TOSHIBA
Leading Innovation »»

Portégé® Z830 Series User's Guide

If you need assistance:

❖ Toshiba's Support Web site
   support.toshiba.com

❖ Toshiba Customer Support Center
   Calling within the United States (800) 457-7777
   Calling from outside the United States (949) 859-4273

For more information, see "If Something Goes Wrong" on page 158 in this guide.

2

Model: Portégé® Z830 Series

Recordable and/or ReWritable Drive(s) and Associated Software Warranty

The computer system you purchased may include Recordable and/or ReWritable optical disc drive(s) and associated software, among the most advanced data storage technologies available. As with any new technology, you must read and follow all set-up and usage instructions in the applicable user guides and/or manuals enclosed or provided electronically. If you fail to do so, this product may not function properly and you may lose data or suffer other damage. TOSHIBA AMERICA INFORMATION SYSTEMS, INC. ("TOSHIBA"), ITS AFFILIATES AND SUPPLIERS DO NOT WARRANT THAT OPERATION OF THE PRODUCT WILL BE UNINTERRUPTED OR ERROR FREE. YOU AGREE THAT TOSHIBA, ITS AFFILIATES AND SUPPLIERS SHALL HAVE NO RESPONSIBILITY FOR DAMAGE TO OR LOSS OF ANY BUSINESS, PROFITS, PROGRAMS, DATA, NETWORK SYSTEMS OR REMOVABLE STORAGE MEDIA ARISING OUT OF OR RESULTING FROM THE USE OF THE PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

Protection of Stored Data

For your important data, please make periodic back-up copies of all the data stored on the hard disk or other storage devices as a precaution against possible failures, alteration, or loss of the data. **IF YOUR DATA IS ALTERED OR LOST DUE TO ANY TROUBLE, FAILURE OR MALFUNCTION OF THE HARD DISK DRIVE OR OTHER STORAGE DEVICES AND THE DATA CANNOT BE RECOVERED, TOSHIBA SHALL NOT BE LIABLE FOR ANY DAMAGE OR LOSS OF DATA, OR ANY OTHER DAMAGE RESULTING THEREFROM. WHEN COPYING OR TRANSFERRING YOUR DATA, PLEASE BE SURE TO CONFIRM WHETHER THE DATA HAS BEEN SUCCESSFULLY COPIED OR TRANSFERRED. TOSHIBA DISCLAIMS ANY LIABILITY FOR THE FAILURE TO COPY OR TRANSFER THE DATA CORRECTLY.**

Critical Applications

The computer you have purchased is not designed for any "critical applications." "Critical applications" means life support systems, medical applications, connections to implanted medical devices, commercial transportation, nuclear facilities or systems or any other applications where product failure could lead to injury to persons or loss of life or catastrophic property damage. **ACCORDINGLY, TOSHIBA, ITS AFFILIATES AND SUPPLIERS DISCLAIM ANY AND ALL LIABILITY ARISING OUT OF THE USE OF THE COMPUTER PRODUCTS IN ANY CRITICAL APPLICATIONS. IF YOU USE THE COMPUTER PRODUCTS IN A CRITICAL APPLICATION, YOU, AND NOT TOSHIBA, ASSUME FULL RESPONSIBILITY FOR SUCH USE.**

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, it 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 to 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.

NOTE   Only Peripherals complying with the FCC Class B limits may be attached to this equipment. Operation with noncompliant 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 and the computer's ports. 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.

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

❖ This device may not cause harmful interference.

❖ This device must accept any interference received, including interference that may cause undesired operation.

Contact either:

❖ Toshiba's Support Web site at support.toshiba.com.

❖ Or call the Toshiba Customer Support Center:

Within the United States at (800) 457-7777

Outside the United States at (949) 859-4273

Industry Canada Requirement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conformé à la norme NMB-003 du Canada.

FCC requirements

The following information is pursuant to FCC CFR 47, Part 68 and refers to internal modems and is only applicable if your computer has a modem.

This equipment complies with Part 68 of the FCC rules. On the bottom of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, the information must be provided to the telephone company.

The modem connects to the telephone line by means of a standard jack called the USOC RJ11C.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC part 68 rules and requirements adopted by the ACTA. It is designed to be connected to a compatible modular jack that is also compliant.

The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. For products approved after July 23, 2001, the REN for this product is part of the product identifier that has the format US:AAAEQ##TXXXX. The digits represented by the ## are the REN without a decimal point (e.g., 03 is a REN of 0.3). For earlier products, the REN is separately shown on the label.

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

Telephone Company Procedures

The goal of the telephone company is to provide you with the best service it can. In order to do this, it may occasionally be necessary for them to make changes in their equipment, operations or procedures. If these changes might affect your service or the operation of your equipment, the telephone company will give you notice, in writing, to allow you to make any changes necessary to maintain uninterrupted service.

If Problems Arise

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advanced notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

If trouble is experienced with this equipment, for repair or standard limited warranty information, please contact Toshiba Corporation, Toshiba America Information Systems, Inc. or an authorized representative of Toshiba, or the Toshiba Customer Support Center within the United States at (800) 457-7777 or Outside the United States at (949) 859-4273. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

Disconnection

If you should ever decide to permanently disconnect your modem from its present line, please call the telephone company and let them know of this change.

Fax Branding

The following information is only applicable if your computer has the capability to send and receive fax transmissions.

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including Fax machines, to send any message unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. (The telephone number provided may not be a 900 number or any other number for which charges exceed local or long-distance transmission charges.)

In order to program this information into your fax transmission, refer to the fax software instructions installed on this computer.

Alarm Equipment

If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this equipment does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

Instructions for IC CS-03 Certified Equipment

1 NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

2 The user manual of analog equipment must contain the equipment's Ringer Equivalence Number (REN) and an explanation notice similar to the following:

The Ringer Equivalence Number (REN) of this device can be found on the label affixed to your computer.

NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

3 The standard connecting arrangement (telephone jack type) for this equipment is jack type(s): USOC RJ11C.

Wireless Interoperability

The TOSHIBA Wireless LAN Mini PCI Card products are designed to be interoperable with any wireless LAN product that is based on Direct Sequence Spread Spectrum (DSSS) radio technology, and is compliant to:

❖ The IEEE 802.11 Standard on Wireless LANs (Revision A/B/G), as defined and approved by the Institute of Electrical and Electronics Engineers.

❖ The Wireless Fidelity (Wi-Fi®) certification as defined by the Wi-Fi Alliance. The "Wi-Fi CERTIFIED" logo is a certification mark of the Wi-Fi Alliance.

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

Please contact Toshiba computer product support on Web site http://www.toshiba-europe.com/computers/tnt/bluetooth.htm in Europe or support.toshiba.com in the United States for more information.

CAUTION Radio Frequency Interference Requirements

This device is restricted to indoor use due to its operation in the 5.15 GHz to 5.25 GHz frequency range. FCC requires this product to be used indoors for frequency range 5.15 GHz to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems.

High power radars are allocated as primary users of the 5.25 GHz to 5.35 GHz and 5.65 GHz to 5.85 GHz bands. These radar stations can cause interference with and/or damage this device.

NOTE The above caution applies to products that operate with an 802.11a radio device.

8

Wireless LAN and Your Health

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

Because Wireless LAN products operate within the guidelines found in radio frequency safety standards and recommendations, TOSHIBA believes Wireless LAN 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 LAN may be restricted by the proprietor of the building or responsible representatives of the organization. These situations may for example include:

❖ Using the Wireless LAN equipment on board 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 LAN device prior to turning on the equipment.

CAUTION Exposure to Radio Frequency Radiation

The radiated output power of the TOSHIBA Wireless LAN Mini PCI Card is far below the FCC radio frequency exposure limits. Nevertheless, the TOSHIBA Wireless LAN Mini PCI Card shall be used in such a manner that the potential for human contact during normal operation is minimized. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Regulatory Information

The TOSHIBA Wireless LAN Mini PCI Card 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 device complies with the following radio frequency and safety standards.

Canada – Industry Canada (IC)

This device complies with RSS 210 of Industry Canada.

CAUTION The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's Web site www.hc-sc.gc.ca/rpb. The RF device shall not be co-located with any other transmitter that has not been tested with this device.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device.

L' utilisation de ce dispositif est soumis aux deux conditions suivantes: (1) il ne doit pas produire de brouillage et (2) l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même s'il est susceptible de compromettre son fonctionnement.

The term "IC" before the equipment certification number only signifies that the Industry Canada technical specifications were met.

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Pour empecher que cet appareil cause du brouillage au service faisant l'objet d'une licence, il doit etre utilize a l'interieur et devrait etre place loin des fenetres afin de Fournier un ecram de blindage maximal. Si le matriel (ou son antenne d'emission) est installe a l'exterieur, il doit faire l'objet d'une licence.

CAUTION This device is restricted to indoor use due to its operation in the 5.15 GHz to 5.25 GHz frequency range. Industry Canada requires this product to be used indoors for frequency range 5.15 GHz to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems.

High power radars are allocated as primary users of the 5.25 GHz to 5.35 GHz and 5.65 GHz to 5.85 GHz bands. These radar stations can cause interference with and/or damage this device.

NOTE The above caution applies to products that operate with an 802.11a radio device.

EU Declaration of Conformity

TOSHIBA declares that this product conforms to the following Standards:

Supplementary Information: *The product complies with the requirements of the Low Voltage Directive 73/23/EEC, the EMC Directive 89/336/EEC and/or the R&TTE Directive 1999/5/EC.

This product is carrying the CE-Mark in accordance with the related European Directives. The party responsible for CE-Marking is TOSHIBA Europe GmbH, Hammfelddamm 8, 41460 Neuss, Germany.

The European Union WEEE (Waste from Electrical and Electronic Equipment) Directive Information

The European Union WEEE (Waste from Electrical and Electronic Equipment) Directive is intended to protect the quality of the environment and human health through the responsible use of natural resources and the adoption of waste management strategies that focus on recycling and reuse. This Directive requires producers of electrical and electronic products put on the market in European Union (EU) member countries after August 2005 to mark such products with a crossed-out wheeled bin with a black bar symbol. If the product's battery or accumulator contains more than the specified values of lead (Pb), mercury (Hg), and/or cadmium (Cd) defined in the Battery Directive (2006/66/EC), then the chemical symbols for lead (Pb), mercury (Hg) and/or cadmium (Cd) will appear below the crossed out wheeled bin symbol on the battery.

Pb, Hg, Cd

In the European Union, these symbols indicate that when the last end user wishes to discard this product, it must be sent to appropriate facilities for recovery and recycling. This Directive applies to EU member countries only and does not apply to end users in other countries such as the United States.

Although the initial emphasis is in Europe, Toshiba is already working with design engineers, suppliers, and other partners to determine appropriate worldwide product life cycle planning and end-of-life strategies for our products. Please contact your local government for applicable laws and regulations governing the disposal of this product. For information on how to trade-in or recycle your product, visit www.reuse.toshiba.com.

VCCI Class B Information

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＢ情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

Modem Warning Notice

This information is only applicable if your computer has a modem.

Conformity Statement

The equipment has been approved to [Commission Decision "CTR21"] for pan-European single terminal connection to the Public Switched Telephone Network (PSTN).

However, due to differences between the individual PSTNs provided in different countries/regions the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point.

In the event of problems, you should contact your equipment supplier in the first instance.

Taiwan

Article 14	Unless approved, for any model accredited low power radio frequency electric machinery, any company, trader or user shall not change the frequency, increase the power or change the features and functions of the original design.
Article 17	Any use of low power radio frequency electric machinery shall not affect aviation safety and interfere with legal communications. In the event interference is caused, the use of such electric machinery shall be immediately discontinued. Operation of such products can be resumed only when they are modified and can no longer cause interference.

The legal communications mentioned in the above item refer to radio communications operated in accordance with telecommunication laws and regulations.

Low power radio frequency electric machinery shall resist against interference from legal communications or from industrial, scientific and medical radio emission electric machinery.

12

Using this Equipment in Japan

In Japan, the frequency bandwidth of 2,400 MHz to 2,483.5 MHz for second generation low-power data communication systems such as this equipment overlaps that of mobile object identification systems (premises radio station and specified low-power radio station).

1. Sticker

Please put the following sticker on devices incorporating this product.

> The frequency bandwidth of this equipment may operate within the same range as industrial devices, scientific devices, medical devices, microwave ovens, licensed radio stations and non-licensed specified low-power radio stations for mobile object identification systems (RFID) used in factory product lines (Other Radio Stations).
>
> 1. Before using this equipment, ensure that it does not interfere with any of the equipment listed above.
>
> 2. If this equipment causes RF interference to other radio stations, promptly change the frequency being used, change the location of use, or turn off the source of emissions.
>
> 3. Contact TOSHIBA Direct PC if you have problems with interference caused by this product to Other Radio Stations.

2. Indication

The indication shown below appears on this equipment.

```
(1)  (2)  (3)
2.4DSOF4
 ▪▪  ▪▪  ▪▪
   (4)
```
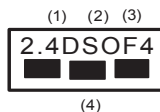
1 2.4: This equipment uses a frequency of 2.4 GHz.

2 DS: This equipment uses DS-SS modulation.

OF: This equipment uses OFDM modulation.

3 The interference range of this equipment is less than 40m.

4 ▪▪ ▪▪ ▪▪ This equipment uses a frequency bandwidth from 2,400 MHz to 2,483.5 MHz.

It is possible to avoid the band of mobile object identification systems.

The indication shown below appears on this equipment.

```
(1)  (2)  (3)
2.4FH1
 □  □  □
   (4)
```
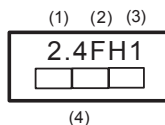
1 2.4: This equipment uses a frequency of 2.4 GHz.

2 FH: This equipment uses FH-SS modulation.

3 The interference range of this equipment is less than 10m.

4 This equipment uses a frequency bandwidth from 2,400 MHz to 2,483.5 MHz.

3. TOSHIBA Direct PC

Monday – Friday: 10:00 – 17:00

Toll Free Tel: 0120-15-1048

Direct Dial: 03-3457-4850

Fax: 03-3457-4868

Device Authorization

This device obtains the Technical Regulation Conformity Certification and the Technical Conditions Compliance Approval, and it belongs to the device class of radio equipment of low-power data communication system radio station stipulated in the Radio Law and the Telecommunications Business Law of Japan.

The name of the radio equipment: refer to the equipment label provided on the computer

Approved by both the JAPAN APPROVALS INSTITUTE FOR TELECOMMUNICATIONS EQUIPMENT and the TELECOM ENGINEERING CENTER

The following restrictions apply:

❖ Do not disassemble or modify the device.
❖ Do not install the embedded wireless module into other device.
❖ 5.17 GHz to 5.23 GHz for indoor use only.

Radio Approvals for Wireless Devices

NOTE The following information is dependent on what type of wireless device is in your computer. Not all devices are available on all models.

14

Approved Countries/Regions for the Intel® Wireless Wi-Fi® Link 5100/5300 Series

This equipment is approved to the radio standard by the countries/regions in the following table.

CAUTION Do not use this equipment except in the countries/regions in the following table.

Andorra	Argentina CNC: 533AN_HMW: "CNC C-6367" 533AN_MMW: "CNC C-6366" 512AN_HMW: "CNC C-6373" 512AN_MMW: "CNC C-6374"	Australia
Austria	Azerbaijan	Bahrain
Belgium	Bermuda	Bosnia
Brazil	Bulgaria	Caicos Islands
Cambodia	Canada	Cayman Islands
Chile	China	Colombia
Costa Rica	Croatia	Curacao, Netherlands Antilles
Cyprus	Czech Republic	Denmark
Dominican Republic	Ecuador	El Salvador
Egypt	Estonia	Falkland Islands
Finland	France	French Guinea
French Polynesia	Germany	Ghana
Gibraltar	Greece	Guadeloupe
Guam	Guatemala	Herzegovina
Honduras	Hong Kong	Hungary
Iceland	India	Indonesia
Ireland	Israel	Italy
Japan	Jordan	Kenya
Kuwait	Latvia	Lebanon
Liechtenstein	Lithuania	Luxemburg
Malawi	Malaysia	Malta
Martinique	Mayotte	Mexico
Monaco	Montenegro	Montserrat
Morocco	Netherlands	New Caledonia
New Zealand	Nicaragua	Norway
Oman	Pakistan	Panama

Paraguay	Peru	Philippines
Poland	Portugal	Puerto Rico
Qatar	Réunion	Romania
Russia	Saint Martin	Saipan
San Marino	Saudi Arabia	Serbia
Singapore	Slovakia	Slovenia
South Africa	South Korea	Spain
Sri Lanka	Sweden	Switzerland
Tahiti	Taiwan	Turkey
Turk Islands	Ukraine	UAE (United Arab Emirates)
United Kingdom	Uruguay	USA
Vatican	Venezuela	Vietnam
Virgin Islands	Zimbabwe	

Approved Countries/Regions for the Intel® Wireless Wi-Fi® Link 622ANHMW and 633ANHMW Series

This equipment is approved to the radio standard by the countries/regions in the following table.

CAUTION Do not use this equipment except in the countries/regions in the following table.

Canada	USA	

Approved Countries/Regions for the Realtek® RTL8188CE

This equipment is approved to the radio standard by the countries/regions in the following table.

CAUTION Do not use this equipment except in the countries/regions in the following table.

Albania	Argentina	Aruba (Netherlands)
Australia	Austria	Azerbaijan
Bahrain	Bangladesh	Belgium
Bolivia	Bosnia and Herzegovina	Botswana
Brazil	Brunei	Bulgaria
Cambodia	Canada	CB report
Chile	China	Colombia
Costa Rica	Croatia	Cyprus

Czech Republic	Denmark	Dominican Republic
Ecuador	Egypt	El Salvador
Estonia	Finland	France
Germany	Ghana	Greece
Grenada	Guatemala	Honduras
Hong Kong	Hungary	Iceland
India	Indonesia	Ireland
Israel	Italy	Jamaica
Japan - Jate	Japan - Telec	Jordan
Kazakhstan	Kenya	Kuwait
Kyrgyzstan	Latvia	Lebanon
Lesotho	Liechtenstein	Lithuania
Luxembourg	Macedonia	Malaysia
Malta	Mexico	Monaco
Montenegro	Morocco	Mozambique
Nambia	Nepal	Netherlands
Netherlands Antilles	New Zealand	Nicaragua
Nigeria	Norway	Oman
Pakistan	Panama	Papua New Guinea
Paraguay	Peru	Philippines
Poland	Portugal	Puerto Rico
Qatar	Romania	Rwanda
Saint Vincent and the Grenadines	Saudi Arabia	Senegal
Serbia	Singapore	Slovak Republic
Slovenia	South Africa	South Korea
Spain	Sri Lanka	Sweden
Switzerland	Taiwan	Thailand
Trinidad and Tobago	Tunisia	Turkey
Uganda	UAE (United Arab Emirates)	United Kingdom
Uruguay	USA	Venezuela
Vietnam	Zimbabwe	

Approved Countries/Regions for the Atheros® Wireless Wi-Fi® Link AR5B95 Series

This equipment is approved to the radio standard by the countries/regions in the following table.

CAUTION Do not use this equipment except in the countries/regions in the following table.

Albania	Argentina CNC: 693 GI/2007 3655 GI/2007	Australia
Austria	Azerbaijan	Bahrain
Bangladesh	Belgium	Bolivia
Bosnia	Brazil	Brunei
Bulgaria	Cambodia	Canada
Chile	China	Colombia
Croatia	Cyprus	Czech Republic
Denmark	Dominican Republic	Ecuador
Egypt	El Salvador	Estonia
Finland	France	Germany
Ghana	Greece	Guatemala
Herzegovina	Honduras	Hong Kong
Hungary	Iceland	India
Indonesia	Iraq	Ireland
Italy	Jamaica	Japan
Jordan	Kazakhstan	Kenya
Kuwait	Kyrgyzstan	Latvia
Lebanon	Lesotho	Liechtenstein
Lithuania	Luxembourg	Macedonia
Malaysia	Malta	Mexico
Monaco	Montenegro	Mozambique
Nambia	Nepal	Netherlands
New Zealand	Nicaragua	Nigeria
Norway	Oman	Pakistan
Panama	Papua New Guinea	Paraguay
Peru	Philippines	Poland
Portugal	Puerto Rico	Qatar
Romania	Russia	Saudi Arabia
Senegal	Serbia	Singapore
Slovak Republic	Slovenia	South Africa
South Korea	Spain	Sri Lanka
Sweden	Switzerland	Taiwan
Thailand	Turkey	UAE (United Arab Emirates)

Ukraine	United Kingdom	Uruguay
USA	Venezuela	Vietnam
Yemen	Zimbabwe	

Europe - Restrictions for use of 2.4 GHz Frequencies in European Community Countries

België/ Belgique:	For private usage outside buildings across public grounds over less than 300m no special registration with IBPT/BIPT is required. Registration to IBPT/BIPT is required for private usage outside buildings across public grounds over more than 300m. For registration and license please contact IBPT/BIPT.
	Voor privé-gebruik buiten gebouw over publieke groud over afstand kleiner dan 300m geen registratie bij BIPT/IBPT nodig; voor gebruik over afstand groter dan 300m is wel registratie bij BIPT/IBPT nodig. Voor registratie of licentie kunt u contact opnemen met BIPT.
	Dans le cas d'une utilisation privée, à l'extérieur d'un bâtiment, au-dessus d'un espace public, aucun enregistrement n'est nécessaire pour une distance de moins de 300m. Pour une distance supérieure à 300m un enregistrement auprès de l'IBPT est requise. Pour les enregistrements et licences, veuillez contacter l'IBPT.
Deutschland:	License required for outdoor installations. Check with reseller for procedure to follow.
	Anmeldung im Outdoor-Bereich notwendig, aber nicht genehmigungspflichtig. Bitte mit Händler die Vorgehensweise abstimmen.
France:	Restricted frequency band: only channels 1 to 7 (2400 MHz and 2454 MHz respectively) may be used outdoors in France. Please contact A.R.T. (http://www.art-telecom.fr) for applicable procedures to follow.
	Bande de fréquence restreinte: seuls les canaux 1- 7 (2400 et 2454 MHz respectivement) doivent être utilisés endroits extérieur en France. Vous pouvez contacter l'Autorité de Régulation des Télécommunications (http://www.art-telecom.fr) pour la procédure à suivre.
Italia:	License required for indoor use. Use with outdoor installations not allowed.
	È necessaria la concessione ministeriale anche per l'uso interno. Verificare con i rivenditori la procedura da seguire.
Nederland:	License required for outdoor installations. Check with reseller for procedure to follow.
	Licentie verplicht voor gebruik met buitenantennes. Neem contact op met verkoper voor juiste procedure.

Europe - Restrictions for Use of 5 GHz Frequencies in European Community Countries

European Community Countries	5150-5250 MHz Channels: 36, 40, 44, 48 Indoor Only	5250-5350 MHz Channels: 52, 56, 60, 64 Indoor Only	5470-5725 MHz Channels: 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140 Indoor/Outdoor
Austria	O	x	x
Belgium, France, Switzerland/Liechtenstein	O	O	x
Denmark, Finland, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Sweden, UK	O	O	O
Iceland, Spain	O	O	O

O: allowed   x: forbidden

❖ To remain in conformance with European spectrum usage laws for Wireless LAN operation, the above 2.4 GHz and 5 GHz channel limitations apply. The user should use the wireless LAN utility to check the current channel of operation. If operation is occurring outside of the allowable frequencies as listed above, the user must cease operating the Wireless LAN at that location and consult the local technical support staff responsible for the wireless network.

❖ The 5 GHz Turbo mode feature is not allowed for operation in any European Community country.

❖ This device must not be operated in ad-hoc mode using channels in the 5 GHz bands in the European Community. Ad-hoc mode provides a direct communication between two client devices without a Wireless LAN Access Point.

❖ This device must be used with Access Points that have employed and activated a radar detection feature required for European Community operation in the 5 GHz bands. This device will operate under the control of the Access Point in order to avoid operating on a channel occupied by any radar system in the area. The presence of nearby radar operation may result in temporary interruption of operation of this device. The Access Point's radar detection feature will automatically restart operation on a channel free of radar. You may consult with the local technical support staff responsible for the wireless network to ensure the Access Point device(s) are properly configured for European Community operation.

20

Approved Countries/Regions for the Realtek® RTL8192E

This equipment is approved to the radio standard by the countries/regions in the following table.

CAUTION Do not use this equipment except in the countries/regions in the following table.

Albania	Argentina	Australia
Austria	Azerbaijan	Bahrain
Bangladesh	Belgium	Bolivia
Bosnia	Brazil	Bulgaria
Cambodia	Canada	Chile
China	Colombia	Costa Rica
Croatia	Cyprus	Czech Republic
Denmark	Dominican Republic	Ecuador
Egypt	El Salvador	Estonia
Finland	France	Germany
Ghana	Greece	Herzegovina
Honduras	Hong Kong	Hungary
Iceland	India	Indonesia
Ireland	Israel	Italy
Japan	Jordan	Kazakhstan
Kenya	Kuwait	Kyrgyzstan
Latvia	Lebanon	Lesotho
Liechtenstein	Lithuania	Luxembourg
Macedonia	Malaysia	Malta
Mexico	Monaco	Morocco
Mozambique	Netherlands	New Zealand
Nicaragua	Norway	Oman
Pakistan	Panama	Papua New Guinea
Paraguay	Peru	Philippines
Poland	Portugal	Puerto Rico
Qatar	Romania	Saudi Arabia
Serbia	Singapore	Slovak Republic
Slovenia	South Africa	South Korea
Spain	Sri Lanka	Sweden
Switzerland	Taiwan	Thailand
Trinidad	Turkey	UAE (United Arab Emirates)
United Kingdom	Uruguay	USA
Venezuela	Vietnam	Zimbabwe

Approved Countries/Regions for the Realtek® RTL8191SE

This equipment is approved to the radio standard by the countries/regions in the following table.

CAUTION Do not use this equipment except in the countries/regions in the following table.

Albania	Argentina	Australia
Austria	Azerbaijan	Bahrain
Bangladesh	Belgium	Bolivia
Bosnia	Brazil	Bulgaria
Cambodia	Canada	Chile
China	Colombia	Costa Rica
Croatia	Cyprus	Czech Republic
Denmark	Dominican Republic	Ecuador
Egypt	El Salvador	Estonia
Finland	France	Ghana
Germany	Greece	Herzegovina
Hong Kong	Hungary	Iceland
India	Indonesia	Ireland
Israel	Italy	Jamaica
Japan	Jordan	Kazakhstan
Kenya	Kuwait	Kyrgyzstan
Latvia	Lebanon	Liechtenstein
Lithuania	Luxembourg	Macedonia
Malaysia	Malta	Mexico
Monaco	Morocco	Mozambique
Netherlands Antilles	Netherlands	New Zealand
Norway	Oman	Pakistan
Panama	Papua New Guinea	Paraguay
Peru	Philippines	Poland
Portugal	Puerto Rico	Qatar
Romania	Russia	Saudi Arabia
Serbia	Singapore	Slovak Republic
Slovenia	South Africa	South Korea
Spain	Sri Lanka	Sweden
Switzerland	Taiwan	Thailand
Trinidad	Tunisia	Turkey

UAE (United Arab Emirates)	Ukraine	United Kingdom
Uruguay	USA	Venezuela
Vietnam	Zimbabwe	

Approved Countries/Regions for the Realtek® RTL8187B

This equipment is approved to the radio standard by the countries/regions in the following table.

CAUTION Do not use this equipment except in the countries/regions in the following table.

Albania	Algeria	Argentina
Australia	Austria	Azerbaijan
Bahrain	Bangladesh	Belgium
Bolivia	Bosnia	Brazil
Brunei	Bulgaria	Cambodia
Canada	Chile	China
Colombia	Costa Rica	Croatia
Cyprus	Czech Republic	Denmark
Dominican Republic	Ecuador	Egypt
El Salvador	Estonia	Finland
France	Germany	Ghana
Greece	Guatemala	Herzegovina
Honduras	Hong Kong	Hungary
Iceland	India	Indonesia
Ireland	Israel	Italy
Japan - Jate	Japan - Teleco	Jordan
Kazakhstan	Kenya	Kyrgyzstan
Kuwait	Latvia	Lebanon
Lesotho	Liechtenstein	Lithuania
Luxembourg	Macedonia	Malaysia
Malta	Mexico	Monaco
Morocco	Mozambique	Netherlands
New Zealand	Nicaragua	Nigeria
Norway	Oman	Pakistan
Panama	Papua New Guinea	Paraguay
Peru	Philippines	Poland
Portugal	Puerto Rico	Qatar
Romania	Russia	Saudi Arabia
Senegal	Serbia and Montenegro	Singapore
Slovak Republic	Slovenia	South Africa
South Korea	Spain	Sri Lanka

Sweden	Switzerland	Taiwan
Thailand	Turkey	Ukraine
UAE (United Arab Emirates)	United Kingdom	Uruguay
USA	Venezuela	Vietnam
Yemen	Zimbabwe	

Bluetooth® Wireless Technology Interoperability

Bluetooth® Cards from TOSHIBA 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 as defined and approved by The *Bluetooth* Special Interest Group.

❖ Logo certification with *Bluetooth* wireless technology as defined by The *Bluetooth* Special Interest Group.

CAUTION Always use *Bluetooth* cards from TOSHIBA in order to enable wireless networks over two or more (up to a total of seven) TOSHIBA portable computers using these cards. Please contact TOSHIBA computer product support on Web site http://www.toshiba-europe.com/computers/tnt/bluetooth.htm in Europe or support.toshiba.com in the United States for more information.

When you use *Bluetooth* cards from TOSHIBA close to 2.4 GHz Wireless LAN devices, *Bluetooth* transmissions might slow down or cause errors. If you detect certain interference while you use *Bluetooth* cards from TOSHIBA, always change the frequency, move your computer to the area outside of the interference range of 2.4 GHz Wireless LAN devices (40 meters/43.74 yards or more) or stop transmitting from your computer. Please contact TOSHIBA computer product support on Web site http://www.toshiba-europe.com/computers/tnt/bluetooth.htm in Europe or support.toshiba.com in the United States for more information.

Bluetooth and Wireless LAN devices operate within the same radio frequency range and may interfere with one another. If you use *Bluetooth* 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 contact Toshiba computer product support on Web site http://www.toshiba-europe.com/computers/tnt/bluetooth.htm in Europe or support.toshiba.com in the United States for more information.

