



**POWERSPEC**

1710

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# Instructions for Care and Operation

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

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

## Power & Battery Safety

- Only use an AC/DC adapter approved for use with this computer.
- Use only the power cord and batteries indicated in this manual.
- 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.
- 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.
- Make sure that your computer is completely powered off before putting it into a travel bag (or any such container).
- Only use batteries designed for this computer. The wrong battery type may explode, leak or damage the computer.
- Do not continue to use a battery that has been dropped, or that appears damaged (e.g. bent or twisted) in any way. Even if the computer continues to work with a damaged battery in place, it may cause circuit damage, which may possibly result in fire.
- Recharge the batteries using the computer'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 dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
- Do not touch the battery contacts with your hands or metal objects.

## Polymer Battery Precautions

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

- 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.



### 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.

### CPU Speed & Computer in DC Mode

Note that when the computer is in DC mode (powered by the battery only) the CPU may not run at full speed. This is a design feature implemented in order to protect the battery.

## Cleaning

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

## Servicing

Attempting to service the computer yourself may violate your warranty and expose you and the computer to electric shock. Refer all servicing to qualified service personnel, particularly 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 any liquids.
- If the computer does not work normally when you follow the operating instructions.
- If the computer has been dropped or damaged (do not touch the poisonous liquid if the LCD panel breaks).
- If there is an unusual odor, heat or smoke coming from your computer.

# System Startup

1. Remove all packing materials.
2. Place the computer on a stable surface.
3. Do not attach any external devices except the power cord and AC adapter to the system until Windows is fully configured..
4. **When first setting up the computer use the following procedure** (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 and initially set up as below):
  - Attach the AC/DC adapter cord 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 and **leave it there for 6 seconds or longer**.
  - Remove the adapter cord from the computer's DC-In jack, and then plug it back in again; the battery will now be unlocked.
5. Use one hand to raise the lid/LCD to a comfortable viewing angle (do not to exceed **135** degrees); use the other hand (as illustrated in **Figure 1**) to support the base of the computer (**Note: Never** lift the computer by the lid/LCD).
6. Press the power button to turn the computer "on".





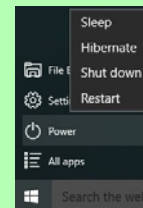
*Figure 1*  
**Opening the Lid/  
LCD/Computer  
with AC/DC Adapt-  
er Plugged-In**



## Shut Down

Note that you should always shut your computer down by choosing the **Shut down** command in **Windows** (see below). This will help prevent hard disk or system problems.

1. Click the Start Menu icon .
2. Click the **Power** item .
3. Choose **Shut Down** from the menu.



# System Map: Front View with LCD Panel Open



*Figure 2*  
**Front View with LCD Panel  
Open**

1. PC Camera
2. \*PC Camera LED  
*\*When the PC camera is in use, the LED will be illuminated.*
3. Built-In Array Microphone
4. LCD
5. Speakers
6. Power Button
7. Keyboard
8. Touchpad & Buttons

# LED Indicators

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










Icon	Color	Description
		
	Off	MSHYBRID Mode
	Green	DISCRETE Mode
	Green	Scroll Lock Activated
	Green	Caps Lock Activated
	Green	Number Lock (Numeric Keypad) Activated
	Green	<b>Airplane Mode is ON</b> (the WLAN and Bluetooth Modules are OFF)
	Green	The Hard Disk is in use
	Orange	The Battery is Charging
	Green	The Battery is Fully Charged
	Blinking Orange	The Battery Has Reached Critically Low Power Status
	Orange	The AC/DC Adapter is Plugged In
	Blinking Orange*	The AC/DC adapter is plugged in and the powered USB Port is on*
	Green	The Computer is On
	Blinking Green	The Computer is in Sleep Mode

Table 1 - LED Indicators

\*The powered USB 3.0 (USB 3.1 Gen 1) port (see [page 9](#)) 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 - see [page 26](#)).



## Wireless Device Operation Aboard Aircraft

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

Make sure the wireless modules are OFF if you are using the computer aboard aircraft by putting the system in to Airplane Mode.

# Keyboard & Function Keys

The keyboard includes a numeric keypad for easy numeric data input. Pressing NumLk turns on/off the numeric keypad. It also features function keys to allow you to change operational features instantly. The function keys (**F1 - F12** etc.) will act as hot keys when pressed while the Fn key is held down. In addition to the basic function key combinations, some visual indicators are available when the Control Center driver is installed.

