TOSHIBA

Satellite® M40/M45 Series Resource Guide

NOTE Keep this guide in a convenient place to access important information about your computer.

If you need assistance, use one of the following:

- Toshiba's Support Website
  pcsupport.toshiba.com
- Toshiba Global Support Centre
  Calling within the United States (800) 457-7777
  Calling from outside the United States (949) 859-4273

Please fill in for your reference and future use:

Model name_____

Part number_____

Serial number _____

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⚠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.***

Regulatory information

Model: Satellite® M40/M45 Series

Recordable and/or ReWritable Drives and Associated Software Warranty

The computer system you purchased may include Recordable and/or ReWritable optical media 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 parallel port, monitor port, USB port, PS/2 port®, i.LINK® port and microphone jack. 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 Website at pcsupport.toshiba.com
- Or call the Toshiba Global Support Centre:
  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.

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 limited warranty information, please contact Toshiba Corporation, Toshiba America Information Systems, Inc. or an authorized representative of Toshiba, or the Toshiba Support Centre 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 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 PC product support on Web site http://www.toshiba-europe.com/computers/tnt/bluetooth.htm in Europe or pcsupport.toshiba.com in the United States for more information.

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

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.

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 autorisée seulement aux conditions suivantes: (1) il ne doit pas produire de brouillage et (2) l'utilisateur du dispositif doit étre prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

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.

Europe – EU Declaration of Conformity CE

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC with essential test suites as per standards:

- EN 60950 Safety of Information Technology equipment
- ETS 300 328 Technical requirements for radio equipment
- ETS 300 826 General EMC requirements for radio equipment.

English:	Hereby, TOSHIBA Corp. Digital Media Network Company, declares that this Radio LAN device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Finnish:	Valmistaja TOSHIBA Corp. Digital Media Network Company vakuuttaa täten että Radio LAN device tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Dutch:	Hierbij verklaart TOSHIBA Corp. Digital Media Network Company dat het toestel Radio LAN device in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
	Bij deze TOSHIBA Corp. Digital Media Network Company dat deze Radio LAN device voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EC.
French:	Par la présente TOSHIBA Corp. Digital Media Network Company déclare que l'appareil Radio LAN device est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
	Par la présente, TOSHIBA Corp. Digital Media Network Company déclare que ce Radio LAN device est conforme aux exigences essentielles et aux autres dispositions de la directive 1999/5/CE qui lui sont applicables.
Swedish:	Härmed intygar TOSHIBA Corp. Digital Media Network Company att denna Radio LAN device står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

Danish:	Undertegnede TOSHIBA Corp. Digital Media Network Company erklærer herved, at følgende udstyr Radio LAN device overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF
German:	Hiermit erklärt TOSHIBA Corp. Digital Media Network Company, dass sich dieser/diese/dieses Radio LAN device in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMWi)
	Hiermit erklärt TOSHIBA Corp. Digital Media Network Company die Übereinstimmung des Gerätes Radio LAN device mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 1999/5/EG. (Wien)
Greek:	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ TOSHIBA Corp. Digital Media Network Company ΔΗΛΩΝΕΙ ΟΤΙ Radio LAN device ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ
Italian:	Con la presente TOSHIBA Corp. Digital Media Network Company dichiara che questo Radio LAN device è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Spanish:	Por medio de la presente TOSHIBA Corp. Digital Media Network Company declara que el Radio LAN device cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Portuguese:	TOSHIBA Corp. Digital Media Network Company declara que este Radio LAN device está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

USA – Federal Communications Commission (FCC)

This device complies with Part 15 of FCC Rules. Operation of the devices in a Wireless LAN System is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference that may cause undesired operation.

TOSHIBA is not responsible for any radio or television interference caused by unauthorized modification of the devices included with this TOSHIBA Wireless LAN Mini PCI Card, or the substitution or attachment of connecting cables and equipment other than specified by TOSHIBA.

The correction of interference caused by such unauthorized modification, substitution or attachment will be the responsibility of the user.

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. In normal operating configuration, the LCD in the upright position, the distance between the antenna and the user should not be less than 20 cm. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. Antenna(s) used in 5.15 GHz to 5.25 GHz frequency band must be integral antenna which provide no access to the end user.

Refer to the Regulatory Statements as identified in the documentation that comes with those products for additional 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 information applies to products that operate with an 802.11a device.

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 the 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.

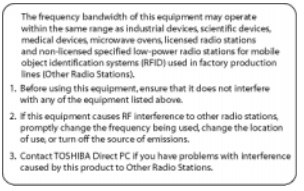
Low power radio frequency electric machinery shall resist against interference from legal communications or from industrial, scientific and medical radio emission electric machinery.

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.



2. Indication

The indication shown below appears on this equipment.

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.

3. TOSHIBA Direct PC

Monday – Friday: 10:00 – 17:00

Toll Free Tel: 0120-13-1100

Direct Dial: 03-3457-5916

Fax: 03-5444-9450

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

JAPAN APPROVALS INSTITUTE FOR TELECOMMUNICATIONS EQUIPMENT

Approval Number: D01-1128JP

TELECOM ENGINEERING CENTER Approval Number: 03NY.A0018, 03GZDA0017

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.

Approved Countries/Regions for Use for the Atheros AR5BMB-43/44 Mini PCI Wireless Network Adapter

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.

NOTE This device works on passive scan only.

A peer-to-peer mode is not available in 802.11a and Turbo Mode.

802.11b (2.4 GHz)

Australia	Austria	Belgium
Canada	Denmark	Finland
France	Germany	Greece
Ireland	Italy	Liechtenstein
Luxembourg	Netherlands	New Zealand
Norway	Portugal	Sweden
Switzerland	UK	USA

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 Télécommuniations (http://www.art-telecom.fr) pour la procédure à suivre.
Italia:	License required for indoor use. Use with outdoor installations not allowed.
	E'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.

802.11a (5 GHz)

Australia	Austria	Belgium
Canada	Denmark	Finland
France	Germany	Greece
Ireland	Italy	Liechtenstein
Luxembourg	Netherlands	New Zealand

Norway	Portugal	Sweden
Switzerland	UK	USA

Turbo Mode (5 GHz)

Canada	USA	

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/Lichtenstein	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 ×: 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.

Approved Countries/Regions for Use for the Atheros AR5001X Mini PCI Wireless Network Adapter

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.

NOTE This device works on passive scan only.

A peer-to-peer mode is not available in 802.11a and Turbo Mode.

