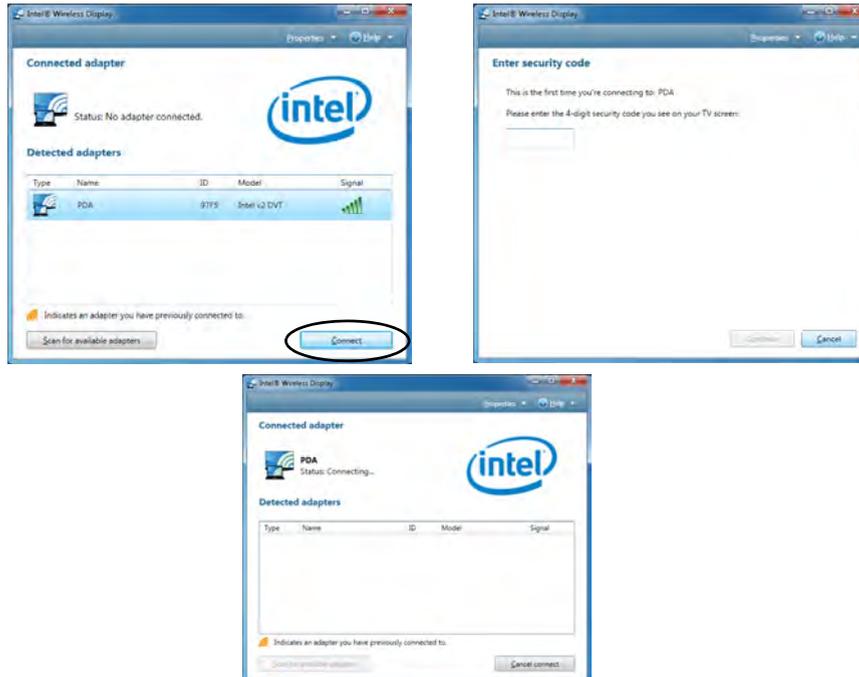6. Enter the code for the video adapter and click **Continue**.

Figure D - 60 **- Intel® WiDi Connect & Enter Security Code**

7. You will then be prompted to enter a name for the video adapter and click **Continue**.
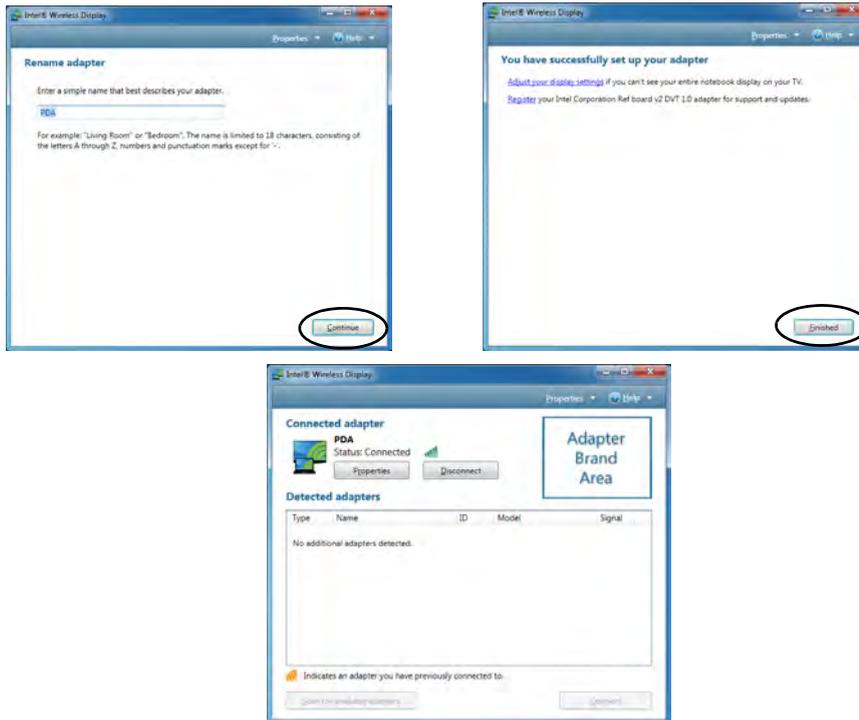8. Click **Finished** to complete the setup.

Test Audio Adapter

To verify a successful audio connection (for **Intel® Wireless Music)**, select the "**Test your audio connection**" link or select "**Finished**" to bypass the test.

You can select "**Play Sample**" to play an audio test sample from your adapter to the connected speaker set.

Figure D - 61 **- Intel® WiDi Connected**

Intel® Wireless Display Application (Windows 7) D - 83