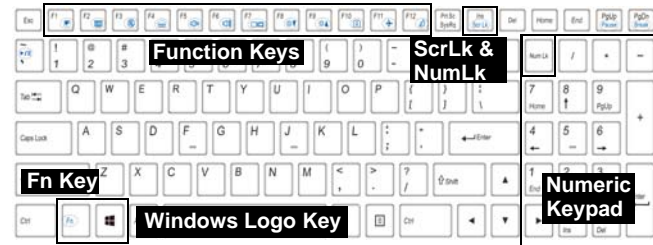




Figure 3 - Keyboard

Keys	Function/Visual Indicators		Keys	Function/Visual Indicators	
Fn +	Play/Pause (in Audio/Video Programs)		Fn +	Sleep Toggle	
Fn +	Touchpad Toggle		Num Lk	Number Lock Toggle	
Fn +	Turn LCD Backlight Off (Press a key to or use Touchpad to turn on)		Fn +	Scroll Lock Toggle	
Fn +	Mute Toggle		Caps Lock	Caps Lock Toggle	
Fn +	Volume Decrease/Increase		Fn + Power Button	Powered USB Port Power Toggle (see <a href="#">page 9</a> )	
Fn +	Change Display Configuration (see <a href="#">page 21</a> )		Fn +	Control Center Toggle (see <a href="#">page 11</a> )	
Fn +	Brightness Decrease/Increase		Fn +	Fan Automatic Control/Full Power	
Fn +	PC Camera Power Toggle		<b>*Note:</b> It is recommended that you use <b>Maximum</b> fan speed when playing games.		
Fn +	Airplane Mode Toggle		Fn +	Disable/Enable Flexikey® (see <a href="#">page 15</a> )	

Table 2 - Function Keys & Visual Indicators



# Colored Keyboard Backlight LED

Press **Fn** plus the  key to toggle the keyboard LED on/off. The keyboard LED may be configured using the **Fn + key combination** outlined in the table below. In addition press **Fn** plus the  key to launch the keyboard backlight application to configure the settings.








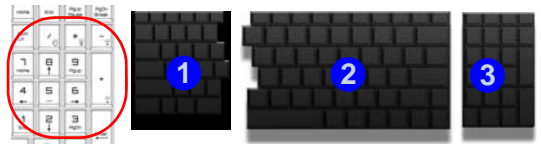
Keyboard LED Function key Combinations	
Fn + 	Launch the Keyboard Backlight Application
Fn + 	Toggle the Keyboard LED On/Off
Fn + 	Keyboard LED Illumination Decrease
Fn + 	Keyboard LED Illumination Increase
Fn + 	1 Toggle the Left keyboard LED On/Off
Fn + 	2 Toggle the Middle keyboard LED On/Off
Fn + 	3 Toggle the Right keyboard LED On/Off
	

Table 3 - Keyboard LEDs

# Keyboard Backlight Application


The **Keyboard Backlight application** can be accessed by pressing the **Fn** plus  key.

Figure 4  
Keyboard  
Backlight  
Application



## Modes

The buttons surrounding the swatch allow you to alter the effects of the keyboard backlight. Click on any of the buttons to view the effects on the keyboard. Click **Save** when exiting the application to retain the setting.









Mode Buttons			
	Random Color		Wave Up/Down
	Custom - Display & Configure Keyboard Sections & Colors		Dancing Effect
	Breathe (All Colors)		Tempo Beat
	Cycle Colors		Flashing

Table 4 - Mode Buttons

## Brightness

Click on any of the numbers (0 - 3) on the brightness bar to set the brightness level of the keyboard backlight.

## Color Swatch

The color swatch in the top right of the screen allows you to select a range of colors for your keyboard backlight by clicking on the color required. You can choose to display the swatch either in **Full Color** or as an **256 Color Scheme**. Click the **Custom** mode button to select any colors from the swatch and to apply your chosen colors to parts of the keyboard.

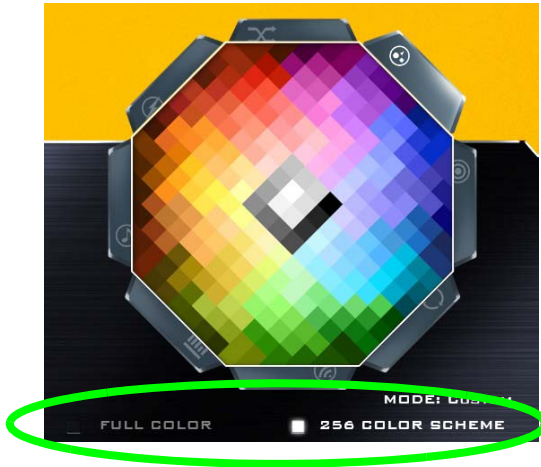


Figure 5 - Color Swatch

## Preview

The bottom left section of the application allows you to preview setting changes made to colors on the keyboard.



