

USER'S MANUAL

notebook



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Preface

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.

ErP 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:

- Off Mode < 0.5W

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 according to the model's requirements:
- Full Range AC/DC Adapter - AC Input of 100 - 240V, 50 - 60Hz, DC Output of 19V, 3.42A (**65 Watts**) minimum AC/DC Adapter.

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

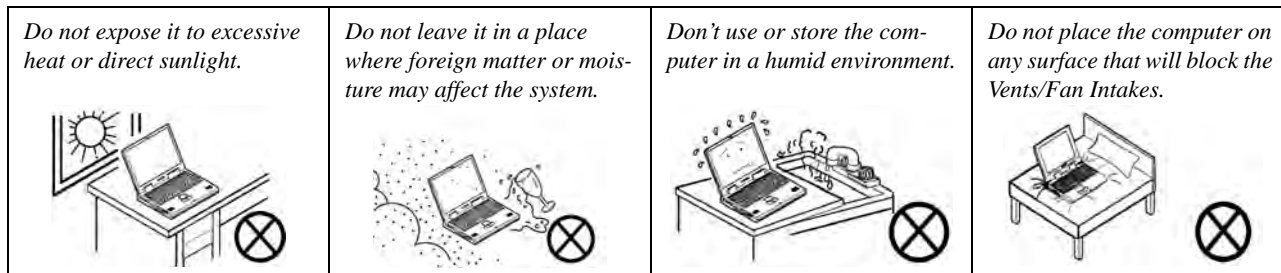
Instructions for Care and Operation

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

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

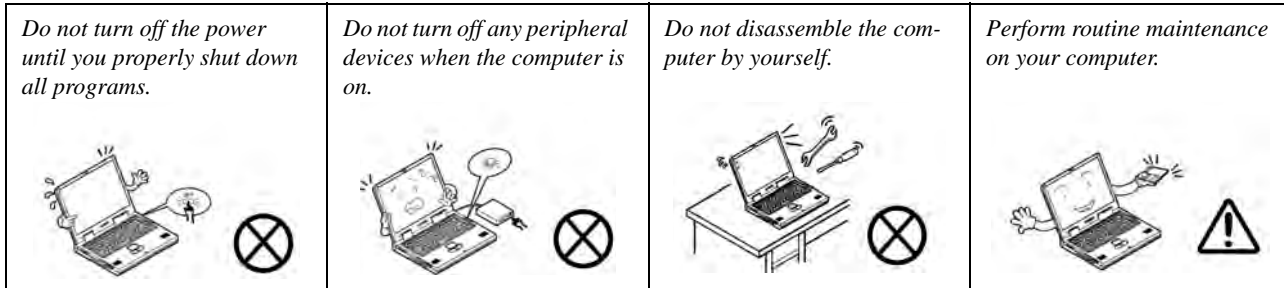


2. **Keep it dry, and don't overheat it.** Keep the computer and power supply away from any kind of heating element. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.



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



- Take care when using peripheral devices.**



Servicing

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

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



Bottom Cover Removal Warning

Do not remove any cover(s) and /or screw(s) for the purposes of device upgrade as this may violate the terms of your warranty. If you need to replace/remove the hard disk/RAM/optical device etc., for any reason, please contact your distributor/supplier for further information.

Removal Warning (For Service Personnel)

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.

Power Safety

The computer has specific power requirements:



Power Safety Warning (For Service Personnel)

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).

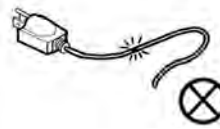
You must also remove your battery in order to prevent accidentally turning the machine on. **Before removing the battery disconnect the AC/DC adapter from the computer.**

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

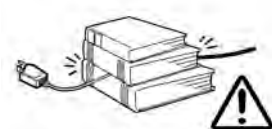
Do not plug in the power cord if you are wet.



Do not use the power cord if it is broken.



Do not place heavy objects on the power cord.



Polymer Battery Precautions

Note the following information which is specific to polymer batteries only, and where applicable, this overrides the general battery precaution information overleaf.

- Polymer batteries may experience a slight expansion or swelling, however this is part of the battery's safety mechanism and is not a cause for concern.
- Use proper handling procedures when using polymer batteries. Do not use polymer batteries in high ambient temperature environments, and do not store unused batteries for extended periods.

See also the general battery precautionary information overleaf for further information.

General Battery Precautions

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



Battery Disposal & Caution

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

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

Cleaning

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

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

Travel Considerations

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

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



Power Off Before Traveling

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

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Packing

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

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



Power Off Before Traveling

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

On the Road

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

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

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

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

Get power where you can - If an electrical outlet is available, use the AC/DC adapter and keep your battery(ies) charged.

Keep it dry - If you move quickly from a cold to a warm location, water vapor can condense inside the computer. Wait a few minutes before turning it on so that any moisture can evaporate.

Developing Good Work Habits

Developing good work habits is important if you need to work in front of the computer for long periods of time. Improper work habits can result in discomfort or serious injury from repetitive strain to your hands, wrists or other joints. The following are some tips to reduce the strain:



- Adjust the height of the chair and/or desk so that the keyboard is at or slightly below the level of your elbow. Keep your forearms, wrists, and hands in a relaxed position.
- Your knees should be slightly higher than your hips. Place your feet flat on the floor or on a footrest if necessary.
- Use a chair with a back and adjust it to support your lower back comfortably.
- Sit straight so that your knees, hips and elbows form approximately 90-degree angles when you are working.
- Take periodic breaks if you are using the computer for long periods of time.

Remember to:

- Alter your posture frequently.
- Stretch and exercise your body several times a day.
- Take periodic breaks when you work at the computer for long periods of time. Frequent and short breaks are better than fewer and longer breaks.



Lighting

Proper lighting and comfortable display viewing angle can reduce eye strain and muscle fatigue in your neck and shoulders.

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

LCD Screen Care

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

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

LCD Electro-Plated Logos

Note that in computers featuring a raised LCD electro-plated logo, the logo is covered by a protective adhesive. Due to general wear and tear, this adhesive may deteriorate over time and the exposed logo may develop sharp edges. Be careful when handling the computer in this case, and avoid touching the raised LCD electro-plated logo. Avoid placing any other items in the carrying bag which may rub against the top of the computer during transport. If any such wear and tear develops contact your distributor/supplier.

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Chapter 1: Quick Start Guide

Overview

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

- **Chapter 2** A guide to using some of the main features of the computer e.g. the **storage devices (hard disk, card reader & ExpressCard), Touchpad & Mouse and Audio.**
- **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** A quick guide to the computer's **PC Camera, Wireless LAN, Fingerprint Reader, 3G/4G, Bluetooth, Trusted Platform (TPM)** and **Intel** modules (some of which may be **optional** depending on your purchase configuration).
- **Chapter 7** 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 **Control Center.**
- **Appendix C** Information on the **video driver controls.**
- **Appendix D** The computer's **specification.**
- **Appendix E** A guide to the **Docking Station.**

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* and *“BIOS Utilities” on page 5 - 1* in the remainder of the User’s Manual. You may also find the notes marked with a  of interest to you.

Beginners and Not-So-Advanced Users




Notes

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

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

Warning Boxes

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

Not Included

Operating Systems (e.g. *Windows 10*) and applications (e.g. word processing, spreadsheet and database programs) have their own manuals, so please consult the appropriate manuals.



Drivers

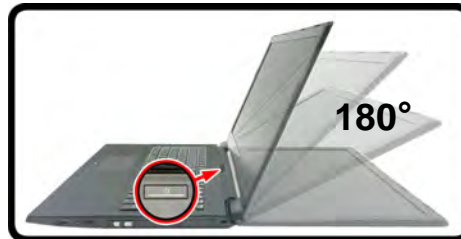
If you are installing new system software, or are re-configuring your computer for a different system, you will need to install the drivers listed in **“Drivers & Utilities” on page 4 - 1**. Drivers are programs which act as an interface between the computer and a hardware component e.g. a wireless network module. It is very important that you install the drivers in the order listed. You will be unable to use most advanced controls until the necessary drivers and utilities are properly installed. If your system hasn't been properly configured (your service representative may have already done that for you); refer to **Chapter 4** for installation instructions.

Ports and Jacks

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

System Startup

1. Remove all packing materials, and place the computer on a stable surface.
2. Securely attach any peripherals you want to use with the notebook (e.g. keyboard and mouse) to their ports.
3. Attach the AC/DC adapter to the DC-In jack on the left of the computer, then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter (**make sure you use the adapter when first setting up the computer**, as to safeguard the computer during shipping the battery will be locked to not power the system until first connected to the AC/DC adapter).
4. Use one hand to raise the lid/LCD to a comfortable viewing angle (**do not exceed 180 degrees - or 130 degrees if the system is docked to the docking station or has a 9 cell battery inserted**); use the other hand to support the base of the computer (**Note: Never lift the computer by the lid/LCD**).



Shutdown

Note that you should always shut your computer down by choosing the **Shut Down** command in **Windows** (see page [1 - 29](#)). This will help prevent hard disk or system problems.



LCD Open Angle

The LCD may be opened to 180 degrees, however if the 9 cell battery is inserted, or the computer is docked to the docking station, the angle should not exceed 130 degrees.

Figure 1 - 1 - Opening the Lid/LCD

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 10 (64-bit)** operating system is supported.



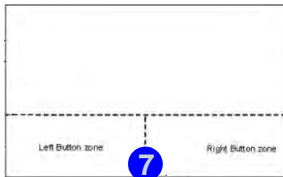
Windows OS

Note that the information included on the following pages is for **Windows 10 only**.

In order to run **Windows 10 (64-bit)** your computer requires a minimum **2GB** of system memory (RAM).

Figure 1 - 2
LCD Panel Open

1. Built-In PC Camera (Optional)
2. PC Camera LED
3. Built-In Microphone
4. LCD
5. Power Button
6. Keyboard
7. Touchpad & Buttons
8. Fingerprint Reader Sensor
9. LED Indicators



Note that the Touchpad and Buttons valid operational area is that indicated within the red dotted lines above.

System Map: LCD Panel Open



Wireless Device Operation Aboard Aircraft









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

Use **Fn + F11 Airplane Mode** key combination to toggle Airplane Mode On/Off, and check the LED indicator for the power status (see [Table 1 - 1, on page 1 - 7](#)).



LED Indicators

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

Icon	Color	Description	Icon	Color	Description
	Orange	DC Power is Plugged In		White	Power Button
	Blinking Orange	The Powered USB Port is On* (System Off)		White	Hard Disk Activity
		The Camera is in Use (System On)		White	Airplane Mode is ON (the WLAN, Bluetooth & 3G/4G Modules are OFF)
	White	The Computer is On		White	Number Lock is Activated
	Blinking White	The Computer is in Sleep Mode		White	Caps Lock is Activated
	Orange	The Battery is Charging		White	Scroll Lock is Activated
	White	The Battery is Fully Charged			
	Blinking Orange	The Battery has Reached Critically Low Power Status			

***Note:** The powered USB 3.0 port (see [Figure 1 - 7 on page 1 - 14](#)) may be toggled on /off by means of the **Fn + Power Button** key combination. When the powered USB port is on it will supply power (**for charging devices only, not for operating devices**) when the system is off but still powered by the AC/DC adapter plugged into a working outlet, or powered by the battery with a capacity level above 20% (this may not work with certain devices).

Table 1 - 1 - LED Indicators



Other Keyboards

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

NumLk & ScrLk

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

Keyboard

The keyboard has an embedded numerical keypad for easy numeric data input, and features function keys to allow you to change operational features instantly. See *Table 1 - 3, on page 1 - 11* for full function key combination details.

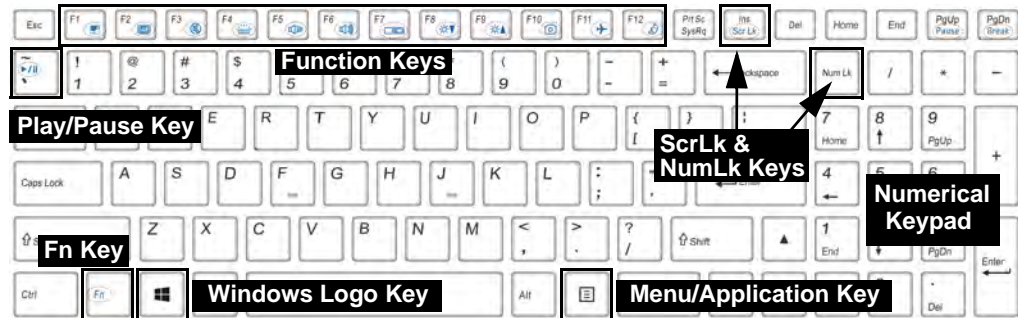


Figure 1 - 3 - Keyboard



Special Characters

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

Keyboard Shortcuts

The following Windows Logo Key (Winkey) keyboard shortcuts are useful for navigation/operation in *Windows 10*.



Windows Logo Key + 	Description
Tap Winkey	Toggle the Start menu
A	Open the Action Center
B	Select the Taskbar Notification Area
C	Launch Cortana (in listening mode)
D	Toggle the Desktop
E	Launch File Explorer (Quick Access tab)
+ Number (1, 2, etc)	Launch an application from the taskbar (numbered from left to right)


Table 1 - 2 - Keyboard Shortcuts



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

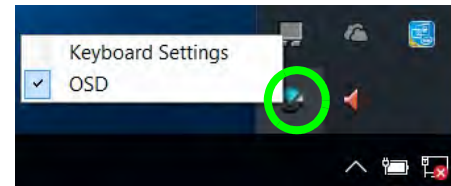
When the Desktop app is running you can use the Menu/Application key  on the keyboard to display the context menu as per a mouse right-click.

Keyboard Application Settings

(Factory Option)

If your computer includes an illuminated keyboard (**Factory Option**), you will need to install the keyboard **Control Center** application driver (see “*Control Center*” on page 4 - 8) and you can then select the type of keyboard as appropriate for your model’s configuration (you can only select keyboards supported by your system). After the driver has been installed, and the system restarts, the control panel below will pop-up to allow you to select the **illuminated white keyboard** for your system. Click **Save** to retain the setting chosen.

If you wish to change the setting at any time then right-click on the **Control Center** icon  and select **Keyboard Settings** to return to the keyboard select control panel.



Right-click and select **Keyboard Settings**

Figure 1 - 4 - Keyboard Settings for Illuminated Keyboard Option

Function/Hot Key Indicators











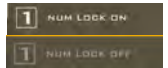


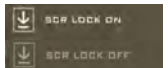


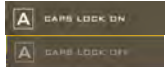







Keys	Function	Keys	Function
Fn + 	Play/Pause (in Audio/Video Programs)	Fn + 	PC Camera Power Toggle 
Fn + 	TouchPad Toggle 	Fn + 	Airplane Mode Toggle 
Fn + 	Turn LCD Backlight Off (Press a key to or use TouchPad to turn on)	Fn + 	Sleep Toggle
Fn + 	Mute Toggle	Fn + NumLk	Number Lock Toggle 
Fn + 	Backlight Keyboard Level Adjust (Illuminated Keyboards Designs Only) 	Fn + ScrLk	Scroll Lock Toggle 
Fn +  	Volume Decrease/Increase	Caps Lock	Caps Lock Toggle 
Fn + 	Display Switch Menu	Fn + 	Fan Control Toggle between Automatic Fan Control / Full Power 
Fn +  	Brightness Decrease/Increase	Fn + 	Control Center Toggle (see over)


Table 1 - 3 - Function Keys & Visual Indicators

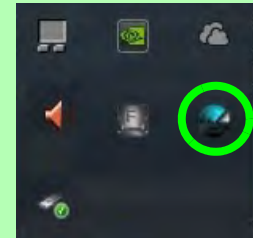
Control Center

When in the **Windows Desktop application** (not in the **Start** screen) press the **Fn + Esc** key combination, or **double-click the icon**  in the **notification area of the taskbar** to toggle the **Control Center** on/off. The **Control Center** gives quick access to frequently used controls and enables you to quickly turn the camera/Touch Pad on/off.



Control Center Access

To run the Control Center press the **Fn + Esc** key combination, or double-click the icon  in the notification area of the taskbar.




Close the Control Center by clicking the  close icon in the top right of the panel (move the cursor onto the top right corner of the panel to highlight it).

Figure 1 - 5 - Control Center

System Map: Front & Docked Views



Figure 1 - 6
**Front & Docked Views
(with Optional
Docking Station)**

1. LED Indicators
2. Docking Station (Optional)



Docking Port Cover

Make sure you keep the docking cover closed when the computer is not docked in the station. This will help prevent foreign objects and/or dust getting in to the contact area,

If the docking station is included in your purchase configuration, make sure you open the cover of the docking port before connecting the computer to the station, as failure to do so may result in irreparable damage to the connector on the docking station.



Docking

If your purchase includes the docking station, open the docking port cover latch and align the computer with the placeholder on the docking station (see the accompanying docking station for full details of the docking procedure).

Figure 1 - 7
Left View

System Map: Left View

1. DC-In Jack
2. External Monitor Port
3. RJ-45 LAN Jack
4. 1 * Powered USB 3.0 Port
5. 2 * USB 3.0 Ports
6. HDMI Out Port
7. Multi-In-1 Card Reader
8. ExpressCard Slot



Multi-In-1 Push-Push Card Reader

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

MMC (MultiMedia Card) / RS MMC
SD (Secure Digital) / Mini SD / SDHC / SDXC

Powered USB 3.0 Port

The powered USB 3.0 port **4** can supply power (for charging devices only, not for operating devices) when the system is off but still powered by the AC/DC adapter plugged into a working outlet, or powered by the battery with a capacity level above 20% (this may not work with certain devices). Toggle power to this port by using Fn + power button. Power to this port may be enabled/disabled in the BIOS.



External Monitor Port & RJ-45 LAN Jack

If you are using a VGA cable plugged into the external monitor port, and a network cable connected to the RJ-45 LAN jack, it is recommended that you insert the VGA cable before inserting the LAN cable.

USB Port / Card Reader / ExpressCard / Smart Card Power

Note that power to the USB ports, Card Reader ExpressCard and Smart Card may be enabled/disabled in the BIOS.

System Map: Right & Rear Views



Figure 1 - 8
Right & Rear Views

1. 1 * USB 2.0 Port
2. Microphone-In Jack
3. 2-in-1 Audio Jack (Headphone Out/ S/PDIF Out Jack)
4. Optical Device Drive Bay (for DVD Device)
5. Security Lock Slot
6. Smart Card Reader
7. Battery



USB 2.0 or 3.0 Ports

USB 3.0 ports are denoted by their blue color; USB 2.0 ports are colored black.

Battery Information

Always completely discharge, then fully charge, a new battery before using it. Completely discharge and charge the battery at least once every 30 days or after about 20 partial discharges.



Disk Eject Warning

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

CD/DVD Emergency Eject

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

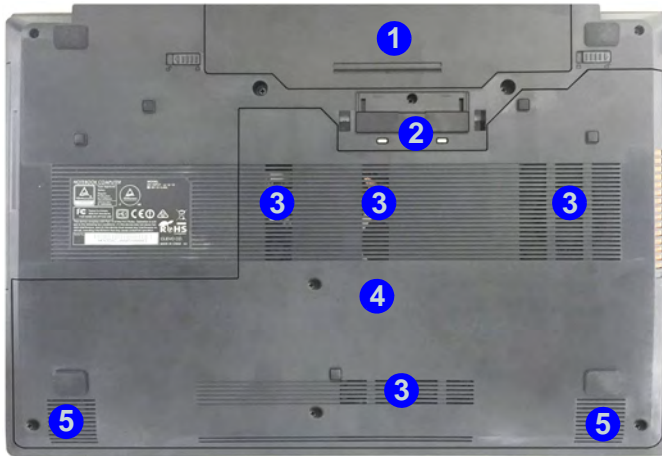


Changing DVD Regional Codes

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

DVD region detection is device dependent, not OS-dependent. You can select your module's region code 5 times. The fifth selection is permanent. This cannot be altered even if you change your operating system or you use the module in another computer (see ***"DVD Regional Codes" on page 2 - 5***).

System Map: Bottom View



CPU

The CPU is not a user serviceable part.

Overheating

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



Docking Port Cover

If your purchase option includes the docking station, make sure you keep the cover closed when the computer is not docked in the station. This will help prevent foreign objects and/or dust getting in to the contact area.

If your purchase option does not include the docking station, an insert will be provided to prevent accidentally opening the docking port. Do not attempt to open the cover or remove the insert in this case.



Bottom Cover Removal Warning

Do not remove any cover(s) and /or screw(s) for the purposes of device upgrade as this may violate the terms of your warranty.

If you need to replace/remove the hard disk/RAM/optical device etc., for any reason, please contact your distributor/supplier for further information.

3G/4G Module USIM Card Installation

If you have included an optional 3G/4G module in your purchase option, follow the instructions below to install the USIM card (which will be provided by your service provider).

1. Turn **off** the computer, and turn it over and then remove the battery (slide latch **1** in the direction indicated below, then slide hold latch **2** in place and slide the battery out in the direction of arrow **3**).
2. Insert the USIM card **4** into the slot at the rear of the battery compartment, as illustrated below, until it clicks fully into position, and then replace the battery (see over).



Figure 1 - 10 - Battery Removal & USIM Card Insertion

Inserting the Battery

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

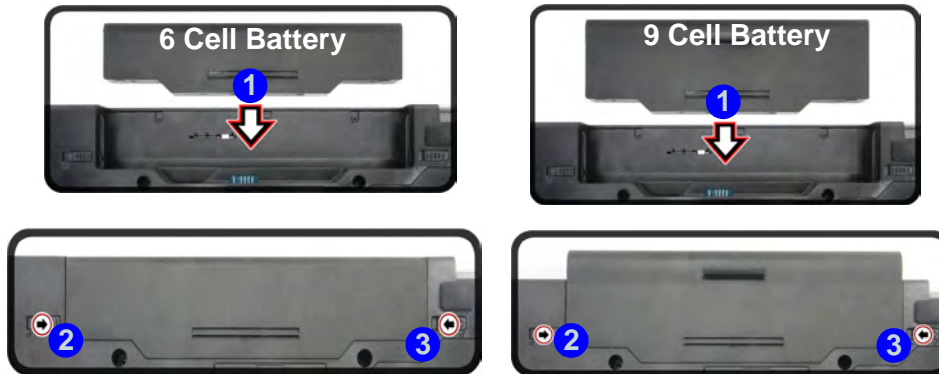


Figure 1 - 11 - Battery Insertion

Docking Port

Follow the instructions below **before** connecting the computer to the docking station, if included in your purchase configuration. Failure to open the cover of the docking port before connecting the computer to the docking station may result in irreparable damage to the connector on the docking station.

1. Turn the computer over.
2. Slide the docking port cover latch in the direction of the arrow at point ① to open the cover.
3. After disconnecting the computer from the docking station, slide the docking port cover latch in the direction of the arrow at point ②.

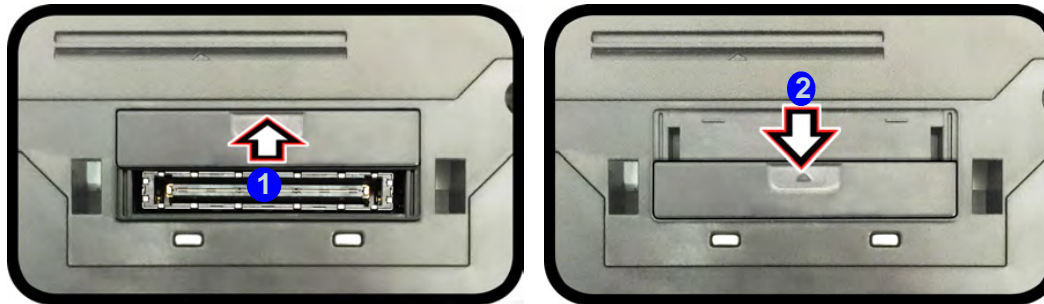




Figure 1 - 12 - Opening and Closing the Docking Port



Docking Port Cover

Make sure you keep the cover closed when the computer is not docked in the station. This will help prevent foreign objects and/or dust getting in to the contact area.

Windows 10 Start Menu

Most of the apps, control panels, utilities and programs within *Windows 10* can be accessed from the **Start Menu** by clicking the icon  in the taskbar in the lower left corner of the screen (or by pressing the **Windows Logo Key**  on the keyboard).

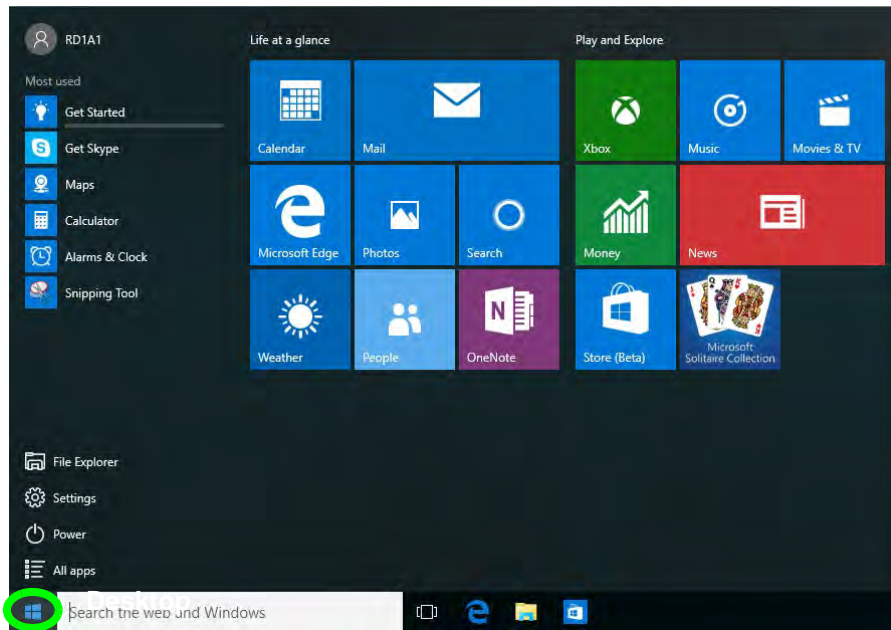


Figure 1 - 13 - Windows Start Menu

Right-Clicking the Windows Logo In Start Menu

Right-click the Start Menu  icon (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, File Explorer, Command Prompt, Device Manager and Network Connections etc.

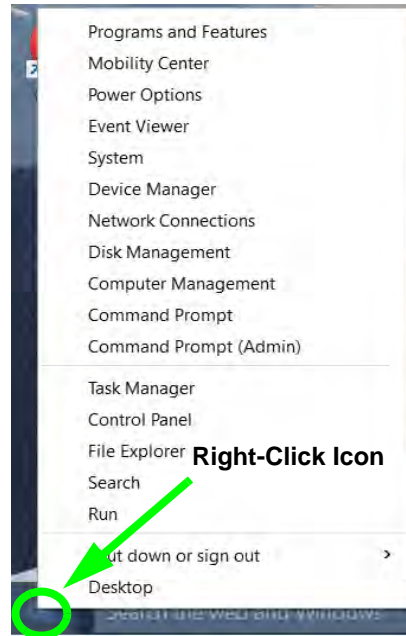


Figure 1 - 14 - Right-Click Windows Logo in Start Menu

Start Menu Apps & Tiles

The **Windows 10** Start Menu 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 the screen so may need click and drag the handles at the edge of the screen to expand the menu in order to view all the apps (you can use the scroll bar to move up and down the screen).

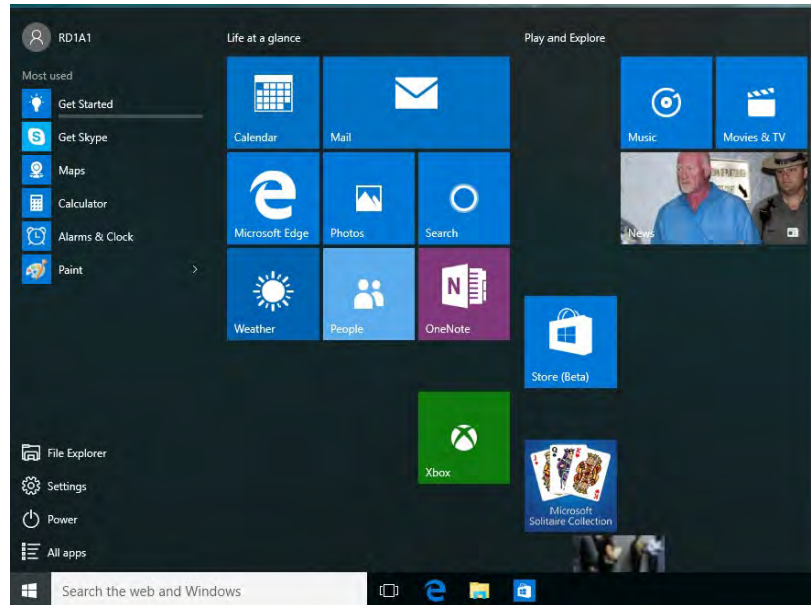


Figure 1 - 15 - Expanding the Start Menu

Quick Start Guide

Pining/Unpinning Apps & Programs to/from the Start Menu

To make things easy to find you can add and remove tiles for apps and programs to the Start Menu. Right-Click on a program's icon and select **Pin to Start** from the drop-down menu. To remove an app or program from the Start Menu right-click the icon and select **Unpin from Start**. You can use the same method to **pin apps/programs to/from the taskbar** (select pin to taskbar/unpin this program from the taskbar).

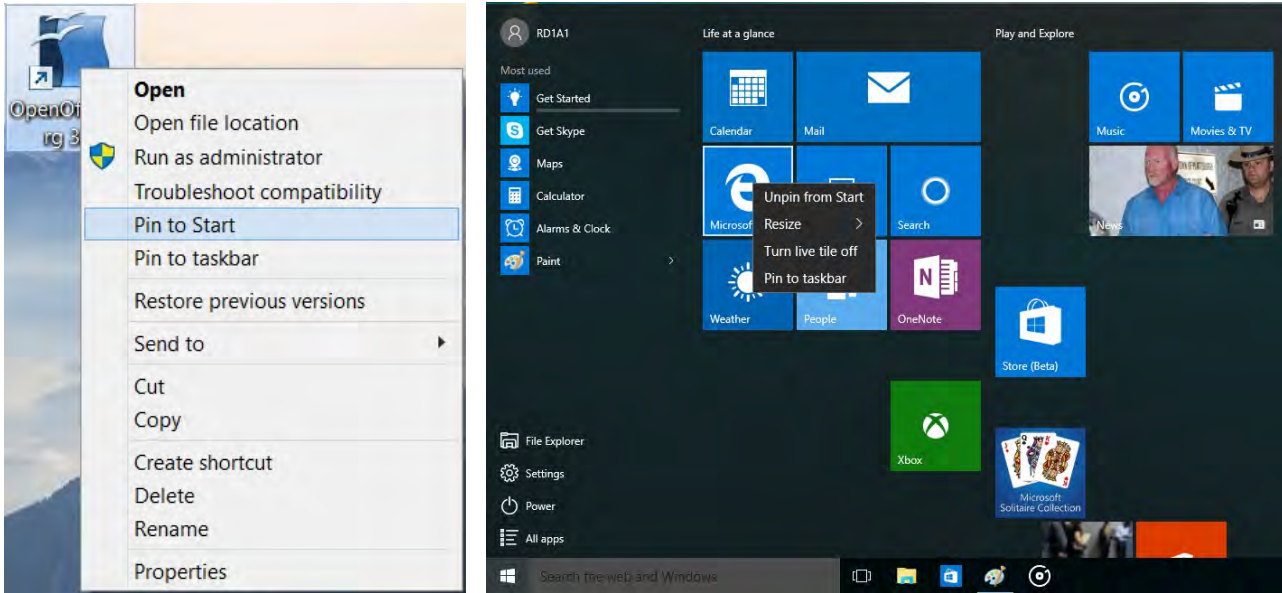




Figure 1 - 16 - Pin to Start/Unpin from Start

Windows 10 Control Panel

In many instances throughout this manual you will see an instruction to open the **Control Panel**. The Control Panel can be accessed in a number of ways in *Windows 10*.

- Right-click the Start Menu icon  in the taskbar in the lower left corner of the screen and select Control Panel from the menu.
- Press the Windows logo key  on your keyboard and **X** to bring up the context menu, and then press **P** to bring up the Control Panel.
- Type *Control Panel* into the Search box in the taskbar and click on the icon when it pops up.

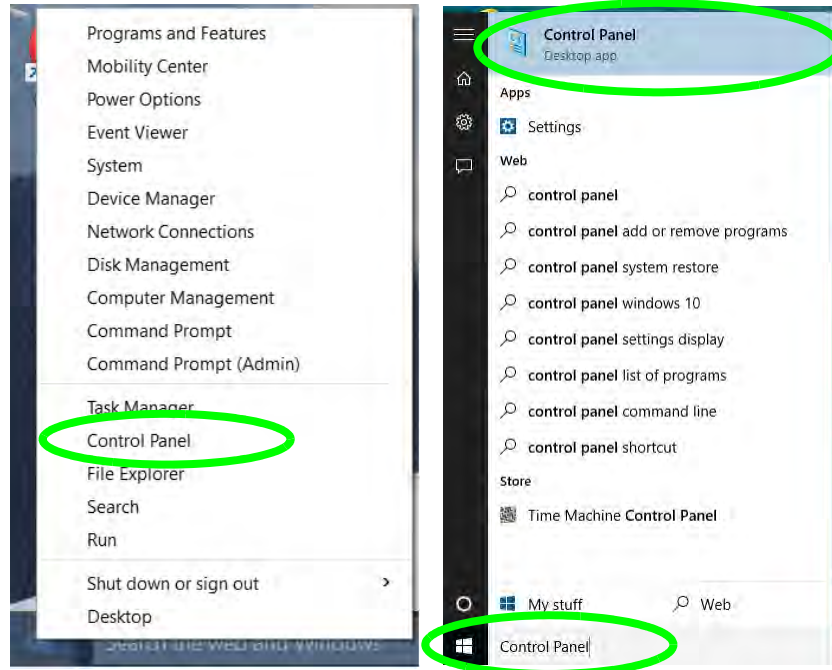


Figure 1 - 17 - Windows 10 Control Panel Access

Settings

The **Settings** item in the Start Menu (and also as an App) gives you quick access to a number of system settings control panels allowing you to adjust settings for System, Devices, Network & internet, Personalization, Accounts, Time & language, Ease of Access, Privacy and Update & security.

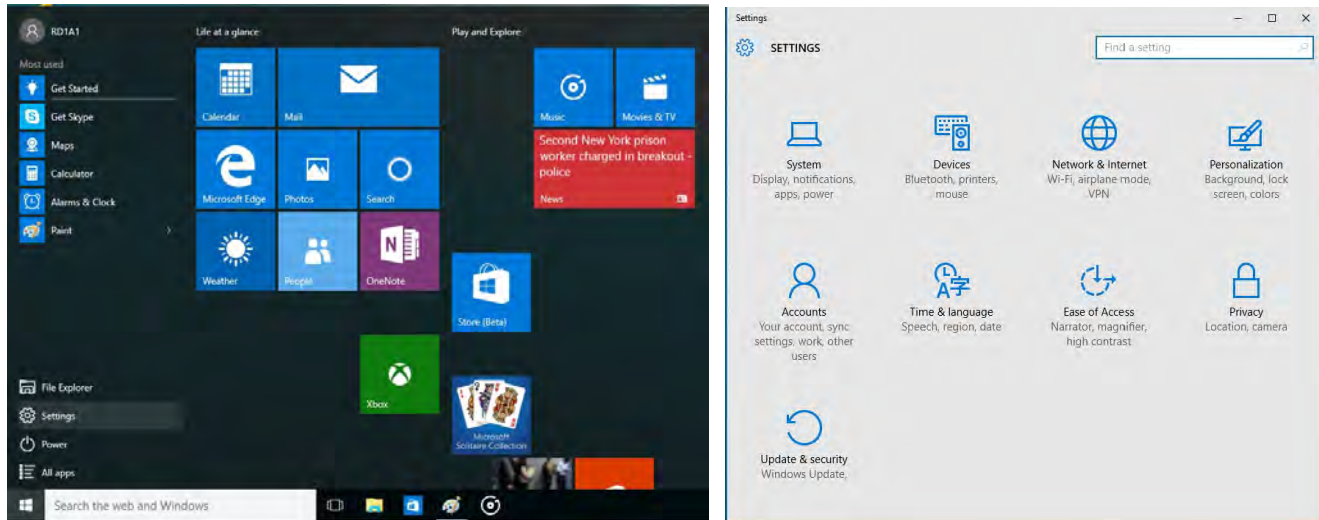


Figure 1 - 18 - Settings

Windows 10 Taskbar

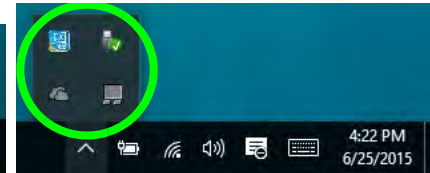
In many instances throughout this manual you will see an instruction to access the **notification area of the taskbar**. The notification area of the taskbar is in the bottom right of the screen. Some of the Control Panels and applications referred to throughout the course of this manual can be accessed from here.



