TOSHIBA

Qosmio G10

Portable Personal Computer

User's Manual

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TOSHIBA Qosmio G10 Portable Personal Computer User's Manual

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FCC information

Product Name : *Qosmio G10*

Model number : *PQG10*

FCC notice "Declaration of Conformity Information"

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

■ Reorient or relocate the receiving antenna.

■ Increase the separation between the equipment and receiver.

■ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

■ Consult the dealer or an experienced radio/TV technician for help.

Only peripherals complying with the FCC class B limits may be attached to this equipment. Operation with non-compliant peripherals or peripherals not recommended by TOSHIBA is likely to result in interference to radio and TV reception. Shielded cables must be used between the external devices and the computer's external monitor port, USB port, IEEE1394 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.

FCC conditions

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

1. This device may not cause harmful interference.

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

Contact

Address: TOSHIBA America Information Systems, Inc.

9740 Irvine Boulevard

Irvine, California 92618-1697

Telephone: (949) 583-3000

EU Declaration of Conformity

C E

TOSHIBA declares, that the product: PQG10* conforms to the following Standards:

Supplementary
Information:

"The product complies with the requirements of the Low Voltage Directive 73/23/EEC, the EMC Directive 89/336/EEC and/or the R&TTE Directive 1999/05/EEC."

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

VCCI Class B Information

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

Harmonic Information

この製品はJIS C 61000-3-2適合品です。
：JIS C 6100-3-2適合品とは、日本工業規格「電磁両立性－第3－2部：限度値－高調波電流発生限度値（1相当たりの入力電流が20A以下の機器）」に基づき、商用電力系統の高調波環境目標レベルに適合して設計・製造した製品です。

Modem warning notice

Conformity Statement

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

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

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

Network Compatibility Statement

This product is designed to work with, and is compatible with the following networks. It has been tested to and found to conform with the additional requirements conditional in EG 201 121.

Germany	ATAAB AN005,AN006,AN007,AN009,AN010 and DE03,04,05,08,09,12,14,17
Greece	ATAAB AN005,AN006 and GR01,02,03,04
Portugal	ATAAB AN001,005,006,007,011 and P03,04,08,10
Spain	ATAAB AN005,007,012, and ES01
Switzerland	ATAAB AN002
All other countries/regions	ATAAB AN003,004

Specific switch settings or software setup are required for each network, please refer to the relevant sections of the user guide for more details.

The hookflash (timed break register recall) function is subject to separate national type approvals. It has not been tested for conformity to national type regulations, and no guarantee of successful operation of that specific function on specific national networks can be given.

Japan regulations

Region selection

If you are using the computer in Japan, technical regulations described in the Telecommunications Business Law require that you select the Japan region mode. It is illegal to use the modem in Japan with any other selection.

Redial

Up to two redial attempts can be made. If more than two redial attempts are made, the modem will return `Black Listed`. If you are experiencing problems with the Black Listed code, set the interval between redials at one minute or longer.
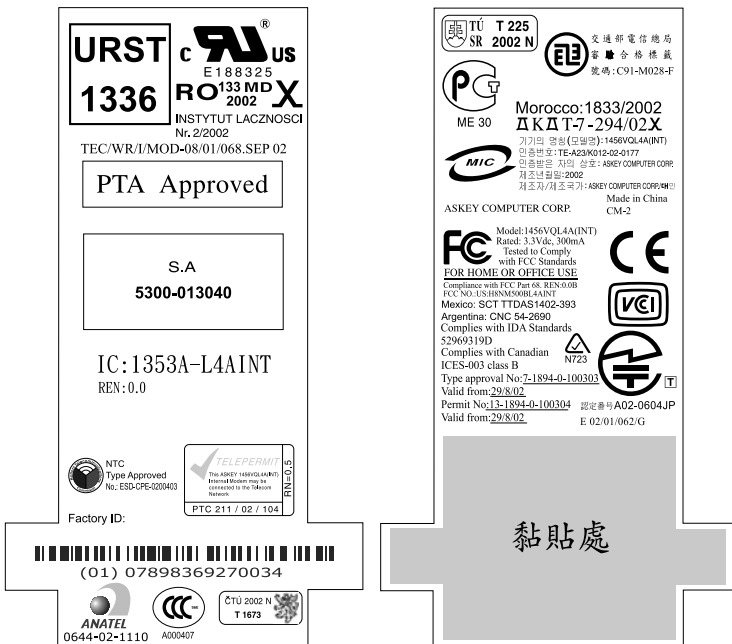Japan's Telecommunications Business Law permits up to two redials on analogue telephones, but the redials must be made within a total of three minutes.
The internal modem is approved by Japan Approvals Institute for Telecommunications Equipment.

認定番号 A02-0604JP

This label is located on the module.