Figure 6  
Preview

## Keyboard Sections

The bottom right section of the application allows you to select partial areas, or all, of the keyboard on which to apply the color changes and effects.



Figure 7  
Keyboard  
Sections

## Sets

The application allows you to save up to 3 sets of color and effect combinations. Click **Save** when exiting the application to retain the settings.

## Save & Exit

Click **Exit** to quit the application without saving, or **Save** to exit and retain the settings.

# System Map: Front, Rear, Right & Bottom Views



*Figure 8*

## Front, Rear, Right & Bottom Views

1. LED Indicators
2. Vent
3. Headphone-Out Jack
4. Microphone-In Jack
5. 2- In-1 Audio Jack (Line-Out & S/PDIF-Out Combo Jack)
6. Multi-in-1 Card Reader
7. USB 3.0 (USB 3.1 Gen 1) Port
8. \*Powered USB 3.0 (USB 3.1 Gen 1) Port  
\*Toggle power to this port by using **Fn + Power Button** (see [Table 1 on page 5](#)).
9. RJ-45 LAN Jack
10. Security Lock Slot
11. Sub Woofer



## Overheating

To prevent your computer from overheating make sure nothing blocks any vent while the computer is in use.

## 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 etc., for any reason, please contact your distributor/supplier for further information.

# System Map: Left View



## Thunderbolt Port for Display

The display configuration for the Thunderbolt port and Mini DisplayPorts can be set up in the BIOS (*Advanced menu > Advanced Chipset Control > DDI Control*). Restart your notebook computer and press **F2** to enter the BIOS.

The table below outlines which ports will be enabled/disabled when the Thunderbolt port is set for display only.

Setting	DDI to mDP (Default Setting)	DDI to TBT
Thunderbolt 3 Port ⑥	Disabled	Enabled
Mini DisplayPort #1 ④	Enabled	Disabled
Mini DisplayPort #2 ⑤	Enabled	Enabled

Figure 9 - Left View

1. Vent
2. DC-In Jack
3. HDMI-Out Port
4. Mini DisplayPort 1
5. Mini DisplayPort 2
6. Thunderbolt 3 Port
7. USB 3.0 (USB 3.1 Gen 1) Ports



### Thunderbolt Devices

When plugging a device into a Thunderbolt port allow 30 seconds for the system to scan and recognize the connected device.

### Ejecting Thunderbolt Devices

In order to prevent system problems make sure you do not simply pull the cable out from the Thunderbolt port. The hardware must be ejected safely:

1. Go to the notification area of the taskbar and click on the **Safely Remove Hardware and Eject Media** icon.
2. Click on Eject "*Thunderbolt Device Name*".
3. When you see the "**Safe to Remove Hardware**" message **you can remove the cable after about 20 seconds**, to make sure that it is safe to eject the device.

# Control Center


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/Touchpad on/off.



Figure 10 - 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.

## Control Center Menus

The **Control Center** contains 3 menu headings (**System Program**, **Device** and **Gaming**) under the Power Modes. 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. Click the menu headings and then click any of the buttons.

## Power Status

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.

## Brightness

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). Note that screen brightness is also effected by the **Power Mode** selected.

## Volume

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.

## Power Conservation

This system supports **Energy Star** power management features that place computers (CPU, hard drive, etc.) into a low-power sleep mode after a designated period of inactivity. Click either the **Performance**, **Balanced** or **Power Saving** button.



## Fan Speed

You can set the fan speed to **Maximum (full power)**, **Automatic**, **Custom** or **Overclock** 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.

**Overclock** will be selected automatically if you have enabled CPU or GPU overclocking (in this case do not change the setting).

## Sleep Button

Click either the **Hibernate** or **Sleep** button to have the computer enter the selected power-saving mode.

## Display Switch

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

## Time Zone



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

## Desktop Background



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

## Touchpad/PC Camera



Click either of these buttons to toggle the Touchpad or camera module's power status. Note that the power status of the camera module is also effected by the **Power Mode** selected.