Taskbar



Taskbar - Pinned Programs and Apps




Notification Area


Figure 1 - 19 - Taskbar

You can pin/unpin apps to/from the taskbar in much the same way as you can to the Start screen (see [“Pining/Unpinning Apps & Programs to/from the Start Menu” on page 1 - 24](#)).

Video Features

You can switch display devices, and configure display options, from the **Display** control panel (in **Appearance and Personalization**). Click **Adjust resolution** to make changes to the appearance of the display and to detect and configure any attached displays. In *Windows 10* it is possible to quickly configure external displays from the **Project** menu (press the Windows logo key  on your keyboard and the **P** key).

To Configure Displays using Project

1. Attach your display to the appropriate port, and turn it on.
2. Press the  + **P** key combination.
3. Click on any one of the options from the menu to select **PC screen only**, **Duplicate**, **Extend** or **Second screen only**.
4. You can also click **Connect to a wireless display** at the bottom of the **Project** screen and follow the steps to connect to any wireless enabled display.

Note that *Model A computers with Intel® vPro™ Technology* require a WiDi AP - see page 6 - 22).

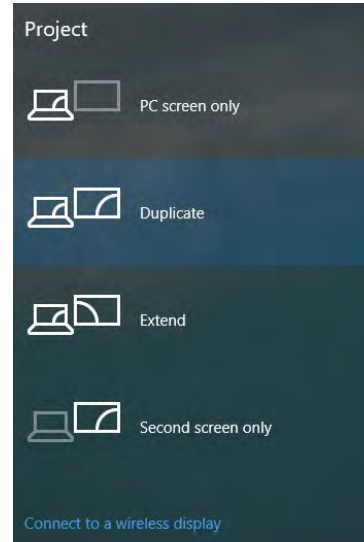


Figure 1 - 20 - Project (Devices)

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

1. Go to the **Control Panel**.
2. Click **Display** (icon) and **Adjust Resolution** - In the **Appearance and Personalization** category.
3. Make and changes required from the **Display, Resolution, Orientation** or **Multiple display** menus.
4. Click **Apply** to save the settings.

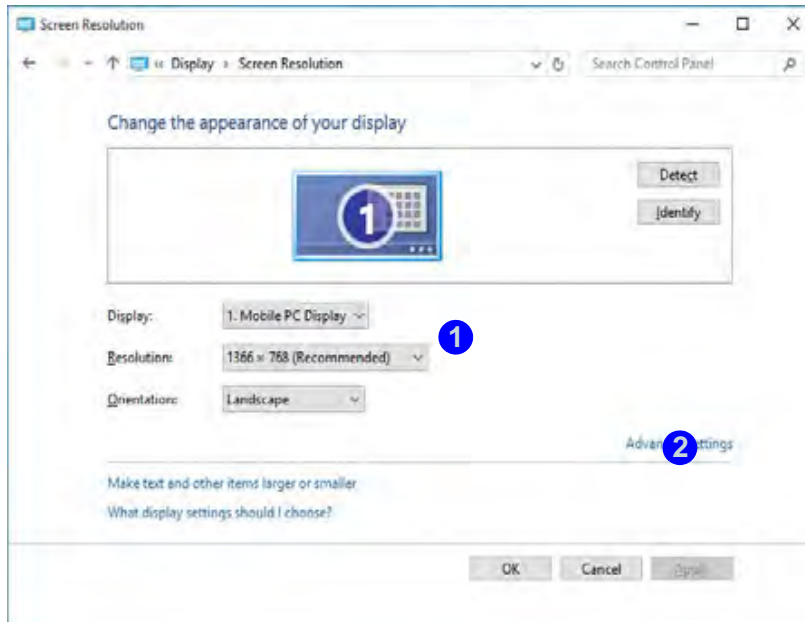


Figure 1 - 21 - Screen Resolution



Screen Resolution

1. Use the dropbox to select the screen **Resolution** **1** (*Figure 1 - 21*).
2. Click **Advanced settings** **2** (*Figure 1 - 21*) to bring up the **Advanced** properties tabs.
3. Click **Apply** to save any changes made.

Quick Start Guide

Display Settings:

1. You can quickly adjust the display by right-clicking the desktop and selecting **Display Settings** ① (*Figure 1 - 22*).
2. Adjust the settings using the sliders in the menu or click **Advanced display settings** ② (*Figure 1 - 22*) to change resolution.
3. Click **Apply** to save any changes made to resolution.

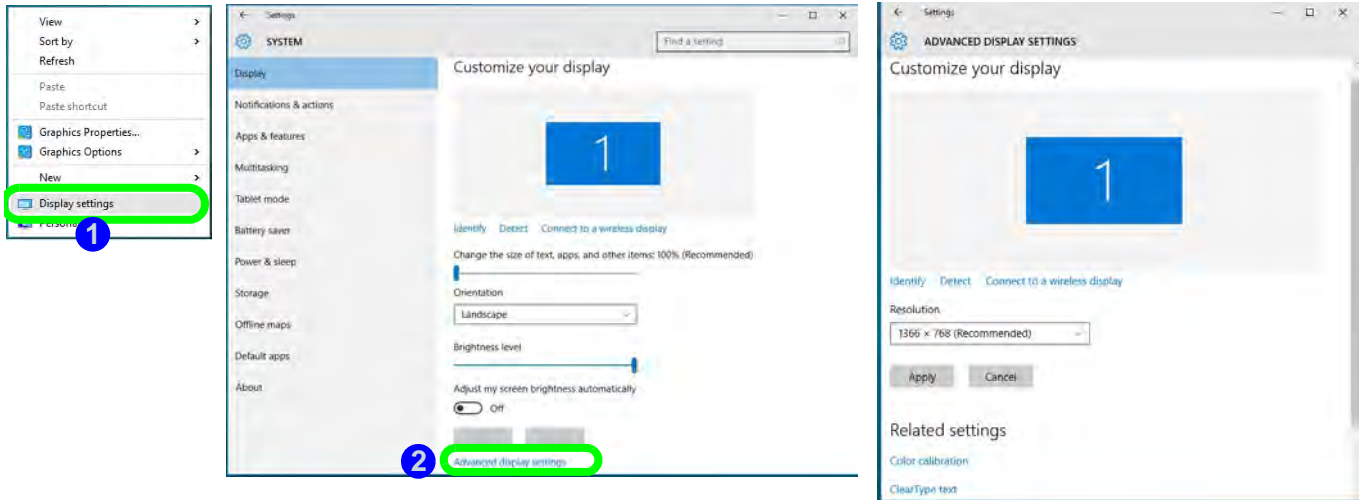


Figure 1 - 22 - Display Settings

To access the *Intel(R) HD Graphics Control Panel*:

1. Click **Advanced settings** ② (*Figure 1 - 21 on page 1 - 29*) in the **Screen Resolution** control panel in **Windows**.

2. Click the **Intel(R)...** tab and click **Graphics Properties** (button) ① (below).

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.

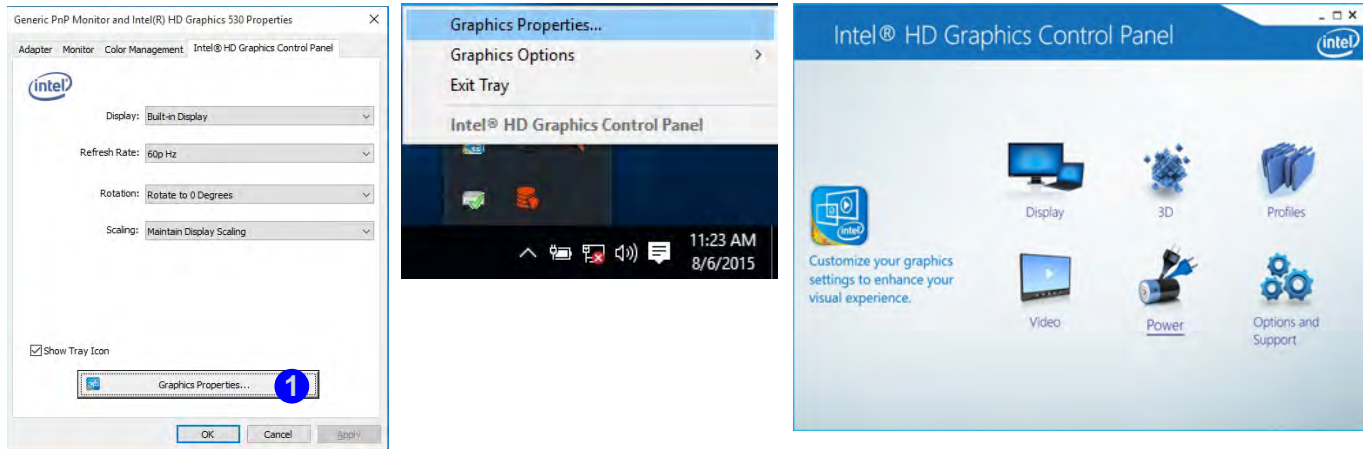



Figure 1 - 23 - Intel Graphics Control Panel

Power Options

Power Options (Hardware and Sound) can be accessed from the Control Panel. The **Power** button item in **Start Menu** (or the context menu) may be used to **Shut down** or **Restart** (you can also add **Hibernate/Sleep** to the menu - see page [1 - 33](#)). To fully control all the power options (including Hibernate mode) go to the **Power Options** control panel and configure the power button, sleep button and lid to perform the function selected.

Using the Power Button

1. Go to the **Start Menu**.
2. Click the **Power button** .
3. Select the power state required from the menu.

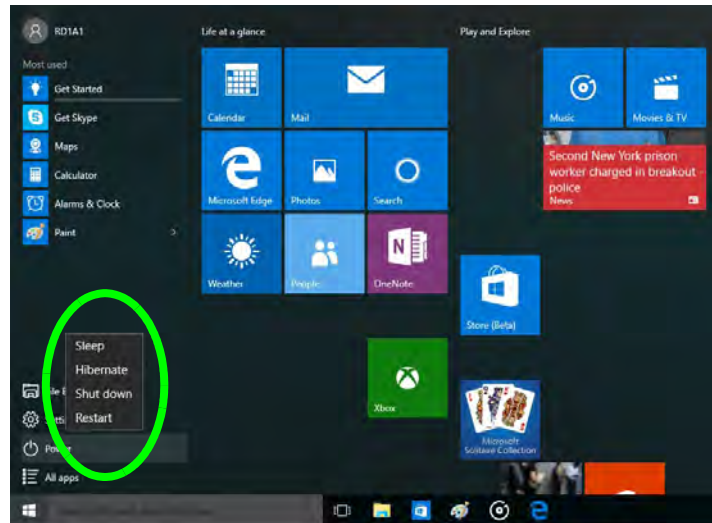




Figure 1 - 24 - Shut Down/Restart

You can also use the **context menu** (right-click the Start Menu  icon or press the Windows logo  + **X** key combination) to **Sign out, Sleep, Hibernate, Shut down, and Restart**.

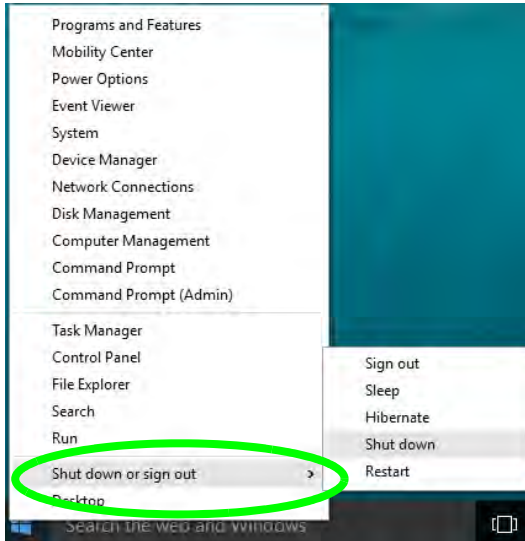



Figure 1 - 25 - Context Menu Shut Down or sign out

Ctrl + Alt + Delete Key Combination

You can use the **CTRL + ALT + DEL** key combination to bring up a full-screen displaying **Lock, Sign out, Change a password, Task Manager and Switch User**. If you click the **Power** icon in the lower right corner of the screen a power management option menu appears to display **Sleep, Hibernate, Shut down, and Restart**.

Adding Hibernate/Sleep to the Power Men

1. Go to the **Power Options (Hardware and Sound)** control panel.
2. Click **Choose what the power buttons do**.
3. Click "**Change settings that are currently unavailable**"  [Change settings that are currently unavailable](#).
4. Click to put a check in the **Hibernate/Sleep** box under **Shutdown settings**.
5. Click **Save Changes** and close the control panel.

Quick Start Guide

Minimum Screen Resolution Settings

1. **Windows 10** has minimum screen resolution requirements.
2. Right-click a blank area of the Desktop and select **Screen Resolution** (or go to the **Display** control panel).
3. Adjust the **Resolution** to make sure that it is at least **1024 * 768**, although preferably **1366 * 768** or above.

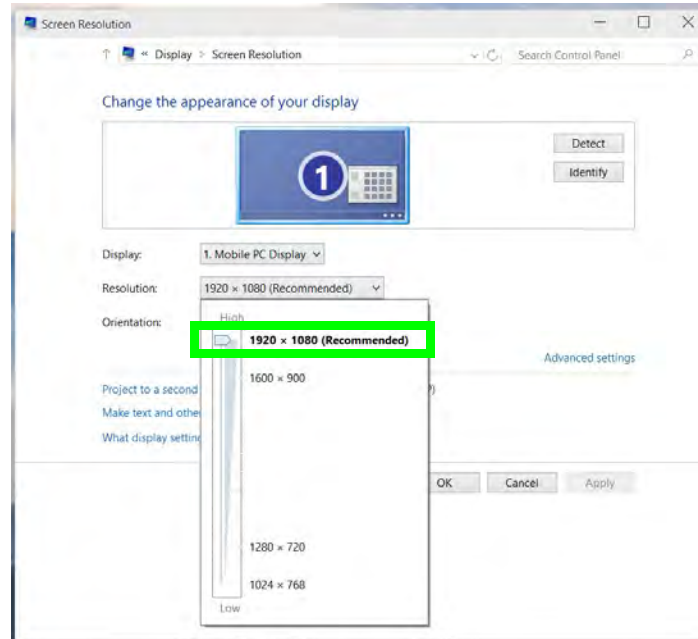


Figure 1 - 26 - Screen Resolution

Chapter 2: Features & Components

Overview

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

- Hard Disk Drive/Solid State Drive
- Optical (CD/DVD) Device
- Multi-In-1 Card Reader
- ExpressCard Slot
- Smart Card Reader
- Touchpad and Buttons/Mouse
- Audio Features



External Optical (CD/DVD) Device Drives

To install applications and drivers etc. you will need to attach an external optical CD/DVD device to the USB ports.



Bottom Cover Removal Warning

Do not remove any cover(s) and /or screw(s) for the purposes of device upgrade as this may violate the terms of your warranty.

If you need to replace/remove the hard disk/RAM/optical device etc., for any reason, please contact your distributor/supplier for further information.

Hard Disk Drive/Solid State Drive

The hard disk drive (or Solid State Drive) is used to store your data in the computer. The hard disk can be taken out to accommodate other 2.5" serial (SATA) hard disk drives with a height of 9.5mm/7mm (see *“Storage” on page D - 2*). If you need to replace/remove the hard disk (or Solid State Drive) please contact your distributor/supplier for further information.

Figure 2 - 1

Hard Disk Location

Optical (CD/DVD) Device

There is a bay for a 5.25" optical (CD/DVD) device (12.7mm height). The actual device will depend on the module you purchased (see *“Storage” on page D - 2*). 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 - 16*).

Loading Discs

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



Sound Volume Adjustment

How high the sound volume can be set depends on the setting of the volume control within **Windows**. Click the **Volume** icon on the taskbar to check the setting (see *“Audio Features” on page 2 - 16*).

Figure 2 - 2
Optical Device



CD Emergency Eject

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

Disk Eject Warning

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

Handling CDs or DVDs

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

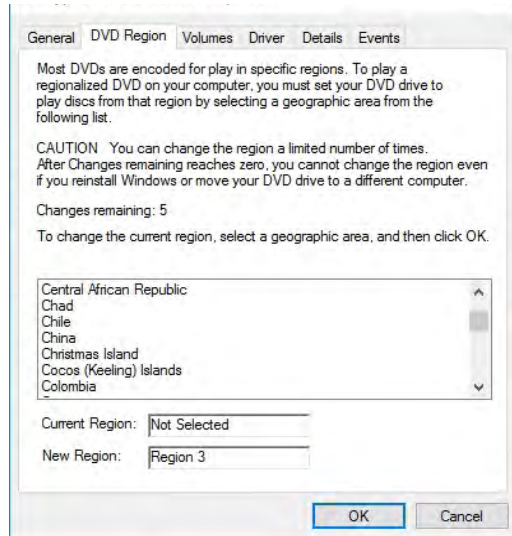
Note the following:

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

DVD Regional Codes

To change the DVD regional codes:

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



Push-Push Card Reader

The card reader features a push-in/push-out card insertion and ejection mechanism. Simply push the card to insert and eject it, however some cards require an adapter.

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 *“CardReader” on page 4 - 7.*

- MMC (MultiMedia Card) / RS MMC
- SD (Secure Digital) / Mini SD / SDHC / SDXC

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

Figure 2 - 4
Left View

1. Card Reader



ExpressCard Slot

The computer is equipped with an **ExpressCard/34/54** slot that reads Express Card/34 and ExpressCard/54 formats. ExpressCards are the successors to PCMCIA (PC Cards). Make sure you install the Card Reader driver (see *“CardReader” on page 4 - 7*).

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



Figure 2 - 5
Left View

1. ExpressCard Slot

Inserting and Removing ExpressCards

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



Smart Card Driver

Smart Cards usually require a driver for any proprietary smart card system. This driver will usually be supplied by your system administrator as applicable to your particular Smart Card system.

Smart Card Reader

The Smart Card reader reads pocket-sized Smart Cards, chip cards, or integrated circuit cards (ICC) with embedded integrated circuits. Smart Cards can be used for security identification, authentication, data storage and application processing within large organizations.

A Smart Card uses a gold contact that connects to a tiny microprocessor and memory chips embedded inside the card. The card is usually used to store authentication data e.g. a user name and password. The computer's Smart Card reader communicates through the gold contact on the card to the microprocessor, and if the data on the card matches that stored in the computer, then access is granted. A Smart Card can also be used to securely encrypt and decrypt individual files on the computer.

Figure 2 - 6
Left View

1. Smart Card Reader

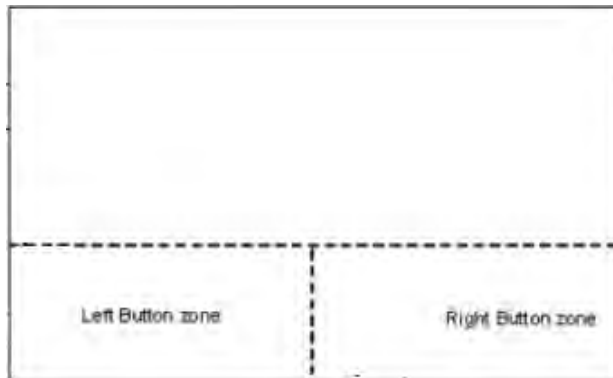


Touchpad and Buttons/Mouse

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

Touchpad Sensitivity

The **mouse button zones** at the bottom of the pad are defined by the line at the **bottom** of the pad, and the **left and right buttons** are divided roughly down the middle as illustrated below. The active area of the touchpad is that defined in the diagram below. Press the left button zone for a left click, and right button zone for a right click action.



Touchpad Active Areas

Note that the **pointing active area** is clearly defined from the **button active area** as illustrated.

Figure 2 - 7
Touchpad Sensitivity




TouchPad Scrolling

This computer model series may feature different TouchPad versions.

These TouchPads may differ in their vertical scrolling function in most scrollable windows.

Some TouchPads require sliding the finger up and down on the right of the TouchPad to scroll the window. Other versions require tapping/holding down the finger at the top right or bottom right of the TouchPad to scroll the window.

Touchpad Configuration

Once you have installed the TouchPad driver (see *“Touchpad” on page 4 - 7*) you can configure the functions from the Mouse control panel in *Windows*, or by double-clicking the TouchPad driver icon  in the notification area of the taskbar in the Desktop app. You may then configure the TouchPad tapping, buttons, scrolling, pointer motion and sensitivity options to your preferences. You will find further information at www.synaptics.com.

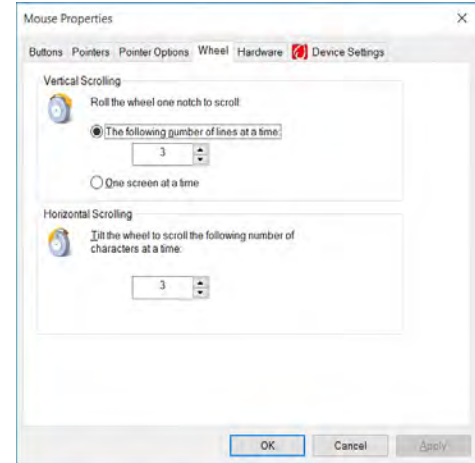
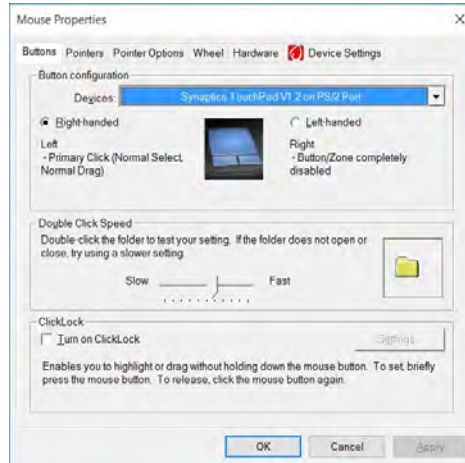


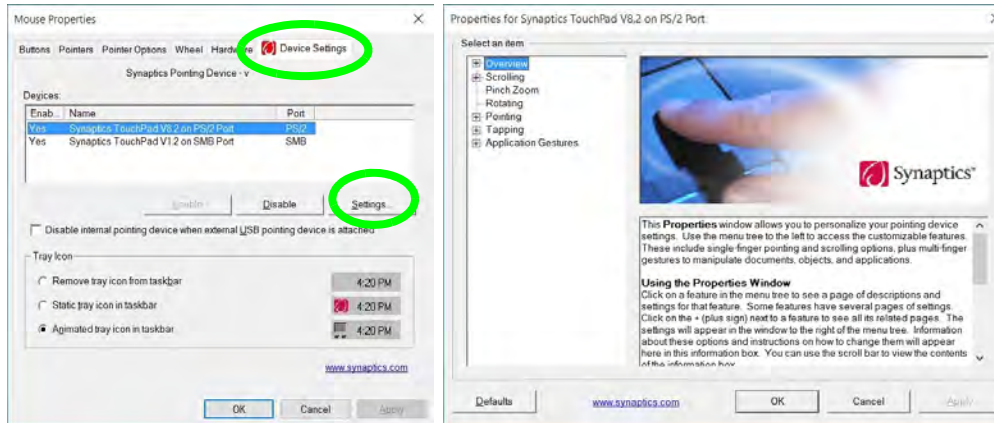
Figure 2 - 8
Mouse Properties

Gestures and Device Settings

The Synaptics Gestures Suite application allows you to use a specific gesture (action) on the surface of the Touchpad to perform specific actions to manipulate documents, objects and applications.

You can configure the settings from the Device Settings tab in **Mouse Properties**:

1. Go to the **Control Panel**.
2. Click **Mouse (Hardware and Sound)**.
3. Click **Device Settings** (tab) and click **Settings**.
4. Use the menu tree on the left to access the user configurable settings.



Show Video

You can get a clearer view of the gestures involved by clicking the **Show Video** option for each gesture item.

Select the gesture (**Pinch Zoom, Rotating, Three Fingers Down and Three Finger Flick**) in the **Device Settings > Settings** left tree menu and click the **Show Video** button to see the demonstration video.

For more details on any of the gestures see the **help** in the lower part of the right menu window.

Figure 2 - 9
**Mouse Properties -
Device Settings**

Disabling the Touchpad

If you need to disable the Touchpad for any reason (e.g. you may find that when using the computer's internal keyboard you accidentally trigger the Touchpad when resting your wrists or palms on it) you can do so by using **Fn + F1** key combination.

You can also set the system to automatically disable the internal Touchpad when an external USB point device (e.g a USB mouse) is attached.

1. Go to the **Mouse Properties** control panel.
2. Click to select **Device Settings** (tab).
3. Click to place a check in the "**Disable internal pointing device when external USB pointing device is attached**" check box.
4. Click **OK** to save the setting.

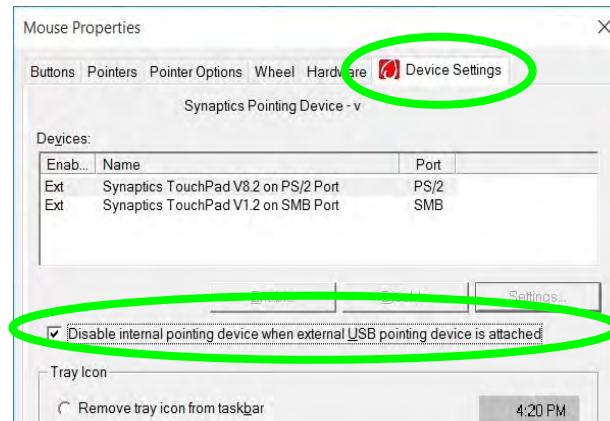
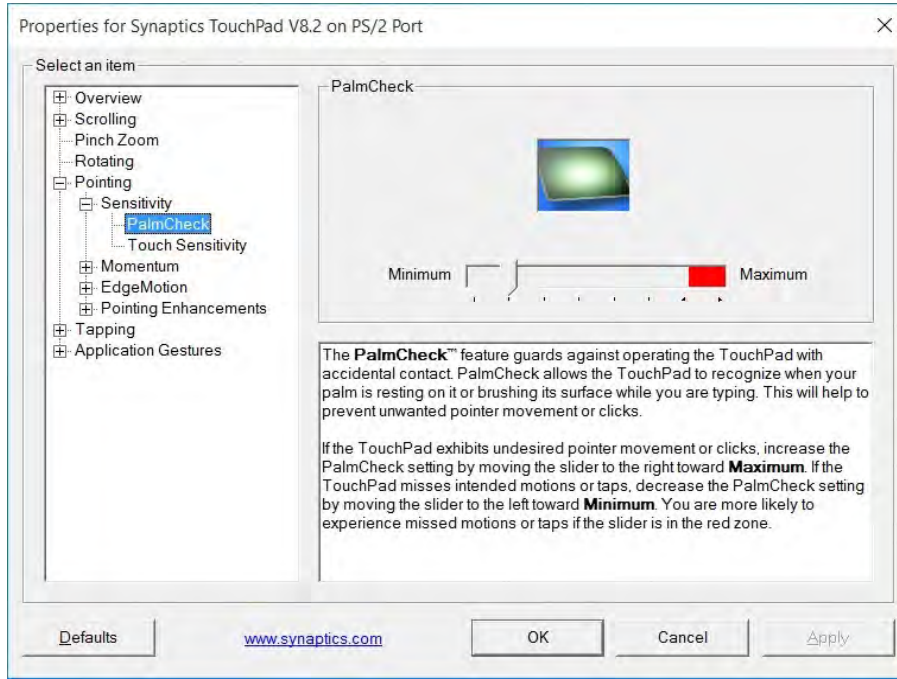


Figure 2 - 10
Mouse Properties
(Disable Touchpad)

PalmCheck™

The PalmCheck™ feature (**Device Settings > Settings > Pointing > Sensitivity**) helps prevent operating the Clickpad/Touchpad by accident, by recognizing when your palm is resting on it or brushing its surface while you are typing.



PalmCheck™

In order to improve Clickpad/Touchpad scrolling responsiveness when using one-finger scrolling, you can adjust the PalmCheck™ slider towards “Minimum” as per your preference.

However bear in mind that adjusting the slider too far towards “Minimum” can turn off PalmCheck™ altogether.

Figure 2 - 11
PalmCheck™ Slider

Scrolling

The Two-Finger scrolling feature works in most scrollable windows and allows you to scroll horizontally and vertically. Place two fingers, slightly separated, on the TouchPad surface and slide both fingers in the direction required (in a straight continuous motion).



Figure 2 - 12
Scrolling Gesture

Zooming

The Pinch Zoom gesture can be used to perform the same function as a scroll wheel in *Windows* applications that support CTRL + scroll wheel zoom functionality. Place two fingers on the TouchPad (for best results use the tips of the fingers) and slide them apart to zoom in, or closer together to zoom out.



Figure 2 - 13
Zooming Gesture

Rotating

Use the Pivot Rotate gesture to rotate objects (e.g. photos) in 90 degree increments. Place a finger down on the left “target” zone and keep it stationary. Place another finger near the middle of the TouchPad and slide it in a circular motion around the stationary finger (clockwise or counterclockwise) to rotate the object.



Figure 2 - 14
Rotating Gesture

Three Finger-Flick/Three Fingers Down (Press)

The Three Finger-Flick gesture may be used to enhance navigation with a variety of applications such as browsing the Internet or scrolling through a photo viewer. The Three Fingers Down gesture may be used to launch user-selectable applications.

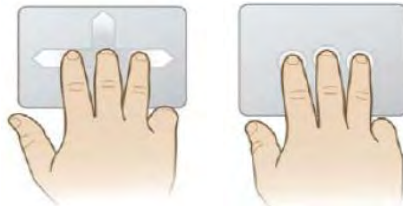

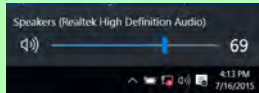


Figure 2 - 15
Flick/Press
Gesture






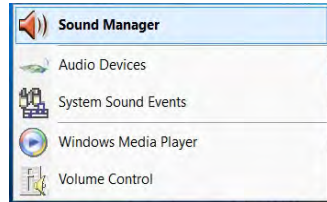
Volume Adjustment

The sound volume level can be clicking using the volume control icon  in the **notification area of the taskbar**.



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 (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.

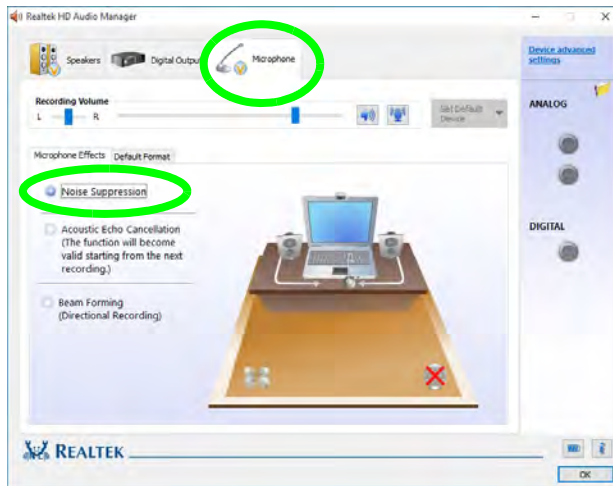


Figure 2 - 16
Realtek Audio Manager


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.



Disabling Front Jack Detection

It is recommended that **you do not disable front panel jack detection** in Connector Settings .

Disabling front panel jack detection may cause your internal microphone to become disabled, and audio may continue to play through the system's internal speakers even when headphones are plugged-in to the headphone jack (see page 7 - 9).

Figure 2 - 17
Realtek Audio Manager - Recording Setup

Chapter 3: Power Management

Overview

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

- The Power Sources
- Turning On the Computer
- Power Plans
- Power-Saving States
- Configuring the Power Buttons
- Battery Information

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



OS Note

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

(**Note:** All pictures used on the following pages are from the *Windows 10* OS.)

Power Options

Power management in *Windows* is configured from **Power Options (Hardware and Sound)**, which can be accessed from the **Control Panel**.



Forced Off

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

The Power Sources

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

AC/DC Adapter

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

1. Attach the AC/DC adapter to the DC-In jack on the left of the computer, then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter (**make sure you use the adapter when first setting up the computer**, as to safeguard the computer during shipping the battery will be locked to not power the system until first connected to the AC/DC adapter).
2. Raise the lid/LCD to a comfortable viewing angle.
3. Press the power button to turn “On”.

Battery

The battery allows you to use your computer while you are on the road or when an electrical outlet is unavailable. Battery life varies depending on the applications and the configuration you're using. **To increase battery life, let the battery discharge completely before recharging** (see *“Battery FAQ” on page 3 - 21*).

We recommend that you do not remove the battery. For more information on the battery, please refer to *“Battery Information” on page 3 - 17*.

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.





Power Button as Stand by or Hibernate Button

You can use the OS's "Power Options" control panel to set the power button to send the system into Stand by or Hibernate mode (see your OS's documentation, or "[Configuring the Power Buttons](#)" on page 3 - 9 for details).

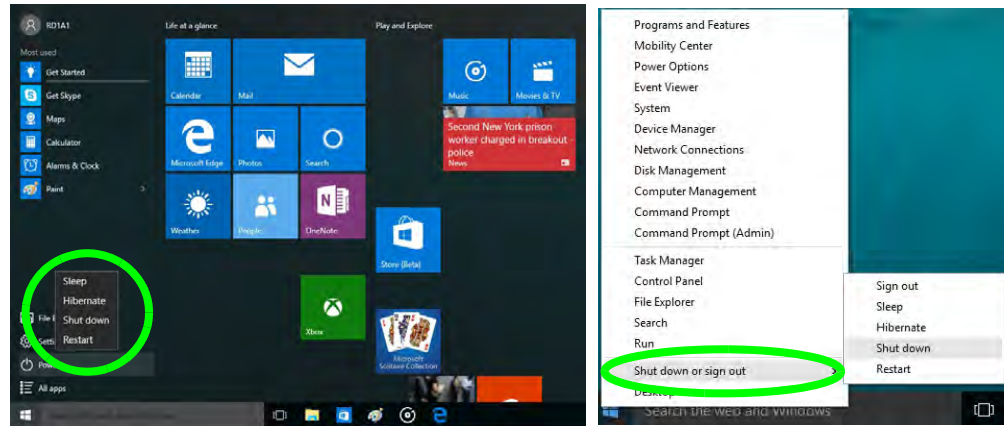
Shutting the Computer Down

Note that you should always shut your computer down by choosing the **Shut down** command as this will help prevent hard disk or system problems. Use the **Power**  item in the **Start Menu** and select **Shut down**.

You can also use the **context menu** (right-click the Start Menu  icon or press the Windows logo  + **X** key combination) to **Sign out**, **Sleep**, **Hibernate**, **Shut down**, and **Restart**.

If you want to add Hibernate/Sleep to the Power Menu see *“Adding Hibernate/Sleep to the Power Menu” on page 3 - 10.*

Figure 3 - 1
Shut Down/Restart

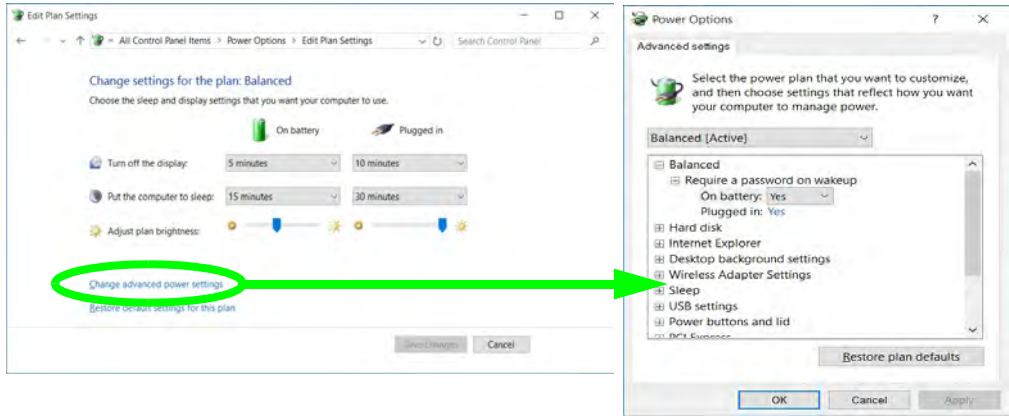



Power Plans

The computer can be configured to conserve power by means of **power plans (Control Panel > Power Options)**. 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**.





Resuming Operation

See [Table 3 - 1, on page 3 - 11](#) for information on how to resume from a power-saving state.

Password

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

Figure 3 - 2
Power Plan
Advanced Settings

Power Management

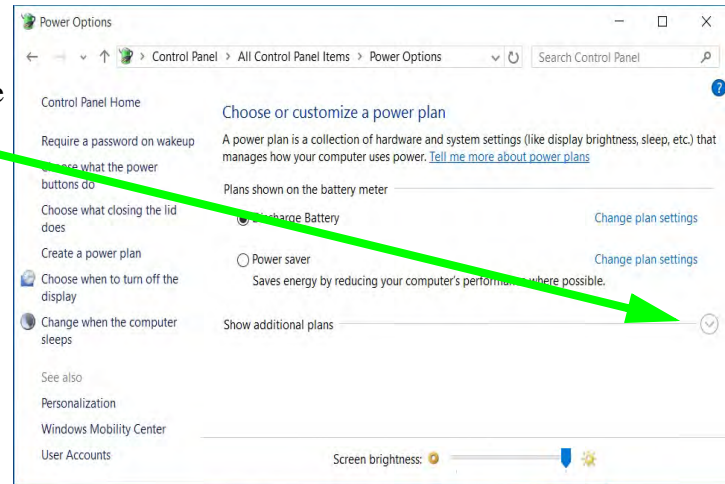
3

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

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

Figure 3 - 3
Power Plans

Click to Show/Hide
additional
power plans



Power-Saving States

You can use power-saving states to stop the computer's operation and restart where you left off. *Windows 10* 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.