802.11b (2.4 GHz)

Australia	Austria	Belgium
Canada	Denmark	Finland
France	Germany	Greece
Ireland	Italy	Liechtenstein
Luxembourg	Netherlands	New Zealand
Norway	Portugal	Sweden
Switzerland	UK	USA

802.11a (5 GHz)

Australia	Austria	Belgium
Canada	Denmark	Finland
France	Germany	Greece
Ireland	Italy	Liechtenstein
Luxembourg	Netherlands	New Zealand
Norway	Portugal	Sweden
Switzerland	UK	USA

Turbo Mode (5 GHz)

Canada	USA	

Approved Countries/Regions for Use for the Intel® PRO/Wireless LAN 2100 3B Mini PCI Adapter

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.

Argentina	Australia	Austria
Belgium	Brazil	Canada
Chile	Denmark	Finland
France	Germany	Greece
Iceland	Ireland	Italy
Japan	Liechtenstein	Luxembourg
Mexico	Netherlands	New Zealand
Norway	Peru	Portugal
Singapore	Spain	Sweden
Switzerland	UK	Uruguay
USA	Venezuela	

Approved Countries/Regions for Use for the Toshiba Mini PCI Wireless LAN Card

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.

Australia	Austria	Belgium
Canada	Denmark	Finland
France	Germany	Greece
Hong Kong	Iceland	Ireland
Italy	Japan	Liechtenstein
Luxembourg	Malaysia	Netherlands
New Zealand	Norway	Philippines
Portugal	Singapore	Spain
Sweden	Switzerland	Thailand
UK	USA	

Approved Countries/Regions for Use for the INPROCOMM IPN2220 Wireless Network Adapter

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.

EU	Canada	Japan
USA	Australia	New Zealand

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 *Bluetooth* wireless technology is a new innovative technology, and TOSHIBA has not confirmed compatibility of its *Bluetooth* products with all PCs and/or equipment using *Bluetooth* wireless technology other than TOSHIBA portable computers.

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 PC product support on Web site http://www.toshiba-europe.com/computers/tnt/bluetooth.htm in Europe or pcsupport.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 PC 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 PC. Please contact TOSHIBA PC product support on Web site http://www.toshiba-europe.com/computers/tnt/bluetooth.htm in Europe or pcsupport.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 PC product support on Web site http://

www.toshiba-europe.com/computers/tnt/bluetooth.htm in Europe or pcsupport.toshiba.com in the United States for more information.

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 far much less than the electromagnetic energy emitted by wireless devices like for example 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.

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.

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 autorisée seulement aux conditions suivantes: (1) il ne doit pas produire de brouillage et (2) l'utilisateur du dispositif doit être prét à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

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

CAUTION FCC Interference Statement

This device complies with part15 of the FCC rules. Operation is subject to the following two conditions:

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

Note that any changes or modifications to this equipment not expressly approved by the manufacturer may void the authorization to operate this 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.

In order to comply with FCC radio-frequency radiation exposure guidelines for an uncontrolled environment, the *Bluetooth* Card from TOSHIBA has to be operated while maintaining a minimum body to antenna distance of 20 cm.

Refer to the Regulatory Statements as identified in the documentation that comes with those products for additional information.

The *Bluetooth* Card from TOSHIBA is far below the FCC radio frequency exposure limits.

Nevertheless, it is advised to use the *Bluetooth* Card from TOSHIBA in such a manner that human contact during normal operation is minimized.

NOTE 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.

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.

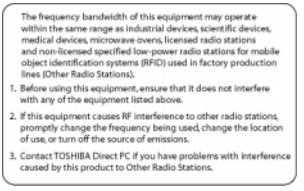
Low power radio frequency electric machinery shall resist against interference from legal communications or from industrial, scientific and medical radio emission electric machinery.

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).

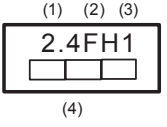
1. Sticker

Please put the following sticker on devices incorporating this product.



2. Indication

The indication shown below appears on this equipment.



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

3. TOSHIBA Direct PC

Monday – Friday: 10:00 – 17:00

Toll Free Tel: 0120-13-1100

Direct Dial: 03-3457-5916

Fax: 03-5444-9450

Device Authorization

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

The Name of the radio equipment: EYXF2CS

TELECOM ENGINEERING CENTER

Approval Number: 01NYDA1305

The following restrictions apply:

- Do not disassemble or modify the device.
- Do not install the embedded wireless module into other device.

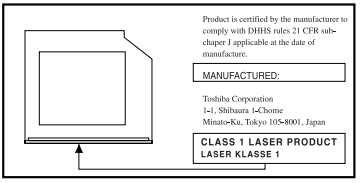
DVD-ROM and multi-function drive safety instructions

⚠ DANGER The DVD-ROM and multi-function drives employ a laser system. To ensure proper use of this product, please read this instruction manual carefully and retain for future reference.

Never attempt to disassemble, adjust or repair a CD/DVD drive, CD-RW drive, Multi-drive or any other optical drive. You could damage the drive. You would also be exposed to laser light or other safety hazard, resulting in serious injury. Always contact an authorized Toshiba service provider, if any repair or adjustment is required.

Location of the required label

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



⚠ DANGER This appliance contains a laser system and is classified as a CLASS 1 LASER PRODUCT. To use this model properly, read the user's guide carefully and keep it for your future reference.

Never attempt to disassemble, adjust or repair a CD/DVD drive, CD-RW drive, Multi-drive or any other optical drive. You could damage the drive. You would also be exposed to laser light or other safety hazards, resulting in serious injury. Always contact an authorized Toshiba service provider, if any repair or adjustment is required.

CLASS 1 LASER PRODUCT
LASSER KLASSE 1

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Computer Disposal Information

This product contains mercury. Disposal of this material may be regulated due to environmental considerations. For disposal, reuse or recycling information, please contact your local government or the Electronic Industries Alliance at www.eiae.org.

Introduction

Welcome to the world of powerful and portable multimedia computers!

You will find that the Microsoft® Windows® XP operating system is already installed on your computer. It offers exciting features and easy Internet access.

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

This guide

This guide offers important information about your computer, including solutions to the most common problems, and features and specifications.

For more detailed information, descriptions of other features and more extensive troubleshooting guidelines, see the electronic user's guide preinstalled on your system. It is also available on the Web at pcsupport.toshiba.com.

Safety icons

This guide contains safety instructions that must be observed in order 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 the 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 highlights technical information about the computer.

HINT: This icon denotes helpful hints and tips.

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

Other documentation

Your computer comes with the following documentation in addition to this resource guide:

- An electronic version of the user's 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.

Setting up your computer and getting started

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

Precautions

Your notebook 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 adapter from the power plug socket and computer.
3. Remove the battery pack.

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.

⚠WARNING If you experience discomfort while operating the computer, stop immediately and rest. Continuous operation for long periods without adequate rest may cause pain in the arms, wrists, hands, neck or other part of the body. If pain persists despite rest, consult your doctor.