## Left Windows Key



Click **Disable** to disable the Windows Logo Key on the left side of the keyboard. This may be useful if you are using the gaming keys (**W, A, S & D**) and wish to avoid accidentally triggering menus with the Windows Logo Key.

## Headphone



The headphones may be set for different effects using this menu.

## GPU Switch



Select if the system uses either **Microsoft Hybrid Graphics Mode (MSHYBRID)** or **Discrete Graphics Mode (DISCRETE)**. **MSHYBRID** is selected by default. After selecting **MSHYBRID**, the computer's operating system (and some applications) will **automatically switch** between the integrated GPU and the discrete GPU when required by the applications in use. Selecting **DISCRETE graphics** will force the system to use the dedicated Graphics Processing Unit (GPU). After any changes in the setting you will be required to confirm a system restart.

## Enter Sleep Timer



Enable and then select the amount of time for which the system is idle before the keyboard LED enters sleep mode (i.e. the LED keyboard illumination will turn off to save power).

## Flexikey®



Click the button to access the **Flexikey®** application.

# GPU Overclocking

You can access the **GPU Overclock** utility from the Control Center or taskbar notification area.

Click the GPU Overclock button to access the Graphics Processing Unit (or GPU) overclocking menu. Overclocking the GPU involves running your GPU at a faster speed than was originally intended. GPU overclocking is useful when performing intensive graphic tasks such as 3D rendering and gaming without dropping framerates.



Figure 11  
Gaming with GPU Overclock



## GPU Overclocking Issues

If you get any system errors, **to reset the computer press and hold the power button to force the system to shut-down. To restart press and hold the power button while holding down the Fn + G keys.** This will change the overclocking settings back to **the disabled state.**

**Overclocking should only be enabled when powered by a plugged-in AC/DC adapter, and not on battery power. The Fan Speed will also automatically be set to Overclock (do not adjust this fan speed setting if you have enabled GPU overclocking).**

1. Click **On** to enable GPU overclocking.
2. Use the sliders to adjust the settings for **Core Increment**, **Memory Increment** and **Fan Speed Offset**.
3. Click **Save** to retain the setting changes, and then click **OK** when the system warning message appears, or **Cancel** to return to the utility.
4. Clicking **Off** will return to the standard default settings.



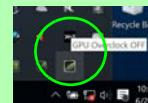
## Warning Message

The message highlights the fact that while overclocking the GPU offers a boost to graphics performance, it can cause system instability in certain circumstances as the harder you push the processor, the more power you will need to supply to it, and the hotter the system will run. Therefore it is not recommended that you enable GPU overclocking for extended periods, only as and when specifically required.



## GPU Overclocking Off Using the Taskbar Icon



Move the cursor over the GPU Overclock icon in the taskbar, and right-click it and select Turn off GPU overclocking.





# Flexikey® Application


The **Flexikey®** application is a quick hotkey configuration application, which allows you to **assign a single key to launch multiple key combinations**, or to **launch programs and applications**, to **create text macros** and to **disable** certain keys. The application can also be used to **configure the mouse buttons** to create hotkeys for gaming etc. All the configuration settings are retained under (up to 12) **profiles** to which the settings are applied.

The **Flexikey®** application can be accessed by clicking the button  in the **Gaming** section of the **Control Center** or by clicking the icon  in the notification area of the desktop taskbar.



## Enabling or Disabling the Flexikey® Profile in Use



You can enable or disable any keyboard or mouse profile functions currently in use by using the **Fn + ** key combination. Pressing this key combination will toggle you between the currently selected keyboard or mouse profile to the standard keyboard and/or mouse settings, and back again.

## Windows Logo Key and P key

Note that you can assign actions to any keyboard key except the **Windows Logo Key ** and **P key**.

## Profiles

The menus on the left side of the application relate to Profiles. You can **Add** or **Delete** profiles (**you can maintain 12 active Profiles**), **Export** and **Import** profiles from the menus. If you double-click on a profile you can change the **Profile Name**, and change an **Image** file (images created using PNG files).



Figure 12  
Flexikey®  
Application

## Keyboard and Mouse Settings

Click **Enable** to create settings for the keyboard and/or mouse by clicking the button on the top left of the screen (e.g. you may wish to create a profile with settings only for the mouse or keyboard). Clicking on the keyboard or mouse icons will allow you to access the settings page for either the keyboard or mouse.