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

To add **Sleep** to the **Power Menu** see *“Adding Hibernate/Sleep to the Power Menu” on page 3 - 10*.



Wake On LAN Support

Wake-On-LAN is only supported from **Sleep** or **Hibernate** states in *Windows*.

If you require your computer to wake up from network activity in *Windows* then make sure that the computer is either in **Sleep** or **Hibernate**.

Wake-On-LAN is not supported from **Shut-down** states in *Windows*.

Hibernate

Hibernate uses the least amount of power of all the power-saving states and saves all of your information on a part of the hard disk before it turns the system off. If a power failure occurs the system can restore your work from the hard disk; if a power failure occurs when work is saved only to memory, then the work will be lost. **Hibernate** will also return you to where you last left off within seconds. You should put your mobile PC into **Hibernate** if you will not use the computer for a period of time, and will not have the chance to charge the battery. To add **Hibernate** to the **Power Menu** see *“Adding Hibernate/Sleep to the Power Menu” on page 3 - 10.*

Shut down

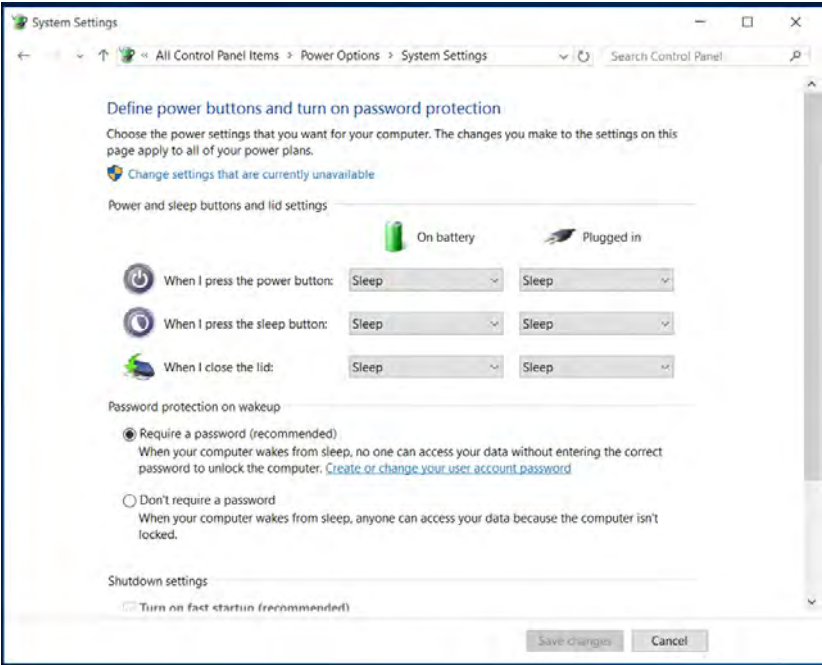
You should **Shut down** the computer if you plan to install new hardware, plan to be away from the computer for several days, or you do not need it to wake up and run a scheduled task. Returning to full operation from **Shut down** takes longer than from **Sleep** or **Hibernate**.


Figure 3 - 4
**Power Button &
Start Menu Power**



Configuring the Power Buttons

The power/sleep button (**Fn + F12** key combo) and closed lid may be set to send the computer in to a power-saving state. Click **Choose what the power buttons do** on the left menu in **Power Options** to bring up the menu.





Password Protection


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

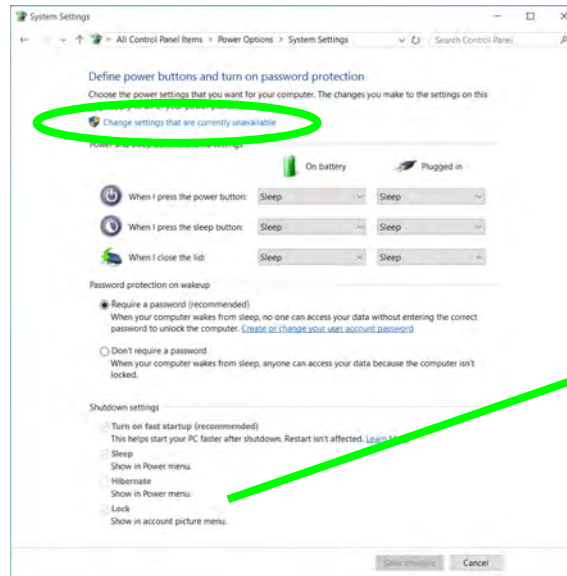
However you can disable this setting from the **Power Options** menu by clicking **Require a password on wakeup** in the left menu, and selecting the options (click **Change settings that are currently unavailable**).

Figure 3 - 5
Power Options
Define Power Buttons

Adding Hibernate/Sleep to the Power Menu

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

1. Go to the **Power Options (Hardware and Sound)** control panel.
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 check in the **Hibernate/Sleep** box under **Shutdown settings**.
5. Click **Save Changes** and close the control panel.



Shutdown settings

- Turn on fast startup** (This helps start your PC
- Sleep** Show in Power menu.
- Hibernate** Show in Power menu.
- Lock** Show in account picture

Figure 3 - 6
Power Options
Define Power
Buttons - Shutdown
Settings

Resuming Operation

You can resume operation from power-saving states by pressing the power button, or in some cases pressing the sleep button (**Fn + F12** key combo).




Power Status	Icon  Color	To Resume
Power Off	Off	Press the Power Button
Sleep	Blinking White	Press the Power Button Press the Sleep Button (Fn + F12 Key Combo)
Hibernate	Off (battery) Orange (AC/DC adapter)	Press the Power Button
Display Turned Off	White	Press a Key or Move the Mouse/Touchpad

Table 3 - 1
Resuming
Operation



Power Button

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



Closing the Lid

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



Power Conservation Modes

The **Power Saving** setting will result in maximum power saving, but with the possible loss of some performance.

Setting the mode to **Balance** will give power saving matched with performance.

Performance will give optimum computer performance but with less power conservation.

Note that the Energy Star setting will put the display into sleep after no more than 15 minutes of user inactivity.

Power Conservation Modes

This system supports **Power Saving** power management features that place computers (CPU, hard drive, etc.) into a low-power sleep modes after a designated period of inactivity. Adjust **Power Conservation Modes** from the **Control Center**:

1. Press the **Fn + Esc** key combination to toggle the **Control Center** on/off.
2. Click either the **Performance**, **Balanced** or **Power Saving** button.



Figure 3 - 7
Control Center

Ctrl + Alt + Delete Key Combination

You can use the **CTRL + ALT + DEL** key combination from almost any of the *Windows 10* interfaces/Apps to bring up a full-screen displaying **Lock, Switch User, Sign out, 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**.

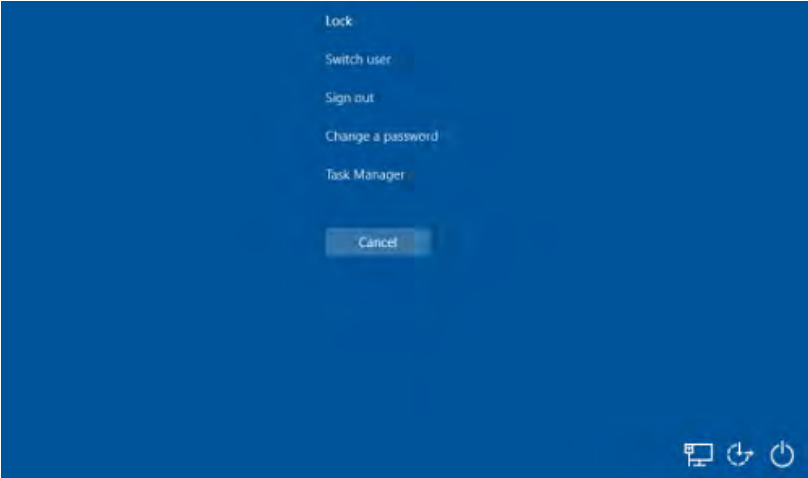


Figure 3 - 8
Ctrl + Alt + Delete
Menu

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

Settings Menu Power Controls

The **Settings** item in the **Start Menu** (and also as an App) gives you access to a number of power settings control panels which enable you to quickly adjust power options. Click **System** to access the menu including the power option settings.

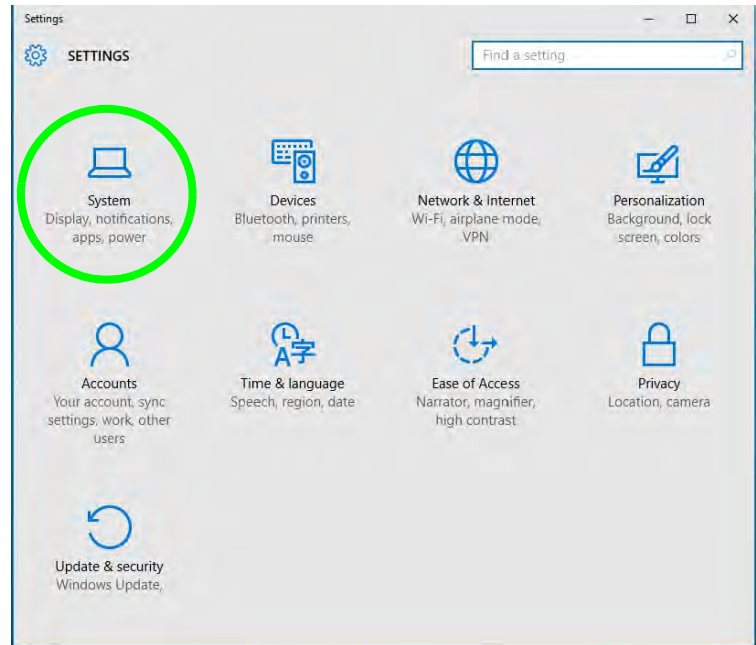
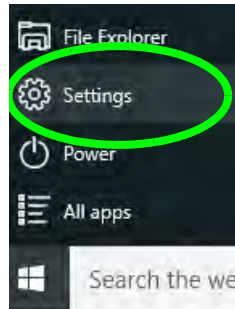


Figure 3 - 9
Settings

Battery Saver

Battery Saver will display the battery level, and by clicking **Battery Use** you can see the current state of battery usage by application etc. Click **Battery saver settings** to adjust the battery saver level.

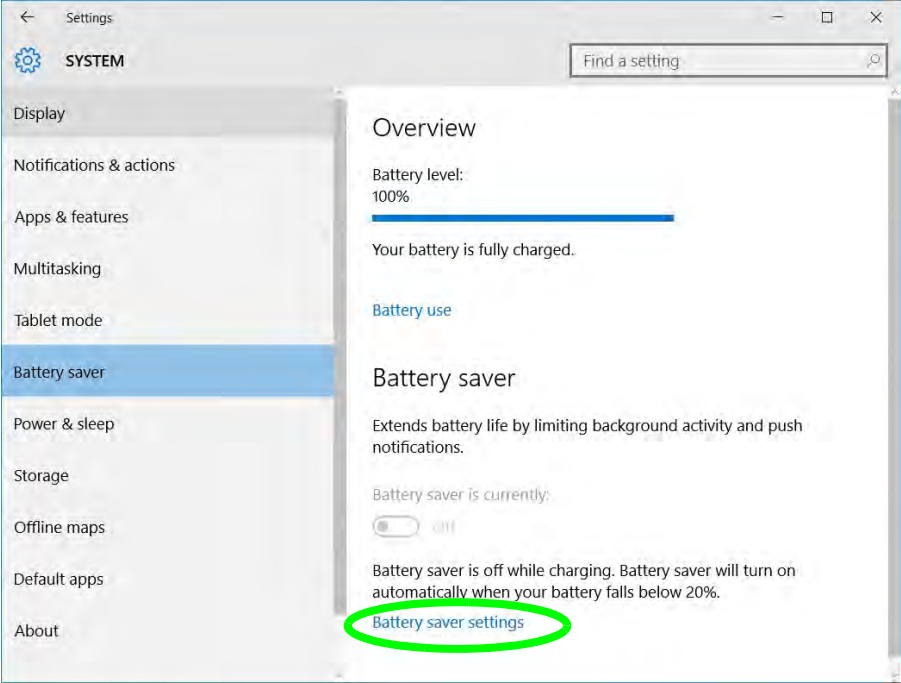


Figure 3 - 10
Settings > Battery
Saver

Power & Sleep

Power & sleep gives you quick access to **Screen** and **Sleep** settings. Click **Additional power settings** to go to the main power options control panel.

3

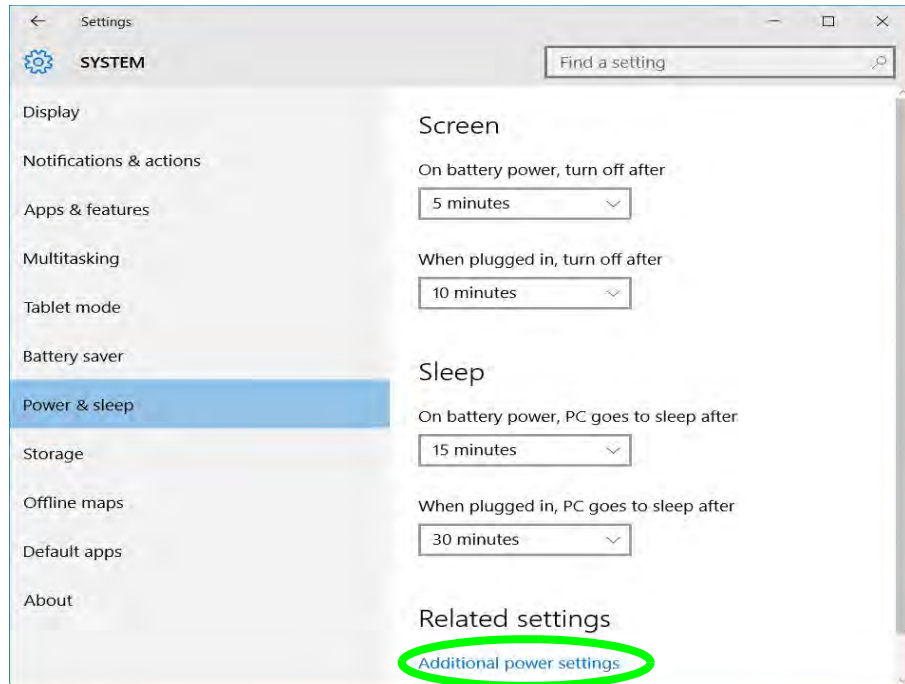



Figure 3 - 11
Settings > Power & Sleep

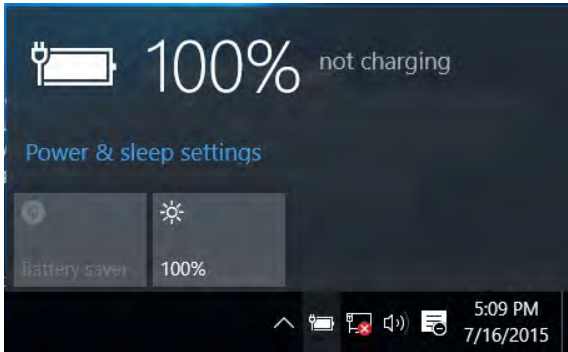
Battery Information

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

Battery Power

Your computer's battery power is dependent upon many factors, including the programs you are running, and peripheral devices attached. You can set actions to be taken (e.g. Shut down, Hibernate etc.), and set critical and low battery levels from power plan **Change plan settings > Change advanced power settings** (see *Figure 3 - 3 on page 3 - 6*).

Click the battery icon  in the notification area to see the current battery level and charge status (you can also click **Power & sleep settings** to access the **Settings** menu to quickly adjust power settings).





Low Battery Warning

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

Figure 3 - 12
Battery Icon (Notification Area) & Battery Advanced Settings



Windows Mobility Center

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

Conserving Battery Power

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

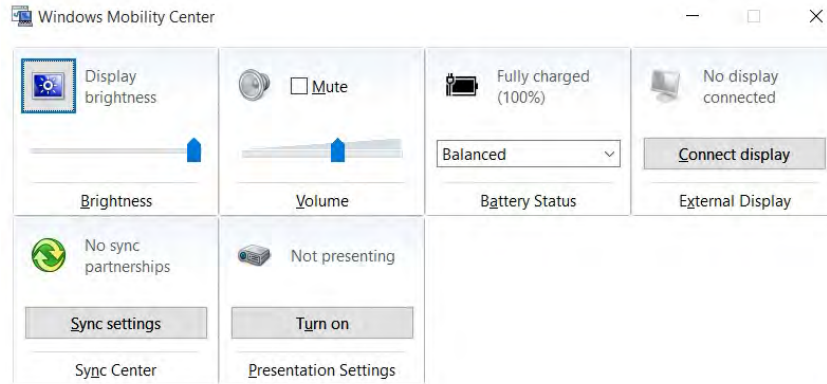


Figure 3 - 13
Windows Mobility Center (Control Panel)

Battery Life

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

We recommend that you do not remove the battery yourself. If you do need to remove the battery for any reason (e.g. long term storage) see *“Removing the Battery” on page 3 - 25.*

New Battery

Always completely discharge, then fully charge, a new battery (see *“Battery FAQ” on page 3 - 21* for instructions on how to do this).

Recharging the Battery with the AC/DC Adapter

The battery pack automatically recharges when the AC/DC adapter is attached and plugged into an electrical outlet. If the computer is powered on, and in use, it will take several hours to fully recharge the battery. When the computer is turned off but plugged into an electrical outlet, battery charge time is less. Refer to *“LED Indicators” on page 1 - 7* for information on the battery charge status, and to *“Battery FAQ” on page 3 - 21* for more information on how to maintain and properly recharge the battery pack.



Caution

Danger of explosion if battery is incorrectly replaced.

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

Proper handling of the Battery Pack

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



Damaged Battery Warning

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

Battery FAQ

How do I completely discharge the battery?

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

1. Save and close all files and applications.
2. **Create a power plan** for discharging the battery and set all the options to **Never**.

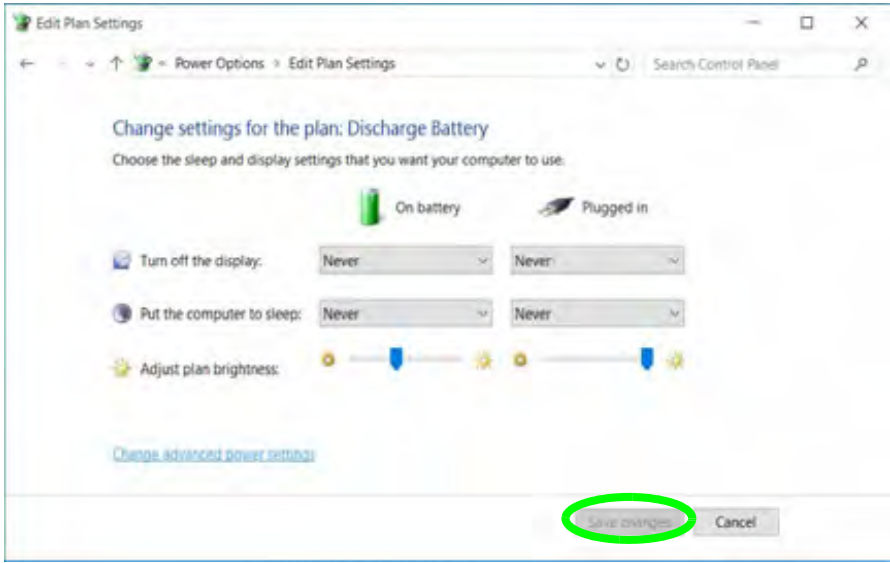
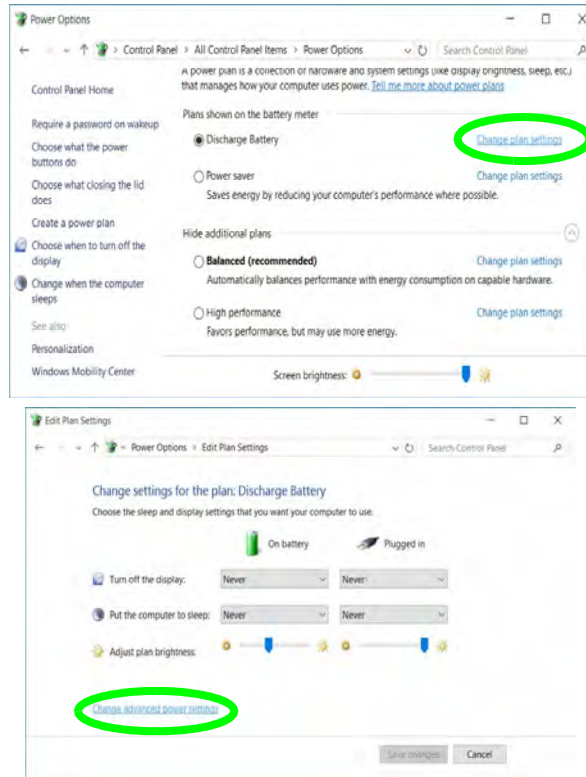


Figure 3 - 14
Power Plan Create

Power Management

3. Click **Change plan settings** (after creating it) and click **Change plan settings > Change advanced power settings**.

Figure 3 - 15
Change Plan Settings / Change Advanced Power Settings



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

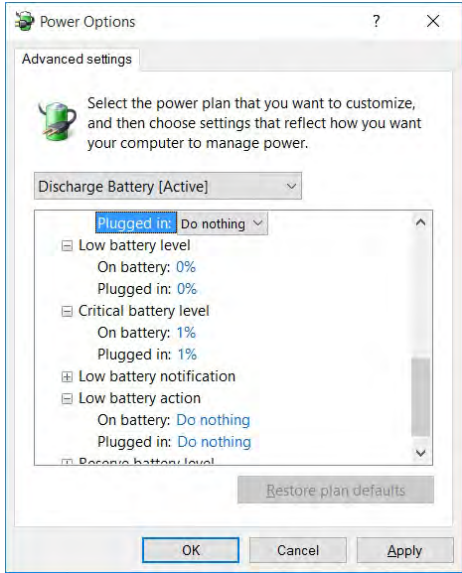


Figure 3 - 16
Power Options
Advanced Settings -
Battery

- Low battery levels = 0%
- Critical battery Levels = 1%
- Low battery action = Do Nothing
- Critical battery action (On battery) = Shut Down
- Critical battery action (Plugged in) = Do Nothing

How do I fully charge the battery?

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

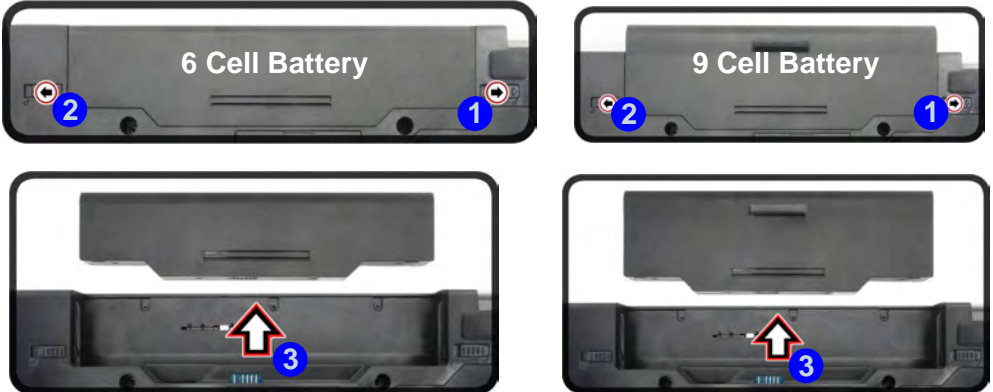
How do I maintain the battery?


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

Removing the Battery

We recommend that you do not remove the battery yourself. If you do need to remove the battery for any reason (e.g. long term storage) see below.

1. Turn the computer **off**, and turn it over.
2. Slide the latch **1** in the direction of the arrow.
3. Slide the latch **2** in the direction of the arrow, and hold it in place.
4. Slide the battery out in the direction of the arrow **3**.




Bottom Cover Removal Warning

Do not remove any cover(s) and /or screw(s) for the purposes of device upgrade as this may violate the terms of your warranty.

If you need to replace/remove the hard disk/RAM/optical device etc., for any reason, please contact your distributor/supplier for further information.

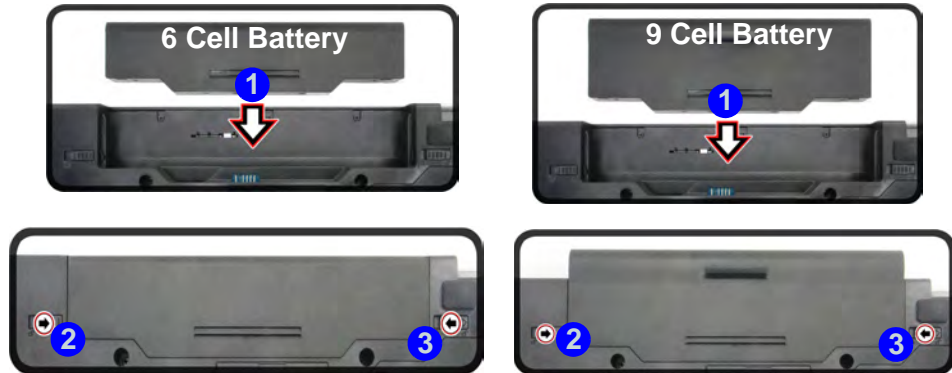
3

Figure 3 - 17
Battery Removal

Inserting the Battery

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

Figure 3 - 18
Battery Insertion



Chapter 4: Drivers & Utilities

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

What to Install

The *Device Drivers & Utilities + User's Manual* disc contains the drivers and utilities necessary for the proper operation of the computer. *Table 4 - 1, on page 4 - 4* lists what you need to install and **it is very important that the drivers are installed by the method outlined in this chapter, and in the order indicated.**

Note that the information included on the following pages is for *Windows 10 (64-bit) only.*

Module Driver Installation

The procedures for installing drivers for the **Wireless LAN, Fingerprint, Bluetooth & WLAN Combo** and **Intel Technology** modules are provided in *"Modules & Options"* on page 6 - 1.



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).

Driver Installation

1. Insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
2. Click the message "Tap to choose what happens with this disc."
3. Click **Run autorun.exe**.
4. Click **Install Drivers** (button), or **Option Drivers** (button) to access the **Optional** driver menu.



Figure 4 - 1 - Drivers Installer Screen 1

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 following pages.



Figure 4 - 2 - Install Drivers

Drivers & Utilities

Win 10 Drivers (64-bit) System Required	Page #	Win 10 Drivers (64-bit) Other / Options	Page #
<i>Chipset</i>	<i>Page 4 - 7</i>	<i>Wireless LAN Module</i>	<i>Page 6 - 3</i>
<i>Video (VGA)</i>	<i>Page 4 - 7</i>	<i>Bluetooth Combo Module</i>	<i>Page 6 - 8</i>
<i>LAN</i>	<i>Page 4 - 7</i>	<i>Fingerprint Reader Module</i>	<i>Page 6 - 13</i>
<i>CardReader</i>	<i>Page 4 - 7</i>	<i>Intel® Software Guard Extensions</i>	<i>Page 6 - 17</i>
<i>Touchpad</i>	<i>Page 4 - 7</i>	<i>Intel® Rapid Storage Technology</i> (required for hard disks in AHCI/RAID mode)	<i>Page 6 - 18</i>
<i>Control Center</i>	<i>Page 4 - 8</i>	<i>Intel® vPro™ Technology</i> (For Model A Computers Only) (Driver only required for WiDi AP - see Page 6 - 22)	<i>Page 6 - 19</i>
<i>Airplane</i>	<i>Page 4 - 8</i>	<i>PC Camera Module</i> (No driver required)	<i>Page 6 - 26</i>
<i>MEI Driver</i>	<i>Page 4 - 8</i>	<i>Trusted Platform Module</i> (No driver required)	<i>Page 6 - 31</i>
<i>Audio</i>	<i>Page 4 - 8</i>	<i>3G/4G Module</i> (No driver required)	<i>Page 6 - 37</i>

Table 4 - 1 - Driver Installation

All drivers provided are for the Windows 10 (64-bit) operating system.

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

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 **Check for updates** (**Settings > Update & security > Check for updates**) in order to get all the latest security updates etc. (all updates will include the latest **hot-fixes** from Microsoft). See “*Windows Update*” on [page 4 - 9](#) 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** 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.

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.

Make sure any modules (e.g. WLAN or Bluetooth) are **ON (i.e. the system is not in Airplane Mode)** before installing the appropriate 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 > Accept > Install**.
3. Click **Restart Now** to restart the computer.

Video (VGA)

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

LAN

*Note: If the computer enters a deep sleep mode during installation, you will be prompted to plug in a network cable, and click **OK**, to continue installation. If a network cable is not available, restart the system and re-install the LAN driver.*

1. Click **3.Install LAN Driver > Yes**.
2. Click **Install Drivers and Software > Next**.
3. Click the button to accept the license and click **Next**.
4. Click **Next > Install**.
5. Click **Finish**.

CardReader

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

Touchpad

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

Control Center

1. Click **6.Install Control Center AP > Yes**.
2. Click **Next > Install**.
3. Click **Finish** to restart the computer.

Airplane

Note: Do not use Update Driver in Device Manager to install the Airplane Mode driver.

1. Click **7.Install Airplane Mode AP > Yes**.
2. Click **Next > Install**.
3. Click **Finish** to restart the computer.

MEI Driver

1. Click **8.Install MEI Driver > Yes**.
2. Click **Next**.
3. Click the check box to accept the license and then click **Next**.
4. Click **Next**.
5. Click **Finish**.

Audio

1. Click **9.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.

It is recommended you now also install the **Intel Rapid Storage Technology** driver (see "**Intel® Rapid Storage Technology**" on page 6 - 18 - required for AHCI mode hard disks).



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/ 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.



Figure 4 - 3 - Option Drivers

Note that you need to install both the WLAN & Bluetooth drivers for Intel and 3rd party WLAN & Bluetooth Combo modules.

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.



BIOS Settings Warning

Incorrect settings can cause your system to malfunction. To correct mistakes, return to *Setup* and restore the **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.

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.

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

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) 2015 American Megatrends Inc.
Main  Advanced  Security  Boot  Exit

System Date                [Mon 10/06/2015]
System Time                [09:56:26]
Set the Date. Use Tab to
switch between Date elements.

▶ SATA Port 0 Not Present
▶ SATA Port 1 Not Present
▶ SATA Port 4 WDC WD2500BEVT (520.1GB)
▶ SATA Port 5 Slimtype DVD A ATAPI

▶ OffBoard SATA Controller Configuration
▶ OffBoard NVMe Controller Configuration

