

**TOSHIBA**

Leading Innovation >>>

# User's Manual

**Satellite U930/U930t**

**series**

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# Chapter 1

## TOSHIBA Legal, Regulatory and Safety

This chapter states the Legal, regulatory and safety information applicable to TOSHIBA computers.

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First edition December 2012

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## Regulatory Information

### FCC information

#### ***FCC notice "Declaration of Conformity Information"***

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:

- Reorient 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 dealer or an experienced radio/TV technician for help.



*Only peripherals complying with the FCC class B limits may be attached to this equipment. Operation with non-compliant peripherals or peripherals not recommended by TOSHIBA is likely to result in interference to radio and TV reception. Shielded cables must be used between the external devices,*

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*Universal Serial Bus (USB 3.0) ports and HDMI port. Changes or modifications made to this equipment, not expressly approved by TOSHIBA or parties authorized by TOSHIBA could void the user's authority to operate the equipment.*

### ***FCC conditions***

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

### ***Contact***

**Address:** TOSHIBA America Information Systems, Inc.  
9740 Irvine Boulevard  
Irvine, California 92618-1697

**Telephone:** (949) 583-3000



*This information is only applicable for the countries/regions where it is required.*

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```
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/*=====
```

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## ENERGY STAR® Program



Your Computer model may be ENERGY STAR® compliant. If the model you purchased is compliant, it is labeled with the ENERGY STAR logo on the computer and the following information applies.

TOSHIBA is a partner in the ENERGY STAR Program and has designed this computer to meet the latest ENERGY STAR guidelines for energy efficiency. Your computer ships with the power management options preset to a configuration that will provide the most stable operating environment and optimum system performance for both AC power and battery modes.

To conserve energy, your computer is set to enter the low-power Sleep Mode which shuts down the system and display within 15 minutes of inactivity in AC power mode.

TOSHIBA recommends that you leave this and other energy saving features active, so that your computer will operate at its maximum energy efficiency. You can wake the computer from Sleep Mode by pressing the power button.

Products that earn the ENERGY STAR prevent greenhouse gas emissions by meeting strict energy efficiency guidelines set by the US EPA and the EU Commission. According to the EPA, a computer meeting the new ENERGY STAR specifications will use between 20% and 50% less energy depending on how it is used. Visit <http://www.eu-energystar.org> or <http://www.energystar.gov> for more information regarding the ENERGY STAR Program.

## Disposing of the computer and the computer's batteries

Contact an authorized TOSHIBA service provider for details regarding how to dispose of the computer and the batteries.

## General Precautions

TOSHIBA computers are designed to optimize safety, minimize strain and withstand the rigors of portability. However, certain precautions should be observed to further reduce the risk of personal injury or damage to the computer.

Be certain to read the general precautions below and to note the cautions included in the text of the manual.

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## Provide adequate ventilation

Always make sure your computer and AC adaptor have adequate ventilation and are protected from overheating when the power is turned on or when an AC adaptor is connected to a power outlet (even if your computer is in Sleep Mode). In this condition, observe the following:

- Never cover your computer or AC adaptor with any object.
- Never place your computer or AC adaptor near a heat source, such as an electric blanket or heater.
- Never cover or block the air vents including those located at the base of the computer.
- Always operate your computer on a hard flat surface. Using your computer on a carpet or other soft material can block the vents.
- Always provide sufficient space around the computer.

Overheating your computer or AC adaptor could cause system failure, computer or AC adaptor damage or a fire, possibly resulting in serious injury.

## Creating a computer-friendly environment

Place the computer on a flat surface that is large enough for the computer and any other items you are using, such as a printer.

Leave enough space around the computer and other equipment to provide adequate ventilation. Otherwise, they may overheat.

To keep your computer in prime operating condition, protect your work area from:

- Dust, moisture, and direct sunlight.
- Equipment that generates a strong electromagnetic field, such as stereo speakers (other than speakers that are connected to the computer) or speakerphones.
- Rapid changes in temperature or humidity and sources of temperature change such as air conditioner vents or heaters.
- Extreme heat, cold, or humidity.
- Liquids and corrosive chemicals.

## Stress injury

Carefully read the *Instruction Manual for Safety and Comfort*. It contains information on the prevention of stress injuries to your hands and wrists that can be caused by extensive keyboard use. It also includes information on work space design, posture and lighting that can help reduce physical stress.

---

## Heat injury

- Avoid prolonged physical contact with the computer. If the computer is used for long periods, its surface can become very warm. While the temperature will not feel hot to the touch, if you maintain physical contact with the computer for a long time, for example if you rest the computer on your lap or if you keep your hands on the palm rest, your skin might suffer a low-heat injury.
- If the computer has been used for a long time, avoid direct contact with the metal plate supporting the various interface ports as this can become hot.
- The surface of the AC adaptor can become hot when in use but this condition does not indicate a malfunction. If you need to transport the AC adaptor, you should disconnect it and let it cool before moving it.
- Do not lay the AC adaptor on a material that is sensitive to heat as the material could become damaged.

## Pressure or impact damage

Do not apply heavy pressure to the computer or subject it to any form of strong impact as this can damage the computer's components or otherwise cause it to malfunction.

## Cleaning the computer

To help ensure long, trouble-free operation, keep the computer free of dust and dirt, and use care with all liquids around it.

- Be careful not to spill liquids into the computer. If the computer does get wet, turn the power off immediately and let the computer dry completely - in these circumstance you should get the computer inspected by an authorized service provider in order to assess the scope of any damage.
- Clean the plastics of the computer using a slightly water dampened cloth.
- You can clean the display screen by spraying a small amount of glass cleaner onto a soft, clean cloth and then wiping the screen gently with the cloth.



*Never spray cleaner directly onto the computer or let liquid run into any part of it. Never use harsh or caustic chemical computers to clean the computer.*

## Moving the computer

While the computer is designed for flexible day-to-day usage you should exercise a few simple precautions when moving it in order to help ensure trouble-free operation.

- 
- Make sure all disk/disc activity has ended before moving the computer.
  - Turn off (shut down) the computer.
  - Disconnect the AC adaptor and all peripherals before moving the computer.
  - Close the display panel.
  - Do not pick up the computer by its display panel.
  - Before carrying your computer, shut it down, disconnect the AC adaptor and allow it to cool down - a failure to follow this instruction may result in minor heat injury.
  - Be careful not to subject the computer to impact or shock - a failure to follow this instruction could result in damage to computer, computer failure or loss of data.
  - Never transport your computer with any cards installed - this may cause damage to either the computer and/or the card resulting in computer failure.
  - Always use a suitable carry case when transporting the computer.
  - When carrying your computer, be sure to hold it securely so that it does not fall or hit anything.
  - Do not carry your computer by holding any of its protruding elements.

## Mobile phones

Please be aware that the use of mobile phones can interfere with the audio system. The operation of the computer will not be impaired in any way, but it is recommended that a minimum distance of 30cm is maintained between the computer and a mobile phone that is in use.

## Instruction Manual for Safety and Comfort

All important information on the safe and proper use of this computer is described in the enclosed Instruction Manual for Safety and Comfort. Be sure to read it before using the computer.

## Safety Icons

Safety icons are used in this manual to bring important information to your attention. Each type of message is identified as shown below.



*Indicates a potentially hazardous situation, which could result in death or serious injury, if you do not follow instructions.*



*A caution informs you that improper use of equipment or failure to follow instructions may cause data loss, equipment damage, or may result in minor or moderate injury.*



*Please read. A note is a hint or advice that helps you make best use of your equipment.*

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# Chapter 2

## Getting Started

This chapter provides an equipment checklist, and basic information to start using your computer.



*Some of the features described in this manual may not function properly if you use an operating system that was not pre-installed by TOSHIBA.*

### Equipment checklist

Carefully unpack your computer, taking care to save the box and packaging materials for future use.

#### Hardware

Check to make sure you have all the following items:

- TOSHIBA Portable Personal Computer
- AC adaptor and power cord (2-pin plug or 3-pin plug)

#### Documentation

- User Information Guide
- Instruction Manual for Safety and Comfort

If any of the items are missing or damaged, contact your dealer immediately.


### Conventions

This manual uses the following formats to describe, identify, and highlight terms and operating procedures.

---

<b>SSD or Solid State Drive</b>	This computer is equipped with a Solid State Drive (SSD).
<b>Click</b>	<ul style="list-style-type: none"><li>■ Tap the Touch Pad or click the left Touch Pad control button once.</li><li>■ Left click the mouse once.</li><li>■ Tap the touch screen once (only for touch screen models).</li></ul>

---

<b>Right-click</b>	<ul style="list-style-type: none"> <li>■ Click the right Touch Pad control button once.</li> <li>■ Right click the mouse once.</li> <li>■ Press and hold on the touch screen (only for touch screen models).</li> </ul>
<b>Double-click</b>	<ul style="list-style-type: none"> <li>■ Tap the Touch Pad or click the left Touch Pad control button twice.</li> <li>■ Left click the mouse twice.</li> <li>■ Tap the touch screen twice (only for touch screen models).</li> </ul>
<b>Charm</b>	By swiping in from the right edge (only for touch screen models) or pointing the mouse pointer to the lower-right (or upper-right) corner of your screen, you will find a list of charms: <b>Search, Share, Start, Devices</b> and <b>Settings</b> .
<b>Desktop</b>	Click the <b>Desktop</b> tile from the Start screen to access the desktop.
<b>Start screen</b>	You can go to the Start screen by clicking the <b>Start</b> charm. You can also use the Windows logo key (  ) on your keyboard to go to Start screen. For detailed information, please refer to the Windows Help and Support.

## Using your computer for the first time



*Be sure to read the enclosed Instruction Manual for Safety and Comfort for information on the safe and proper use of this computer. It is intended to help you be more comfortable and productive while using a notebook computer. By following the recommendations in it you may reduce your chance of developing a painful or disabling injury to your hand, arms, shoulders or neck.*

This section provides basic information to start using your computer. It covers the following topics:

- Connecting the AC adaptor
- Opening the display
- Turning on the power
- Initial setup
- Getting to know the Start screen



- *Use a virus-check program and make sure it is updated regularly.*
- *Never format storage media without checking its content - formatting destroys all stored data.*



- *It is a good idea to periodically back up the internal Solid State Drive or other main storage device to external media. General storage media is not durable or stable over long periods of time and under certain conditions may result in data loss.*
- *Before you install a device or application, save any data in memory to the Solid State Drive or other storage media. Failure to do so may result in the loss of data.*

## Connecting the AC adaptor

Attach the AC adaptor when you need to charge the battery or you want to operate from AC power. It is also the fastest way to get started, because the battery pack will need to be charged before you can operate from battery power.

The AC adaptor can automatically adjust to any voltage ranging from 100 to 240 volts and to a frequency of either 50 or 60 hertz, enabling you to use this computer in almost any country/region. The adaptor converts AC power to DC power and reduces the voltage supplied to this computer.



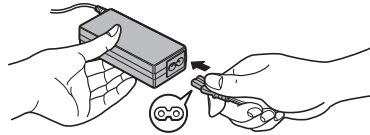
- *Always use the TOSHIBA AC adaptor that was included with your computer, or use AC adaptors specified by TOSHIBA to avoid any risk of fire or other damage to the computer. Use of an incompatible AC adaptor could cause fire or damage to the computer possibly resulting in serious injury. TOSHIBA assumes no liability for any damage caused by use of an incompatible adaptor.*
- *Never plug the AC adaptor into a power source that does not correspond to both the voltage and the frequency specified on the regulatory label of the unit. Failure to do so could result in a fire or electric shock, possibly resulting in serious injury.*
- *Always use or purchase power cables that comply with the legal voltage and frequency specifications and requirements in the country of use. Failure to do so could result in a fire or electric shock, possibly resulting in serious injury.*
- *The supplied power cord conforms to safety rules and regulations in the region the computer is bought and should not be used outside this region. For use in other regions, please buy power cords that conform to safety rules and regulations in the particular region.*
- *Do not use a 3-pin to 2-pin conversion plug.*

- *When you connect the AC adaptor to the computer, always follow the steps in the exact order as described in the User's Manual. Connecting the power cable to a live electrical outlet should be the last step otherwise the adaptor DC output plug could hold an electrical charge and cause an electrical shock or minor bodily injury when touched. As a general safety precaution, avoid touching any metal parts.*
- *Never place your computer or AC adaptor on a wooden surface, furniture, or any other surface that could be marred by exposure to heat since the computer base and AC adaptor's surface increase in temperature during normal use.*
- *Always place your computer or AC adaptor on a flat and hard surface that is resistant to heat damage.*

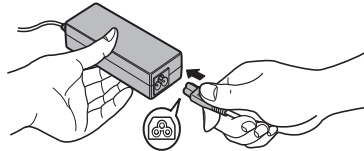
*Refer to the enclosed Instruction Manual for Safety and Comfort for detailed precautions and handling instructions.*

1. Connect the power cord to the AC adaptor.

*Figure 2-1 Connecting the power cord to the AC adaptor (2-pin plug)*



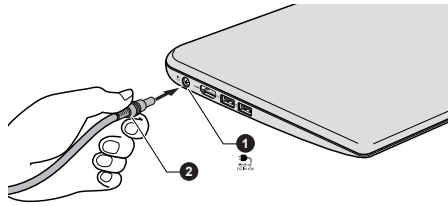
*Figure 2-2 Connecting the power cord to the AC adaptor (3-pin plug)*



*Either a 2-pin or 3-pin adaptor/cord will be included with the computer depending on the model.*

2. Connect the AC adaptor's DC output plug to the DC IN 19V jack on your computer.

*Figure 2-3 Connecting the DC output plug to the computer*



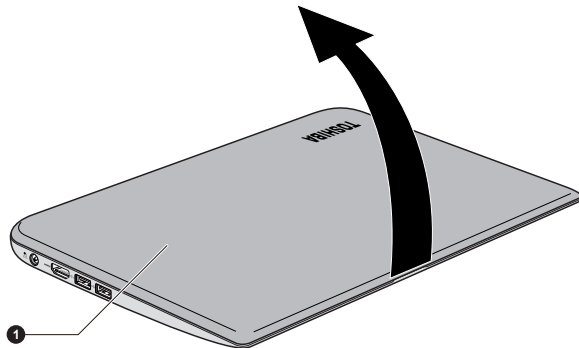
1. DC IN 19V jack
2. DC output plug
3. Plug the power cord into a live wall outlet - the **DC IN/Battery** indicator should glow.

## Opening the display

The display panel can be opened to a wide range of angles for optimal viewing.

While holding down the palm rest with one hand so that the main body of the computer is not raised, slowly lift the display panel - this will allow the angle of the display panel to be adjusted to provide optimum clarity.

*Figure 2-4 Opening the display panel*



1. Display panel

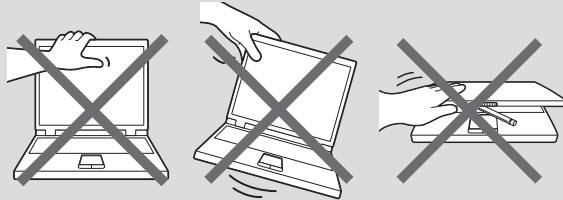


*Use reasonable care when opening and closing the display panel. Opening it vigorously or slamming it shut could damage the computer.*



- *Be careful not to open the display panel too far as this could put stress on the display panel's hinges and cause damage.*
- *Do not press or push on the display panel.*
- *Do not lift the computer by the display panel.*

- Do not close the display panel with pens or any other objects left in between the display panel and the keyboard.
- When opening or closing the display panel, place one hand on the palm rest to hold the computer in place and use the other hand to slowly open or close the display panel (Do not use excessive force when opening or closing the display panel).



## Turning on the power

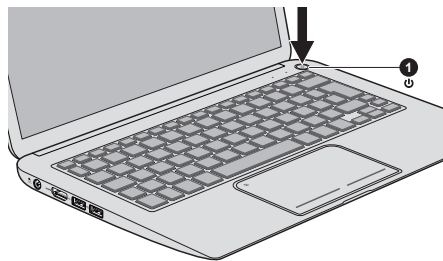
This section describes how to turn on the power - the **Power** indicator will then indicate the status. Please refer to the [Monitoring of power condition](#) section for more information.



- After you turn on the power for the first time, do not turn it off until you have set up the operating system.
- Volume cannot be adjusted during Windows Setup.

1. Open the display panel.
2. Press and hold the computer's power button for two or three seconds.

Figure 2-6 Turning on the power



1. Power button

Computer appearance depends on the model you purchased.

## Initial setup

The Windows 8 Startup Screen will be the first screen displayed when you turn on the power. Follow the on-screen instructions on each screen in order to properly install the operating system.



When it is displayed, be sure to read the **License Terms** carefully.

## Getting to know Windows

For detailed information on what is new and how to operate Windows 8, please refer to the Windows Help and Support.

### **Start screen**

The Start screen is the launching pad for everything you can do in the Windows operating system, providing new and easy ways to access everything from your favorite apps and Web sites to your contacts and other important information.

From the Start screen, you can just start typing to search for what you want. From there, you can easily switch between results for apps, files, and more.

### **Charms**

Use the Windows Charms to start apps, find documents, set up system components, and perform most other computing tasks.