Approved Countries/Regions for use (*Bluetooth*® wireless technology)

Bluetooth® Card from Toshiba equipment is approved to the radio standard by the countries/regions in the following table.

CAUTION   Do not use this equipment except in the countries/regions in the following table.

Argentina	Australia	Austria
Belgium	Bulgaria	Canada
Chile	China	Cyprus
Czech Republic	Denmark	Egypt
Estonia	Finland	France
Germany	Greece	Hong Kong
Hungary	Iceland	Ireland
Italy	Japan	Jordan
Korea	Kuwait	Latvia
Lebanon	Liechtenstein	Lithuania
Luxembourg	Malta	Netherlands
New Zealand	Norway	Oman
Peru	Philippines	Poland
Portugal	Singapore	Slovakia
Slovenia	Spain	Sweden
Switzerland	Thailand	UK
Uruguay	USA	Venezuela

Bluetooth® Wireless Technology and Your Health

The products with *Bluetooth*® wireless technology, like other radio devices, emit radio frequency electromagnetic energy. The level of energy emitted by devices with *Bluetooth* wireless technology however is much less than the electromagnetic energy emitted by wireless devices such as mobile phones.

Because products with *Bluetooth* wireless technology operate within the guidelines found in radio frequency safety standards and recommendations, TOSHIBA believes *Bluetooth* wireless technology 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 *Bluetooth* wireless technology may be restricted by the proprietor of the building or responsible representatives of the organization. These situations may for example include:

❖ Using the equipment with *Bluetooth* wireless technology on board 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 device with *Bluetooth* wireless technology prior to turning on the equipment.

CAUTION   Exposure to Radio Frequency Radiation

The radiated output power of the *Bluetooth* Card from TOSHIBA is far below the FCC radio frequency exposure limits. Nevertheless, the *Bluetooth* Card from TOSHIBA shall be used in such a manner that the potential for human contact during normal operation is minimized.

Regulatory statements

This product complies with any mandatory product specification in any country/region where the product is sold. In addition, the product complies with the following:

European Union (EU) and EFTA

This equipment complies with the R&TTE directive 1999/5/EC and has been provided with the CE mark accordingly.

Canada — Industry Canada (IC)

This device complies with RSS 210 of Industry Canada.

Taiwan

Article 14	Unless approved, for any model accredited low power radio frequency electric machinery, any company, trader or user shall not change the frequency, increase the power or change the features and functions of the original design.
Article 17	Any use of low power radio frequency electric machinery shall not affect aviation safety and interfere with legal communications. In the event interference is caused, the use of such electric machinery shall be immediately discontinued. Operation of such products can be resumed only when they are modified and can no longer cause interference.

The legal communications mentioned in the above item refer to radio communications operated in accordance with telecommunication laws and regulations.

Low power radio frequency electric machinery shall resist against interference from legal communications or from industrial, scientific and medical radio emission electric machinery.

Location of the Required Label

(Sample shown below. Location of the label and manufacturing information may vary.)

PRODUCT IS CERTIFIED BY THE MANUFACTURER TO COMPLY WITH DHHS RULES 21 CFR SUBCHAPTER J APPLICABLE AT THE DATE OF MANUFACTURE. MANUFACTURED:

TOSHIBA CORPORATION
1-1-1, SHIBAURA, MINATO-KU,
TOKYO 105-8001, JAPAN
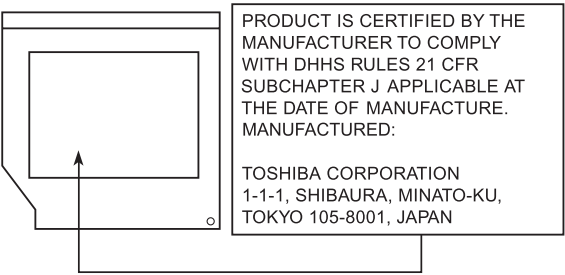
Copyright

This guide is copyrighted by Toshiba America Information Systems, Inc. with all rights reserved. Under the copyright laws, this guide cannot be reproduced in any form without the prior written permission of Toshiba. No patent liability is assumed, however, with respect to the use of the information contained herein.

©2011 by Toshiba America Information Systems, Inc. All rights reserved.

Export Administration Regulation

This document contains technical data that may be controlled under the U.S. Export Administration Regulations, and may be subject to the approval of the U.S. Department of Commerce prior to export. Any export, directly or indirectly, in contravention of the U.S. Export Administration Regulations is prohibited.

Notice

The information contained in this manual, including but not limited to any product specifications, is subject to change without notice.

TOSHIBA CORPORATION AND TOSHIBA AMERICA INFORMATION SYSTEMS, INC. (TOSHIBA) PROVIDES NO WARRANTY WITH REGARD TO THIS MANUAL OR ANY OTHER INFORMATION CONTAINED HEREIN AND HEREBY EXPRESSLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE WITH REGARD TO ANY OF THE FOREGOING. TOSHIBA ASSUMES NO LIABILITY FOR ANY DAMAGES INCURRED DIRECTLY OR INDIRECTLY FROM ANY TECHNICAL OR TYPOGRAPHICAL ERRORS OR OMISSIONS CONTAINED HEREIN OR FOR DISCREPANCIES BETWEEN THE PRODUCT AND THE MANUAL. IN NO EVENT SHALL TOSHIBA BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR EXEMPLARY DAMAGES, WHETHER BASED ON TORT, CONTRACT OR OTHERWISE, ARISING OUT OF OR IN CONNECTION WITH THIS MANUAL OR ANY OTHER INFORMATION CONTAINED HEREIN OR THE USE THEREOF.

Trademarks

Portégé and eco Utility are either registered trademarks or trademarks of Toshiba America Information Systems, Inc. and/or Toshiba Corporation.

Adobe and Photoshop are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Atheros is a registered trademark of Atheros Communications, Inc.

Bluetooth word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Toshiba is under license. Other trademarks and trade names are those of their respective owners.

HDMI, the HDMI Logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing, LLC.

Intel, Intel Core, Celeron, Centrino and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Microsoft, Outlook, Windows, and Windows Media are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

MultiMediaCard and MMC are registered trademarks of MultiMediaCard Association.

Secure Digital and SD are trademarks of SD Card Association.

Wi-Fi is a registered trademark of the Wi-Fi Alliance.

All other brand and product names are trademarks or registered trademarks of their respective companies.

Licenses

This Product is licensed under the AVC, the VC-1 and the MPEG-4 Part 2 Visual patent portfolio licenses for the personal and non-commercial use of a consumer to (i) encode video in compliance with the above standards ("Video Standards") and/or (ii) decode AVC, VC-1 and MPEG-4 Part 2 Visual that was encoded by a consumer engaged in personal and non-commercial activity or was obtained from a video provider licensed to provide such video. None of the licenses extend to any other product regardless of whether such product is included with this product in a single article. No license is granted or shall be implied for any other use. Additional information may be obtained from MPEG LA, LLC. See www.mpegla.com.

Computer Disposal Information

As part of Toshiba's commitment to preserving the environment, Toshiba supports various trade-in and recycling programs. For details, please visit us.toshiba.com/green.

Contents

Introduction

Welcome to the world of powerful, portable, multimedia computing. With your Toshiba computer, your work and entertainment can accompany you wherever you go.

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

Toshiba is a partner in the Environmental Protection Agency's (EPA) 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. We recommend 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. See the "Mobile Computing" section of the Toshiba User's Guide for more information on using power management settings to conserve computer energy.

According to the EPA, a computer meeting the new ENERGY STAR® specifications will use between 30% and 60% less energy depending on how it is used. If all U.S. households and businesses replaced old computers with new ENERGY STAR® qualified models, we would save more than $2 billion in energy costs each year and avoid greenhouse gas emissions equivalent to nearly 3 million cars.

If every computer purchased by businesses this year met the new ENERGY STAR® requirements, businesses would save more than $1.6 billion over the lifetime of those models. That is equivalent to lighting 840 million square feet of U.S. commercial building space each year.

During 2008, Americans, with the help of ENERGY STAR®, saved about $19 billion dollars on their utility bills and avoided greenhouse gas emissions equivalent to those from 29 million vehicles.

Visit http://www.energystar.gov or http://www.energystar.gov/powermanagement for more information regarding the ENERGY STAR® Program.

NOTE This computer is compatible with European Union Directive 2002/95/EC, Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS), which restricts use of lead, cadmium, mercury, hexavalent chromium, PBB, and PBDE. Toshiba requires its computer component suppliers to meet RoHS requirements and verifies its suppliers' commitment to meeting RoHS requirements by conducting component sampling inspections during the product design approval process.

NOTE Certain Microsoft® software product(s) included with this computer may use technological measures for copy protection. IN SUCH EVENT, YOU WILL NOT BE ABLE TO USE THE PRODUCT IF YOU DO NOT FULLY COMPLY WITH THE PRODUCT ACTIVATION PROCEDURES. Product activation procedures and Microsoft's privacy policy will be detailed during initial launch of the product, or upon certain reinstallations of the software product(s) or reconfigurations of the computer, and may be completed by Internet or telephone (toll charges may apply).

Some software may differ from its retail version (if available), and may not include user manuals or all program functionality.

NOTE The product specifications and configuration information are designed for a product Series. Your particular model may not have all the features and specifications listed or illustrated. For more detailed information about the features and specifications on your particular model, please visit Toshiba's Web site at support.toshiba.com.

While Toshiba has made every effort at the time of publication to ensure the accuracy of the information provided herein, product specifications, configurations, prices, system/component/options availability are all subject to change without notice. For the most up-to-date product information about your computer, or to stay current with the various computer software or hardware options, visit Toshiba's Web site at support.toshiba.com.

This guide

This guide introduces the computer's features as well as some basic procedures needed to perform tasks in Windows® 7. You can:

❖ Read the entire guide from beginning to end.

❖ Skim through and stop when a topic interests you.

❖ Use the table of contents and the index to find specific information.

Safety icons

This manual contains safety instructions that must be observed to avoid potential hazards that could result in personal injuries, damage to your equipment, or loss of data. These safety cautions have been classified according to the seriousness of the risk, and icons highlight these instructions as follows:

⚠ DANGER Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION Indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTE Provides important information.

Other icons used

Additional icons highlight other helpful or educational information:

TECHNICAL NOTE: This icon indicates technical information about the computer.

HINT: This icon indicates helpful hints and tips.

DEFINITION: This icon indicates the definition of a term used in the text.

Your computer's features and specifications

Certain computer chassis are designed to accommodate all possible configurations for an entire product Series. Your select model may not have all the features and specifications corresponding to all of the icons or switches shown on the computer chassis, unless you have selected all those features.

This information applies to all the features and icons described in this guide.

Below are examples of some of the many possible icons used on your computer:

(Sample Illustration) System icons

Other documentation

Your computer comes with the following documentation:

❖   An electronic version of the User's Guide (this document)

❖   A Quick Start Card

❖   A Resource Guide

❖   It may also contain guides for other programs that may come with your system.

For accessory information, visit Toshiba's Web site at accessories.toshiba.com.

Service options

Toshiba offers a full line of optional service programs to complement its standard limited warranty. Toshiba's standard limited warranty, extended warranty, and service upgrade terms and conditions are available at warranty.toshiba.com.

To stay current on the most recent software and hardware options for your computer, and for other product information, be sure to regularly check the Toshiba Web site at support.toshiba.com.

If you have a problem or need to contact Toshiba, see "If Something Goes Wrong" on page 158.

Chapter 1

Getting Started

This chapter provides tips for using your computer effectively, summarizes how to connect components, and explains what to do the first time you use your computer.

The "Instruction Manual for Safety and Comfort," that is shipped with your computer, contains important safety information. Please read the safety instructions carefully and make sure you fully understand the instructions before you attempt to use your computer in order to avoid potential hazards that could cause bodily injury, property damage, or damage the computer.

Selecting a place to work

Your computer is portable and designed to be used in a variety of circumstances and locations.

Setting up a work environment

Place the computer on a hard 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. Read the "Provide adequate ventilation" section in the "Instruction Manual for Safety and Comfort" that is shipped with your computer.

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.

Keeping yourself comfortable

The Toshiba Instruction Manual for Safety and Comfort, included with your computer, contains helpful information for setting up your work environment and tips for working comfortably throughout the day.

Precautions

Your computer is designed to provide optimum safety and ease of use, and to withstand the rigors of travel. You should observe certain precautions to further reduce the risk of personal injury or damage to the computer.

❖   Avoid prolonged physical contact with the underside or surface of the computer.

⚠ WARNING   Never allow any liquids to spill into any part of your computer, and never expose the computer to rain, water, seawater or moisture. Exposure to liquid or moisture can cause electric shock or fire, resulting in damage or serious injury. If any of these eventualities should accidentally occur, immediately:

1. Turn off the computer.

2. Disconnect the AC adaptor from the power plug socket and computer.

Failure to follow these instructions could result in serious injury or permanent damage to the computer.

Do not turn on the power again until you have taken the computer to an authorized service center.

A CAUTION

❖ Avoid prolonged physical contact with the underside or surface of the computer.

❖ Computer base and palm rest can become hot! Avoid prolonged contact to prevent heat injury to skin.

Today's performance computers generate heat under normal operating conditions, as a function of system activity. Avoid extended contact between the computer base or palm rest and you skin. Under certain operating conditions such prolonged contact between the computer base or palm rest and your skin may result in skin irritation and/or heat injury.

Consider using a hard computer insulating pad or similarly suitable hard insulating material when using a computer on your lap.

CAUTION Never place a heavy object on the computer and be careful not to drop a heavy object onto the computer. It could damage the computer or cause system failure.

❖ Never turn off the computer if a drive light indicates a drive is active.

Turning off the computer while it is reading from or writing to a disk/disc or flash media may damage the disk/disc or flash media, the drive, or both.

❖ Keep the computer and disks away from objects that generate strong magnetic fields, such as large stereo speakers.

Information on some disks is stored magnetically. Placing a magnet too close to a disk can erase important files.

CAUTION Handle discs carefully. Avoid touching the surface of the disc. Grasp it by its center hole and edge. If you handle the disc incorrectly, you could damage the disc and possibly lose data.

❖ Scan all new files for viruses.

This precaution is especially important for files you receive via email or download from the Internet. Occasionally, even new programs you buy from a supplier may contain a computer virus. You need a special program to check for viruses.

Important information on your computer's cooling fan

Your computer may have a CPU cooling fan that cools the CPU by drawing outside air into the computer.

⚠ WARNING   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 underside 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 located at the underside of 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.

Read the "Provide adequate ventilation" section in the "Instruction Manual for Safety and Comfort" that is shipped with your computer.

NOTE   The cooling fan location will vary depending on the computer.

Setting up your computer

TECHNICAL NOTE: You must complete all setup steps up to and including "Setting up your software" on page 49 before adding external or internal components to your computer. These components include, but are not limited to, a mouse, keyboard, printer, and memory.

Your computer contains a rechargeable main battery that needs to be charged before you can use it.

To use external power or to charge the battery you must attach the AC adaptor. See "Connecting to a power source" on page 45.

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

Connecting to a power source

Your computer requires power to operate. Use the power cord/cable and AC adaptor to connect the computer to a live electrical outlet, or to charge the computer's battery.

| ⚠ WARNING | Never pull on a power cord/cable to remove a plug from a socket. Always grasp the plug directly. Failure to follow this instruction may damage the cord/cable, and/or result in a fire or electric shock, possibly resulting in serious injury. |

| ⚠ WARNING | Always confirm that the power plug (and extension cable plug if used) has been fully inserted into the socket, to ensure a secure electrical connection. Failure to do so may result in a fire or electric shock, possibly resulting in serious injury. |
| | Be careful if you use a multiple connector. An overload on one socket could cause a fire or electric shock, possibly resulting in serious injury. |

| ⚠ WARNING | Always use the TOSHIBA AC adaptor that was provided 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. |

AC adaptor

Power cord/cable
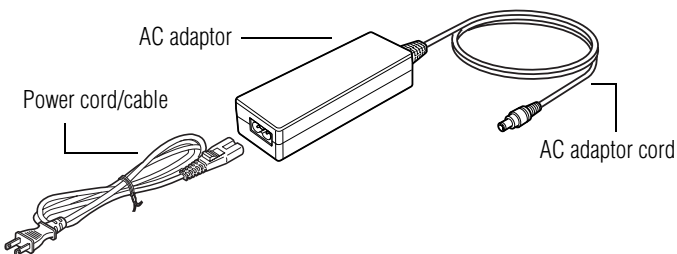
AC adaptor cord

(Sample Illustration) Power cord/cable and AC adaptor

To connect AC power to the computer:

1   Connect the power cord/cable to the AC adaptor.
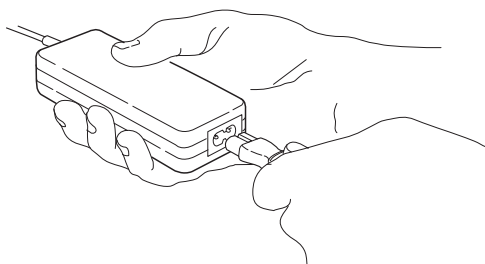
(Sample Illustration) Connecting the power cord/cable to the AC adaptor

⚠ WARNING   Handling the cord on this product will expose you to lead, a chemical known to the State of California to cause birth defects or other reproductive harm. ***Wash hands after handling.***

2   Plug the AC adaptor cord into the DC-IN on the back of the computer.
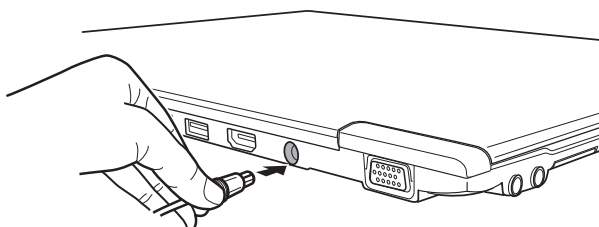
(Sample Illustration) Connecting the AC adaptor cord to the computer

3   Connect the power cord/cable to a live electrical outlet.

The AC power light on the indicator panel glows green.

⚠ WARNING   Never attempt to connect or disconnect a power plug with wet hands. Failure to follow this instruction could result in an electric shock, possibly resulting in serious injury.

The computer's main battery light gives you an indication of the main battery's current charge:

❖ Glows amber while the main battery is being charged (AC adaptor connected)

❖ Glows green when the main battery is fully charged

❖ Is unlit when the main battery has discharged, the battery is not charging, or the AC adaptor is not plugged into the computer or AC outlet

❖ Flashes amber when the main battery charge is low and it is time to recharge the main battery or plug in the AC adaptor

NOTE   If the AC power light flashes amber during charging, either the main battery is malfunctioning, or it is not receiving correct input from the AC power supply.

Disconnect the AC power cord/cable and remove the main battery. See "For more information on the TOSHIBA eco power plan, see the Help file in the TOSHIBA eco Utility™ window." on page 113 for information on replacing the main battery.

Charging the main battery

NOTE   The computer battery is not accessible by user.

Before using the battery to power the computer, you must charge the battery.

To charge the battery, leave the computer plugged into an AC power source with the computer turned off until the battery light glows green. After that, the battery will be completely charged and ready to power the computer.

NOTE   Battery life and charge time may vary depending on the applications, power management settings, and features used.

Using the computer for the first time

The computer is now ready for you to turn it on and begin using it.

Opening the display panel

1 Facing the front of the computer, locate the center of the display panel.

2 Gently raise the panel.

3 Adjust the display to a comfortable viewing angle.
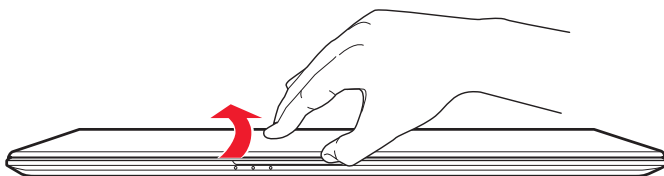
(Sample Illustration) Opening the display panel

NOTE	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.

CAUTION	To avoid damaging the display panel, do not force it beyond the point where it moves easily and never lift the computer by the display panel.
	Do not press or push on the display panel and be careful to remove any pens or other objects from the keyboard area before closing the display panel.

Small bright dots may appear on your screen display when you turn on your computer. Your display contains an extremely large number of thin-film transistors (TFT) and is manufactured using high-precision technology. Any small bright dots that may appear on your display are an intrinsic characteristic of the TFT manufacturing technology. Over a period of time, and depending on the usage of the computer, the brightness of the screen will deteriorate. This is also an intrinsic characteristic of the screen technology. When the computer is operated on battery power, the screen will dim and you may not be able to increase the brightness of the screen while on battery power.

Turning on the power

To turn on the computer:

1 Make sure any external devices (such as the AC adaptor, if you plan to use AC power rather than battery power) are properly connected and ready.

2 Check to ensure that all drives and slots are empty.

3 Press and release the power button. The ON/OFF light glows green.
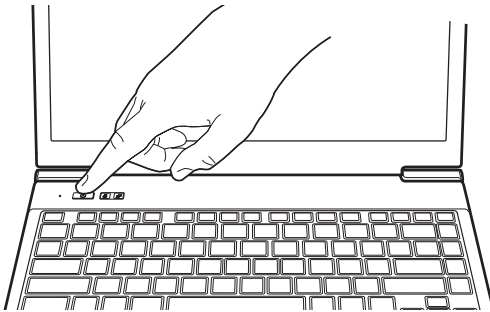
(Sample Illustration) Turning on the power

The preinstalled operating system will load automatically.

CAUTION When you turn on the computer for the first time, do not turn off the power again until the operating system has loaded completely.

Setting up your software

CAUTION When you turn on the computer for the first time, do not turn off the power again until the operating system has loaded completely.

NOTE The names of windows displayed, and the order in which windows appear, may vary according to your software setup choices.

The first time you turn on your computer, the Setup Wizard guides you through steps to set up your software. Follow the on-screen instructions.

Registering your computer with Toshiba

Product registration is strongly recommended, and allows Toshiba to send you periodic updates, announcements, and special offers applicable to your product. Product registration can be completed by either visiting the Toshiba Web site at register.toshiba.com, or by clicking **Start**, **All Programs**, **TOSHIBA**, **Support & Recovery**, and then **Toshiba Registration**. Failure to complete Product Registration will not diminish Customer rights under the Toshiba standard limited Warranty.

NOTE	To register online, you must be connected to the Internet.

Adding optional external devices

NOTE	Before adding external devices or memory, Toshiba recommends setting up your software. See "Setting up your software" on page 49.

After starting your computer for the first time you may want to:

❖ Add more memory (see "Adding memory (optional)" on page 50)

❖ Connect a mouse (see "Using a mouse" on page 76)

❖ Connect an external keyboard (see "Using an external keyboard" on page 76)

❖ Connect an external monitor (see "Using external display devices" on page 74)

❖ Connect a local printer (see "Connecting a printer" on page 77)

Adding memory (optional)

Your computer comes with enough memory to run most of today's popular applications. You may want to increase the computer's memory if you use complex software or process large amounts of data. Contact the location you purchased the computer at for more information on adding memory to your computer. Toshiba will not be responsible for any product damage, data loss, service or part replacement made necessary by improper installation of a memory module.

Recovering the Internal Storage Drive

NOTE   To purchase an optional external writable optical disc drive or a USB Flash drive, visit the Toshiba Web site at accessories.toshiba.com.

Your computer includes recovery utilities to allow you to recover your internal storage drive if necessary.

The following internal storage drive recovery options are available:

Recovery option	Description
Recover to out-of-box state	This option restores the original factory image to your internal storage drive, returning your computer to its out-of-box state. (Recommended recovery method) See "Recovering to out-of-box state (recommended recovery method)" on page 52.
Recovery of factory default software with user's data	This option recovers the factory default software, while the computer attempts to back up all data from C:\Users. See "Recovering of factory default software with user's data" on page 54.
Recover without changing the internal storage drive partitions	This option recovers just your C: drive, leaving any other partitions you may have created (for example, a D: drive) intact. See "Recovering without changing the internal storage drive partitions" on page 57.
Recover to a custom size partition	This option allows you to specify a custom size for the C: partition and then restores your C: drive to its out-of-box state. Note: With this option, any changes you made to the C: drive and any other drive partitions you may have created are deleted. See "Recovering to a custom size partition" on page 60.

A recovery image of your computer is stored on the internal storage drive, and the image can be restored by running the recovery utilities directly from your internal storage drive as described in the sections below. However, it is strongly recommended that you create recovery media. If the recovery files on your internal storage drive become corrupted or are deleted, you can restore your system from your recovery media. Also, if your original internal storage drive fails, you can restore your system to a new internal storage drive from your recovery media. It is strongly recommended that you create recovery media before using your system for the first time. See "Creating recovery media" on page 62 and "Restoring from recovery media" on page 65.

NOTE	❖ During the internal storage drive recovery process it is strongly recommended that your computer be connected to an external power source via the AC adaptor.
	❖ The Toshiba Recovery Wizard also provides the option of erasing your internal storage drive, without restoring the information on the drive. See "Erasing the Internal Storage Drive" on page 67 for more information.
	❖ When you restore your system, only the operating system files, applications, and drivers originally shipped with the computer are restored. Any files that you created are not restored during this process. Be sure to separately save the files you have created to external media using Windows® Backup or another backup program. For more information, see "Backing up your work" on page 100.

Recovering to out-of-box state (recommended recovery method)

CAUTION	Recovering an internal storage drive to its out-of-box state deletes all partitions on the drive and all information stored in those partitions. Be sure to save your work to external media before executing the recovery. For more information, see "Backing up your work" on page 100.

NOTE	During the recovery process it is strongly recommended that your computer be connected to an external power source via the AC adaptor.

You can recover the original factory image (returning the computer to its out-of-box state) using the utilities stored on your computer's internal storage drive or using recovery media, if you have created such media. To recover using the first method, follow the procedure below. To recover using the second method, see "Restoring from recovery media" on page 65.

To recover the original factory image using the utilities on your computer's internal storage drive:

1   Make sure the computer is turned off.

2   While powering on your computer, press the F12 key when the initial TOSHIBA screen displays.

The Boot menu appears.

3 Using the arrow keys to scroll down, select the **HDD Recovery** option, and then press the ENTER key.

4 If your system offers a choice of Windows® 7 32-bit or 64-bit operating system, select one at this time. If not, skip to step 5.

5 A warning screen appears, stating that when the recovery is executed all data will be deleted and rewritten. Click **Yes** to continue.

(Sample Image) Warning screen

6 When the Toshiba Recovery Wizard opens and the Selecting a process screen displays, select **Recovery of Factory Default Software** and then click **Next**.
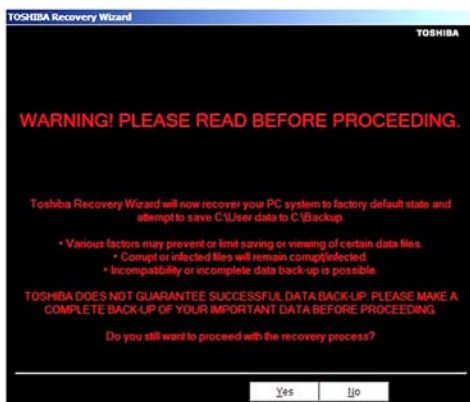

(Sample Image) Selecting a Process screen

7   The Recovery of Factory Default Software screen appears.
Select **Recover to out-of-box state**.
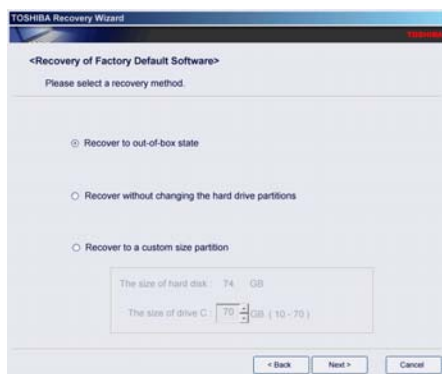
(Sample Image) Recovery of Factory Default Software screen

8   Click **Next**.

A confirmation message displays reminding you that all data
will be lost during the recovery process. Be sure to save your
work to external media before proceeding (see "Backing up
your work" on page 100).

9   Click **Next** to begin the recovery.

When the recovery process is complete, a message displays
indicating that the internal storage drive has been recovered.

10 Click **Finish** to restart the computer.

Recovering of factory default software with user's data

CAUTION   Using "Recovery of Factory Default Software with user's data"
recovers your internal storage drive to factory default state and
attempts to save C:\Users data to C:\Backup. Toshiba does not
guarantee successful data back-up. Please make a complete back up
of your data to external media before executing the recovery. For
more information, see "Backing up your work" on page 100.

NOTE   During the recovery process it is strongly recommended that your
computer be connected to an external power source via the AC
adaptor.

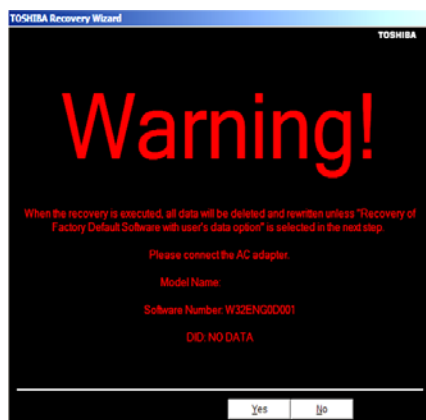You can recover the factory default software, while the computer will attempt to back up all of the data from the C:\Users using the utilities stored on your computer's internal storage drive:

TECHNICAL NOTE: The data from C:\Users will be copied into the C:\backup%current date% folder. The directory structure will be retained, however all of the data will be moved to this folder during the recovery process. As a result, any user can access the folders under C:\backup%current date%. To return the data to your private account, you will need to recreate a new account, and drag and drop the data into your personal folders.

1   Make sure the computer is turned off.

2   While powering on your computer, press the F12 key when the initial TOSHIBA screen displays.
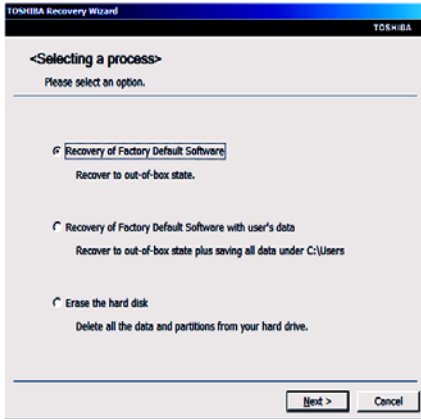
     The Boot menu appears.