Intel(R) Core(TM) ***** CPU **** @ *****

ME FW Version              *****

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

MB Series:                *****

BIOS Revision:           *****
KBC/EC firmware Revision: *****

MAC Address:             *****

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

Version ***** Copyright (C) 2015 American Megatrends, Inc.

```

Figure 5 - 2
Main Menu

System Time & Date (Main Menu)

The hour setting uses the 24-hour system (i.e., 00 = 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.



Docking Station Hard Disk Drives

Note that hard disk drives installed in the docking station will be displayed as external HDDs in the BIOS.

5

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.

OffBoard SATA/NVme Controller Configuration (Main Menu)

Pressing **Enter** opens the sub-menu to show the configuration of any devices on the off board SATA/NVme Controller if applicable.

CPU/ ME FW Version / System/ Extended Memory: (Main Menu)

This item contains information on the CPU type and system memory, and is not user configurable. The system will auto detect the amount of memory installed.

MB Series / BIOS Revision / KBC/EC firmware Revision / Mac Address (Main Menu)

This item contains information on the BIOS version etc., and is not user configurable.

Advanced Menu

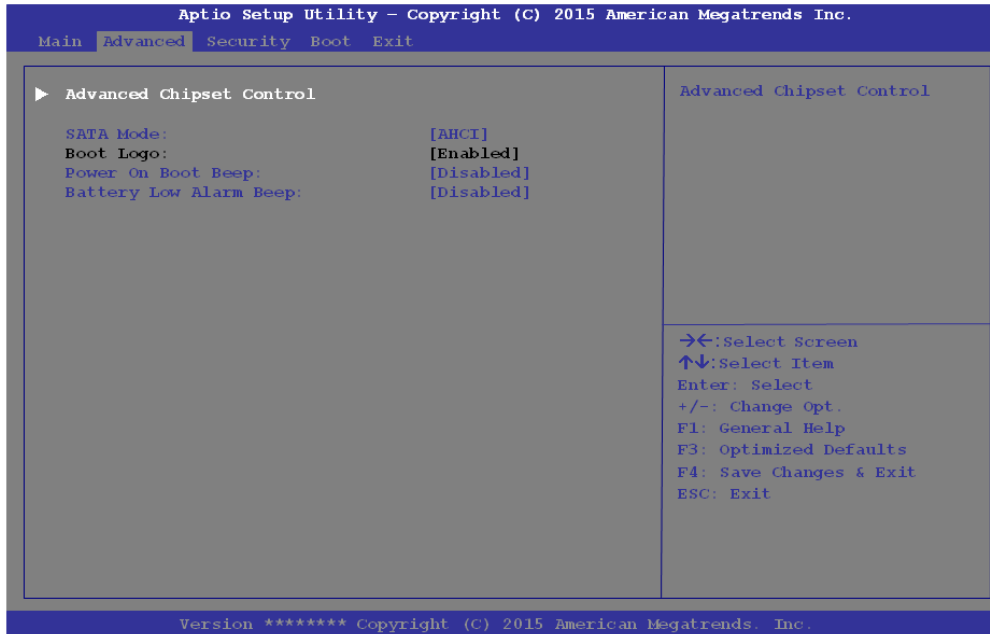
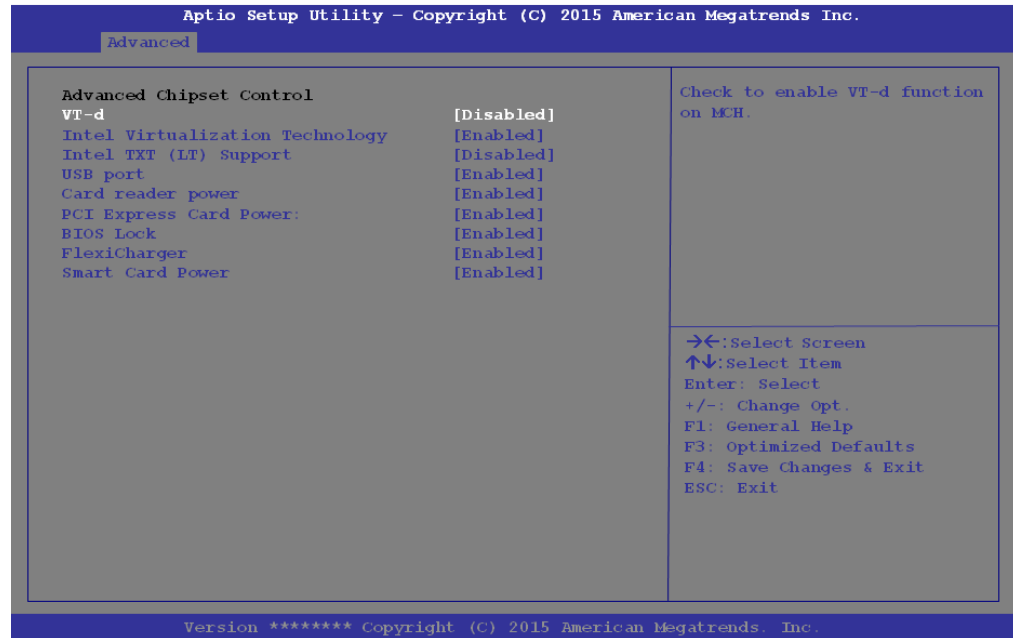


Figure 5 - 3
Advanced Menu

Figure 5 - 4
Advanced Menu >
Advanced Chipset
Control



Advanced Chipset Control (Advanced Menu)

The sub-menu here allows you to enable/disable **VT-d**, **Intel Virtualization Technology**, **Intel TXT(LT) Support**, **USB Port**, **Card Reader Power**, **PCI Express Card Power**, **BIOS Lock**, **Flexicharger** and **Smart Card Power**.

VT-d (Advanced Menu > Advanced Chipset Control)

Enable/disable **Intel® Virtualization Technology for Directed I/O (VT-d)** from this menu. This extends Intel's Virtualization Technology (VT) by providing hardware assists for a virtualization solution.

Intel Virtualization Technology (Advanced Menu > Advanced Chipset Control) (For Model A Computers Only)

Intel(R) Virtualization Technology enables a CPU to act as if it were several CPUs working in parallel in order to allow several operating systems to run at the same time in the same machine.

Intel TXT(LT) Trusted Execution Technology Support (Advanced Menu > Advanced Chipset Control)

Intel(R) Trusted Execution Technology may be enabled/disabled from this menu item. TXT provides hardware and firmware security against software intended attacks.

USB Port/ Card Reader Power / PCI Express Card Power / Smart Card Power (Advanced Menu > Advanced Chipset Control)

These menu items allow you to enable/disable power to the Card Reader, Express Card, Smart Card or USB ports when required to do so in order to save power.



Powered USB Port

You may disable power to the USB ports from the menu option. However the powered USB port ([Figure 1 - 8 on page 1 - 15](#)) can still be used to charge devices as this function will not be disabled here.

You can disable the powered USB port's charge function by using the Fn + power button key combination toggle.



FlexiCharger Warning

If you leave the FlexiCharger continuously "Enabled" for a period of three months or more, the battery meter's reading accuracy will deteriorate.

To reset this, set the FlexiCharger to "Disabled", and then allow the battery to completely discharge (see "[Battery FAQ](#)" on page 3 - 21) before enabling the function again.

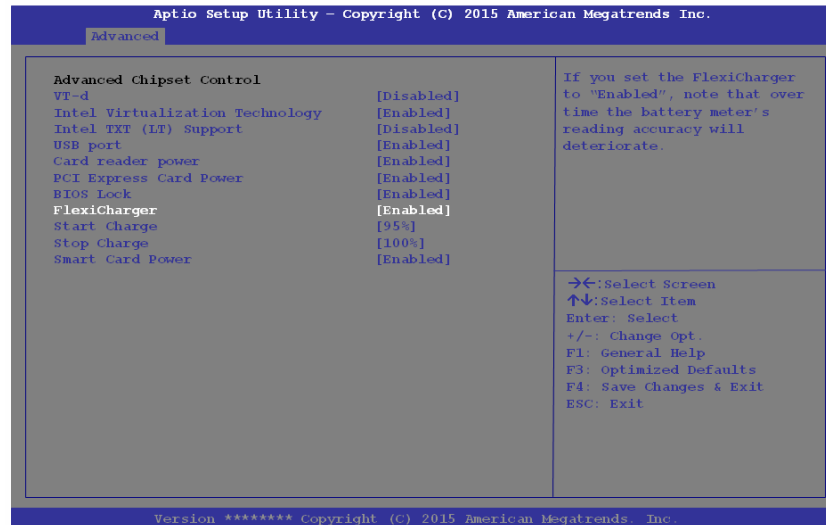
Figure 5 - 5
**Advanced Chipset
Control >
FlexiCharger**

FlexiCharger (Advanced Menu > Advanced Chipset Control)

The sub-menu here allows you to enable/disable the **FlexiCharger**. The FlexiCharger may be set to automatically start charging your battery when the battery reaches a certain capacity level (e.g. you could start the battery charge level at 40%).

You can then set the level to stop charging (e.g. 100%), and of course this stop charge level must be higher than the start charge level.

See the sidebar warning for information on running the FlexiCharger for an extended period as this is not recommended.



SATA Mode (Advanced Menu)

The SATA (Serial ATA) controller operates in **AHCI** (Advanced Host Controller Interface) mode. Install the **Intel Rapid Storage Technology** driver to support your drive in AHCI mode (see “**Intel® Rapid Storage Technology**” on page 6 - 18).

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.

Security Menu

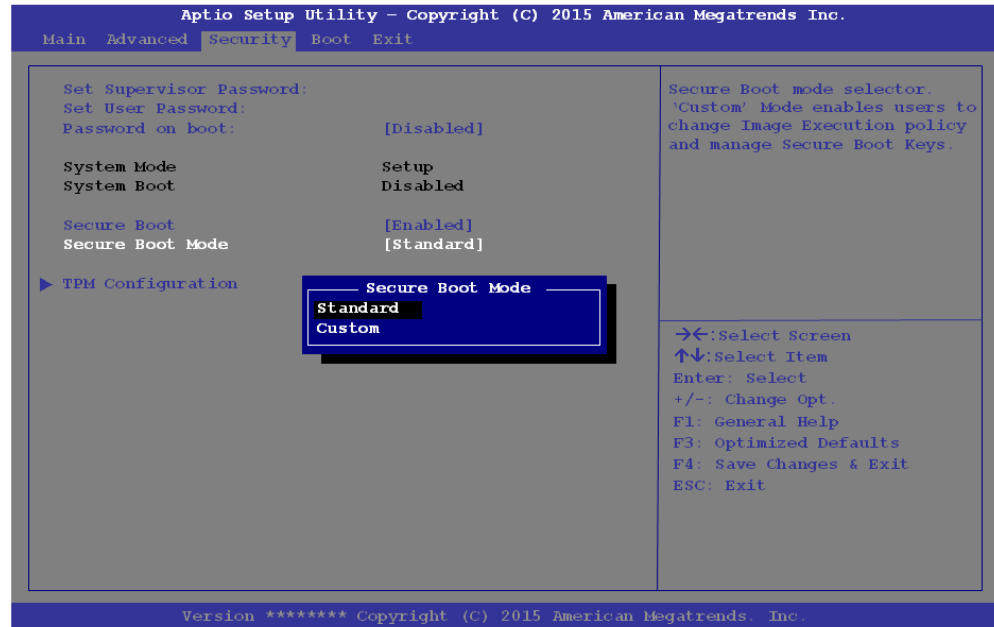


Security Menu

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

5

Figure 5 - 6
Security Menu



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** and **password on boot**.

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.**

Password on boot (Security Menu)

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

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



Password Warning

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

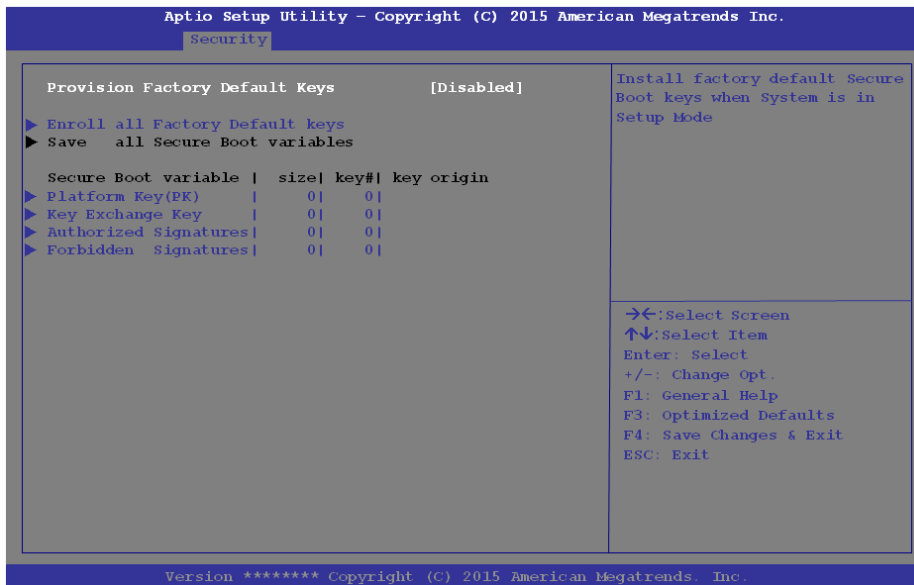
The consequences of this could be serious. If you cannot remember your boot password you must contact your vendor and you may lose all of the information on your hard disk.

Secure Boot Support (Security Menu)

Secure Boot prevents unauthorized operating systems and software from loading during the startup process. **Secure Boot Support** is available as a menu option if you have **enabled UEFI Boot** (see *“UEFI Boot (Boot Menu > UEFI Setting)” on page 5 - 17*). 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 **Key Management** database).

5

Figure 5 - 7
Security
(Key Management)



TPM Configuration (Security Menu)

This sub-menu will allow you to enable/disable Trusted Platform Module (TPM) support, and to configure the TPM State. Select **TPM Configuration** and press Enter to access the sub-menu. Press Enter to access the **Security Device Support** menu and select **Enable** to display the full TPM configuration menu (see *“Trusted Platform Module” on page 6 - 31* for details).

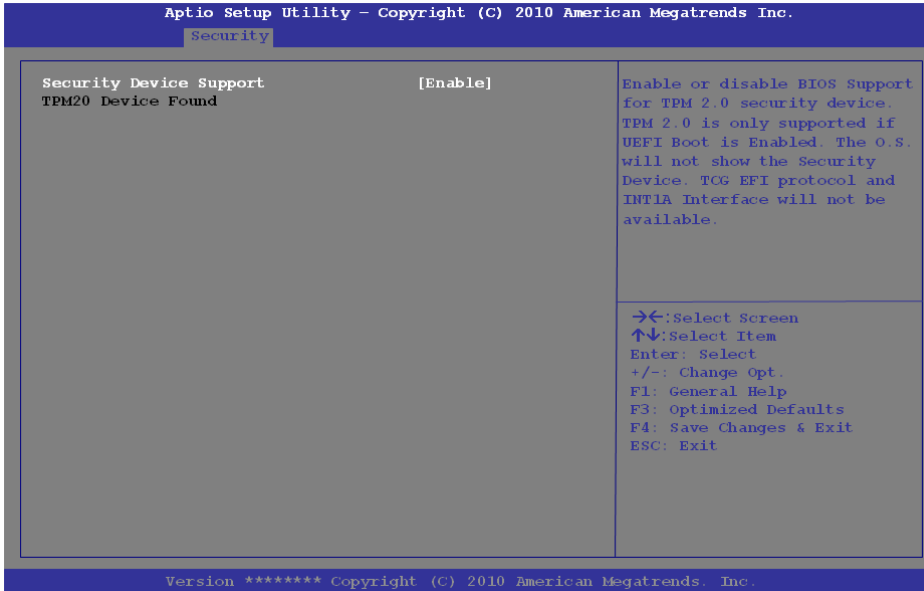


Figure 5 - 8
TPM Configuration

Boot Menu

Figure 5 - 9
Boot 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.



When you turn the computer on it will look for an operating system (e.g. **Windows 8.1**) 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**.

Boot Option Priorities (Boot Menu)

Press Enter to access the menu and use the arrow keys to move up and down the available options (the selected device will be highlighted in white).

UEFI Boot (Boot Menu > UEFI Setting)

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.

Exit Menu

Figure 5 - 10
Exit Menu



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 to restore the original ***Setup*** defaults that will return the ***Setup*** to its original state, and erase any previous changes you have made in a previous session.

Chapter 6: 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.

- Wireless LAN Module
- Bluetooth Combo Module
- Fingerprint Reader Module
- Intel® Software Guard Extensions
- Intel® vPro™ Technology
- Intel® Rapid Storage Technology
- PC Camera Module
- Trusted Platform Module
- 3G/4G Module



Wireless Device Operation Aboard Aircraft

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



Driver Installation & Module Power

Make sure any modules (e.g. WLAN, PC Camera, 3G/4G & Bluetooth modules) are **ON** before installing the appropriate driver.



Important Notice

If your purchase option includes both Wireless LAN and 3G/4G modules, then the appropriate antennas will be installed. Note that In order to comply with FCC RF exposure compliance requirements, the antenna must not be co-located or operate in conjunction with any other antenna or transmitter.

Important Notice - 3G/4G & Bluetooth/Wireless LAN Modules

In order to comply with FCC regulations you should NOT operate the 3G/4G module and the Bluetooth/Wireless LAN modules at the same time as this may disrupt radio frequency, and cause interference. When the 3G/4G module is powered on, make sure that the Bluetooth/Wireless LAN modules are powered off.

Wireless LAN Module

If you have included an **Intel® or 3rd Party 802.11b/g/n (Combo) module** is on (i.e. the system is not in **Airplane Mode**) before installing the driver.

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.

See overleaf for the appropriate driver installation instructions.



Wireless Device Operation Aboard Aircraft

The use of any portable electronic transmission devices aboard aircraft is usually prohibited. Make sure the **WLAN/Bluetooth** module(s) are OFF if you are using the computer aboard aircraft. Use **Airplane Mode** hot key to toggle Airplane Mode On/Off, and check the LED indicator for the power status.

3rd Party 802.11b/g/n Driver Installation


1. **Make sure the system is not in Airplane Mode**, and then insert the *Device Drivers & Utilities + User's Manual* disc into an attached DVD drive.
2. Click **Option Drivers** (button).
3. Click **1.Install WLAN Driver > Yes**.
4. Click **Next**.
5. Click **Finish** to restart the computer.
6. The operating system is the default setting for Wireless LAN control in *Windows* (see page **6 - 5**).

Intel® WLAN Driver Installation

1. **Make sure the system is not in Airplane Mode**, and then insert the *Device Drivers & Utilities + User's Manual* disc into an attached DVD drive.
2. Click **Option Drivers** (button).
3. Click **1.Install WLAN Driver > Yes**.
4. Click in the check box to agree to the **End User License Agreement** and click **Install**.
5. Click **Finish**.
6. The operating system is the default setting for Wireless LAN control in *Windows* (see page **6 - 5**).

WLAN Configuration in Windows 10

You can configure a wireless connection using one of the following options, however make sure the Wireless LAN module is turned on (and not in Airplane Mode) before configuration begins.

1. Click the Wireless icon  in the notification area of the taskbar.
2. Make sure that **Airplane mode** is **off** (the Airplane mode icon should be gray).
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**).

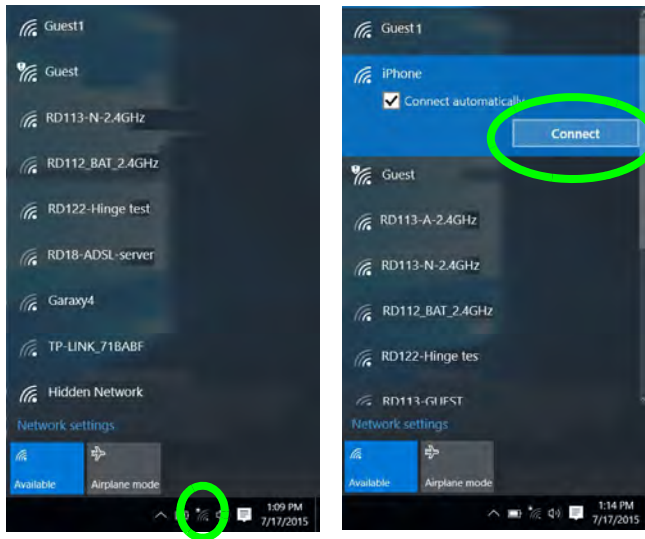


Figure 6 - 1
WiFi & Network
Connections

Modules & Options

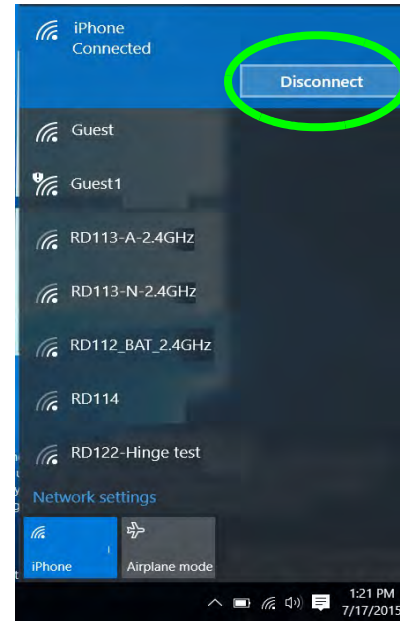
5. Enter a network security key (password) if required, and click **Next**.
6. You can choose to share or connect to devices or not.
7. When you are connected to the network access point it will display **Connected** status **Connected**.
8. Select any connected network and click **Disconnect** **Disconnect** to disconnect from a connected access point.



Wireless Device Operation Aboard Aircraft

The use of any portable electronic transmission devices aboard aircraft is usually prohibited.

Make sure the module is either **OFF** or in **Airplane mode** if you are using the computer aboard aircraft.



6

Figure 6 - 2
**Network Connected
(Click Disconnect)**

9. You can click the **Airplane Mode** button to turn the mode On or Off.
10. You need to either use **Airplane Mode**, or to **turn the WLAN module off** aboard aircraft.
11. If you click on **Network Settings** to bring up **Network & Internet** for a more comprehensive list of network and internet settings including **Wi-Fi** (can be turned on/off), **Airplane mode** (Airplane mode and Wireless devices can be turned on/off) **VPN, Dial-up, Ethernet** and **Proxy**.
12. You can also access the **Network & Internet** settings from the **Start Menu (Settings > Network & Internet)**.

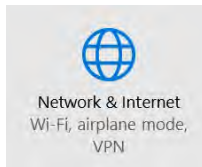
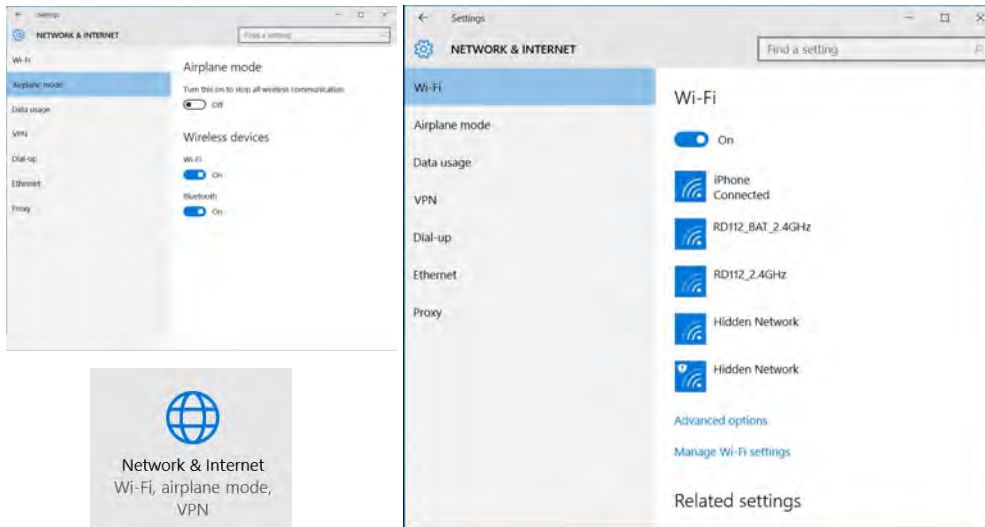


Figure 6 - 3
Network & Internet Settings



Wireless Device Operation Aboard Aircraft

The use of any portable electronic transmission devices aboard aircraft is usually prohibited. Make sure the **WLAN/Bluetooth** module(s) are OFF if you are using the computer aboard aircraft. Use **Airplane Mode** hot key to toggle Airplane Mode On/Off, and check the LED indicator for the power status.

Bluetooth Combo Module

If your purchase option includes the **Combination Wireless LAN & Bluetooth module** (either **Intel®** or **3rd Party**) then install the driver as instructed overleaf.

Make sure that the module is on (i.e. the system is not in **Airplane Mode**) before installing the driver.



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.

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


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

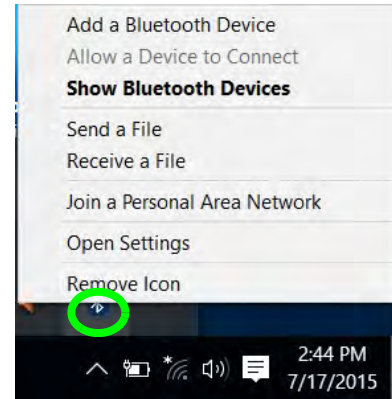
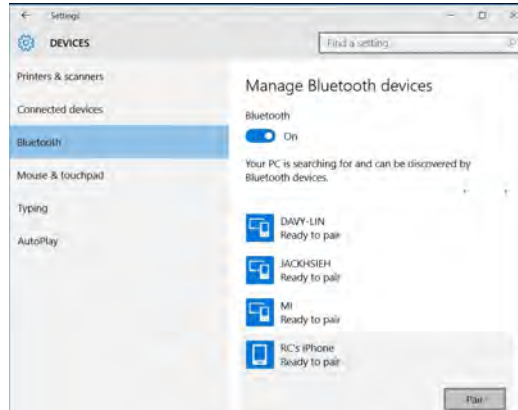
1. **Make sure the system is not in Airplane Mode**, and then insert the *Device Drivers & Utilities + User's Manual* disc into an attached DVD drive.
2. Click **Option Drivers** (button).
3. Click **2.Install Combo BT Driver > Yes**.
4. Click **Next**.
5. Click **Finish** to restart the computer.
6. See *“Bluetooth Configuration in Windows” on page 6 - 10* for configuration instructions.

Intel Bluetooth Combo Driver Installation

1. **Make sure the system is not in Airplane Mode**, and then insert the *Device Drivers & Utilities + User's Manual* disc into an attached DVD drive.
2. Click **Option Drivers** (button).
3. Click **2.Install Combo BT Driver > Yes**.
4. Click **Next > Next**.
5. Click in the check box to accept the license and click **Next**.
6. Select the setup type (**Typical** is recommended) and click **Install**.
7. Click **Finish**.
8. See *“Bluetooth Configuration in Windows” on page 6 - 10* for configuration instructions.

Bluetooth Configuration in Windows

1. Click the **Settings** item in the Start Menu and then click **Devices** (or click the Bluetooth icon  in the taskbar and click **Add a Bluetooth Device**).
2. Click **Bluetooth** and make sure Bluetooth is **On** and a list of discovered devices will appear.



3. Double-click the device you want to pair with the computer and click **Pair**.
4. On first connection the computer will provide you with a pairing code to be entered onto the device.

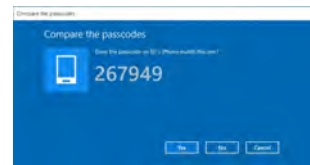


Figure 6 - 4
Devices > Bluetooth
Bluetooth Taskbar
Menu

Figure 6 - 5
Enter the Passcode

5. Enter the code into your Bluetooth enabled device and click **Yes** on the computer to complete the pairing.
6. Select a device and click **Remove Device** Remove device to disconnect from any device.

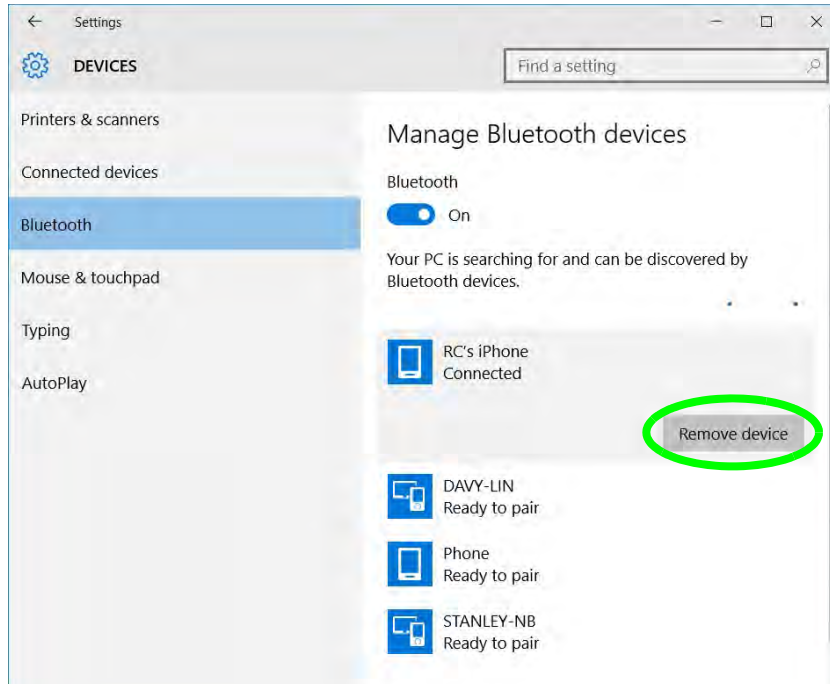



Figure 6 - 6
Devices > Bluetooth
Remove Device

To Make your Computer Discoverable to Bluetooth Devices

1. Click the **Settings** item in the Start Menu and then click **Devices**.
2. Click **Bluetooth** and under **Related Settings** click **More Bluetooth options** (or click the Bluetooth icon  in the taskbar **Open Settings**).
3. In **Bluetooth Settings** make sure that **Allow Bluetooth devices to find this PC** check box (**Discovery**) has a check inside it.
4. Make sure that the **Alert me when a new Bluetooth device wants to connect** check box (**Notifications**) has a check inside it, if you want to be notified when a Bluetooth device wants to connect.

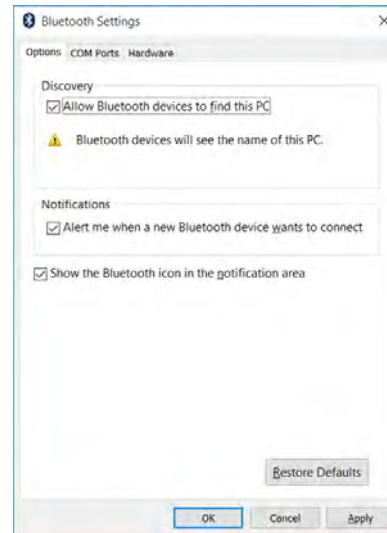


Figure 6 - 7
Bluetooth Settings

Fingerprint Reader Module

The fingerprint reader module provides a high level of security for your computer. Make sure you have administrator's rights to your computer, and have a *Windows* password enabled for full security protection.

There are two different fingerprint modules supplied with this model. Install the driver from the *Device Drivers & Utilities + User's Manual* disc by following the appropriate instructions on the page overleaf.

The fingerprint reader module uses the **Sign-in options** configuration of the **Windows Account**.



Fingerprint Reader and Power Saving States

If your computer is in a power saving state (e.g. Hibernate or Sleep) you should keep your finger clear of the fingerprint sensor.

Allow the system to fully resume before swiping your finger across the sensor.

Fingerprint Reader Driver Installation

1. **Make sure the system is not in Airplane Mode**, and then insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
2. Click **Option Drivers**.
3. Click **3.Install Fingerprint Driver > Yes**.
4. Click **Next > Install**.
5. Click **Finish** to complete the installation.
6. The fingerprint reader module uses the **Sign-in options** configuration of the **Windows Account** (see overleaf).

Fingerprint Module Configuration

1. Click the **Settings** item in the Start Menu and then click **Accounts** and click **Sign-in options**.
2. You will need to add a **Windows** password (click **Add** under **Password**).
3. After you have added the password you will need to also add a **PIN**.
4. Under **Windows Hello** click **Set up** under **Fingerprint**.
5. The wizard will then guide you through the set up process to scan your fingerprints.

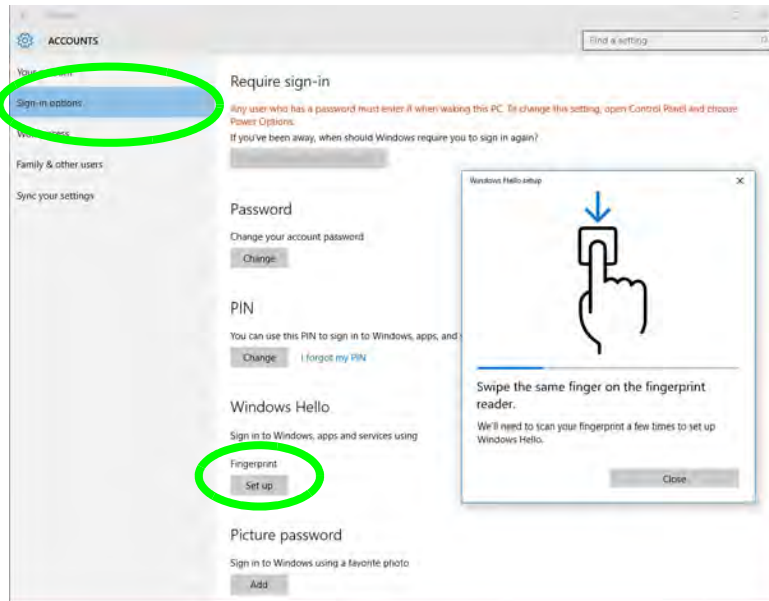


Figure 6 - 8
Accounts - Sign-in
options
(Add Fingerprint)

Modules & Options

6. You will be instructed to **swipe the same finger** across the reader a number of times.
7. Click **Close** when complete.
8. You can choose to **Add another** finger (this is recommended) or **Remove** the current fingerprint reading.
9. You can now scan your fingerprint to log-on to the computer.

Intel® Software Guard Extensions

Intel provides SGX, which is a set of instructions allowing user-level code a degree of security, and privacy, from the operating system. The Intel® Management and Security Status is designed to protect privacy and to allow the ability to monitor the status of management and security technologies built in to the computer's Intel chips. Your system administrator will need to assist you in managing the information in the Intel® Management and Security Status control panel.

Intel SGX Driver Installation

1. **Make sure the system is not in Airplane Mode**, and then insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
2. Click **Option Drivers**.
3. Click **4.Install Intel SGX Driver > Yes**.
4. Click **Next**.
5. Click in the check box to accept the license, and then click **Next**.
6. Click **Next > Install**.
7. Click **Finish**.
8. Click the **Intel Management and Security Status** app to access the control panel.



IRST and M.2 PCI-e SSDs

Note that Intel® Rapid Storage Technology does not support M.2 SSDs with a PCI-e Interface (M.2 SSDs with a SATA Interface are supported).

Intel® Rapid Storage Technology

Install the **Intel® Rapid Storage Technology** to support your AHCI mode SATA drive (see “*SATA Mode (Advanced Menu)*” on page 5 - 11).

IRST Driver Installation

1. Insert the *Device Drivers & Utilities + User’s Manual* disc into an attached DVD drive.
2. Click **Option Drivers** (button).
3. Click **5.Install IRST Driver > Yes**.
4. Click **Next**.
5. Click in the check box to accept the license, and then click **Next**.
6. Click **Next > Next > Next**.
7. Click **Finish** to restart the computer.
8. Run the **Intel® Rapid Storage Technology** app from the **Apps** screen.

Intel® vPro™ Technology

Intel® vPro™ Technology is supported by Model A computers only. This set of technology features, built into the computer's motherboard, allows Information Technology departments remote access to the computer. This allows the IT department to monitor, maintain and manage computers regardless of the state of the operating system or the computer's power state. This can be done over a wired or corporate wireless network, or even outside the corporate firewall through a wired LAN connection.

Accessing the Intel Management Engine

To access the **Intel Management Engine** press *Ctrl + P* at startup. Your system administrator will need to assist you in managing the information as applicable to your enterprise. Note the following password information for the Intel Management Engine:

- The default password is “**admin**” (without quotes).

If you get an "**Error - Intel(R) ME password change rejected**" message when creating a new password, then note the following parameters for creating a password:

- between 8 and 32 characters long
- Contain both upper and lower case Latin characters
- Have at least one numeric character
- Have at least one ASCII non-alphanumeric character (!, @, #, \$, %, ^, &, *)

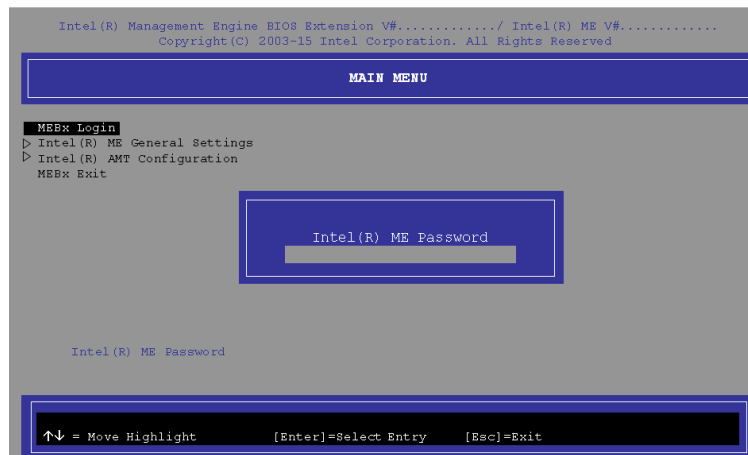


Wake On LAN From G3 Power-Saving States

Only Model A computers, which support Intel® vPro™ Technology, can resume from network activity (Wake On LAN) from a G3 (mechanical off) power-saving state.

A G3 (mechanical off) power-saving state is when the power is completely removed from the system e.g. the system is unplugged or power is turned off at a power strip.

Figure 6 - 9
**Intel(R) Management
Engine
(Password Creation)**



Select **MEBx Login** and press “Enter” to access the password screen. Enter the password “**admin**” (without quotes) and you will then be prompted to enter your own password (note the password information on the previous page). Once you have entered the password you will then be taken to the platform configuration screen.