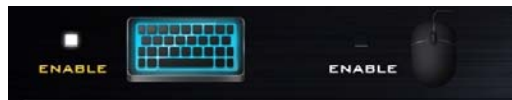


Figure 13 - Enable (Keyboard & Mouse)

## Keyboard Settings

The keyboard settings allow you to configure actions for any single key (or a combination of keys). Click the key and then select the **Action Type** (**Express Key**, **Launch App**, **Express Text** or **Disable**) from the menu at the bottom of the page. You can rename the action by clicking in the **Name** box, and click in **Tool Tips** to type in a note to remind you of the action's function.



Figure 14 - Keyboard Configuration

## Mouse Settings

The mouse settings allow you to configure actions for the left ①, right ② and middle ③ buttons of any attached mouse, and also for any backward ④ and forward ⑤ buttons if applicable (on a gaming type mouse). Click the button number and then select the **Action Type** (**Express Key**, **Launch App**, **Express Text** or **Disable**) from the menu at the bottom of the page. You can rename the action

by clicking in the **Name** box, and click in **Tool Tips** to type in a note to remind you of the action's function.

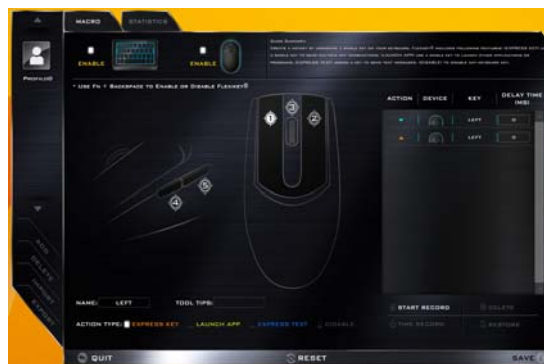


Figure 15 - Mouse Configuration

## Flexikey® Application Features:

- **EXPRESS KEY** - This feature allows you to configure a single key (or mouse click) to send multiple key combinations, or to create more useful shortcut keys. This is useful in gaming or when using applications which have a complex set of keyboard shortcuts.
- **LAUNCH APP** - This simply assigns single keys (or mouse clicks) to launch any program's or application's executable file.
- **EXPRESS TEXT** - With this you can assign single keys (or mouse clicks) to send commonly used strings of text.
- **DISABLE** - Use this function to disable any keyboard keys or mouse buttons.
- **STATISTICS** - Use this to quickly record keys in use in any application, and to disable unused keys.

## Keyboard Settings - Express Key

To configure a single key to send multiple key combinations, or to create more useful shortcut keys, use **Express Key**.

1. **Enable** and select the keyboard under your chosen profile, click on a key to select it, and then click to select **Express Key** in **Action Type**.
2. In the following example we want to change an existing game key configuration which uses the **left shift** key for sprinting, and the **W** key for moving forwards, to use the **left Ctrl** key to combine this movement to sprint forward.
3. Click on the chosen key for the shortcut action.
4. Click in the **Tool Tips** field and type to give the key combination a name e.g. “*Sprint Fwds*”, then click back in the **Name** field (to avoid adding the recorded keys to the Tool Tips name).
5. Click **Start Record** and then **press** the key or keys (in this case we will **press** Left Shift and W) required (make sure you **press the key(s) required** and do not click on them).
6. Click **Stop Record** to complete the process.



Figure 16 - Keyboard - Express Key

7. Click **Save** to save the settings within your chosen profile.
8. If you want to remove any individual key click to select it, and then click **Delete**.

9. If you want to clear all the settings click **Restore** to return to the default key setting.
10. Any assigned **Express Keys** will appear in **orange**.

## Keyboard Settings - Launch App

You can configure keys to launch any application or program as follows:

1. **Enable** and select the keyboard under your chosen profile, click to select a key to launch the application, and then click to select **Launch App** in **Action Type**.
2. Click **Browse...** at the bottom right of the application window.



Figure 17 - Keyboard - Launch App

3. Navigate to the executable file of the application and click **Open**.
4. The key will now be configured to open the selected application under your chosen Profile, and the key will appear in **green**.
5. If you want to remove any **Launch App** key, select it and click on **Restore**.
6. Click **Save** to save the settings within your chosen profile.

## Keyboard Settings - Express Text

A single key can be set to send a string of text within any application using **Express Text**.

1. **Enable** and select the keyboard under your chosen profile, click to select a key, and then click to select **Express Text** in **Action Type**.
2. Click in **Start** key if required (the **Start** key is the key used in your target program to open a text message), or you can leave it blank if you prefer.
3. Click in the **Click to type** field and type in your message.