3   Using the arrow keys to scroll down, select the **HDD Recovery** option, and then press the ENTER key.

4   If your system offers a choice of Windows® 7 32-bit or 64-bit operating system, select one at this time. If not, skip to step 5.

5   A warning screen appears, stating that when the recovery is executed, all data will be deleted and rewritten unless the "Recovery of Factory Default Software with user's data" option is selected in the next step. Click **Yes** to continue.
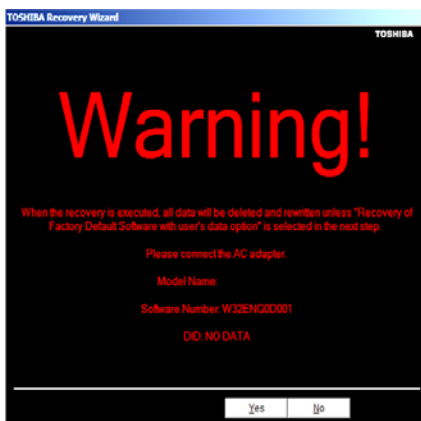

(Sample Image) Warning screen

6 When the Toshiba Recovery Wizard opens and the "Selecting a process" screen displays, select **Recovery of Factory Default Software with user's data,** and then click **Next**.
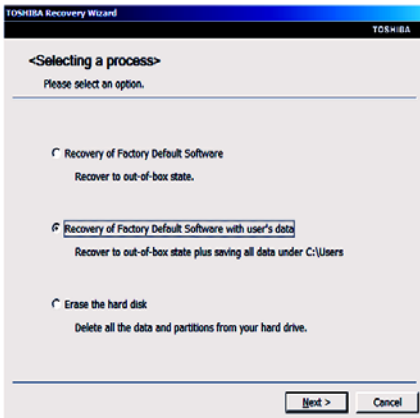
(Sample Image) Selecting a process screen

7 A warning screen appears, stating the Toshiba Recovery Wizard will "attempt" to save all data. There is a risk that the Toshiba Recovery Wizard may not be able to save all data during the recovery process.

CAUTION Toshiba does not guarantee successful data back up. Be sure to save your work to external media before executing the recovery (see "Backing up your work" on page 100).

8 Click **Yes** to continue.

(Sample Image) Warning screen

9 When the recovery process is complete, the "Recovery of Factory Default Software" screen appears, indicating that the recovery process is complete. Click **Finish** to restart the computer.

(Sample Image) Recovery of Factory Default Software - Recovery complete

Recovering without changing the internal storage drive partitions

CAUTION Recovering without changing the internal storage drive partitions deletes all information stored on the C: drive. Be sure to save your work to external media before executing the recovery (see "Backing up your work" on page 100). If you have created other partitions (for example, a D: drive), those partitions will remain intact and any information on them will not be affected.

NOTE During the internal storage drive recovery process it is strongly recommended that your computer be connected to an external power source via the AC adaptor.

You can recover the C: drive without affecting other partitions by either using the utilities stored on your computer's internal storage drive or by using recovery media, if you have created such media. To recover using the first method, follow the procedure below. To recover using the second method, see "Restoring from recovery media" on page 65.

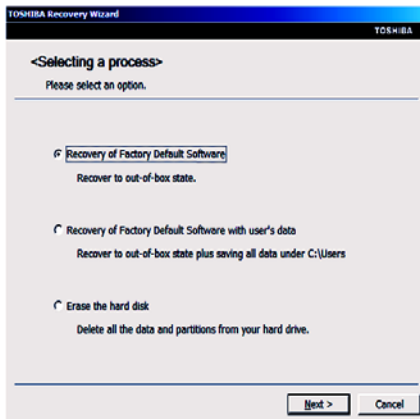To recover using the utilities on your computer's internal storage drive:

1 Make sure the computer is turned off.

2 While powering on your computer, press the F12 key when the initial TOSHIBA screen displays.

The Boot menu appears.

3 Using the arrow keys to scroll down, select the **HDD Recovery** option, and then press the ENTER key.

4 If your system offers a choice of Windows® 7 32-bit or 64-bit operating system, select one at this time. If not, skip to step 5.

5 A warning screen appears stating that when the recovery is executed all data will be deleted and rewritten. Click **Yes** to continue.
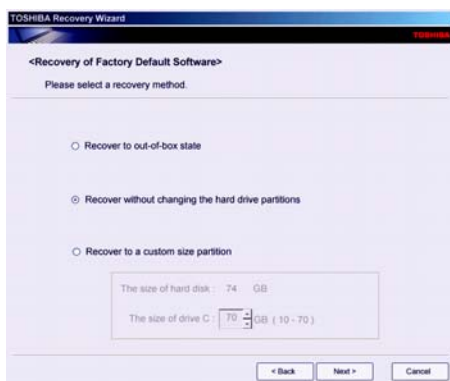

(Sample Image) Warning screen

6 When the Toshiba Recovery Wizard opens and the Selecting a process screen displays, select **Recovery of Factory Default Software** and then click **Next**.

(Sample Image) Selecting a Process screen

7 The Recovery of Factory Default Software screen appears. Select **Recover without changing the hard drive partitions**.
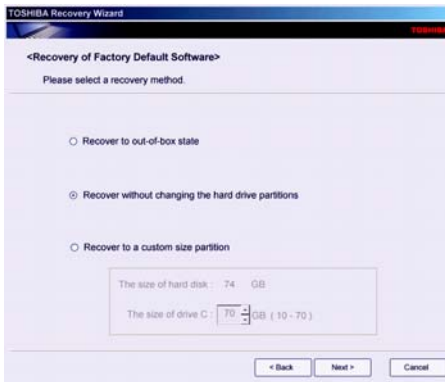
(Sample Image) Recovery of Factory Default Software screen

8 Click **Next**.

A confirmation message displays reminding you that all data on the C: drive will be lost during the recovery process. Be sure to save your work to external media before proceeding (see "Backing up your work" on page 100).

9 Click **Next** to begin the recovery.

When the recovery process is complete, a message displays, indicating that the C: drive has been recovered.

10 Click **Finish** to restart the computer.

Recovering to a custom size partition

CAUTION Recovering to a custom size partition deletes all partitions on the drive and all information stored in those partitions. Be sure to save your work to external media before executing the recovery. For more information, see "Backing up your work" on page 100.

NOTE During the recovery process it is strongly recommended that your computer be connected to an external power source via the AC adaptor.

The "Recover to a custom size partition" option restores your C: drive to its out-of-box state, and allows you to specify the size for the C: partition. You can resize and recover the C: drive using the utilities stored on your computer's internal storage drive or using recovery media, if you have created such media. To recover using the first method, follow the procedure below. To recover using the second method, see "Restoring from recovery media" on page 65.

To resize and recover the C: drive using the utilities on your computer's internal storage drive:

1 Make sure the computer is turned off.

2 While powering on your computer, press the F12 key when the initial TOSHIBA screen displays.

The Boot menu appears.

3 Using the arrow keys to scroll down, select the **HDD Recovery** option, and then press the ENTER key.

4 If your system offers a choice of Windows® 7 32-bit or 64-bit operating system, select one at this time. If not, skip to step 5.

5   A warning screen appears, stating that when the recovery is executed all data will be deleted and rewritten. Click **Yes** to continue.

(Sample Image) Warning screen

6   When the Toshiba Recovery Wizard opens and the Selecting a process screen displays, select **Recovery of Factory Default Software** and then click **Next**.

(Sample Image) Selecting a Process screen

7 The Recovery of Factory Default Software screen appears. Select **Recover to a custom size partition**.

(Sample Image) Recovery of Factory Default Software screen

8 Use the on-screen arrow buttons in **The size of drive C:** field to set the partition size.

9 Click **Next**.

A confirmation message displays reminding you that all data will be lost during the recovery process. Be sure to save your work to external media before proceeding (see "Backing up your work" on page 100).

10 Click **Next** to begin the recovery.

When the recovery process is complete, a message displays indicating that the C: drive has been recovered.

11 Click **Finish** to restart the computer.

Creating recovery media

NOTE   To purchase an optional external writable optical disc drive for creating recovery DVDs, please visit the Toshiba Web site at accessories.toshiba.com.

It is strongly recommended that you create recovery media. If the recovery files on your internal storage drive become corrupted or are deleted, you can restore your system from your recovery media. Also, if your original internal storage drive fails, you can restore your system to a new internal storage drive from your recovery media.

NOTE   When you create recovery media, only the operating system files, applications, and drivers originally shipped with the computer are backed up to the external media and can be restored from this media. Any files that you created are not backed up on the recovery media. You will need to separately back up the files you created; for more information, see "Backing up your work" on page 100.

When you create recovery media, the system will prompt you to insert several blank DVDs or connect one or more USB flash drives of a certain minimum capacity to your computer. The amount of space required for storing the recovery files varies by computer model. Follow the procedure below to determine how much space you will need for storing your system's recovery files.

To create recovery media, you will need an optional external writable optical disc drive and blank writable DVDs or USB Flash drives.

To create recovery media:

1   Click **Start**, **All Programs**, **TOSHIBA**, **Support & Recovery**, and then **Recovery Media Creator**.

The TOSHIBA Recovery Media Creator dialog box displays.
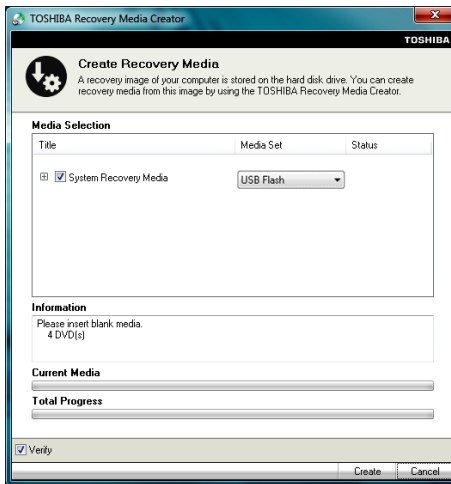
(Sample Image) TOSHIBA Recovery Media Creator dialog box

2   Select **USB Flash** or **DVD** from the drop-down list, depending on the type of external media you want to use.

NOTE   If an external optical disc drive is attached, the DVD option becomes available in the dialog box.

3   Check the **Information** area of the dialog box to determine the number of DVDs you will need and/or the minimum amount of storage space required for copying your system's recovery files to USB flash drive(s).

4   Do one of the following:

❖   If you are copying files to DVD, connect an optional external writable optical disc drive to your computer and insert a blank DVD into the drive.

❖   If you are copying files to a USB flash drive, connect a USB flash drive of the required minimum capacity (as specified in the TOSHIBA Recovery Media Creator utility) to your computer.

CAUTION   All information stored on your DVDs or USB flash drive(s) will be erased during the process of creating the recovery media. Be sure to save the information stored on your external media to another storage device before executing this procedure, or use blank media.

5   Click the **Create** button in the TOSHIBA Recovery Media Creator utility dialog box.

6   Follow the on-screen prompts to complete the copy process.

NOTE   If you are copying the recovery files to DVDs, be sure to label each DVD in the set sequentially (for example, "1 of 3," "2 of 3," etc.), so that you will know in which order to insert the discs during recovery.

For information on using the Recovery media you have created with the preceding steps, see .

Restoring from recovery media

CAUTION	The recovery process deletes information stored on the internal storage drive. Be sure to save your work to external media before executing the recovery (see "Backing up your work" on page 100).

NOTE	During the internal storage drive recovery process it is strongly recommended that your computer be connected to an external power source via the AC adaptor.

If you have created recovery media for your system, you can restore your system from such media, if necessary. For example, if your original internal storage drive fails, you can restore your system to a new internal storage drive from your recovery media. For instructions on creating recovery media, see "Creating recovery media" on page 62.

With recovery media, you can:

❖ Recover to out-of-box state (recommended recovery method)

❖ Recovery of factory default software with user's data

❖ Recover without changing the internal storage drive partitions

❖ Recover to a custom size partition

For more information on these options, see "Recovering the Internal Storage Drive" on page 51.

NOTE	When you restore your system, only the operating system files, applications, and drivers originally shipped with the computer are restored. Any files that you created are not restored during this process. Be sure to separately save the files you have created to external media using Windows® Backup or another backup program. For more information, see "Backing up your work" on page 100.

To recover your internal storage drive from recovery media:

1 Make sure your computer is turned off.

2 Do one of the following:

❖ If your recovery files are on DVDs, insert the first recovery DVD into your optional external writable optical disc drive. Consult the documentation that came with your optical disc drive to learn how to load the DVD while the computer is powered off.

❖ If your recovery files are on a USB flash drive, connect the USB flash drive to your computer.

3   Turn on your computer. When the initial TOSHIBA screen displays, press the F12 key on your keyboard.

The Boot menu displays.

4   Using the arrow keys, select the **DVD** option or the **USB Flash** option, depending on which type of media you are using, and then press the Enter key.

5   A warning screen appears, stating that when the recovery is executed all data on your internal storage drive will be deleted and rewritten. Click **Yes** to continue.

6   When the Toshiba Recovery Wizard opens and the Selecting a Process screen displays, select **Recovery of Factory Default Software** and then click **Next**.

7   Select one of the following options:

❖ **Recover to out-of-box state** (recommended recovery method)—If you want to recover the original factory image

❖ **Recovery of factory default software with user's data**—If you want to the recovery the factory default software, while the computer attempts to back up all data from C:\Users

❖ **Recover without changing the hard drive partitions**—If you want to recover the C: partition only, leaving other partitions you have created intact

❖ **Recover to a custom size partition**—If you want to recover the C: drive to its out-of-box state and specify a custom size for the C: drive. Note: This option deletes all other partitions from the drive.

8   Follow the on-screen instructions to complete the recovery process.

When the process is complete, a message displays indicating that the drive has been recovered.

9   Click **Finish** to restart the computer.

Erasing the Internal Storage Drive

CAUTION Erasing the internal storage drive will delete all data on the drive, including the partitions. Be sure to create recovery media and back up your data to external media before erasing the internal storage drive.

NOTE If you want to restore the internal storage drive, use one of the recovery options instead of erasing the drive. For more information, see "Recovering the Internal Storage Drive" on page 51.

To delete all data and partitions from the internal storage drive:

1 Access the Toshiba Recovery Wizard on your internal storage drive or on your recovery media.

❖ **To access the Recovery Wizard on your internal storage drive:** While powering on your computer, press the F12 key when the initial TOSHIBA screen displays. The Boot menu appears. Using the arrow keys to scroll down, select the **HDD Recovery** option, and then press the ENTER key. Read the Warning screen that displays, and then click **Yes** to continue.

❖ **To access the Recovery Wizard on your recovery media:** Turn off your computer. Insert the first recovery DVD into your optional external writable optical disc drive or connect the USB flash drive containing your recovery files to your computer, and then power on the computer. When the initial TOSHIBA screen displays, press F12. Using the arrow keys, select the **DVD** or **USB Flash** option on the Boot menu, depending on which type of media you are using, and then press the Enter key. Select **Toshiba Recovery Wizard**, and then click **Next**.

2 Select **Erase the hard disk** and then click **Next**.

3 Choose one of the following options on the Erase the hard disk screen:

❖ **Delete all data and partitions from the hard disk**—This option deletes all of the data on the internal storage drive without overwriting the drive.

❖ **Delete all partitions and overwrite all sectors on the hard disk**—This option deletes all data and then overwrites the entire internal storage drive for security purposes. This process may take several hours, depending on the size of your internal storage drive.
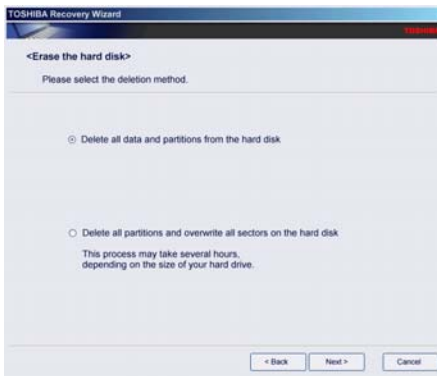
(Sample Image) Erase the hard disk screen

4 Click **Next**.

A confirmation message displays reminding you that all data on the internal storage drive will be lost. Be sure you have saved your work to external media (see "Backing up your work" on page 100) and created recovery media (see "Creating recovery media" on page 62) before proceeding.

5 Click **Next** to begin erasing the internal storage drive.

When the process is complete, a message displays, indicating that the internal storage drive has been erased.

6 Click **Finish** to restart the computer.

Checking the internal storage drive operating status

After restoring your internal storage drive, you can check its status as follows:

1 Click **Start**.

2 Right-click **Computer**.

3 Select **Manage**.

4 Click **Disk Management**.

5 Highlight the internal storage drive in the Volume list to display its status in the lower portion of the screen.

Installing drivers and applications

The TOSHIBA Application Installer allows you to reinstall the drivers and applications that were originally bundled with your computer.

To reinstall drivers and applications:

1 Click **Start**, **All Programs**, **TOSHIBA**, **Support & Recovery**, and then **TOSHIBA Application Installer**.

2 Click **Next**.

3 Click the item you want to install.

4 Click **Install**.

5 Follow the on-screen prompts to complete the installation process.

Using the touch pad

NOTE   Some of the touch pad operations described in this section are only supported in certain applications.

You can use the touch pad (the small, touch-sensitive area in front of the keyboard) and the adjacent control buttons to:

❖   Move the pointer on the screen

❖   Select an item on the screen

❖   Open or activate an item on the screen

❖   Scroll through a document or information

❖   Zoom in for a close-up view

❖ Zoom out to see more information at once

Touch pad

Primary control button ————— ————— Secondary control button
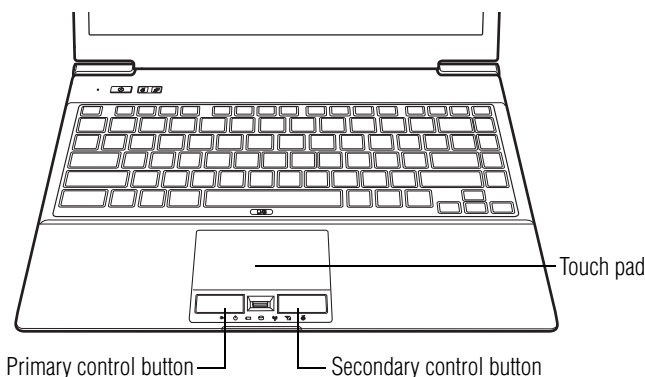
(Sample Illustration) The touch pad and associated control buttons

Refer to the table below for specific instructions on performing each operation.
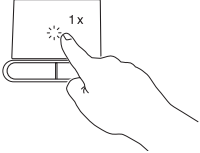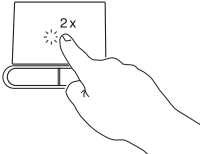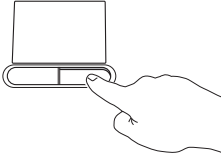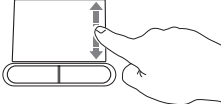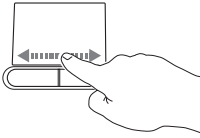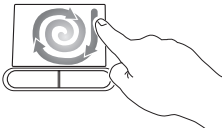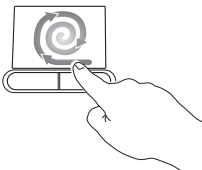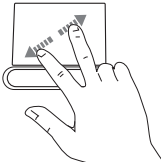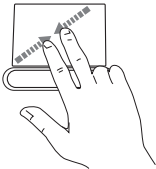
NOTE	The *pointer* is the icon (usually an arrow) that moves on the screen when you slide your finger across the touch pad or move a mouse connected to your computer.

Some of the following features may need to be enabled before they can be used.

To enable the following features, click on the **Mouse** icon in the Optimize tab of Toshiba Assist. Click the Device Settings tab and then click **Settings**.

To:	*Do the following:*	*Example:*
Move the on-screen pointer	Slide your finger across the touch pad in the direction you want to move the pointer. To move the pointer a longer distance, slide your finger several times across the touch pad in the preferred direction.	 *(Sample Illustration) Pointer moves to the right*

To:	Do the following:	Example:
Select an item	1 Move the pointer to the item you want to select. 2 Do one of the following: ❖ Tap the touch pad once OR ❖ Press and release the primary (left-hand) control button	*(Sample Illustration)* *Tap once to select*
Open or activate an item	1 Move the pointer to the item you want to open/activate. 2 Do one of the following: ❖ Tap the touch pad twice in rapid succession OR ❖ Press and release the primary control button twice in rapid succession	*(Sample Illustration)* *Tap twice to open*
Right-click an item	1 Move the pointer to the item you want to right-click. 2 Press and release the secondary control button. This feature varies by program. Check your program documentation for specific instructions on right-clicking.	*(Sample Illustration)* *Click the secondary (right-hand) control button*
Scroll vertically	Slide your finger along the right edge of the touch pad in the direction you want to scroll. Repeat to scroll a longer distance.	*(Sample Illustration)* *Vertical scrolling active area*
Scroll horizontally	Slide your finger along the bottom edge of the touch pad in the direction you want to scroll. Repeat to scroll a longer distance.	*(Sample Illustration)* *Horizontal scrolling active area*

To:	Do the following:	Example:
Scroll continuously (Circular scrolling)	1 Begin scrolling vertically or horizontally by sliding your finger along the right or bottom edge of the touch pad as described above. 2 Without lifting your finger from the touch pad, start moving your finger in a circular motion on the touch pad. 3 To scroll in the opposite direction, reverse the direction of the circular motion. 4 To stop scrolling, lift your finger off of the touch pad. To enable circular scrolling, click on the Mouse icon in the Optimize tab of Toshiba Assist. Click the Device Settings tab and then click on Settings. Double-click on **Scrolling** and then double-click on **One-Finger Scrolling. Enable Chiral Motion scrolling** and click **OK**.	*(Sample Illustration) Circular scrolling (vertically)* *(Sample Illustration) Circular scrolling (horizontally)*
Zoom in/out	To zoom in: ❖ Place two fingers close together on the touch pad and then slide them apart. To zoom out: ❖ Place two fingers slightly apart on the touch pad and then slide them together.	*(Sample Illustration) Zooming in* *(Sample Illustration) Zooming out*

Adjusting touch pad settings

While you are typing, the on-screen pointer may seem to move or jump around "by itself" to random locations on the screen. The on-screen pointer may also seem to automatically select text, click buttons, and activate other user interface elements. For help with these problems, try one or more of the following:

❖ Try adjusting your typing technique to avoid accidental contact with the touch pad. You may be inadvertently brushing the touch pad with the heel of your hand as you type. Also, accidental light touches or taps on the touch pad may select an item or text on the screen, and potentially the item or text may be replaced by the next character you type.

❖ Temporarily disable the touch pad, so that it does not respond to touch or button presses while you type. See "Disabling or enabling the touch pad" on page 73.

❖ Disable the tapping feature. If you disable tapping only, you can still use the touch pad's control buttons and move the pointer by sliding your finger on the touch pad.

❖ Adjust the sensitivity of the touch pad, so that it is less responsive to accidental light taps and lighter finger pressure.

NOTE   touch pad setting options vary by computer model. The touch pad settings are accessible through the Mouse Properties option of the Windows Control Panel. For more information, please visit support.toshiba.com, and enter the phrase "Mouse pointer jumps around as you type" into the Search field.

Disabling or enabling the touch pad

The touch pad is enabled by default. To enable/disable the touch pad, do one of the following:

❖ Press the touch pad ON/OFF (⬚/⬚) button. (Available on certain models.)

❖ Press Fn + F9. For more information, see "Disabling or enabling the touch pad" on page 191.

NOTE   Alternately, you can disable only the tapping feature. If you disable
tapping only, you can still use the touch pad's control buttons and
move the pointer by sliding your finger on the touch pad. To disable
tapping only, use the Mouse Properties option in the Windows®
Control Panel.

Using external display devices

Your computer comes with a built-in display, but you can also
connect the following types of external display devices to the video
ports described below:

❖   An HDMI™-compatible television or external display device
     via the HDMI™ Out port*

❖   An external monitor or projector via the RGB (monitor) port

HDMI™ Out port* ⎯

RGB (Monitor) port
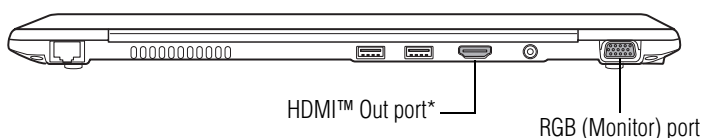
*Available on certain models

(Sample Illustration) Video ports

Selecting video cables

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

Connecting an HDMI™-compatible television or display device

To connect an HDMI™-compatible television or display device to
the computer:

❖   Connect one end of an HDMI™ cable (not included with your
     computer) to the HDMI™ Out port on the side of your
     computer, and then connect the other end of the cable to your
     television or display device. Refer to the manual that came
     with the television or display device for more information.

     Your computer will automatically detect the external display
     device.

Connecting an external monitor or projector

You can easily attach an external monitor or projector to your computer if you need a larger screen. To do this:

1 Read the directions that came with the monitor to see if you first need to install new software.

2 Connect the monitor's video cable to the RGB (monitor) port on the back of the computer.

3 Connect the device's power cable to a live electrical outlet.

4 Turn on the external device.

Your computer will automatically detect the external display device.

NOTE   In the future you can change the display settings by pressing Fn + F5, or by configuring the display properties settings.

Directing the display output when you turn on the computer

Once you have connected an external display device, you can choose to use the internal display only, the external device only, or both simultaneously.

NOTE   Some modes are only available with the appropriate device attached and turned on.

The quickest way to change the display output settings is to use the display hot key (Fn + F5):

1 Press Fn and F5 simultaneously.

2 While holding down Fn, press F5 repeatedly until the setting you want takes effect. Briefly pause each time you press the F5 key to allow time for the display to change.

This hot key cycles through the settings in the following order (the last two options are available if an external monitor is connected):

❖   Built-in display only

❖   Built-in display and external monitor simultaneously

❖   External monitor only

❖   Built-in display and external monitor (extended desktop)

❖ Swap-Switch primary display between internal display and external monitor when using extended desktop
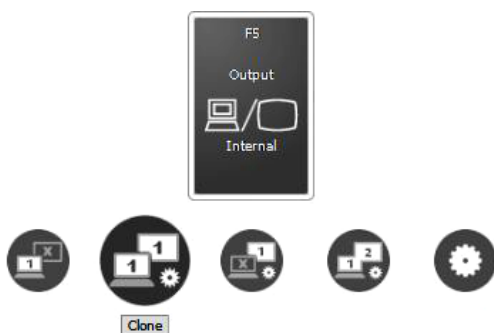
(Sample Image) Display options window

3 Release the Fn key.

Adjusting the quality of the external display

To obtain the best picture quality from your television (or other video display device), you may need to adjust the video settings. See the video device documentation for additional configuration steps.

Using an external keyboard

If you prefer to use an external keyboard, you can attach one to your computer. The computer's USB ports support most USB-compatible keyboards.

Using a mouse

You may want to use a mouse instead of the computer's built-in touch pad. You can use a USB-compatible mouse.

Connecting a printer

NOTE	Your printer documentation may require you to install the printer software before physically connecting the printer to your computer. If you do not install the software as instructed by the printer manufacturer, the printer may not function correctly.
	Read the documentation that came with your printer. Follow the manufacturer's instructions when connecting a printer.

You can connect a USB-compatible printer to your computer through the USB ports. To determine if the printer is USB-compatible, check its documentation.

To make the connection, you need a suitable USB cable which may come with your printer. If a USB cable was not included with your printer, you can purchase one from a computer or electronics store.

If your printer supports Plug and Play, your computer may automatically recognize the printer; the printer is then ready for use. Refer to your printer documentation for further instructions.

> TECHNICAL NOTE: To determine if your printer supports Plug and Play, check its documentation.

If your printer does not support Plug and Play, you can set up the printer as described in .

To connect a printer to your computer:

1 Connect the printer cable to the printer and then connect the other end to one of the computer's USB ports.

2 Plug the printer's power cable into a live AC outlet.

Setting up a printer

NOTE   Some printers require a specific installation process. Refer to your printer installation guide for instructions before completing the following procedure.

If your printer does not support Plug and Play, follow these steps to set it up for the first time. You only need to set up the printer once.

1   Click **Start**, **Control Panel**, **Hardware and Sound**, and then under **Devices and Printers**, click **Add a printer**.

The Add Printer Wizard appears.
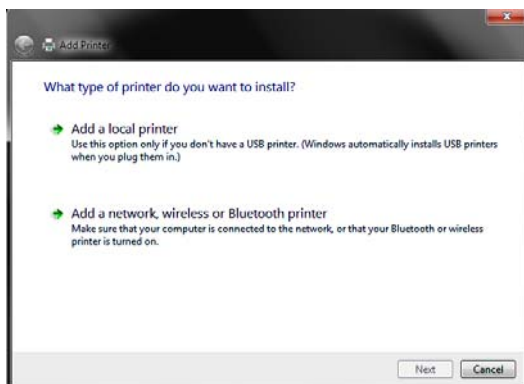
(Sample Image) Add Printer Wizard

2   Follow the on-screen instructions to set up your printer.

Turning off the computer

CAUTION Pressing the power button before shutting down the Windows®
operating system could cause you to lose your work. Make sure the
system indicator panel's storage drive light and the drive in-use light
are off. If you turn off the power while a disk/disc is being accessed,
you may lose data or damage the disk/disc and/or drive.

It is a good idea to turn off your computer when you are not using it
for a while.

If you are using the computer for the first time, leave the computer
plugged into a power source (even though the computer is off) to
fully charge the main battery.

Options for turning off the computer

Depending on the operating system installed, you have more than
one option available for turning off the computer: Shut down,
Hibernate, and Sleep. Each option has its advantages.

❖ Use the Shut down or Hibernate command if you will not be
   using the computer for several days or if you must turn off your
   computer.

   You must turn off your computer in order to upgrade your
   computer's internal hardware (such as memory).

TECHNICAL NOTE: Before using the Shut down option to turn off
your computer, save your files and make sure all disk/disc activity
lights are off.

If you change your mind and decide to continue working after all,
wait a few seconds before turning the computer on again.

❖ Use the Sleep command to save your work, system settings,
   and current state of the desktop to memory, so that when you
   turn on the computer again, you will quickly and automatically
   return to where you left off.

Hibernation mode

Hibernation mode shuts the computer down completely, but it first
saves the current state of the computer to the internal storage drive.
Since Hibernation mode does not require power to maintain the
saved information, system settings are retained indefinitely.

Factors to consider when choosing Hibernation:

❖ While in Hibernation mode, the computer uses no main battery power.