By pointing the mouse pointer to the upper or lower right corner of your screen, you will find a list of charms: **Search**, **Share**, **Start**, **Devices** and **Settings**.



---

#### **Search**

This Charm allows you to search for most anything you need to locate on your computer. It can help you find apps, documents, photos, and your favorite music.

---



---

#### **Share**

This Charm allows you to share music and photos with your favorite social Web sites.

---



---

#### **Start**

This Charm allows you to view all of the available apps downloaded to your system.

---



---

#### **Devices**

This Charm allows you to manage your hardware devices.

---



---

#### **Settings**

This Charm allows you to manage your system settings.

---

### **Tiles**

Tiles can be accessed and launched from the Start screen.

---

Typical Start screen tiles are the Desktop tile and Mail tile, as well as tiles representing all other applications downloaded to your system.

### **Windows Store**

Although many applications will be pre-installed or built-in to your computer, you will also have the ability to download many other applications at the click of your mouse.

In the Windows Store you can search for and browse thousands of apps, all grouped into easy to find categories.

## **Turning off the power**

The power can be turned off in one of the following modes, either Shut Down Mode, Sleep Mode or Hibernation Mode.

### **Shut Down Mode**

When you turn off the power in Shut Down Mode, no data will be saved and the computer will boot to the operating system's main screen the next time it is turned on.

1. If you have entered data, either save it to the Solid State Drive or to other storage media.
2. Make sure all disk/disc activity has stopped before removing the disk/disc.



- *If you turn off the power while a disk (disc) is being accessed, you may lose data or damage the disk.*
- *Never turn off the power while an application is running. Doing so could cause loss of data.*
- *Never turn off the power, disconnect an external storage device or remove storage media during data read/write. Doing so can cause data loss.*

3. Click the **Settings** charm.
4. Click **Power** and then select **Shut down**.
5. Turn off any peripheral devices connected to your computer.



*Do not turn the computer or peripheral devices back on immediately - wait a short period to avoid any potential damage.*

### **Restarting the computer**

Certain conditions require that you reset the computer, for example if:

- You change certain computer settings.

If you need to restart the computer, there are two ways this can be achieved:

- 
- In the **Settings** charm, click **Power** and then select **Restart**.
  - Press **CTRL, ALT and DEL** simultaneously (once) to display the menu window, and then select **Restart** by clicking the power icon (⏻) in the lower-right corner.

## Sleep Mode

If you have to interrupt your work, you are able to turn off the power without exiting from your software by placing the computer into Sleep Mode. In this mode data is maintained in the computer's main memory so that when you turn on the power again, you can continue working right where you left off.



*When you have to turn off your computer aboard an aircraft or in places where electronic devices are regulated or controlled, always completely shut down the computer. This includes turning off any wireless communication functionalities, and cancelling settings that reactivate the computer automatically, such as a timer recording function. Failure to completely shut down the computer in this way could allow the operating system to reactivate and run pre-programmed tasks or preserve unsaved data, which could interfere with aviation or other systems, possibly causing serious injury.*



- *Before entering Sleep Mode, be sure to save your data.*
- *Do not switch to Sleep Mode while transferring data to external media, such as USB devices, memory media or other external memory devices. Data will be lost.*



- *When the AC adaptor is connected, the computer will go into Sleep Mode according to the settings in the Power Options (to access it, click **Desktop -> Desktop Assist -> Control Panel -> System and Security -> Power Options**).*
- *To restore the operation of the computer from Sleep Mode, press and hold the power button or any key on the keyboard for a short amount of time. Please note that keyboard keys can only be used if the Wake-up on Keyboard option is enabled within the TOSHIBA System Settings.*
- *If the computer enters Sleep Mode while a network application is active, the application might not be restored when the computer is next turned on and the system returns from Sleep Mode.*
- *To prevent the computer from automatically entering Sleep Mode, disable Sleep Mode within the Power Options.*
- *To use the Hybrid Sleep function, configure it in the Power Options.*

---

## Benefits of Sleep Mode

The Sleep Mode feature provides the following benefits:

- Restores the previous working environment more rapidly than does the Hibernation Mode feature.
- Saves power by shutting down the system when the computer receives no input or hardware access for the time period set by the System Sleep Mode feature.
- Allows the use of the panel power off feature.

## Executing Sleep Mode

You can enter Sleep Mode in one of three ways:

- In the **Settings** charm, click **Power** and then select **Sleep**.
- Close the display panel. Please note that this feature must be enabled within the Power Options.
- Press the power button. Please note that this feature must be enabled within the Power Options.

When you turn the power back on, you can continue where you left when you shut down the computer.



- *When the computer is in Sleep Mode, the Power indicator will blink amber.*
- *If you are operating the computer on battery power, you can lengthen the overall operating time by turning it off into Hibernation Mode - Sleep Mode will consume more power while the computer is off.*

## Sleep Mode limitations

Sleep Mode will not function under the following conditions:

- Power is turned back on immediately after shutting down.
- Memory circuits are exposed to static electricity or electrical noise.

## Hibernation Mode

The Hibernation Mode feature saves the contents of memory to the Solid State Drive when the computer is turned off so that, the next time it is turned on, the previous state is restored. Please note that the Hibernation Mode feature does not save the status of any peripheral devices connected to the computer.



- *Save your data. While entering Hibernation Mode, the computer saves the contents of memory to the Solid State Drive. However, for safety sake, it is best to save your data manually.*
- *Data will be lost if you disconnect the AC adaptor before the save is completed.*



- *Do not switch to Hibernation Mode while transferring data to external media, such as USB devices, memory media or other external memory devices. Data will be lost.*

### **Benefits of Hibernation Mode**

The Hibernation Mode feature provides the following benefits:

- Saves data to the Solid State Drive when the computer automatically shuts down because of a low battery condition.
- You can return to your previous working environment immediately when you turn on the computer.
- Saves power by shutting down the system when the computer receives no input or hardware access for the time period set by the System Hibernate feature.
- Allows the use of the panel power off feature.

### **Starting Hibernation Mode**

To enter Hibernation Mode, follow the steps below.

1. Click the **Settings** charm.
2. Click **Power** and then select **Hibernate**.



*In order to show **Hibernate** in Power menu, you need to setup according to the following steps:*

1. Click **Desktop -> Desktop Assist -> Control Panel -> System and Security -> Power Options**.
2. Click **Choose what the power button does** or **Choose what closing the lid does**.
3. Click **Change settings that are currently unavailable**.
4. Select the **Hibernate** check box from Shutdown settings.
5. Click the **Save changes** button.

### **Automatic Hibernation Mode**

The computer can be configured to enter Hibernation Mode automatically when you press the power button or close the lid. In order to define these settings, you can follow the steps as described below:

1. Click **Power Options** and then click **Choose what the power button does** or **Choose what closing the lid does**.
2. Enable the desired Hibernation Mode settings for **When I press the power button** and **When I close the lid**.
3. Click the **Save changes** button.

---

### ***Data save in Hibernation Mode***

When you turn off the power in Hibernation Mode, the computer will take a moment to save the current data in memory to the Solid State Drive.

After you turn off the computer, and the content of memory has been saved to the Solid State Drive, turn off the power to any peripheral devices.



*Do not turn the computer or devices back on immediately. Wait a moment to let all capacitors fully discharge.*

# Chapter 3

## The Grand Tour

This chapter identifies the various components of the computer - it is recommended that you become familiar with each before you operate the computer.

### Legal Footnote (Non-applicable Icons)

For more information regarding Non-applicable Icons, please refer to the section.



*Please handle your computer carefully to avoid scratching or damaging the surface.*

## Front with the display closed

The following figure shows the computer's front with its display panel in the closed position.

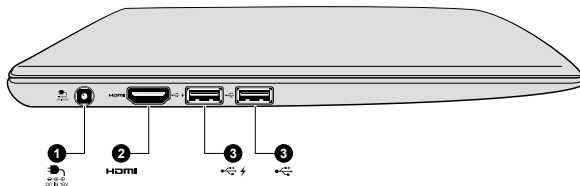
*Figure 3-1 Front of the computer with display panel closed*



## Left side

The following figure shows the computer's left side.

*Figure 3-2 The left side of the computer*



1. DC IN 19V jack
2. HDMI out port

3. Universal Serial Bus (USB 3.0) ports

Computer appearance depends on the model you purchased.



### DC IN 19V jack

The AC adaptor connects to this jack in order to power the computer and charge its internal batteries. Please note that you should only use the model of AC adaptor supplied with the computer at the time of purchase - using the wrong AC adaptor can cause damage to the computer.



### HDMI out port

HDMI out port can connect with Type A connector HDMI cable.



### Universal Serial Bus (USB 3.0) ports

Two Universal Serial Bus ports, which comply to the USB 3.0 standard, are provided on the left of the computer.

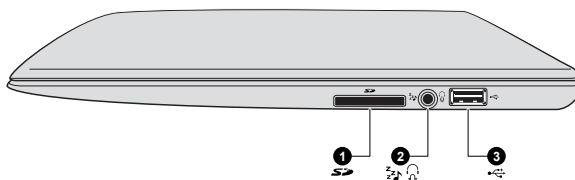
The port with the icon ( ⚡ ) supports the following functions:

- USB Sleep and Charge function
- System ON CDP Charge Mode

## Right side

The following figure shows the computer's right side.

*Figure 3-3 The right side of the computer*



1. Memory media slot

2. Headphone/Microphone jack

3. Universal Serial Bus (USB 3.0) port



### Memory media slot

This slot lets you insert an SD™/SDHC™/SDXC™ memory card, miniSD™/microSD™ Card, and MultiMediaCard™. Refer to the [Memory media](#) section for more information.




*Keep foreign metal objects, such as screws, staples and paper clips, out of the Memory media slot. Foreign metal objects can create a short circuit, which can cause damage and fire, possibly resulting in serious injury.*



### Headphone/ Microphone jack

A 3.5 mm mini headphone/microphone jack enables connection of a monaural microphone or a stereo headphone.

The jack with the icon  has Sleep and Music function.



### Universal Serial Bus (USB 3.0) port

One Universal Serial Bus port, which complies to the USB 3.0 standard, is provided on the right side of the computer.

The USB 3.0 port is compliant with USB 3.0 standard and backward compatible with USB 2.0 devices.



*Please note that it is not possible to confirm the operation of all functions of all USB devices that are available. In view of this it may be noted that some functions associated with a specific device might not operate properly.*

*USB 3.0 port(s) may work as USB 2.0 port(s) when operating in USB Legacy Emulation mode.*



*Keep foreign metal objects, such as screws, staples and paper clips, out of the USB port. Foreign metal objects can create a short circuit, which can cause damage and fire, possibly resulting in serious injury.*

## Back

The following figure shows the computer's back.

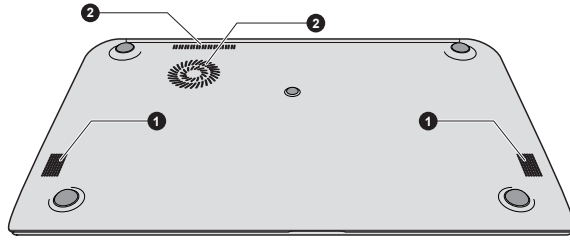
*Figure 3-4 The back of the computer*



## Underside

The following figure shows the underside of the computer. You should ensure that the display is closed before the computer is turned over to avoid causing any damage.

Figure 3-5 The underside of the computer



1. Stereo speakers

2. Cooling vents

### Stereo speakers

The speakers emit sound generated by your software as well as audio alarms, such as low battery condition, generated by the system.

### Cooling vents

The cooling vents help the processor to avoid overheating.



*Do not block the cooling vents. Keep foreign metal objects, such as screws, staples and paper clips, out of the cooling vents. Foreign metal objects can create a short circuit, which can cause damage and fire, possibly resulting in serious injury.*

*Carefully clean the dust on the cooling vents' surface using a soft cloth.*

## Front with the display open

This section shows the computer with the display panel open. In order to open the display, lift the display panel up and position it at a comfortable viewing angle for you.

Figure 3-6 The front of the computer with the display panel open

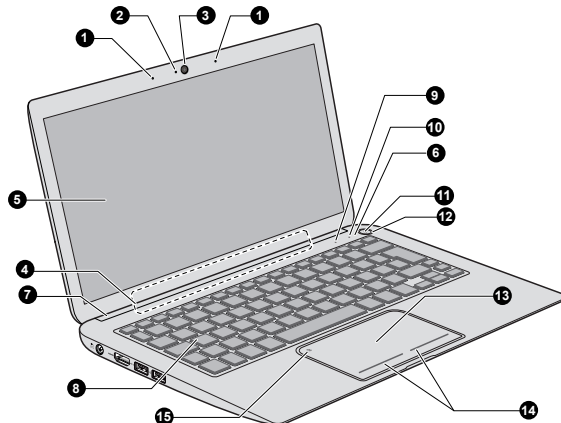


Figure 3-7 The front of the computer with the display panel open

- |  |                                      |
|--|--------------------------------------|
| 1. Microphone                                      | 9. DC IN/Battery indicator           |
| 2. Web Camera LED                                  | 10. Wireless communication indicator |
| 3. Web Camera                                      | 11. Power button                     |
| 4. Wireless communication antennas<br>(not shown)* | 12. Power indicator                  |
| 5. Display screen                                  | 13. Touch Pad                        |
| 6. LCD Sensor switch (not shown)                   | 14. Touch Pad control buttons        |
| 7. Display hinge                                   | 15. Touch Pad ON/OFF indicator       |
| 8. Keyboard  |                                      |

\* Provided with some models.

Computer appearance depends on the model you purchased.

<b>Microphone</b>	The built-in microphone allows you to import and record sounds for your application - please refer to the <a href="#">Sound System and Video mode</a> section for more information.
<b>Web Camera</b>	<b>Web Camera</b> is a device that allows you to record video or take photographs with your computer. You can use it for video chatting or video conferences using a communication tool.
<b>Web Camera LED</b>	The Web Camera LED glows when the Web Camera is operating.



- *Do not point the web camera directly at the sun.*
- *Do not touch or press strongly on the web camera lens. Doing so may reduce image quality. Use an eyeglass cleaner (cleaner cloth) or other soft cloth to clean the lens if it becomes dirty.*

<b>Wireless communication antennas</b>	Some computers in this series are equipped with the Wireless LAN/Bluetooth antennas. Some computers in this series are equipped with the Wireless WAN antennas.
--	--

#### Legal Footnote (Wireless LAN)

For more information regarding Wireless LAN, please refer to the section.

---

## Display screen

33.8cm (13.3") LCD screen, configured with the following resolutions:

- HD, 1366 horizontal x 768 vertical pixels
- WQHD, 2560 horizontal x 1440 vertical pixels

Please be aware that, when the computer is operating on the AC adaptor, the image displayed on the internal screen will be somewhat brighter than when it operates on battery power. This difference in brightness levels is intended to save power when operating on batteries.

---

### Legal Footnote (LCD)

For more information regarding LCD, please refer to the section.

---

## LCD Sensor switch

This switch senses when the display panel is either closed or opened and activates the Panel Power Off/On feature as appropriate. For example, when you close the display panel the computer enters Hibernation Mode and shuts itself down and then, when you next open the display, the computer will automatically start up and return you to the application you were previously working on.

You can specify within the Power Options. To access it, click **Desktop -> Desktop Assist -> Control Panel -> System and Security -> Power Options**.



*Do not put any magnetic objects close to this switch as they may cause the computer to automatically enter Hibernation Mode and shut down even if the Panel Power Off feature is disabled.*

---

## Display hinge

The display hinge allows the display panel to be positioned at a variety of easy-to-view angles.

---





## Keyboard

Your computer's keyboard contains character keys, control keys, function keys, and special Windows keys, providing all the functionality of a full-size keyboard.

Refer to the [The Keyboard](#) section for details.

---



	<p><b>DC IN/Battery indicator</b></p>	<p>The <b>DC IN/Battery</b> indicator shows the condition of the DC IN and the battery's charge - white indicates the battery is fully charged while the power is being correctly supplied from the AC power adaptor. Please refer to the <a href="#">Monitoring of power condition</a> section for more information on this feature.</p>
	<p><b>Wireless communication indicator</b></p>	<p>The <b>Wireless communication</b> indicator glows amber when the Wireless functions are turned on.</p> <p>Some models are equipped with Wireless functions.</p>
	<p><b>Power button</b></p>	<p>Press this button to turn the computer's power on or off.</p>
	<p><b>Power indicator</b></p>	<p>The <b>Power</b> indicator normally glows white when the computer is turned on. However, if you turn the computer off into Sleep Mode, this indicator will flash amber.</p>
	<p><b>Touch Pad</b></p>	<p>The Touch Pad located in the palm rest is used to control the movement of the on-screen pointer. To use the Touch Pad, simply touch and move your fingertip across it in the direction you want the on-screen pointer to go.</p>
	<p><b>Touch Pad control buttons</b></p>	<p>The two buttons below the Touch Pad are used like the buttons on a standard mouse - press the left button to select a menu item or to manipulate text or graphics designated by the pointer, and press the right button to display a menu or other function depending on the software you are using.</p>
	<p><b>Touch Pad ON/OFF indicator</b></p>	<p>Double tap this indicator to enable/disable the Touch Pad.</p> <p>It also shows the status of the Touch Pad:</p> <ul style="list-style-type: none"> <li>■ Enabled: off</li> <li>■ Disabled: glows white</li> </ul>

## Internal Hardware Components

This section describes the internal hardware components of your computer. The actual specifications may vary depending on the model you purchased.

---

### Battery pack

This computer includes a battery pack inside. However, please do not attempt to dismount or replace it by yourself. Please contact an authorized TOSHIBA service provider, if necessary.

The rechargeable lithium-ion battery pack provides power to the computer when the AC adaptor is not connected.