⚠CAUTION PC base and palm rest can become hot! Avoid prolonged contact to prevent heat injury to skin.

Read the enclosed Instruction Manual for Safety and Comfort.

⚠CAUTION Some PC Cards can become hot with prolonged use. Overheating of a PC Card can result in errors or instability in its operation.

Before you remove a PC Card, always wait for it to cool. You could get burned removing a hot PC Card.

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.

Your computer's features and specifications

Certain notebook chassis are designed to accommodate all possible configurations for an entire product Series. Your selected model may not have all the features and specifications corresponding to all of the icons or switches shown on the notebook 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 that may come on your computer:

Sample system icons

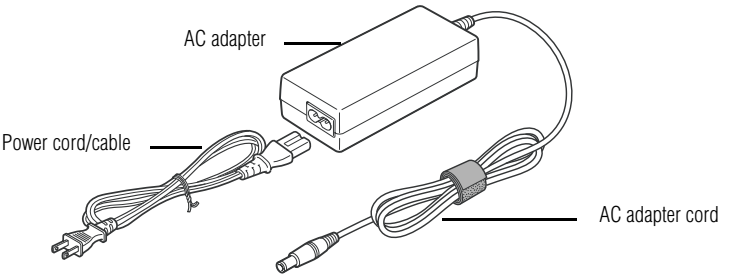
Connecting the AC adapter

The AC adapter enables you to power the computer from an AC outlet and to charge the computer's batteries. The AC power light on the computer glows when the device is plugged in.

⚠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 When you connect the AC adapter to the computer, always follow the steps in the exact order as described in the User's Guide. Connecting the power cord/cable to a live electrical outlet should be the last step; otherwise, the adapter DC output plug could hold an electrical charge and cause an electrical shock or minor bodily injury when touched. As a general safety precaution, avoid touching any metal parts.

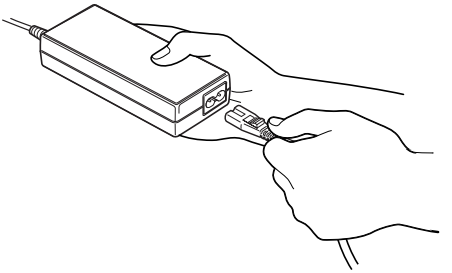
⚠CAUTION Always use the Toshiba AC adapter that was provided with your computer, or use Toshiba recommended alternate models to avoid any risk of fire or other damage to the computer. Use of an incompatible AC adapter could cause fire or damage to the computer, possibly resulting in serious injury.



Sample power cord/cable and AC adapter

To connect AC power to the computer:

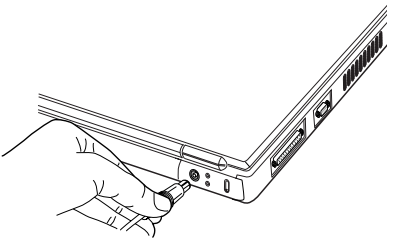
1 Connect the power cord/cable to the AC adapter.



Sample connecting the power cord/cable to the AC adapter

⚠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 adapter into the DC-IN on the back of the computer.



Sample connecting the AC adapter to the computer

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

The AC power light on the indicator panel glows blue.

WARNING Never tamper with the power cord/cable or plug; never splice or alter a power cord/cable; never bend or twist a power cord/cable; never place heavy objects on a power cord/cable; never place a power cord/cable near a heat source; never run a power cord/cable through a pinch point such as a door or window; never use nails, staples or similar objects to fasten or attach power cord/cable in place; never attempt to disassemble or repair an AC adapter or a Battery Charger. Doing any of the above may damage the power cord/cable, and/or result in a fire or electric shock, possibly resulting in serious injury.

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.

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 local printer.

Connecting a USB printer

You can connect a USB-compatible printer to your computer through one of the USB ports.

To confirm a printer's compatibility, check its documentation.

To achieve the connection, you need a suitable USB cable, which may come with your printer. Otherwise, you can purchase one from a computer or electronics store.

NOTE Follow the manufacturer's instructions for connecting a USB printer to your computer.

Installing additional memory (optional)

CAUTION Before you install or remove a memory module, turn off the computer using the Start menu. If you install or remove a memory module while the computer is in Standby or Hibernation mode, data will be lost.

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.

Additional memory comes in various capacities (visit the Toshiba Web site at accessories.toshiba.com for more information). There are two memory slots. Your system may have both slots occupied.

⚠ CAUTION If you use the computer for a long time, the memory modules will become hot. If this happens, let the modules cool to room temperature before you replace them.

You need a standard Phillips No. 1 screwdriver to install a memory module.

CAUTION To avoid damaging the computer's screws, use a standard Phillips No. 1 screwdriver that is in good condition.

⚠ CAUTION Do not try to install a memory module under the following conditions. You can damage the computer and the memory module.

1. The computer is turned on.
2. The computer was shut down using Standby mode.
3. Power to the DVD-ROM or multi-function drive has been turned on.

If the computer is on, begin at step 1, otherwise, skip to step 3.

1 If the computer is on, click **Start**, **Turn Off Computer**.

The Turn off computer window appears.

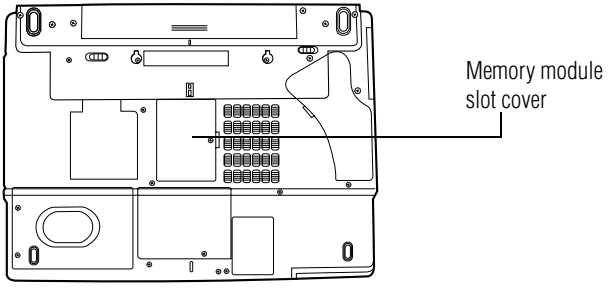
2 Click **Turn Off**.

The operating system turns off the computer.

3 Unplug and remove any cables connected to the computer, including the AC adapter cord.

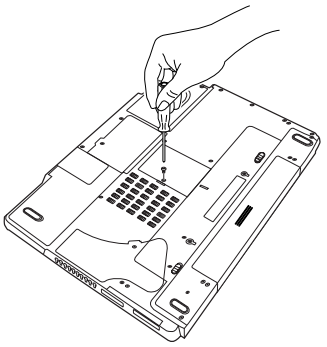
4 Remove the battery.

5 Close the display panel and turn the computer upside down to locate the memory module slot cover.



Locating the memory module slot cover

6 Using a standard Phillips No. 1 screwdriver, unscrew the screw that secures the memory module slot cover, then remove the memory module slot cover.