❖ Because the state of the system is stored to the internal storage drive, no data is lost if the main battery discharges.

❖ Restarting from Hibernation takes less time and consumes less main battery power than restarting after turning off the computer using the Shut down command.

❖ Restarting from Hibernation takes a little more time and consumes more main battery power than restarting from Sleep.

❖ When starting up again, the computer returns to the state in which you left it, including all open programs and files you were using.

For information on how to use and configure Hibernation mode see .

Sleep mode

The Sleep command places the computer into a power-saving mode. Sleep saves the current state of the computer to memory so that, when you restart the computer, you can continue working from where you left off.

NOTE   After your computer sleeps for an extended period of time, the Windows® operating system may save any open documents and programs to your internal storage drive, and then shuts down the computer.

Factors to consider when choosing Sleep:

❖ While in Sleep mode, the computer uses some main battery power.

❖ Because the state of the system is stored in memory, you will lose data if the main battery discharges completely while the computer is in Sleep mode.

❖ Restarting from Sleep takes less time and consumes less main battery power than restarting after turning off the computer using the Hibernation or Shut down commands.

❖ When starting up again, the computer returns to the mode in which you left it, including all open programs and files you were using.

❖ If the battery charge becomes critically low, the computer will try to enter Hibernation mode.

CAUTION If you power down using the Sleep command and the main battery discharges fully, your unsaved information will be lost. Be sure to save your work first.

For information on using Sleep, see "Using and configuring Sleep mode" on page 86.

Using the Shut down command

The Shut down command completely shuts down the computer without saving your work or the current state of the computer. This command closes all open programs, shuts down the operating system, and then turns off your computer.

To turn off your computer using the Shut down command:

1 Click **Start**.

Start button   Shut down button
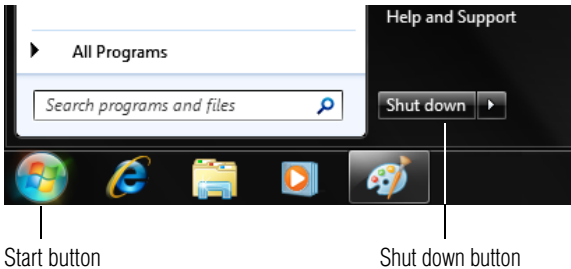
(Sample Image) Shut down button

2 Click the **Shut down** button in the lower-right corner of the Start menu.

The computer closes all open programs, shuts down the operating system, and then turns off.

Turning off the computer more quickly

You can also turn off the computer by pressing the power button.

To use this method, you first need to activate it using the Power Options feature. By default, pressing your computer's power button puts the computer into Sleep mode.

1 Click **Start**, **Control Panel**, **System and Security**, and then **Power Options**.

The Power Options window appears.

2   Click **Change plan settings** under the power plan to be customized.

The Edit Plan Settings window appears.
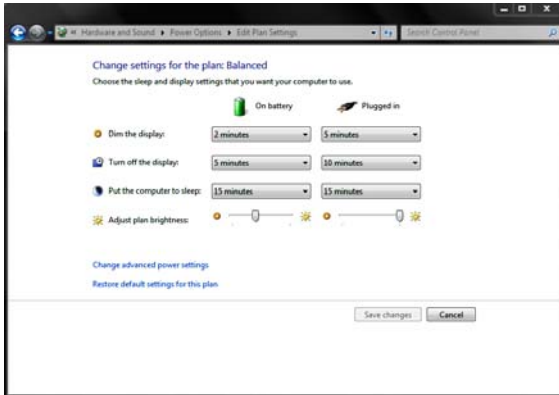
(Sample Image) Edit Plan Settings screen

3   Click **Change advanced power settings**.

The Advanced settings tab of the Power Options window appears.

4   Double-click **Power buttons and lid** to display the actions that you can configure.
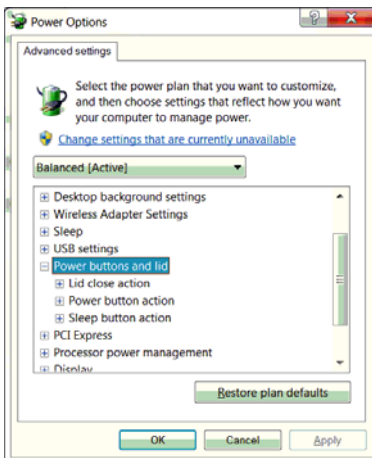
(Sample Image) Advanced settings tab of Power Options screen

5   Select the options you want from the drop-down lists.

NOTE	These options can be set separately for how they operate while the computer is running on battery power or while connected to AC power.

❖ **Lid close action**
Set this option to **Shut down** if you want the computer to shut down when you close the display panel.

❖ **Power button action**
Set this option to **Shut down** if you want the computer to shut down when you press the power button.

6 Click **Apply**.

7 Click **OK**.

Once the computer is configured, you can turn it off by either pressing the power button or closing the display panel, depending on the options set.

Restarting your computer

To start the computer up again, press the power button until the ON/OFF light glows green.

If you turn off the computer by closing the display panel, you can start it again by opening the display panel.

Using and configuring Hibernation mode

To turn off the computer using the Hibernation command:

1 Click **Start**, and then click the arrow next to the **Shut down** button in the lower-right corner of the Start menu.
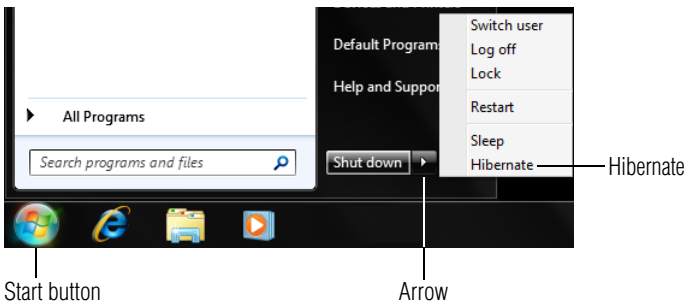
Start button   Arrow
(Sample Image) Shut down menu

2 Click **Hibernate** in the pop-up menu.

The computer saves the state of all open programs and files, turns off the display, and then turns off.

Configuring Hibernation mode options

You can place the computer into Hibernation mode by either pressing the power button or closing the display panel. You can also specify an amount of time after which the computer automatically goes into Hibernation mode.

To use any of these methods, you first need to enable them using the Power Options feature.

1 Click **Start**, **Control Panel**, **System and Security**, and then **Power Options**.

The Power Options window appears.

2 Click **Change plan settings** under the power plan to be customized.

The Edit Plan Settings window appears.
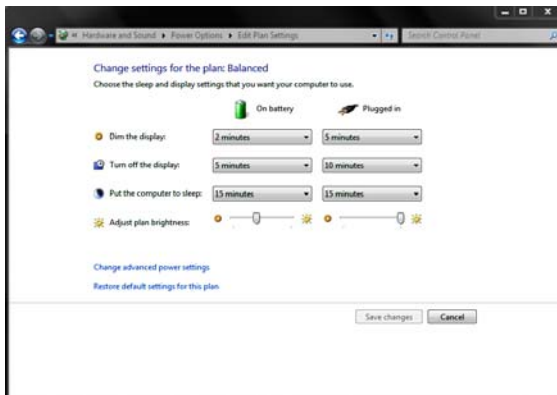
(Sample Image) Edit Plan Settings screen

3 Click **Change advanced power settings**.

The Advanced settings tab of the Power Options window appears.

4   Double-click **Power buttons and lid** to display the actions that you can configure.
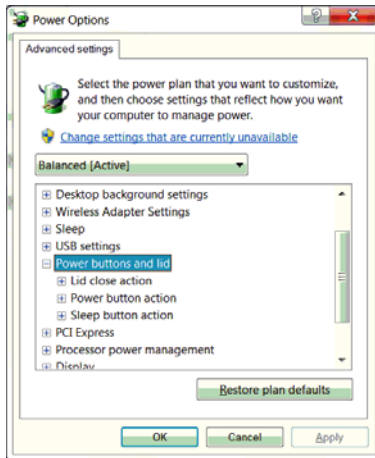
(Sample Image) Advanced settings tab of Power Options screen

5   Select **Hibernate** for the options you want.

NOTE   These options can be set separately for how they operate while the computer is running on battery power or while connected to AC power.

❖   **Lid close action**
Set this option to **Hibernate** if you want the computer to go into Hibernation mode when you close the display panel.

❖   **Power button action**
Set this option to **Hibernate** if you want the computer to go into Hibernation mode when you press the power button.

6   Click **Apply**.

7   Click **OK**.

Once the computer is configured, you can place it into Hibernation mode by either pressing the power button or closing the display panel, depending on the Hibernation options set.

Starting again from Hibernation mode

To start up the computer from Hibernation mode, press the power button until the ON/OFF light glows green. The computer returns to the screen(s) you were using.

If you put the computer in Hibernation mode by closing the display panel, you can start it again by opening the display panel.

Using and configuring Sleep mode

To turn off the computer using the Sleep command:

1 Click **Start**, and then click the arrow next to the **Shut down** button in the lower-right corner of the Start menu.

Start button   Arrow
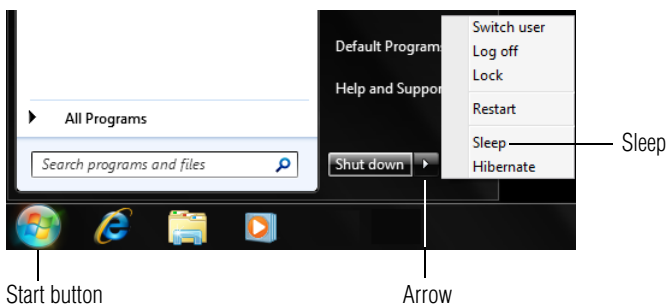
(Sample Image) Shut down menu

2 Click **Sleep** in the pop-up menu.

The computer saves the status of all open programs and files to the memory, turns off the display, and enters into a low-power mode. The ON/OFF light blinks amber indicating the computer is in Sleep mode.

Configuring Sleep mode options

You can place the computer into Sleep mode by either pressing the power button or closing the display panel. You can also specify an amount of time after which the computer automatically goes into Sleep mode.

To use any of these methods, you first need to enable them using the Power Options feature.

1 Click **Start**, **Control Panel**, **System and Security**, and then **Power Options**.

The Power Options window appears.

2   Click **Change plan settings** under the power plan to be
     customized.

     The Edit Plan Settings window appears.
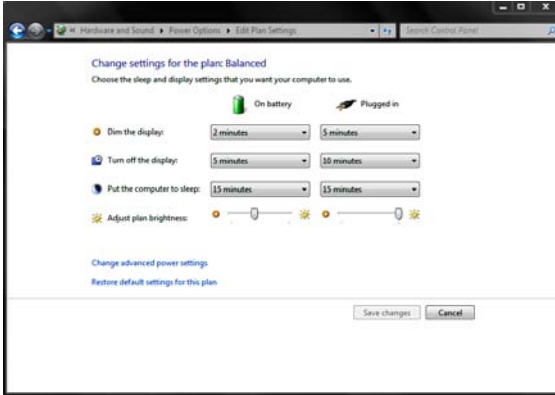
(Sample Image) Edit Plan Settings screen

3   To change the amount of time after which the computer enters
     Sleep mode:

     ❖   Under **Put the computer to sleep**, select the desired
          amount of time in both the **On battery** and **Plugged in**
          categories.

     ❖   To disable the computer from automatically entering Sleep
          mode, select **Never**.

4   Click **Change advanced power settings**.

     The Advanced settings tab of the Power Options window
     appears.

5 Double-click **Power buttons and lid** to display the actions that you can configure.
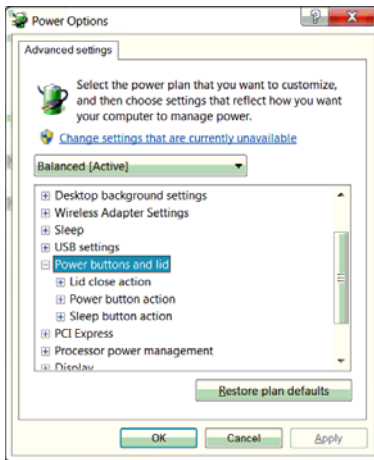
(Sample Image) Advanced settings tab of Power Options screen

6 Select **Sleep** for the options you want.

NOTE These options can be set separately for how they operate while the computer is running on battery power or while connected to AC power.

❖ **Lid close action**
Set this option to **Sleep** if you want the computer to go into Sleep mode when you close the display panel.

❖ **Power button action**
Set this option to **Sleep** if you want the computer to go into Sleep mode when you press the power button.

7 Click **Apply**.

8 Click **OK**.

Once the computer is configured, you can place it into Sleep mode by either pressing the power button or closing the display panel, depending on the Sleep options set.

Starting again from Sleep mode

To start up the computer from Sleep mode, press the power button until the ON/OFF light glows green. The computer returns to the screen(s) you were using.

If you place the computer in Sleep mode by closing the display panel, you can start it again by opening the display panel.

Closing the display panel

After you have turned off the computer, close the display panel to keep dust and dirt out of the computer.

Customizing your computer's settings

There are several ways in which you can customize your computer to suit your particular requirements. Refer to your operating system documentation or Help and Support for details.

You may also wish to customize your power usage settings. For more information, see "Power Plans" on page 111. There are additional custom settings you can choose. See "Utilities" on page 126.

Caring for your computer

This section gives tips on cleaning and moving your computer. For information about taking care of your computer's battery, see "Taking care of your battery" on page 114.

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

Cleaning the computer

| CAUTION | Keep liquids, including cleaning fluid, out of the computer's keyboard, speaker, and other openings. Never spray cleaner directly onto the computer and/or display. Never use harsh or caustic chemical products to clean the computer. |

To keep your computer clean, gently wipe the display panel and exterior case with a lightly dampened cloth.

Moving the computer

Before moving your computer, even across the room, make sure all drive activity has ended (the internal storage drive and optical disc drive indicator lights stop glowing) and all external peripheral cables are disconnected.

CAUTION Do not pick up the computer by its display panel or by the back (where the ports are located). Doing so could damage the system.

Using a computer lock

You may want to secure your computer to a heavy object such as your desk. The easiest way to do this is to purchase an optional computer lock cable. For more information on purchasing a cable lock, visit accessories.toshiba.com.
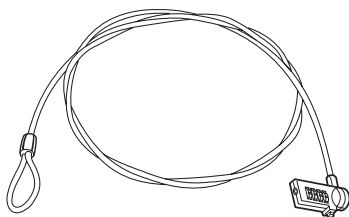
(Sample Illustration) Computer lock cable

To secure the computer:

1 Wrap the cable through or around some part of a heavy object.

Make sure there is no way for a potential thief to slip the cable off the object.

2 Pass the locking end through the loop.

3 Insert the cable's locking end into the security lock slot on your computer, then engage the locking device.

The computer is now securely locked.
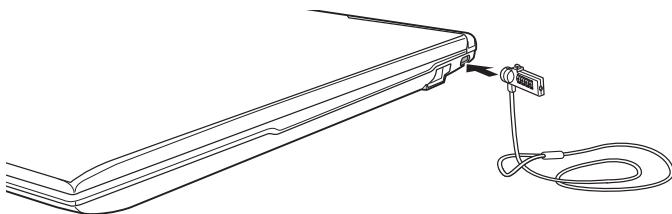
(Sample Illustration) Attaching security lock cable

Chapter 2

Learning the Basics

This chapter gives some computing tips and provides important information about basic features.

Computing tips

❖ Save your work frequently.

Your work stays in the computer's temporary memory until you save it to the internal storage drive. If the network you are using goes down and you must restart your computer to reconnect, or your battery runs out of charge while you are working, you will lose all work since you last saved.

See "Saving your work" on page 98 for further information.

HINT: Some programs have an automatic save feature that can be activated. This feature saves your file to the internal storage drive at preset intervals. See your software documentation for details.

❖ Back up your files to external media on a regular basis. Label the backup copies clearly and store them in a safe place.

It is easy to put off backing up because it takes time. However, if your internal storage drive suddenly fails, you will lose all the data on it unless you have a separate backup copy. For more information, see "Data and system configuration backup in the Windows® operating system" on page 173.

❖ Use Error-checking and Disk Defragmenter regularly to check and optimize disk space and improve performance.

❖ Scan all new files for viruses.

This precaution is especially important for files you receive via external media, email, or download from the Internet.

❖ Take frequent breaks to avoid repetitive-motion injuries and eyestrain.

❖ Do not turn off the computer if a drive indicator light indicates a drive is active.

Turning off the computer while it is reading from or writing to a disk may damage the disk, the drive, or both.

NOTE   The Windows® operating system records information, such as your desktop setup, during its shutdown procedure. If you do not let the Windows® operating system shut down normally, details such as new icon positions may be lost.

Using the 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.
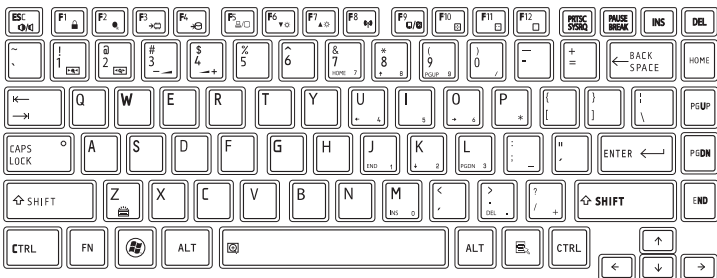
(Sample Illustration) Keyboard

Character keys

Typing with the character keys is very much like typing on a typewriter, except that:

❖   The space bar creates a space character instead of just passing over an area of the page.

❖   The lowercase letter l (el) and the number 1 are not interchangeable.

❖   The uppercase letter O and the number 0 are not interchangeable.

Making your keyboard emulate a full-size keyboard

Although your computer's keyboard layout is compatible with a standard full-size keyboard, it includes fewer keys.

A standard full-size keyboard includes two Enter, Ctrl, and Alt keys; editing keys; cursor positioning keys; and a numeric keypad.

Your computer's keyboard includes only one Enter key. Most of the time, this does not matter. However, some programs assign separate functions to the regular and numeric pad Enter keys on the full-sized keyboard. Using the Fn key, you can simulate the separate key, as follows: Press Fn and Enter simultaneously to simulate the Enter key on the numeric pad of the enhanced keyboard. Pressing the Fn key simultaneously in combination with one of the specially marked keys allows you to emulate a full-size keyboard.

Ctrl, Fn, and Alt keys

(Sample Illustration) Ctrl, Fn, and Alt keys

The Ctrl, Fn, and Alt keys do different things depending on the program you are using. For more information, see your program documentation.

Function keys

The function keys (not to be confused with the Fn key) are the 12 keys at the top of the keyboard.

(Sample Illustration) Function keys

F1 through F12 are called function keys because they execute programmed functions when pressed. Used in combination with the Fn key, function keys marked with icons execute specific functions on the computer. For example, Fn + F9 turns the touch pad ON/OFF. For more information, see .

Special Windows® keys

(Sample Illustration) Special Windows® keys

Your computer's keyboard has one key and one button that have special functions in Windows®:

❖ **Windows® key**—Opens the Start menu

❖ **Application key**—Has a similar function as the secondary mouse button

Overlay keys

The keys with gray numbers and symbols on the front of them form the numeric and cursor overlay. This overlay lets you enter numeric data or control the cursor as you would using the 10-key keypad on a desktop computer's keyboard.

(Sample Illustration) Numeric and cursor control overlay

Using the overlay to type numeric data

The keys with the numbers on their right front are the numeric
overlay keys.

To turn the numeric overlay on, press Fn and F11 simultaneously.
The numeric overlay light glows when the numeric overlay is on.

To disable the numeric overlay, hold down the Fn key and press F11
again. The numeric overlay light goes out.

Using the overlay for cursor control

The keys with the gray arrows and symbols on their left front are
the cursor control overlay keys.

To turn the cursor control overlay on, press Fn and F10
simultaneously. The cursor control overlay light glows when the
cursor control overlay is on.

To disable the cursor control overlay, hold down the Fn key and
press F10 again. The cursor control overlay light goes out.

Backlit keyboard

(Available on certain models.)

Your keyboard may have a backlight illumination feature. If the
keyboard backlight setting is set to **Auto**, the backlight turns on
when you type on the keyboard and turns off after a certain interval
when you stop typing. You can modify the time-out interval or
change the keyboard backlight setting to always on or always off
using the FN + Z key. For more information, see "Keyboard hot key
functions" on page 194.

Starting a program

The easiest way to start a program is to double-click the name of
the file that contains the information you want to work on. To find
the file, use the Start menu or Windows® Explorer.

If you prefer to open the program first, you have four options. You can:

❖   Double-click the icon for the program on your desktop

❖   Use the Start menu

❖   Use Windows® Explorer to locate the program file

❖   Use the Search programs and files field in the Start menu

The next three sections explain how to start a program from the
Start menu, Windows® Explorer, and the Search programs and files
field.

Starting a program from the Start menu

When you install a program, the operating system usually puts an icon in the All Programs menu. To start a program that has an icon in the All Programs menu, follow these steps, which use the Windows® WordPad program as an example:

1 Click **Start**, and then **All Programs**.

The Windows® operating system displays the All Programs menu, which lists programs and program groups. If your program is listed, go to step 3, otherwise, continue with step 2.

NOTE If you pause with your mouse on All Programs, it will open it up. You may need to scroll up or down to see the complete list.

2 Click the program group, in this example, **Accessories**.

The Accessories menu is displayed.

3 Click the program, in this example, **WordPad**.

WordPad opens.

To close the program, click the **Close** button in the upper-right corner of the program's window.

Starting a program from Windows® Explorer

If a program is not listed in the All Programs menu, you can start it from Windows® Explorer. Windows® Explorer gives you a view of your computer's contents as a hierarchy or "tree." You can easily see the contents of each drive and folder on your computer. To use this method, you should know the file name and location of the program's executable file (this file ends with .exe).

This example opens WordPad using Windows® Explorer.

NOTE If you pause with your mouse on All Programs, it will open it up. You may need to scroll up or down to see the complete list.

1 Click the **Windows Explorer** icon on the taskbar.

2 In the left part of the window, double-click **Computer** to expand the window.

3 In the left part of the window, click the line that ends in "(C:)."

4   In the right part of the window, double-click the folder
     containing the program, in this case **Program Files**.

     Windows® Explorer shows the contents of the Program Files
     folder on the right side of the window.

5   In the right part of the window, double-click **Windows NT**.

6   In the right part of the window, double-click **Accessories**.

     Windows® Explorer shows the contents of the **Accessories**
     folder on the right side of the window.

7   In the right part of the window, double-click **wordpad**.

     The operating system opens WordPad.

     To close the program, click the **Close** button in the upper-right
     corner of the program's window.

Starting a program using the Search programs and files field

This example uses the Start menu's Search programs and files field
to start WordPad:

1   Click **Start** to display the Start menu.

     The Search programs and files field appears at the bottom of
     the Start menu.
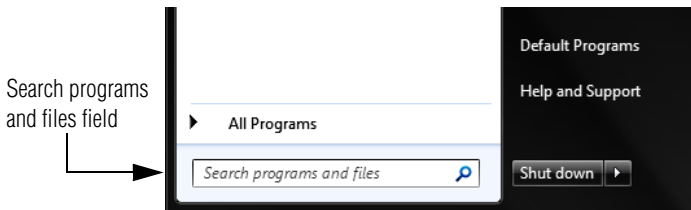
(Sample Image) Search programs and files field in Start menu

2   Start typing the program's name (wordpad) in the Search
     programs and files field.

     As you type, all matching files and programs are displayed in a
     separate window.

3   In the search results window, click **WordPad** under Programs.

Saving your work

Before you turn off the computer using the Shut down command, save your work on the internal storage drive, external media, flash media, or optical disc. This is one of the most important rules of computing.

When you turn off the computer using the Sleep or Hibernate commands, your work should be there when you resume.

Many programs offer a feature that saves documents at regular intervals. Check your program's documentation to see if it has an automatic save feature.

Saving files

1   Click on the arrow in the upper-left corner of your Windows®-based application to display the drop-down menu, and then click **Save**.

If you are working with a document that already has a file name, this is all you need to do. If you created a new document, your program displays a Save As dialog box.

Use this dialog box to specify where to store the document and to give it a file name.
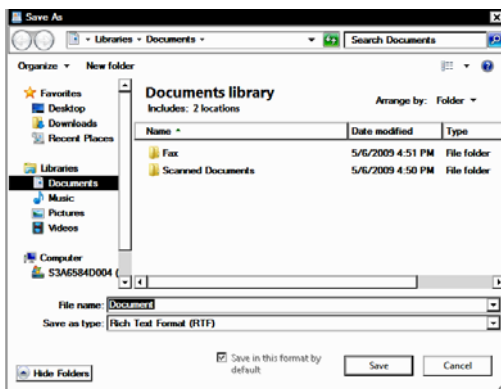
(Sample Image) Save As dialog box

2   Choose the drive and folder where you want your file to be stored.

3   Type a file name, then click **Save**.

File names

The Windows® operating system supports long file names that can contain up to 260 characters and can include spaces. Some applications do not support long file names and require file names limited to no more than eight characters.

You may use all the letters, numbers, and other characters on the keyboard, except for these characters: \ / ? : * " > < |. File names are not case-sensitive.

Using a file extension

Most programs assign an extension to the file name that identifies the file as being created in the program with a particular format. For example, Microsoft® Word saves files with a .doc/.docx extension. Any file name with an extension of ".doc/.docx" is assumed to be a Microsoft® Word file. Creating your own extension is usually unwise, since the program is unlikely to recognize a strange extension and may refuse to handle your file correctly.

TECHNICAL NOTE: By default, the Windows® operating system does not show file extensions. For information on showing or hiding file extensions, see your Windows® online Help.

Printing your work

Ensure the operating system is set up for your printer as described in .

HINT: You only need to set up the printer the first time you connect it. If you use more than one printer or are changing printers, you will need to set up the Windows® operating system to run with the additional printer(s).

To print a file:

1   If your printer is not on, turn it on now.

2 Click on the arrow in the upper-left corner of your Windows®-based application to display the drop-down menu, and then click **Print**.

The program displays a Print dialog box.
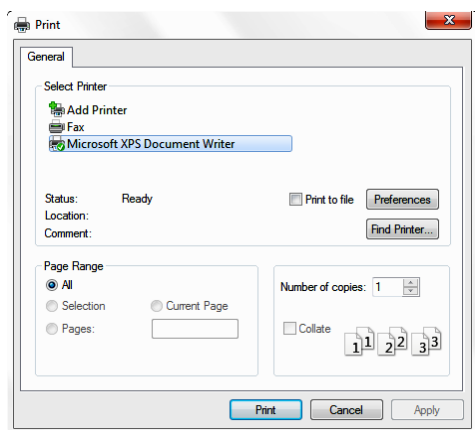
(Sample Image) Print dialog box

3 Specify the print parameters. For example, the range of pages and number of copies to print.

4 Click **Print**.

Backing up your work

Back up all the files you create in case something happens to your computer. You can back up your files to different types of media such as CDs, DVDs, external storage media, or to a network, if available.

To back up several files at one time, use the Microsoft® Windows® Backup program preinstalled on the computer's internal storage drive. Also see "Backing up your data or your entire computer with the Windows® operating system" on page 174.

HINT: Backing up all the files on your internal storage drive may take a considerable amount of time and multiple CDs/DVDs. You may prefer to use a high-capacity backup system, such as an external hard drive.

Restoring your work

To restore information from your backup media to your internal storage drive, use the Restore option in the Windows® Backup and Restore program. Look in the online Help or your operating system documentation for information on restoring files.
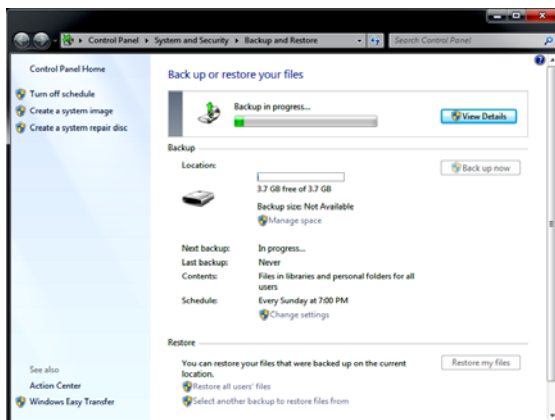
(Sample Image) Backup and Restore screen

TECHNICAL NOTE: When restoring files, the backup program prompts you if you try to overwrite a file that already exists on the internal storage drive. Make sure the backup version is the one you want before overwriting the existing file.

Toshiba's online resources

Toshiba maintains a number of online sites to which you can connect. These sites provide information about Toshiba products, give help with technical questions and keep you up to date with future upgrades. For more information, see "Contacting Toshiba" on page 178.

Chapter 3

Mobile Computing

This chapter covers all aspects of using your computer while traveling.

Toshiba's energy-saver design

Your computer enters a low-power suspension mode when it is not being used, thereby conserving energy and saving money in the process. It has a number of other features that enhance its energy efficiency.

Many of these energy-saving features have been preset by Toshiba. We recommend you leave these features active, allowing your computer to operate at its maximum energy efficiency, so that you can use it for longer periods while traveling.

Your computer contains Toshiba EasyGuard®. The Toshiba EasyGuard***** technology is made up of four foundational elements that incorporate hardware and software innovations into various Toshiba computers that address the most common security, reliability and connectivity issues faced by computer users:

❖ **EasyGuard Protect and Fix**—to fortify vital information and vulnerable components against the stress and hazards mobile computers face every day.

❖ **EasyGuard Secure**—to defend your data and your computer against loss, theft or viral attack.

❖ **EasyGuard Connect**—to help users establish a reliable wired or wireless connection effortlessly and quickly.

❖ **EasyGuard Optimize**—to enable users to customize system settings to be more productive.

*Toshiba EasyGuard® technology comprises a number of features some of which may or may not be available on a particular Toshiba computer depending on the model selected. See easyguard.toshiba.com for detailed information.

Running the computer on battery power

The computer contains a Lithium-Ion (Li-Ion) battery that provides power when you are away from an AC outlet. You can recharge it many times.

Battery Notice

Battery life rating is for comparison purposes only, and does not indicate the battery life that will be obtained by any individual user. Actual battery life may vary considerably from specifications 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. The battery life rating is only achieved on the select models and configurations tested by Toshiba under the specific test settings at the time of publication and is not an estimate of a system's battery life under any conditions other than the specific test settings.