The platform configuration screen allows you to setup Intel ME as per your requirements (consult your IT administrator for the actual settings required). Access the **Intel® Management and Security Status** control panels from the **Apps** screen. These features allow users and IT Administrators to enhance and protect computing assets. Your system administrator will need to assist you in managing some of the information here.

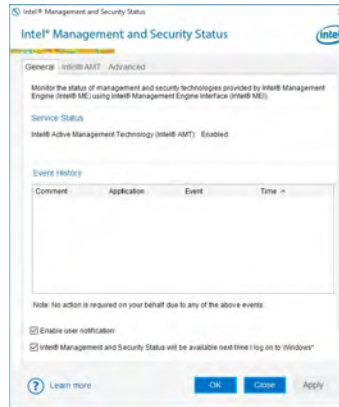
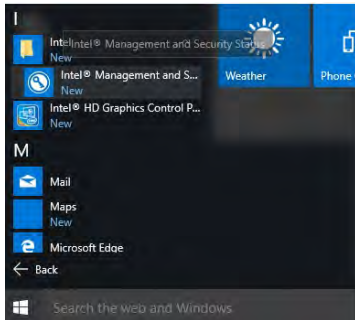
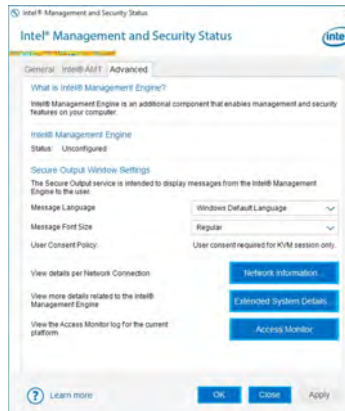
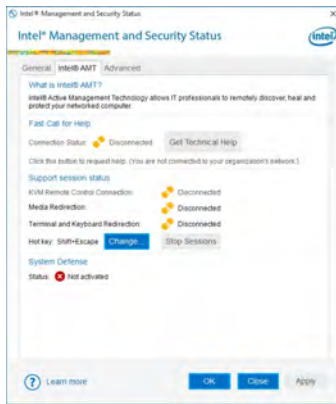


Figure 6 - 10
Intel® Management
and Security Status



Help

Click **Learn More** to and then click **For more information** refer to the user guide.

Intel® vPro™ Technology Wireless Display Application

Model A computers with Intel® vPro™ Technology will require an application installation in order for the wireless display technology to comply with vPro technology features. **Make sure you install the AP and use it when you need to configure a wireless display connection in compliance with Intel® vPro™ Technology.**

Intel vPro WiDi AP Installation

1. **Make sure the system is not in Airplane Mode**, and then insert the *Device Drivers & Utilities + User's Manual* disc into the DVD drive.
2. Click **Option Drivers**.
3. Click **6.Install vPro Widi AP > Yes**.
4. Click **Next**.
5. Click the button to accept the license, and then click **Next**.
6. Click **Finish**.
7. Click the **Intel WiDi** app (under Intel Corporation) to access the application.

Figure 6 - 11
Intel(R) WiDi App



8. Click **I Agree** to accept the software license agreement.

9. Click **Connect**.
10. A list of compatible devices will then appear on the right of the screen.
11. Click on a device to connect to it.

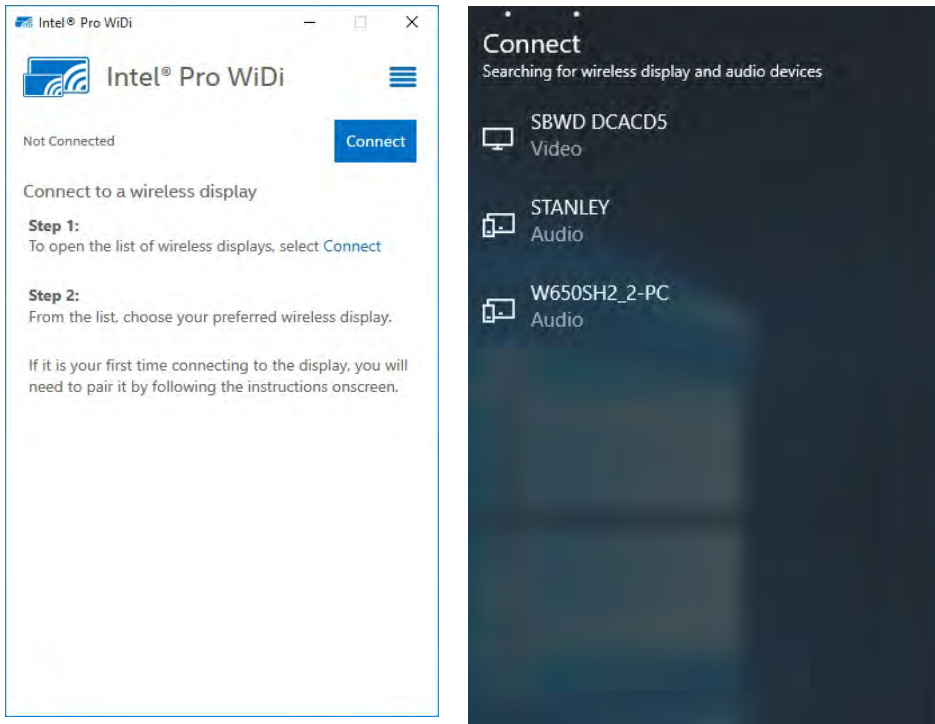
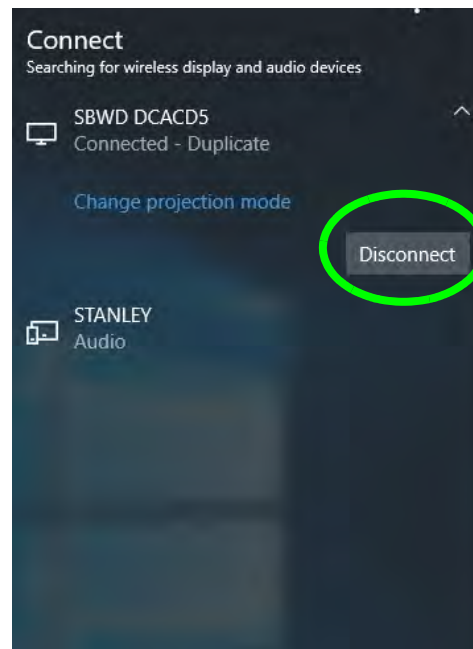
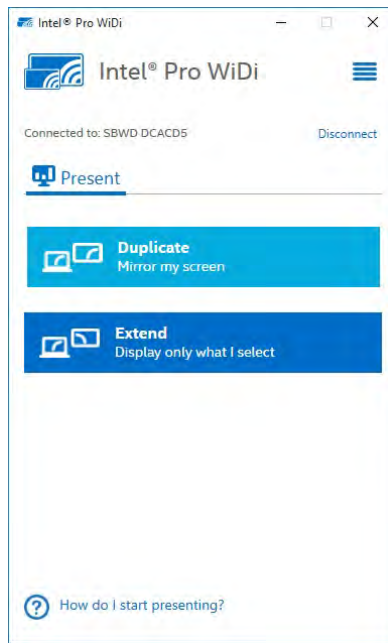


Figure 6 - 12
Intel(R) WiDi
Connect

12. You can then choose how you want the displays to be configured (Duplicate or Extend).
13. Click the **Intel(R) WiDi** app again and click **Disconnect**, and then click **Disconnect from the device itself** (Connect menu) to stop the WiDi connection.

Figure 6 - 13
**Intel(R) WiDi
Configure &
Disconnect**



Changing WLAN Modules in Computers with Intel® vPro™ Technology


If you change or replace you WLAN module in a computer with Intel® vPro™ Technology, you may receive an error message. To correct any error message in this case do the following.

1. Access the **Intel® Management and Security Status** control panels from the **Apps** screen.
2. You should then see the message “*Intel® ME Wireless LAN updated successfully*” in the **General** tab.
3. Click **OK** to close the control panel.

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 [2 Figure 1 - 2 on page 1 - 6](#)). Note that you need to use the **Camera** app in *Windows* to take pictures and capture video. Use the **Fn + F10** key combination (see *“Function/Hot Key Indicators” on page 1 - 11*) to toggle power to the PC Camera module.

Camera App

1. Make sure the PC Camera is turned on by using the **Fn + F10** key combination (or **Control Center button**).
2. Run the Camera app from the Start menu by clicking on the **Camera app icon**  (you can type “camera” into the search box to find the Camera app if it is not pinned to the Start menu).
3. The interface displays two buttons on the right of the screen; one for photo and one for video.

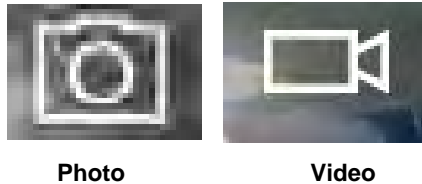


Figure 6 - 14
Camera App Mode Icons

4. Simply click on the appropriate button to switch to either photo or video modes.
5. You can use the buttons at the top to access the **Photo** collection, **Self Timer** or **Settings**.



Figure 6 - 15
Camera Menu Bar


- Click **Settings**  to access the camera settings menu to make adjustments for **Camera Button** long key press function, **Photo Aspect ratio**, **Framing grid**, **video recording frame rates**, **Flicker reduction** and **Digital video stabilization**.

Figure 6 - 16
Camera Settings



Camera Settings

The **Self Timer** may be set to take Photos after 2, 5 or 10 seconds and can also be set to continue taking pictures until the camera button is pressed again.





The **Aspect Ratio** can be changed to those supported by the system.

You can use a **Framing grid** to help you line up pictures.

The **Video recording** resolution and frame rate can be set to any supported by the system. 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 File Explorer, 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.

If you need to reduce any screen flicker, change the settings in **Flicker reduction** to either e.g. 50Hz or 60Hz.

Taking Pictures/Capturing Video

1. Make sure the PC Camera is turned on by using the **Fn + F10** key combination (or **Control Center button**).
2. Run the Camera app from the Start menu by clicking on the **Camera app icon**  (you can type “camera” into the search box to find the Camera app if it is not pinned to the Start menu).
3. Click to select either **photo**  or **video**  modes.
4. Click the photo icon to take a picture, and the camera icon will briefly turn yellow as the picture is taken.
5. Click on the video icon  to start video capture (if video capture begins a timer will appear at the bottom of the screen and the icon will turn yellow).
6. To stop video capture click the video icon again.

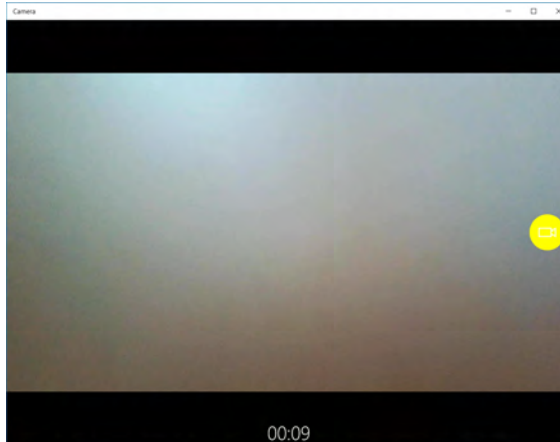


Figure 6 - 17
**Video Camera
Recording in
Process**

Modules & Options

- Captured photos and videos will be saved to the **Photos** app stored in the Start menu (type **Photos** into the search box if you cannot find the app).

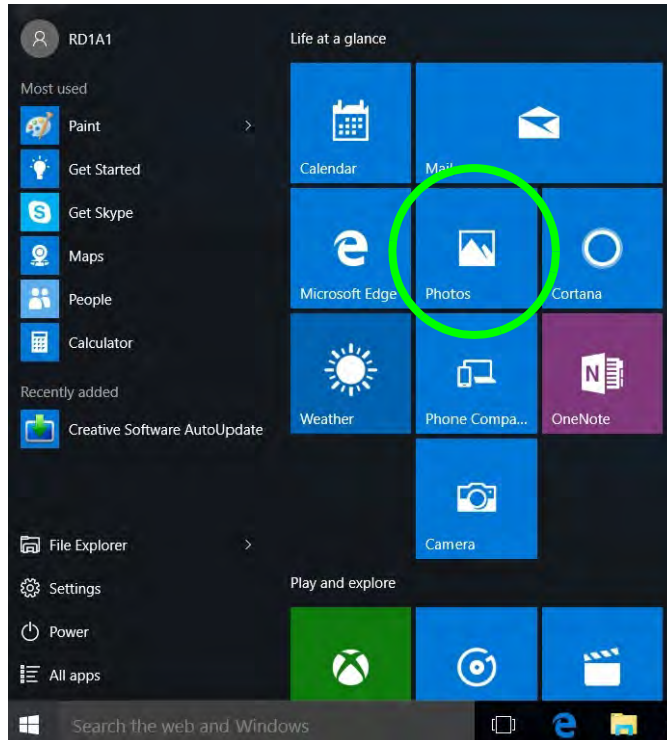


Figure 6 - 18
Photo App
(For Captured
Photos & Videos)

6

Trusted Platform Module

The **TPM security chip** allows you to create and manage digital certificates for user and platform authentication. This type of security is usually administered within large enterprises and organizations, and therefore requires implementation by a system administrator before users can access security features.

Individual users can use the TPM as an authentication with the fingerprint reader.

Make sure you have administrator's rights to your computer, and have a *Windows* password enabled for full security protection. In addition **Make sure you prepare a removable media (e.g. a USB flash drive) to store passwords etc. before beginning the TPM initialization process.**

Before setting up the TPM functions you must initialize the security platform.

Enabling & Managing TPM

1. Restart the computer.
2. Enter the **Aptio Setup Utility** pressing **F2** during the POST/startup.
3. Use the arrow keys to select the **Security** menu.
4. Select **TPM Configuration** and press Enter to access the sub-menu.
5. Press Enter to access **Security Device Support** and select **Enable**.
6. Press **F4** to save the changes and restart the computer.
7. You can now manage the TPM from **Windows**.

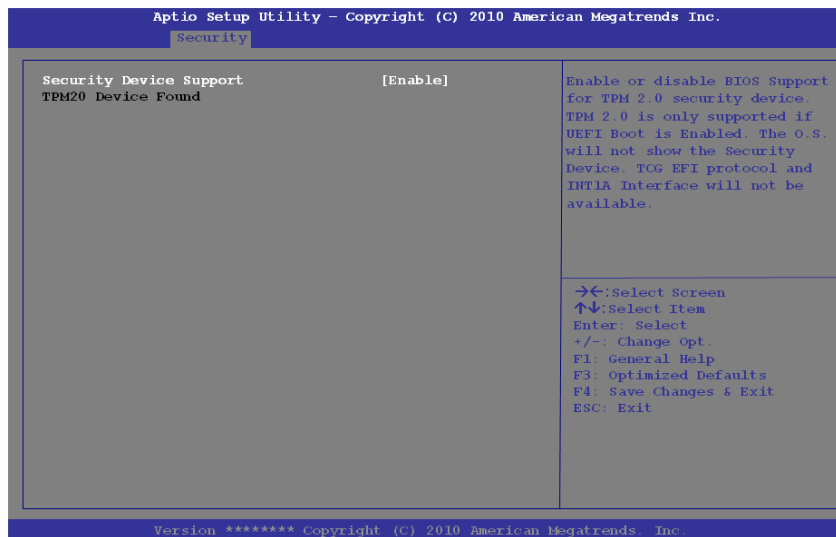


Figure 6 - 19
Security Device Support (Enabled)

TPM Management in Windows

You can manage your TPM settings from within *Windows*:

1. Go to the **Control Panel**.
2. Click **BitLocker Drive Encryption (System and Security)**.
3. Click **TPM Administration**.

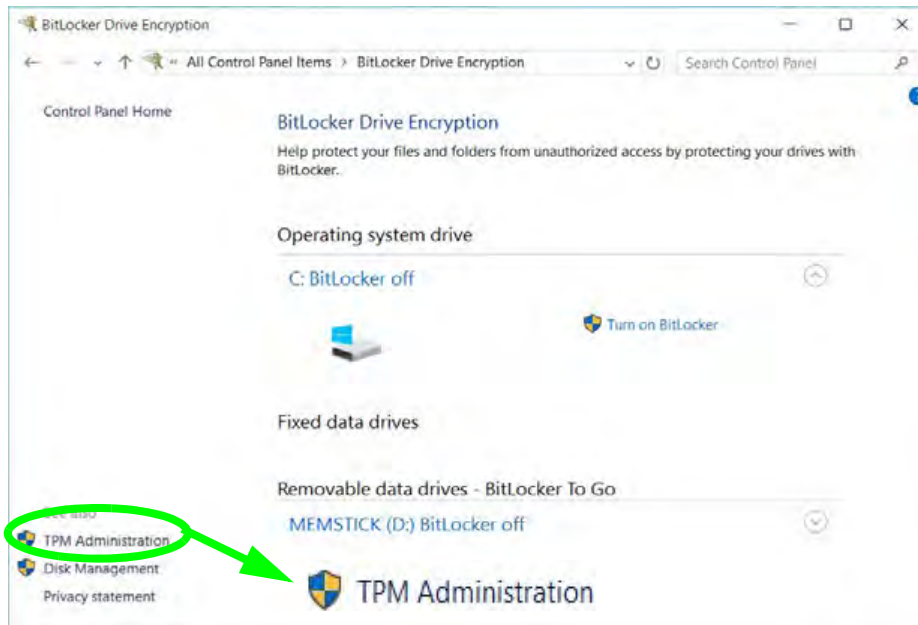


Figure 6 - 20
BitLocker Drive Encryption (TPM Administration)

- The TPM Management window allows you to configure the TPM within **Windows**. As TPM is usually administered within large enterprises and organizations, your system administrator will need to assist you in managing the information here.

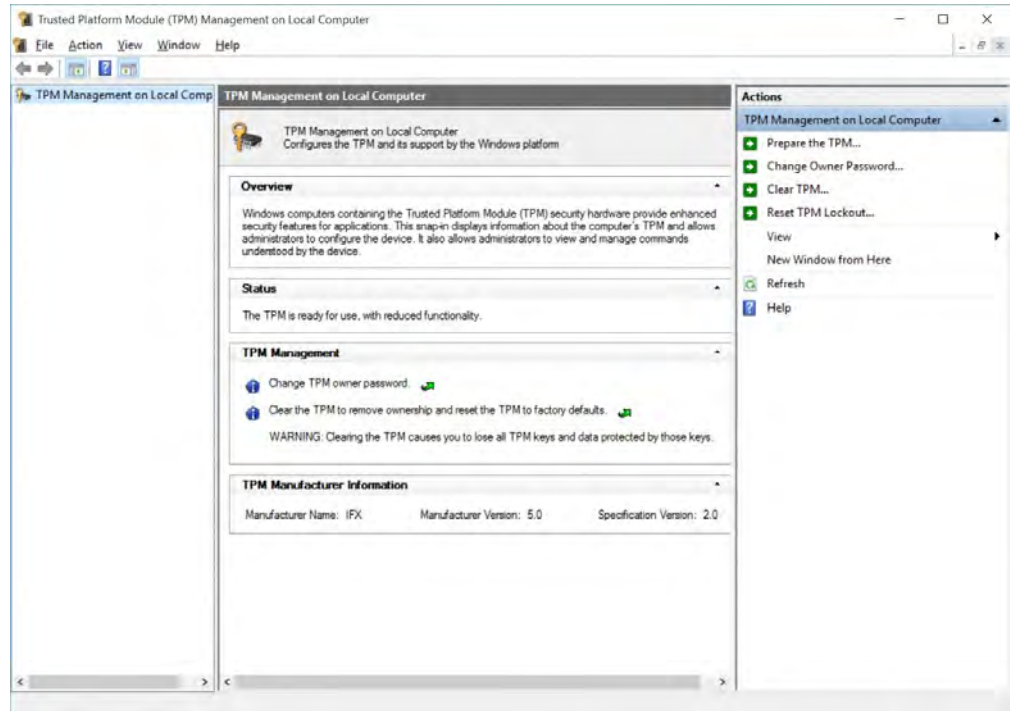


Figure 6 - 21
**Trusted Platform
Module (TPM)
Management on
Local Computer
Administration**

TPM Actions

1. Click **Prepare the TPM** and follow the instructions in the Wizard **to** prepare the TPM (this will probably require a restart of the computer and confirmation of the setting changes after restart by pressing the appropriate F key).
2. After the restart the TPM will be prepared and you can then use the **Actions** menu to **Turn TPM off**, **Change Owner Password**, **Clear TPM** or **Reset TPM Lockout**.
3. A wizard will help take you through any setup steps.

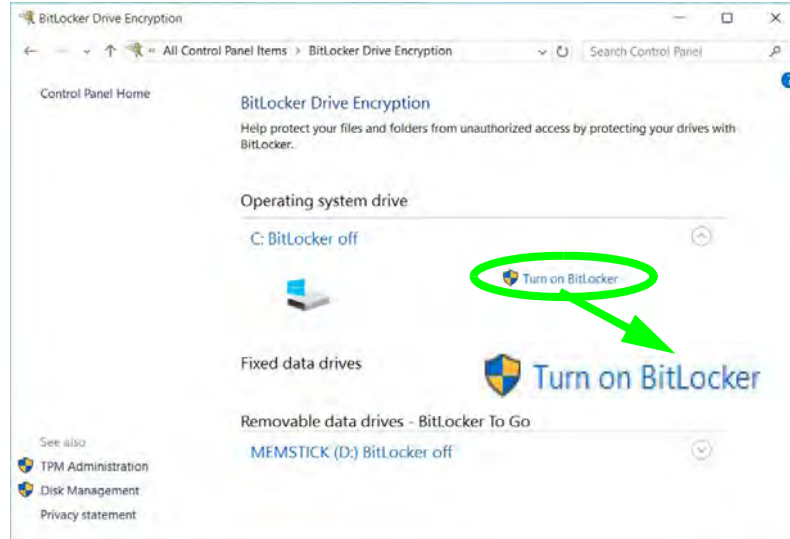


Figure 6 - 22
TPM Actions Menu

BitLocker

BitLocker Drive Encryption can be used in conjunction with the TPM to encrypt data on the disk. Access the Microsoft **BitLocker Drive Encryption** control panel applet from the *Windows* control panel (**System and Security**).

1. Click **Turn on Bit Locker**.
2. Follow the on-screen instructions to setup BitLocker, and make sure you have a removable media (e.g. a USB flash drive) to store saved recovery keys etc.



6
Figure 6 - 23
BitLocker Drive Encryption

3G/4G Module

If you have included an **optional UMTS/HSPDA+** based **3G module** (Universal Mobile Telecommunications System or High Speed Packet Access) module or **LTE** (Long Term Evolution) **4G module** (see *“Communication” on page D - 3* for specification details) in your purchase option, ***you do not require a driver/application installation for Windows 10.*** Follow the instructions overleaf to install the USIM card (which will be provided by your service provider), and then **access the 3G/4G network** in the same manner as the WLAN.



Important Notice

If your purchase option includes both Wireless LAN and 3G/4G modules, then the appropriate antennas will be installed. Note that In order to comply with FCC RF exposure compliance requirements, the antenna must not be co-located or operate in conjunction with any other antenna or transmitter.

Important Notice - 3G/4G & Bluetooth/Wireless LAN Modules

In order to comply with FCC regulations you should NOT operate the 3G/4G module and the Bluetooth/Wireless LAN modules at the same time as this may disrupt radio frequency, and cause interference. When the 3G/4G module is powered on, make sure that the Bluetooth/Wireless LAN modules are powered off.



Wireless Device Operation Aboard Aircraft

The use of any portable electronic transmission devices aboard aircraft is usually prohibited. Make sure the **3G/4G/WLAN/Bluetooth** module(s) are OFF if you are using the computer aboard aircraft. Use **Airplane Mode** hot key to toggle Airplane Mode On/Off, and check the LED indicator for the power status.



Power Safety Warning

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

USIM Card Orientation

Note that the USIM card's readable side (with the gold-colored contacts) should face down as illustrated.

3G/4G Module USIM Card Installation

Follow the instructions below to install the USIM card (which will be supplied by your service provider).

1. Turn **off** the computer, and turn it over and then remove the battery (slide latch **1** in the direction indicated below, then slide hold latch **2** in place and slide the battery out in the direction of arrow **3**).
2. Insert the USIM card **4** into the slot at the rear of the battery compartment, as illustrated below, until it clicks fully into position, and then replace the battery (see over).

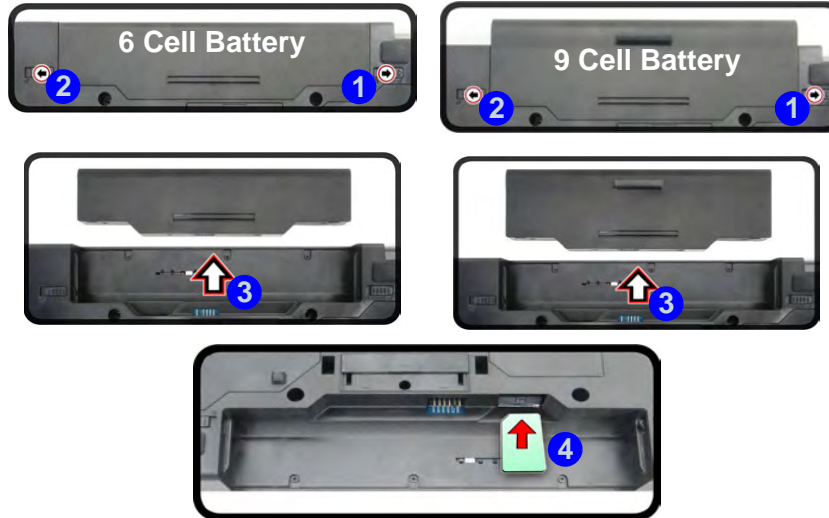
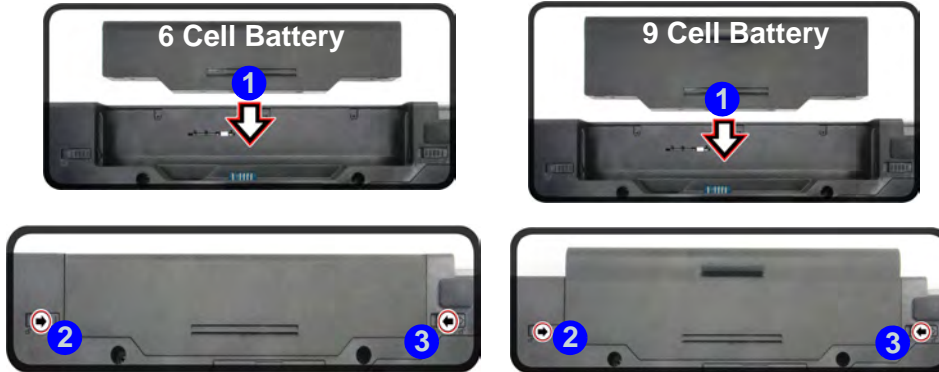


Figure 6 - 24
Battery Removal

Inserting the Battery

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



USIM Card Ejection

Simply press on the USIM card to eject it, however do not do this while a connection is in progress.


If you do eject the card while a 3G/4G connection is ongoing, you will need to shut down the system, reinsert the USIM card, restart the system and then reestablish the 3G/4G connection.

If you wish to change USIM cards then you will need to shut the system down, reinsert the USIM card, restart the system and then reestablish the 3G/4G connection.

Figure 6 - 25
Battery Insertion

3G/4G Configuration in Windows 10

You can configure a 3G/4G connection as below, however make sure the system is not in Airplane Mode before configuration begins. You can connect to a 3G/4G connection in much the same way as the WLAN connection.

1. Click the **Settings** item in the Start Menu and then click **Network and Internet**.
2. Click **Cellular** a list of available access points will appear.
3. Click the access point and click **Connect**.
4. The system will connect to your network.
5. **Connected** will appear under the connection.
6. You can then access the internet, download e-mail etc. as per any internet connection.
7. To disconnect you can select the connection and click **Disconnect**.
8. You need to use **Airplane Mode** aboard aircraft.
9. You can also click the Wireless icon  in the notification area of the taskbar, click **Cellular** and double-click an access point connect to access the connection information.

Chapter 7: Troubleshooting

Overview

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

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

Basic Hints and Tips

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

- **Power** - Is the computer actually plugged into a working electrical outlet? If plugged into a **power strip**, make sure it is actually working. Check the **LED Indicators** (see *“LED Indicators” on page 1 - 7*) to see the computer’s power status.
- **Connections** - Check all the **cables** to make sure that there are no **loose connections** anywhere.
- **Power Savings** - Make sure that the system is not in **Hibernate** or **Sleep** mode by pressing the keys configured in your *Power Options* (see *“Power-Saving States” on page 3 - 7*), the **Fn + F4** key combination, or power button to wake-up the system.
- **Brightness** - Check the brightness of the screen by pressing the **Fn + F8 and F9** keys to adjust the brightness.
- **Display Choice** - Press **Fn + F7** to make sure the system is not set to “external only” display.
- **Boot Drive** - Make sure there are no **optical media and/or USB storage devices** in any connected drive.

Backup and General Maintenance

- Always **backup** your important data, and keep copies of your OS and programs safe, but close to hand. Don't forget to note the **serial numbers** if you are storing them out of their original cases, e.g. in a CD wallet.
- Run **maintenance programs** on your hard disk and OS as often as you can. You may schedule these programs to run at times when you are not using your computer. You can use those that are provided free with your OS, or buy the more powerful dedicated programs to do so.
- Write down your passwords and keep them safe (away from your computer). This is especially important if you choose to use a **Supervisor** password for the BIOS (see *“The Setup Utility” on page 5 - 2*).
- Keep copies of vital **settings files** such as network, dialup settings, mail settings etc.(even if just brief notes).



Warranty

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

Viruses

- Install an **Anti-Virus** program and keep the **definitions file** (the file which tells your program which viruses to look for) up to date. New computer viruses are discovered daily, and some of them may seriously harm your computer and cause you to lose data. **Anti-Virus** programs are commercially available and the **definitions file updates** are usually downloadable directly from the internet.
- Be careful when opening e-mail from sources you don't know. **Viruses** are often triggered from within **e-mail attachments** so take care when opening any attached file. You can configure most **Anti-Virus** programs to check all **e-mail attachments**. **Note:** You should also beware of files from people you know as the virus may have infected an **address book** and been automatically forwarded without the person's knowledge.
- Keep a "**Bootable CD-ROM/DVD-ROM/USB storage device**" (this CD/DVD/USB device provides basic information which allows you to startup your computer) handy. You may refer to your OS's documentation for instructions on how to make one, and many **Anti-Virus** programs will also provide such a disk (or at least instructions on how to make one).


Upgrading and Adding New Hardware/Software

- Do not be tempted to make changes to your **Windows Registry** unless you are very sure of what you are doing, otherwise you will risk severely damaging your system.
- Don't open your computer or undertake any repair or upgrade work if you are not comfortable with what you are doing.
- Read the **documentation**. We can assume, since you are reading this that you are looking at the computer's manual, but what about any new peripheral devices you have just purchased? Many problems are caused by the installation of new hardware and/or software. Always refer to the documentation of any new hardware and/or software, and pay particular attention to files entitled "**READ ME**" or "**READ ME FIRST**".
- When installing a new device always make sure the device is powered on, and in many cases you will need to restart the computer. Always check that all the cables are correctly connected.
- Make sure you have installed the **drivers** for any new hardware you have installed (latest **driver files** are usually available to download from vendor's websites).

Troubleshooting



- Thoroughly check any **recent changes** you made to your system as these changes may affect one or more system components, or software programs. If possible, go back and undo the change you just made and see if the problem still occurs.
- Don't over complicate things. The less you have to deal with then the easier the source of the problem may be found; **Example** - if your computer has many devices plugged into its ports, and a number of programs running, then it will be difficult to determine the cause of a problem. Try disconnecting all of the devices and restarting the computer with all the peripheral devices unplugged. A process of elimination (adding and removing devices and restarting where necessary) will often find the source of a problem, although this may be time consuming.

Problems and Possible Solutions



Problem	Possible Cause - Solution
<p>You turned on the power but it doesn't work.</p>	<p><i>Battery missing / incorrectly installed.</i> Check the battery bay, make sure the battery is present and seated properly (the design of the battery only allows it to go in one way). Make sure there's nothing interfering with the battery contacts.</p>
<p>The battery LED power indicator , is blinking orange.</p>	<p><i>Low Battery.</i> Plug in the DC power source. If the computer doesn't start up immediately, turn it off then on again.</p>
<p>You are losing battery power too quickly.</p>	<p><i>The system is using too much power.</i> If your OS has a <i>Power Options</i> scheme (see "Power Plans" on page 3 - 5) check its settings. You may also be using a USB device/external device that is drawing a lot of power.</p>
<p>Actual battery operating time is shorter than expected.</p>	<p><i>The battery has not been fully discharged before being recharged.</i> Make sure the battery is fully discharged and recharge it completely before reusing (see "Battery Information" on page 3 - 17).</p> <p><i>Power Options have been disabled.</i> Go to the Control Panel in <i>Windows</i> and re-enable the options.</p> <p><i>A peripheral device/USB device is consuming a lot of power.</i> Turn off/remove the unused device to save power.</p>


Troubleshooting

Problem	Possible Cause - Solution
The computer feels too hot .	<p>Make sure the computer is properly ventilated and the Vent/Fan intakes are not blocked. If this doesn't cool it down, put the system into Hibernate mode or turn it off for an hour. Make sure the computer isn't sitting on a thermal surface (see “Overheating” on page 1 - 17). Make sure you're using the correct adapter.</p> <p>Make sure that your notebook is completely powered off before putting it into a travel bag (or any such container). Putting a notebook which is powered on in a travel bag may cause the Vent/Fan intakes to be blocked.</p>
The system will not wake up from a power saving state (Sleep/Hibernate) on network activity (Wake on LAN) even though I have plugged in the powered AC/DC adapter.	<p><i>Wake on LAN is supported in AC mode only.</i></p> <p>When the system enters a power saving state the plugged in AC/DC adapter should be connected, and should remain connected, in order to allow the system to wake up on network activity. Unplugging the adapter, and then plugging it back in again, will not allow the system to wake up on network activity.</p>
Nothing appears on screen.	<p><i>The system is in a power saving mode.</i> Toggle the sleep/resume key combination, Fn + F4 (see “Configuring the Power Buttons” on page 3 - 9).</p> <p><i>The screen controls need to be adjusted.</i> Toggle the screen control key combinations Fn + F8/F9. If you're connected to an external monitor, make sure it's plugged in and turned on. You should also check the monitor's own brightness and contrast controls.</p> <p><i>The computer is set for a different display.</i> Toggle the screen display key combination, Fn + F7. If an external monitor is connected, turn it on.</p> <p><i>The screen saver is activated.</i> Press any key or touch the Touchpad.</p>


Problem	Possible Cause - Solution
No image appears on the external monitor I have plugged in and powered on.	<i>You haven't installed the video driver and configured it appropriately from the Control Panel. See Appendix C for instructions on installing and configuring the video driver.</i>