Removing the memory module slot cover

7 Remove the new memory module from its antistatic packaging.

CAUTION Static electricity can damage the memory module. Before you handle the module, touch a grounded metal surface to discharge any static electricity you may have built up.

To avoid damaging the memory module, be careful not to touch its gold connector bar (on the side you insert into the computer).

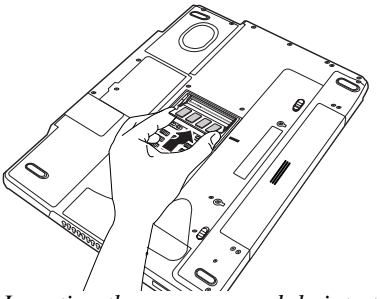
8 Insert the memory module into the socket on the underside of the computer.

9 Hold the memory module by its edges so that the gold connector bar faces the slot, at a slight angle to the socket.

10 Check that the module is lined up with the socket clips.

11 Gently press down on the memory module connector until the clips snap into place.

Do not force the memory module into position. The memory module should be level when secured in place.



Inserting the memory module into the slot

The clips on either side of the memory module will click to secure the memory module.

CAUTION Avoid touching the connectors on the memory module or on the computer. Grease or dust on the connectors may cause memory access problems.

12 Replace the memory module cover and the screw.

13 Turn the computer over and reconnect any cables you removed.

14 Restart the computer.

When you turn on the computer, it automatically recognizes the additional memory.

Removing a memory module

⚠CAUTION If you use the computer for a long time, the memory modules will become hot. If this happens, let the modules cool to room temperature before you replace them.

1 Follow steps 1 through 6 in "Installing additional memory (optional)" on page 31.

2 Pull the clips away from the memory module.

The memory module pops partially out of the slot.

3 Carefully remove the memory module from the slot.

4 Replace the memory module slot cover and the screw.

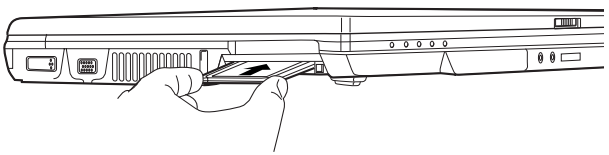
5 Turn the computer over and restart it.

Your computer's TFT display

Small bright dots may appear on your screen display when you turn on your PC. 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.

Inserting a PC Card

⚠CAUTION Use caution when lifting or turning your computer. Failure to do so may result in damage to components, such as cables, attached to your computer, or to the computer itself.



Sample inserting a PC Card

1 If your PC Card does not support hot swapping, save your data and turn off the computer before inserting the PC Card. For more information, see "Hot swapping" on page 36.

2 Hold the PC Card with the arrow or main label side up and the connector side toward the PC Card slot.

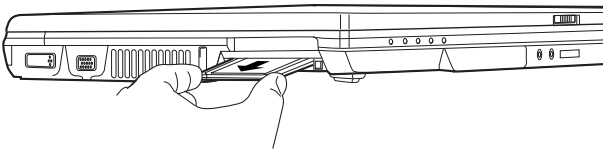
3 When the card is almost all the way into the slot, push firmly, but gently, to ensure a firm connection with the computer. Do not force the card into position.

Removing a PC Card

1 Click the **Safely Remove Hardware** icon on the system tray.

2 Click **Safely remove xxxx**, where *xxxx* is the identifier for your PC Card.

3 The operating system advises you that you may safely remove the card.



Sample removing a PC Card

4 Press the PC Card eject button next to the PC Card slot.

5 Remove the PC Card and store it properly.

Hot swapping

One of the great things about PC Cards is that you can replace one PC Card with another while the computer is on. This is called "hot swapping."

Hot swapping precautions

Although you can insert a PC Card at any time, to avoid data loss never remove a card while it is in use. For example:

- Never remove a hard disk card while the system is accessing it.
- Never remove a network card while you are connected to a network.

Before removing a PC Card, stop it by clicking the **Safely Remove Hardware** icon on the system tray. Once the PC Card has stopped, you can safely remove it.

Learning the basics

Computing tips

- Save your work frequently.

  Your work stays in the computer's temporary memory until you save it to the disk. You will lose all unsaved work, if, for example, a system error occurs and you must restart your computer, or your battery runs out of charge while you are working. Your computer can be configured to warn you when the battery is running low.

HINT: Some programs have an automatic save feature that you can turn on. This feature saves your file to the hard disk at preset intervals. See your software documentation for details.

- Back up your files to diskettes (or other removable storage media) on a regular basis. Label the backup copies clearly and store them in a safe place.
- Scan all new files for viruses.
- Never turn off the computer if a drive indicator light indicates a drive is active.

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

Using the TouchPad™

The TouchPad, the small, smooth square cutout located in front of the keyboard, is sensitive to touch and enables you to move the cursor with the stroke of a finger. Simply move your finger on the TouchPad in the direction you would like to move the cursor:

- To move the cursor to the top of the page, push your finger forward on the TouchPad.
- To move the cursor to the bottom of the page, drag your finger toward yourself.
- To move the cursor to the right side of the page, slide your finger across the TouchPad from left to right.

- To move it to the left side, slide your finger from right to left.

NOTE Because the TouchPad is much smaller than the display screen, moving your cursor across the screen often means having to move your finger several times across the TouchPad in the preferred direction.

Using primary and secondary control buttons

When you want to click or choose an item, use the TouchPad to move the pointer/cursor to the item. Once the pointer/cursor is positioned, you can click it into place by either double-tapping the TouchPad or clicking the control buttons.

The control buttons are adjacent to the TouchPad and are used like the buttons on a mouse. The primary control button is the left one and corresponds to the left mouse button. To double-click, press the primary button twice in rapid succession.

The function of the secondary button depends on the program you are using. It usually corresponds to the right mouse button. Check your program's documentation to find whether it uses the secondary mouse button.

Using the DVD-ROM or multi-function drive

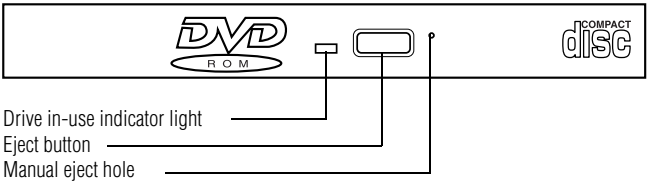
Optical storage has become the preferred medium for software, music, and video. Digital versatile discs (DVDs) provide a significant increase in data storage and support features that are not available on any other video platform. These features include wide-screen movies, multiple language tracks, digital surround sound, multiple camera angles, and interactive menus.

For these reasons, your computer may come with a DVD-ROM drive or multi-function drive.