For more detailed information on the use and operation of the battery pack please refer to the [Battery](#) section.

---

#### Legal Footnote (Battery Life)

For more information regarding Battery Life, please refer to the section.

---

### CPU

The processor type varies depending on model.

To check which type of processor is included in your model, open the TOSHIBA PC Diagnostic Tool Utility by clicking **Desktop -> Desktop Assist -> Support & Recovery -> PC Diagnostic Tool**.

---

#### Legal Footnote (CPU)

For more information regarding CPU, please refer to the section.

---

### Solid State Drive

The capacity of the Solid State Drive varies depending on the model.

To check which type of SSD is included in your model, open the TOSHIBA PC Diagnostic Tool Utility by clicking **Desktop -> Desktop Assist -> Support & Recovery -> PC Diagnostic Tool**.

Please note that part of the Solid State Drive's overall capacity is reserved as administration space.



- *In this manual, the word "HDD" or "Hard disk drive" also refers to the SSD unless otherwise stated.*
- *SSD is a large-capacity storage media which uses Solid-State Memory in place of a magnetic disk of the hard disk.*



*Under certain unusual conditions of prolonged non-use and/or exposure to high temperatures, the SSD may be vulnerable to data retention errors.*

---

#### Legal Footnote (Solid State Drive (SSD) Capacity)

For more information regarding Solid State Drive (SSD) Capacity, please refer to the section.

---

#### **RTC battery**

The internal RTC battery backs up the Real Time Clock (RTC) and calendar.

---

#### **Video RAM**

The memory in a computer's graphics adaptor, used to store the image displayed on a bitmap display.

The amount of Video RAM available is dependent on the computer's system memory.

**Desktop -> Desktop Assist -> Control Panel -> Appearance and Personalization -> Display -> Adjust resolution.**

The amount of Video RAM can be verified by clicking the **Advanced settings** button in the Screen Resolution window.

---

#### **Memory module**

The memory module is installed in the computer.

---

#### Legal Footnote (Memory (Main System))

For more information regarding Memory (Main System), please refer to the section.

---

#### **Display controller**

The display controller interprets software commands into hardware commands that turn particular parts on the screen on or off.

The display controller also controls the video mode and uses industry standard rules to govern the screen resolution and the maximum number of colors that can be displayed at a time.

Therefore, software written for a given video mode will run on any computer that supports that mode.

---

#### Legal Footnote (Graphics Processing Unit (GPU))

For more information regarding Graphics Processing Unit (GPU), please refer to the section.

## **Intel® Display Power Saving Technology**

Intel GPU models may include the Display Power Saving Technology feature that can save the computer's power consumption by optimizing picture contrast on the internal LCD.

---

This feature can be used if the computer is:

- running under battery mode
- using the internal LCD display only

The Display Power Saving Technology feature is enabled at factory default. If you want to disable this feature, you can disable it.

The Display Power Saving Technology feature can be disabled in the Intel® Graphics and Media Control Panel.

You can access this control panel in the following way:

- Right-click on the desktop and click **Graphics Properties...**

In this control panel:

1. Click **Power**.
2. Select **On battery** from the drop-down menu in **Power Source**.
3. Clear the **Display Power Saving Technology** check box.
4. Click **OK**.

If you want to enable this feature, under the conditions mentioned above, select the **Display Power Saving Technology** check box.

## Intel Rapid Start Technology

Your computer supports Intel® Rapid Start Technology which enables the computer to change to Hibernation Mode from Sleep Mode after a specified period of time.

With the Intel® Rapid Start Technology, the Windows can rapidly resume from Hibernation Mode and battery life will be longer than when in Sleep Mode.

Intel® Rapid Start Technology is enabled at factory default. The computer will switch to Hibernation Mode after two hours of Sleep Mode.

You can use BIOS Setup to enable/disable the function and change the specified time setting from Sleep Mode to Hibernation Mode.

1. In the **Settings** charm, click **Power** and then select **Restart**.
2. Hold down the **F2** key and then release this key one second after the computer is power on - the BIOS setup utility will load.
3. Select **Advanced**.
4. Enable/Disable **Intel(R) Rapid Start Technology** function.
5. You can select the period of time from Sleep Mode to Hibernation Mode using **Rapid Start Entry after**. If the **Immediately** option is selected, the computer will switch to Hibernation Mode immediately after your computer goes into the Sleep Mode.



- *When Intel® Rapid Start Technology is enabled, switching from Sleep Mode to Hibernation Mode consumes power. When you carry your computer aboard on an aircraft or in places where electronic devices are regulated or controlled, always power off your computer.*

- *When Intel® Rapid Start Technology is enabled, Wake-up on LAN, Wake-up on USB or Wake-up from Sleep Mode automatically functions are not available when the computer has been switched from Sleep Mode to Hibernation Mode.*
- *The Windows cannot be restored normally if the battery is exhausted when the computer is moving from Sleep Mode to Hibernation Mode.*
- *The partition allocation on the Solid State Drive for the Intel® Rapid Start Technology cannot be deleted even if Intel® Rapid Start Technology is disabled.*
- *Intel® Rapid Start Technology can be used only for Windows 8.*
- *Intel® Rapid Start Technology cannot be used in models that do not equipped with a Solid State Drive.*
- *The Windows restore time from Hibernation Mode depends on the amount of system memory used in the computer.*

## Monitoring of power conditions

### Power conditions

The computer's operating capability and battery charge status are affected by different power conditions, including whether an AC adaptor is connected and what the charge level is for that battery.



*The LED in the table below refers to the **DC IN/Battery** indicator.*

		Power on	Power off (no operation)
<b>AC adaptor connected</b>	Battery fully charged	<ul style="list-style-type: none"> <li>• Operates</li> <li>• No charge</li> <li>• LED: white</li> </ul>	<ul style="list-style-type: none"> <li>• No charge</li> <li>• LED: white</li> </ul>
	Battery partially charged or no charge	<ul style="list-style-type: none"> <li>• Operates</li> <li>• Charge</li> <li>• LED: amber</li> </ul>	<ul style="list-style-type: none"> <li>• Quick charge</li> <li>• LED: amber</li> </ul>

		Power on	Power off (no operation)
<b>AC adaptor not connected</b>	Remaining battery capacity is above low battery trigger point	<ul style="list-style-type: none"> <li>Operates</li> <li>LED: off</li> </ul>	
	Remaining battery capacity is below low battery trigger point	<ul style="list-style-type: none"> <li>Operates</li> <li>LED: flashes amber</li> </ul>	
	Remaining battery capacity is exhausted	Computer shuts down	

## DC IN/Battery indicator

Check the **DC IN/Battery** indicator to determine the status of the battery pack and the power status with the AC adaptor connected. The following indicator conditions should be noted:

<b>Flashing amber</b>	The battery charge is low. The AC adaptor must be connected in order to recharge the battery.
<b>Amber</b>	Indicates the AC adaptor is connected and the battery is charging.
<b>White</b>	Indicates the AC adaptor is connected and the battery is fully charged.
<b>No light</b>	Under any other conditions, the indicator does not light.



*If the battery pack becomes too hot while it is being charged, the charge will stop and the **DC IN/Battery** indicator will go out. When the battery pack's temperature falls to a normal range, charging will resume - this process will occur regardless of whether the computer's power is on or off.*

## Power indicator

Check the **Power** indicator to determine the power status of the computer - the following indicator conditions should be noted:

<b>White</b>	Indicates power is being supplied to the computer and the computer is turned on.
--------------	--

---

<b>Flashing amber</b>	Indicates that the computer is in Sleep Mode and that there is sufficient power available (AC adaptor or battery) to maintain this condition.
<b>No light</b>	Under any other conditions, the indicator does not light.

---

---

# Chapter 4

## Operating Basics

This chapter describes the basic operations of your computer, highlights the precautions that should be taken when using it.

### Using the Touch Screen

Some models are equipped with a touch screen.

You can use your finger to manipulate icons, buttons, menu items, the onscreen keyboard, and other items on the touch screen.

- **Tap**

Simply tap your finger once on the touch screen to open whatever you tap, such as an app.

- **Press and hold**

Press your finger down and leave it there for a few seconds. This will show information to help you learn more about an item or will open a menu specific to what you are doing.

- **Pinch or stretch**

Touch the screen or an item with two or more fingers, and then move the fingers toward each other (pinch) or away from each other (stretch). This will show different levels of information or visually zooms in or out.

- **Rotate**

Put two or more fingers on an item and then turn your hand to rotate things in the direction you turn your hand. Only some items can be rotated.

- **Slide**

Drag your finger on the touch screen to move through what's on the screen.

- **Swipe**

Quickly move your finger across the surface of the screen, without pausing when you first touch it.

Swipe from the right or left edge for system commands and swipe from the bottom or top edge for app commands.

For details and more advanced touch screen gestures to interact with Windows 8, please refer to Help and Support.



# The Keyboard

The computer's keyboard layouts are compatible with a 104/105-key enhanced keyboard - by pressing some keys in combination, all of the 104/105-key enhanced keyboard functions can be performed on the computer.

The number of keys available on your keyboard will depend on which country/region your computer is configured for, with keyboards being available for numerous languages.

In use there are different types of keys, specifically typewriter keys, function keys, soft keys, Windows special keys and the keypad overlay.



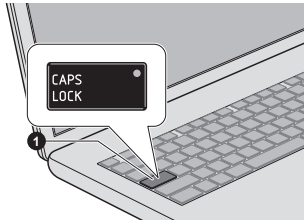
*Never remove the key caps on your keyboard. Doing so could cause damage to the parts under the key caps.*

## Keyboard indicator

The following figure shows the position of the **CAPS LOCK** indicator which shows the following conditions:

When the **CAPS LOCK** indicator glows, the keyboard will produce capitals when any letter is typed.

*Figure 4-1 CAPS LOCK indicator*



### 1. CAPS LOCK indicator

---

#### **CAPS LOCK**

This indicator glows green when letter keys are locked into their uppercase format.

---



## Function Key

The function keys (F1 ~ F12) are the twelve keys at the top of your keyboard.



You can configure the Function Keys Mode as "Special function mode" or "Standard F1-F12 mode" by clicking **Desktop -> Desktop Assist -> Tools & Utilities -> System Settings -> Keyboard**.

"Special function mode" allows you to use special functions without pressing the **FN** key.

Special function mode	Standard F1-F12 mode	Function
F1	FN + F1	Launches the help file supplied with the software.
F2	FN + F2	Decreases the computer's display panel brightness in individual steps.
F3	FN + F3	Increases the computer's display panel brightness in individual steps.
F4	FN + F4	Changes the active display device. To use a simultaneous mode, you must set the resolution of the internal display panel to match the resolution of the external display device.
F5	FN + F5	Enables or disables the Touch Pad.
F6	FN + F6	Moves media backward.
F7	FN + F7	Plays or pauses media playback.
F8	FN + F8	Moves media forward.
F9	FN + F9	Decreases the computer's volume.
F10	FN + F10	Increases the computer's volume.
F11	FN + F11	Turns the sound on or off.
F12	FN + F12	Turns the Airplane mode on or off.
FN + 1	FN + 1	Reduces the icon size on the desktop or the font sizes within one of the supported application windows.
FN + 2	FN + 2	Enlarges the icon size on the desktop or the font sizes within one of the supported application windows.
FN + Space	FN + Space	Changes the display resolution.
FN + 	FN + 	Turns the keyboard backlight on or off. This function is supported with some models.



*Some functions will show the toast notification at the edges of the screen.*

---

*Those toast notifications are disabled at factory default. You can enable them in the TOSHIBA Function Key application.*

*To access it, click **Desktop -> Desktop Assist -> Tools & Utilities -> Function Key.***

## Windows special keys

The keyboard provides two keys that have special functions in Windows, the Windows Start Button key activates the **Start screen** while the application key has the same function as the secondary (right) mouse button.



This key activates the Windows **Start screen**.



This key has the same function as the secondary (right) mouse button.

## Generating ASCII characters

Not all ASCII characters can be generated using normal keyboard operation, but you are able to generate these characters using their specific ASCII codes.

1. Hold down **ALT** with the overlay on or **ALT + FN** with overlay off.
2. Using the overlay keys, type the ASCII code of the character you require.
3. Release **ALT** or **ALT + FN** - the ASCII character will appear on the display screen.

## Battery

This section explains battery types, use, recharging methods and handling.

### Battery types

The computer has different types of batteries.

#### ***Battery pack***

When the AC adaptor is not connected, the computer's main power source is this lithium ion battery pack, also referred to in this manual as the main battery.

#### ***Real Time Clock (RTC) battery***

The Real Time Clock (RTC) battery provides power for the internal real time clock and calendar function and also maintains the system configuration while the computer is turned off. If the RTC battery becomes

completely discharged, the system will lose this information and the real time clock and calendar will stop working.

Your computer will automatically power off after 1 minute and the same message will appear again the next time when it is turned on.

You can change the Real Time Clock settings in the BIOS setup utility. Please refer to [Troubleshooting](#) for further information.



*The RTC battery does not charge while the computer is turned off even if the AC adaptor is attached.*

## Care and use of the battery pack

This section provides the important safety precautions in order to handle your battery pack properly.

Refer to the enclosed **Instruction Manual for Safety and Comfort** for detailed precautions and handling instructions.



- *The computer's RTC battery is a Ni-MH battery and should be replaced only by your dealer or by a TOSHIBA service representative. The battery can explode if not properly replaced, used, handled or disposed. Dispose of the battery as required by local ordinances or regulations.*
- *Charge the battery pack only in an ambient temperature between 5 and 35 degrees Celsius. Otherwise, the electrolyte solution might leak, battery pack performance might deteriorate and the battery life might be shortened.*

## Charging the batteries

When the power in the battery pack becomes low, the **DC IN/Battery** indicator will flash amber to indicate that only a few minutes of battery power remain. If you continue to use the computer while the **DC IN/Battery** indicator flashes, the computer will enable Hibernation Mode so that you do not lose any data, and automatically turn itself off.

You must recharge a battery pack when it becomes discharged.

### **Procedures**

To recharge a battery pack, connect the AC adaptor to the DC IN 19V jack and plug the other end into a working outlet - the **DC IN/Battery** indicator will glow amber while the battery is being charged.

### **Charging Time**

The following table shows the approximate time required to fully charge a discharged battery.

---

Battery type	Power off	Power on
Battery pack	about 3.5 hours	about 4.0 to 8.0 hours



*Please be aware that the charging time when the computer is on is affected by ambient temperature, the temperature of the computer and how you are using the computer - if you make heavy use of external devices for example, the battery might scarcely charge at all during operation.*

### **Battery charging notice**

The battery may not begin charging immediately under the following conditions:

- The battery is extremely hot or cold (if the battery is extremely hot, it might not charge at all). To ensure the battery charges to its full capacity, you should charge it at room temperature of between 5°C to 35°C (41°F to 95°F).
- The battery is nearly completely discharged. In this instance you should leave the AC adaptor connected for a few minutes and the battery should begin charging.

The **DC IN/Battery** indicator may show a rapid decrease in battery operating time when you try to charge a battery under the following conditions:

- The battery has not been used for a long time.
- The battery has completely discharged and been left in the computer for a long time.

In such cases you should follow the steps as detailed below:

1. Fully discharge the battery by leaving it in the computer with the power on until the system automatically turns itself off.
2. Connect the AC adaptor to the DC IN 19V jack of the computer, and to a wall outlet that is supplying power.
3. Charge the battery until the **DC IN/Battery** indicator glows white.

Repeat these steps two or three times until the battery recovers normal capacity.

## **Monitoring battery capacity**

Remaining battery power can be monitored using the following methods.

- Clicking the battery icon on the Taskbar
- Via the Battery Status in the Windows Mobility Center window



- You should wait at least 16 seconds after turning on the computer before trying to monitor the remaining operating time. This is because the computer needs this time to check the battery's remaining capacity and then calculate the remaining operating time, based on this together with the current power consumption.
- Please be aware that the actual remaining operating time may differ slightly from the calculated time.
- With repeated discharges and recharges, the battery's capacity will gradually decrease. In view of this it will be noted that an often used, older battery will not operate for as long as a new battery even when both are fully charged.

## Maximizing battery operating time

A battery's usefulness depends on how long it can supply power on a single charge, while how long the charge lasts in a battery depends on:

- Processor speed
- Screen brightness
- System Sleep Mode
- System Hibernation Mode
- Display power off period
- Solid State Drive power off period
- How often and for how long you use the Solid State Drive and external disk drives, for example, optical disc.