Recharge time varies depending on usage. Battery may not charge while the computer is consuming full power. After a period of time, the battery will lose its ability to perform at maximum capacity and will need to be replaced. This is normal for all batteries.

To ensure that the battery maintains its maximum capacity, operate the computer on battery power at least once a month. The Lithium-Ion battery has no memory effect so it is not necessary to let the battery fully discharge each time. However, for better accuracy of the battery meter, it is helpful to fully discharge the battery periodically. Please see "Maintaining your battery" on page 115 for procedures. If the computer is continuously operated on AC power, either through an AC adaptor or a port replicator (if applicable to your system), for an extended period (more than a month), the battery may fail to retain a charge. This may shorten the life of the battery, and may cause the battery meter to be inaccurate.

NOTE   For optimum optical media performance, it is recommended that you play DVDs while running the computer on AC power. For more information about Windows® power plans, see "Power Plans" on page 111.

The computer also has an internal real-time-clock (RTC) battery.

The RTC battery powers the RTC memory that stores your system configuration settings and the current time and date information. It maintains this information for up to a month while the computer is turned off.

TECHNICAL NOTE: Depending on your system, the RTC battery may only charge while the computer is turned on.

Power management

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.

CAUTION Changes to these settings may result in system performance or stability issues. Users who are not completely familiar with the power management component of the system should use the preset configuration. For assistance with setup changes, contact Toshiba's Customer Support Center.

Charging batteries

The battery needs to be charged before you can use it to power the computer.

CAUTION Always use the AC adaptor specified by Toshiba. You can order a Toshiba AC adaptor from Toshiba's Web site at accessories.toshiba.com.

NOTE Battery charge time may vary depending on the applications, power management settings, and features used.

Charging the main battery

To charge the main battery, plug the computer into a live electrical outlet. The battery charges whether the computer is on or off.

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

❖ The battery is extremely hot or cold.

   To ensure that the battery charges to its full capacity, wait until it reaches room temperature (50 to 80 degrees Fahrenheit, 10 to 26 degrees Celsius).

❖ The battery is almost completely discharged.

   Leave the power connected and the battery should begin charging after a few minutes.

HINT: Once the battery is fully charged, we recommend that you operate your computer on battery power until the battery discharges completely. Doing this extends battery life and helps ensure accurate monitoring of battery capacity.

Charging the RTC battery

Your computer has an internal real-time clock (RTC) battery. The RTC battery powers the System Time Clock and BIOS memory used to store your computer's configuration settings. When fully charged, it maintains this information for up to a month when the computer is powered off.

The RTC battery may have become completely discharged while your computer was shipped, resulting in a CMOS error message during startup. The error message may vary by computer model.

NOTE   Depending on your system, the RTC battery may only charge while the computer is turned on.

To recharge the RTC battery, plug the computer into a live electrical outlet and leave the computer powered on for 24 hours.

NOTE   It is seldom necessary to charge the RTC battery because it charges while the computer is on. If the RTC battery is low, the real-time clock and calendar may display the incorrect time and date or stop working.

When Hibernation mode is enabled and the RTC battery is completely discharged, a warning prompts you to reset the real-time clock.

The computer can be used while the RTC battery is being charged, although the charging status of the RTC battery cannot be monitored.

Monitoring main battery power

The computer's main battery light gives you an indication of the main battery's current charge.

❖ Glows amber while the main battery is being charged (AC adaptor connected)

❖ Glows green when the main battery is fully charged

❖ Is unlit when the battery has discharged, the battery is not charging, or the AC adaptor is not plugged into the computer or AC outlet

NOTE Battery life and charge time may vary, depending upon power management settings, applications and features used.

❖ Flashes amber when the main battery charge is low and it is time to recharge the main battery or plug in the AC adaptor

NOTE If the AC power light flashes amber during charging, either a battery is malfunctioning, or it is not receiving correct input from the AC power supply.

HINT: Be careful not to confuse the battery light (⬜), the ON/OFF light (⏻), and the power button light (near the upper-left corner of the keyboard).

When the ON/OFF light or power button light flashes amber, it indicates that the system is suspended (using the Windows® operating system Sleep command).

Power button

System indicator lights

AC power light
ON/OFF light
Battery light
Internal storage drive light
Wireless indicator light
Wireless WAN indicator light*
eco Utility™ indicator light
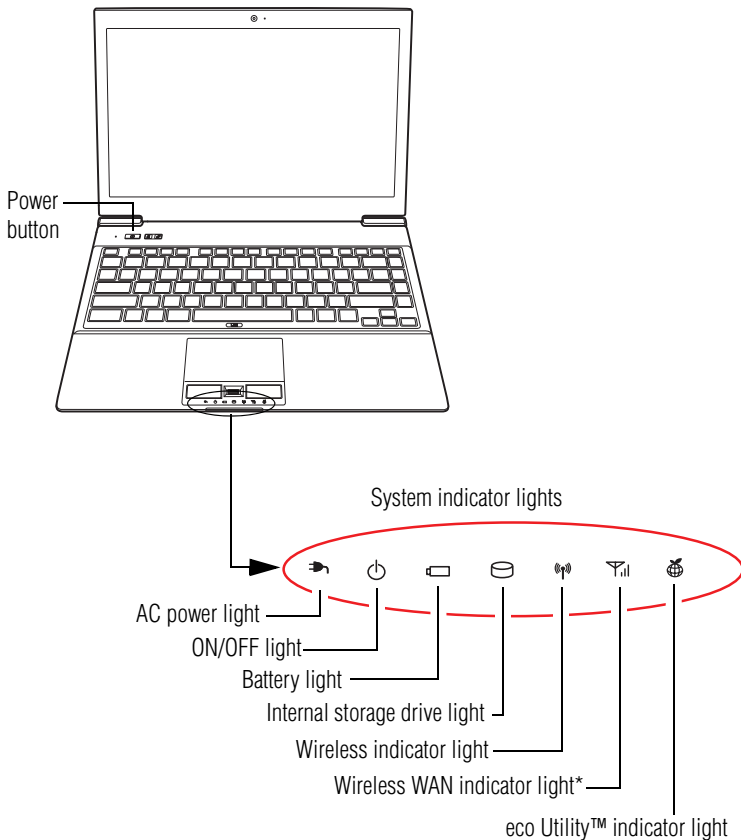
*Available on certain models

(Sample Illustration) Power and battery light locations

Determining remaining battery power

NOTE	Wait a few moments after turning on the computer before trying to monitor the remaining battery power. The computer needs this time to check the battery's remaining capacity and perform its calculations.

Move the pointer over the power icon in the notification area, see "Finding your way around the desktop" on page 118 for more information on the notification area. A pop-up message displays the remaining battery power as a percentage.

With repeated discharges and recharges, the battery's capacity gradually decreases. A frequently used older battery does not power the computer for as long as a new battery, even when both are fully charged.

TECHNICAL NOTE: The computer drains the battery faster at low temperatures. Check your remaining charge frequently if you are working in temperatures below 50 degrees Fahrenheit.

The computer calculates the remaining battery charge based on your current rate of power use and other factors such as the age of the battery.

What to do when the main battery runs low

When the main battery runs low you can:

❖ Plug the computer into an external power source and recharge the main battery

❖ Save your work and turn off the computer

If you do not manage to do any of these things before the main battery completely runs out of power, the computer automatically enters Hibernation mode and turns itself off. Hibernation mode keeps track of where you were, so that when you turn on the power again, you can continue where you left off.

If you have Hibernation mode enabled (the default), the computer copies the details of your open programs and files to the internal storage drive before shutting down. For more information on using Hibernation, see "Hibernation mode" on page 79.

Setting battery notifications

You can set two notifications. Each notification can be set to alert you when a specified percentage of remaining battery power has been reached. You can also set the computer to enter Sleep mode or Hibernation mode or to completely power down when the notification goes off.

To change the default notification settings:

1   Click **Start**, **Control Panel**, **System and Security**, and then **Power Options**.

The Power Options window appears.

2   Click **Change plan settings** under the power plan to be customized.

The Edit Plan Settings window appears.

3   Click **Change advanced power settings**.

The Advanced settings tab of the Power Options window appears.

4   Double-click **Battery** to display the battery options.
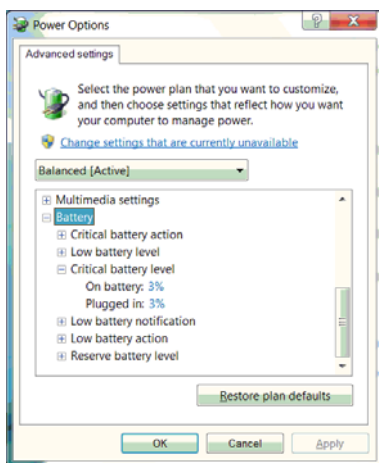
(Sample Image) Advanced settings tab of Power Options screen

5   Configure the alarm settings to suit your needs.

Conserving battery power

How long a fully charged battery lasts when you are using the computer depends on a number of factors, such as:

❖   How the computer is configured

❖ How much you use the internal storage drive or other optional devices

❖ Where you are working, since operating time decreases at low temperatures

There are various ways in which you can conserve power and extend the operating time of your battery:

❖ Enable Sleep or Hibernation, which saves power when you turn off the computer and turn it back on again

❖ Use the Windows® power-saving option plans

These power-saving options control the way in which the computer is configured. By using them, you can increase the length of time you can use the computer before you need to recharge the battery.

Microsoft® has combined these options into preset Power Plans. Using one of these power plans lets you choose between maximum power savings and peak system performance. You may also set individual power-saving options to suit your own needs.

The following sections describe how to choose a Power Plan and discuss each power-saving option.

Power Plans

You can choose a predefined Power Plan or select your own combination of power options. To do this:

1 Click **Start**, **Control Panel**, **System and Security**, and then **Power Options**.

The Windows® Power Options window appears.
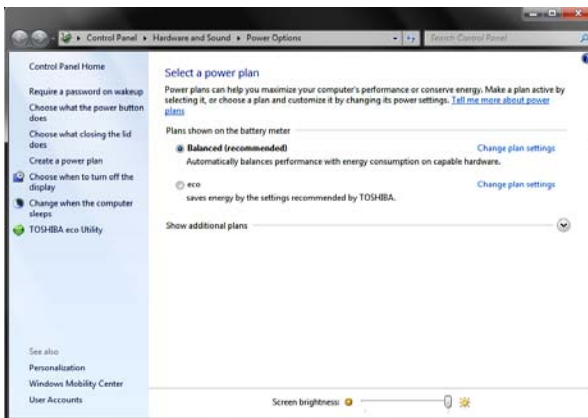
(Sample Image) Windows® Power Options window

2   Select an appropriate plan for your work environment or create your own custom plan.

3   Click **Create a power plan** in the left pane to set up a new plan.

NOTE   To edit a plan or to edit advanced settings, continue to the following steps.

4   Click **Change plan settings** to choose the plan you want to edit.

This screen allows you to change basic settings.

5   Click **Change advanced power settings** to access settings for battery notification levels, internal storage drive power save time, etc.

You can click on the plus signs to expand each item and to see what settings are available for each item.

6   Click **OK** to save the plan changes you have performed.

By default the two power plans eco and Balanced are satisfactory for most people and do not need to be edited. The eco plan is the best used for maximum battery time. The Balanced plan is a compromise between battery time and performance.

Using a hot key to set the Power Plan

You may use a hot key to set the Power Plan.

To set the Power Plan:

1   Press Fn and F2 simultaneously to display the Power Plan hot key card.
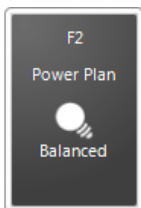
(Sample Image) Power Plan hot key card

2 While continuing to press Fn, press F2 until you select the desired Power Plan.

The Power Plan options are: eco and Balanced.

3 Release the Fn key.

The hot key card disappears. You are now in the selected mode.

Using the TOSHIBA eco power plan

This computer is equipped with the TOSHIBA eco power plan. Operating the computer with this power plan enabled reduces electrical power consumption by slightly lowering system performance. For example, when this power plan is enabled, the brightness of the display is reduced and the interval before Sleep mode takes effect is shortened. To enable or disable the TOSHIBA eco power plan, press the eco Utility™ button.
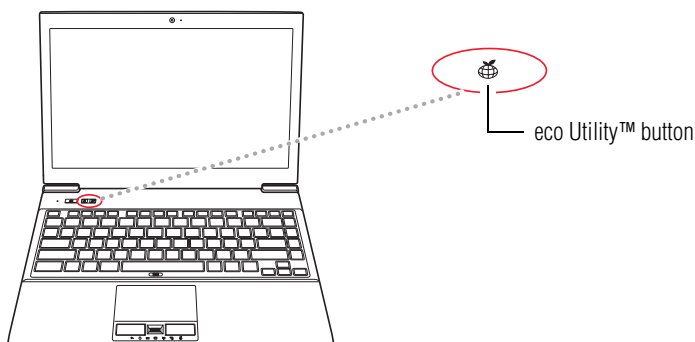
eco Utility™ button

(Sample Illustration) Locating the eco Utility™ button

The TOSHIBA eco Utility™ monitors your power savings from using the eco power plan by tracking real-time power consumption and accumulated savings over time. To learn how to access the utility, see "TOSHIBA eco Utility™" on page 154.

For more information on the TOSHIBA eco power plan, see the Help file in the TOSHIBA eco Utility™ window.

Changing the main battery

When your main battery has run out of power, plug in the AC adaptor.

If you find that a new battery is needed, contact the location you purchased the computer at for more information on replacing the battery. Toshiba will not be responsible for any product damage, data loss, service or part replacement made necessary by improper installation of a new battery.

⚠ WARNING If the computer is leaking or its case is cracked, put on protective gloves to handle it.

Taking care of your battery

The following sections offer tips on how to take care of your battery and prolong its life.

Safety precautions

⚠ WARNING **Computer warning indicators**

❖ Always immediately turn the power off and disconnect the power cable/cord plug from the plug socket and stop using the computer if you observe any of the following conditions:

❖ Offensive or unusual odor

❖ Excessive heat

❖ Discoloration

❖ Deformation, cracks, or leaks

❖ Smoke

❖ Other unusual event during use, such as abnormal sound

❖ Do not expose the computer to fire. The battery could explode.

Do not turn on the computer's power again until an authorized Toshiba service provider has checked it for safety. Continued use could cause a fire or rupture possibly resulting in serious injury or computer failure including but not limited to the loss of data.

Maintaining your battery

Fully discharging your battery will allow better accuracy of the battery meter.

To fully discharge your battery:

❖ Periodically, disconnect the computer from a power source and operate it on battery power until the battery fully discharges. Before doing so, follow the steps 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, go to step 4.

3 Operate the computer on battery power for five minutes. If the battery has at least five minutes of operating time, continue operating until the battery is fully discharged. If the battery light flashes or there is some other warning to indicate a low battery, go to step 4.

4 Connect the AC adaptor to the computer and the power cord/cable to a power outlet. The DC-IN or AC power-light should glow green, and the battery light should glow amber to indicate that the battery is being charged. If the DC-IN or AC power-light indicator does not glow, power is not being supplied. Check the connections for the AC adaptor and power cord/cable.

5 Charge the battery until the battery light glows green.

❖ If you are not going to use the computer for more than eight hours, disconnect the AC adaptor.

Disposing of your computer

⚠ **WARNING** Never attempt to dispose of a computer by burning or by throwing it into a fire, and never allow exposure to a heating apparatus (e.g., microwave oven). Heat can cause a computer to explode and/or release caustic liquid, both which may possibly cause serious injury.

Discard this computer in accordance with applicable laws and regulations.

Disposal of this product may be regulated due to environmental considerations. For disposal, reuse or recycling information, please contact your local government.

In addition, Toshiba's recycling initiatives include recycling programs, events and consumer promotions. For details, please visit us.toshiba.com/green.

Notice regarding CR coin cell batteries, applicable to California, U.S.A. only:

> Perchlorate Material - special handling may apply.
> See http://www.dtsc.ca.gov/hazardouswaste/perchlorate/

Traveling tips

The environmental precautions listed in "Selecting a place to work" on page 41, also apply while traveling.

❖   Never leave your computer on a sunny ledge or in a place where it could get wet or covered in dust.

❖   Always travel with the computer in a carrying case. Toshiba offers a choice of carrying cases for the computer. They all provide plenty of extra space for manuals, power cords, and compact discs. Contact your authorized Toshiba representative for more information or visit Toshiba's Web site at accessories.toshiba.com.

TECHNICAL NOTE: When traveling by air, you may be required to pass your computer through airport security equipment. The X-ray equipment will not harm your computer.

NOTE   Before using your computer aboard an aircraft, make sure the Wireless antenna is OFF if your computer has wireless LAN capability.

NOTE   To enable or disable wireless communication, use the Hot Key Fn + F8. For more information see "Hot Keys/TOSHIBA Cards" on page 181.

Chapter 4

Exploring Your Computer's Features

In this chapter, you will explore some of the special features of your computer.

Exploring the desktop

The desktop is the launching pad for everything you can do in the Windows® operating system. You can use its features to start programs, find documents, set up system components, and perform most other computing tasks.

HINT: The illustrated examples in this guide may appear slightly different from the screens displayed by your system. The differences are not significant and do not indicate any change in the functionality of your system.

Finding your way around the desktop

Your computer's desktop includes several standard features: icons, Start button, taskbar, notification area, and background pattern.

Icons

Start button   Taskbar   Notification area
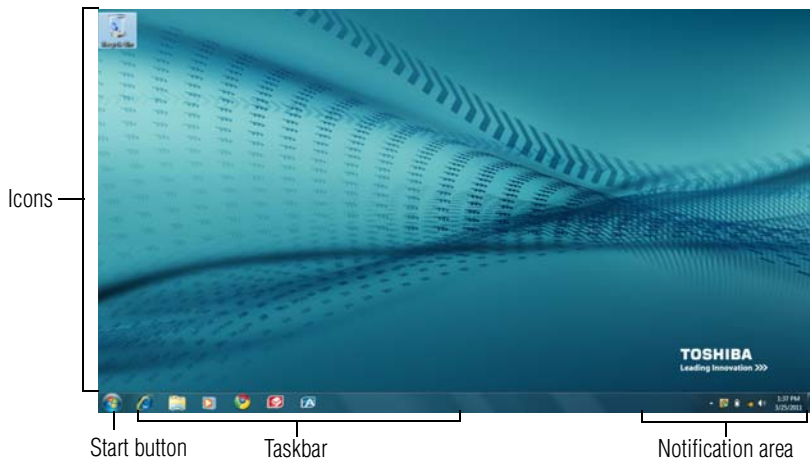
(Sample Image) Windows® operating system desktop

Icons

An icon represents a folder, file, or program that can be quickly activated by double-clicking the icon.

You can create a new desktop icon for any folder, file, or program by dragging the element's icon from its location in a window to the desktop area.

You may see various icons displayed on your system desktop, for example:

Recycle Bin—Holds files you have deleted. You may be able to retrieve these files until you empty the Recycle Bin.

❖ TECHNICAL NOTE: If you delete a large number of files or very large files from the internal storage drive, there may be insufficient space available in the Recycle Bin to hold these files. In this case, Windows® will prompt you to either permanently delete the file(s) or cancel the deletion.

❖ If you delete a file (of any size) from an external media or flash media, it does not go into the Recycle Bin. The file is permanently deleted.

❖ Permanently deleted files cannot be recovered from the Recycle Bin.
For more information on the Recycle Bin, see Windows® online Help.

NOTE If you place the pointer over an icon, a popup description of the file contents appears.

Your desktop may contain other icons depending on your configuration. See Windows® online Help for more specific information on each icon and how to use it.

Start button

You use the Start button to:

❖ Start programs

❖ Open documents

❖ Adjust system settings

❖ Find files

❖ Access Windows® Help and Support

❖ Suspend system activity and shut down the computer

NOTE Whenever a procedure in this User's Guide instructs you to click Start, it means that you should click the Start button.

Taskbar

Each time you open a program, a button associated with that program appears on the taskbar. With some programs, a button appears on the taskbar for each document or window you open. You can use these buttons to quickly switch between the programs or windows.

To make a program or window the currently active one, click the associated taskbar button.

Notification area

The notification area displays icons of tasks or programs that run continuously in the background and displays notifications. To learn more about each task, position the pointer over the icon for a few moments and a short description of the task appears.

Typical tasks in the notification area are Current time, Power usage mode, network connectivity status, and speaker volume.

To activate a specific task, click the appropriate notification area icon.

Setting up for communications

To connect to the Internet, use an online service, or communicate across the telephone lines with another computer, you need:

❖ A browser or communications program

❖ An Internet Service Provider (ISP) or online service if you plan to use the Internet

❖ A way to connect to the ISP (for example Wi-Fi®/LAN, etc.)

Using Wireless LAN connectivity

NOTE   Wireless connectivity and some features may require you to purchase additional software, external hardware or services. Availability of public wireless LAN access points may be limited.

Your system may come with an optional wireless LAN module. This is a technology that expands wireless communication beyond networking equipment, and can connect many different kinds of electronic devices without the need for cables.

For information on how to set up a wireless connection, refer to your wireless networking device documentation or your network administrator.

NOTE   To enable or disable wireless communication, use the Hot Key Fn + F8. For more information see .

NOTE	When the Wireless antenna is ON, the wireless indicator light (ꟼ) will be lit.

For help with common Wi-Fi® networking problems, see "Wireless networking problems" on page 170.

Connecting your computer to a network

You can connect your computer to a network to increase its capabilities and functionality using one of its communication ports.

Accessing a network

To access a network, connect an Ethernet cable to the Network port (RJ45) on your computer. For specific information about connecting to the network, consult your network administrator. Many hotels, airports, and offices offer Wi-Fi® access. If your computer has Wi-Fi®, ask for help when connecting to a Wi-Fi® network.

Setting up the connection

To set up an office connection, consult your network administrator for network settings and additional considerations.

Exploring audio features

You can use your computer to record sounds using the computer's internal microphone (available on certain models) or an optional external microphone. You can listen to sound files or audio CDs using the built-in speakers, headphones, or external speakers.

Recording sounds

You may record sounds using the computer's internal microphone (available on certain models) or by connecting an optional external microphone.

Using a microphone

1   If you want to use an external microphone, connect it to the computer.

2   Click **Start**, **All Programs**, **Accessories**, and then **Sound Recorder**.
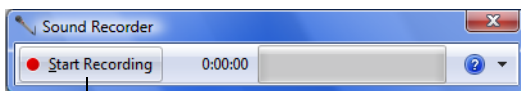
Start Recording/Stop Recording button

(Sample Image) Sound Recorder screen

3   Click the **Start Recording** button.

4   Speak normally into the microphone.

5   When you have finished recording, click the **Stop Recording** button.

     The **Save As** dialog box appears.

6   To save the file, type a file name, and then click **Save**.

Using external speakers or headphones

Your computer is equipped with a full stereo sound system with internal speakers. Instead of using the internal speakers, you can connect headphones or a pair of external stereo speakers.

⚠ CAUTION   Before putting on headphones to listen, turn the volume down. Do not set the volume too high when using headphones. Continuous exposure to loud sound can harm your hearing.

TECHNICAL NOTE: When using amplified speakers, use speakers that require an external power source. Other types of speakers will be inadequate to produce sound from the computer.

To play back sound files through external speakers or headphones:

1   Locate the headphone jack on the computer.

2   Using any necessary adapters, plug the cable from the headphones or external speakers into the headphone jack.

     The headphone jack requires a 16-ohm stereo mini connector.

To adjust the volume:

❖   For external speakers, use the volume controls on each speaker.

❖   For headphones, use the computer's volume control.

Using the Web Camera

(Available on certain models.)

Your computer may come with a built-in Web Camera. With this Web Camera you can do the following:

❖ Take pictures and record videos with your computer

❖ Chat with others and have them see you while using instant messaging (IM) programs

❖ Have video conference calls

NOTE   To email, instant message or video conference, you must be connected to the Internet.

Depending on your computer model, the process of sending email, taking pictures or recording video messages may vary.

To access the Web Camera, click **Start**, **All Programs**, **TOSHIBA**, **Media & Entertainment**, and then select the **Web Camera Application**. The Web Camera indicator light glows when the Web Camera is active.

Using the Memory card reader

(Available on certain models.)

The Memory card reader supports the use of Secure Digital™ (SD™), or MultiMediaCard® (MMC®) media. These media can be used with a variety of digital products: digital music players, cellular phones, PDAs, digital cameras, digital video camcorders, etc.

CAUTION   To use a micro or mini SD™ Card, an SD™ adapter is required.

The Memory card reader may also support other types of media.

NOTE   Do not use the Copy Disk function for this type of media. To copy data from one media to another, use the drag-and-drop feature of the Windows® operating system.

Inserting memory media

The following instructions apply to all types of supported media devices.

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

NOTE You may first need to remove the card slot protector before you can insert a card.

2 Push the media into the adapter until it locks in place.
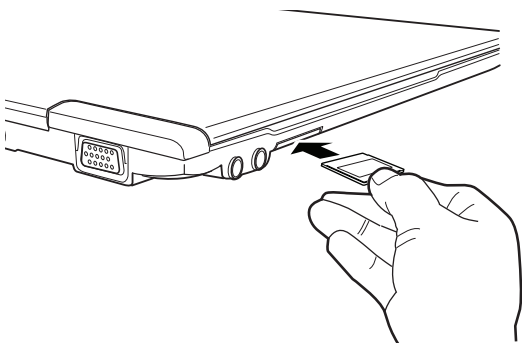
(Sample Illustration) Inserting memory media

CAUTION When inserting memory media, do not touch the metal contacts. You could expose the storage area to static electricity, which can destroy data.

Removing memory media

1 Prepare the card for removal by clicking on the **Show hidden icons** button (▲), if necessary, in the notification area and then selecting the **Safely Remove Hardware and Eject Media** icon.

If the system is unable to prepare the media for safe removal, a message will tell you to try again later. If the media can be removed now, the system displays **Safe to Remove Hardware**.

If the computer has a spring-loaded adapter slot, see step 2; otherwise, skip to step 3.

2 Gently press the card inward to release it.

The card pops out slightly.

3 Grasp the card and pull it straight out.
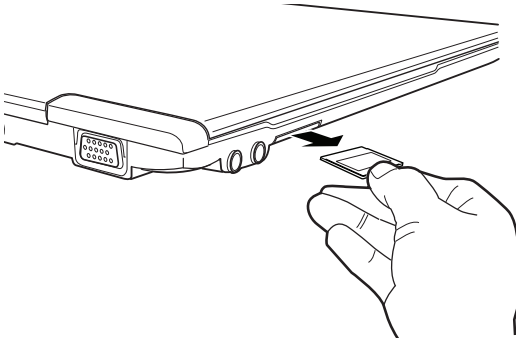
(Sample Illustration) Removing memory media

CAUTION Do not remove memory media while data is being written or read. Even when the Windows® message "copying..." disappears, writing to the media might still be in progress and your data could be destroyed. Wait for the indicator light to go out.

Chapter 5

Utilities

Your computer includes several utilities designed to help you to reconfigure your system to best meet your individual needs. Together, these allow you to ascertain certain system details, set additional options, or change default options. These utilities are described in this chapter.

NOTE The utilities described in this chapter, and the icons shown in the sample images are applicable only if the related utility is available on your system.

❖ TOSHIBA Assist

❖ TOSHIBA Application Installer

❖ Supervisor password

❖ User password

❖ TOSHIBA Face Recognition Utility

❖ TOSHIBA Security Assist

❖ TOSHIBA PC Diagnostic Tool Utility

❖ Mouse Utility

❖ TOSHIBA Hardware Setup

❖ TOSHIBA Sleep Utility

❖ TOSHIBA Button Support

❖ TOSHIBA Accessibility

❖ Trusted Platform Module (TPM)

❖ Fingerprint Authentication Utility

❖ TOSHIBA eco Utility™

❖ TOSHIBA wireless LAN indicator

❖ TOSHIBA Service Station

❖ TOSHIBA PC Health Monitor

TOSHIBA Assist

The TOSHIBA Assist provides quick access to computer functions and allows you to customize a range of computer settings.

To access TOSHIBA Assist, click **Start**, **All Programs**, **TOSHIBA**, **Support & Recovery**, and then **TOSHIBA Assist**.

The TOSHIBA Assist window appears.