Figure 18 - Keyboard - Express Text

4. Click in **Send** key if required (the **Send** key is the key used in your target program to send a text message e.g the Enter key would be the most commonly used), or you can leave it blank if you prefer.
5. The key will now be configured to send the text message in the target program under your chosen Profile, and the key will appear in **blue**.
6. If you want to remove any **Express Text** key, select it and click on **Restore**.
7. Click **Save** to save the settings within your chosen profile.

## Keyboard Settings - Disable

You can use the program to disable any keys not required.

1. **Enable** and select the keyboard under your chosen profile, click to select a key to disable, and then click to select **Disable** in **Action Type**.
2. The key will now be disabled.
3. If you want to enable the key again, select it and click on **Restore**.
4. Click **Save** to save the settings within your chosen profile.
5. The key will be disabled under your chosen Profile, and the key will appear in **gray**.

# Video Features



You can switch display devices, and configure display options, from the **Display** control panel in *Windows* as long as the video drivers are installed.

## Microsoft Hybrid Graphics Or Discrete Graphics Mode

Your computer features a dedicated **Discrete Graphics Mode (DISCRETE)**, and a **Microsoft Hybrid Graphics Mode (MSHYBRID)** featuring switchable graphics technology.

**Microsoft Hybrid Graphics Mode (MSHYBRID)**- This seamless technology is designed to get best performance from the graphics system while allowing longer battery life, without having to manually change settings. The computer's operating system (and some applications) will **automatically switch** between the integrated GPU(iGPU) and the discrete GPU (dGPU) when required by the applications in use. This switch is seamless to the user. **This mode is selected by default.**

**Discrete Graphics Mode (DISCRETE)** - Discrete Graphics Mode will use the dedicated Graphics Processing Unit (GPU) which is more powerful, and therefore more suitable for playing games, watching HD video or running GPU-based applications.

Icon	Color	Graphics Mode	GPU Switch Button (Control Center)
	Off	MSHYBRID Mode	
	Green	DISCRETE Mode	

*You can choose either DISCRETE mode or MSHYBRID mode by selecting the appropriate option from GPU Switch in the Control Center, or in the BIOS. You will need to restart the system after making changes to the selected graphics mode.*


### To access the Display control panel in Windows:

1. Right-click the desktop and select **Display settings** from the menu.
2. Choose the required display settings from the menus.
3. Click **Apply** to save the settings.

### To access the Intel® HD Graphics Control Panel:

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

OR

2. Click the icon  in the notification area of the Desktop taskbar and select **Graphics Properties** from the menu.

### To access the NVIDIA Control Panel:

1. Go to the **Control Panel**.
2. Click **NVIDIA Control Panel** (icon) - in the **Appearances and Personalization** category.

OR

3. Right-click the desktop and select **NVIDIA Control Panel** from the menu.

## G-SYNC

Click to put a check in the box to **Enable G-SYNC** (it is enabled by default). G-SYNC is designed to provide a smooth game play experience from your GeForce product by synchronizing the monitor's refresh cycle to the GPU's render rate, thus removing lag and stutter issues, in order to have objects appear sharper and scenes display instantly.

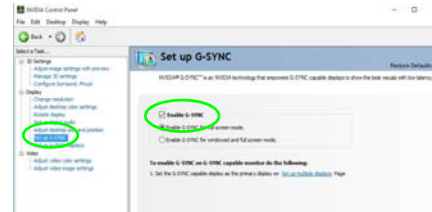


Figure 19  
Set Up G-SYNC



### Setting up G-SYNC

In a multiple display configuration set the G-SYNC capable display as the Primary Display.

In **3D Settings** click **Manage 3D Settings > Global Settings**, select **Vertical sync** and then select **G-SYNC**. Setting G-SYNC in global settings means it will be applied to all games.

### G-SYNC Support

G-SYNC is only supported if you have a G-SYNC capable display and a GTX series video adapter (contact your distributor or supplier for details).

## Display Devices

Note that you can use an HDMI cable connected to the HDMI-Out port and/or Mini DisplayPort compatible cable connected to a Mini DisplayPort 1.3 to connect an external display. You can also use the Thunderbolt port connected to a compatible display device (see [Thunderbolt Port for Display on page 10](#)). See your external display device's manual to see which formats it supports.

## Configuring the Displays in Windows

All external and internal displays (up to 4 active displays) can be configured from *Windows* by using the **Display** or **System** (in **Settings**) control panel or the **Project** menu.