- How much charge the battery contained to begin with.
- How you use optional devices, such as a USB device, to which the battery supplies power.
- Whether you enable Sleep Mode, which can conserve battery power if you are frequently turning the computer off and on.
- Where you store your programs and data.
- Whether you close the display panel when you are not using the keyboard - closing the display saves power.
- The environmental temperature - operating time decreases at low temperatures.
- Whether you enable Sleep and Charge function.

## Batteries exhausted time

When you turn off the power of your computer with batteries fully charged, the batteries will be exhausted within the following approximate period.

Battery type	Sleep Mode	Shut Down Mode
Battery pack	about 5 days	about 110 days

---

## Extending battery life

To maximize the life of your battery packs:

At least once a month, disconnect the computer from a power source and operate it on battery power until the battery pack fully discharges. Before doing so, follow the steps as detailed below.

1. Turn off the computer's power.
2. Disconnect the AC adaptor and turn on the computer's power - if it does not turn on then go to Step 4.
3. Operate the computer on battery power for five minutes. If you find that the battery pack has at least five minutes of operating time, continue operating until the battery pack is fully discharged, however, if the **DC IN/Battery** indicator flashes or there is some other warning to indicate a low battery condition, go to Step 4.
4. Connect the AC adaptor to the DC IN 19V jack of the computer, and to a wall outlet that is supplying power. The **DC IN/Battery** indicator should glow amber to indicate that the battery pack is being charged, however, in the event that **DC IN/Battery** indicator does not glow this indicates that power is not being supplied - check the connections for the AC adaptor and the power cord.
5. Charge the battery pack until the **DC IN/Battery** indicator glows white.

## Memory media

The computer is equipped with a memory media slot that can accommodate some kinds of memory media with various memory capacities so that you can easily transfer data from devices, such as digital cameras and Personal Digital Assistants.



*Keep foreign objects out of the memory media slot. Never allow metal objects, such as screws, staples and paper clips, to enter the computer or Keyboard. Foreign metal objects can create a short circuit, which can cause computer damage and fire, possibly resulting in serious injury.*

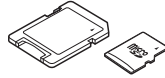


- *Please note that an adaptor is required to use miniSD/microSD Card.*
- *Please note that not all memory media have been tested and verified to work correctly. Therefore, it is not possible to guarantee that all memory media will operate properly.*
- *The slot does not support Magic Gate functions.*

Figure 4-3 Examples of memory media



Secure Digital (SD)  
Card



microSD card adaptor  
and microSD card



MultiMediaCard  
(MMC)




## Points to note about the memory media card

SD/SDHC/SDXC memory cards comply with SDMI (Secure Digital Music Initiative), which is a technology adopted to prevent unlawful copy or playback of digital music. For this reason, you cannot copy or playback protected material on another computer or other device, and you may not reproduce any copyrighted material except for your personal enjoyment.

Below is a simple explanation for distinguishing SD memory cards from SDHC memory cards and SDXC memory cards.

- SD, SDHC and SDXC memory cards appear the same externally. However, the logo on memory cards is different, so pay careful attention to the logo when purchasing.



- The SD memory card logo is (  ).
- The SDHC memory card logo is (  ).
- The SDXC memory card logo is (  ).

- The maximum capacity of SD memory cards is 2GB. The maximum capacity of SDHC memory cards is 32GB. The maximum capacity of SDXC memory cards is 64GB.

## Memory media format

New media cards are formatted according to specific standards. If you wish to reformat a media card, be sure to do so with a device that uses media cards.

### *Formatting a memory media card*

Memory media cards are sold already formatted in conformity to specific standards. If you reformat a memory card, be sure to reformat it with a device such as digital camera or digital audio player that uses the memory cards, not with the format command provided within Windows.



*Should you need to format all areas of the memory card, including the protected area, you will need to obtain an appropriate application that applies the copy protection system.*



---

## Media care

Observe the following precautions when handling the card.

- Do not twist or bend cards.
- Do not expose cards to liquids or store in humid areas or lay media close to containers of liquid.
- Do not touch the metal part of a card or expose it to liquids or let it get dirty.
- After using card, return it to its case.
- The card is designed so that it can be inserted only one way. Do not try to force the card into the slot.
- Do not leave a card partially inserted in the slot. Press the card until you hear it click into place.
- Set the write-protect switch to the lock position, if you do not want to record data.
- Memory cards have a limited lifespan, so it is important to backup important data.
- Do not write to a card if the battery power is low. Low power could affect writing accuracy.
- Do not remove a card while read/write is in progress.



*For more details on using memory cards, see manuals accompanying the cards.*

### ***About the write-protect***

The memory media cards have a function for protect.

- SD Card (SD memory card, SDHC memory card and SDXC memory card)



*Set the write-protect switch to the lock position, if you do not want to record data.*

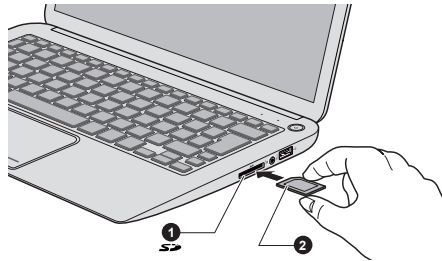
## Inserting a memory media

The following instructions apply to all types of supported media devices. To insert a memory media, follow the steps as detailed below:

1. Turn the memory media so that the contacts (metal areas) face down.

2. Insert the memory media into the memory media slot on the side of the computer.

Figure 4-4 Inserting a memory media (1)



1. Memory media slot

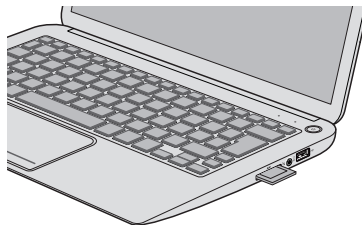
2. Memory media



- *Make sure the memory media is oriented properly before you insert it. If you insert the media in wrong direction, you may not be able to remove it.*
- *When inserting the memory media, do not touch the metal contacts. You could expose the storage area to static electricity, which can destroy data.*
- *Do not turn the computer off or switch to Sleep Mode or Hibernation Mode while files are being copied - doing so may cause data to be lost.*
- *Take care when inserting the memory media card into the slot, as accidental impact could result in damage to the media card.*
- *Take care when moving the computer with the media card inserted into the slot, as the card extends beyond the chassis edge. Accidental impact may result in damage to the media card or computer.*

3. Press the memory media gently to ensure a firm connection is made. Be careful not to press too hard to avoid damaging the media card. The memory media is partially extended beyond the slot.

Figure 4-5 Inserting a memory media (2)



## Removing a memory media

The following instructions apply to all types of supported media devices. To remove a memory media, follow the steps as detailed below:

1. Click the **Desktop** tile and open the **Safely Remove Hardware and Eject Media** icon on the Windows Taskbar.
2. Point to **memory media** and click the left Touch Pad control button.
3. Grasp the media and remove it.



- *If you remove the memory media or turn off the power while the computer is accessing the memory media, you may lose data or damage the media.*
- *Do not remove the memory media while the computer is in Sleep or Hibernation Mode. The computer could become unstable or data in the memory media could be lost.*
- *Do not remove only the miniSD/microSD Card while leaving the adaptor in the memory media slot.*

## HDMI Device

Your computer comes with a built-in display, but you can also connect an HDMI-compatible television or external display device via the HDMI Out port. To connect the HDMI display device, follow the steps as detailed below:



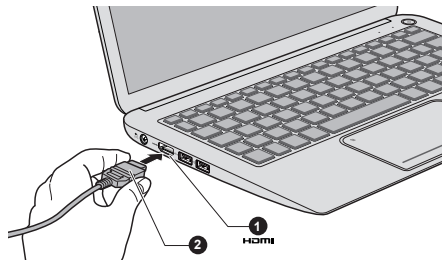
*As the port operation of all HDMI (High-Definition Multimedia Interface) display devices have not been confirmed, some HDMI display devices may not function properly.*

*To connect a device to the HDMI Out port, you must purchase an HDMI cable.*

### Connecting an HDMI device

1. Plug one end of the HDMI cable into the HDMI in port of the HDMI display device.
2. Plug the other end of the HDMI cable into the HDMI out port on your computer.

*Figure 4-6 Connecting the HDMI out port*



1. HDMI out port

2. HDMI cable




Please do not plug/unplug an HDMI device under the following conditions:

- The system is starting up.
- The system is shutting down.

When you connect a television or external monitor to the HDMI port, the display output device is set to HDMI.

When you unplug the HDMI cable and re-plug it, please wait at least 5 seconds before you re-plug the HDMI cable again.

You can change the display settings by pressing function keys or by pressing the (  ) + **P** keys, or by configuring the display properties settings.

When you change the display output device, the playback device may not switch automatically. In this case, in order to set the playback device to the same device as the display output device, please adjust the playback device manually by the following steps:

1. Click **Desktop -> Desktop Assist -> Control Panel -> Hardware and Sound -> Sound**.
2. In the **Playback** tab, select the playback device which you want to switch to.
3. To use the internal speakers on your computer, select **Speakers**. To use the television or the external monitor that you have connected to the computer, select a different playback device.
4. Click the **Set Default** button.
5. Click **OK** to close the **Sound** dialog.

## Settings for display video on HDMI

To view video on the HDMI display device, be sure to configure the following settings otherwise you may find that nothing is displayed.



Be sure to use the function key to select the display device before starting to play video. Do not change the display device while playing video.

Do not change the display device under the following conditions.

- While data is being read or written.
- While communication is being carried out.

## Select HD Format

To select the display mode, follow the steps as detailed below:

1. Click **Desktop -> Desktop Assist -> Control Panel**.
2. Click **Appearance and Personalization**.
3. Click **Display**.

- 
4. Click **Change display settings**.
  5. Click **Advanced settings**.
  6. Click **List All Modes**.
  7. Select one of the mode at **List All Modes**.

## Optional TOSHIBA Accessories

You are able to add a number of options and accessories in order to make your computer even more powerful and convenient to use. For reference, the following list details some of the items that are available from your reseller or TOSHIBA dealer:

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**Universal AC Adaptor** If you frequently use your computer at more than one site, it may be convenient to purchase an additional AC adaptor to be kept at each site in order to remove the need to always carry the adaptor with you.

---

## Sound System and Video mode

This section describes some of the audio control functions.

### Volume Mixer

The Volume Mixer utility lets you control the audio volume for playback of devices and applications under Windows.

- To launch the Volume Mixer utility, click **Desktop** and right click on the speaker icon on the Taskbar, and then select **Open Volume Mixer** from the sub menu.
- To adjust the volume level of speakers or headphones, move the **Speakers** slider.
- To adjust the volume level of an application that you are using, move the slider for the corresponding application.

### Microphone Level

Follow the steps below to change the microphone recording level.

1. Right click on the speaker icon on the Taskbar, and select **Recording devices** from the sub menu.
2. Select **Microphone**, and click **Properties**.
3. On the **Levels** tab move the **Microphone** slider to increase or decrease the microphone volume level.

If you feel the microphone volume level is inadequate, move the **Microphone Boost** slider to a higher level.

---

## Audio Enhancements

In order to apply the sound effects for your current speaker, follow the steps below.

1. Click **Desktop** and right click on the **Speakers** icon on the Taskbar, and then select **Playback devices** from the sub menu.
2. Select **Speakers**, and click **Properties**.
3. On the **Enhancements** tab select the sound effects you would like, and click **Apply**.

## SmartAudio

Your computer contains SmartAudio, a powerful program that allows you to configure your audio software to enhance and personalize your listening experience.

### *Starting SmartAudio Application*

To launch the SmartAudio, click **Desktop -> Desktop Assist -> Control Panel -> Hardware and Sound -> SmartAudio**.

### *Opening SmartAudio Help*

Clicking "?" in the top right corner of the SmartAudio window will open the **Help** file in your selected language, or in English if your selected language is not supported.

## Video mode

Video mode settings are configured via the **Screen Resolution** dialog.

To open the **Screen Resolution** dialog, click **Desktop -> Desktop Assist -> Control Panel -> Appearance and Personalization -> Display -> Change display settings**.



*If you are running some applications (for example a 3D application or video playback), you may see some disturbance, flickering or frame dropping on your screen.*

*If that occurs, adjust the resolution of display, lowering it until the screen is displayed properly.*

---

# Chapter 5

## Utilities and Advanced Usage

This chapter describes the utilities and special features of this computer, and the advanced usage of some utilities.

### Utilities and Applications

This section describes the pre-installed utilities that come with the computer and details how to start them. For further information on their operation, you may refer to each utility's online manual, help files or README.TXT file (if applicable).



*All the utilities described here can be accessed from **Desktop -> Desktop Assist**.*

*Furthermore, some utilities can also be launched from Start screen and desktop shortcut.*

---

#### **TOSHIBA Desktop Assist**

TOSHIBA Desktop Assist is a graphical user interface that provides access to specific tools and TOSHIBA utilities and applications that make the use and configuration of the computer easier.

To access this utility, click **Desktop -> Desktop Assist**.

---

#### **Smart View Utility**

The Smart View Utility allows you to make the text size bigger or smaller on the desktop according to your usage and favorite. You can change the text size on the display and on the title bar of windows by changing the scaling of the text size. When the scaling is smaller, more information will appear on the display simultaneously but the text size becomes smaller. When the scaling is larger, less information will appear on the display simultaneously but the text size becomes larger.

To access this utility, click **Desktop -> Desktop Assist -> Tools & Utilities -> Smart View Utility**.

---

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## **TOSHIBA PC Diagnostic Tool**

The TOSHIBA PC Diagnostic Tool will display basic system configuration information and allow the functionality of some of the computer's built-in hardware devices to be tested.

To access this utility, click **Desktop -> Desktop Assist -> Support & Recovery -> PC Diagnostic Tool**.

For details on TOSHIBA PC Diagnostic Tool, see the help file.

---

## **TOSHIBA Password utility**

This utility allows you to set a password in order to restrict access to the computer.

To access this utility, click **Desktop -> Desktop Assist -> Tools & Utilities**.

---

## **TOSHIBA System Settings**

This utility allows you to customize your hardware settings according to the way you work with the computer and the peripherals you use.

To access this utility, click **Desktop -> Desktop Assist -> Tools & Utilities -> System Settings**.

---

## **TOSHIBA eco Utility**

This computer is equipped with "eco mode". This mode slightly lowers performance of some devices to reduce electric power consumption. You can realize measurable power savings by using it continuously.

TOSHIBA eco Utility helps you control and monitor your power savings. Various information can help you to understand your degree of contribution to the environment.

Furthermore, this utility contains Peak shift function that can help reduce power usage during periods of peak demand by shifting some power consumption to periods when demand is lower.

To access this utility, click **Desktop -> Desktop Assist -> Tools & Utilities -> eco Utility**.

For details on TOSHIBA eco utility, see the help file.

---

## **TOSHIBA Media Player by sMedio TrueLink+**

This software is a multimedia player which can be used to play back video, music and photo.

TOSHIBA Media Player can play back contents on a local library/home network/SkyDrive.

To access it, click the **Media Player** icon on the Start screen.

For details, please refer to the Tutorial.

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**TOSHIBA Function Key**

This utility allows you to perform some features by pressing a specified key or combined with the FN key.

To setup this utility, click **Desktop -> Desktop Assist -> Tools & Utilities -> Function Key**.

For details, please refer to the [Function Key](#) section.

---

**TOSHIBA Service Station**

This application allows your computer to automatically search for TOSHIBA software updates or other alerts from TOSHIBA that are specific to your computer system and its programs. When enabled, this application periodically transmits to our servers a limited amount of system information, which will be treated in strict accordance with the rules and regulations as well as applicable data protection law.

To access this utility, click **Desktop -> Desktop Assist -> Support & Recovery -> Service Station**.

---

**TOSHIBA PC Health Monitor**

The TOSHIBA PC Health Monitor application proactively monitors a number of system functions such as power consumption, battery health and system cooling, informing you of significant system conditions. This application recognizes the system and individual component serial numbers and will track specific activities related to their usage.

To access this utility, click **Desktop -> Desktop Assist -> Support & Recovery -> PC Health Monitor**.

For details on TOSHIBA PC Health Monitor, see the help file.

---

**TOSHIBA Resolution+ Plug-in for Windows Media Player**

The plug-in lets you upconverts wmv and mp4 videos on Windows Media Player.

For more information, please refer to the TOSHIBA Resolution+ Plug-in for Windows Media Player Help.

To access it, click **Desktop -> Desktop Assist -> Media & Entertainment -> TOSHIBA Resolution+ Plug-in for Windows Media Player - Help**.

---



*You may not have all the software listed above depending on the model you purchased.*