You forget the boot password .	<i>If you forget the password, you may have to discharge the battery of the CMOS. Contact your service representative for help.</i>
 <p>Password Warning</p> <p>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.</p>	
The CD/DVD cannot be read .	<i>The CD/DVD is dirty. Clean it with a CD/DVD cleaner kit.</i>
The CD/DVD tray will not open when there is a disc in the tray.	<i>The CD/DVD is not correctly placed in the tray. Gently try to remove the disc using the eject hole (see “Loading Discs” on page 2 - 3).</i>
The DVD regional codes can no longer be changed.	<i>The code has been changed the maximum 5 times. See “DVD Regional Codes” on page 2 - 5.</i>
My internal microphone seems to be disabled and/or I can still hear sound from the speakers even though I have plugged headphones into the headphone jack.	<i>You have disabled “Front panel jack detection” in Connector Settings in the Realtek HD Audio Manager control panel. Go to the Realtek HD Audio Manager and click the Connector Settings icon  and make sure that there is no tick alongside “Front panel jack detection” and click OK.</i>

Troubleshooting

Problem	Possible Cause - Solution
The sound cannot be heard or the volume is very low .	<i>The volume might be set too low.</i> Check the volume control in the Volume Control Panel in the <i>Windows</i> taskbar, or use the key combination Fn + F5 and F6 (see “Function/Hot Key Indicators” on page 1 - 11) to adjust.
Unwelcome numbers appear when typing.	<i>If the LED  is lit, then Num Lock is turned ON.</i> (see “LED Indicators” on page 1 - 7).
 Other Keyboards If your keyboard is damaged or you just want to make a change, you can use any standard USB keyboard. The system will detect and enable it automatically. However special functions/hot keys unique to the system’s regular keyboard may not work.	
The system freezes or the screen goes dark.	<i>The system’s power saving features have timed-out.</i> Use the AC/DC adapter, press the sleep (Fn + F4) key combination, or press the power button if no LEDs are lit.
The system never goes into a power saving mode .	Power Options features are not enabled. Go to the Windows Power Options menu and enable the features you prefer (see “Power-Saving States” on page 3 - 7). Make sure you have enabled Hibernate mode from the control panel.

Problem	Possible Cause - Solution
The Wireless LAN or Bluetooth modules cannot be detected.	<i>The modules are off as the computer is in Airplane Mode. Check the LED indicator  to see if it is in Airplane Mode (see “LED Indicators” on page 1 - 7). Use the Fn + F11 key combination to toggle Airplane Mode on/off (see Table 1 - 3, on page 1 - 11).</i>
The PC Camera module cannot be detected.	<i>The module is off. Press the Fn + F10 key combination in order to enable the module (see “Function/Hot Key Indicators” on page 1 - 11). Run the camera application to view the camera picture.</i>
The Wireless LAN/Bluetooth/ PC Camera modules cannot be configured.	<i>The driver(s) for the module(s) have not been installed. Make sure you have installed the driver for the appropriate module (see the instructions for the appropriate module in “Modules & Options” on page 6 - 1).</i>
A file cannot be copied to/from a connected Bluetooth device.	<i>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 device to your computer until the file transfer process from the computer has been completed.</i>
The Bluetooth module is off after resuming from Sleep.	<i>The Bluetooth module’s default state will be off after resuming from the Sleep power-saving state. Use the key combination (Fn + F12) to power on the Bluetooth module after the computer resumes from Sleep.</i>
I am sliding my finger up and down on the right side of the Touchpad to scroll a Window and the Touchpad does not respond .	<i>There are different Touchpad versions available on this computer, and this version requires tapping/holding to scroll. Either tap repeatedly, or hold the finger down, at the top or bottom right of the Touchpad (depending on the scrolling direction required) to scroll the window.</i>

Troubleshooting

Problem	Possible Cause - Solution
<p>The fingerprint reader has problems scanning fingers.</p>	<p><i>When fingers are wet or sweaty the software application may have difficulty reading a scanned finger. Make sure your fingers are clean and dry when attempting to scan them across the sensor for detection.</i></p>
<p>The computer is off (or in Sleep Mode) but powered by the AC/DC adapter plugged in to a working outlet, or by battery with a capacity above 20%. I have plugged a device into the powered USB port in order to charge it, but the device is not charging.</p>	<p><i>The port is not powered on. Toggle power to the port using the Fn + power button combination.</i></p> <p><i>This function may not work with certain external USB compliant devices (check your device's documentation). If this is the case, power the computer on and connect the external USB device in order to charge it.</i></p> <p>Note that this function is designed to help charge USB compliant devices, but is not designed to allow their operation.</p>
<p>The USB port, Card Reader, Smart Card or ExpressCard do not appear to be working.</p>	<p><i>The power to the USB port, Card Reader, Smart Card or ExpressCard has been disabled in the BIOS. Go to the BIOS and enable the item.</i></p>
<div style="text-align: center;">  <p>USB Port / Card Reader / Smart Card / ExpressCard Power</p> <p>Note that power to the USB ports, Card Reader, Smart Card and ExpressCard may be enabled/disabled in the BIOS (see page 5 - 9).</p> </div>	

Problem	Possible Cause - Solution
I have changed or replaced a WLAN module and have received an error message.	See <i>“Intel® Rapid Storage Technology” on page 6 - 18.</i>
I have used Update Driver in Device Manager (Unknown device > Other Devices) to try and install the Airplane Mode driver. Windows encountered a problem in attempting to update the driver, and a yellow exclamation mark appears in Device Manager against the Unknown device .	<p><i>It is very important that the drivers are installed in the order indicated in Chapter 4 (which is the numbered installation order on the Device Drivers & Utilities + User’s Manual disc). This issue can occur when drivers are manually installed, and not in the correct order.</i></p> <p>If you have attempted to Update Driver from the Device Manager control panel and have encountered problems, then use the method below to correct this:</p> <p>To correct this problem:</p> <ol style="list-style-type: none"> 1. Go to the Programs and Features (Programs) control panel in Windows. 2. Select any installed Airplane Mode driver item (e.g. Insyde Airplane Mode HID Mini-Driver), and click Uninstall/Change to uninstall the current driver. 3. Restart the computer. 4. Insert the <i>Device Drivers & Utilities + User’s Manual disc</i> and click Install Drivers (button). 5. Double-click the Airplane Driver item in the menu. 6. Follow the instructions to install the correct driver (you will need to restart the computer as part of the installation process).

Troubleshooting

Problem	Possible Cause - Solution
<p>When using a Bluetooth headset the audio appears to be mono and not stereo.</p>	<p><i>This is a common issue with Bluetooth headsets. To resolve this issue do the following (you will need to repeat this procedure after every boot up, restart, or when the system resumes from hibernation):</i></p> <ol style="list-style-type: none">1. Go to the Devices & Printers control panel in Windows.2. Double-click the Bluetooth headset.3. Click Connect to complete the stereo connection. <p>OR</p> <ol style="list-style-type: none">1. Go to the Sound control panel in Windows.2. Right-click (in the Playback tab) the Bluetooth Stereo Audio device (the default device is Headset).3. Click Connect to complete the stereo connection.

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.



USB Port / Card Reader / Smart Card / Express Card Power





Note that power to the USB ports, Card Reader, Smart Card and Express Card may be enabled/disabled in the BIOS (see page [5 - 9](#)).

Notebook Ports and Jacks



Item	Description
<p>2-in-1 Audio Jack (Headphone-Out Jack/SPDIF Jack)</p>  <p>SPDIF</p>	<p>This is a combination headphone/S/PDIF Jack. Headphones or speakers can be connected through this jack. Note: Set your system's volume to a reduced level before connecting to this jack.</p> <p>As a S/PDIF (Sony/Philips Digital Interface Format) Out Jack, it allows you to connect your DVD-capable PC to a Dolby AC-3 compatible receiver for "5.1" or 'dts' surround sound.</p>
<p>Card Reader Port</p> 	<p>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.</p> <ul style="list-style-type: none">• MMC (MultiMedia Card) / RSMMMC• SD (Secure Digital) / Mini SD / SDHC / SDXC
<p>DC-In Jack</p> 	<p>Plug the supplied AC/DC adapter into this jack to power your computer.</p>
<p>External Monitor (VGA) Port</p> 	<p>This port allows you to connect an external monitor, or Flat Panel Display, to get dual video or simultaneous display on the LCD and external monitor/FPD.</p>

A

Interface (Ports & Jacks)

Item	Description
<p>HDMI-Out Port</p> 	<p>The HDMI-Out (High-Definition Multimedia Interface) is an audio/video connector interface for transmitting un compressed digital streams. This allows you to connect an external monitor, TV or Flat Panel Display etc. as a display device by means of a HDMI cable. Note that HDMI carries both audio and video signals.</p>
<p>Microphone-In Jack</p> 	<p>Plug an external microphone in to this jack to record on your computer.</p>
<p>RJ-45 LAN Jack</p> 	<p>This port supports LAN (Network) functions. Note: Broadband (e.g. ADSL) modems usually connect to the LAN port.</p>
<p>Security Lock Slot</p> 	<p>To prevent possible theft, a Kensington-type lock can be attached to this slot. Locks can be purchased at any computer store.</p>
<p>Smart Card Reader</p>	<p>The Smart Card reader reads pocket-sized Smart Cards, chip cards, or integrated circuit cards (ICC) with embedded integrated circuits. Smart Cards can be used for security identification, authentication, data storage and application processing within large organizations.</p>

Interface (Ports & Jacks)

Item	Description
<p data-bbox="132 225 497 247">USB 2.0/1.1 Ports*/USB 3.0 Ports</p>  	<p data-bbox="531 225 1463 398">These USB 2.0 compatible ports (USB 2.0 is fully USB 1.1 compliant) are for low-speed peripherals such as keyboards, mice or scanners, and for high-speed peripherals such as external HDDs, digital video cameras or high-speed scanners etc. Devices can be plugged into the computer, and unplugged from the computer, without the need to turn the system off (if the power rating of your USB device is 500mA or above, make sure you use the power supply which comes with the device).</p> <p data-bbox="531 412 1463 493">The USB 3.0 ports are denoted by their 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.</p> <p data-bbox="531 507 1463 654">*Note: The powered USB 3.0 port (see <i>“System Map: Left View” on page 1 - 14</i>) may be toggled on /off by means of the Fn + Power Button key combination. When the powered USB port is on it will supply power when the system is off but still powered by the AC/DC adapter plugged into a working outlet, or powered by the battery with a capacity level above 20% (this may not work with certain devices - see page 7 - 12).</p> <p data-bbox="531 667 1463 723">Note: This function is designed to help charge USB compliant devices, but is not designed to allow their operation.</p>

A

Appendix B: Control Center


Overview

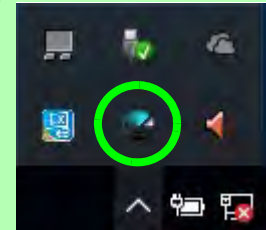
The following chapter will give a quick description of the functions of the **Control Center**. The **Control Center** gives quick access to frequently used controls, power management features and enables you to quickly turn modules on/off. Click the **Control Center** icons to toggle the appropriate function, or hold the mouse button down and move the dial control where applicable. Certain functions will automatically be adjusted when a power mode is selected. The **Control Center** in *Windows 10* works under the **Desktop** App and not under the Start screen.




Figure B - 1 - Control Center

Control Center Access

To run the Control Center press the **Fn + Esc** key combination, or double-click the icon  in the notification area of the taskbar.



Close the Control Center by clicking the  close icon in the top right of the panel (move the cursor onto the top right corner of the panel to highlight it).

Control Center

Power Modes

You can set a **Power Mode** by clicking the appropriate icon at the top of the **Control Center**. Each power mode will affect the Power Conservation Mode, Airplane Mode, Power Plan and PC camera power etc.

You can click a **Control Center** icon to set an overall power mode and then click individual icons in the **Control Center** to power on/off the Touchpad and PC camera.








Modes		Quiet	Power Saving	Performance	Entertainment
Icon					
Power Plan		Balanced	Power Saver	High Performance	Balanced
Power Conservation Mode		Balance	Energy Star	Performance	Balance
PC Camera		ON	OFF	ON	ON
TouchPad		ON	ON	ON	ON
Airplane Mode		OFF	ON	OFF	OFF

Table B - 1- Power Modes

Control Center Menus

The Control Center contains 2 menu headings (**System Program** and **Device**) under the Power Modes. Click the menu headings and then click any of the buttons outlined on the following pages.



Figure B - 2 - Control Center Menus

B

Control Center

Power Status (System Program)

The **Power Status** icon will show whether you are currently powered by the battery, or by the AC/DC adapter plugged in to a working power outlet. The power status bar will show the current battery charge state.

CPU Temperature (System Program)

The **temperature** icon will display the current CPU temperature. Click the icon to have the temperature displayed in either degrees Celsius or Fahrenheit.

Brightness (System Program)

The **Brightness** icon will show the current screen brightness level. You can use the slider to adjust the screen brightness or the **Fn + F8/F9** key combinations, or use the **Fn + F2** key combination to turn off the LED backlight (press any key to turn it on again).

Volume (System Program)

The **Volume** icon will show the current volume level. You can use the slider to adjust the Volume or the **Fn + F5/F6** key combinations, or use the **Fn + F3** key combination to mute the volume.

Fan Speed (System Program)

You can set the fan speed to **Maximum (full power)**, **Automatic** or **Custom** from this menu item. The fan speed will adjust itself automatically to control the heat of the CPU. However you can adjust the setting to maximum if you prefer. Select **Custom** and click on the sliders to adjust the settings to your preference, however these settings can be overridden by the system, as a safety precaution, if it requires heavier use of the fan (see over).



Custom Settings

Click **Save** to retain customized settings, or **Reset** to select default settings.

Power Conservation (System Program)

This system supports **Energy Star** power management features that place computers (CPU, hard drive, etc.) into a low-power sleep modes after a designated period of inactivity (see *“Power Conservation Modes” on page 3 - 12*). Click either the **Performance**, **Balanced** or **Power Saving** button.




Sleep Button (System Program)



Click either the **Hibernate** or **Sleep** buttons to have the computer enter the selected power-saving mode when the **Fn + F4** key combination is pressed (see *“Power-Saving States” on page 3 - 7*).

Display Switch (System Program)



Click the **Display Switch** button to access the menu (or use the  + **P** key combination) and select the appropriate attached display mode.

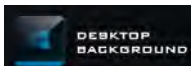
Time Zone (System Program)



Clicking the **Time Zone** button will access the **Date and Time Windows** control panel.

Control Center

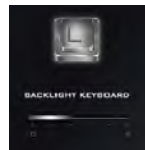
Desktop Background (System Program)



Clicking the **Desktop Background** button will allow you to change the desktop background picture.

Backlight Keyboard (Device)

Click the **numbers** under the Backlight Keyboard icon to adjust the brightness of the keyboard backlight LED.



TouchPad/PC Camera (Device)



Click either of these buttons to toggle the TouchPad or camera module's power status. The icon will appear dimmed when it is off. Note that the power status of the camera module is also effected by the **Power Mode** selected (see [Table B - 1, on page B - 2](#)).

Docking (Device)



Click the **Docking** (Enable/Disable) button to prepare the system for docking/undocking.

Caps Lock/Scroll Lock/ Number Lock/Airplane Mode

Click the button to toggle the appropriate lock mode and Airplane Mode.



B

Appendix C: Video Driver Controls

The basic settings for configuring the LCD are outlined in “*Video Features*” on *page 1 - 28*.

Video Driver Installation

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

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

Note: After installing the video driver go to the **Display/Display Settings** control panel to adjust the video settings to the highest resolution.

Dynamic Video Memory Technology

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



Video Card Options

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

DVMT Notes

DVMT is not local video memory.

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

Intel® HD Graphics Control Panel

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

1. Click the **Intel® HD Graphics Control Panel** icon in the **Apps** screen.



Figure C - 1

**Apps Screen
Intel® HD Graphics
Control Panel**

OR

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

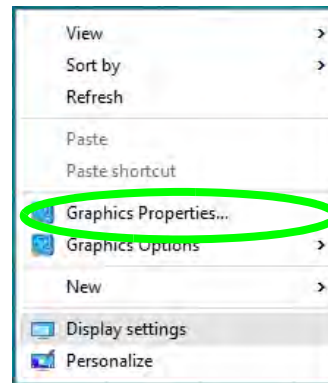


Figure C - 2

**Right-Click Desktop
(Graphics
Properties)**

OR

3. Click **Advanced settings** in the **Screen Resolution** control panel in **Windows**.
4. Click the **Intel(R) HD Graphics Control Panel** tab and click **Graphics Properties** (button).

OR

5. Double-click the **Intel(R) HD Graphics** control panel in the **Windows Control Panel**.

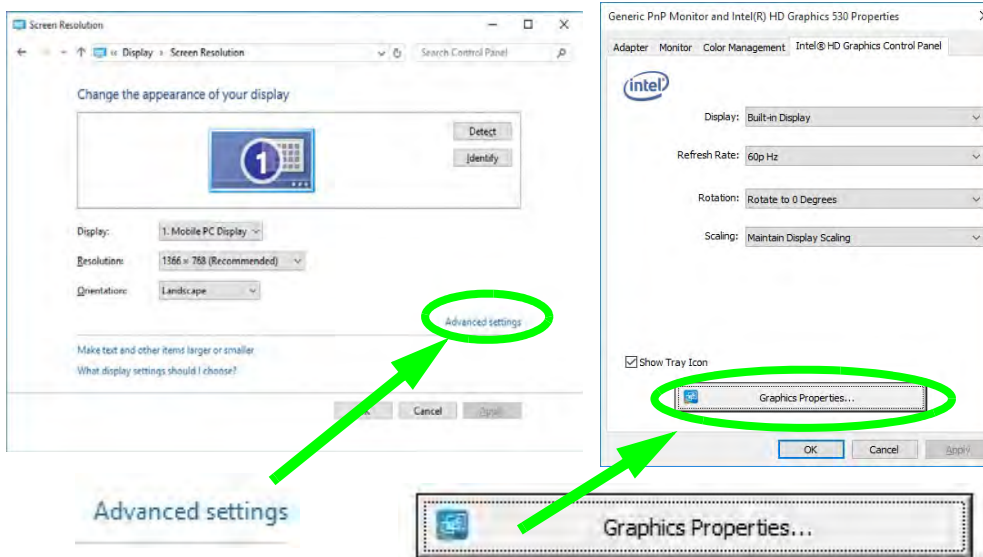


Figure C - 3
**Screen Resolution >
Advanced Settings
> Intel® HD Graphics
Control Panel**

Video Driver Controls



Home

Click the Home button to return to the main menu screen in any of the sub-menu screens.

You may make changes to any of the graphics properties by clicking the appropriate menu panel and adjusting the settings from the menus.

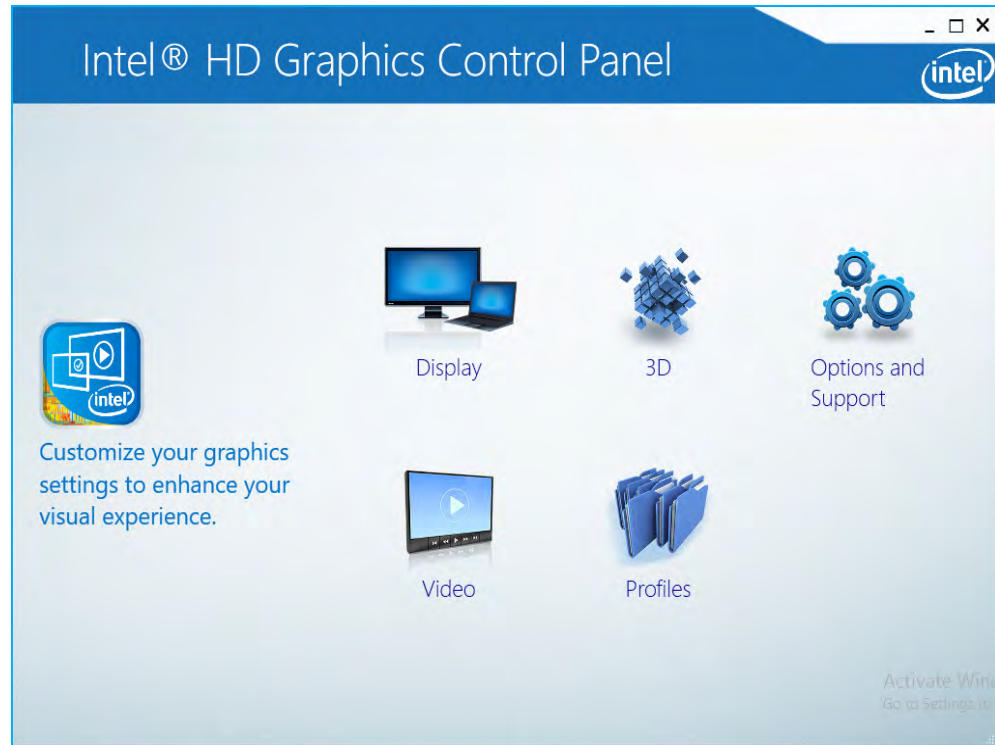
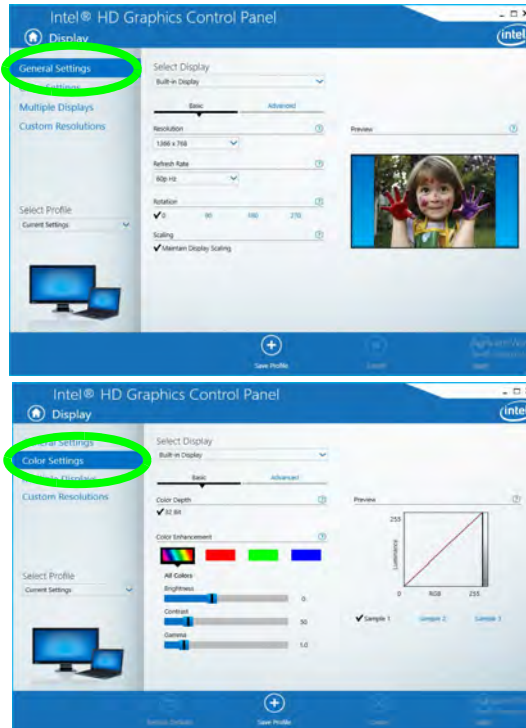


Figure C - 4
**Intel® HD Graphics
Control Panel**

Display

Click either **Display Settings** or **Color Settings** to make display adjustments, including configuration for any attached external displays.



Multiple Display

At least one other display must be attached in order to view multiple display selection options.

Figure C - 5
Intel® HD Graphics
Control Panel
Display

Video Driver Controls



Multiple Display

At least one other display must be attached in order to view multiple display selection options.

Audio Settings

Any attached active displays must have audio capacity to allow audio configuration.

Click the **Display** menu at the top of the screen to display the sub-menus. The **Multiple Displays** menu allows you to configure the display mode of any attached displays (see *“Attaching Other Displays” on page C - 16*). Click **Apply** to save any changes made.



Figure C - 6
**Intel® HD Graphics Control Panel
Display - Multiple Displays**

The **Custom Resolutions** sub-menu allows you to adjust the display (or any attached display) to any width, height, refresh rate, color depth and underscan percent-age of your choice. Note that incorrect settings can cause system instability and even possible component damage, so this is adjusted at your own risk.

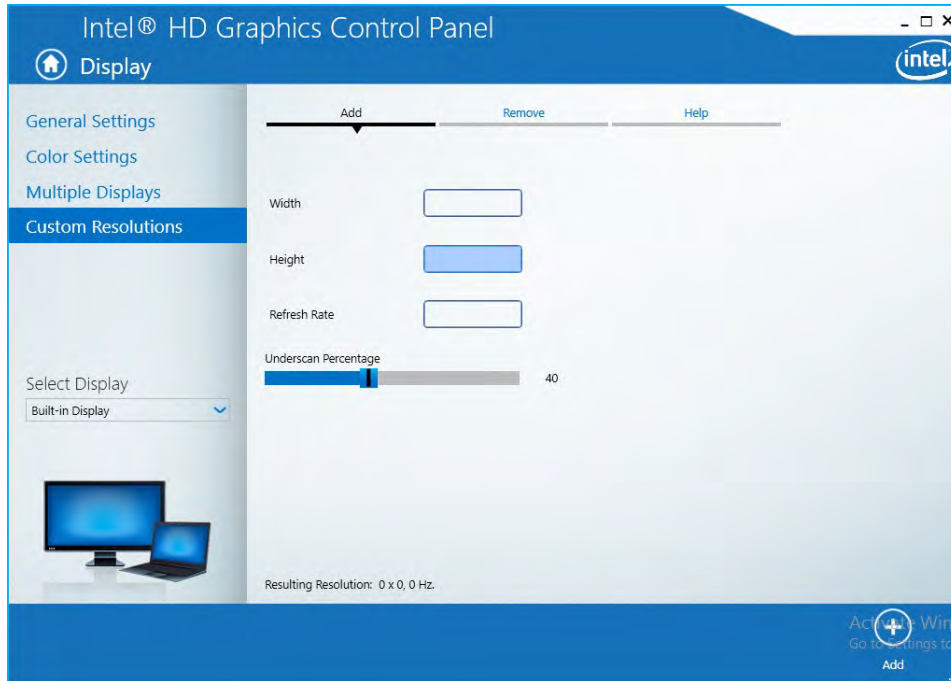


Figure C - 7
**Intel® HD Graphics
Control Panel
Display Settings -
Custom
Resolutions**

Video Driver Controls

3D

This menu allows you to choose how 3D images are displayed. **Performance** gives the smoothest motion of images, **Quality** displays the most detail, **Balanced Mode** provides better computer performance with good quality and **Custom** allows you to configure the **Anisotropic Filtering** and **Vertical Sync** and features to your preferences. Click **Apply** to save changes.

Figure C - 8
**Intel® HD Graphics
Control Panel 3D**



Options and Support

Hot Key Manager in **Options and Support** allows you to create hot keys for opening the application, rotating the display, scaling etc. Click **Apply** to save changes.



Figure C - 9
**Intel® HD Graphics
 Control Panel
 Options and
 Support**

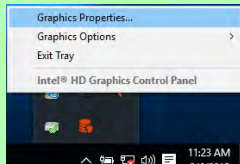
Video Driver Controls



Preferences

Go to the **Preferences** sub-menu in Options to configure the preferences for the Intel® HD Graphics Control Panel.

Make sure you click **Enable** under **Tray Icon** to display the Intel® HD Graphics Control Panel icon in the notification area of the taskbar (as below).