TECHNICAL NOTE: Your DVD-ROM or multi-function drive is set to play region 1 (North America) DVD-ROMs. If you play a DVD disc from another region, the drive will automatically change to play in the format of the other region. The drive will allow you to change regions four times. On the fourth change, the region will be "locked in." That is, the drive will only play DVDs from that last region. Note that changing from region 1 to region 2 and back to region 1 is counted as two changes.

NOTE For optimum DVD performance, it is recommended that you play DVDs while running the computer on AC power.

You use CD-ROMs to load and run software, and to access reference material such as catalogs, as well as listen to music.



Sample DVD-ROM or multi-function drive

Drive in-use indicator light—Indicates when the drive is in use.

Eject button—Press to release the disc tray.

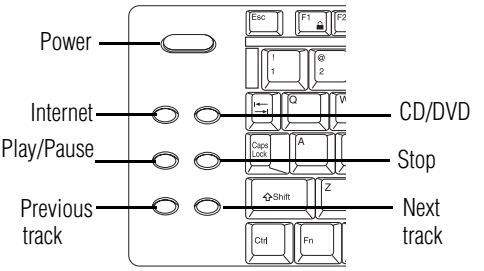
CAUTION Never press the eject button or turn off the computer while the drive-in-use indicator light is glowing. Doing so could damage the disc or the drive.

Manual eject hole—Use if you need to release the disc tray when the power is off. Use a straightened paper clip or other narrow object to press the manual eject button located inside the hole.

CAUTION Never use a pencil to press the manual eject button. Pencil lead can break off inside the computer and damage it. Instead, use a slim object such as a straightened paper clip.

CD/DVD control buttons

The control buttons on the left side of the keyboard let you play audio CDs when the computer is off. You can also use them to play CDs and DVDs when the computer is on



Sample CD/DVD control buttons

The **internet** button launches the Internet Explorer web browser application.

The **CD/DVD** button has the following functionality:

Power is off and you press the CD/DVD button	If a CD is in the drive, the system operates as a stand-alone CD player.
Operating system is running and you press the CD/DVD button	If a CD is in the drive, the Windows Media® Player starts and the audio CD begins to play. If a DVD is in the drive, WinDVD™ starts and the DVD begins to play/

The **previous track** button returns to the preceding track on the disc.

The **next track** button skips to the following track on the disc.

The **play/pause** button starts playing the disc or makes it pause if currently playing.

The **stop/eject** button stops a disc that is currently playing.

You can eject a disc by pressing the stop/eject button twice. Use this method to eject a disc when the computer is turned off and the sound subsystem is turned on.

Inserting a compact disc

CAUTION Before putting on headphones to listen to an audio CD, turn the volume dial down, and do not set the volume too high when using the headphones. Continuous exposure to loud sound can harm your hearing.

To insert a compact disc into the drive:

1 Make sure the computer is turned on.

2 Make sure the in-use indicator light is off.

3 Press the drive's eject button.

The disc tray slides partially out of the drive (about 1 inch).

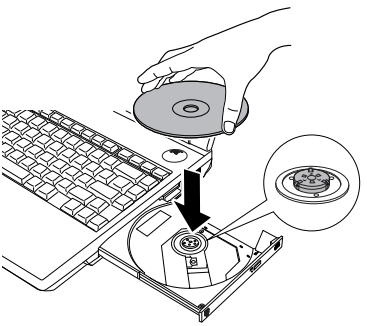
HINT: The drive will not open if the computer's power is off.

4 Grasp the tray and pull it fully open.

5 Hold the disc by its edges and check that it is free of dust.

If the disc is dusty, clean it.

6 Place the disc carefully in the disc tray, label side up.



Positioning the disc in the drive

7 Gently press the disc onto the center spindle until you feel the disc click into place.

CAUTION Be careful not to touch the drive's lens (located underneath the drive's spindle) or the area around it. Doing so could cause the drive to malfunction.

8 Make sure the disc is completely on the spindle and is lying flat on the tray.

CAUTION Make sure the disc is properly positioned on the spindle. If you position the disc incorrectly, it can jam the disc tray.

9 Push the disc tray in by pressing gently on the center of the tray until it clicks into place.

You are ready to use the disc.

Removing a disc with the computer on

CAUTION Never press the eject button while the computer is accessing the drive. Wait for the disk/disc activity light on the system indicator panel to turn off before opening the disc tray.

1 Locate and press the eject button on the drive.

The disc tray partially opens.

2 Grasp the sides of the tray and pull it fully open.

3 Remove the disc from the disc tray and place it in its protective cover.

⚠ CAUTION If the disc is spinning when you open the disc tray, wait for the disc to stop before removing it.

4 Close the disc tray by pressing gently on the center of the tray until it clicks, indicating that it is locked.

Removing a disc with the computer off

1 Insert a slender object, such as a straightened paper clip, into the manual eject hole.

CAUTION Never use a pencil to press the manual eject button. Pencil lead can break off inside the computer and damage it.

2 Pull the tray fully open, remove the disc and place it in its protective cover.

3 Close the disc tray by pressing gently on the center of the tray until it clicks, indicating that it is locked.

Moving the computer

Before moving your computer, even across the room, make sure all disk activity has ended (the drive indicator light stops 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.

Mobile computing

Running the computer on battery power

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

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. Published battery life numbers are achieved on select models and configurations tested by Toshiba at the time of publication. See "Detailed Specs" for specific battery measurement test. Recharge time varies depending on usage. Battery may not charge while 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 purchase a new battery pack, see the accessories information that shipped with your computer or visit the Toshiba web site at www.accessories.toshiba.com.

To ensure that the battery maintains its maximum capacity, operate the computer on battery power at least once a month until the battery is fully discharged. Please see “Maximizing battery life” on page 48 for procedures. If the computer is continuously operated on AC power, either through an AC adapter or a docking station (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 the battery light may not indicate a low-battery condition.

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: The RTC battery does not charge while the computer is turned off, even if the AC adapter is attached.

The RTC battery charges when the computer is powered on.

The RTC battery may have become completely discharged while your computer was shipped, resulting in the following message during startup:

BAD RTC BATTERY
BADCHECKSUM (CMOS)
CHECK THE SYSTEM

NOTE This message may vary by model.

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

Monitoring battery power

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

- Blue indicates the AC adapter has fully charged the battery.
- Amber indicates the AC adapter is charging the battery.
- Does not glow if the external power source is disconnected or if the battery is completely discharged

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.

TECHNICAL NOTE: When your computer is using all of the power provided by the AC Adapter to run applications, features, and devices, the recharging of the battery cannot occur. Your computer's Power Saver utility can be used to select a power level setting that reduces the power required for system operation and will allow the battery to recharge.

- Flashing amber indicates that the computer is using battery power, and the battery's charge is running low.