## Special features

The following features are either unique to TOSHIBA computers or are advanced features which make the computer more convenient to use.

Access each function using the following procedures.

\*1 To access the Power Options, click **Desktop -> Desktop Assist -> Control Panel -> System and Security -> Power Options**.

<b>Function keys</b>	Function keys are specific key combinations that let you quickly change the system configuration directly from the keyboard without running a system program.
<b>Display automatic power off *1</b>	This feature automatically cuts off power to the computer's display panel when there is no keyboard input for a specified time, with power being restored the next time a key is pressed. This can be specified in the Power Options.
<b>SSD automatic power off *1</b>	This feature automatically cuts off power to the Solid State Drive when it is not accessed for a specified time, with power being restored when the Solid State Drive is next accessed. This can be specified in the Power Options.
<b>System automatic Sleep/Hibernation Mode *1</b>	This feature automatically shuts down the system into either Sleep Mode or Hibernation Mode when there is no input or hardware access for a specified time. This can be specified in the Power Options.
<b>Power on password</b>	Two levels of password security, supervisor and user, are available to prevent unauthorized access to your computer.
<b>Intelligent power supply *1</b>	A microprocessor in the computer's intelligent power supply detects the battery's charge, automatically calculates the remaining battery capacity and protects electronic components from abnormal conditions such as a voltage overload from the AC adaptor. This can be specified in the Power Options.
<b>Battery save mode *1</b>	This feature lets you configure the computer in order to save battery power. This can be specified in the Power Options.

---

<b>Panel power on/off</b> *1	This feature automatically turns power to the computer off when the display panel is closed, and turns it back on when the display panel is opened. This can be specified in the Power Options.
<b>Low battery automatic Hibernation Mode</b> *1	When battery power is exhausted to the point that computer operation cannot be continued, the system automatically enters Hibernation Mode and shuts itself down. This can be specified in the Power Options.
<b>Sleep Mode</b>	If you have to interrupt your work, you can use this feature to allow you to turn off power to the computer without exiting from your software. Data is maintained in the computer's main memory so that when you next turn on the power, you can continue working right where you left off.
<b>Hibernation Mode</b>	This feature lets you turn off the power to the computer without exiting from your software. The contents of main memory are automatically saved to the Solid State Drive so that when you next turn the power on again, you can continue working right where you left off. Refer to the <a href="#">Turning off the power</a> section, for more details.
<b>USB Wakeup function</b>	This function restores the computer from Sleep Mode depending on the external devices connected to the USB ports.  For example, if a mouse or USB keyboard is connected to a USB port, clicking the mouse button or pressing the keyboard will wakeup the computer.

---

## Heat dispersal \*1

To protect against overheating, the processor is equipped with an internal temperature sensor which activates a cooling fan or lowers the processing speed if the computer's internal temperature rises to a certain level. You are able to select whether to control this temperature by either turning on the fan first, then if necessary lowering the processor speed, or by lowering the processor speed first, then if necessary turning on the fan. Both of these functions are controlled through the Power Options.

When the processor's temperature falls within normal range, the fan and the processor operation will return to its standard speed.

If the processor's temperature reaches an unacceptably high level with either setting, the computer automatically shuts down to prevent any damage. In this instance all unsaved data in memory will be lost.

## TOSHIBA Password utility

The TOSHIBA Password utility provides two levels of password security: User and Supervisor.



*Passwords set by the TOSHIBA Password utility function are different from the Windows password.*

### User Password

To start the utility, click the following items:

**Desktop -> Desktop Assist -> Tools & Utilities -> User Password**

User authentication may be required to validate user rights when using TOSHIBA Password Utility to delete or change passwords, etc.

■ **Set** (button)

Click this button to register a password. After a password is set, you will be prompted to enter it when you start the computer.



■ *After you set the password, a dialog box will be displayed asking whether you want to save it to other media. If you forget the password, you can open the password file on another computer. Be sure to keep the media in a safe place.*

- *When entering the character string to register the password, enter from the keyboard character by character and do not enter as ASCII code or copy-and-paste the character string. In addition, ensure that the registered password is correct by outputting the character string to the password file.*
- *When entering a password, do not enter any characters (for example "!" or "#") produced by pressing the **SHIFT** or **ALT** keys.*

- **Delete** (button)

Click this button to delete a registered password. Before you can delete a password, you must first enter the current password correctly.

- **Change** (button)

Click this button to change a registered password. Before you can change a password, you must first enter the current password correctly.

- **Owner String** (text box)

You can use this box to associate text with the password. After you enter text, click **Apply** or **OK**. When the computer is started, this text will be displayed together with the prompt asking you to enter a password.



*You can use BIOS Setup to set, change or delete the HDD Password or HDD Master Password.*

- *To start BIOS Setup.*

- 1. In the **Settings** charm, click **Power** and then select **Restart**.*
- 2. Hold down the corresponding key and then release this key one second after the computer is power on - the BIOS setup utility will load.*

- *To end the BIOS Setup, press **F10**, and then press **Y** to accept the changes. The computer will restart.*



- *If you forget your HDD User Password, TOSHIBA will NOT be able to assist you, and your HDD will be rendered COMPLETELY and PERMANENTLY INOPERABLE. TOSHIBA will NOT be held responsible for any loss of any data, any loss of use or access to your HDD, or for any other losses to you or any other person or organization that result from the loss of access to your HDD. If you can't accept this risk, don't register the HDD User Password.*
- *When saving the HDD User Password shut down or restart the computer. If the computer is not shut down or restarted, the saved data may not be correctly reflected. For more information on shutting down or restarting the computer, refer to [Turning on the power](#).*

---

## Supervisor Password

If you set a Supervisor Password, some functions might be restricted when a user logs on with the User Password. To set a Supervisor Password:

**Desktop -> Desktop Assist -> Tools & Utilities -> Supervisor Password**

This utility lets you do the following:

- Register or delete the Supervisor Password.
- Specify restrictions for general users.

## Starting the computer by password

If you have already registered a user password, there is one way to start the computer:

- Enter the password manually.



*The password is necessary only if the computer was shut down in Hibernation mode or boot mode.*

*It is not needed in Sleep mode and Restart.*

To enter a password manually, follow the steps as detailed below:

1. Turn on the power as described in the [Getting Started](#) section. The following message will appear in the screen:

**Password=**



*At this point, the function keys do not work. They will function after you enter the password.*

2. Enter the Password.
3. Press **ENTER**.



*If you enter the password incorrectly three times in a row, or if you don't enter the password within 1 minute, the computer shuts off. In this case, some features that can power on the computer automatically (Wake-up on LAN, Task Scheduler, etc) may not work. You must turn the computer back on to retry password entry.*

## TOSHIBA System Settings

TOSHIBA System Settings is the TOSHIBA configuration management tool available through the Windows operating system.

To run TOSHIBA System Settings, click **Desktop -> Desktop Assist -> Tools & Utilities -> System Settings**.

The TOSHIBA System Settings window contains a number of tabs to allow specific functions of the computer to be configured.

In addition there are also three buttons: OK, Cancel and Apply.

<b>OK</b>	Accepts your changes and closes the TOSHIBA System Settings window.
<b>Cancel</b>	Closes the window without accepting your changes.
<b>Apply</b>	Accepts all your changes without closing the TOSHIBA System Settings window.



*Some options shown in grey are possible to confirm their status.*

TOSHIBA System Settings screen may have the following tabs:

- General—Allows you to view the current BIOS version or change certain settings back to their default values
- Sleep and Charge—Allows you to set advanced features for sleep mode, hibernate mode, and shutdown state
- CPU—Allows you to set conditions for the CPU
- Boot—Allows you to change the sequence in which your computer searches the drives for the operating system
- Keyboard—Allows you to access the wake-on keyboard function, or to configure the function keys
- USB—Allows you to set conditions for USB
- SATA—Allows you to set conditions for SATA
- Advanced—Allows you to set conditions for a specific device or function



*The settings or options explained here may vary depending on the model you purchased.*

*After you changed the settings, a dialog box may appear to prompt you that the changes will take effect after the computer is restarted. Make sure to restart your computer immediately to apply these changes.*

## USB Charge

### USB Sleep and Charge

The port with the icon ( ⚡ ) has Sleep and Charge function. You can use the Sleep and Charge function to charge certain USB-compatible external devices such as mobile phones or portable digital music players. Your computer can supply USB bus power (DC5V) to the USB port even when the computer is turned OFF. "Power OFF" includes Sleep Mode, Hibernation Mode or shutdown state.

To set USB Sleep and Charge feature, click **Desktop -> Desktop Assist -> Tools & Utilities -> System Settings -> Sleep and Charge**.

This option allows you to set advanced features when the power of the computer is turned OFF. It also displays the remaining battery capacity.

---

Move the slider to enable or disable this function.

<b>Enabled</b>	Enables the <b>Sleep and Charge</b> function. Then you can use this function to charge certain USB-compatible external devices such as mobile phones or portable digital music players.
<b>Disabled</b>	Disables the <b>Sleep and Charge</b> function.



- *The Sleep and Charge function may not work with certain external devices even if they are compliant with the USB specification. In those cases, turn the power of the computer ON to charge the device.*
- *When Sleep and Charge function is enabled, USB bus power (DC5V) will be supplied to compatible ports even when the power of the computer is turned OFF. USB bus power (DC5V) is similarly supplied to the external devices which are connected to the compatible ports. However, some external devices cannot be charged solely by supplying USB bus power (DC5V). As for the specifications of the external devices, please contact the device manufacturer or check the specifications of the external devices thoroughly before use.*
- *Using the sleep and charge function to charge external devices will take longer than charging the devices with their own chargers.*
- *If Sleep and Charge function is enabled, the computer's battery will discharge during hibernation or when the computer is turned off. It is recommended that you connect the AC adaptor to the computer when enabling the Sleep and Charge function.*
- *External devices connected to the USB bus power (DC5V) function that interfaces with the power ON/OFF of the computer may always be in an operational state.*
- *When there is a current overflow of the external devices connected to the compatible ports, USB bus power (DC5V) supply may be stopped for safety reasons.*
- *When Sleep and Charge function is enabled, the USB Wakeup function does not work for compatible ports. In that case, if there is a USB port that does not have the Sleep and Charge function, attach the mouse or keyboard to it. If all USB ports have the Sleep and Charge function, change to disable Sleep and Charge function. The USB Wakeup function will now work, but the Sleep and Charge function will be disabled.*



*Metal paper clips or hair pins/clips will generate heat if they come into contact with USB ports. Do not allow USB ports to come into contact with metal products, for example when carrying the computer in your bag.*

Your PC has multiple charging modes so that many different USB devices can be supported for Sleep and Charge function. **Auto Mode** (Default) is suitable for a wide range of digital audio players.



---

Your computer supports High Current Mode (2.0A Mode). Using the following procedure to find a suitable mode from **Auto Mode to High Current Mode** for your USB device to charge.

Do not use High Current Mode when your USB devices do not support High Current Mode (2.0A Mode).

This function may not be able to be used with some connected external devices even if the appropriate mode is selected. In this situation, disable and stop using this function.

While using High Current Mode, your computer can supply USB bus power (DC5V, 2.0A) to the compatible ports while the computer is turned off.

Some external devices cannot use High Current Mode (2.0A Mode). As for the specifications of the external devices, please contact the device's manufacture or check the specifications of the external device thoroughly before use.

It is recommended that AC adaptor be connected to the computer while using High Current Mode.

Never use USB devices and cables not supporting this feature when High Current Mode is used.

Always use the USB cable that was included with your USB device.

This utility can be used to enable/disable USB charge under battery mode.

#### **Function under Battery Mode**

Move the slider to enable or disable this function.

<b>Enabled</b>	Enables Sleep and Charge function under battery mode.
<b>Disabled</b>	Enables Sleep and Charge function only when the AC adaptor is connected.
<b>Lower limit of remaining battery life</b>	Specifies the lower limit of remaining battery life by moving the slider bar. If the remaining battery life falls below the setting, the Sleep and Charge function will be stopped.  This setting is only available when the <b>Function under Battery Mode</b> is enabled.

## **System ON CDP Charge**

The port with the icon ( ⚡ ) has System ON CDP Charge function. This function enable/disable CDP (Charging Downstream Port) to use rapid USB charge while the computer is powered on. When "System ON CDP Charge Mode" is enabled, your computer can supply USB bus power (DC5V, 1.5A) to the compatible ports while the computer is turned on.

To set System ON CDP Charge Mode, click **Desktop -> Desktop Assist -> Tools & Utilities -> System Settings -> USB**.

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<b>Enabled</b>	Rapid USB battery charge at maximum 1.5A while PC is powered On.
<b>Disabled</b>	Conventional USB battery charge while PC is powered On.

---



*The "System ON CDP Charge Mode" may not work with certain external devices even if they are compliant with the USB specifications. In those cases, use a USB port without "USB Sleep and Charge function" or disable "System ON CDP Charge Mode".*

*It is recommended that AC adaptor be connected to the computer while using the "System ON CDP Charge Mode".*

*When your computer battery capacity is too low to continue, "System ON CDP Charge Mode" may not work. In those cases, connect the AC adaptor and reboot the computer.*

*Never use USB cables not supporting this feature when "System ON CDP Charge Mode" (DC5V, 1.5A) is enabled.*

*Always use the USB cable that was included with your USB device.*

*When "System ON CDP Charge Mode" or "USB Sleep and Charge function" is enabled, the "USB Wakeup" function will not work. In that case, use a USB port without "USB Sleep and Charge function" or disable both "System ON CDP Charge Mode" and "USB Sleep and Charge function".*

## Sleep and Music

Your can use your computer's speaker for the portable audio device, even when the power of the computer is turned OFF.

"Power OFF" includes Sleep Mode, Hibernation Mode or shutdown state.

The Microphone jack supports the Sleep and Music function.



- *When Sleep and Music function is enabled, it is not possible to mute sound from the speaker even by connecting headphones to the Headphone jack. There is also no sound from the headphone.*
- *When Sleep and Music function is enabled, it is possible to play sound from the computer's speaker by connecting an audio cable to the Microphone jack. Using this function discharges the computer's battery. Therefore, it is recommended that the computer be connected to an external power source via the AC Adaptor.*
- *When using the Sleep and Music function, connect the computer and Audio device with an audio cable.*
- *When using the Sleep and Music function, the volume level can not be changed from the computer.*

- *The volume adjustment and mute setting might be different between Window mode and Sleep and Music mode. Before connecting the audio device to the computer, turn down the volume of the audio device. Sound quality may also be different.*
- *Use the Sleep and Music function with the display open.*

## TOSHIBA Media Player by sMedio TrueLink+

Please be aware of the following limitations when you use the TOSHIBA Media Player by sMedio TrueLink+:

### Notes on use

This software is a multimedia player which can be used to play back video, music and photo. However, some files may not be able to play back normally.

- It is recommended that the AC adaptor be connected while TOSHIBA Media Player is running. Power saving features may interfere with smooth playback. When TOSHIBA Media Player is used with a battery power, set the Power Options to "Balance".
- The screen saver is disabled while TOSHIBA Media Player is playing a video file or slideshows of photos.
- The computer will not enter Sleep, Hibernation and shut-down mode automatically, while TOSHIBA Media Player is running.
- The display automatic power off function is disabled while TOSHIBA Media Player is playing a video file or slideshows of photos.
- The Resolution+ function was specially adjusted for the internal monitor. Hence, please turn OFF Resolution+ when viewing on external monitor.
- Playback of high bit rate content may cause frame dropping, audio skipping or decrease in computer performance.