Click the **Options** menu at the top of the screen to display the sub-menus. The **Information Center** provides details on **System Information**, the **Built-In Display** and any **attached displays**.

Intel(R) HD Graphics 530			
Report Date:	Tuesday, September 22, 2015	Processor:	Intel(R) Core(TM) i5-6600T CPU @ 2.70GHz
Report Time [hh:mm:ss]:	11:30:48 AM	Processor Speed:	2712 MHz
Driver Version:	10.18.15.4279	Processor Graphics in Use:	Intel(R) HD Graphics 530
Operating System:	Windows® 10 Pro (10.0.10240)	Shader Version:	5.1
Default Language:	English (United States)	OpenGL® Version:	4.4
Physical Memory:	4000 MB	OpenCL® Version:	2.0
Vendor ID:	8086	Microsoft DirectX®	?
Device ID:	1912	Runtime Version:	12.0
Device Revision:	06	Hardware-Supported Version:	12.0
Graphics Output Protocol (GOP) Version:	9.0.1031		
Current Resolution:	1366 x 768		

Figure C - 10

Intel® HD Graphics Control Panel
Options -
Information Center

Video

The **Video** menu allows you to brighten or darken movies, or to switch to vivid colors. The **Preview** image will display a sample image using the current settings. You can **Save Profile** and name the Profile to recall the settings at any time. Click **Apply** to save changes (select **Color Enhancement**, **Image Enhancement**, **Image Scaling** or **Gamut Mapping** from the menu).

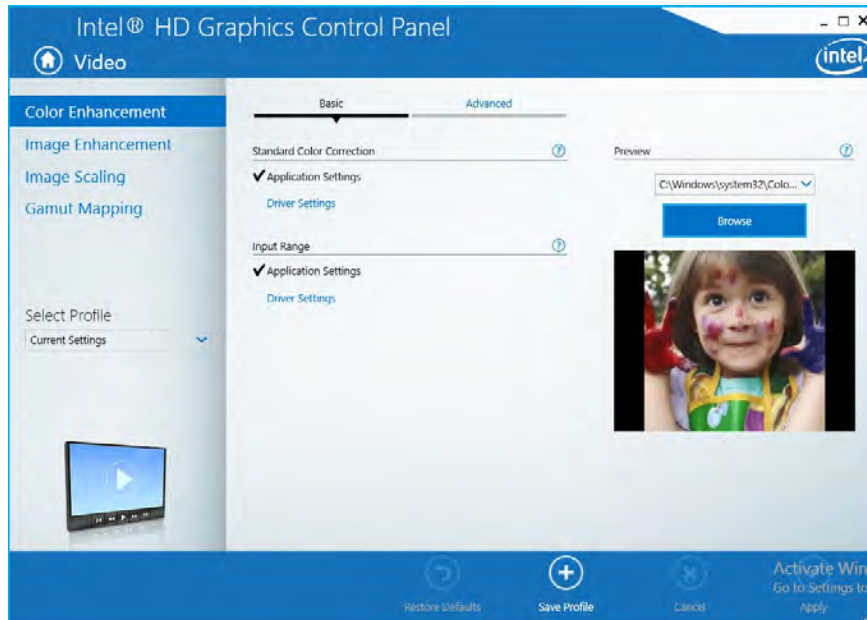
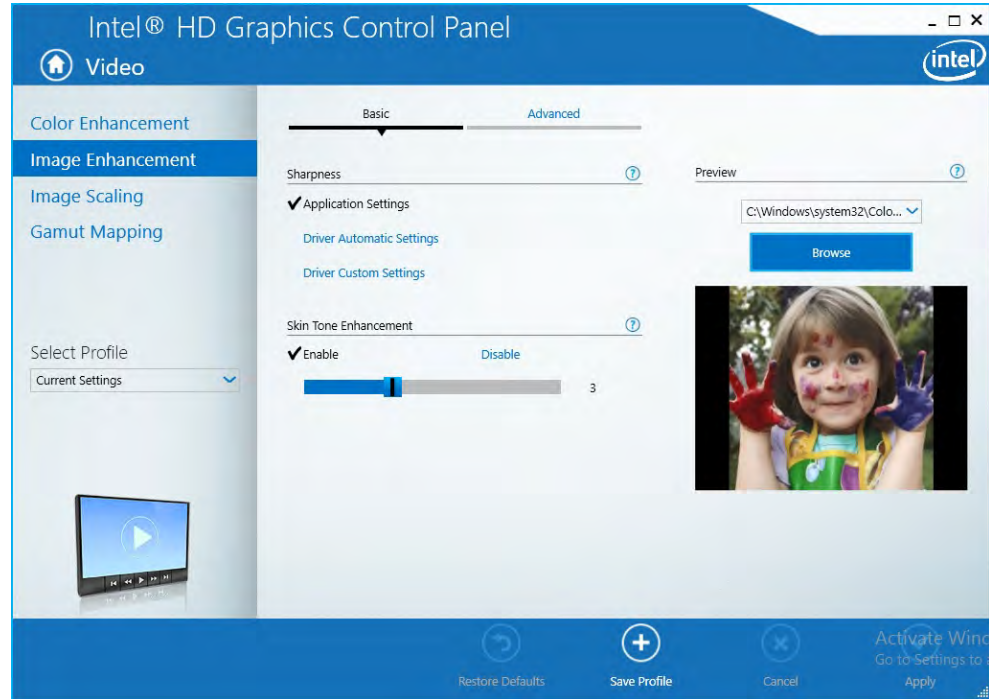


Figure C - 11
Intel® HD Graphics
Control Panel -
Video
(Color
Enhancement)

Video Driver Controls

Click the **Video** menu at the top of the screen to display the sub-menus. The **Image Enhancement** menu allows you to adjust the **Sharpness**, **Skin Tone Enhancement** in the **Basic** menu, and **Noise Reduction**, **Contrast Enhancement** and **Film Mode Detection** in the Advanced menu. Click **Apply** to save changes.

Figure C - 12
Intel® HD Graphics Control Panel - Video (Image Enhancement Basic)



Enable **Image Scaling** to use the sliders to adjust the scaling.



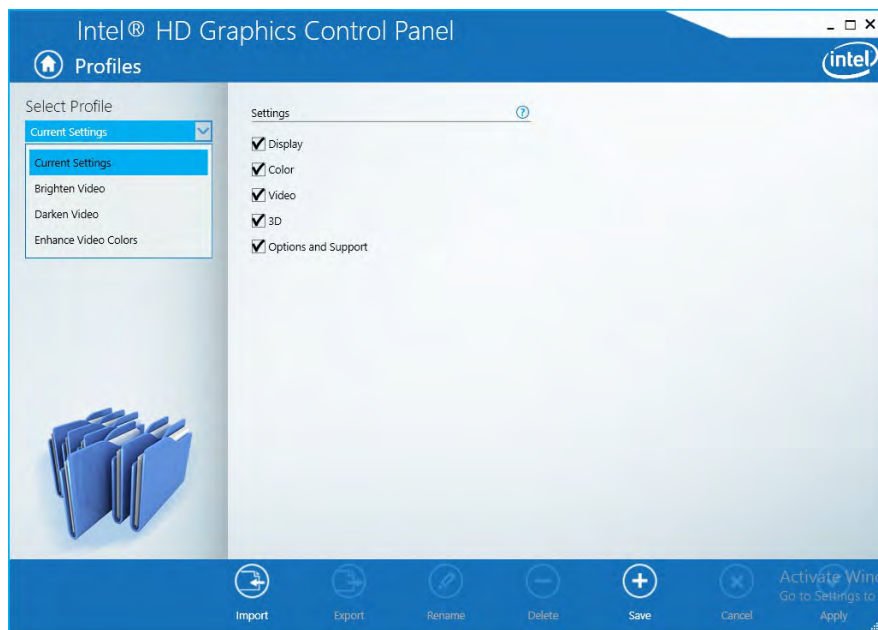
Figure C - 13
Intel® HD Graphics
Control Panel Video
Image Scaling

Video Driver Controls

Profiles

You can select one of the preset profiles (**Brighten Video**, **Darken Video** and **Enhance Video Colors**) from the menu on the left. Alternatively you can go through the menus to make adjustments to your preferences for **Display**, **Color**, **Video**, **3D**, **Options and Support** and **Power** (tick any boxes for the settings required), and then **Save** the settings to a profile (which may be imported or exported).

Figure C - 14
**Intel® HD Graphics
Control Panel -
Profiles**



Display Devices & Options

Note that you can use external displays connected to the HDMI-Out port and/or external monitor port. See your display device manual to see which formats are supported.



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) HD Graphics Control Panel to configure the full screen display.



4K2K Videos on 4K2K External Displays

Note you may experience some video lag when playing 4K2K videos on an attached 4K2K external display.

Table C - 1
Display Modes

Display Mode	Description
Single Display	One of the connected displays is used as the display device (PC screen only or Second screen only).
Clone/Duplicate	Both connected displays output the same view and may be configured independently
Extended / Extend	Both connected displays are treated as separate devices, and act as a virtual desktop



Multiple Display

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

Attaching Other Displays

To Clone Displays:

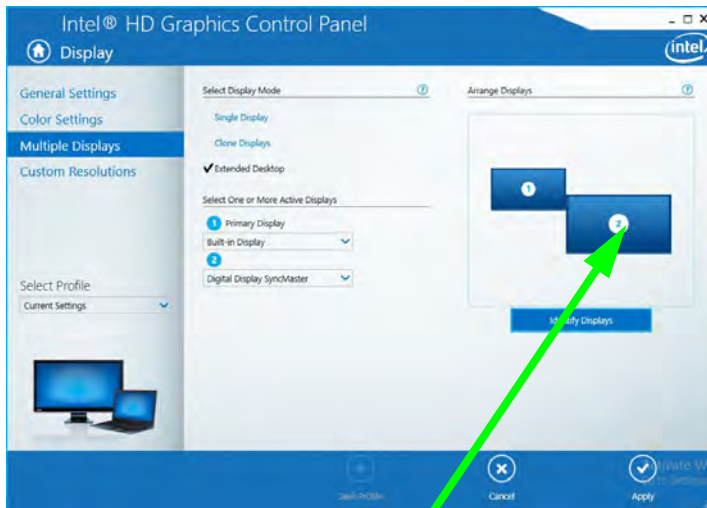
1. Attach your external display to the HDMI-Out port/external monitor port, and turn it on.
2. Go to the **Intel(R) HD Graphics Control Panel** control panel and click **Display > Multiple Displays** (sub-menu).
3. Click **Clone** from the **Select Display Mode** menu.
4. Click **Apply**, and **OK** to confirm the settings change.
5. Select the displays from the **Select One or More Active Displays** menu.



Figure C - 15
Display > Multiple Displays (Clone)

To Enable Extended Mode:

1. Attach your external display to the HDMI-Out port/external monitor port, and turn it on.
2. Go to the **Intel(R) HD Graphics Control Panel** control panel and click **Display > Multiple Displays** (sub-menu).
3. Click **Extended** from the **Select Display Mode** 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).



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.

Figure C - 16
Display > Multiple Displays (Extended)

Configure Other Displays Using Project

You can configure attached displays from **Project**.

1. Attach your display to the appropriate port, and turn it on.
2. Press the **Windows + P** key combination.
3. Click on any one of the options from the menu to select **PC screen only**, **Duplicate**, **Extend** or **Second screen only**.
4. You can also click **Connect to a wireless display** at the bottom of the **Project** screen and follow the steps to connect to any wireless enabled display.

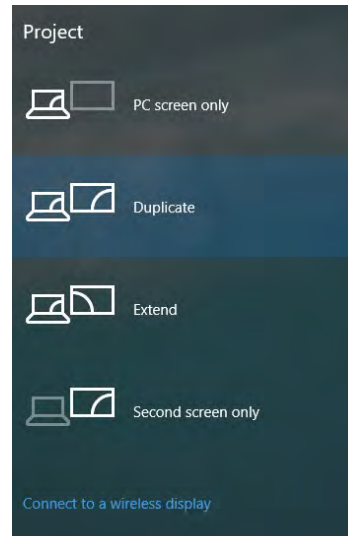


Figure C - 17
Project

Configuring an External Display In Windows

1. Attach your external display to the appropriate port, and turn it on.
2. Go to the **Control Panel**.
3. Click **Display** (icon) and **Adjust Resolution (Appearance and Personalization)**.
4. Click the **Detect** button.
5. The computer will then detect any attached displays.

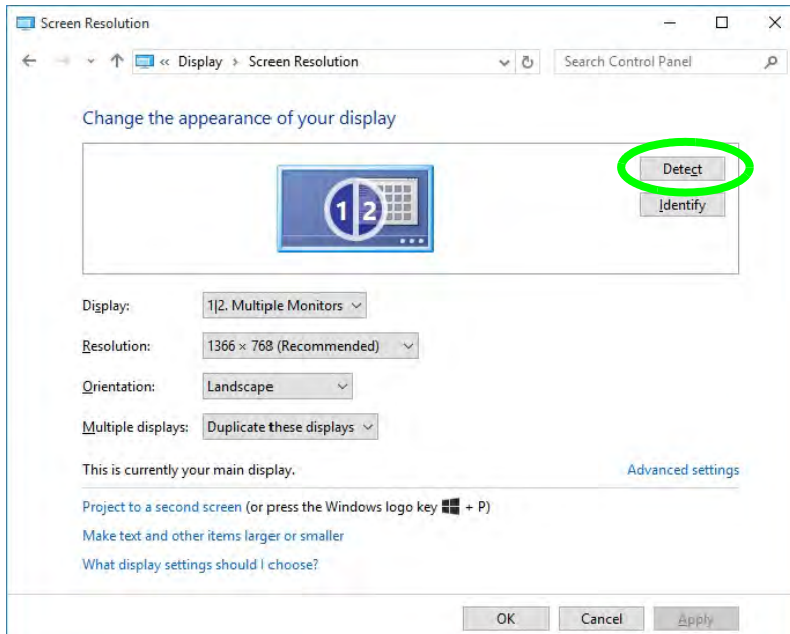


Figure C - 18
Screen Resolution
Multiple Displays

Video Driver Controls

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

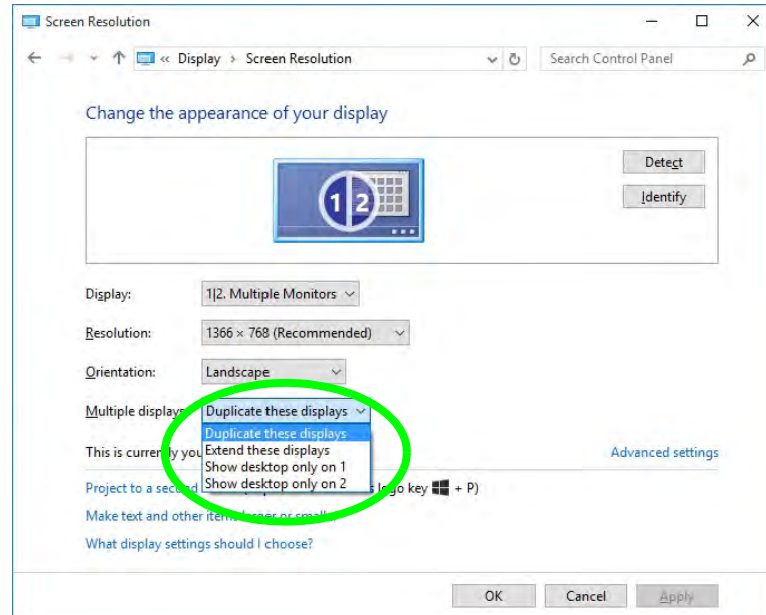


Figure C - 19
Screen Resolution
Multiple Display
Options

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

The **System** Control Panel in **Settings** may also be used to configure displays.

1. Attach your external display to the appropriate port, and turn it on.
2. Click the Start Menu and click **Settings > System** (or right-click the desktop and select **Display Settings**).
3. You can change Duplicate, Extend or choose to display on 1 screen only.
4. Click **Apply** to save any changes made.
5. Click **Advanced display settings** to access further options.

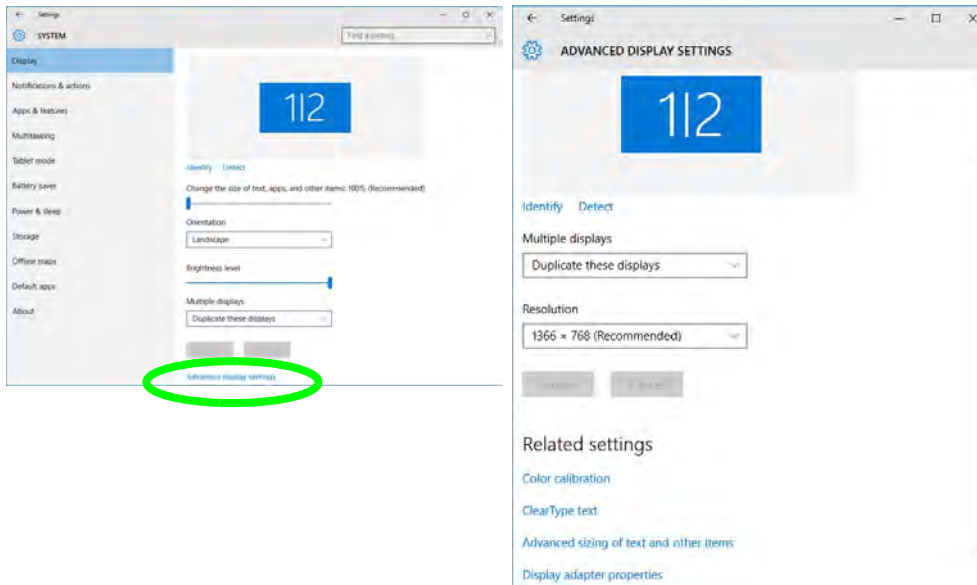


Figure C - 20
System > Display



Volume Adjustment


The sound volume level can be clicking using the volume control icon  in the **notification area of the taskbar**.



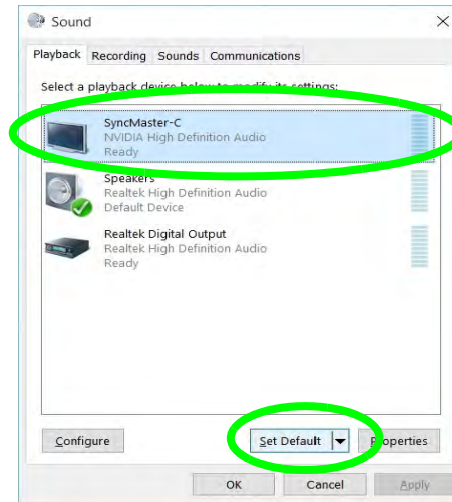
Figure C - 21

**Sound - HDMI
Device (set Default)**

HDMI Audio Configuration

HDMI (High-Definition Multimedia Interface) carries both **audio** and video signals. In some cases it will be necessary to go to the **Sound** control panel and manually configure the HDMI audio output as per the instructions below.

1. Go to the **Sound** control panel.
2. Click **Playback** (tab)
3. The playback device will be selected.
4. You may need to select the audio device and click **Set Default** (button).
5. Double-click the device to access the control panel tabs.



6. Adjust the HDMI settings from the control panel tabs.
7. Click **OK** to close the **Sound** control panel.

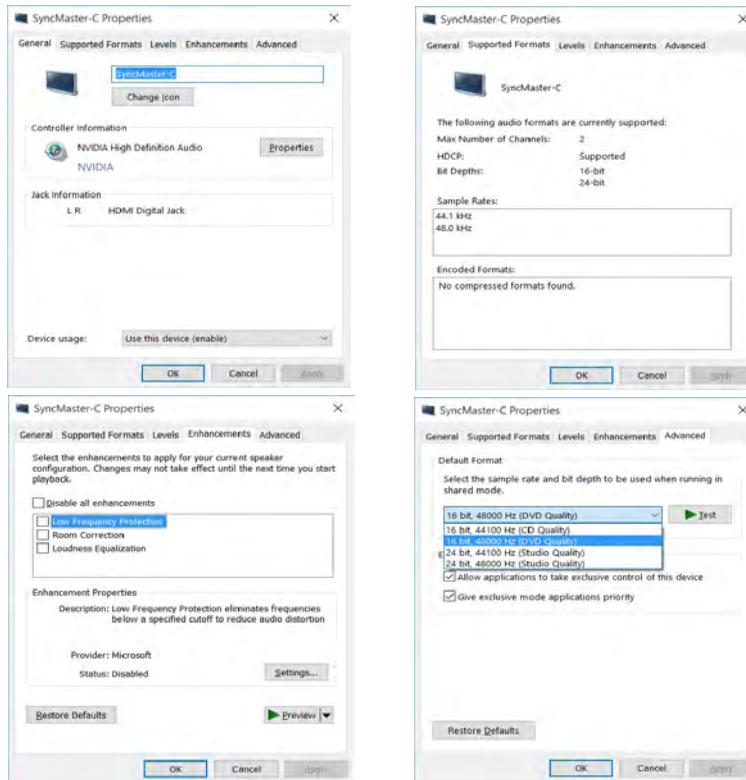


Figure C - 22
HDMI Device
Properties





Other Applications

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

HDMI Notes

- Connect a device with HDMI support to the HDMI-Out port **BEFORE** attempting to play audio/video sources through the device.
- To play audio sources through your external display's (TV or LCD) speakers you will need to go to the audio configuration control panel on the display and configure the audio input accordingly (see your display device manual).

HDMI Video Configuration

1. Connect an HDMI cable from the HDMI-Out port to your external display.
2. Configure your external display as per the instructions in *“Attaching Other Displays” on page C - 16.*
3. Set up your external display (TV or LCD) for HDMI input (see your display device manual).
4. You can now play video/audio sources through your external display.

Wireless Display

Wireless Display uses your Wireless LAN module/WLAN Bluetooth Combo module (you need to make sure that your video adapter/display device is compatible with your particular WLAN/Combo module) in conjunction with a **compatible video adapter/display device** (purchased separately) to allow 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 use the wireless display to 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 **Wireless Display** 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/display** for full details).

Note that no driver or application is required for wireless display in **Windows 10** (except for **Model A computers with Intel® vPro™ Technology** - see “**Intel® vPro™ Technology Wireless Display Application**” on page 6 - 22).



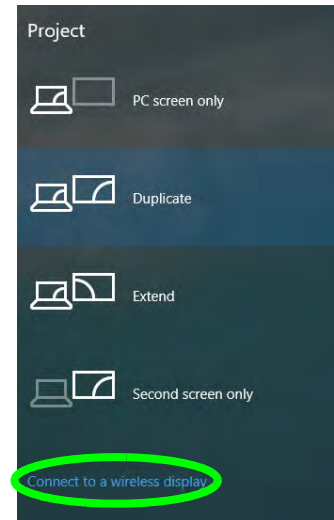
Compatible Adapters

For a list of compatible adapters check the video adapter/display device documentation, or with your distributor/supplier.

Wireless Display Configuration

1. Note that no driver or application is required for wireless display in **Windows 10** (except for **Model A computers with Intel® vPro™ Technology** - see **“Intel® vPro™ Technology Wireless Display Application” on page 6 - 22**).
2. Press the **Windows + P** key combination.
3. Click **Connect to a wireless display** at the bottom of the **Project** screen and follow the steps to connect to any wireless enabled display.

Figure C - 23
Add a Wireless Display



4. The system will then search for compatible display devices (**this may take up to 60 seconds** so allow time for this to complete).
5. Double-click any detected display device in the list.
6. You may then need to input a pin number for the device to which you are connecting and click **Next**.
7. The display will then connect (for specific settings for your display see the documentation supplied with your compatible adapter/display for full details).
8. Go to the **Project** menu and click **Disconnect** to temporarily disconnect from the wireless display.
9. To permanently disconnect from the display (you will need to go back through the connection process again) you can select it in **Devices** and click **Remove Device > Yes**.

Video Driver Controls

C


Appendix D: Specifications



Latest Specification Information

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

Specifications

Processors	Memory	Video
<p>Intel® Core i7™-6700T (2.8GHz) 8MB Smart Cache, 14nm (14 Nanometer), DDR3L-1600MHz, TDP 35W</p> <p>Intel® Core i5™-6600T (2.7GHz) 6MB Smart Cache, 14nm (14 Nanometer), DDR3L-1600MHz, TDP 35W</p> <p>Intel® Core i5™-6500T (2.5GHz) 6MB Smart Cache, 14nm (14 Nanometer), DDR3L-1600MHz, TDP 35W</p> <p><u>For Model B Only:</u> Intel® Core i5™-6400T (2.2GHz) 6MB Smart Cache, 14nm (14 Nanometer), DDR3L-1600MHz, TDP 35W</p>	<p>Dual Channel DDR3L</p> <p>Two 204 Pin SO-DIMM sockets supporting DDR3L 1600MHz</p> <p>(real operational frequency depends on the FSB of the processor)</p> <p>Memory Expandable up to 16GB (using 2GB / 4GB / 8GB SO-DIMM Modules)</p> <div data-bbox="582 448 1013 778" style="border: 2px solid red; border-radius: 15px; padding: 10px; text-align: center;"><p>SO-DIMM Memory Types</p><p>All SO-DIMM memory modules installed in the system should be identical (the same size and brand) in order to prevent unexpected system behavior.</p><p>Do not mix SO-DIMM memory module sizes and brands otherwise unexpected system problems may occur.</p></div>	<p>Intel® Integrated GPU (Intel® HD Graphics 530): Dynamic Frequency Intel® DVM Shared Memory Architecture Microsoft DirectX®12 Compatible</p>
Core Logic		Storage
<p><u>For Model A:</u> Intel® Q170 Chipset</p> <p><u>For Model B:</u> Intel® H170 Chipset</p>		<p>One Changeable 2.5" / 7 mm (h) HDD/ SSD with SATA (Serial) Interface</p> <p>One Changeable 9.5 mm(h) Super Multi Optical Device Drive with SATA Interface (Factory Option)</p> <p>One M.2 SSD 2280, SATA/PCIe Gen 3*4 Interface (Factory Option)</p>
Display		Audio
<p>15.6" / 39.62cm 16:9 FHD (1920 * 1080), HD (1366 * 768) Panel (3.8mm thick)</p>		<p>High Definition Audio Interface S/PDIF Digital Output (S/PDIF) Built-In Microphone 2 * Built-In 2W Speakers</p>

Keyboard & Pointing Device	Card Reader	Communication
<p>Full Size Isolated Keyboard With Numeric Pad</p> <p>Full Size Isolated White Illuminated Keyboard with Numeric Keypad (Factory Option)</p> <p>Built-in Touchpad with Multi-Gesture and Scrolling Functionality</p>	<p>Embedded Multi-In-1 Push-Push Card Reader</p> <ul style="list-style-type: none"> - MMC/ RS MMC - SD/ Mini SD / SDHC/ SDXC <p>Note: Some of these cards require PC adapters usually supplied with the cards.</p>	<p>Built-In Intel® 10/100/1000Mb Base-TX Ethernet LAN</p> <p>Intel® Dual Band Wireless-AC 8260 (2*2 802.11 a/c) WLAN + Bluetooth M.2 2230 Combo Module (Factory Option)</p> <p>3G *UTMS/HSPA+ M.2 3042 Card Module with USB Interface (Factory Option)</p> <p>OR</p> <p>4G LTE M.2 3042 Card Module with USB Interface (Factory Option)</p> <p>*Note that UMTS modes CAN NOT be used in North America</p> <p>1.0M HD Video Camera Module with USB interface</p> <p>=====</p> <p><u>For Model B Only:</u></p> <p>Intel® Wireless-N 7265 (2*2 802.11 b/g/n) WLAN + Bluetooth M.2 2230 Combo Module (Factory Option)</p> <p>Intel® Dual Band Wireless-AC 3165 (1*1 802.11 a/c) WLAN + Bluetooth M.2 2230 Combo Module (Factory Option)</p>
Interface	Slot	
<p>Thee USB 3.0 Ports (Including 1 ACDC Powered USB Port)</p> <p>One USB 2.0 Port</p> <p>One HDMI™ Out Port (with HDCP)</p> <p>One External Monitor Port</p> <p>One 2-In-1 Audio Jack (Headphone Out / S/PDIF Out)</p> <p>One Microphone-In Jack</p> <p>One RJ-45 LAN Jack</p> <p>One DC-In Jack</p> <p>One Docking Port (With Hot Plug Functionality)</p>	<p>One ExpressCard™ (54/34) Slot</p> <p>One Smart Card Reader Slot (Factory Option)</p> <p>Three M.2 Card Slots:</p> <p>=====</p> <p>Slot 1 for M.2 2230 Card WLAN Combo Module with PCIe & USB Interfaces</p> <p>Slot 2 for M.2 2280 Card SSD (Solid State Drive) with SATA/PCIe Gen 3*4 Interface</p> <p>Slot 3 for M.2 3042 LTE/HSPA+ 3G or 4G Module with USB Interface (Factory Option)</p>	



Specifications

Power	LCD Panel can be opened to 180 degree angle (with 6 Cell Battery and if system is not docked)	Environmental Spec
Full Range AC/DC Adapter AC input 100 - 240V, 50 - 60Hz, DC Output 19V, 3.42A (65 Watts) Built-In 6 Cell Smart Lithium Ion Battery Pack 62WH Built-In 9 Cell Smart Lithium Ion Battery Pack 93WH	Operating System	Temperature Operating: 5°C - 35°C Non-Operating: -20°C - 60°C Relative Humidity Operating: 20% - 80% Non-Operating: 10% - 90%
Security	Windows® 10 (64-bit)	Dimensions & Weight
Security (Kensington® Type) Lock Slot BIOS Password Fingerprint Reader Module Trusted Platform Module 2.0 Intel PTT for Systems Without TPM Hardware For Model A Only: Intel® vPro Support	BIOS	382mm(w) * 259.5 mm(d) * 32.95 mm(h) 2.4kg Barebone System* with 62WH Battery
Design Features	SPI Flash ROM - Total 128Mb AMI BIOS	<i>*A barebone system does not include the HDD, RAM, adapter, power cord and factory option modules (weight tolerance within +/- 5%).</i>
All USB / Card Reader / ExpressCard / Smart Card ports/slots can be switched on/off in the BIOS Rubber Painted Style Finish	Power Management	
	Supports Wake on LAN by AC mode only Supports Wake on USB Supports Wake on RTC alarm (S4) by AC mode only	
	Indicators	
	Power/Suspend, Battery, HDD/ODD, Airplane Mode, Num Lock, Caps Lock, Scroll Lock, Camera (on module)	

Appendix E: Docking Station Guide

Overview

The docking station provides your computer with an easy connectable desktop environment when portability is not required. This allows for easy connections to external displays, USB devices (with a full range of extra USB ports), audio devices and provides a battery charging facility.

Compatibility

Note that this docking station is compatible with particular computer models with the appropriate docking connector only. Attempting to dock the computer to an incompatible docking system will result in an error message (in this case immediately separate the computer from the docking station). Please contact your distributor/supplier for full details.

Computer and Docking Station

The computer may **hot** or **cold dock/undock** with the docking station, i.e. the computer may be powered on (hot docking/undocking) or powered off (cold docking/undocking) when docking or undocking. However if you intend to hot dock/undock the system then make sure that the **hot key driver**, provided on the computer's *Device Drivers & Utilities + User's Manual* disc, is installed.



Hot Docking/Hot Undocking & Power Saving Modes

If the computer is in a power-saving state (Sleep or Hibernate), or is resuming from a power saving state, do not attempt to hot dock or hot undock the system.

Moving the Docking Station

Note that if the notebook is docked with the docking station, do not attempt to move the docked unit in order to avoid losing connection. If you wish to move the docking station, then make sure you undock the notebook from the docking station before doing so.

Docked System Power

The system power for a docked unit should be provided only by the docking station's AC/DC adapter plugged in to the DC-In jack at the rear of the docking station (**make sure the computer's AC/DC adapter is not used at any time when the computer is docked**). Follow the instructions on the next pages to safely dock and undock your computer with the docking station.

System Map: Front View

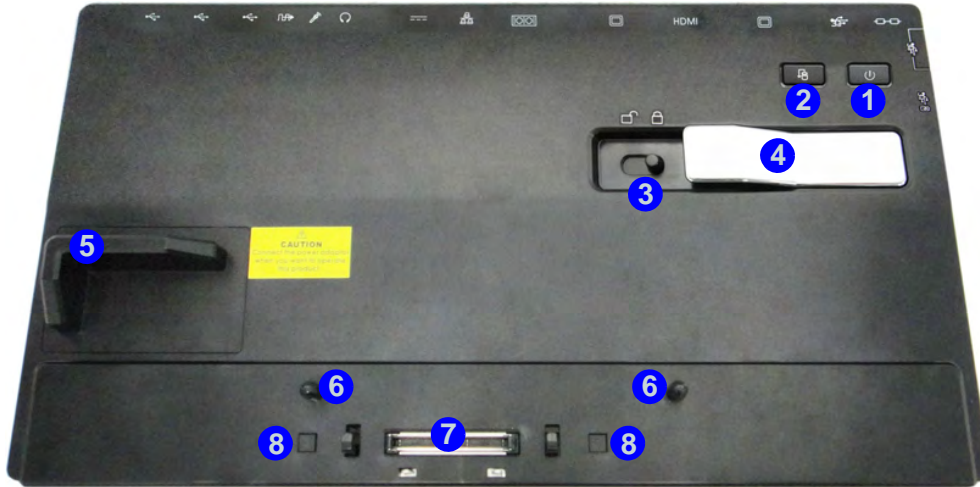


Figure E - 1
System Map Front

1. Power Button LED
2. Backup Button (if a Hard Disk is installed in the Device Bay)
3. Lock Switch
4. Notebook Eject Latch
5. Notebook Placeholder
6. Retaining Pins
7. Docking Connector
8. Eject Pins



Backup Button

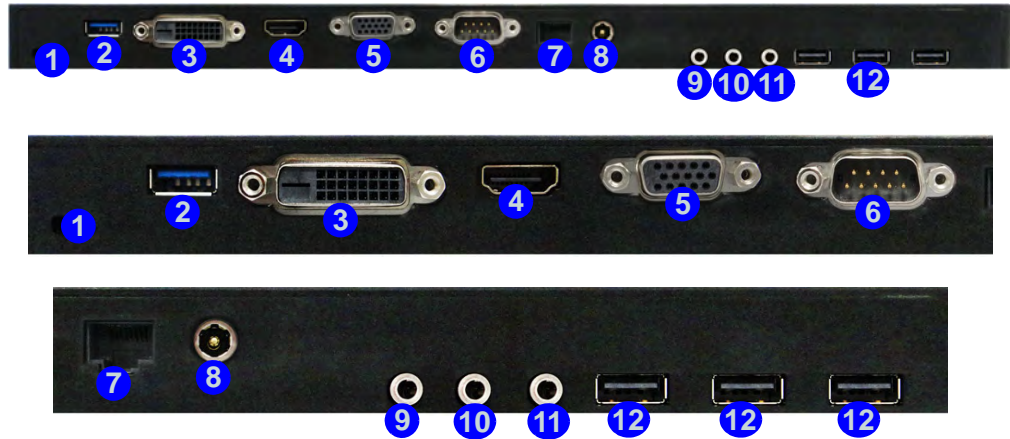
Note that when the backup button is used to backup the computer's hard disk/files to the docking station, in conjunction with the backup application, if a hard disk is installed in the docking station's bay.

Docking Station Guide

Figure E - 2
System Map Rear

1. Security Lock Slot
2. USB 3.0 Port
3. DVI-D Out Port
4. HDMI-Out Port
5. External Monitor Port
6. RS232 (Serial) COM Port
7. RJ-45 LAN Jack
8. DC-In Jack
9. Headphone Jack
10. Microphone Jack
11. S/PDIF-Out Jack
12. USB 2.0 Ports

System Map: Rear View



LAN Jack & Docking

Note that when the computer is docked with the docking station, the notebook's LAN Jack can no longer be used as the network jack. When the system is docked use the docking station's LAN jack as the network jack.

Power Button LED & Lock Switch LED Indicator


Icon	Color	Description
	Orange	DC Power is Plugged In and the Computer is Off or in Hibernate Mode*
	Green	The Docking Station is On or in Sleep Mode

Table E - 1 - Power Button LED & Lock Switch LED Indicator

*To confirm the computer's power status check the LED Power Indicators on the computer itself.

Figure E - 3
System Map
Left & Right Views

1. Bay with HDD or Dummy Caddy
OR
2. Bay with Optical Device Drive (DVD)
3. Powered USB 3.0 Port
4. USB 3.0 Ports

System Map: Left & Right Views



USB Port Power

Note that power to the notebook computer and docking station's USB ports may be enabled/disabled in the notebook computer's BIOS settings (see the BIOS guide in Chapter 5 of the notebook's user manual).

Cold Docking the Computer to the Docking Station

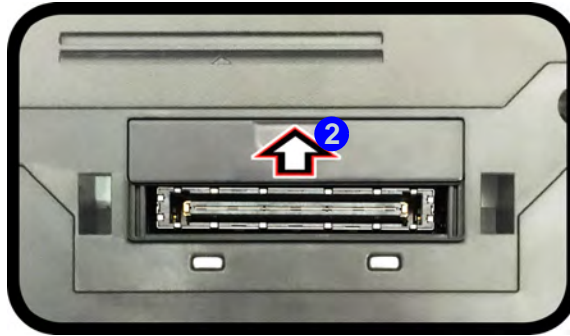
1. Remove all packing materials and place the docking station on a stable surface.
2. Securely attach any peripherals you want to use with the docking station (e.g. keyboard and mouse) to their ports.
3. Attach the AC/DC adapter to the DC-In jack at the rear of the docking station, and then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter.
4. The power button LED ① on the docking station will be **orange**.



Figure E - 4 - Docking Station with AC/DC Adapter Plugged

Docking Station Guide

5. Make sure the computer's hot key driver is installed (especially if you intend to hot dock the system).
6. Remove the AC/DC adapter from the notebook computer and then close the computer's lid/LCD and turn it over (**if you are using the optional 9 cell battery make sure you remove the battery before attempting to dock the computer with the docking station**).
7. Slide the notebook computer's docking port cover latch in the direction of the arrow at point **2** to open the cover (failure to open the cover of the docking port before connecting the computer to the docking station may result in irreparable damage to the connector on the docking station).



Docking Port Cover

Make sure you keep the cover closed when the computer is not docked in the station. This will help prevent foreign objects and/or dust getting in to the contact area.

Figure E - 5 - Opening the Docking Port

E - 8 Cold Docking the Computer to the Docking Station

8. Make sure that the notebook computer's AC/DC adapter is **NOT ATTACHED** to the computer's DC-In jack and that the computer is **OFF**.
9. Ensure that the lock switch on the docking station is in the **unlock position**.
10. Press the computer down onto the docking station so that the docking connectors line up.
11. Slide the lock switch on the docking station in to the lock position **3**.