HINT: Be careful not to confuse the battery light (▭) with the on/off light (⏻). When the on/off light flashes amber, it indicates that the system is suspended (using Windows® XP Standby command).

Setting battery alarms

Your computer can be configured to warn you when the battery is running low. For more information, see "Setting battery alarms" in the electronic user's guide.

Changing the main battery

When your battery power is running low, you have two options—connect the computer to an AC power source or install a charged battery.

⚠WARNING Never short circuit the battery pack by either accidentally or intentionally bringing the battery terminals in contact with another conductive object. This could cause serious injury or fire, and could also damage the battery pack.

⚠WARNING Never expose a battery pack to abnormal shock, vibration or pressure. The battery pack's internal protective device could fail, causing it to overheat or ignite resulting in caustic liquid leakage, or explosion or fire, possibly resulting in death or serious injury.

NOTE If your battery discharges fully, your information will be lost. Be sure to save your work often.

Removing the battery from the computer

1 Save your work.

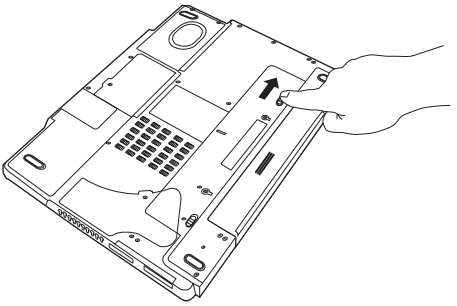
2 Shut down and turn off the computer.

3 Remove all cables connected to the computer, including the AC adapter cord.

4 Turn the computer over.

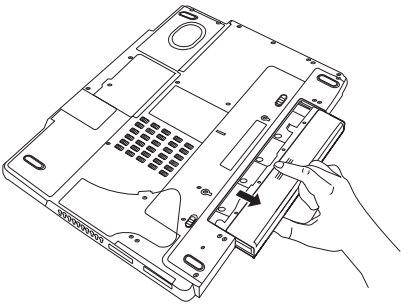
5 If the battery lock is in the locked position, slide it toward the unlocked position.

6 Slide the battery release to release the battery.



Battery release latch

7 Pull the discharged battery pack out of the computer.



Removing the discharged battery

⚠WARNING If the battery is leaking or its case is cracked, put on protective gloves to handle it, and discard it immediately. Always dispose of used battery packs in compliance with all applicable laws and regulations. Put insulating tape, such as cellophane tape, on the electrode during transportation to avoid a possible short circuit, fire or electric shock. Failure to do so could possibly result in serious injury.

8 Wipe the terminals of the charged battery with a clean cloth to ensure a good connection.

9 Insert the charged battery into the slot until the latch clicks.

The battery pack has been designed so that you cannot install it with reverse polarity.

10 Turn the computer right side up.

11 Reconnect any cables.

12 Restart the computer.

Battery safety precautions

- If the battery pack produces an odor, overheats or changes color or shape while it is being used or charged, turn off the computer's power immediately and disconnect the power cord/cable from the power socket. Carefully remove the battery pack from the computer.
- Do not try to disassemble a battery pack.
- Do not overcharge or reverse charge a battery. Overcharging will shorten its life, and reverse charging could damage it.
- Avoid touching the metal terminals of the battery with another metal object. Short-circuiting the battery can cause it to overheat and may cause damage to the battery or the computer.
- Do not incinerate a spent battery, as this could cause it to explode and release toxic materials.
- If a battery is leaking or damaged, replace it immediately. Use protective gloves when handling a damaged battery.

- To replace the main battery, use an identical battery that you can purchase through the Toshiba Web site at accessories.toshiba.com.
- A reverse polarity condition should be avoided with all batteries. The main battery is designed so that it cannot be installed in reverse polarity.
- Charge the battery only in the computer or in a battery charger designated as an approved option.
- When you install the battery pack, you should hear a click when it is seated properly.
- Do not expose the battery pack to fire. The battery pack could explode.

Maximizing battery life

To maximize the life of your battery pack:

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

  1 Turn off the computer's power.

  2 Disconnect the AC adapter 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 pack has at least five minutes of operating time, continue operating until the battery pack 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 adapter to the computer and connect the power cord/cable to a power outlet. The DC-IN or AC power-light should glow blue, and the battery light should glow amber to indicate that the battery pack 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 adapter and power cord/cable.

  5 Charge the battery pack until the battery light glows blue.

- If you have extra battery packs, rotate their use.
- If you will not be using the system for an extended period, more than one month, remove the battery pack.
- Disconnect the AC adapter when the battery is fully charged. Overcharging makes the battery hot and shortens its life.
- If you are not going to use the computer for more than eight hours, disconnect the AC adapter.
- Store spare battery packs in a cool dry place out of direct sunlight.

Disposing of used batteries safely

The life of a battery pack depends on usage. When the battery pack needs replacing, the main battery light flashes amber shortly after you have fully recharged the battery.

You must discard a battery if it becomes damaged.

⚠WARNING Never attempt to dispose of a battery pack 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 battery pack to explode and possibly cause serious injury.

Always dispose of used battery packs in compliance with all applicable laws and regulations. Put insulating tape, such as cellophane tape, on the electrode during transportation to avoid a possible short circuit, fire or electric shock. Failure to do so could possibly result in serious injury.

⚠WARNING Always use the battery pack supplied as an accessory or an equivalent battery pack specified in the User's Manual. Other battery packs have different voltage and terminal polarities. Use of non-conforming battery packs could generate smoke or cause fire or rupture, possibly resulting in serious injury.

After repeated use, the batteries will finally lose their ability to hold a charge and you will need to replace them. Under certain applicable laws and regulations, it may be illegal to dispose of old batteries by placing them in the trash.

Please be kind to our shared environment. Check with your local government authority for details regarding where to recycle old batteries or how to dispose of them properly. If

you cannot find the information you need elsewhere, call Toshiba at: 1 (800) 457-7777.

If something goes wrong

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 may be able to 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).

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 step 4.

4 Close the remaining programs one by one by selecting the program name, then **End Task**.

To power off your computer, do one of the following:

If you are not connected to a domain server:

1 Click **Start**, **Turn off computer**.

   The Turn off computer window appears.

2 Click **Turn Off**.

   The computer turns off.

If you are connected to a domain server:

1 Click **Start**, **Shut down**.

   The Shut Down window appears.

2 Click **Shut down** from the drop-down list.

3 Click **OK**.

The computer shuts down completely.

Your program performs an illegal operation.

If you receive the message, "Your program has performed an illegal operation," close the window and continue working. If it happens again, record the details of the message and consult the software manufacturer.