- Tap/click the Refresh button on app commands to refresh the content displayed on Library Screen. It won't be refreshed automatically.
- If sleep, hibernation, shutdown or reboot operation is in process during uploading the files to SkyDrive, the operation will not be properly completed.
- This app doesn't support to playback content protected by DRM. If you try to play DRM protected content with Resolution+ On state, this app may be closed.
- Photos uploaded to SkyDrive are limited to a maximum resolution of 2048 x 2048 pixels. Any photo over that resolution will be scaled proportionally to a maximum size of 2048 x 2048 pixels.
- This app doesn't support DMS.

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## Operating TOSHIBA Media Player by sMedio TrueLink+

The steps for playing a video file on a local library:

1. Click **My Local Library** on the Start Page of TOSHIBA Media Player.
2. Click a video file to playback.

The steps for playing a music file on a local library:

1. Click **My Local Library** on the Start Page of TOSHIBA Media Player.
2. Click **Music** in the upper-left corner of the screen.
3. Select an artist icon or album icon for playback.
4. Click a music file to playback.

The steps for playing a photo file on a local library:

1. Click **My Local Library** on the Start Page of TOSHIBA Media Player.
2. Click **Photos** in the upper-left corner of the screen.
3. Select a folder icon or date icon for playback.
4. Click a photo file to playback.

## Opening TOSHIBA Media Player by sMedio TrueLink+ Manual

The features and operations about TOSHIBA Media Player are explained in the TOSHIBA Media Player Manual.

Use the following procedure to open TOSHIBA Media Player Manual:

Click the **Tutorials** icon on the Start Page of TOSHIBA Media Player.

Use the following procedure to open TOSHIBA Media Player Online help:

When TOSHIBA Media Player is running, click **Help** of the Settings charm.

## TOSHIBA PC Health Monitor

The TOSHIBA PC Health Monitor application proactively monitors a number of system functions such as power consumption, battery health and the system cooling, informing you of significant system conditions. This application recognizes the system and individual component serial numbers, and will track specific activities related to the computer and their usage.

The collected information includes device operation time and number of actuations or status changes (i.e.: number of power button and **FN** key combination uses, AC adaptor, battery, LCD, fan, HDD/SSD, sound volume, wireless communication functionalities and USB information), date of initial system use, and also computer and device usage (i.e.: power settings, battery temperature and recharging, CPU, memory, backlight illumination time, and temperatures for various devices). The stored data uses a very small portion of the total Solid State Drive capacity, approximately 10MB or less per year.

This information is used to identify and provide a notification of system conditions which may effect the performance of your TOSHIBA computer. It

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may also be used to help diagnose problems should the computer require service by TOSHIBA or TOSHIBA's authorized service providers. Additionally, TOSHIBA may also use this information for quality assurance analysis.


Subject to the use restrictions above, the HDD data logged may be transferred to entities located outside of your country or region of residence (e.g., European Union). Those countries may or may not have the same data protection laws or data protection levels as required by your home country or region.

Once enabled, you may disable the TOSHIBA PC Health Monitor at any time by uninstalling the software via **Uninstall a program** in the **Control Panel**. Doing so will automatically delete all collected information from the HDD/SSD.

The TOSHIBA PC Health Monitor software does not extend or modify TOSHIBA's obligations under its standard limited warranty in any way. TOSHIBA's standard limited warranty terms and limitations apply.

## Starting the TOSHIBA PC Health Monitor

The TOSHIBA PC Health Monitor can be started using the following methods:

- Click **Desktop -> Desktop Assist -> Support & Recovery -> PC Health Monitor**.
- Click the icon (  ) in the notification area, then click the "**Enable PC Health Monitor...**" message the first time you run the application and "**Run PC Health Monitor...**" every time thereafter.

No matter which method is used, the TOSHIBA PC Health Monitor explanation screen will be displayed.

Clicking **Next** will display the "PC Health Monitor Software Notice & Acceptance" screen. Please carefully read the information displayed. Selecting **ACCEPT** and clicking **OK** will enable the program. By enabling the TOSHIBA PC Health Monitor software, you agree with these terms and conditions and to the use and sharing of the collected information. Once the program is enabled, the TOSHIBA PC Health Monitor screen is displayed, and the program will begin monitoring system functions and collecting information.



*A message will be displayed if any changes which may interfere with the operation of the program are detected. Follow the instructions displayed on screen in the message.*

## System Recovery

There is a hidden partition allocated on the Solid State Drive for the System Recovery Options in the event of a problem.

You can also create recovery media and restore the system.

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The following items will be described in this section:

- Creating Recovery Media
- Restoring the pre-installed software from your created Recovery Media
- Restoring the pre-installed software from the Recovery Solid State Drive

## Creating Recovery Media

This section describes how to create Recovery Media.



- *Be sure to connect the AC adaptor when you create Recovery Media.*
- *Be sure to close all other software programs except the Recovery Media Creator.*
- *Do not run software such as screen savers which can put a heavy load on the CPU.*
- *Operate the computer at full power.*
- *Do not use power-saving features.*
- *Do not write to the media when the virus check software is running. Wait for it to finish, then disable virus detection programs including any software that checks files automatically in the background.*
- *Do not use utilities, including those intended to enhance Solid State Drive access speed. They may cause unstable operation and damage data.*
- *Do not shut down/log off or Sleep/Hibernate while writing or rewriting the media.*
- *Set the computer on a level surface and avoid places subjected to vibrations such as airplanes, trains, or cars.*
- *Do not use on an unstable surface such as a stand.*

A recovery image of the software on your computer is stored on the Solid State Drive, and can be copied to either disc media or USB Flash Memory by using the following steps:

1. Select either blank disc or USB Flash Memory.  
The application will allow you to choose from a variety of different media onto which the recovery image can be copied including disc media and USB Flash Memory.



- *Please note that some of the disc media may not be compatible with the optical disc drive connected to your computer. You should therefore verify the optical disc drive supports the blank media you have chosen before proceeding.*
- *USB Flash Memory will be formatted and all the data in the USB Flash Memory will be lost when proceeding.*

2. Turn on your computer and allow it to load the Windows operating system from the Solid State Drive as normal.
3. Insert the first blank disc into the optical disc drive tray, or Insert the USB Flash Memory into one available USB port.
4. Click **Desktop -> Desktop Assist -> Support & Recovery -> Recovery Media Creator**.
5. After Recovery Media Creator starts, select the type of media and the title you wish to copy, and then click the **Create** button.

## Restoring the pre-installed software from your created Recovery Media

If the pre-installed files are damaged, you are able to use the Recovery Media you have created to restore the computer to the state it was in when you originally received it. To perform this restoration, follow the steps below:



- *When you reinstall the Windows operating system, the hard disk will be reformatted and all data will be lost.*
- *Please make sure to use the default Boot Mode option in the BIOS setup utility before restoring.*
  1. In the **Settings** charm, click **Power** and then select **Restart**.
  2. Hold down the **F2** key and then release this key one second after the computer is power on - the BIOS setup utility will load.

*In the BIOS setup screen, select **Advanced -> System Configuration -> Boot Mode -> UEFI Boot** (Default).*

*If you set the Boot Mode as **CSM Boot**, the recovery media created by Recovery Media Creator will NOT be able to restore.*

*If you create a recovery image using advanced recovery tools from Control Panel, please also make sure to use the default Boot Mode option (**UEFI Boot**) in the BIOS setup utility before restoring.*

1. Load the Recovery Media into the external Optical Disc Drive or insert the recovery USB Flash Memory into one available USB port.
2. In the **Settings** charm, click **Power** and then select **Restart**.
3. Hold down the **F12** key and then release this key one second after the computer is power on.
4. Use the up and down cursor key to select the appropriate option from the menu according to your actual recovery media.
5. A menu will be displayed from which you should follow the on-screen instructions.



- *When drivers/utilities are installed, you can setup the respective drivers/utilities from the following place. To open the setup files, Click **Desktop -> Desktop Assist -> All Programs -> TOSHIBA -> Applications and Drivers**.*

*TOSHIBA Media Player by sMedio TrueLink+ application is not included in the setup files above but can be downloaded from Windows Store.*



*If you have previously chosen to remove the recovery partition and are trying to create "Recovery Media", you will see the following message: "The Recovery Media Creator can not be launched because there is no recovery partition."*

*When there is no recovery partition, the Recovery Media Creator cannot make Recovery Media.*

*However, if you have already created a "Recovery Media", you can use it to restore the recovery partition.*

*If you have not created "Recovery Media", please contact TOSHIBA support for assistance.*

## **Restoring the pre-installed software from the Recovery Solid State Drive**

A portion of the total Solid State Drive space is configured as a hidden recovery partition. This partition stores files which can be used to restore pre-installed software in the event of a problem.

If you subsequently set up your Solid State Drive again, do not change, delete or add partitions in a manner other than specified in the manual, otherwise you may find that space for the required software is not available.

In addition, if you use a third-party partitioning program to reconfigure the partitions on your Solid State Drive, you may find that it becomes impossible to setup your computer.



*Make sure that the AC adaptor is connected during the restoring process.*



*When you reinstall the Windows operating system, the Solid State Drive may be reformatted and all data may be lost.*

1. In the **Settings** charm, click **Power** and then select **Restart**.
2. Hold down **0** (zero) key and then release this key one second after the computer is power on.
3. Select **Troubleshoot**.
4. Select **Reset your PC**.



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5. Follow the on screen instructions to finish the recovery.

You can also perform the restoration through PC settings in the operating system:

1. Click the **Settings** charm and click **Change PC settings**.
2. Click **General** under PC settings.
3. Scroll down to **Remove everything and reinstall Windows** and click **Get started**.
4. Follow the on screen instructions to finish the recovery.

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# Chapter 6

## Troubleshooting

TOSHIBA have designed this computer for durability, however, should problems occur you are able to use the procedures detailed in this chapter to help determine the cause.

All users should become familiar with this chapter as knowing what might go wrong can help prevent problems from occurring in the first place.

### Problem solving process

Resolving problems will be much easier if you observe the following guidelines:

- Stop immediately when you recognize a problem exists as taking further action may result in data loss or damage, or you may destroy valuable problem related information that can help solve the problem.
- Observe what is happening - write down what the system is doing and what actions you performed immediately before the problem occurred. Make a screenshot of the current display.

Please also be aware that the questions and procedures described in this chapter are meant only as a guide, they are not definitive problem solving techniques. In reality many problems can be solved simply, but a few may require help from TOSHIBA Support - if you find you need to consult others, be prepared to describe the problem in as much detail as possible.

### Preliminary checklist

You should always consider the simplest solution first - the items detailed in this checklist are easy to fix and yet can cause what appears to be a serious problem:

- Make sure you turn on all peripheral devices before you turn on the computer - this includes your printer and any other external device you are using.
- Before you attach an external device you should first turn the computer off, then when you turn the computer back on again it will recognize the new device.
- Make sure all optional accessories are configured properly in the computer's setup program and that all required driver software has been loaded (please refer to the documentation included with the optional accessories for further information on its installation and configuration).

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- Check all cables to ensure they are correctly and firmly attached to the computer - loose cables can cause signal errors.
  - Inspect all connecting cables for loose wires and all connectors for loose pins.
  - Check that your disc media is correctly loaded

Always try to make detailed notes of your observations and keep them in a permanent error log - this will help you to describe your problems to TOSHIBA Support. In addition, if a problem recurs, the log you have made will help to identify the problem faster.

## Analyzing the problem

Sometimes the computer will give you clues that can help you identify why it is malfunctioning. In view of this you should keep the following questions in mind:

- Which part of the computer is not operating properly - keyboard, Solid State Drive, display panel, Touch Pad, Touch Pad control buttons - as each device will produce different symptoms.
- Check the options within the operating system to ensure that its configuration is set properly.
- What appears on the display? Does it display any messages or random characters? Make a screenshot of the current display and, if possible, look up the messages in the documentation included with the computer, software or operating system.
- Check that all connecting cables are correctly and firmly attached as loose cables can cause erroneous or intermittent signals.
- Do any indicators light, if so, which ones, what color are they and do they stay on or blink? Write down what you see.
- Do you hear any beeps, if so how many, are they long or short and are they high pitched or low pitched? In addition, is the computer making any unusual noises? Write down what you hear.

Record your observations so you can describe them in detail to TOSHIBA Support.

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### Software

The problems may be caused by your software or disk. If you cannot load a software package, the media may be damaged or the program might be corrupted - in these instances try loading another copy of the software if possible.

If an error message appears while you are using a software package you should refer to the documentation supplied with it as this will usually include a problem solving section or a summary of error messages.

Next, you should check any error messages against the operating system documentation.

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## Hardware

If you cannot find a software problem, you should then check the setup and configuration of your hardware. First run through the items in the preliminary checklist as described previously then, if you still cannot correct the problem, try to identify the source - the next section provides checklists for individual components and peripherals.



*Before using a peripheral device or application software that is not an authorized TOSHIBA part or product, make sure the device or software can be used with your computer. Use of incompatible devices may cause injury or may damage your computer.*

## If something goes wrong

### ***Your computer does not respond to the keyboard commands***

If an error occurs and the computer does not respond to your keyboard commands, follow the steps below:

Press the power button and hold it down for five seconds. Once the computer has turned itself off, wait between ten and fifteen seconds before turning the power on again by pressing the power button.

### ***Your program stops responding***

If you are working with a program that suddenly freezes all operations, chances are the program has stopped responding. You can exit the failed program without shutting down the operating system or closing other programs.

To close a program that has stopped responding:

1. Press **CTRL**, **ALT**, and **DEL** simultaneously (once), then click **Task Manager**. The Windows Task Manager window appears.
2. Select the program you want to close, then click **End Task**. Closing the failed program should allow you to continue working. If it does not, continue with the next step.
3. Close the remaining programs one by one by selecting the program name, then **End Task**. Closing all programs should allow you to continue working. If it does not, power off your computer and then restart it.

### ***The computer will not start***

Make sure you attached the AC adaptor and power cord/cable properly.

If you are using the AC adaptor, check that the wall outlet is working by plugging in another device, such as a lamp.

Verify that the computer is on by looking at the **Power** indicator.

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If the indicator is glowing, the computer is on. Also, try turning the computer off and then on.

If you are using an AC adaptor, verify that the computer is receiving power from the external power source by looking at the **DC IN/Battery** indicator. If the indicator is glowing, the computer is connected to a live external power source.

### ***The computer will not load advanced options during startup***

By holding down one of the following keys during startup, your computer will load advanced options as shown below.

<b>Key</b>	<b>Advanced option</b>
F2	BIOS utility
F12	Boot menu
0 (zero)	Recovery options

If your computer starts to load the Operating System instead of desired advanced options, follow the steps below:

1. In the **Settings** charm, click **Power** and then select **Restart**.