### To configure the displays using the Project menu:

1. Attach your external display(s) to the appropriate port, and turn it(them) on.
2. Press the **Windows** + **P** (or **Fn** + **F7**) key combination.
3. Click on any one of the options from the menu to select **PC screen only**, **Duplicate**, **Extend** or **Second screen only**.

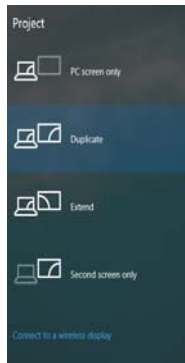


Figure 20  
Project

### To configure the displays using the Display control panel:

1. Attach your external display(s) to the appropriate port, and turn it(them) on.
2. Right-click the desktop and select **Display settings** from the menu.
3. Click the **Detect** button.
4. The computer will then detect any attached displays.
5. You can configure up to 4 displays from the **Multiple Displays** menu.

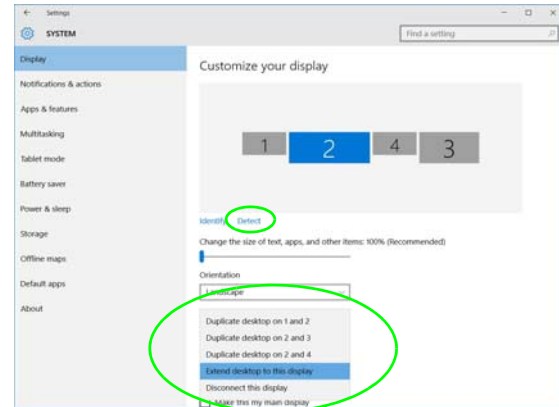





Figure 21 - Display (4 Connected Displays)



### 4 Connected Displays

Note that when 4 displays are connected, only 2 displays may be configured in **Duplicate** mode.

# Audio Features

You can configure the audio options on your computer from the **Sound**  control panel in **Windows**, or from the **Realtek HD Audio Manager**  icon in the notification area/Control panel (right-click the notification area icon  to bring up an audio menu). The volume may also be adjusted by means of the **Fn + F5/F6** key combination or the **Speaker** icon in the taskbar.

## Setup for 5.1 Surround Sound

To setup your system for 5.1 surround sound you will need to connect the audio cables to the Line-Out & S/PDIF-Out Combo jack, Headphone-Out jack and Microphone-In jack.


1. Go to the **Control Panel**.
2. Click **Realtek HD Audio Manager** (or right-click the notification area icon  and select **Sound Manager**).
3. Click **Speakers** (tab) and click **Speaker Configuration** (tab).
4. Select **5.1 Speaker** from the **Speaker Configuration** pull-down menu.





Figure 22  
Speaker  
Configuration

5. Plug in the cables (you may require an adapter to connect each cable to the appropriate jack e.g a stereo mini to dual RCA adapter) from your speakers as follows:
  - Line-Out & S/PDIF-Out Combo Jack = Front Speaker Out
  - Microphone-In Jack = Center/Subwoofer Speaker Out
  - Headphone-Out Jack = Rear Speaker Out
6. As you plug in each cable a dialog box will pop up.
7. Click to put a tick in the appropriate box according to the speaker plugged-in (e.g. Rear Speaker Out), and then click **OK** to save the setting.
8. Click **OK** to exit **Realtek HD 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** (or right-click the notification area 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 **Sound**  control panel.








# PC Camera

Use the **Fn + F10** key combination to toggle power to the PC Camera module. When the PC Camera is in use the PC Camera LED will be illuminated (see [page 4](#)).

## Camera App

Note that you need to use the **Camera app**  in **Windows** to take pictures and capture video.

1. Run the Camera app from the Start menu by clicking on the **Camera app** icon  in **All Apps** (you can type "camera" into the search box to find the Camera app if it is not pinned to the Start menu).
2. Click to select either **photo**  or **video**  mode.
3. Click the photo icon  to take a picture, and the icon will briefly turn yellow as the picture is taken.
4. 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).
5. To stop video capture click the video icon again.
6. Captured photos and videos will be saved to a **Camera Roll** folder within the **Pictures** folder in **This PC**, and to the **Photos** app stored in the Start menu.

# Power Options

The **Power Options** (**Hardware and Sound** menu) control panel icon in **Windows** allows you to configure power management features for your computer. You can conserve power by means of **power plans** and configure the options for the **power button**, **sleep button (Fn + F12)**, **computer lid (when closed)**, **display** and **sleep mode** (the default power saving state) from the left menu. Note that the **Power saver** plan may have an affect on computer performance.