To record the details:

1 Click the **Details** button and select the text the operating system displays.

The Details button displays information that the software manufacturer needs to help you solve your problem.

2 Press Ctrl and c simultaneously to copy the text to the clipboard.

3 Open Notepad (click **Start**, point to **All Programs**, then point to **Accessories** and click **Notepad**).

4 Press Ctrl and v simultaneously to paste the details into Notepad.

5 Add a paragraph break and type some notes describing what you were doing when you received the message and how the error can be reproduced.

6 Save the file and refer to it when you contact the software manufacturer.

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 adapter and power cord/cable properly or installed a charged battery.

Press and hold the power switch for at least 10 seconds.

If you are using the AC adapter, 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.

If you are using an AC adapter, 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 Standby 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.

Clearing the condition may get the computer running, but it will not solve a resource conflict. Read the documentation that came with the conflicting device and "Resolving a hardware conflict" in your electronic user's guide.

The keyboard produces unexpected characters.

A keypad overlay may be on. If the numlock light or cursor control mode light is on, press Fn and F10 simultaneously to turn off the cursor control mode light or Fn and F11 simultaneously 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.

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 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.

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 PC. 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.

PC Card problems

PC Card checklist

- Make sure the card is inserted properly into the slot.

  See "Using PC Cards" in the electronic user's guide for information about how to insert PC Cards.

- Make sure all cables are securely connected.
- Occasionally a defective PC Card slips through quality control. If another PCMCIA-equipped computer is available, try the card in that machine. If the card malfunctions again, it may be defective.

Resolving PC Card problems

Here are some common problems and their solutions:

The slots appear to be dead. PC Cards that used to work no longer work.

Check the PC Card status:

1. Click **Start**.
2. Click **My Computer** icon with the secondary button, then click **Properties**.

   The System Properties dialog box appears.
3. Click the **Hardware** tab.
4. Click the **Device Manager** button.
5. Double-click the **PCMCIA adapter**.
6. Double-click the appropriate PC Card.

   The operating system displays your PC Card's Properties dialog box, which contains information about your PC Card configuration and status.

The computer stops working (hangs) when you insert a PC Card.

The problem may be caused by an I/O (input/output) conflict between the PCMCIA socket and another device in the system. Use Device Manager to make sure each device has its own I/O base address. See "Fixing a problem with device manager" in the electronic user's guide for more information.

Since all PC Cards share the same socket, each card is not required to have its own address.

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 call

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 contacting 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.

Detailed system specifications are available at www.ts.toshiba.com by selecting your particular product and model number, clicking **GO**, and then clicking the **Detailed Specs** link from the menu on the left. Or just refer to the computer documentation shipped with your product.

For the number of a Toshiba dealer near you, see "Toshiba voice contact" in this section.

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 Website

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 pcsupport.toshiba.com.

Toshiba voice contact

Before calling Toshiba, make sure you have:

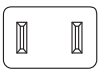
- Your computer's serial number.
- The computer and any optional devices related to the problem.
- Backup copies of your Windows® operating system and all other preloaded software on your choice of media.
- Name and version of the program involved in the problem along with its installation media.
- Information about what you were doing when the problem occurred.
- Exact error messages and when they occurred.

For technical support, call the Toshiba Global Support Centre:

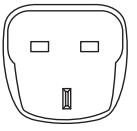
- Within the United States at (800) 457-7777
- Outside the United States at (949) 859-4273

Power cord/cable connectors

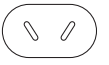
Your notebook computer features a universal power supply you can use worldwide. The following figure shows the shapes of the typical AC power cord/cable connectors for various parts of the world.



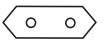
USA and Canada (UL and CSA approved)



United Kingdom (BS approved)



Australia (AS approved)



Europe (VDA and NEMKO approved)

Features and specifications

This section lists the computer's features.Numbered legal footnotes may also be found on page 62.

NOTE **Product Series[1]**

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, visit Toshiba's Web site at pcsupport.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 pcsupport.toshiba.com.

Technology and processor

Processor (Central Processing Unit)	Intel® Pentium® M Processor 760 (2.00 GHz, 2 MB L2 cache, 533 MHz FSB)
	Intel® Pentium® M Processor 750 (1.86 GHz, 2 MB L2 cache, 533 MHz FSB)
	Intel® Pentium® M Processor 745 (1.80 GHz, 2 MB L2 cache, 400 MHz FSB)
	Intel® Pentium® M Processor 730 (1.60 GHz, 2 MB L2 cache, 533 MHz FSB)
	Intel® Pentium® M Processor 740 (1.73 GHz, 2 MB L2 cache, 533 MHz FSB)* [2]
	*CPU performance in your computer product may vary from specifications under the following conditions: - use of certain external peripheral products - use of battery power instead of AC power - use of certain multimedia, computer generated graphics or video applications - use of standard telephone lines or low speed network connections - use of complex modeling software, such as high end computer aided design applications

- use of several applications or functionalities simultaneously
- use of computer in areas with low air pressure (high altitude >1,000 meters or >3,280 feet above sea level)
- use of computer at temperatures outside the range of 5° C to 30° C (41° F to 86° F) or >25° C (77° F) at high altitude (all temperature references are approximate and may vary depending on the specific computer model – please visit the Toshiba website at www.pcsupport.toshiba.com for details)

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

Under some conditions, your computer product may automatically shut-down. This is a normal protective feature designed to reduce the risk of lost data or damage to the product when used outside recommended conditions. To avoid risk of lost data, always make back-up copies of data by periodically storing it on an external storage medium. Use your computer product only under recommended conditions. Read additional restrictions under "Environmental Conditions" in your product "Detailed Specs." Contact Toshiba Technical Service and Support for more information.

Graphics

Intel® Graphics Media Accelerator 900

Mobile Intel® 915GM Express* [3]

*GPU performance may vary depending on product model, design configuration, applications, power management settings and features utilized. GPU performance is only optimized when operating in AC power mode and may decrease considerably when operating in battery power mode.

Power

Main battery

Removable, rechargeable Lithium-Ion (Li-Ion) high-capacity battery (10.8V x 4300 mAh, 6 cell)

Battery life is up to 3 hours in normal mode* [4]

Battery recharge time is several hours* [4]

*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. Published battery life numbers are achieved on select models and configurations tested by Toshiba at the time of publication. See "Detailed Specs" for specific battery measurement test. Recharge time varies depending on usage. Battery may not charge while 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 purchase a new battery pack, see the accessories information that shipped with your computer or visit the Toshiba web site at www.accessories.toshiba.com.
RTC battery	Lithium-Ion (Li-Ion) or NiMH battery provides power for the internal real-time clock and calendar

NOTE The RTC battery does not charge while the computer is turned off even when the AC adapter is charging the computer.