2. Hold down the corresponding key and then release this key one second after the computer is power on.
3. Follow the on-screen instructions to proceed.

## **Hardware and system checklist**

This section discusses problems caused by your computer's hardware or attached peripherals. Basic problems may occur in the following areas:

- Power
- Keyboard
- Internal display panel
- Solid State Drive
- Memory Media Card
- Pointing Device
- USB device
- Sound system
- External monitor
- Wireless LAN
- Bluetooth

### **Power**

When the computer is not plugged into an AC power outlet, the battery pack is the primary power source. However, your computer also has a number of other power resources, including an intelligent power supply and a Real Time Clock (RTC) battery, all of which are interrelated with any one having the ability to produce apparent power problems.

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### **Overheating power down**

If the processor's temperature reaches an unacceptably high level with either setting, the computer will automatically shut down to prevent any damage - in this instance all unsaved data in memory will be lost.

<b>Problem</b>	<b>Procedure</b>
Computer shuts down automatically.	Leave the computer off until it reaches room temperature. If the computer has reached room temperature and it still does not start, or if it starts but shuts down quickly, contact TOSHIBA Support.

### **AC power**

If you have trouble turning on the computer with the AC adaptor connected you should check the status of the DC IN/Battery indicator. Please refer to the [Monitoring of power condition](#) section for further information.

<b>Problem</b>	<b>Procedure</b>
AC adaptor doesn't power the computer	<p>Check the connections to make sure that the power cord/adaptor is firmly connected to the computer and a working power outlet.</p> <p>Check the condition of the cord and terminals. If the cord is frayed or damaged it should be replaced, while if the terminals are soiled, they should be cleaned with a clean cotton cloth.</p> <p>If the AC adaptor still does not power the computer, you should contact TOSHIBA Support.</p>

### **Battery**

If you suspect a problem with the battery, you should check the status of the DC IN/Battery indicator.

<b>Problem</b>	<b>Procedure</b>
Battery doesn't power the computer	The battery may be discharged - connect the AC adaptor to recharge the battery.
Battery doesn't charge when the AC adaptor is attached.	If the battery is completely discharged, it will not begin charging immediately, in these instances you should wait a few minutes before trying again. If the battery still does not charge, you should check that the power outlet the AC adaptor is connected to is supplying power - this can be tested by plugging another appliance into it.

Problem	Procedure
Battery doesn't power the computer as long as expected	If you frequently recharge a partially charged battery, the battery might not charge to its full potential - in these instances you should fully discharge the battery and then attempt to charge it again.  Check the <b>Power saver</b> option under <b>Select a power plan</b> in the <b>Power Options</b> .

### Real Time Clock

Problem	Procedure
The BIOS setting and system date/time are lost.	The charge in the Real Time Clock (RTC) battery has run out - you will need to set the date and time in the BIOS setup application by using the following steps: <ol style="list-style-type: none"> <li>1. In the <b>Settings</b> charm, click <b>Power</b> and then select <b>Restart</b>.</li> <li>2. Hold down the <b>F2</b> key and then release this key one second after the computer is power on - the BIOS setup utility will load.</li> <li>3. Set the date in the <b>System Date</b> field.</li> <li>4. Set the time in the <b>System Time</b> field.</li> <li>5. Press <b>F10</b> - a confirmation message will be displayed.</li> <li>6. Press the <b>Y</b> key - the BIOS setup application will end and the computer will restart.</li> </ol>

## Keyboard

Keyboard problems can be caused by the setup and configuration of the computer - please refer to the [The Keyboard](#) section for further information.

Problem	Procedure
Some letter keys produce numbers	Check that the numeric keypad overlay is not activated - press the <b>FN + F11</b> function key and try typing again.
Output to screen is garbled	Please refer to your software's documentation to ensure that it is not remapping the keyboard in any way (remapping involves changing or reassigning the function of each key).  If you are still unable to use the keyboard, you should contact TOSHIBA Support.

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## Internal display panel

Apparent computer's display panel problems may be related to the computer's setup and configuration - please refer to the [TOSHIBA System Settings](#) section, for further information.

Problem	Procedure
No display	Press the function keys to adjust the display priority, and to make sure it is not set for output to an external monitor.
Markings appear on the computer's display panel.	These marks may have come from contact with the keyboard and Touch Pad while the display panel has been closed. You should try to remove the marks by gently wiping the display panel with a clean dry cloth or, if this fails, with a good quality LCD screen cleaner. In this latter instance you should always follow the instructions with the screen cleaner and always ensure you let the display panel dry properly before closing it.

## Solid State Drive

Problem	Procedure
Computer does not boot from Solid State Drive	Check to see whether there is a disc in the optical disc drive - if so remove it and try to start the computer again.
Slow performance	<p>The files on the Solid State Drive may be fragmented - in this instance you should run the disk Defragmentation utility to check the condition of your files and the Solid State Drive. Please refer to the operating system's documentation or online Help File for further information on operating and using the Defragmentation utility.</p> <p>As a last resort you should reformat the Solid State Drive and then reload the operating system and all other files and data. If you are still unable to resolve the problem, contact TOSHIBA Support.</p>

## Memory Media Card

For further information, please refer to [Operating Basics](#).



Problem	Procedure
Memory media card error occurs	Remove the memory media card from the computer and then reinsert it in order to ensure it is firmly connected.  If the problem persists, then you should refer to the documentation supplied with your memory media card for further information.
You cannot write to a memory media card	Remove the memory media card from the computer and check to ensure that it is not write protected.
You cannot read a file	Check to ensure the required file is actually on the memory media card that is inserted into the computer.  If you are still unable to resolve the problem, contact TOSHIBA Support.

## Pointing device

If you are using a USB mouse, you should also refer to both the [USB mouse](#) section and the documentation supplied with your mouse.

### *Touch Pad*

Problem	Procedure
The Touch Pad does not work.	Check the Device Select settings.  Click <b>Desktop -&gt; Desktop Assist -&gt; Control Panel -&gt; Hardware and Sound -&gt; Mouse.</b>
On-screen pointer does not respond to pointing device operation	In this instance the system might be busy - Try moving the mouse again after waiting a short while.
Double-tapping (Touch Pad) does not work	In this instance, you should initially try changing the double-click speed setting within the Mouse Control utility.  <ol style="list-style-type: none"> <li>1. To access this utility, click <b>Desktop -&gt; Desktop Assist -&gt; Control Panel -&gt; Hardware and Sound -&gt; Mouse.</b></li> <li>2. Within the Mouse Properties window, click the <b>Buttons</b> tab.</li> <li>3. Set the double-click speed as required and click <b>OK.</b></li> </ol>

Problem	Procedure
The on-screen pointer moves too fast or too slow	<p>In this instance, you should initially try changing the speed setting within the Mouse Control utility.</p> <ol style="list-style-type: none"> <li>To access this utility, click <b>Desktop -&gt; Desktop Assist -&gt; Control Panel -&gt; Hardware and Sound -&gt; Mouse</b>.</li> <li>Within the Mouse Properties window, click the <b>Pointer Options</b> tab.</li> <li>Set the pointer speed as required and click <b>OK</b>.</li> </ol>
The reaction of Touch pad is either too sensitive or not sensitive enough.	<p>Adjust the touch Sensitivity.</p> <p>To access it, click <b>Desktop -&gt; Desktop Assist -&gt; Control Panel -&gt; Hardware and Sound -&gt; Mouse</b>.</p> <p>If you are still unable to resolve the problem, contact TOSHIBA Support.</p>

### **USB mouse**

Problem	Procedure
On-screen pointer does not respond to mouse operation	<p>In this instance the system might be busy - Try moving the mouse again after waiting a short while.</p> <p>Remove the mouse from the computer and then reconnect it to a free USB port in order to ensure it is firmly attached.</p>
Double-clicking does not work	<p>In this instance, you should initially try changing the double-click speed setting within the Mouse Control utility.</p> <ol style="list-style-type: none"> <li>To access this utility, click <b>Desktop -&gt; Desktop Assist -&gt; Control Panel -&gt; Hardware and Sound -&gt; Mouse</b>.</li> <li>Within the Mouse Properties window, click the <b>Buttons</b> tab.</li> <li>Set the double-click speed as required and click <b>OK</b>.</li> </ol>

Problem	Procedure
The on-screen pointer moves too fast or too slow	<p>In this instance, you should initially try changing the speed setting within the Mouse Control utility.</p> <ol style="list-style-type: none"> <li>1. To access this utility, click <b>Desktop -&gt; Desktop Assist -&gt; Control Panel -&gt; Hardware and Sound -&gt; Mouse</b>.</li> <li>2. Within the Mouse Properties window, click the <b>Pointer Options</b> tab.</li> <li>3. Set the pointer speed as required and click <b>OK</b>.</li> </ol>
The on-screen pointer moves erratically	<p>The elements of the mouse responsible for detecting movement might be dirty - please refer to the documentation supplied with the mouse for instructions on how to clean it.</p> <p>If you are still unable to resolve the problem, contact TOSHIBA Support.</p>

## USB device

In addition to the information in this section, please also refer to the documentation supplied with your USB device.

Problem	Procedure
USB device does not work	<p>Remove the USB device from the computer and then reconnect it to a free port in order to ensure it is firmly attached.</p> <p>Ensure that any required USB device drivers are properly installed - to achieve this you should refer to both the device documentation and the operating system documentation.</p>

### *Sleep and Charge function*

For more information and settings, please refer to the [Sleep and Charge](#) section.

Problem	Procedure
<p>I cannot use the Sleep and Charge function.</p>	<p>Sleep and Charge function may be disabled. Enable the Sleep and Charge function in the TOSHIBA System Settings.</p> <p>When there is a current overflow of the external device connected to the compatible port, USB bus power (DC5V) supply may be stopped for safety reasons. When this happens, disconnect an external device if some external devices are connected. After that, turn the power of the computer ON/OFF to restore the function. If this function can not be still used even if only one external device is connected, stop using the external device because its current is over the acceptable value of this computer.</p> <p>Some external devices may not be able to use the Sleep and Charge function. In this case, please try one or more of the following methods.</p> <ul style="list-style-type: none"> <li>■ Turn OFF the computer while external devices are connected.</li> <li>■ Connect external devices after turning OFF of the computer.</li> </ul> <p>If this function can not be still used, change the setting to disable the function and stop using this function.</p>
<p>The battery depletes quickly even when I turned OFF the power of the computer.</p>	<p>If Sleep and Charge function is enabled, the computer's battery will discharge during hibernation or when the computer is turned off. Connect the AC adaptor to the computer or disable the Sleep and Charge function.</p>
<p>External devices connected to the compatible ports do not work when connected to a compatible port.</p>	<p>Some external devices may not work when connected to a compatible port if the Sleep and Charge function is enabled. Reconnect the external device after turning the computer ON.</p> <p>If the external device still does not work, connect device to an USB port that does not have the Sleep and Charge function or change to disable the Sleep and Charge function.</p>

Problem	Procedure
The "USB Wakeup function" does not work.	<p>When "System ON CDP Charge Mode" or "USB Sleep and Charge function" is enabled, the "USB WakeUp" function does not work for ports that support the Sleep and Charge function.</p> <p>In that case, use an USB port that does not have the USB Sleep and Charge function or change to disable both "System ON CDP Charge Mode" and "USB Sleep and Charge function".</p>

## Sound system

In addition to the information in this section, please also refer to the documentation supplied with your audio device.

Problem	Procedure
No sound is heard	<p>Press the function keys to increase or decrease volume.</p> <p>Check the software volume settings.</p> <p>Please check to see if Mute is turned to Off</p> <p>Check to make sure the headphone connection is secure.</p> <p>Check within the Windows Device Manager application to ensure the sound device is enabled and that the device is properly working.</p>
Annoying sound is heard	<p>In this instance you may be experiencing feedback from either the internal microphone or an external microphone connected to the computer - please refer to <a href="#">Sound System and Video mode</a> for further information.</p> <p>Volume cannot be adjusted during Windows start up or shut down.</p> <p>If you are still unable to resolve the problem, contact TOSHIBA Support.</p>

## External monitor

Please also refer to [Operating Basics](#), and to the documentation supplied with your monitor for further information.

<b>Problem</b>	<b>Procedure</b>
Monitor does not turn on	After confirming that the monitor's power switch is on, you should check the connections to make sure that the power cord/adaptor is firmly connected to the monitor and to a working power outlet.
No display	<p>Try adjusting the contrast and brightness controls on the external monitor.</p> <p>Press the function key in order to change the display priority and ensure that it is not set for the internal display only.</p> <p>Check to see if the external monitor is connected.</p> <p>When the external monitor is set as the primary display device in extended desktop mode, it will not display when the computer wakes up from Sleep Mode if the external monitor has been disconnected while in Sleep Mode.</p> <p>To keep this from happening, do not disconnect the external monitor while the computer is in Sleep or Hibernation Mode.</p> <p>Remember to turn off the computer before disconnecting the external monitor.</p> <p>When the display panel and an external monitor are set to clone mode and they are turned off by the timer, the display panel or the external monitor may not display when turned on again.</p> <p>If this occurs, press the function key to re-set the display panel and external monitor to clone mode.</p>
Display error occurs	<p>Check that the cable connecting the external monitor to the computer is firmly attached.</p> <p>If you are still unable to resolve the problem, contact TOSHIBA Support.</p>

## Wireless LAN

<b>Problem</b>	<b>Procedure</b>
Cannot access Wireless LAN	<p>Make sure the computer's Wireless communication function is on.</p> <p>If problems persist, contact your LAN administrator.</p>

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## Bluetooth

Problem	Procedure
Cannot access Bluetooth device	<p>Check to ensure the computer's Wireless Communication function is on.</p> <p>Check to ensure the Bluetooth Manager application is running on the computer and that power to the external Bluetooth device is turned on.</p> <p>Check to ensure that no optional Bluetooth Adaptor is installed in the computer - the built-in Bluetooth hardware cannot operate simultaneously with another Bluetooth controller.</p> <p>If you are still unable to resolve the problem, contact TOSHIBA Support.</p>

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## TOSHIBA support

If you require any additional help using your computer or if you are having problems operating the computer, you may need to contact TOSHIBA for additional technical assistance.

### Before you call

Some problems you experience may be related to software or the operating system so it is important that you investigate other sources of assistance first. Before contacting TOSHIBA, try the following:

- Review troubleshooting sections in the documentation supplied with your software and/or peripheral devices.
- If a problem occurs when you are running software applications, consult the software documentation for troubleshooting suggestions and consider calling the software company's technical support department for assistance.
- Consult the reseller or dealer from where you purchased your computer and/or software - they are your best resource for current information and support.

### TOSHIBA technical support

If you are still unable to solve the problem and suspect that it is hardware related, visit TOSHIBA technical support website <http://www.toshiba.co.jp/worldwide/>.

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# Chapter 7

## Appendix

### Specifications

This section summarizes the computer's technical specifications.

#### Physical Dimensions

Physical Dimensions shown below do not include parts that extend beyond the main body. The physical dimensions may vary depending on the model you purchased.

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<b>Size</b>	316 (w) x 207 (d) x 17.8/19.7 (h) millimeters (not including parts that extend beyond the main body).
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#### Environmental Requirements

Conditions	Ambient temperature	Relative humidity
<b>Operating</b>	5°C (41°F) to 35°C (95°F)	20% to 80% (noncondensing)
<b>Non-operating</b>	-20°C (-4°F) to 60°C (140°F)	10% to 90% (noncondensing)
<b>Wet-bulb temperature</b>	29°C maximum	

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Conditions	Altitude (from sea level)
<b>Operating</b>	-60 to 3,000 meters
<b>Non-operating</b>	-60 to 10,000 meters maximum

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#### Power Requirements

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<b>AC adaptor</b>	100-240V AC 50 or 60 Hz (cycles per second)
<b>Computer</b>	19V DC

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## AC Power Cord and Connectors

The power cord's AC input plug must be compatible with the various international AC power outlets and the cord must meet the standards for the country/region in which it is used. All cords must meet the following specifications:

<b>Wire size:</b>	Minimum 0.75 mm <sup>2</sup>
<b>Current rating:</b>	Minimum 2.5 amperes