(Sample Image) TOSHIBA Assist window

The TOSHIBA Assist offers four categories of options:

❖ Connect

❖ Secure

❖ Protect & Fix

❖ Optimize

Connect

The features available in this category are:

❖ *Bluetooth*® Settings

❖ *Bluetooth*® Local COM Settings
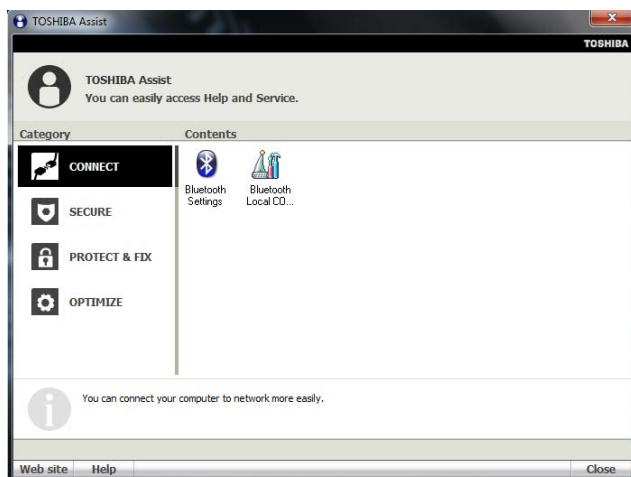
(Sample Image) TOSHIBA Assist window – Connect tab

Secure

The features available in this category are:

❖ Supervisor password

❖ User password

❖ TOSHIBA Security Assist
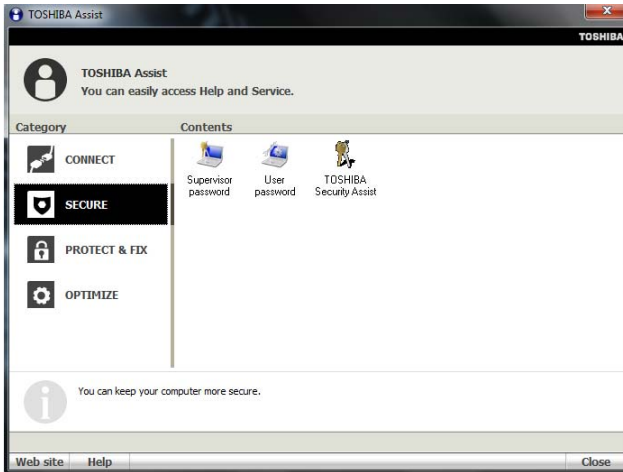
(Sample Image) TOSHIBA Assist window – Secure tab

Protect & Fix

The feature available in this category is:

❖   TOSHIBA PC Diagnostic Tool Utility
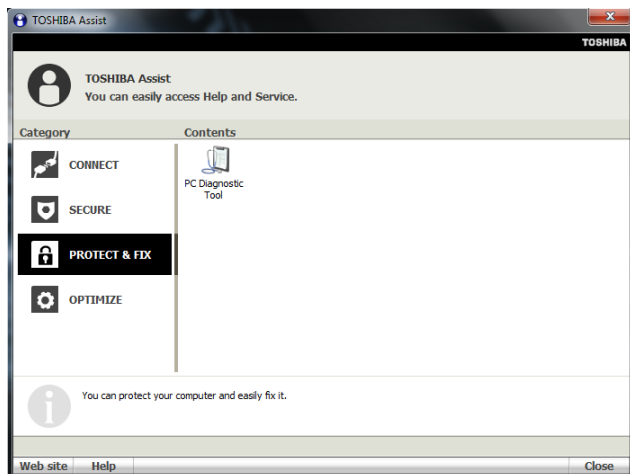
(Sample Image) TOSHIBA Assist window – Protect & Fix tab

Optimize

The features available in this category are:

❖ Mouse Utility

❖ TOSHIBA Hardware Setup (Hardware Settings)

❖ TOSHIBA Button Support

❖ TOSHIBA Accessibility

❖ TOSHIBA Face Recognition Utility

❖ TOSHIBA Sleep Utility

❖ TOSHIBA eco Utility™
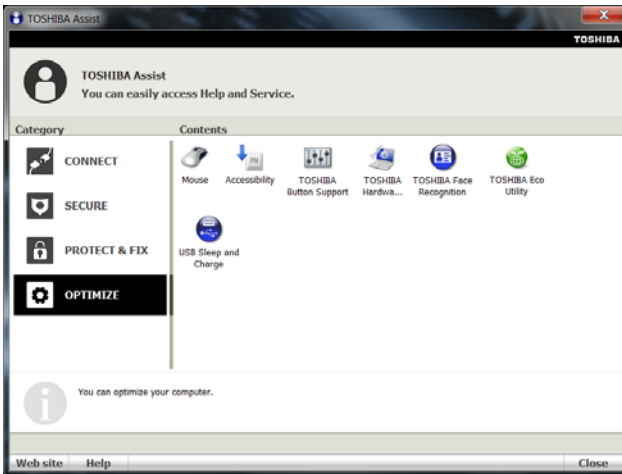
(Sample Image) TOSHIBA Assist window – Optimize tab

TOSHIBA Recovery Media Creator

The TOSHIBA Recovery Media Creator utility enables you to create recovery media that can be used to return your system to its out-of-box state, if necessary. For detailed information on using the utility to create recovery media, see "Creating recovery media" on page 62.

TOSHIBA Application Installer

The TOSHIBA Application Installer allows you to reinstall the drivers and applications that were originally bundled with your computer.

To reinstall drivers and applications:

1   Click **Start**, **All Programs**, **TOSHIBA**, **Support & Recovery**, and then **TOSHIBA Application Installer**.

2   Click **Next**.

(Sample Image) TOSHIBA Application Installer screen

3   Click the item you want to install.
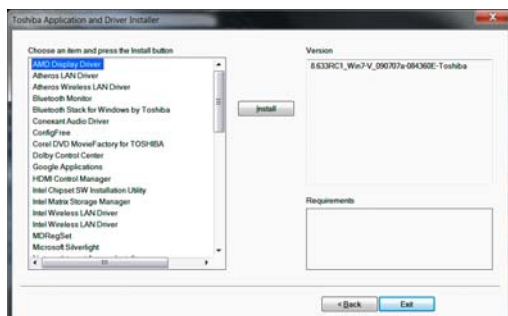
(Sample Image) TOSHIBA Application Installer selection screen

    4   Click **Install**, then follow the on-screen prompts to complete the installation process.

Setting passwords

Setting a password lets you walk away from your computer while providing additional protection for your files. When you set a password, you must enter the password before you can work on your computer again.

TOSHIBA supports several types of passwords on your computer:

❖   An instant password—Secures your open programs and files when leaving the computer temporarily.

NOTE   You need to have created a password for your Windows® account to use an instant password.

❖   A power-on password—Prevents unauthorized users from starting the computer.

❖   A supervisor password—Prohibits unauthorized users from accessing certain functions such as TOSHIBA Hardware Setup. This is useful if more than one person uses the computer.

A single user password supports the instant and power-on password functions.

When setting up passwords, keep the following in mind:

❖   The user password can be set up under the supervisor password.

❖   The supervisor password must be set before the user password, or the user password must be deleted and then re-entered after the supervisor password is set.

Using an instant password

An instant password secures your system with a single keystroke. Use this feature when you leave your desk for a few minutes and do not want to turn off the computer.

To use an instant password, press Fn + F1.

To unlock your system, press any key or touch the pointing device and the Windows® Logon screen will appear. Select your user name and enter your password, if any.

Using a supervisor password

A supervisor password prevents other users from changing hardware configuration options.

Setting a supervisor password

CAUTION   If you choose to set a supervisor or user password, TOSHIBA strongly recommends that you save your password in a location where you can later access it should you not remember it.

TOSHIBA is not responsible for any losses that may occur to you, your organization or others as a result of the inability to access the computer.

To set a supervisor password:

1 Click **Start**, **All Programs**, **TOSHIBA**, **Tools & Utilities**, **Password Utility**, and then **TOSHIBA Assist**.

The TOSHIBA Assist window appears.

2 On the left side, click the **Secure** tab.

3 Click the **Supervisor Password** icon.

The Supervisor Password tab of the TOSHIBA Password Utility window appears.
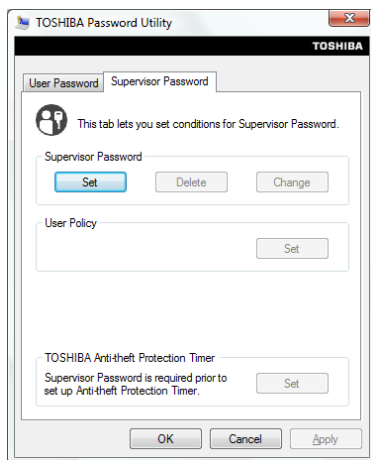
(Sample Image) Supervisor Password Utility window

4 Click **Set**.

A pop-up screen appears asking for a password.

5 Enter your password, and then enter it again to verify.

6   Click **Set**.

7   Click **OK** if you want to save the password to a text file or
     external media of your choice, or click **Cancel** to continue
     without saving the password to a text file.

8   Shut down the system to complete the process.

Deleting a supervisor password

To delete a supervisor password:

1   Click **Start**, **All Programs**, **TOSHIBA**, **Tools & Utilities**,
     Password Utility, and then **TOSHIBA Assist**.

     The TOSHIBA Assist window appears.

2   On the left side, click the **Secure** tab.

3   Click the **Supervisor Password** icon.

     The Supervisor Password tab of the TOSHIBA Password
     Utility window appears.

4   Click **Delete**.

     A pop-up screen appears asking for a password.

5   Enter the password, then click **OK**.

     A message displays confirming that the password has been
     deleted.

6   Click **OK** to exit.

Using a user password

A user password provides instant password and power-on password
protection.

Setting a user password

CAUTION   If you choose to set a supervisor or user password, TOSHIBA
               strongly recommends that you save your password in a location
               where you can later access it should you not remember it.

               TOSHIBA is not responsible for any losses that may occur to you, your
               organization or others as a result of the inability to access the computer.

To register a password for the power-on password functions:

1   Click **Start**, **All Programs**, **TOSHIBA**, **Support & Recovery**,
     and then **TOSHIBA Assist**.

     The TOSHIBA Assist window appears.

2   On the left side, click the **Secure** tab.

3   Click the **User Password** icon.

The TOSHIBA Password Utility window appears.
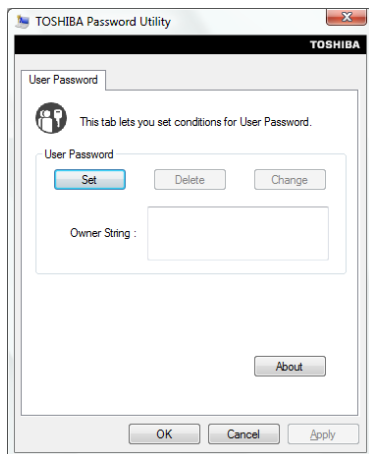
(Sample Image) TOSHIBA Password Utility window

4   Click **Set**.

5   Enter your password, and then enter it again to verify.

6   Click **Set**.

7   Click **OK** if you want to save the password to a text file or external media of your choice, or click **Cancel** to continue without saving the password to a text file.

8   Click **OK** to exit.

Deleting a user password

To cancel the power-on password function:

1   Click **Start**, **All Programs**, **TOSHIBA**, **Support & Recovery**, and then **TOSHIBA Assist**.

The TOSHIBA Assist window appears.

2   On the left side, click the **Secure** tab.

3   Click the **User Password** icon.

4   Click **Delete**.

5   Follow the on-screen instructions to remove the user password.

NOTE   This will remove the user password only.

TOSHIBA Face Recognition Utility

Your computer may come with the TOSHIBA Face Recognition utility. This utility provides another way to log on to your computer.

NOTE   For high security purposes, TOSHIBA Face Recognition is not a suitable substitute for Windows® passwords. To ensure the security of your system use your established Windows® passwords to log on.

Please refer to the online help file to learn more about this utility and what it offers. To locate the help file, go to: **Start**, **All Programs**, **TOSHIBA**, **Tools & Utilities**, **Face Recognition**. The help file covers the following topics:

❖   Setting up a Face Recognition account

❖   Registering a user image

❖   Updating a user image

❖   Changing a user image

❖   Deleting a user image

❖   Configuring Settings

❖   Authentication Functions

Please note that some changes to the likeness of a registrant, such as hair style changes or wearing a cap or glasses, may affect the recognition rates when such changes occur after the registrant's image has been registered.

TOSHIBA Face Recognition does not guarantee the correct identification of a user and may incorrectly recognize faces that are similar to the registrant's. In addition, bright background light and or shadows may prevent a registrant from being recognized correctly. If recognition fails, log on to your computer using your Windows® password.

TOSHIBA does not guarantee that the face recognition utility technology will be completely secure or error-free. TOSHIBA does not guarantee that the face recognition utility will accurately screen out unauthorized users at all times. TOSHIBA is not liable for any failure or damage that might arise out of the use of the face recognition software or utility.

TOSHIBA Security Assist

The TOSHIBA Security Assist Utility acts as a "command center" where you can set up various passwords or other security features, and see how these features can be used with each other to increase security even further, or to simplify the ways that you protect your system.

To open TOSHIBA Security Assist:

❖ Click **Start**, **All Programs**, **TOSHIBA**, **Tools & Utilities**, and then **Security Assist**, or click the **Security Assist** icon in the **Secure** tab of TOSHIBA Assist.

The TOSHIBA Security Assist main window appears.

(Sample Image) TOSHIBA Security Assist window

From the main window, you can select a category that shows the type of passwords or other security features that can be used in that scenario.

The available categories are:

❖ **Boot Setting**—Select this category to set up security features that will prevent an unauthorized user from even starting up your machine.

   ❖ **BIOS User Password**: Set up a power-on password in the system BIOS.

   ❖ **HDD User Password**: Set up a BIOS password and use the same password for a hard disk password.

   ❖ **Fingerprint Authentication**: Register your fingerprints, to be used in place of a BIOS and/or HDD password, when requested.

❖ **Log on Settings**—Select this category to set up security
   options that protect individual user accounts.

   ❖ **Password of current user**: Check the status of the
      Windows® password for the account to which you are
      currently logged on.

   ❖ **Password of all users**: Check the status of the Windows®
      password for any additional Windows® accounts on this
      computer.

   ❖ **Fingerprint Authentication**: Register your fingerprints,
      to be used in place of your Windows® account password,
      to log onto your personal account.

❖ **Resume Setting**—Select this category to configure which
   security options you want to use when your system resumes
   from Sleep or Hibernation.

   ❖ **Screen Saver**: Set up what you want your system to do
      when it comes back from the Windows® screen saver.

   ❖ **Setting for resuming from sleep or hibernation**: Set up
      what you want your system to do when it resumes from
      Sleep or Hibernation

   ❖ **Setting for closing the lid**: Set up what you want
      your system to do when the display panel is closed or
      re-opened.

❖ **TPM Settings**—Select this category to set up the Trusted
   Platform Module (available on certain models).

   ❖ **TPM State**: Verify whether the TPM is enabled or disabled.

   ❖ **EFS Setting**: Verify the Encrypted File System settings.

   ❖ **PSD Setting**: Configure or check a "Personal Secure Drive".

   ❖ **BitLocker State**: Verify whether Windows® BitLocker
      drive encryption is enabled or disabled

❖ **Others**—Select this category to check the status of other
   security features.

   ❖ **Windows Security Center**: Check the status of
      Windows® Security Center options

❖ **Advanced**—Select this category to check advanced security
   options (available on certain models).

   ❖ **Wireless Key Logon**: Configure your computer to allow a
      Bluetooth®-compatible cell phone to send an unlock code.

TOSHIBA PC Diagnostic Tool Utility

This utility can help diagnose problems with devices in your computer. Refer to the online Help documentation within the application for additional help.

| NOTE | The TOSHIBA PC Diagnostic Tool utility may show tests for features you do not have. This is normal and does not indicate a problem. |

To use the TOSHIBA PC Diagnostic Tool utility:

1   Click **Start**, **All Programs**, **TOSHIBA**, **Support & Recovery**, and then **PC Diagnostic Tool**, or click the **PC Diagnostic Tool** icon in the **Protect & Fix** tab of TOSHIBA Assist.

The TOSHIBA PC Diagnostic Tool window appears.

2   Click the **Diagnostic Tool** tab.
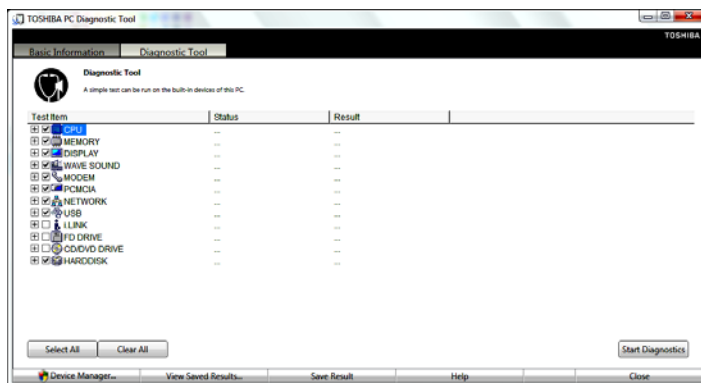
(Sample Image) TOSHIBA PC Diagnostic Tool window

3   Select the devices that you would like to test by clicking the check box that appears to the left of the device.

| NOTE | Click the + (plus) and - (minus) symbols to expand and collapse the categories. |

4   Click **Start Diagnostics** when you are ready to begin the tests.

Mouse Utility

The Mouse utility allows you to change your pointing device or mouse settings.

To access the Mouse utility:

1   Click **Start**, **Control Panel**, **Hardware and Sound**, and then under **Devices and Printers**, click **Mouse**, or click the **Mouse** icon in the **Optimize** tab of TOSHIBA Assist.

The Mouse Properties screen appears.

The settings you can change are divided into these categories:

❖   Buttons

❖   Pointers

❖   Pointer Options

❖   Wheel

❖   Hardware

❖   Device Settings

You may see additional categories depending on your particular pointing device.

2   Adjust the settings as desired, then click **OK**.

TOSHIBA Hardware Setup

TOSHIBA Hardware Setup is the TOSHIBA configuration management tool available through the Windows® operating system. To access it:

❖ Click **Start**, **All Programs**, **TOSHIBA**, **Tools & Utilities**, and then **HWSetup**, or click the **TOSHIBA Hardware Settings** icon in the **Optimize** tab of TOSHIBA Assist.

The TOSHIBA HWSetup screen appears.
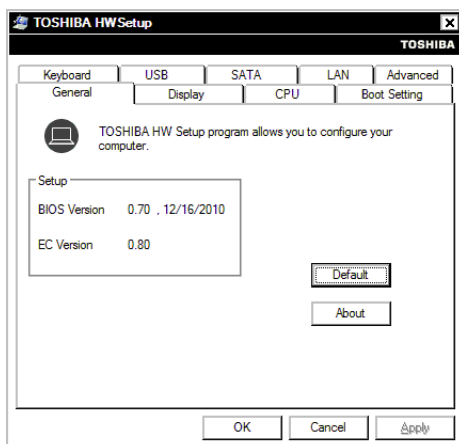
(Sample Image) TOSHIBA HWSetup screen – General tab options

The TOSHIBA HWSetup screen may have the following tabs:

❖ **Advanced**—Allows you to enable/disable the ports and features on your computer

❖ **Boot Setting**—Allows you to change the sequence in which your computer searches the drives for the operating system

You can also manually choose the Boot Setting by pressing the power button to power on the computer, then quickly pressing the F12 key.

Select the boot device by pressing the arrow keys, then pressing the Enter key.

NOTE   Since the system is a quick-booting system, you must press the keys immediately after pressing the power button.

❖ **Panel open/Power on**—Allows you to turn on the computer when opening the display panel while the computer is turned off.

❖ **CPU**—Allows you to enable or disable CPU frequency switching modes

Dynamically Switchable—This mode is the default setting for your computer, and automatically changes the processing frequency and decreases voltage depending on the power source:

 ❖ **AC Power**—If your computer is connected to the AC adaptor, the CPU frequency mode is set to high for faster processing

 ❖ **Battery Power**—If your computer is running on battery power, the CPU frequency mode is set to low for slower processing. Switching the CPU to low allows you to conserve power and extend the operating time of your battery

Always High—Sets the CPU speed to high when using either the battery or the AC adaptor

Always Low—Sets the CPU speed to low when using either the battery or the AC adaptor

❖ **Display**—Allows you to change various default settings for the built-in display

NOTE When the computer restarts, it remembers the last configuration. If data does not appear on the display you are using after starting in Sleep mode, press Fn + F5. For more information, see "Directing the display output when you turn on the computer" on page 75.

❖ **General**—Allows you to view the current BIOS version or change certain settings back to their default values

❖ **Keyboard**—Allows you to access the wake-on keyboard function

❖ **LAN**—Allows you to set networking functions

❖ **SATA**—Allows you to set conditions for SATA

❖ **USB**—Allows you to enable or disable USB Legacy Emulation

❖ **USB Memory Bios Support Type**—Interprets the way the system sees the USB flash drive.

 ❖ **HDD**—Hard Disk Drive

 ❖ **FDD**—Floppy Disk Drive

TOSHIBA Sleep Utility

This utility displays whether the "USB Sleep and Charge function" is enabled or disabled and shows the position of the USB port that supports the "USB Sleep and Charge function." It also displays the remaining battery capacity.

Starting the TOSHIBA Sleep Utility

To start this utility, click **Start**, **All Programs**, **TOSHIBA**, **Tools & Utilities**, and then **Sleep Utility**.

USB Sleep and Charge

Your computer can supply USB bus power (DC 5V) to the USB port even when the computer is in Sleep mode, Hibernation mode or shutdown state (powered off).

This function can only be used for the port that supports the USB Sleep and Charge function (hereinafter called "compatible port").

Compatible ports are USB ports that have the (⚡) symbol icon.

You can use the "USB Sleep and Charge function" to charge certain USB compatible external devices such as mobile phones or portable digital music players. However, the "USB Sleep and Charge function" may not work with certain external devices even if they are compliant with the USB specification. In those cases, power on the computer to charge the device.

NOTE

❖ When "USB Sleep and Charge function" is set to Enabled, USB bus power (DC 5V) will be supplied to the compatible port even when the power of the computer is turned OFF.
USB bus power (DC 5V) 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 (DC 5V).
As for the specifications of the external devices, please contact the device manufacturer or check the specifications of the external devices thoroughly before use.

❖ If USB Sleep and Charge 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 USB Sleep and Charge function.

❖ Using the "USB Sleep and Charge function" to charge external devices will take longer than charging the devices with their own chargers.

❖ If an external device is connected to the compatible port when the AC adaptor is not connected to the computer, the battery of the computer will be depleted even when the power of the computer is turned OFF. As such, we recommend that you connect the AC adaptor to the computer when using the "USB Sleep and Charge function."

❖ External devices connected to the USB bus power (DC 5V) 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 device connected to the compatible port, USB bus power (DC 5V) supply may be stopped for safety reasons.

❖ When "USB Sleep and Charge function" is set to Enabled, the "USB Wakeup function" does not work for compatible port.
In that case, if there is a USB port that does not have the USB Sleep and Charge function-compatible icon (⚡), attach the mouse or keyboard to it.
The "USB Wakeup function" will now work, but the "USB Sleep and Charge function" will be disabled.

⚠ WARNING

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.

Enabling/Disabling USB Sleep and Charge

This utility can be used to enable or disable the USB Sleep and Charge function. To enable this function, select the **Enable USB Sleep and Charge** check box in the utility. To disable this function, de-select the check box.

You can also control whether charging takes place when the computer is running on battery power. To do so, select or de-select the **Enable under Battery Mode** check box in the utility.

If you enable charging when the computer is running on battery power, you can specify that charging stops when battery power drops below a certain level. Use the slider at the bottom of the utility window (beneath the "Lower limit of remaining battery life" heading) to specify when charging should stop. For example, if you set the slider to 10%, charging will stop when 10% or less of the battery power remains.

Power supply mode settings

Your computer may provide two different charging modes, to support various types of USB devices. If your computer provides more than one charging mode, the charging mode you should select depends on the USB device you want to charge. For example, **Auto Mode**, which is the default mode, will charge a wide variety of digital audio players. If your device does not charge in Auto Mode, try using **Alternate Mode**. To select a different charging mode, use the **Power supply mode** drop-down list in the utility.
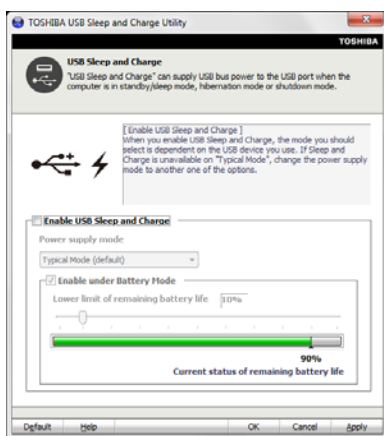
(Sample Image) TOSHIBA Sleep Utility screen

NOTE   With certain external devices, the USB Sleep and Charge function may not work no matter which charging mode you select. In those cases, disable USB Sleep and Charge in the utility and turn the computer on to charge the device, or use a different charging device.

TOSHIBA Button Support

TOSHIBA Button Support allows you to customize the eco button. This button is located on the system control panel directly above the keyboard.

To access TOSHIBA Button Support:

1   Click the **TOSHIBA Button Support** icon in the **Optimize** tab of TOSHIBA Assist.

The TOSHIBA Button Support window appears.
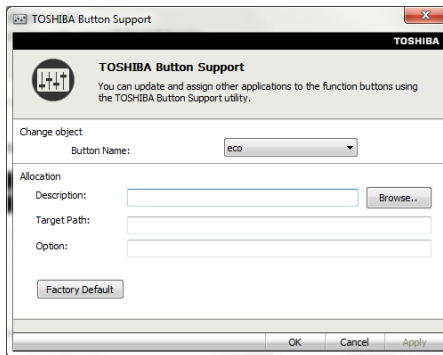
(Sample Image) TOSHIBA Button Support screen

2   Under **Button Name**, select the button whose function is to be customized.

3   Make the desired selections.

4   Click **Close**.

TOSHIBA Accessibility

The TOSHIBA Accessibility utility allows you to use the Fn key to create a hot key combination with one of the function keys without pressing the two keys simultaneously as is usually required. Using Accessibility lets you make the Fn key a *sticky key*, meaning you can press it once, release it, and then press a function key to activate the hot key function.
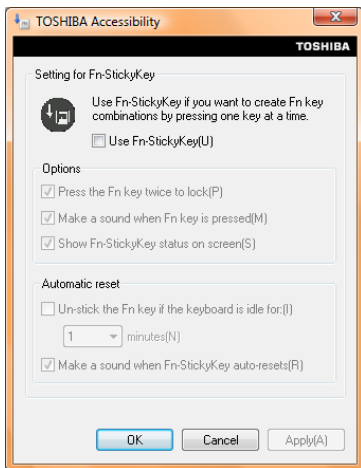
(Sample Image) TOSHIBA Accessibility window

To use TOSHIBA Accessibility:

1   Click **Start**, **All Programs**, **TOSHIBA**, **Tools & Utilities**, and then **Accessibility**, or click the **Accessibility** icon in the **Optimize** tab of TOSHIBA Assist.

The TOSHIBA Accessibility window appears.

2   Check the **Use Fn-StickyKey** box.

3   Put a check mark next to the desired option.

4   Click **OK**.

Trusted Platform Module (TPM)

NOTE   This section only applies to systems with TPM.

Your TOSHIBA computer includes the TPM (Trusted Platform Module), which is a security encryption device for your system's internal storage drive. TPM is already included on your system, but needs to be installed and enabled using the following procedures.

To install TPM:

1   Launch the TOSHIBA Application Installer from the desktop and install the following packages:

   ❖   Infineon Trusted Platform Module Utility

   ❖   Infineon TPM (Trusted Platform Module) Installation Guide

2   Follow the directions on your screen.

Once the TPM files have been installed, you will need to enable the TPM feature through your system's BIOS.

To enable TPM:

1   Power on your system while holding down the Esc key.

2   Press F1 when directed.

3   Press the PgDn key.

4   Press the down arrow key until TPM is highlighted, then press the space bar to change the TPM status to **Enabled**.

5   Press Y to save the changes.

6   Press End and then press Y to accept the changes.

   Your system will restart.

For further information on how to set up and use this utility, refer to the Infineon TPM (Trusted Platform Module) Installation Guide.

Fingerprint Authentication Utility

(Available on certain models.)

The fingerprint authentication utility can be used to replace the keyboard-based user password authentication system when booting up.

The fingerprint authentication utility can also be used for user logon. The user's fingerprint is read; if the system recognizes the fingerprint, the user is automatically logged on.

Fingerprint utility limitations

TOSHIBA does not guarantee that the fingerprint utility technology will be completely secure or error-free. TOSHIBA does not guarantee that the fingerprint utility will accurately screen out unauthorized users at all times. TOSHIBA is not liable for any failure or damage that might arise out of the use of the fingerprint software or utility.

Using the Fingerprint Authentication Utility

To access the Fingerprint Authentication Utility, click **Start**, **All Programs**, **TOSHIBA**, **Tools & Utilities**, and then select the **Fingerprint Utility**. For information on enrolling fingerprints and using the utility please refer to your online help file.

NOTE   It is recommended that you complete the Fingerprint practice tutorial before starting fingerprint enrollment. The Fingerprint practice tutorial shows how to achieve the highest quality fingerprint samples.

If you choose to use this utility it is strongly recommended that you delete your fingerprint template data before transferring ownership or disposing of your computer. Otherwise, personal information and/or proprietary information on the internal storage drive may be viewed by a third party. For details on how to delete the fingerprint data, see your Online help file.

Fingerprint Logon

The fingerprint utility enables logon to your computer using fingerprints. During user enrollment, fingerprint samples are saved and associated with the user's Windows® user account. When the user attempts to log on again, the user's fingerprint is read and compared with the user's enrolled fingerprints; if the fingerprint is recognized, user logon is completed.

The Fast User Switching feature of the Windows® operating system is also supported. If user A is logged on and the fingerprint utility verifies the fingerprint of user B (who is already enrolled), the utility recognizes the fingerprint and switches the users.

If your system supports power-on security, existing fingerprint samples can be used also for power-on authentication.

Care and maintenance of your fingerprint reader

Failure to follow these guidelines and/or procedures might result in damage to the reader or cause reader failure, finger recognition problems, or lower finger recognition success rate.

❖ Do not scratch or poke the reader with your nails or any hard or sharp objects.

❖ Do not press the reader with too much pressure.

❖ Do not touch the reader with a wet finger or any wet objects. Keep reader surface dry and free of water vapor.

❖ Do not touch the reader with a soiled finger. Minute foreign particles on a soiled or dirty finger may scratch the reader.

❖ Do not paste stickers or write on the reader.

❖ Do not touch the reader with a finger or any object with built-up static electricity.

Observe the following before you swipe your finger on the reader, whether for fingerprint enrollment/registration or recognition.

❖ Wash and dry your hands thoroughly.

❖ Remove static electricity from your fingers by touching any metal surface. Static electricity is a common cause of reader failures, especially during dry seasons such as winter.

❖ Clean the reader with a lint-free cloth. Do not use detergent to clean the reader.

❖ Avoid the following finger conditions for enrollment or recognition as they may result in fingerprint enrollment errors or a drop in the fingerprint recognition success rate.

   ❖ Soaked or swollen finger (e.g., after taking bath)

   ❖ Injured finger

   ❖ Wet finger

   ❖ Soiled or oily finger

   ❖ Extremely dry skin condition on finger

Observe the following to improve the fingerprint recognition success rate.

❖ Enroll two or more fingers.

❖ Enroll additional fingers if recognition failure occurs often using enrolled fingers.

❖ Check your finger condition. Changed conditions, such as injured, rough, extremely dry, wet, soiled, dirty, oily, soaked or swollen fingers, may lower the recognition success rate. Also if the fingerprint is worn down or the finger becomes thinner or fatter, the recognition success rate may be lowered.

❖ The fingerprint for each finger is different and unique. Please ensure that only the registered or enrolled fingerprint or fingerprints are used for identification.

❖ Check sliding position (see illustration below).

(Sample Illustration) Aligning the finger on the reader

Fingerprint reader limitations

❖ The fingerprint reader compares and analyzes the unique characteristics in a fingerprint. However, there may be instances where certain users are unable to register their fingerprints due to insufficient unique characteristics in their fingerprints.

❖ A warning message will be displayed when recognition is abnormal or recognition is not successful within a fixed duration.