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

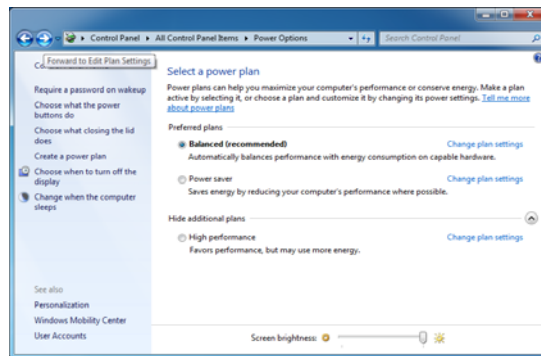



Figure 23 - Power Options

## WLAN Configuration in Windows



Make sure the Wireless LAN module is turned on (and not in **Airplane Mode**) before configuration begins.

1. Click the icon  in the notification area of the taskbar.
2. A list of available access points will appear.
3. Double-click an access point to connect to it (or click it and click **Connect**).
4. Enter a network security key (password) if required, and click **Next**.
5. You can choose to find other devices or not.
6. When you are connected to the network access point it will display **Connected**.
7. Select any connected network and click **Disconnect** to disconnect from a connected access point.
8. You can click the **Airplane Mode** button to turn the mode On or Off.
9. Alternatively you can click the **Wi-Fi** button to turn just the Wi-Fi On or Off.

## Wireless Display

Miracast uses your Wireless LAN (WLAN) module to allow you to display the contents of the notebook display on another display such as a Miracast-enabled TV without the need for cables. You can play games, browse the Internet, play videos, or display a slide show wirelessly to your TV without the need for cables.

### Wireless Display Configuration


1. Note that no driver or application is required for wireless display in **Windows 10**.
2. Press the  + **P** (or **Fn + F7**) key combination.
3. An on-screen menu will pop up.
4. Click **Connect to a wireless display** (see sidebar if this does not appear).
5. The system will then search for compatible display devices (**this may take up to 60 seconds** so allow time for this to complete).
6. Double-click any detected display device in the list.
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. Press the  + **P** (or **Fn + F7**) key combination, click **Connect to a wireless display** and then click **Disconnect** to temporarily disconnect from the wireless display.

# Bluetooth Configuration in Windows

Make sure the Bluetooth module is turned on (and not in **Airplane Mode**) before configuration begins.

1. Click the **Settings** item in the Start Menu and then click **Devices**.
2. Click **Bluetooth**.
3. Click **Add Bluetooth or other devices**.
4. Make sure that Bluetooth is turned on and a list of discovered devices will appear.
5. Double-click the device you want to pair with the computer and click **Pair**.
6. On first connection the computer will provide you with a pairing code to be entered onto the device.
7. Enter the code into your Bluetooth enabled device and click **Yes** on the computer to complete the pairing.
8. Select a device and click **Remove Device** to disconnect from any device.

# Troubleshooting

Problem	Possible Cause - Solution
The <b>Wireless LAN/Bluetooth</b> modules cannot be detected.	<i>The modules are off as the computer is in <b>Airplane Mode</b>. Check the LED indicator  to see if it is in <b>Airplane Mode</b> (see <a href="#">Table 1 on page 5</a>). Use the <b>Fn + F11</b> key combination to toggle <b>Airplane Mode</b> on/off (see <a href="#">Table 2 on page 6</a>).</i>
The <b>PC Camera</b> module cannot be detected.	<i>The module is off. Press the <b>Fn + F10</b> key combination in order to enable the module (see <a href="#">Table 2 on page 6</a>). Run the camera application to view the camera picture.</i>
The computer is off (or in Sleep Mode) but powered by the AC/DC adapter plugged in to a working outlet or powered by the battery with a capacity level above 20%. <b>I have plugged a device into the powered USB port in order to charge it, but the device is not charging.</b>	<i>The port is not powered on. Toggle power to the port using the <b>Fn + Power Button</b> combination.  This function may not work with certain external USB compliant devices (check your device's documentation). If this is the case, <b>power the computer on and connect the external USB device in order to charge it.</b></i>
Gaming performance is slow.	<i><b>It is recommended that you use Maximum fan speed when playing games.</b> Use the <b>Fn + 1</b> key combination to adjust the fan speed.</i>

Visit [www.powerspec.com](http://www.powerspec.com) to view the details of your system's hardware configuration.