### Certification agencies

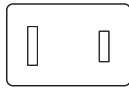
<b>China:</b>	CQC		
<b>U.S. and Canada:</b>	UL listed and CSA certified No. 18 AWG, Type SVT or SPT-2		
<b>Australia:</b>	AS		
<b>Japan:</b>	DENANHO		
<b>Europe:</b>			
<b>Austria:</b>	OVE	<b>Italy:</b>	IMQ
<b>Belgium:</b>	CEBEC	<b>The Netherlands:</b>	KEMA
<b>Denmark:</b>	DEMKO	<b>Norway:</b>	NEMKO
<b>Finland:</b>	FIMKO	<b>Sweden:</b>	SEMKO
<b>France:</b>	LCIE	<b>Switzerland:</b>	SEV
<b>Germany:</b>	VDE	<b>United Kingdom:</b>	BSI

In Europe, two conductors power cord must be VDE type, H05VVH2-F or H03VVH2-F and for three conductors power cord must be VDE type, H05VV-F.

For the United States and Canada, two pin plug configuration must be a 2-15P (250V) or 1-15P (125V) and three pin plug configuration must be 6-15P (250V) or 5-15P (125V) as designated in the U.S. National Electrical code handbook and the Canadian Electrical Code Part II.

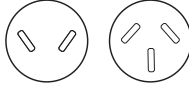
The following illustrations show the plug shapes for the U.S.A. and Canada, the United Kingdom, Australia, Europe and China.

### USA



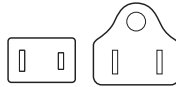
UL approved

### Australia



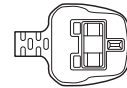
AS approved

### Canada



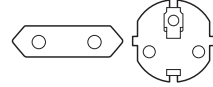
CSA approved

### United Kingdom



BS approved

### Europe



Approved by the appropriate agency

### China



CCC approved

## Information for Wireless Devices

### Wireless Technology Interoperability

The Wireless LAN is compatible with other LAN systems Direct Sequence Spread Spectrum (DSSS) /Orthogonal Frequency Division Multiplexing (OFDM) radio technology, and is compliant to:

- The IEEE 802.11 Standard on Wireless LANs (Revision a/b/g/n or b/g/n), as defined and approved by the Institute of Electrical and Electronics Engineers.

Bluetooth® Cards are designed to be interoperable with any product with Bluetooth wireless technology that is based on Frequency Hopping Spread Spectrum (FHSS) radio technology, and is compliant to:

- Bluetooth Specification (depending on the model you purchased), as defined and approved by the Bluetooth Special Interest Group.
- Logo certification with Bluetooth wireless technology as defined by the Bluetooth Special interest Group.

This Bluetooth product is not compatible with devices using Bluetooth Version 1.0B specifications.



*The wireless devices have not completed verification of connection and operation with all devices which are using the Wireless LAN or Bluetooth radio technology.*

*Bluetooth and Wireless LAN devices operate within the same radio frequency range and may interfere with one another. If you use Bluetooth*

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*and Wireless LAN devices simultaneously, you may occasionally experience a less than optimal network performance or even lose your network connection.*

*If you should experience any such problem, immediately turn off either one of your Bluetooth or Wireless LAN.*

*Please visit <http://www.pc.support.global.toshiba.com>, if you have any questions about using Wireless LAN or Bluetooth Card from TOSHIBA.*

*In Europe visit <http://www.toshiba-europe.com/computers/tnt/bluetooth.htm>*

## Wireless Devices and your health

Wireless products, like other radio devices, emit radio frequency electromagnetic energy. The level of energy emitted by Wireless products however is far much less than the electromagnetic energy emitted by wireless devices like for example mobile phones.

Because Wireless products operate within the guidelines found in radio frequency safety standards and recommendations, TOSHIBA believes Wireless products is safe for use by consumers. These standards and recommendations reflect the consensus of the scientific community and result from deliberations of panels and committees of scientists who continually review and interpret the extensive research literature.

In some situations or environments, the use of Wireless products may be restricted by the proprietor of the building or responsible representatives of the organization. These situations may for example include:

- Using the Wireless products equipment on board of airplanes, or
- In any other environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies on the use of wireless devices in a specific organization or environment (e.g. airports), you are encouraged to ask for authorization to use the Wireless device prior to turning on the equipment.

## Wireless LAN Technology

The computer's wireless communication function supports some wireless communication devices.

Only some models are equipped with both Wireless LAN and Bluetooth functions.



- *Do not use the Wireless LAN (Wi-Fi) or Bluetooth functionalities near a microwave oven or in areas subject to radio interference or magnetic fields. Interference from a microwave oven or other source can disrupt Wi-Fi or Bluetooth operation.*

- Turn all wireless functionalities off when near a person who may have a cardiac pacemaker implant or other medical electric device. Radio waves may affect pacemaker or medical device operation, possibly resulting in serious injury. Follow the instruction for your medical device when using any wireless functionality.
- Always turn off wireless functionality if the computer is near automatic control equipment or appliances such as automatic doors or fire detectors. Radio waves can cause malfunction of such equipment, possibly resulting in serious injury.
- It may not be possible to make a network connection to a specified network name using the ad hoc network function. If this occurs, the new network (\*) will have to be configured for all computers connected to the same network in order to re-enable network connections.  
\* Please be sure to use new network name.

### **Security**

- TOSHIBA strongly recommend that you enable encryption functionality, otherwise your computer will be open to illegal access by an outsider using a wireless connection. If this occurs, the outsider may illegally access your system, eavesdrop, or cause the loss or destruction of stored data.
- TOSHIBA is not liable for the loss of data due to eavesdropping or illegal access through the wireless LAN and the damage thereof.

### **Card Specifications**

<b>Form Factor</b>	PCI Express Mini Card
<b>Compatibility</b>	■ IEEE 802.11 Standard for Wireless LANs
<b>Network Operating System</b>	■ Microsoft Windows Networking
<b>Media Access Protocol</b>	■ CSMA/CA (Collision Avoidance) with Acknowledgment (ACK)

### **Radio Characteristics**

Radio Characteristics of Wireless LAN module may vary according to:

- Country/region where the product was purchased
- Type of product

Wireless communication is often subject to local radio regulations. Although Wireless LAN wireless networking products have been designed for operation in the license-free 2.4GHz and 5GHz band, local radio regulations may impose a number of limitations to the use of wireless communication equipment.

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<b>Radio Frequency</b>	■ Band 5GHz (5150-5850 MHz) (Revision a and n)
	■ Band 2.4GHz (2400-2483.5 MHz) (Revision b/g and n)

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The range of the wireless signal is related to the transmit rate of the wireless communication. Communications at lower transmit range may travel larger distances.

- The range of your wireless devices can be affected when the antennas are placed near metal surfaces and solid high-density materials.
- Range is also impacted due to "obstacles" in the signal path of the radio that may either absorb or reflect the radio signal.

## **Bluetooth wireless technology**

Some computers in this series have Bluetooth wireless communication function which eliminates the need for cables between electronic devices such as computers, printers and mobile phones. When it is enabled, Bluetooth provides the wireless personal area network environment which is safe and trustworthy, that is quick and easy.

You cannot use the computer's built-in Bluetooth functions and an external Bluetooth adaptor simultaneously. For reference, Bluetooth wireless technology has the following features:

### ***Security***

Two advanced security mechanisms ensure a high level of security:

- Authentication prevents access to critical data and makes it impossible to falsify the origin of a message.
- Encryption prevents eavesdropping and maintains link privacy.

### ***Radio links***

You can easily establish links between two or more devices, with these links being maintained even if the devices are not within a line-of-sight of each other.

### ***Radio Frequency Interference Requirements***

This device is restricted to indoor use due to its operation in the 5.15 to 5.25GHz frequency range.

## **Radio Regulatory Information**

The Wireless device is must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. This product complies with the following radio frequency and safety standards.

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## **USA-Federal Communications Commission (FCC)**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Refer to the FCC information section for the detailed information.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter. The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power Wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used. Whereas high levels of RF can produce health effects (by heating tissue), exposure of low-level RF that does not produce heating effects causes no known adverse health effects. Many studies of low-level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research. **This Product** has been tested and found to comply with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65.

If 5GHz band is supported on the PC, refer to:

Compliance with FCC requirement 15.407(c) Data transmission is always initiated by software, which is then passed down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the packet. Therefore, the transmitter will be on only while one of the aforementioned packets is being transmitted. In other words, this device automatically discontinues transmission in case of either absence of information to transmit or operational failure.

## **Legal Footnotes**

### **Non-applicable Icons**

Certain computer chassis are designed to accommodate all possible configurations for an entire product series. Therefore, please be aware that your selected model may not have all the features and specifications corresponding to all of the icons or switches shown on the computer chassis.

### **CPU**

Central Processing Unit (CPU) Performance Legal Footnotes.

CPU performance in your computer product may vary from specifications under the following conditions:

- 
- use of certain external peripheral products
  - use of battery power instead of AC power
  - use of certain multimedia, computer generated graphics or video applications
  - use of standard telephone lines or low speed network connections
  - use of complex modeling software, such as high end computer aided design applications
  - use of several applications or functionalities simultaneously
  - use of computer in areas with low air pressure (high altitude >1,000 meters or >3,280 feet above sea level)
  - use of computer at temperatures outside the range of 5°C to 30°C (41°F to 86°F) or >25°C (77°F) at high altitude (all temperature references are approximate and may vary depending on the specific computer model - please refer to your computer documentation or visit the TOSHIBA website at [www.pcsupport.toshiba.com](http://www.pcsupport.toshiba.com) for details).

CPU performance may also vary from specifications due to design configuration.

Under some conditions, your computer product may automatically shut-down. This is a normal protective feature designed to reduce the risk of lost data or damage to the product when used outside recommended conditions. To avoid risk of lost data, always make back-up copies of data by periodically storing it on an external storage medium. For optimum performance, use your computer product only under recommended conditions. Read additional restrictions in your product documentation. Contact TOSHIBA technical service and support, refer to [TOSHIBA support](#) section for more information.

### ***64-Bit Computing***

Certain 32-bit device drivers and/or applications may not be compatible with a 64-bit CPU/operating system and therefore may not function properly.

## **Memory (Main System)**

Part of the main system memory may be used by the graphics system for graphics performance and therefore reduce the amount of main system memory available for other computing activities. The amount of main system memory allocated to support graphics may vary depending on the graphics system, applications utilized, system memory size and other factors.

If your computer is configured with more than 3 GB memory, the memory might be displayed as approximately 3 GB only (depending on the computer's hardware specifications).

This is correct because the operating system usually displays the available memory instead of the physical memory (RAM) built into the computer.

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Various system components (like the video adapter's GPU and PCI devices like Wireless LAN, etc.) require their own memory space. Since a 32-bit operating system cannot address more than 4 GB of memory, these system resources overlap the physical memory. It is a technical limitation that the overlapped memory is not available to the operating system. Even though some tools might display the actual physical memory built into your computer, the memory available to the operating system will still be approximately 3 GB only.

Computers configured with a 64-bit operating system can address 4 GB or more of system memory.

## Battery Life

Battery life may vary considerably depending on product model, configuration, applications, power management settings and features utilized, as well as the natural performance variations produced by the design of individual components. Published battery life numbers are achieved on select models and configurations tested by TOSHIBA at the time of publication. Recharge time varies depending on usage. Battery may not charge while computer is consuming full power.

After going through many charge and discharge cycles, the battery will lose its ability to perform at maximum capacity and will need to be replaced.

This is a normal phenomenon for all batteries. To purchase a new battery pack, see the accessories information that is shipped with your computer.

## Solid State Drive (SSD) Capacity

1 Gigabyte (GB) means  $10^9 = 1,000,000,000$  bytes using powers of 10. The computer operating system, however, reports storage capacity using powers of 2 for the definition of  $1 \text{ GB} = 2^{30} = 1,073,741,824$  bytes, and therefore shows less storage capacity. Available storage capacity will also be less if the product includes one or more pre-installed operating systems, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

## LCD

Over a period of time, and depending on the usage of the computer, the brightness of the LCD screen will deteriorate. This is an intrinsic characteristic of LCD technology.

Maximum brightness is only available when operating in AC power mode. Screen will dim when the computer is operated on battery power and you may not be able to increase the brightness of the screen.

## Graphics Processing Unit (GPU)

Graphics processing unit (GPU) performance may vary depending on product model, design configuration, applications, power management settings and features utilized. GPU performance is only optimized when



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operating in AC power mode and may decrease considerably when operating in battery power mode.

Total Available Graphics Memory is the total of, as applicable, Dedicated Video Memory, System Video Memory and Shared System Memory. Shared System Memory will vary depending on system memory size and other factors.

## Wireless LAN

The transmission speed over the wireless LAN and the distance over which wireless LAN can reach may vary depending on surrounding electromagnetic environment, obstacles, access point design and configuration, and client design and software/hardware configurations.

The actual transmission speed will be lower than the theoretical maximum speed.

## Copy Protection

Applicable copy protection standards included in certain media may prevent or limit recording or viewing of the media.

## Glossary

The terms in this glossary cover topics related to this manual. Alternate naming is included for reference.

### Abbreviations

<b>AC:</b>	Alternating Current
<b>AMT:</b>	Intel Active Management Technology
<b>ASCII:</b>	American Standard Code for Information Interchange
<b>BIOS:</b>	Basic Input/output System
<b>BD-ROM:</b>	Blu-ray Disc Read-only Memory
<b>bps:</b>	bits per second
<b>CD:</b>	Compact Disc
<b>CD-ROM:</b>	Compact Disc Read-only Memory
<b>CD-RW:</b>	Compact Disc-rewritable
<b>CMOS:</b>	Complementary Metal-oxide Semiconductor
<b>CPU:</b>	Central Processing Unit
<b>DC:</b>	Direct Current
<b>DDR:</b>	Double Data Rate
<b>DIMM:</b>	Dual Inline Memory Module
<b>DVD:</b>	Digital Versatile Disc

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<b>DVD-R:</b>	Digital Versatile Disc-recordable
<b>DVD-RAM:</b>	Digital Versatile Disc-random Access Memory
<b>DVD-R DL:</b>	Digital Versatile Disc Recordable Dual Layer
<b>DVD-ROM:</b>	Digital Versatile Disc-read Only Memory
<b>DVD-RW:</b>	Digital Versatile Disc-rewritable
<b>DVD+R DL:</b>	Digital Versatile Disc Recordable Double Layer
<b>FAT:</b>	File Allocation Table
<b>FCC:</b>	Federal Communications Commission
<b>GB:</b>	gigabyte
<b>GBps:</b>	gigabytes per second
<b>HDD:</b>	Hard Disk Drive
<b>HDMI:</b>	High-definition Multimedia Interface
<b>HDMI CEC:</b>	High-definition Multimedia Interface Consumer Electronics Control
<b>HTML:</b>	Hypertext Markup Language
<b>IEEE:</b>	Institute of Electrical and Electronics Engineers
<b>I/O:</b>	Input/Output
<b>IRQ:</b>	interrupt request
<b>ISP:</b>	Internet Service Provider
<b>KB:</b>	kilobyte
<b>LAN:</b>	Local Area Network
<b>LCD:</b>	Liquid Crystal Display
<b>LED:</b>	Light Emitting Diode
<b>MB:</b>	megabyte
<b>MBps:</b>	megabytes per second
<b>MMC:</b>	Multi Media Card
<b>OCR:</b>	Optical Character Recognition (Reader)
<b>PC:</b>	Personal Computer
<b>PCI:</b>	Peripheral Component Interconnect
<b>PCMCIA:</b>	Personal Computer Memory Card International Association
<b>RAM:</b>	Random Access Memory
<b>RGB:</b>	Red, Green, and Blue
<b>RFI:</b>	Radio Frequency Interference
<b>ROM:</b>	Read Only Memory

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<b>RTC:</b>	Real Time Clock
<b>S/P DIF:</b>	Sony/philips Digital Interface Format
<b>SD:</b>	Secure Digital
<b>SDHC:</b>	Secure Digital High Capacity
<b>SDRAM:</b>	Synchronous Dynamic Random Access Memory
<b>SSD:</b>	Solid State Drive
<b>TFT:</b>	Thin-film Transistor
<b>URL:</b>	Uniform Resource Locator
<b>USB:</b>	Universal Serial Bus
<b>UXGA:</b>	Ultra Extended Graphics Array
<b>VGA:</b>	Video Graphics Array
<b>WAN:</b>	Wide Area Network
<b>WSXGA:</b>	Wide Super Extended Graphics Array
<b>WSXGA+:</b>	Wide Super Extended Graphics Array Plus
<b>WUXGA:</b>	Wide Ultra Extended Graphics Array
<b>WXGA:</b>	Wide Extended Graphics Array
<b>WXGA+:</b>	Wide Extended Graphics Array Plus
<b>www:</b>	World Wide Web
<b>XGA:</b>	Extended Graphics Array

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