12. Press the power button **4** on the docking station (or power button on the notebook) to turn it on.
13. The **Power LED on the docking station** will be **green** and you can then use the docking station ports.

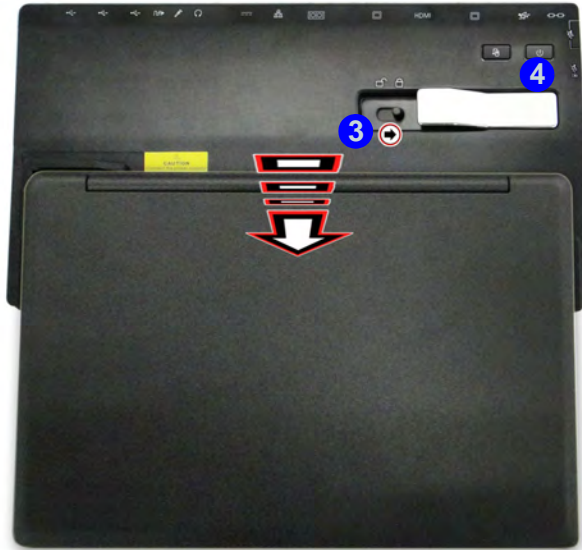


Figure E - 6 - Slide the Lock Switch



Moving the Docking Station

Note that if the notebook is docked with the docking station, do not attempt to move the docked unit in order to avoid losing connection. If you wish to move the docking station, then make sure you undock the notebook from the docking station before doing so.

AC/DC Adapter

Use only the docking station's AC/DC adapter plugged-in to the docking station's DC-In jack to power the computer.

Docking Station Guide

Cold Undocking the Computer from the Docking Station

1. Shut the computer down as per the normal **Windows** shutdown (select **Shut Down** from the **Start** menu in **Windows**) procedure (the **Power LED on the docking station** will be **orange**).
2. Slide the lock switch **1** on the docking station in to the unlock position.
3. Lift the eject latch **2** fully in the direction indicated to unlock the docking station, while carefully holding the notebook computer with one hand.
4. You can then lift the notebook computer off the docking station.
5. After disconnecting the computer from the docking station, slide the docking port cover latch in the direction of the arrow **3**.

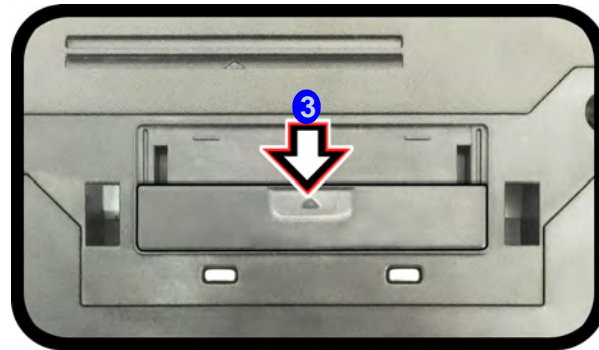


Figure E - 7 - Slide the Switch to Unlock & Lift the Eject Latch

Hot Docking the Computer to the Docking Station

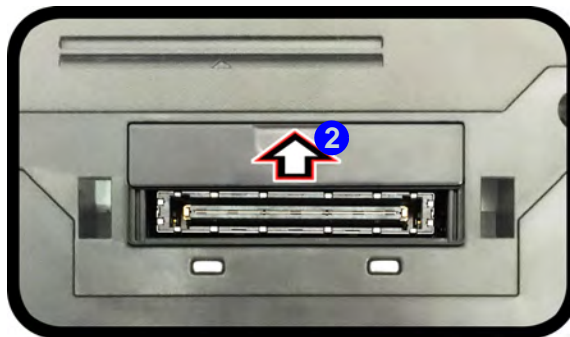
1. Remove all packing materials and place the docking station on a stable surface.
2. Securely attach any peripherals you want to use with the docking station (e.g. keyboard and mouse) to their ports.
3. Attach the AC/DC adapter to the DC-In jack at the rear of the docking station, and then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter.
4. The power button LED **1** on the docking station will be **orange**.



Figure E - 8 - Docking Station with AC/DC Adapter Plugged

Docking Station Guide

5. Make sure the computer's hot key driver is installed for hot docking/undocking the system.
6. The computer should be on, however remove the AC/DC adapter from the notebook computer and then close the computer's lid/LCD and turn it over (**if you are using the optional 9 cell battery you cannot hot dock the computer with the docking station**).
7. Slide the notebook computer's docking port cover latch in the direction of the arrow at point **2** to open the cover (failure to open the cover of the docking port before connecting the computer to the docking station may result in irreparable damage to the connector on the docking station).



Docking Port Cover

Make sure you keep the cover closed when the computer is not docked in the station. This will help prevent foreign objects and/or dust getting in to the contact area.

Figure E - 9 - Opening the Docking Port

8. Ensure that the lock switch on the docking station is in the **unlock position**.
9. Press the computer down onto the docking station so that the docking connectors line up (the **Power LED on the docking station** will be **orange**).
10. Slide the lock switch on the docking station in to the lock position **3**.
11. The **Power LED on the docking station** will be **green** and you can then use the docking station ports.

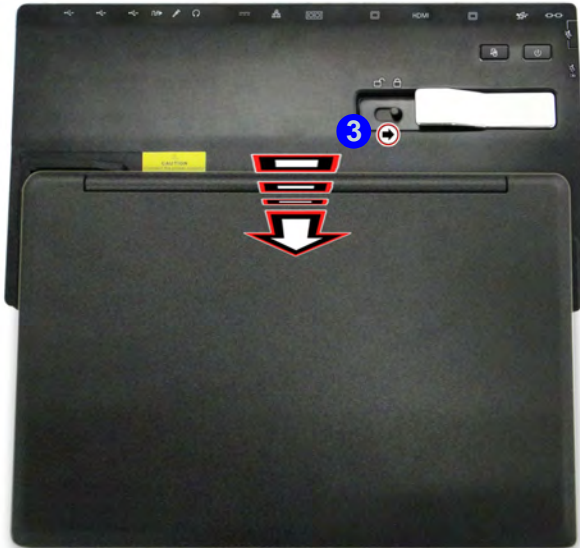


Figure E - 10 - Slide the Lock Switch



Moving the Docking Station

Note that if the notebook is docked with the docking station, do not attempt to move the docked unit in order to avoid losing connection. If you wish to move the docking station, then make sure you undock the notebook from the docking station before doing so.


AC/DC Adapter

Use only the docking station's AC/DC adapter plugged-in to the docking station's DC-In jack to power the computer.

Docking Station Guide

Hot Undocking the Computer from the Docking Station

Hot undocking using *Windows*:

1. When the system is docked click the icon  in the taskbar notification area and click **Safely Remove Hardware and Eject Media** **1** (*Figure E - 11*) from the menu.
2. Select **Eject Docking Station** **2** and the **Undock Complete** **3** message will appear in the notification area of the taskbar (the docking power LED will be **Orange** at this point and the ports, buttons and attached devices on the docking station **will not work**).
3. Follow steps **2 to 5** of the cold undocking procedure on page *E - 10* to complete the undocking process.

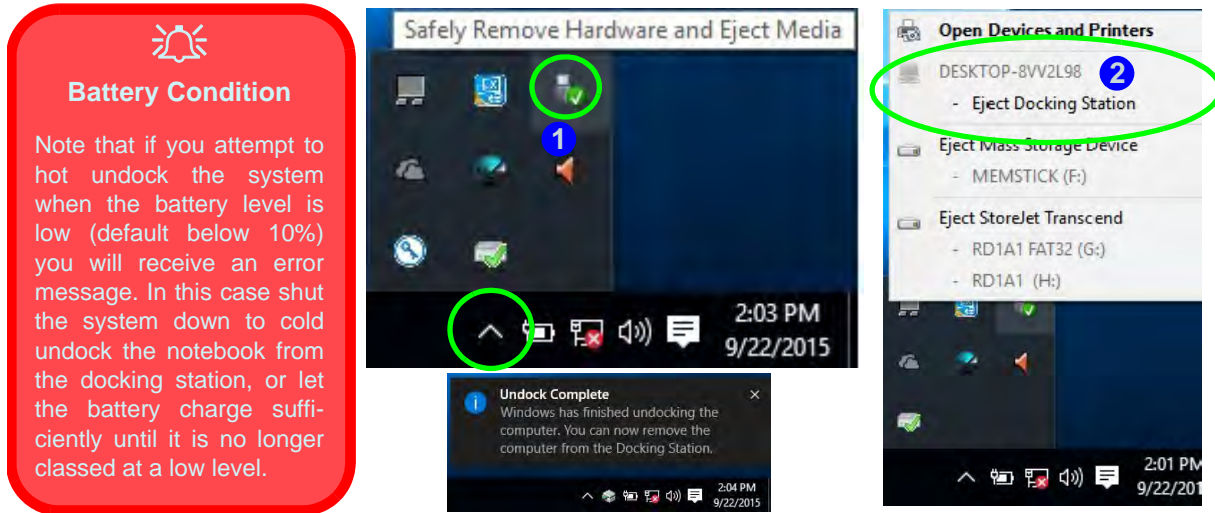




Figure E - 11 - Using the Windows System to Hot Undock the Computer

E - 14 Hot Undocking the Computer from the Docking Station

Hot undocking using the Control Center:

1. Make sure the computer's hot key driver is installed for hot docking/undocking the system.
2. Press the **Fn + Esc** key combination to run the **Control Center**.
3. Click the **Docking Enable** button  **1** in the Control Center (the icon displays the current docking status).
4. The docking icon will change to the **Docking Disable**  button to display the current status, and the **Undock Complete** **2** message will appear in the notification area of the taskbar (see over).

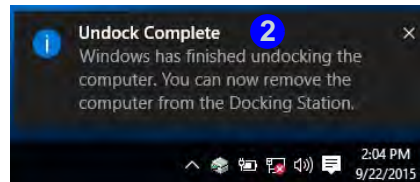


Figure E - 12 - Using the Control Center to Hot Undock the Computer



Battery Condition

Note that if you attempt to hot undock the system when the battery level is low (default below 10%) you will receive an error message. In this case shut the system down to cold undock the notebook from the docking station, or let the battery charge sufficiently until it is no longer classed at a low level.

Docking Station Guide

5. Press the **Fn + Esc** key combination to run the **Control Center**.
6. The docking power LED will be **Orange** at this point and the ports, buttons and attached devices on the docking station **will not work**.
7. If you do not wish to separate the notebook and docking station at this point you can click the icon in the Control Center to re-dock the system.
8. Follow steps **2 to 5** of the cold undocking procedure on page **E - 10** to complete the undocking process.

Power Button Configuration

To prevent your computer from entering a power-saving state if you choose to work with the lid/LCD closed, then it may be necessary to redefine what the computer is set to do if the lid/LCD is closed when plugged in.

1. Go to the click **Power Options (Hardware and Sound)** control panel.
2. Click **Choose what closing the lid does** (in the left pane).
3. Set the **When I close the lid:** option when the computer is **plugged in** to **Do nothing**.
4. Click **Save Changes** and close the control panel.

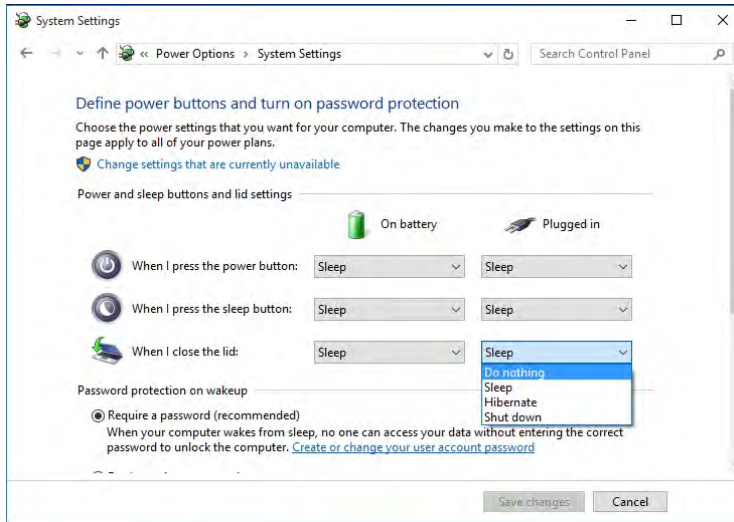


Figure E - 13 - Power Options (Choose what closing the lid does)








Hot Docking/Hot Undocking & Power Saving Modes

If the computer is in a power-saving state (Sleep or Hibernate), or is resuming from a power saving state, do not attempt to hot dock or hot undock the system.

Docking Station Ports & Jacks

The following will give a quick description of the interface (ports & jacks) which allow your docking station and computer to communicate with external devices, connect to the internet etc. When the notebook is docked to the docking station all the ports on the docking station will function, however only some of the ports on the notebook will function (see the note alongside each item for specific information).

Item	Description	Note
COM/RS232 Serial Port 	The COM/serial is a communication interface for data transfer, through which information transfers in or out one bit at a time. This port can be used to connect the computer to devices such as terminals and peripherals.	This port is supported in the Windows environment and at the DOS prompt, however there is no COM mouse support.
DC-In Jack 	Plug the supplied AC/DC adapter into this jack to power your docking station and docked computer.	Use only the docking station's AC/DC adapter plugged-in to the docking station's DC-In jack to power the computer.
DVI-D Out Port 	The DVI-D Out (Digital Visual Interface-Digital) Port is a video connector interface supporting digital displays only. This allows you to connect an external monitor, TV or Flat Panel Display etc. as a display device by means of a DVI-D compatible cable.	

Item	Description	Note
External Monitor (VGA) Port 	This port allows you to connect an external monitor, or Flat Panel Display, to get dual video or simultaneous display on the LCD and external monitor/FPD.	Use only the external monitor port on the docking station when the system is docked.
HDMI-Out Port 	The HDMI-Out (High-Definition Multimedia Interface) is an audio/video connector interface for transmitting uncompressed digital streams. This allows you to connect an external monitor, TV or Flat Panel Display etc. as a display device by means of a HDMI cable. Note that HDMI carries both audio and video signals.	You can use the HDMI ports on both the docking station and the notebook, connected to two separate displays, when the system is docked.






Docking Station HDMI Port Resolutions Supported

Note that when the computer is docked to the docking station, and the docking station's HDMI port is connected to an external display, the resolutions supported are as follows:

- DTV resolutions: 480i, 576i, 480p, 576p, 720p, 1080i to 1080p
- PC resolutions: VGA, SVGA, XGA, SXGA to UXGA




Docking Station Guide

Item	Description	Note
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.	You can use the headphone and microphone jacks on either the computer and/or docking station when the system is docked.
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.	Note that when the system is docked the notebook's LAN Jack can no longer be used and you must use the docking station's LAN jack as the network jack only.





Wake On LAN Support

Note that when the system is docked Wake On LAN will be disabled. Wake On LAN is only supported in AC Mode (i.e. when the computer is powered by its AC/DC adapter and not by the battery). When the system is docked, the power for a docked unit should be provided only by the docking station's AC/DC adapter plugged in to the DC-In jack at the rear of the docking station (and not the computer's AC/DC adapter), and therefore Wake On LAN is not supported by a docked system.

Item	Description	Note
Security Lock Slot 	To prevent possible theft, a Kensington-type lock can be attached to this slot. Locks can be purchased at any computer store.	
S/PDIF-Out Jack 	This S/PDIF (Sony/Philips Digital Interface Format) Out Port allows you to connect your DVD-capable PC to a Dolby AC-3 compatible receiver for "5.1" or 'dts' surround sound.	
<div style="border: 2px solid #00FF00; border-radius: 15px; padding: 10px; text-align: center;">  <p>Docking Station - S/PDIF Out Jack</p> <p>Note that the docking station's S/PDIF Out Jack does not support optical fibre cables, and when the computer is docked to the docking station you must use the docking station's S/PDIF Out Jack for any S/PDIF connections.</p> </div>		

Docking Station Guide

Item	Description	Note
<p>USB 2.0/1.1 Ports*</p>  <p>USB 3.0 Ports</p> 	<p>These USB 2.0 compatible ports (USB 2.0 is fully USB 1.1 compliant) are for low-speed peripherals such as keyboards, mice or scanners, and for high-speed peripherals such as external HDDs, digital video cameras or high-speed scanners etc. Devices can be plugged into the computer, and unplugged from the computer, without the need to turn the system off (if the power rating of your USB device is 500mA or above, make sure you use the power supply which comes with the device).</p> <p>The USB 3.0 ports are denoted by their 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.</p> <p>Note: The powered USB 3.0 port function is designed to help charge USB compliant devices, but is not designed to allow their operation.</p>	<p>You can use the ports on both the computer and the docking station when the system is docked.</p> <p>*Note: The powered USB 3.0 port (see 3 Figure E - 3 on page E - 6) will supply power when the docking station is powered by the AC/DC adapter plugged into a working outlet, (this may not work with certain devices). The notebook does not need to be docked for this to function. There is no LED to indicate a charge status on the docking station.</p>

Multiple Displays

Any **two** of the following displays may be enabled simultaneously when the system is docked. You can toggle through the display options by using the **Fn + F7** key combination (make sure any attached displays are powered on).

1. The notebook's LCD panel
2. An external display attached to the notebook's HDMI port.
3. An external display attached to the docking station's external monitor (VGA) port.
4. An external display attached to the docking station's DVI-D port.
5. An external display attached to the docking station's HDMI port.

BIOS Controls - USB ports, Card Reader, Smart Card & ExpressCard

Note that power to the notebook computer's **USB ports, Card Reader, Smart Card** and **ExpressCard** may be enabled/disabled in the notebook computer's BIOS settings (see the BIOS guide in **Chapter 5** of the notebook's user manual). The **USB 3.0 Power** item and **Powered USB 2.0 Port Power** settings in the BIOS will also affect the power supplied to the docking station's 4 * USB 3.0 ports and 3 * USB ports respectively.

The notebook's **Card Reader, Smart Card** and **ExpressCard** will continue to function when the system is docked as long as they are not disabled in the BIOS.

One Button Hard Disk Backup

When the system is docked you can press the **Hard Disk Backup Button** (1 *Figure E - 14*) to launch the **Windows Recovery** (see overleaf) application. If you do not have a hard disk installed in the docking station you can set the **Windows File History** application to backup to any attached hard disk, CD/DVD or non system partition of your computer.



Docking Station - HDD Support

The docking station's SATA port only supports HDDs with a **SATAII (or lower) interface**.



Figure E - 14 - Front View (HDD Backup Button)

Backup Procedure

You can choose to backup individual files and folders or alternatively create a System Image Backup.

1. Press the hard disk backup button.
2. **Windows Recovery** control Panel.
3. Click **File History**.
4. If you are on the first run of the program click **Turn On**.

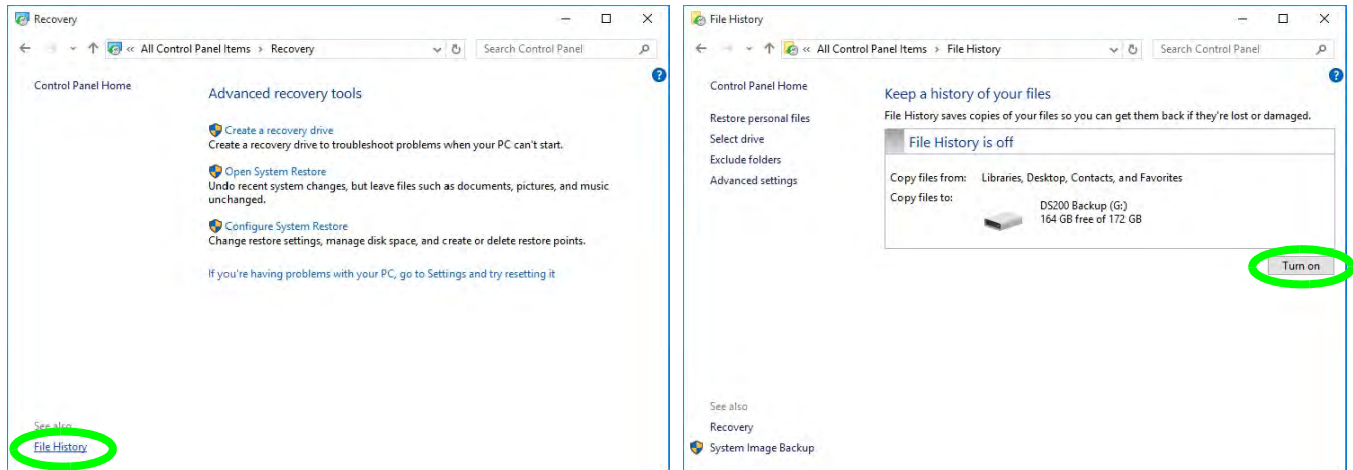


Figure E - 15 - Windows File History (Turn On)

Docking Station Guide

5. You can click **Select drive** to (you can also choose to backup to a **network location**).
6. Click **OK**.

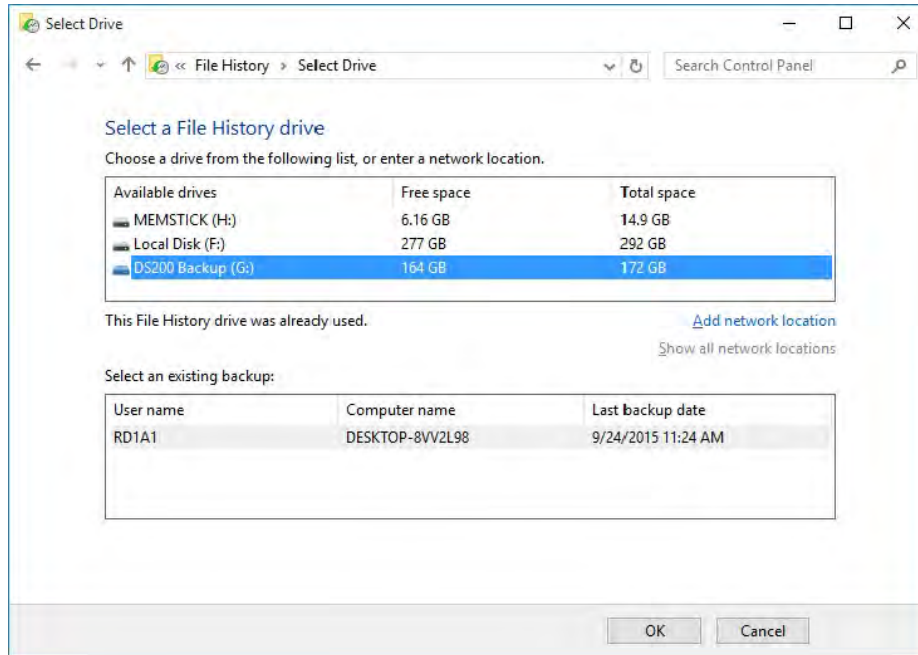


Figure E - 16 - Select Drive

System Image Backup

Follow the instructions on these pages to perform a full system image backup (if you want to backup individual files and folders see *Figure on page E - 31*).

1. Click **System Image Backup** from the **File History** control panel.
2. Click **Create a system image** from the Backup and Restore window.
3. Click to select where you would like to save the backup (e.g the drive installed on the docking station) and click **Next**.

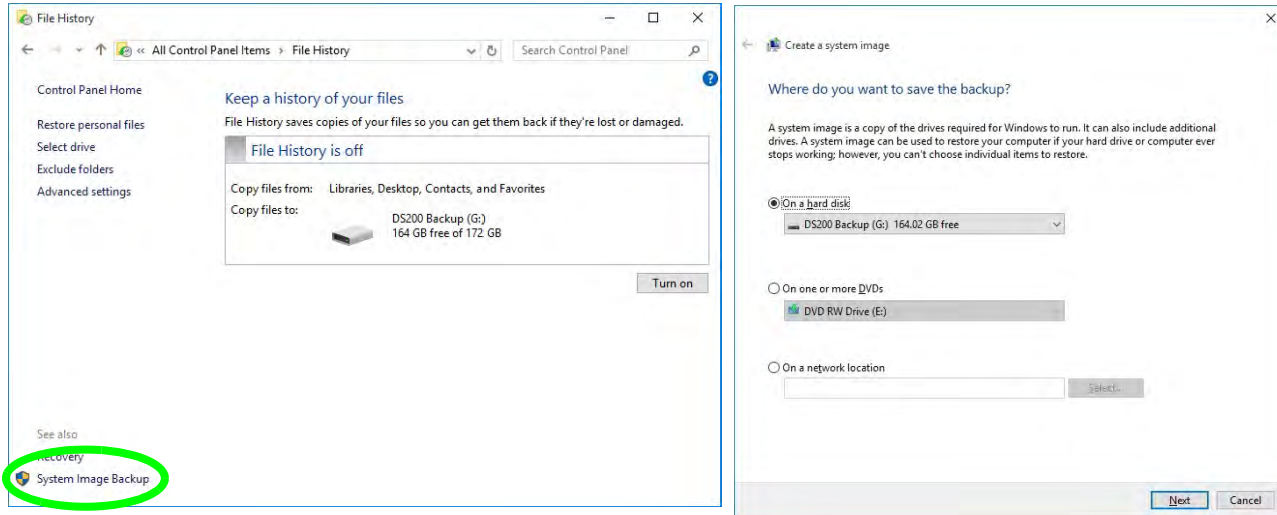


Figure E - 17 - System Image Backup

Docking Station Guide

4. Select the drives you want to include in the backup and click **Next**.
5. Click **Start backup**.
6. Windows will then save the backup (this may take some time).

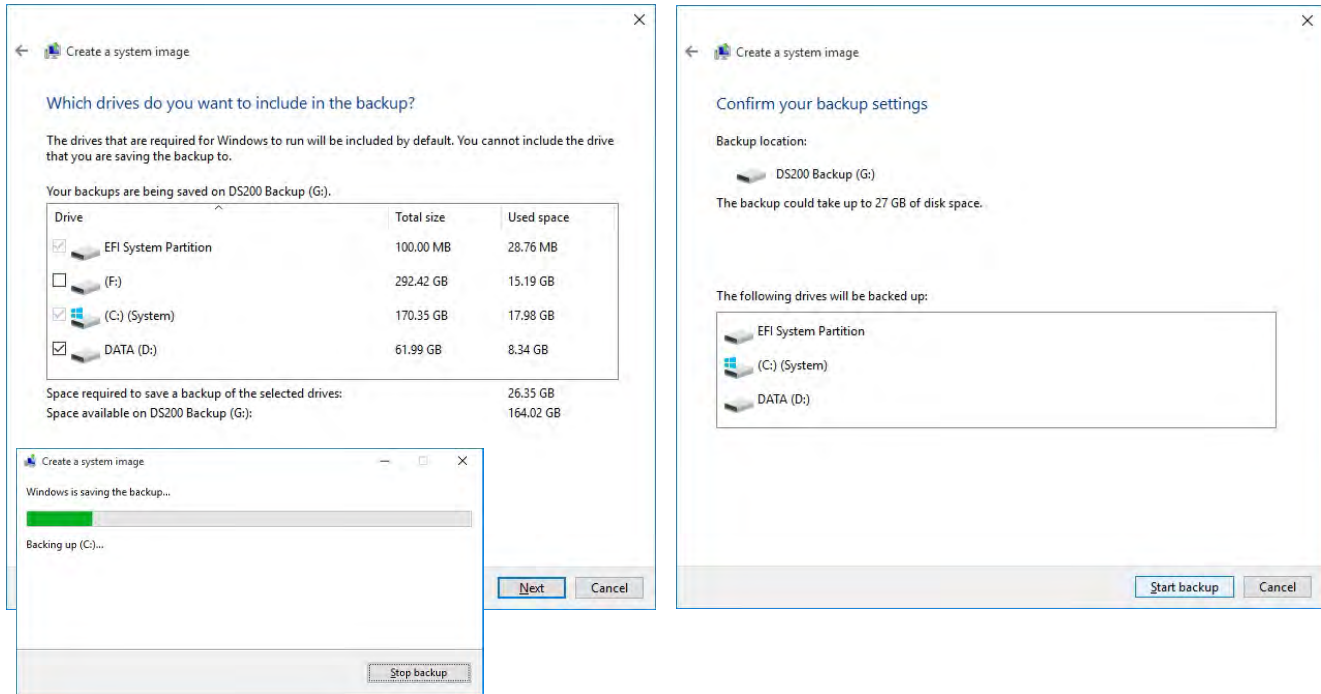


Figure E - 18 - Select Drives and Confirm

System Image Recovery

You can recover your backed up system image by using **Update and Security** application in **Settings**.

1. Click the **Settings** item in the **Start Menu**.
2. Click **Update & security** and click **Recovery**.
3. Click **Restart Now** under **Advanced startup** and the computer will restart to begin the recovery process.

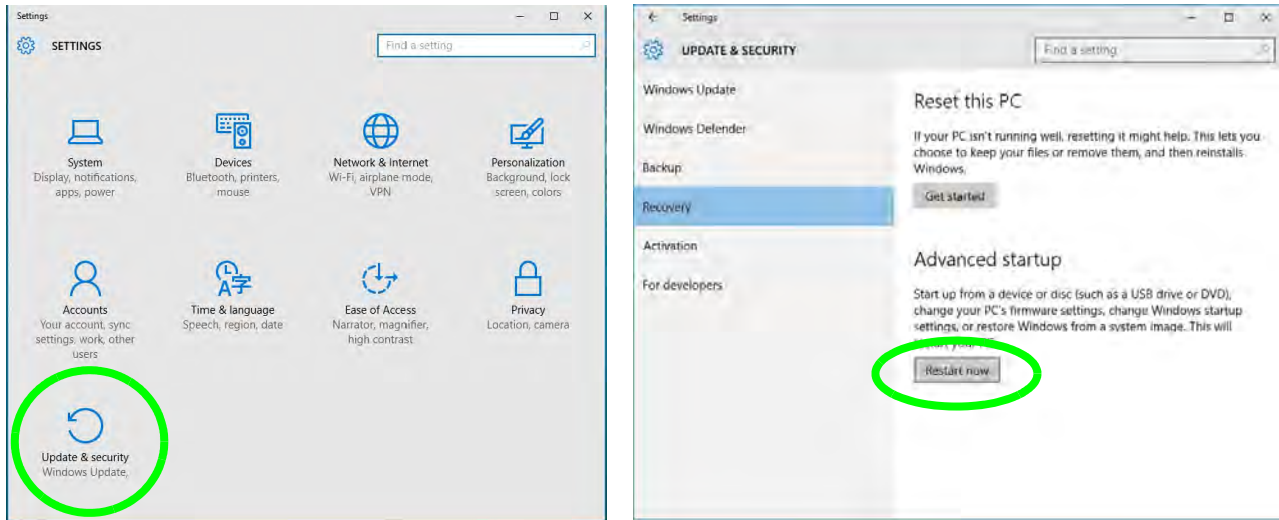


Figure E - 19 - Settings - Update and Security (Recovery)

4. Click **Troubleshoot** and then click **Advanced Options**.

Docking Station Guide

5. Click **System Image Recovery**.

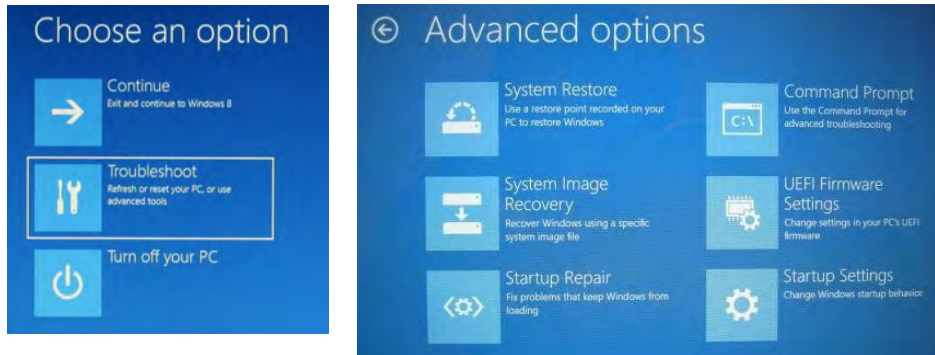


Figure E - 20 - Troubleshoot / advanced Options

6. The system will the prepare to recover the system image.
7. You will be asked to select your account by clicking on the account name.
8. Input the system password when prompted and click **Continue**.
9. The system will then re-image the computer.
10. You should then either choose to **Use the latest available system image (recommended)** if required, or browse to the image stored on the docking station by clicking in **Select a system image** and clicking **Next** to go to the image of the backup required.
11. Click to select the location of the backup and click **Next**.
12. Click to select the available backup and click **Next**.
13. You can then choose any additional restore options required, and then click **Next**.
14. Click **Finish > Yes** to start restoring the data (this may take some time).
15. Click **Restart Now** to complete the procedure.

File History Backup

1. You can click **Select drive** to select a drive to backup the **libraries, desktop, contacts and favorites** (see below) to by clicking select drive (you can also choose to backup to a **network location**).



Windows File History Backup

Windows File History does not allow the creation of full system images, and does not allow you to back up everything on the hard disk drive.

Windows File History allows you to backup files in **libraries, desktop files, contacts and favorites**. You can add folders to libraries to include in a backup, and you can exclude certain library files from being backed up, but **you cannot include files from outside the libraries or desktop**.

This is designed to work more efficiently, and to be less cumbersome, in protecting a user's essential personal files and not the system files, OS and applications which can easily be reinstalled.

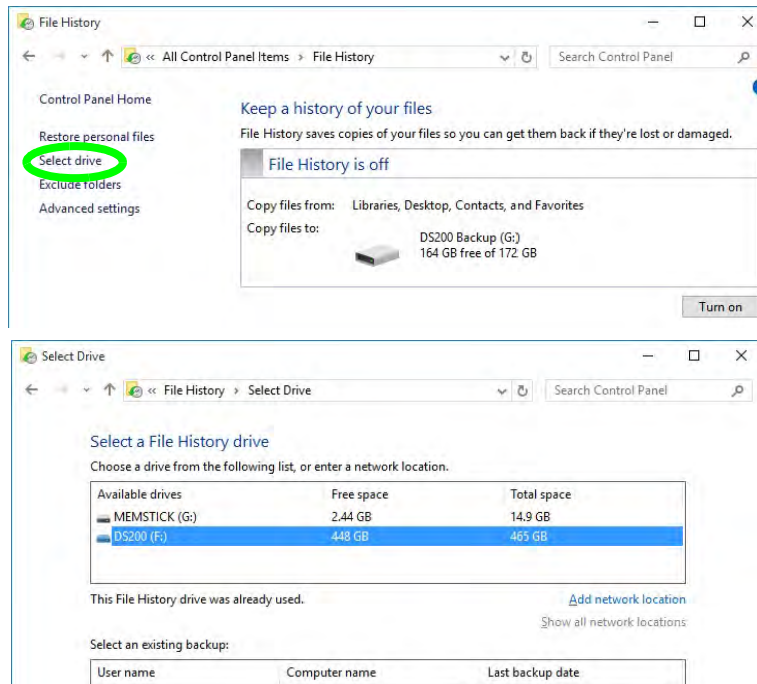


Figure E - 21 - Select Drive (Backup Location)

Docking Station Guide

2. Click **Exclude folders** and then click **Add** to select any folders you do not want to back up as part of the process, then click **Save changes** to confirm.

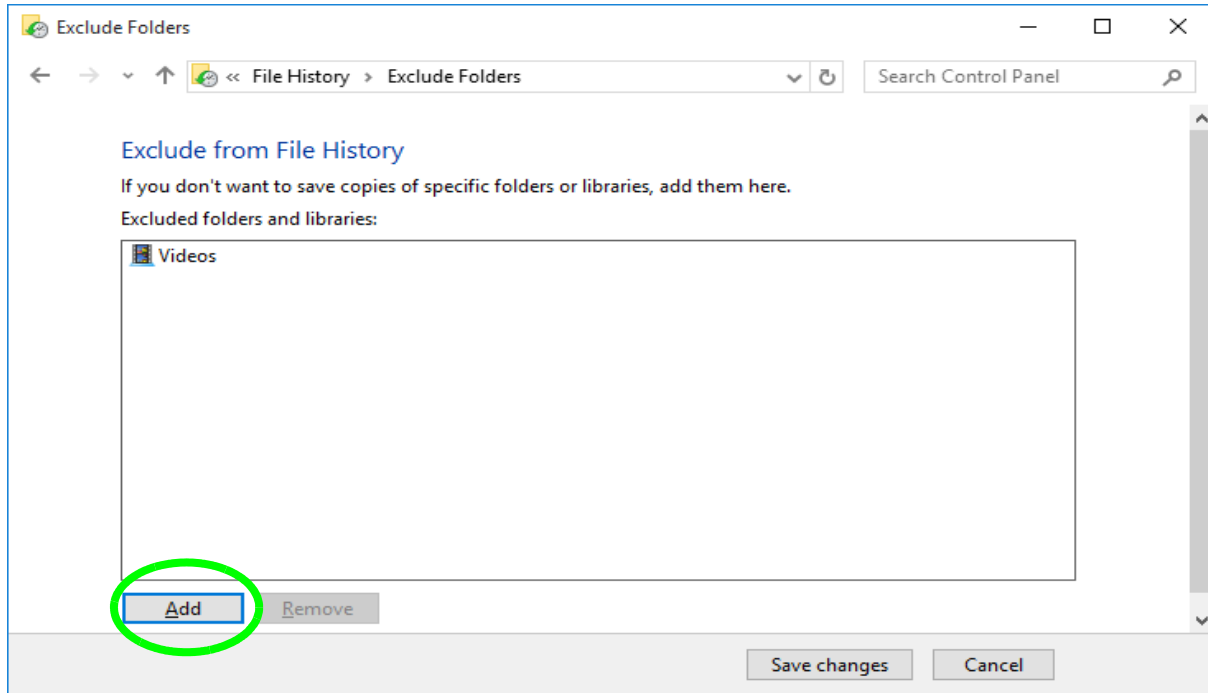


Figure E - 22 - Exclude Folders

3. Click **Advanced settings**, make any changes required and click **Save Changes**:
 - **Save copies of files:** Set the interval of the backup (in **Windows 10** the default is a continuous backup that takes a snapshot of the files every hour).
 - **Keep saved versions:** Set how long saved versions are to be kept for.
 - **Create or join a homegroup:** You can advertise your backup drive as a backup drive for your homegroup to allow all **Windows** computers in your homegroup to back up files to this centralized backup location.

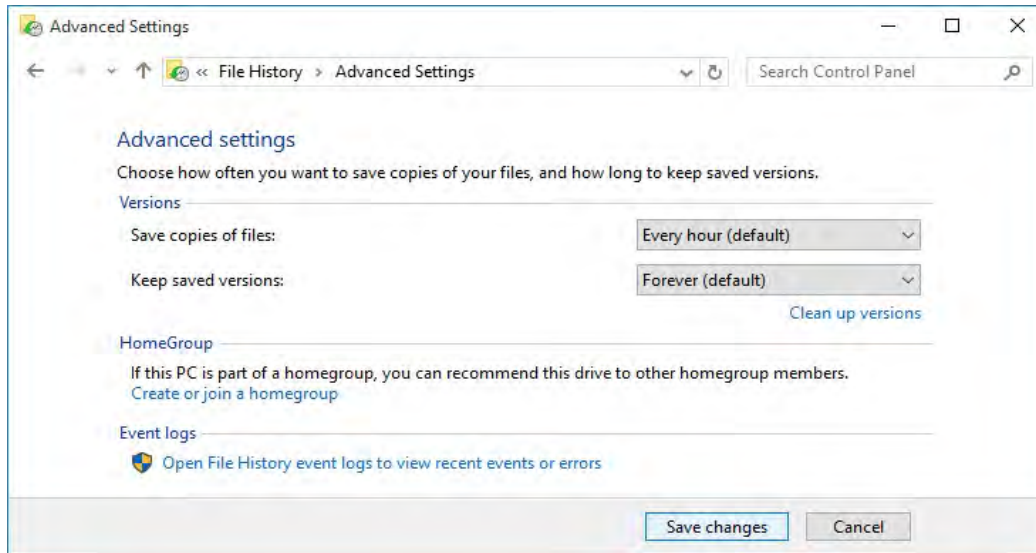


Figure E - 23 - Advanced Settings

Docking Station Guide

- Click **Run now** to begin the backup process (you can click **Stop** at any time if you need to cancel the backup process).

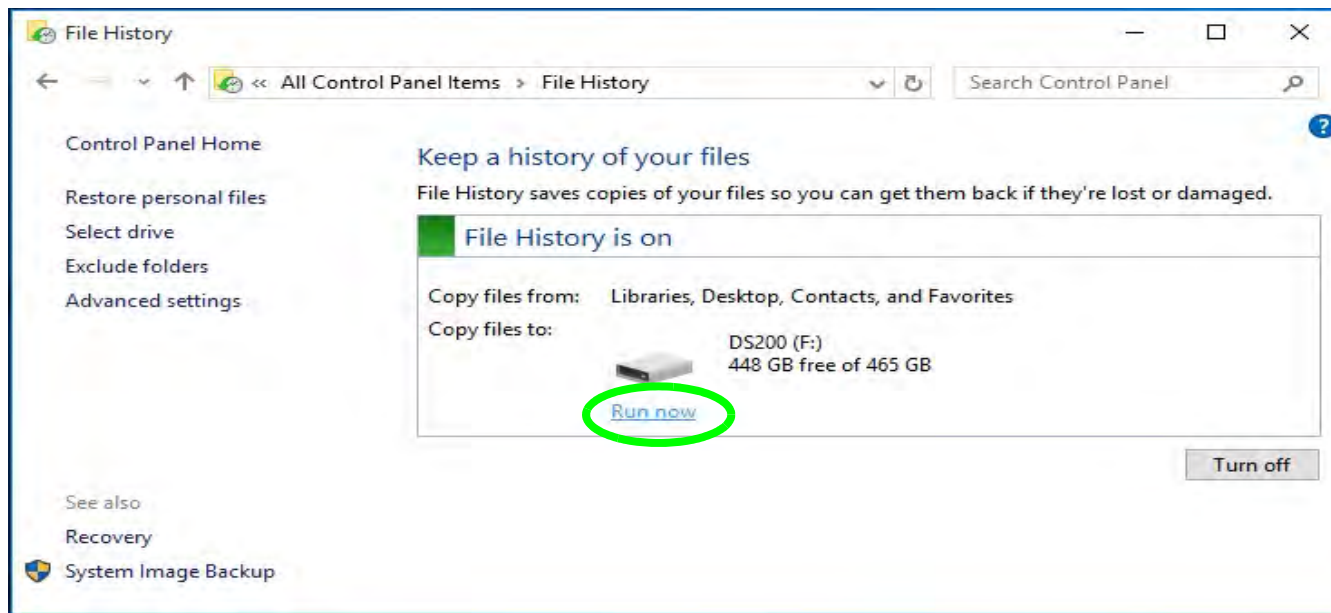


Figure E - 24 - Run Now

Restoring Files from File History Backup

1. Press the hard disk backup button.
2. **Windows File History** application will be launched.
3. Click "**Restore personal files**".

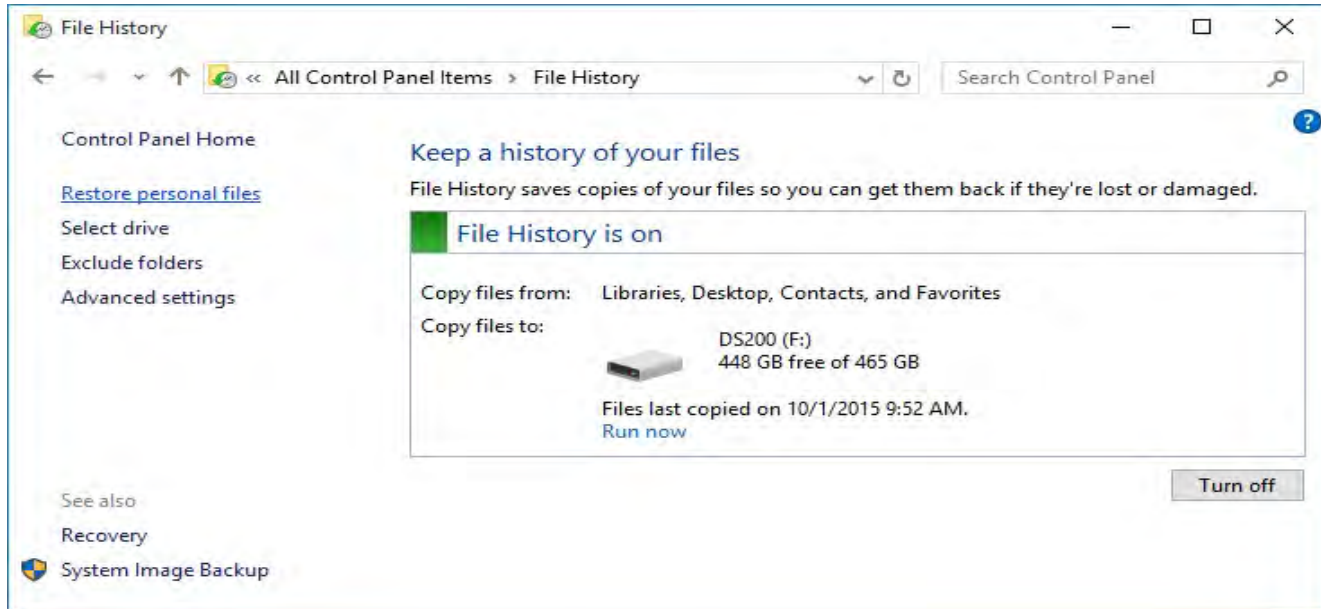




Figure E - 25 - Restore Personal Files

Docking Station Guide

4. The most recent backup will appear in the **Home - File History** window (you can **click the arrows** to scroll through the different backup date files if they are retained).
5. Click the button  to restore the whole backup to the original location (you can select individual files or shift-click or Ctrl-click to select multiple files and then click the button .

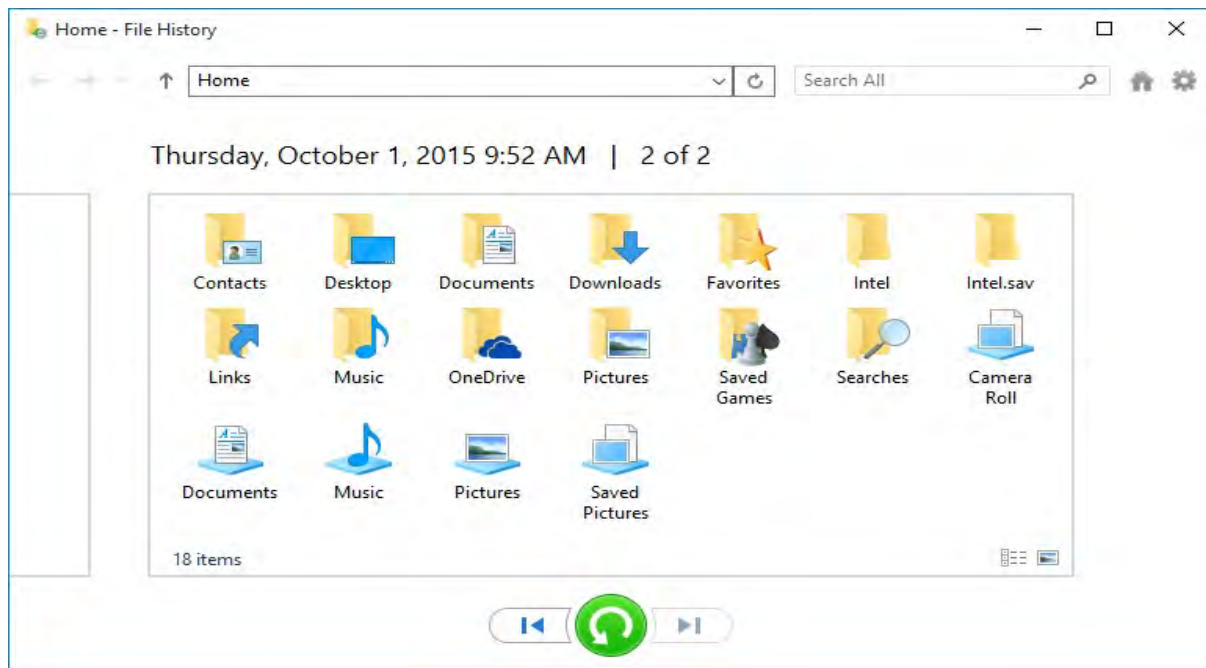


Figure E - 26 - Home File History

6. If the files are being restored to their original location then you will be asked if you want to replace files, skip files or decide for each file.
7. You can decide which file to keep, or select both to add a file with a number added as a suffix.

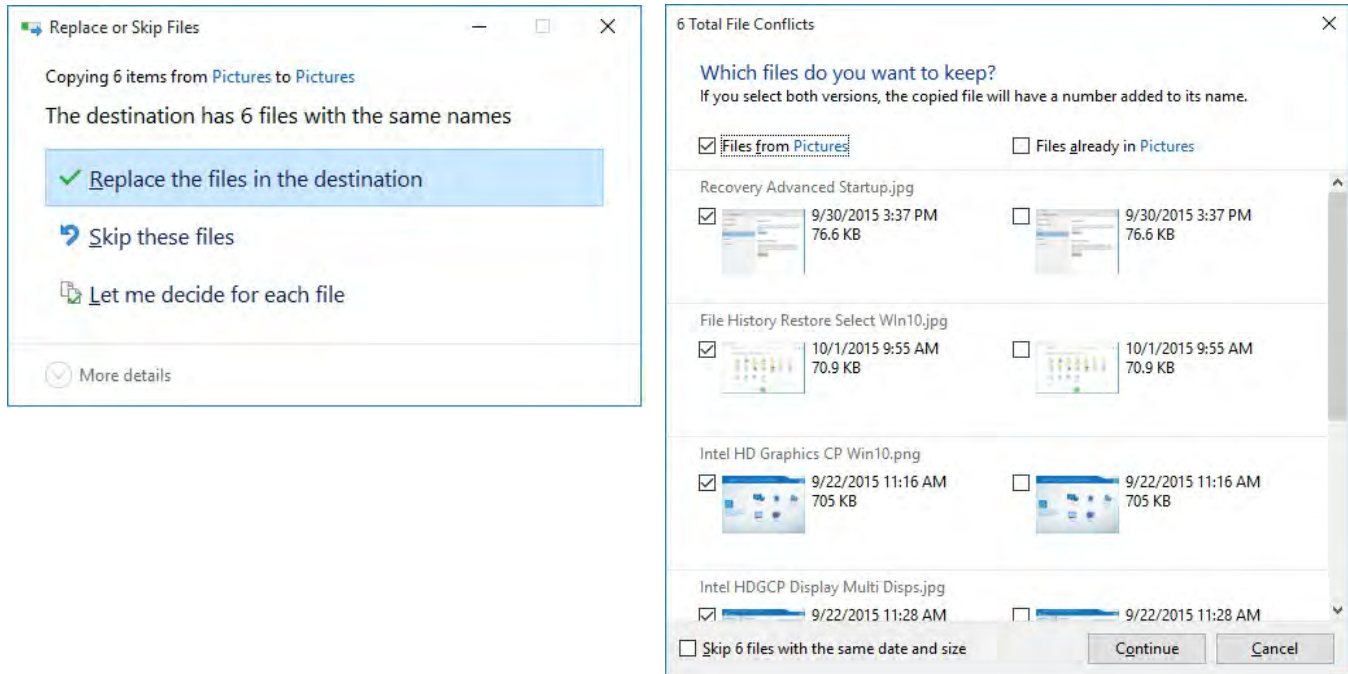


Figure E - 27 - Replace or Skip Files/File Conflicts

Specifications

Storage

One Changeable 12.7mm(H) Super Multi ODD / Blu-ray Combo ODD or 2.5" / 9.5 mm(H) HDD Caddy with SATA (Serial) Interface (**Factory Option**)

Interface and Ports

Three USB 2.0 Ports
 Four USB 3.0 Ports (including 1 * powered USB port)
 One External Monitor Port
 One DVI-D Out Port
 One HDMI™ Out Port (with HDCP)
 One Headphone-Out Jack
 One Microphone-In Jack
 One S/PDIF-Out Jack
 One RJ-45 LAN Jack
 One RS232 (Serial) COM Port
 One Docking Port (Hot Plug)
 One DC-In Jack

Buttons & Switches

Power Button, Notebook Eject Latch, Docking Lock Switch & HDD Backup Button

Power

Full Range AC/DC **65W** Adapter
 AC input 100 - 240V, 50 - 60Hz, DC Output 19V, 3.4A

Security

Security (Kensington® Type) Lock Slot

LED Indicators

Adapter Power/System
 System Operation Indicator

Environmental Spec

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

Dimensions & Weight

380mm (w) * 206mm (d) * 33mm (h)
 0.85kg