❖ The recognition success rate may differ from user to user.

❖ TOSHIBA does not guarantee that this fingerprint recognition technology will be error-free.

TOSHIBA does not guarantee that the fingerprint reader will recognize the enrolled user or accurately screen out unauthorized users at all times. TOSHIBA is not liable for any failure or damage that might arise out of the use of this fingerprint recognition software or utility.

TOSHIBA eco Utility™

The TOSHIBA eco Utility™ monitors your power savings from using the eco power plan by tracking real-time power consumption and accumulated savings over time.

To access the TOSHIBA eco Utility™, do one of the following:

❖ Click **Start**, **All Programs**, **TOSHIBA**, **Tools & Utilities**, and then **TOSHIBA eco Utility**.

❖ Double-click the **TOSHIBA eco Utility** icon in the notification area.

❖ Right-click the **TOSHIBA eco Utility** icon in the notification area and select **Launch TOSHIBA eco Utility**.

The TOSHIBA eco Utility™ window appears.
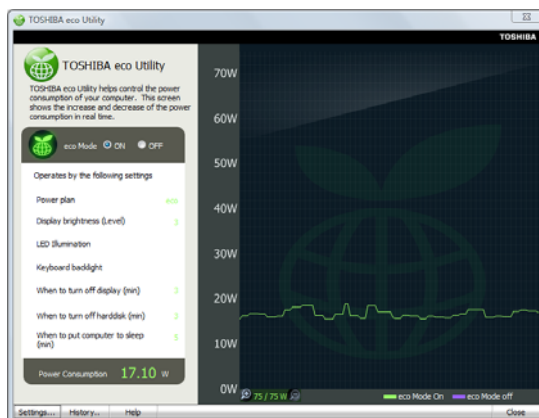
(Sample Image) TOSHIBA eco Utility™ window

To activate the TOSHIBA eco power plan, select ON in the upper-left section of the screen.

For more information on the TOSHIBA eco power plan and utility, click the **Help** button at the bottom of the window.

TOSHIBA wireless LAN indicator

(Available on certain models.)

The TOSHIBA wireless LAN indicator allows you to view the networks you are currently connected to.

To access the list of connected networks, before logging in, click on the TOSHIBA wireless LAN indicator icon located on the upper right side of the logon screen. A screen with the list of connected networks appears.

(Sample Image) TOSHIBA Accessibility window

TOSHIBA Service Station

The TOSHIBA Service Station helps you keep your new computer running at its best by notifying you when updated software, firmware, documentation or other information is available for your computer. The TOSHIBA Service Station will alert you when updates are available, and you can then choose to install the updates if you wish.

TOSHIBA PC Health Monitor

The TOSHIBA PC Health Monitor software program monitors computer system functions such as power consumption, the cooling system and the 3D Accelerometer (available on certain models). It alerts users to specific system conditions via pop-up messages. It also tracks the usage of the computer and related devices and logs service-relevant information on the computer's internal storage drive.

The collected information includes device operation time and number of actuations or status changes (e.g.: number of power button and Fn key combination uses, and AC adaptor, battery, LCD, fan, HDD, sound volume, wireless communication switch, docking and USB information), date of initial system use, and also computer and device usage (e.g.: power settings, battery temperature and recharging, CPU, memory, backlight illumination time, and temperatures for various devices). The collected information is not limited to the examples specified here. The stored data uses a very small portion of the total hard disk capacity (approximately 3 MB or less per year).

This information is used to identify and provide a notification of system conditions that may affect the performance of your TOSHIBA computer. It may also be used to help diagnose problems should the computer require service by TOSHIBA or TOSHIBA's authorized service providers. Additionally, TOSHIBA may use this information for quality assurance analysis.

Subject to the use restrictions above, the data logged on the internal storage drive 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.

You may disable the TOSHIBA PC Health Monitor at any time by uninstalling the software via the Windows® Control Panel. Doing so will automatically delete all collected information from the internal storage drive.

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.

Chapter 6

If Something Goes Wrong

Some problems you may encounter when using your computer are relatively easy to identify and solve. Others may require help from your network administrator or the manufacturer of the software program.

This chapter aims to help you solve many problems by yourself. It covers the problems you are most likely to encounter.

If all else fails, contact Toshiba. You will find information on Toshiba's support services at the end of this chapter.

Problems that are easy to fix

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 **Start Task Manager**.

The Windows® Task Manager window appears.

2 Click the **Applications** tab.

If a program has stopped responding, the words "not responding" appear beside its name in the list.

3 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.

4 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.

Problems when you turn on the computer

These problems may occur when you turn on the power.

The computer will not start.

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

Press and hold the power button for at least 10 seconds.

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 ON/OFF indicator. 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 AC power light. If the indicator is glowing, the computer is connected to a live external power source.

The computer starts but when you press a key nothing happens.

Verify that the active program accepts text input. Try clicking your mouse on an area where you can type text and try typing again.

Your computer may be in Sleep mode and have a software or resource conflict. When this happens turning the power on returns you to the problem instead of restarting the system. To clear the condition, press Ctrl, Alt, and Del simultaneously. Then shut down the computer via software, or follow the steps if your program stops responding (see "Problems that are easy to fix" on page 158).

The computer displays the WARNING RESUME FAILURE/Windows Error Recovery – Windows did not shut down successfully **message.**

To continue, select **Start Windows normally**. This can happen if the computer was put into Sleep mode and the battery has discharged. If you performed a shutdown before this message was displayed, a program or driver may have prevented Windows® from shutting down.

Data stored in the computer's memory has been lost. Data stored in the computer's internal storage drive may not be affected.

Always save your data even when you are using Sleep mode. If your battery fully discharges, information that has not been saved will be lost. Your computer can be configured to warn you when the battery is running low see "What to do when the main battery runs low" on page 109.

If you are running on battery power, it is recommended that you do not leave the computer in Sleep mode for long periods of time.

To charge the battery, leave the computer plugged into a live wall outlet for several hours. For more information see "Charging batteries" on page 105.

The AC power light is blinking.

If the AC power light is blinking, try the following steps:

1   Connect the AC adaptor to a different power outlet, preferably in a different room. If the computer starts normally, there may be a problem with the AC outlet itself, or the voltage level available from it.

2   Verify that the AC adaptor is the correct unit for your computer model. The computer may not be able to start from an AC adaptor that is rated for less current (amperage) than the computer requires, even if the rated voltage is correct, and the plug fits correctly in the DC-IN socket. The labels on the bottom of the computer and the AC adaptor show the specifications for voltage ("V") and current ("A") for each device. The voltage level must match exactly. The amperage rating of the AC adaptor must be equal to or greater than that required by the computer.

The battery light is blinking when the computer is on.

If the battery light is blinking when the computer is on, this indicates a power mismatch. Do the following:

1   Check the OUTPUT specifications on the AC adaptor (for example, DC 19V – 3.95A)

2   Check the INPUT specifications on the bottom of the
    computer.

    The output specifications of the AC adaptor must match the
    input specifications of the computer.

3   If the specifications do **not** match, locate and use the AC
    adaptor that shipped with your computer. If the specifications
    do match, contact Toshiba. See "Contacting Toshiba" on
    page 178.

The Windows® operating system is not working

Once you are familiar with the desktop and used to the way the
operating system responds to your work routine, you can easily
detect if the operating system is not working correctly. For
example:

❖   The operating system fails to start after the initial startup
    appears.

❖   The operating system takes a long time to start.

❖   The operating system responds differently from the normal
    routine.

❖   The screen does not look right.

Unless a hardware device has failed, problems usually occur when
you change the system in some way such as installing a new
program or adding a device.

If you experience any of these problems, use the options in the
Startup menu to fix the problem.

Using Startup options to fix problems

If the operating system fails to start properly, you may have to
change your system's configuration or verify the startup procedure
to fix the problem. To do this, use the options in the Startup menu.

To open the Startup menu:

1   Restart your computer.

2   Press F8 when your computer starts and before Windows® starts
    loading.

    The Windows® Advanced Boot Options menu displays these
    options:

    ❖   Repair Your Computer

    ❖   Safe Mode

❖ Safe Mode with Networking

❖ Safe Mode with Command Prompt

❖ Enable Boot Logging

❖ Enable low-resolution video (640 x 480)

❖ Last Known Good Configuration (advanced)

❖ Directory Services Restore Mode

❖ Debugging Mode

❖ Disable automatic restart on system failure

❖ Disable Driver Signature Enforcement

❖ Start Windows® Normally

When you highlight each option using the arrow keys, Windows® displays information about each option at the bottom after **Description**.

See your Windows® documentation for further explanation.

NOTE   If your computer is connected to a network, the Startup menu may display different versions of Safe mode.

Internet problems

My Internet connection is very slow.

Many factors contribute to the speed with which you can surf the Internet. They include: network speed, network conditions, time of day (when everyone else is surfing, your access can be slow) and popularity of the sites you are trying to access. If accessing a particular site is very slow, try later.

My browser cannot find the URL address I typed in.

Make sure you separated the domain names of the address with the forward slash (/). Check the spelling of each name and the syntax of the address carefully. A single incorrect letter or missed character will make it impossible for your browser to locate the site.

My browser cannot find a site I bookmarked.

The World Wide Web is constantly changing. A site you bookmarked yesterday may not be available today or its server may be down for temporary repair. Try again later.

The Windows® operating system can help you

If the operating system has started properly but you still have a problem using your computer, the online Help can assist you in troubleshooting the problem.

To access the Windows® operating system Help and Support:

1   Click **Start**, then click **Help and Support**, or press F1.

The Help and Support window appears.

2   Then do one or both of the following:

❖   In the Search programs and files field, type in the topic for which you need help and follow the on-screen instructions.

❖   Click one of the options listed in the window and then follow the on-screen instructions.

You can connect to Support Online by clicking the **Ask** button and then clicking **Microsoft Customer Support** or by going to Toshiba support at support.toshiba.com.

Fixing a problem with Device Manager

Device Manager provides a way to check and change the configuration of a device.

CAUTION   Changing the default settings using Device Manager can cause other conflicts that make one or more devices unusable. Device Manager is a configuration tool for advanced users who understand configuration parameters and the ramifications of changing them.

Checking device properties

Device Manager provides a way to view the properties of a device. Properties include the name of the manufacturer, the type of device, the drivers installed, and the system resources assigned to the device.

To check a device's properties:

1   Click **Start**, **Control Panel**, **System and Security**, and then under **System**, click **Device Manager**.

2   To view the device(s) installed, double-click the device type.

3 To view the properties, double-click the device.

The operating system displays the device Properties dialog box, which provides an array of tabs. They may include:

❖ The **General** tab, which provides basic information about the device.

❖ The **Resources** tab, which lists resources assigned to the device. This tab does not appear if the device is not using resources.

❖ The **Driver** tab, which displays the drivers being used by the device. This tab also provides options for updating the driver or rolling back the driver in case the new version is causing a problem.

The tabs that appear in the dialog box vary from one device to another.

For more information about Device Manager, refer to Windows® online Help.

Memory problems

Incorrectly connected or faulty memory modules may cause errors that seem to be hardware or even software related.

Your computer has two memory module slots. Both slots are located under the keyboard and should only be accessed by a Toshiba authorized service provider.

TECHNICAL NOTE: You must have at least one memory module installed for the computer to work.

Power and the batteries

Your computer receives its power through the AC adaptor and power cord/cable or from the system batteries (battery and real-time clock (RTC) battery). Power problems are interrelated. For example, a faulty AC adaptor or power cord/cable will neither power the computer nor recharge the batteries.

Here are some typical problems and how to solve them:

The AC power light does not come on when you plug in the AC adaptor and power cord/cable.

Make sure the AC adaptor and power cord/cable are firmly plugged into both the wall outlet and the computer.

If the AC power light still does not come on, check that the wall outlet is working properly by plugging in a lamp or other appliance.

The AC adaptor and power cord/cable work correctly, but the battery will not charge.

The battery does not charge while the computer is consuming full power. Try turning off the computer.

The system may be too hot or too cold to charge properly. If you think this is the probable cause, let the system reach room temperature and try again.

If the battery has completely discharged, it may not begin charging immediately. Leave the AC adaptor and power cord/cable connected, wait 20 minutes and see if the battery is charging.

If the battery light is glowing after 20 minutes, let the computer continue charging the battery for at least another 20 minutes before you turn on the computer.

If the battery light does not glow after 20 minutes, the battery may have reached the end of its useful life.

The battery appears not to power the computer for as long as it usually does.

If you frequently repeat shallow charge and discharge, the battery meter may become inaccurate. Let the battery discharge completely, then try charging it again.

Check the power options via your Power Plans (see "Power Plans" on page 111). Have you added a device, such as a memory module, that takes its power from the battery? Is your software using the internal storage drive more? Is the display power set to turn off automatically? Was the battery fully charged to begin with? All these conditions affect how long the charge lasts.

After a period of time, the battery will lose its ability to perform at maximum capacity and will need to be replaced. This is normal for all batteries.

For more information on maintaining battery power, see "Charging batteries" on page 105.

Keyboard problems

If, while typing, strange things happen or nothing happens, the problem may be related to the keyboard itself.

The keyboard produces unexpected characters.

A keypad overlay may be on. If the numlock light or cursor control overlay light is on, press Fn + F10 to turn off the cursor control overlay light, or Fn + F11 to turn off the numlock light.

If the problem occurs when both the keypad overlays are off, make sure the software you are using is not remapping the keyboard. Refer to the software documentation and check that the program does not assign different meanings to any of the keys.

You have connected an external keyboard and the operating system displays one or more keyboard error messages.

You may need to update your keyboard driver. Refer to the documentation that came with the keyboard or to the keyboard manufacturer's Web site.

The keyboard you connected may be defective or incompatible with the computer. Try using a different make of keyboard.

Display problems

Here are some typical display problems and their solutions:

The screen is blank.

Display Auto Off may have gone into effect. Press any key to activate the screen.

You may have activated the instant password feature by pressing Fn and F1 simultaneously. If you have registered a password, press any key, type the password and press Enter. If no password is registered, press any key. The screen reactivates and allows you to continue working.

If you are using the built-in screen, make sure the display priority is not set for an external monitor. To do this, press Fn and F5 simultaneously (once). If this does not correct the problem, press Fn and F5 simultaneously again to return the display priority to its previous setting.

HINT: Holding the Fn key and pressing the F5 key several times will advance you through the display options.

If you are using an external monitor:

❖ Check that the monitor is turned on.

❖ Check that the monitor's power cord/cable is firmly plugged into a working power outlet.

❖ Check that the cable connecting the external monitor to the computer is firmly attached.

❖ Try adjusting the contrast and brightness controls on the external monitor.

❖ Press Fn and F5 simultaneously to make sure the display priority is not set for the built-in screen.

The screen does not look correct.

You can change the display settings by clicking a blank area of the desktop with the secondary control button, then clicking **Personalize**. This opens the Personalization window. Choose a theme for your desktop background, under **Colors**, **Sounds**, and **Screen Saver**, or change the settings for each of these components individually. Click **Display** and then **Change display settings** to choose the screen resolution.

For more information, see the Windows® online Help.

A message displays saying that there is a problem with your display settings and that the adapter type is incorrect or the current settings do not work with your hardware.

Reduce the size of the color palette to one that is supported by the computer's internal display.

To change the display properties:

1 Right-click in a blank area of the Windows® desktop.

2 Click **Personalize**, and then **Display**.

3 Adjust the screen resolution and/or color quality.

4 Click **OK**.

The display mode is set to Simultaneous and the external display device does not work.

Make sure the external monitor is capable of displaying at resolutions of 800 x 600 or higher. Devices that do not support this resolution will only work in Internal/External mode, and not simultaneous mode.

Small bright dots appear on your TFT display when you turn on your computer.

Small bright dots may appear on your screen display when you turn on your computer. Your display contains an extremely large number of thin-film transistors (TFT) and is manufactured using high-precision technology. Any small bright dots that may appear on your display are an intrinsic characteristic of the TFT manufacturing technology. Over a period of time, and depending on the usage of the computer, the brightness of the screen will deteriorate. This is also an intrinsic characteristic of the screen technology. When the computer is operated on battery power, the screen will dim and you may not be able to increase the brightness of the screen while on battery power.

Disk or storage drive problems

Problems with the storage drive or with external media usually show up as an inability to access the drive or as sector errors. Sometimes a drive problem may cause one or more files to appear to have garbage in them. Typical problems are:

You are having trouble accessing a drive, or one or more files appear to be missing.

Make sure you are identifying the drive by its correct name (A: or C:).

Error-checking

Run Error-checking, which analyzes the directories and files on the storage drive and repairs any damage it finds.

To run Error-checking:

1   Click **Start**, and then **Computer**.

2   Right-click the drive you want to check.

3   On the pop-up menu, click **Properties**.

The drive's Properties box appears.

4   Click the **Tools** tab.

5   Click the **Check now...** button.

The Check Disk box appears.

6   You can choose one or both options:

❖   Automatically fix file system errors

❖   Scan for and attempt recovery of bad sectors

7   Click **Start**.

Error-checking tests and repairs the storage drive.

Your hard disk seems very slow.

If you have been using your computer for a long time, your files may have become fragmented. Run Disk Defragmenter.

To do this, click **Start**, **All Programs**, **Accessories**, **System Tools**, and then **Disk Defragmenter**. After it opens, click **Defragment disk**.

Your data files are damaged or corrupted.

Refer to your software documentation for file recovery procedures. Many software packages automatically create backup files.

You may also be able to recover lost data using utility software. Consult your network administrator.

Some programs run correctly but others do not.

This is probably a configuration problem. If a program does not run properly, refer to its documentation and check that the hardware configuration meets its needs.

Sound system problems

No sound is coming from the computer's speakers.

Adjust the volume control.

Try pressing Fn + Esc to see if volume mute is disabled.

Check that the volume control on the computer is turned up.

If you are using external headphones or speakers, check that they are securely connected to your computer.

The computer emits a loud, high-pitched noise.

This is feedback between the microphone and the speakers. It occurs in any sound system when input from a microphone is fed to the speakers and the speaker volume is too loud. Adjust the volume control.

Wireless networking problems

NOTE   This section provides general troubleshooting tips for networking problems, specifically wireless (Wi-Fi®) networking.

The terms and concepts used assume a basic understanding of networks, and may be for more advanced users. If you need assistance or if you are not familiar with the terminology, please see Windows® Help and Support or contact your computer technician.

❖   If your computer is equipped with an internal Wi-Fi® adapter, verify that the Wireless antenna is ON (the wireless indicator light «(ι)» will be lit).

❖   Verify that your computer can detect access points or routers. If it can detect a Wi-Fi® access point or router then it may be a configuration issue.

❖   Verify that signal strength is good using the utility provided with the Wi-Fi® adapter.

❖   If another computer is on the same network, verify that it has network access, and can connect to the Internet. If, for example, the other computer cannot browse to a public Web site, the ISP's (Internet Service Provider) service may be disrupted.

❖   Verify that the Service Set Identifier (SSID), or network name, is correct ‑ i.e., that it matches the SSID assigned to the access point you are attempting to connect through. SSIDs are case-sensitive.

❖   Check the Windows® Control Panel's Device Manager to verify that the Wi-Fi® adapter is recognized by the Windows® operating system, and that the driver is loaded. To access the Device Manager, click **Start**, **Control Panel**, **System and Security**, and then **System**. Carefully note any error messages ‑ these will be very helpful if you should confer with a support technician at a later time.

NOTE   To enable or disable wireless communication, use the Hot Key Fn + F8. For more information see .

❖ Use IPCONFIG to verify that the computer has a useful IP address - one other than the private address of 169.254.xxx.xxx assigned by Windows®.

1 Click **Start** to open the Start menu.

2 Type Cmd in the Search programs and files field.

3 Enter IPCONFIG /ALL and press Enter.

The IP address for each active network adapter will be displayed.

❖ Connect your computer directly to your router or broadband modem, by plugging a standard CAT5 Ethernet patch cable (sold separately) into your computer's RJ45 Ethernet port. If your connection problem disappears, the problem lies in the Wi-Fi® part of your network.

❖ If you have enabled any security provisions (closed system, MAC address filtering, Wired Equivalent Privacy [WEP], etc.), check the access point vendor's Web site for recent firmware upgrades. Problems with WEP keys, in particular, are frequently addressed in new firmware releases.

The Windows® operating system wireless management utility does not work.

If you are using an external Wi-Fi® adapter (a USB adapter or other variety), check if the adapter comes with its own management utility. If it does, the utility may be disabling the Windows® operating system wireless management utility, in which case you must use the adapter's management utility. If the documentation that accompanies the adapter does not provide enough information to determine if this is the case, contact that vendor's support group for further advice.

Develop good computing habits

Save your work frequently.

You can never predict when your computer will lock, forcing you to close a program and lose unsaved changes. Many software programs build in an automatic backup, but you should not rely solely on this feature. Save your work! See "Computing tips" on page 91 for instructions.

On a regular basis, back up the information stored on your internal storage drive.

Use Windows® to back up files, or the entire computer, to an optical disc, or external hard disk. Here are some ways you can do this:

❖ Use the Windows® operating system to back up files or your entire computer to an optical disc, or external hard disk.

❖ Copy files to a rewritable external storage device.

❖ Connect your computer to the office network and copy files to your network partition.

Some people use a combination of these methods, backing up all files to tape weekly and copying critical files to external media on a daily basis.

If you have installed your own programs, you should back up these programs as well as your data files. If something goes wrong that requires you to reformat your internal storage drive and start again, reloading all your programs and data files from a backup source will save time.

Read the user's guides.

It is very difficult to provide a fail-safe set of steps you can follow every time you experience a problem with the computer. Your ability to solve problems will improve as you learn about how the computer and its software work together.

Get familiar with all the user's guides provided with your computer, as well as the manuals that come with the programs and devices you purchase.

Your local computer store or book store sells a variety of self-help books you can use to supplement the information in the manuals.

Data and system configuration backup in the Windows® operating system

The Windows® operating system offers some easy-to-use features for backing up your Windows® settings and your data - documents and other important files. Take advantage of these features to protect yourself from much more difficult and time-consuming restoration procedures, and to safeguard your valuable data from loss.

Saving system configuration with restore points

The System Restore feature of the Windows® operating system quickly creates restore points - 'snapshots' of your Windows® operating system configuration - and saves them for later recall. If you experience problems after installing some new hardware or software, you can easily select a previously established Control Point to 'turn back the clock,' restoring the Windows® operating system to the state it was in just prior to the installation. This is much easier and more effective than uninstalling the hardware or software, which often leaves behind unwanted files and settings. It is also easy to undo a restore point selection, if you change your mind.

Follow these steps to create a restore point using the System Restore utility:

1   Click **Start**, **Control Panel**, **System and Security**, and then **System**.

2   In the left pane, click **System protection**.

     The System Protection tab of the System Properties window appears.

3   Click **Create...**

4   In the input field, enter a name that is descriptive enough to be easily understood in the future, such as "Before installing Brand X Accounting app." Then click **Create**.

     The Windows® operating system creates the restore point, automatically stamps it with the current date and time, and displays a message that the restore point was successfully created.

5   Click **Close**.

Then, at a later time, you can re-establish your Windows®
configuration using the saved restore point. To do this:

1 Click **Start**, **All Programs**, **Accessories**, **System Tools**, and
then **System Restore**.

2 Select **Recommended restore** or **Choose a different restore
point**, and then click **Next**.

The timestamp and description of each restore point is
displayed.

NOTE This list may contain restore points that you did not create. Restore
points labeled System Checkpoint were automatically created by the
Windows® operating system. Other restore points may have been
created automatically by applications when they were installed.

3 If you selected **Choose a different restore point** in step 2,
select the restore point you want to use, and then click **Next**.

4 Verify that the restore point you selected is the correct one. If it
is not, click **Back** to return to the previous step.

5 Close all programs and save all open files.

6 Click **Finish**, and then **Yes** to begin the system restore.

Your Windows® operating system configuration will now be
restored to the state it was in when the chosen restore point was
created, and then the computer will be automatically restarted.

Backing up your data or your entire computer with the Windows® operating system

The most valuable component of your computer system is the data
you create and store on its internal storage drive. Since problems
with either hardware or software can make the data inaccessible or
even destroy it, the next most valuable component of your computer
system may be a recent backup of your data.

Fortunately, the Windows® operating system offers a convenient
way to back up your computer or just your important files to optical
disc drives, or hard drives. An external hard drive is recommended
in case the internal storage drive fails. No additional software is
required.

Follow these steps to back up your computer or files to optical discs, or a storage drive:

| NOTE | You cannot back up the computer while running on battery power. Connect the AC adaptor before continuing. |

1   Prepare your backup target by connecting it and/or inserting a blank optical disc in the drive.

2   Click **Start**.

3   Click **Control Panel**.

4   Click **Back up your computer** under the **System and Security** heading. Follow the on-screen instructions to back up your files.

For more help, click **Start**, **Help and Support**, and search for "back up files."

General tips for installing hardware and software

Here are a few tips to help ensure safe and easy installation of new hardware (printers, pointing devices, external hard drives, optical disc drive writers, scanners, etc.) and software (applications like Microsoft® Office and Adobe® Photoshop®, or utility software such as special toolbars for your web browser).

❖   Create a restore point (refer to "Saving system configuration with restore points" on page 173). Before installing anything, use the System Restore utility to set a restore point (see the section titled restore points). If anything goes wrong, you will then be able to easily restore the Windows® operating system to the state it was in prior to the installation, undoing any changes that the installation process introduced.

❖   Back up your critical data (see "Backing up your data or your entire computer with the Windows® operating system" on page 174).

❖   Have your back up media on hand in case you need any files from them.

❖   Do not guess - follow directions carefully! It is often necessary to run an installation utility first - before connecting a new hardware item to the computer. If the device is connected first, it may be very difficult to complete the installation successfully. Always carefully follow the installation instructions that accompany the hardware or software.

❖ Restart the Windows® operating system. Always restart the Windows® operating system after each installation, even if the installation utility does not prompt you to do so. This will ensure that the installation is completed, and will clean up anything that the installation utility left behind.

❖ Do one installation at a time. If you have several new items to add to your computer system, install just one at a time, creating restore points immediately before each successive installation. This will make it much easier to determine the origin of any new problems. For best results, follow this sequence:

1 Back up critical data.

2 Create a restore point.

3 Install one item of hardware or software.

4 Restart the Windows® operating system.

5 Use the new hardware or software for a while, noting any new problems. Make sure that your critical applications (email, business applications, etc.) are working correctly, and verify that important devices are still functioning.

6 For each additional hardware or software item, repeat these steps, starting at step 1 if any of your critical data has changed, or starting at step 2 if no critical data has changed.

USB Sleep and Charge is not working.

❖ Make sure that the device you want to charge is connected to a port that supports the USB Sleep and Charge function. Ports that support this feature are identified with the (⚡) icon.

❖ USB Sleep and Charge may be disabled. Open the TOSHIBA Sleep and Charge Utility to check if the feature is disabled and to enable it if necessary. For more information, see "Enabling/Disabling USB Sleep and Charge" on page 146.

❖ Try selecting a different charging mode in the TOSHIBA Sleep and Charge Utility, if your computer provides more than one charging mode. For more information, see "Power supply mode settings" on page 146.

❖ If you are attempting to charge a device without an AC adaptor connected to the computer, the computer's battery power may be below the limit specified in the TOSHIBA Sleep Utility or the battery may be depleted. Lower the limit in the TOSHIBA Sleep Utility to enable charging at the current battery power level, or, if battery power is running low or is depleted, connect the AC adaptor to your computer.

❖ The USB Sleep and Charge function may not work with certain external devices even if they are compliant with the USB specification. In those cases, power on the computer to charge the device or use a different charging device.

The "USB Wakeup function" does not work.

❖ When the "USB Sleep and Charge function" is set to Enabled the "USB Wakeup function" does not work for ports that support the "USB Sleep and Charge function." In that case, use a USB port that does not have the "USB Sleep and Charge function"-compatible icon (⚡), if you have a non-Sleep and Charge USB port available or disable the "USB Sleep and Charge function." For more information, see "TOSHIBA Sleep Utility" on page 144.

If you need further assistance

If you have followed the recommendations in this chapter and are still having problems, you may need additional technical assistance. This section contains the steps to take to ask for help.

Before you contact Toshiba

Since some problems may be related to the operating system or the program you are using, it is important to investigate other sources of assistance first.

Try the following before you contact Toshiba:

❖ Review the troubleshooting information in your operating system documentation.

❖ If the problem occurs while you are running a program, consult the program's documentation for troubleshooting suggestions. Contact the software company's technical support group for their assistance.

❖ Consult the dealer from whom you purchased your computer and/or program. Your dealer is your best source for current information.

For the detailed specifications for your computer, visit support.toshiba.com. Click **Product Support**, search for your model, and then click **Detailed Specs**.

Contacting Toshiba

If you still need help and suspect that the problem is hardware-related, Toshiba offers a variety of resources to help you.

Toshiba's Technical Support Web site

For technical support, or to stay current on the most recent software and hardware options for your computer, and for other product information, be sure to regularly check the Toshiba Web site at support.toshiba.com.

Toshiba voice contact

Before calling Toshiba, make sure you have:

❖ Your computer's serial number

❖ The computer and any optional devices related to the problem

❖ Backup copies of your Windows® operating system and all other preloaded software on your choice of media

❖ Name and version of the program involved in the problem along with its installation media

❖ Information about what you were doing when the problem occurred

❖ Exact error messages and when they occurred

For technical support, call the Toshiba Customer Support Center:

Within the United States at (800) 457-7777

Outside the United States at (949) 859-4273

Other Toshiba Internet Web sites

toshiba.com	Worldwide Toshiba corporate site
us.toshiba.com	Marketing and product information in the USA
accessories.toshiba.com	Accessories information in the USA
www.toshiba.ca	Canada
www.toshiba-Europe.com	Europe
www.toshiba.co.jp/index.htm	Japan
support.toshiba.com	Mexico and all of Latin America
acclaim.toshiba.com	Toshiba USA Self-Service support web site

Toshiba's worldwide offices

Australia
Toshiba (Australia) Pty. Limited
84-92 Talavera Road
North Ryde NSW 2113
Sydney
Australia

France
Toshiba Systèmes (France) S.A.
7, Rue Ampère; B. P. 131
92800 Puteaux Cédex
France

Italy
Centro Direzionale Colleoni
Palazzo Perseo
Via Paracelso 10
20041, Agrate Brianza
Milano, Italy

Latin America and Caribbean
Toshiba America Information
Systems
9740 Irvine Blvd.
Irvine, California 92618
USA

(800) 457-7777 (within the US)

949-859-4273 (outside of the US -
this call may incur long-distance
charges)

Spain
Toshiba Information Systems
(España) S.A.
Parque Empresarial San Fernando
Edificio Europa, 1a Planta
Escalera A
28831 (Madrid) San Fernando de
Henares
Spain

Canada
Toshiba Canada Ltd.
191 McNabb Street
Markham, Ontario
L3R - 8H2
Canada

Germany
Toshiba Europe GmbH
Leibnizstraße 2
D-93055 Regensburg
Germany

Japan
Toshiba Corporation, PCO-IO
1-1, Shibaura 1-Chome
Minato-Ku, Tokyo, 105-8001
Japan

Mexico
Toshiba de México S.A. de C.V.
Sierra Candela No.111, 6to. Piso
Col. Lomas de Chapultepec.
CP 11000 Mexico, DF.