Storage capacity

Hard disk	2.5-inch removable drive and controller provides non-volatile storage for 80 GB or 100 GB*[5]

*1 Gigabyte (GB) means 1000 x 1000 x 1000 = 1,000,000,000 bytes using powers of 10. The computer operating system, however, reports storage capacity using powers of 2 for the definition of 1 GB = 1024 x 1024 x 1024 = 1,073,741,824 bytes, and therefore may show less storage capacity. Available storage capacity will also be less if the product includes one or more pre-installed operating systems, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

Ports

S-Video out port	S-Video allows you to play DVD video on a TV that accepts video inputs
DC IN	Lets you connect the computer to AC power, using the AC adapter and power cord/cable
Headphone jack	Use the 3.5-mm, headphone jack to connect stereo headphones or other audio output devices
Microphone jack	The 3.5-mm, microphone stereo jack lets you connect an external monaural microphone or other audio input device
RGB (monitor) port	The 15-pin, analog VGA port lets you connect an external SVGA monitor (color or monochrome)
Modem port	The modem port lets you connect the internal modem directly to a telephone line (purchased separately) via an RJ11 connection
USB 2.0 ports	Support USB 2.0 peripherals
LAN port	The LAN port lets you connect to a LAN via an RJ45 connection
i.LINK® port	The i.LINK® port (IEEE 1394) provides fast data transfer rates (**only on selected models**)

Bridge Media Adapter Slot	The Bridge Media Adapter Slot can be used for additional storage via Secure Digital™ Cards, xD-Picture Cards, Memory Stick, Memory Stick PRO, SmartMedia™ Cards or MultiMediaCards™ (**only on selected models**)

Standard hardware

Memory	The system may come with 512 MB or 1024 MB of RAM), expandable to 2048 MB of RAM* [6] *Part of the main system memory may be used by the graphics system for graphics performance and therefore reduce the amount of main system memory available for other computing activities. The amount of main system memory allocated to support graphics may vary depending on the graphics system, applications utilized, system memory size and other factors.
Display options	15.4-inch WXGA (measured diagonally) active matrix Thin Film Transistor (TFT) color LCD displays up to 16 million colors at 800 x 600 expansion image; 1024 x 768 expansion image; 1280 x 800; 1280 x 1024 virtual display, 1600 x 1200 virtual display, 1680 x 1050 virtual display (on WSXGA+ displays only).* [7] Available configurations are: normal and TruBrite (High Brightness). *Small bright dots may appear on your screen display when you turn on your PC. 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.
Communication	Integrated V.92 56K modem* [8] *Due to FCC limitations, speeds of 53 kbps are the maximum permissible rates during downloads. Actual data transmission speeds will vary depending on line conditions. For more detailed information regarding your system's modem, visit the Toshiba web site at toshiba.com.
Networking	Marvell® 10Base-T/100Base-TX adapter with RJ45 port
Pointing device	TouchPad pointing device provides the complete function of a mouse or other pointing device
PC card slot	One PC Card slot lets you install one Type II PC Card Minimum slot thickness: 5 mm
Sound controller	ADI SoundMAX Integrated Digital Audio

DVD SuperMulti drive	CD-ROM (24x read), DVD-ROM (8x read) CD-R (24x write), CD-RW (10x write), DVD-R (8x write), DVD-RW (4x write), DVD-RAM (3x write), DVD+R (8x write), DVD+RW (4x write), DVD+R (double layer) (2.4x write) Compatibility: CD-ROM, CD-R (read/write), CD-RW (read/re-write), DVD-ROM, DVD-R (read/write), DVD-RW (read/write), DVD-RAM (read/write), DVD+R (double layer) (read/write)

Wireless Communication

Wireless communication	The computer may come with an optional integrated Wi-Fi® wireless LAN mini PCI communication module providing wireless LAN functions.* [9] *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. The transmission speed over the wireless LAN and the distance over which wireless LAN can reach may vary depending on surrounding electromagnetic environment, obstacles, access point design and configuration, and client design and software/hardware configurations. The actual transmission speed will be lower than the theoretical maximum speed. To use the Atheros SuperAG™ or SuperG™ wireless function, if available, your client and access point must support the corresponding feature. Performance of these functions may vary depending on the format of data transmitted.

NOTE Toshiba recommends that Wi-Fi options be factory-installed at the time of order.

Legal Footnotes

1. **Product Series**

   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, visit Toshiba's Web site at pcsupport.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 pcsupport.toshiba.com.

2. **Processor (Central Processing Unit)**

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

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

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

   Under some conditions, your computer product may automatically shut-down. This is a normal protective feature designed to reduce the risk of lost data or damage to the product when used outside recommended conditions. To avoid risk of lost data, always make back-up copies of data by periodically storing it on an external storage medium. Use your computer product only under recommended conditions. Read additional restrictions under “Environmental Conditions” in your product “Detailed Specs.” Contact Toshiba Technical Service and Support for more information.

3. **Graphics (Graphics Processing Unit)**

   GPU performance may vary depending on product model, design configuration, applications, power management settings and features utilized. GPU performance is only optimized when operating in AC power mode and may decrease considerably when operating in battery power mode.

4. **Battery Life**

   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. Published battery life numbers are achieved on select models and configurations tested by Toshiba at the time of publication. See "Detailed Specs" for specific battery measurement test. Recharge time varies depending on usage. Battery may not charge while 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 purchase a new battery pack, see the accessories information that shipped with your computer or visit the Toshiba web site at www.accessories.toshiba.com.

5. **Hard Disk Drive (HDD) Capacity**

   1 Gigabyte (GB) means 1000 x 1000 x 1000 = 1,000,000,000 bytes using powers of 10. The computer operating system, however, reports storage capacity using powers of 2 for the definition of 1 GB = 1024 x 1024 x 1024 = 1,073,741,824 bytes, and therefore may show less storage capacity. Available storage capacity will also be less if the product includes one or more pre-installed operating systems, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

6. **Memory (Main System)**

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

7. **Display**

   Small bright dots may appear on your screen display when you turn on your PC. 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.

8. **Modem Speed**

   Due to FCC limitations, speeds of 53 kbps are the maximum permissible rates during downloads. Actual data transmission speeds will vary depending on line conditions.

9. Wireless

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. The transmission speed over the wireless LAN and the distance over which wireless LAN can reach may vary depending on surrounding electromagnetic environment, obstacles, access point design and configuration, and client design and software/hardware configurations. The actual transmission speed will be lower than the theoretical maximum speed. To use the Atheros SuperAG™ or SuperG™ wireless function, if available, your client and access point must support the corresponding feature. Performance of these functions may vary depending on the format of data transmitted.

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