United Kingdom
Toshiba Information Systems
(U.K) Ltd.
Toshiba Court
Weybridge Business Park
Addlestone Road
Weybridge, Surrey KT15 2UL
United Kingdom

United States

Toshiba America Information
Systems, Inc.
9740 Irvine Boulevard
Irvine, California 92618
United States

The Rest of Europe

Toshiba Europe (I.E.) GmbH
Hammfelddamm 8
D-4-1460 Neuss
Germany

For more information on additional Toshiba worldwide locations,
please visit: www.toshiba.co.jp/index.htm.

Appendix A

Hot Keys/TOSHIBA Cards

Hot keys and TOSHIBA Cards provide a quick way to modify selected system functions and to launch applications.

There are two types of TOSHIBA Cards: Hot Key Cards and Application Cards.

Hot Key Cards

The Hot Key Cards are used to set or modify the following system functions:

❖ Mute
❖ Lock (Instant security)
❖ Power Plan
❖ Sleep
❖ Hibernation
❖ Output (Display switch)
❖ Brightness control
❖ Wireless
❖ Touch pad
❖ Cursor overlay
❖ Numeric overlay
❖ Zoom (Display resolution)

Using the Hot Key Cards

The Hot Key Cards are normally hidden from view. The Cards appear when you press the Fn key.

NOTE   Hot keys are keys that, when pressed in combination with the Fn key, turn system functions on and off. Hot keys have a legend on the key indicating the option or feature the key controls.

To use the Hot Key Cards:

1   Press and hold the Fn key.

The TOSHIBA Cards appear along the top of the screen.

(Sample Image) Hot Key Card display

2   Select the desired option.

The selected Card is displayed full-size with its available options below it. All other Cards are again hidden from view.

To use a Hot Key Card using a hot key:

1   Press and hold the Fn key.

2   Press the hot key associated with the desired function.

The associated hot key Card appears at the top of the screen with its available options below it.

3   To cycle through the displayed options, hold down Fn and press the hot key repeatedly. Release the Fn key when the desired option is selected.

Hot key functions

Hot key functions are performed using either the Hot Key Cards or by pressing the associated hot key. This section lists the available hot key functions.

NOTE   Hot keys are keys that, when pressed in combination with the Fn key, turn system functions on and off. Hot keys have a legend on the key indicating the option or feature the key controls.

Volume Mute

This TOSHIBA Card or hot key enables/disables volume mute on your computer.

When volume mute is enabled, no sound will come from the speakers or headphones.

or

Fn +

Selecting this Card or pressing the hot key displays the following options:
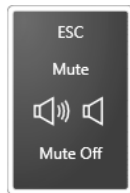
(Sample Image) Volume Mute options

❖   To enable mute, select [icon].

❖   To disable mute, select [icon].

Lock (Instant security)
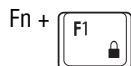
This TOSHIBA Card or hot key blanks the display.

Selecting this Card or pressing the hot key displays the following options:

or

Fn +
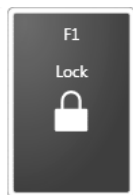
(Sample Image) Security options

❖   To enable lock, select 🔒.

❖   To cancel, select ↩.

The Fn + F1 hot key function activates instant security. The user logon screen will appear and a user with a valid account will need to log back on to gain access to the computer.

Power plan
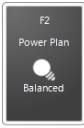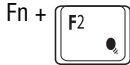
This TOSHIBA Card or hot key displays the power plans and cycles through the power plans.

The properties of each power plan, and the power plans that are displayed by this function, are set in the Power Options window.

or

Fn +

Selecting this Card or pressing the hot key displays the currently selectable power plans:
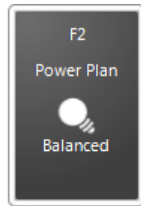
(Sample Image) Power Plan options

Cycle through the power plans, then select the desired power plan.

Sleep mode

This TOSHIBA Card or hot key places the computer into Sleep mode.

For more information about Sleep mode, please see "Using and configuring Sleep mode" on page 86.

or

Fn +

Selecting this Card or pressing the hot key displays the following options:

(Sample Image) Sleep options

❖ To enable Sleep mode, select .

❖ To cancel, select .

Hibernation mode
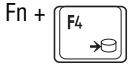
This TOSHIBA Card or hot key places the computer into Hibernation mode.

If Hibernation mode is disabled, this hot key will not respond. For more information on Hibernation mode, see "Using and configuring Hibernation mode" on page 83.

or

Fn +

Selecting this Card or pressing the hot key displays the following options:
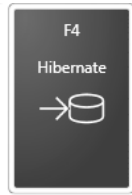
(Sample Image) Hibernation options

❖ To enable Hibernation mode, select ⊟.

❖ To cancel, select ↻.

Output (Display switch)

This TOSHIBA Card or hot key cycles through the power-on display options (only the first option is available when you do not have an external monitor attached) (the last option is available only if you are in Extended Display Mode).

or

Fn +

| NOTE | Some modes are only available with the appropriate device attached and turned on. |

❖ Built-in display only

❖ Built-in display and external monitor simultaneously

❖ External monitor only

❖ Built-in display and external monitor (extended desktop)

❖ Swap-Switch primary display between internal display and external monitor when using extended desktop

To use a simultaneous mode, you must set the resolution of the internal display panel to match the resolution of the external display device.

Selecting this Card or pressing the hot key displays the following options:
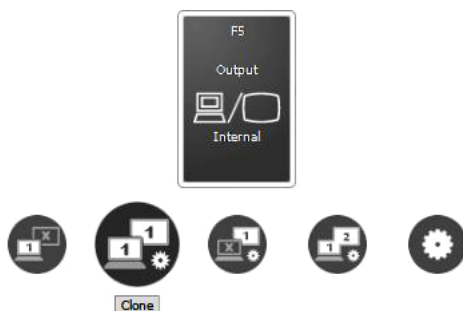
(Sample Image) Display mode options window

Cycle through the display modes, then select the desired mode.

Not all functions are supported on all models.

NOTE   Some systems also support an additional Swap Image Display mode. This mode is available only if the current setting is an extended desktop mode (Built-in Display and External Monitor, or Built-in Display and TV). In extended desktop mode, the image is split into two sides, one side per display device. To swap sides, select Swap Image Display.

Display brightness

This TOSHIBA Card decreases or increases the screen brightness.
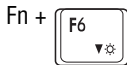
Fn + F6   This hot key decreases the screen brightness.
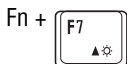
Fn + F7   This hot key increases the screen brightness.

Selecting this Card or pressing either hot key displays the following options:
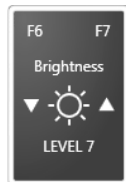
(Sample Image) Display brightness

Move the slider or press the appropriate hot key repeatedly to decrease or increase the display brightness.

Disabling or enabling wireless devices
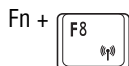
This TOSHIBA Card or hot key enables/disables the optional wireless devices installed in your computer.

The wireless modes are:

or

Fn +

❖ Wi-Fi® enabled—Enables just the Wi-Fi® module.

❖ *Bluetooth*®* enabled—Enables just the *Bluetooth*®* module.

❖ Wireless WAN/3G enabled—Enables just the Wireless WAN/3G* module.

❖ All disabled—Disables the *Bluetooth*®*, Wi-Fi®, and Wireless WAN/3G* modules.

❖ All enabled—Enables the *Bluetooth*®*, Wi-Fi®, and Wireless WAN/3G* modules.

Selecting this Card or pressing the hot key displays the following options:

(Sample Image) Wireless communication options

❖ To enable Wi-Fi®, select   .

❖ To enable *Bluetooth*®, select   .

❖ To enable Wireless WAN/3G*, select   .

❖ To enable all, select   .

❖ To disable all, select   .

❖ To cancel, select   .

*Available on certain models.

Disabling or enabling the touch pad
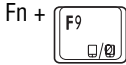
This TOSHIBA Card or hot key enables/disables the touch pad.

For more information on using the touch pad, see "Using the touch pad" on page 69.

Selecting this Card or pressing the hot key displays the following options:
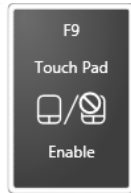
(Sample Image) Disable or Enable touch pad options

❖ To enable the touch pad, select [icon].

❖ To disable the touch pad, select [icon].

Zoom (Display resolution)
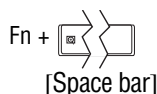
This TOSHIBA Card or hot key switches screen resolution.

Selecting this Card or pressing the hot key displays the following options:

or

Fn + [Space bar]
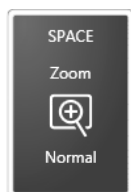
(Sample Image) Screen resolution options

Cycle through the screen resolutions, then select the desired resolution.

Cursor control overlay
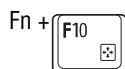
This TOSHIBA Card or hot key turns the cursor control overlay on and off.

Selecting this Card or pressing the hot key displays the following options:

or

Fn + F10

(Sample Image) Cursor control overlay

Numeric overlay
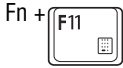
This TOSHIBA Card or hot key turns the numeric overlay on and off.

Selecting this Card or pressing the hot key displays the following options:

(Sample Image) Numeric overlay

Keyboard hot key functions

Fn + [F12]   This hot key turns the scroll lock feature on and off.

Fn + [! 1]   This hot key allows you to zoom out.

Fn + [@ 2]   This hot key allows you to zoom in.

Fn + [# 3]   This hot key decreases the speaker volume.

Fn + [$ 4]   This hot key increases the speaker volume.

Fn + [Z]   This hot key turns the backlit keyboard off and on.

(Available on certain models)

Appendix B

Power Cord/Cable Connectors

Your computer ships with the correct power supply for the country of purchase. This appendix shows the shapes of the typical AC power cord/cable connectors for various parts of the world.

USA

UL approved

Canada

CSA approved

United Kingdom

BS approved
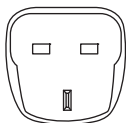
Australia

AS approved

Europe
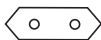
VDA approved
NEMKO approved

195

Glossary

 TECHNICAL NOTE: Some features defined in this glossary may not be available on your computer.

Acronyms

The following acronyms may appear in this User's Guide.

AC	Alternating Current
BIOS	Basic Input/Output System
BD-ROM	Blu-ray Disc Read-Only Memory
bps	bits per second
CD	Compact Disc
CD-ROM	Compact Disc Read-Only Memory
CD-RW	Compact Disc Rewrite Memory
CMOS	Complementary Metal-Oxide Semiconductor
COM1	communications port 1 (serial port)
COM2	communications port 2 (serial port)
CPU	Central Processing Unit
DC	Direct Current
DMA	Direct Memory Access

DIMM	Dual Inline Memory Module
DOS	Disk Operating System
DPI	Dots Per Inch
DVD	Digital Versatile (or Video) Disc
DVD-ROM	Digital Versatile (or Video) Disc Read-Only Memory
EPROM	Erasable Programmable Read-Only Memory
eSATA	external Serial Advanced Technology Attachment
FAT	File Allocation Table
FCC	Federal Communications Commission
GB	gigabyte
HDD	Hard Disk Drive
HDMI	High-Definition Multimedia Interface
HDMI-CEC	High-Definition Multimedia Interface Consumer Electronics Control
HTML	Hypertext Markup Language
IEEE	Institute of Electrical and Electronics Engineers
I/O	Input/Output
IRQ	interrupt request
ISP	Internet Service Provider
KB	kilobyte
LAN	Local Area Network
LCD	Liquid Crystal Display
LED	Light Emitting Diode
MB	megabyte
MIDI	Musical Instrument Digital Interface
PC	Personal Computer
PCI	Peripheral Component Interconnect
PCMCIA	Personal Computer Memory Card International Association
RAM	Random Access Memory
RGB	Red, Green Blue light (monitor)
RFI	Radio Frequency Interference

ROM	Read-Only Memory
RTC	Real-Time Clock
SD	Secure Digital
SDRAM	Synchronous Dynamic Random Access Memory
SSD	Solid State Drive
TFT	Thin Film Transistor
USB	Universal Serial Bus
URL	Uniform Resource Locator
WAN	Wide Area Network
www	World Wide Web

Terms

The following terms may appear in this User's Guide.

A   **active-matrix display**—A liquid crystal display (LCD) made from an array of liquid crystal cells using active-matrix technology. Also known as a "TFT display," in its simplest form there is one thin film transistor (TFT) for each cell. This type of display works well with computers because of its shallow depth and high-quality color. Active-matrix displays are viewable from wider angles than most passive-matrix displays.

adapter—A device that provides a compatible connection between two units. For example, the computer's internal display adapter receives information from the software and translates it into images on the screen. An adapter can take a number of forms, from a microprocessor to a simple connector. An intelligent adapter (one that is capable of doing some processing) may also be called a controller.

Alternating Current (AC)—The type of power usually supplied to residential and commercial wall outlets. AC reverses its direction at regular intervals. Compare *Direct Current (DC)*.

application—A computer program that you use to perform tasks of a specific type. Applications include word processors, spreadsheets, and database management systems. See also *program*.

B   **backup**—A copy of a file, usually on a removable disk, kept in case the original file is lost or damaged.

Basic Input/Output System (BIOS)—See *BIOS*.

baud rate—The speed at which a communication device, such as a printer or modem, transmits information. Baud rate is the number of signal changes per second (not necessarily the same as bits per second). See also *bits per second*.

Blu-ray Disc (BD)—Offering more storage capacity than DVDs, the format was developed to allow for more data storage and to enable recording and playback of high-definition video (HD).

BIOS (Basic Input/Output System)—Basic instructions, stored in read-only memory (ROM), containing the information the computer needs to check hardware and load the operating system when you start up the computer.

bits per second (bps)—A way of measuring the speed at which information is passed between two devices. This is the basic unit of measure used in modem communications, and is similar, but not identical, to the baud rate. See also *baud rate*.

boot—To start the computer. The term "boot" originates from bootstrap program (as in "pulling itself up by its bootstraps"), a program that loads and initializes the operating system. See also *reboot*.

boot disk—See *system disk*.

boot priority (startup sequence)—The order in which the computer accesses its internal storage drives to locate the startup files. Under the default startup sequence, the computer looks for the startup files in the external media before checking the internal storage drive.

bus—An electrical circuit that connects the central processing unit (CPU) with other parts of the computer, such as the video adapter, disk drives, and ports. It is the pathway through which data flows from one device to another. See also *bus speed*, *frontside bus*.

bus speed—The speed at which the central processing unit (CPU) communicates with the other parts of the computer.

C

cache—A section of very fast memory in which frequently used information is duplicated for quick access. Accessing data from cache is faster than accessing it from the computer's main memory. See also *CPU cache, L1 cache, L2 cache.*

CD—An individual compact disc. See also *CD-ROM.*

CD-ROM (Compact Disc Read-Only Memory)—A form of high-capacity storage that uses laser optics instead of magnetic means for reading data. See also *CD*. Compare *DVD-ROM.*

Central Processing Unit (CPU)—The chip that functions as the "brain" of the computer. It takes information from outside sources, such as memory or keyboard input, processes the information, and sends the results to another device that uses the information.

character—Any letter, number, or symbol you can use on the computer. Some characters are non-printing characters, such as a paragraph break in a word-processing program. A character occupies one byte of computer storage.

chip—A small piece of silicon containing computer logic and circuits for processing, memory, input/output, and/or control functions. Chips are mounted on printed circuit boards.

click—To press and release the pointing device's primary button without moving the pointing device. In the Windows® operating system, this refers to the pointing device's left button, unless otherwise stated. See also *double-click.*

color palette—A set of specified colors that establishes the colors that can be displayed on the screen at a particular time.

compatibility—The extent to which computers, programs, or devices can work together harmoniously, using the same commands, formats, or language as another.

configuration—(1) The collection of components that make up a single computer system. (2) How parts of the system are set up (that is, configured).

controller—A device that controls the transfer of data from a computer to a peripheral device and vice versa. For example, disk drives, monitors, keyboards, and printers all require controllers.

CPU—See *Central Processing Unit (CPU).*

CPU cache—A section of very fast memory residing between the CPU and the computer's main memory that temporarily stores data and instructions the CPU will need to execute commands and programs. See also *cache, L1 cache, L2 cache.*

cursor—An on-screen symbol (usually a flashing vertical line) that indicates the position where characters will appear when you enter data.

D **default**—The setting selected by a program when the user does not specify an alternative setting.

device—A component attached to the computer. Devices may be external (outside the computer's case) or internal (inside the computer's case). Printers, disk drives, and modems are examples of devices.

device driver—A program (called a "driver") that permits a computer to communicate with a device.

dialog box—An on-screen window displayed by the operating system or a program giving a direction or requesting input from the user.

Direct Current (DC)—The type of power usually supplied by batteries. DC flows in one direction. Compare *Alternating Current (AC).*

Direct Memory Access (DMA)—A dedicated channel, bypassing the CPU, that enables direct data transfer between memory and a device.

directory—See *folder.*

disable—To turn a computer option off. See also *enable*.

disc—A round, flat piece of material, designed to be read from and written to by optical (laser) technology, and used in the production of optical discs, such as CDs and DVDs. Compare *disk.*

disk—A round, flat piece of material that can be magnetically influenced to hold information in digital form, and used in the production of magnetic disks, such as hard disks. Compare *disc.* See also *hard disk.*

disk drive—The device that reads and writes information and programs on external media or hard disk. It rotates the disk at high speed past one or more read/write heads.

document—Any file created with an application and, if saved to disk, given a name by which it can be retrieved. See also *file*.

double-click—To press and release the pointing device's primary button rapidly twice without moving the pointing device. In the Windows® operating system, this refers to the pointing device's left button, unless otherwise stated.

download—(1) In communications, to receive a file from another computer through a modem or network. (2) To send font data from the computer to a printer. See also *upload*.

drag—To hold down the mouse button while moving the pointer to drag a selected object. In the Windows® operating system, this refers to the left mouse button, unless otherwise stated.

driver—See *device driver*.

DVD—An individual digital versatile (or video) disc. See also *DVD-ROM*.

DVD-ROM (Digital Versatile [or Video] Disc Read-Only Memory)—A very high-capacity storage medium that uses laser optics for reading data. Each DVD-ROM can hold as much data as several CD-ROMs. Compare *CD-ROM*.

E

emulation—A technique in which a device or program imitates another device or program.

enable—To turn on a computer option. See also *disable*.

eSATA—An external device that supports hot swapping and fast data transfer. Very useful in storing and transferring large files.

executable file—A computer program that is ready to run. Application programs and batch files are examples of executable files. Names of executable files usually end with a .bat or .exe extension.

expansion device—A device that connects to a computer to expand its capabilities. Other names for an expansion device are port expander, port replicator, docking station, or network adapter.

extension—See *file extension*.

external device—See *device.*

F   **file**—A collection of related information, saved on disk with a unique name. A file may be a program, information used by a program, or a document. See also *document.*

File Allocation Table (FAT)—The section of a storage drive that keeps track of the location of stored files.

file name—A set of characters that uniquely identifies a file within a particular folder. It consists of two parts: the actual name and the file name extension. See also *file extension*.

file extension—The three characters following the period (pronounced "dot") at the end of a file name. The extension indicates the type of file. Examples are .exe for program files and .hlp for help files. See also *file name.*

folder—Also called directory. A container for organizing files saved to a disk. A folder is symbolized on screen by a graphical image (icon) of a file folder. A folder can contain files and other folders.

format—(verb) To prepare a blank disk for use with the computer's operating system. Formatting creates a structure on the disk so the operating system can write information to the disk or read information from it.

frontside bus—The primary pathway (bus) between the CPU and the computer's main memory. Also called "system bus." See also *bus.*

function keys—The keys labeled F1 through F12, typically located on the keyboard. Their function is determined by the operating system and/or individual programs.

G   **ground**—A conductor to which all components of an electric circuit are connected. It has a potential of zero (0) volts, is connected to the earth, and is the point of reference for voltages in the circuit.

H   **hard disk**—A storage device composed of a rigid platter or platters that can be magnetically coded with data. Hard disks hold much more information than some external media and are used for long-term storage of programs and data. The primary (or only) hard disk in a computer is usually fixed, but some computers have secondary hard disks that are removable.

hardware—The physical components of a computer system. Compare *software.*

HDMI (High-Definition Multimedia Interface)—An interface used to transmit high quality audio and video signal via a single cable in digital format, providing better picture quality than analog signal.

HDMI-CEC (HDMI Consumer Electronics Control)—One A/V component can control another while using this function, if connected with HDMI cables. See also *HDMI*.

Hibernation—A feature of many Toshiba computers that saves to the internal storage drive the current state of your work, including all open files and programs, when you turn the computer off. When you turn on the computer again, your work is returned to the same state it was when the computer was turned off. See also *Sleep, Suspend.*

hot key—(1) A feature in which certain keys in combination with the Fn key can set system options or control system parameters, such as the battery save mode. (2) A key or combination of keys that activates a memory resident program.

hot swapping—The ability to add or remove devices from a computer while the computer is running and have the operating system automatically recognize the change.

I   **icon**—A small image displayed on the screen that represents a function, file, or program.

interlaced—A method of refreshing a computer screen, in which only every other line of pixels is refreshed. Interlaced monitors take two passes to create a complete screen image. Compare *non-interlaced.*

internal device—See *device.*

Internet—The decentralized, world-wide network of computers that provides electronic mail, the World Wide Web, and other services. See also *World Wide Web.*

K   **keyboard shortcut**—A key or combination of keys that you use to perform a task instead of using a pointing device such as a mouse.

L   **L1 (level one) cache**—Memory cache built into the processor to help improve processing speed. See also *cache, CPU cache, L2 cache.*

L2 (level two) cache—Memory cache installed on the motherboard to help improve processing speed. It is slower than L1 cache and faster than main memory. See also *cache, CPU cache, L1 cache.*

LAN (Local Area Network)—A group of computers or other devices dispersed over a relatively limited area and connected by a communications link that enables any device to interact with any other on the network.

LED (Light Emitting Diode)—A solid state lamp (SSL) that uses light-emitting diodes (LEDs) as the source of light, which offers long life and high efficiency output. Multiple diodes are used together, since the light created by individual light-emitting diodes is small compared to incandescent and compact fluorescent lamps.

LCD (Liquid Crystal Display)—A type of display that uses a liquid substance between two transparent electrode panels. When an electric current passes through the electrodes, the molecules in the liquid form a crystalline pattern that polarizes the light passing through it. A filter over the electrodes permits only non-polarized light to pass to the surface of the display, creating light and dark pixels.

load—To move information from a storage device (such as a hard disk) into memory for processing.

local area network—See *LAN*.

logical drive—A section of a disk that is recognized by the operating system as a separate disk drive. A system's logical drives may differ from its physical drives. For example, a single hard disk drive may be partitioned into two or more logical drives.

M **memory**—Typically refers to the computer's main memory, where programs are run and data is temporarily stored and processed. Memory can be volatile and hold data temporarily, such as RAM, or it can be nonvolatile and hold data permanently, such as ROM. A computer's main memory is RAM. See also *RAM*, *ROM*.

microprocessor—See *Central Processing Unit (CPU)*.

MIDI (Musical Instrument Digital Interface)—A standard for connecting musical instruments, synthesizers, and computers. The MIDI standard provides a way of translating music into a form computers can use, and vice versa.

modem—Short for "modulator/demodulator." A device that converts information from digital to analog, and back to digital, enabling information to pass back and forth between digital computers and analog telephone lines.

motherboard—The computer's main circuit board that contains the processor, memory, and other primary components.

MS-DOS prompt—See *system prompt.*

multi-function drive—A DVD drive that can read and write to CD and DVD media.

multimedia—A combination of two or more media, such as sound, animation, and video in a computer program or presentation.

Musical Instrument Digital Interface—See *MIDI.*

N **network**—A collection of computers and associated devices that are connected by communications facilities. A network allows you to share data and peripheral devices, such as printers, with other users and to exchange electronic mail.

non-interlaced—A method of refreshing a computer screen, in which each pixel of every line is refreshed as the electron beam scans across and down the screen. Compare *interlaced.*

non-system disk—A disk for storing programs and data that cannot be used to start the computer. Compare *system disk.*

O **online**—Available through the computer. Online may refer to information being read from your own computer's internal storage drive, such as online documentation or online Help, or to information coming from another company on a company network or the Internet.

operating system—A set of programs that controls how the computer works. Examples of operating systems are the Windows Vista® Home Basic and Windows® 7 operating systems.

optical disc drive—A drive which reads plastic coated discs on which information is recorded digitally, and uses a laser to read data, music, or videos.

P **palette**—See *color palette.*

parallel—Processes that occur simultaneously. In communications, it means the transmission of more than one bit of information at a time. On your computer, the parallel port provides a parallel communications interface between the computer and an appropriate device. Most modern printers are parallel. Compare *serial.*

password—A unique string of characters entered by a user to verify his or her identity to the computer or the network.

PC Card—A credit-card-sized expansion card designed to increase the capabilities of computers. PC Cards provide functions such as modem, fax/modem, hard disk drive, network adapter, sound card, or SCSI adapter.

peripheral—Any device, such as a printer or joystick, that is attached to the computer and controlled by the computer's CPU.

pixel—Short for "picture element." The smallest dot that can be produced on a screen or printer.

Plug and Play—Generally, refers to the computer's ability to automatically configure itself to work with peripheral devices. When capitalized, refers to a standard that, when followed by a device manufacturer, allows a computer to configure itself automatically to work with the device.

pointer—An icon (usually an arrow) that moves on the screen when you slide your finger across the touch pad or move a mouse. Used to point to and select/activate on-screen items, such as icons, menu items, and buttons. The shape and purpose of the pointer varies depending on the program you are using and what you are doing.

pointing device—Any device, such as the touch pad or a mouse, that enables you to move the pointer on the screen.

port—A socket on the computer where you plug in a cable for connection to a network or a peripheral device.

processor—See *Central Processing Unit (CPU)*.

program—A set of instructions that can be executed by a computer. The general classes of programs (also called software) are operating system, application, and utility. See also *operating system, application, utility.*

properties—The attributes of an object or device. For example, the properties of a file include the file's type, size, and creation date.

R   **RAM (Random Access Memory)**—*Volatile* memory that can be written to as well as read. *Volatile* here means that information in RAM is lost when you turn off your computer. This type of memory is used for your computer's main memory. See also *memory.* Compare *ROM.*

Random Access Memory—See *RAM*.

Read-Only Memory—See *ROM*.

reboot—See *boot*, *restart*.

removable disk—A disk that can be removed from a disk drive. A Flash drive is one example of a removable disk.

resolution—A measure of the sharpness of the images that can be produced by a printer or displayed on a screen. For a printer, resolution is expressed in dots per inch (dpi). For a screen, it is expressed as the number of pixels available horizontally and vertically.

restart—Synonymous with reboot. To reset the computer by reloading the operating system without turning the computer off. See also *boot*.

RGB (Red, Green, Blue) monitor—A monitor that reproduces all colors by mixing red, green, and blue light in various combinations.

RJ11 connector—A modular connector used on most U.S. telephone systems and direct-connect modems. The RJ11 connector is a 6-wire connector.

RJ45 connector—An eight-wire connector used to connect a computer to a network.

ROM (Read-Only Memory)—Non-volatile memory that can be read but not written to. *Non-volatile* here means that information in ROM remains whether or not the computer is receiving power. This type of memory is used to store your computer's BIOS, which is essential instructions the computer reads when you start it up. See also *BIOS, memory*. Compare *RAM*.

S   **Secure Digital (SD)**—A small, portable, non-volatile memory card used to store and transfer data between digital products, providing encryption capability for content security.

select—To highlight or otherwise specify text, data, or graphics with the intent to perform some operation on it.

serial—Processes that occur one at a time. In communications, it means the transmission of one bit at a time sequentially over a single channel. On your computer, the serial port provides a serial interface between the computer and an appropriate device. Compare *parallel*.

shortcut—See *keyboard shortcut*.

Sleep—A feature of some Windows® operating systems that allows you to turn off the computer without exiting your open applications and to continue from where you left off when you turn the computer on again.

software—See *program.* Compare *hardware.*

solid state drive —A data storage device that utilizes solid-state memory as opposed to a hard disk (see also *hard disk*). Solid state drives hold a large amount of information and are used for storage of programs and data.

Suspend—A feature of some Windows® operating systems that allows you to turn off the computer without exiting your open applications and to continue from where you left off when you turn the computer on again.

system prompt—The symbol (in the MS-DOS® operating system, generally a drive letter followed by a "greater than" sign) indicating where users are to enter commands.

T   **TFT display**—See *active-matrix display.*

U   **Universal Serial Bus (USB)**—USB is a serial bus that supports data transfer. USB allows hot swapping of peripherals. See also *bus, hot swapping, serial.*

upload—To send a file to another computer through a modem or network. See also *download*.

USB—See *Universal Serial Bus (USB).*

USB Flash drive—A small, portable flash memory card that plugs into a computer's USB port and functions as a portable hard drive. They are smaller and more durable than an external hard drive because they do not contain any internal moving parts, but have less storage capacity. See also *Universal Serial Bus (USB).*

utility—A computer program designed to perform a narrowly focused operation or solve a specific problem. Utilities are often related to computer system management.

W   **Web**—See *World Wide Web.*

Wi-Fi®—A registered trademark term of the Wi-Fi Alliance that stands for Wireless Fidelity, and is another term for the communication protocol to permit an Ethernet connection using wireless communication components.

World Wide Web (www)—The worldwide network of Web sites linked together over the Internet. A user of the Web can jump from site to site regardless of the location of the computer hosting the site. See also *Internet.*

Index