Pursuant to FCC CFR 47, Part 68:

When you are ready to install or use the modem, call your local telephone company and give them the following information:

■ The telephone number of the line to which you will connect the modem
■ The registration number that is located on the device

The FCC registration number of the modem will be found on either the device which is to be installed, or, if already installed, on the bottom of the computer outside of the main system label.

■ The Ringer Equivalence Number (REN) of the modem, which can vary. For the REN of your modem, refer to your modem's label.

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

Type of service

Your modem is designed to be used on standard-device telephone lines. Connection to telephone company-provided coin service (central office implemented systems) is prohibited. Connection to party lines service is subject to state tariffs. If you have any questions about your telephone line, such as how many pieces of equipment you can connect to it, the telephone company will provide this information upon request.

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 any of your telephone equipment is not operating properly, you should immediately remove it from your telephone line, as it may cause harm to the telephone network. If the telephone company notes a problem, they may temporarily discontinue service. When practical, they will notify you in advance of this disconnection. If advance notice is not feasible, you will be notified as soon as possible. When you are notified, you will be given the opportunity to correct the problem and informed of your right to file a complaint with the FCC. In the event repairs are ever needed on your modem, they should be performed by TOSHIBA Corporation or an authorized representative of TOSHIBA Corporation.

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 to send any message via a telephone fax machine 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, other entity or individual sending the message and the telephone number of the sending machine or such business, other entity or individual. In order to program this information into your fax modem, you should complete the setup of your fax software before sending messages.

Instructions for IC CS-03 certified equipment

1. 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.

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 the modem, which can vary. For the REN of your modem, refer to your modem's label.

> *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.
The IC registration number of the modem is shown below.

Canada: 1353A-L4AINT

Notes for Users in Australia and New Zealand

Modem warning notice for Australia

Modems connected to the Australian telecoms network must have a valid Austel permit. This modem has been designed to specifically configure to ensure compliance with Austel standards when the country/region selection is set to Australia. The use of other country/region setting while the modem is attached to the Australian PSTN would result in you modem being operated in a non-compliant manner. To verify that the country/region is correctly set, enter the command ATI which displays the currently active setting.

To set the country/region permanently to Australia, enter the following command sequence:

        AT%TE=1
        ATS133=1
        AT&F
        AT&W
        AT%TE=0
        ATZ

Failure to set the modem to the Australia country/region setting as shown above will result in the modem being operated in a non-compliant manner. Consequently, there would be no permit in force for this equipment and the Telecoms Act 1991 prescribes a penalty of $12,000 for the connection of non-permitted equipment.

Notes for use of this device in New Zealand

■ The grant of a Telepermit for a device in no way indicates Telecom acceptance of responsibility for the correct operation of that device under all operating conditions. In particular the higher speeds at which this modem is capable of operating depend on a specific network implementation which is only one of many ways of delivering high quality voice telephony to customers. Failure to operate should not be reported as a fault to Telecom.

■ In addition to satisfactory line conditions a modem can only work properly if:

   ■ it is compatible with the modem at the other end of the call and.

   ■ the application using the modem is compatible with the application at the other end of the call - e.g., accessing the Internet requires suitable software in addition to a modem.

■ This equipment shall not be used in any manner which could constitute a nuisance to other Telecom customers.

■ Some parameters required for compliance with Telecom's PTC Specifications are dependent on the equipment (PC) associated with this modem. The associated equipment shall be set to operate within the following limits for compliance with Telecom Specifications:

   ■ There shall be no more than 10 call attempts to the same number within any 30 minute period for any single manual call initiation, and

   ■ The equipment shall go on-hook for a period of not less than 30 seconds between the end of one attempt and the beginning of the next.

   ■ Automatic calls to different numbers shall be not less than 5 seconds apart.

■ Immediately disconnect this equipment should it become physically damaged, and arrange for its disposal or repair.

■ The correct settings for use with this modem in New Zealand are as follows:

   ATB0 (CCITT operation)

   AT&G2 (1800 Hz guard tone)

   AT&P1 (Decadic dialing make-break ratio =33%/67%)

   ATS0=0 (not auto answer)

   ATS6=4 (Blind dial delay)

   ATS7=less than 90 (Time to wait to carrier after dialing)

   ATS10=less than 150 (loss of carrier to hangup delay, factory default of 15 recommended)

   ATS11=90 (DTMF dialing on/off duration=90 ms)

   ATX2 (Dial tone detect, but not (U.S.A.) call progress detect)

■ When used in the Auto Answer mode, the S0 register must be set with a value of 3 or 4. This ensures:

■ a person calling your modem will hear a short burst of ringing before the modem answers. This confirms that the call has been successfully switched through the network.

■ caller identification information (which occurs between the first and second ring cadences) is not destroyed.

■ The preferred method of dialing is to use DTMF tones (ATDT...) as this is faster and more reliable than pulse (decadic) dialing. If for some reason you must use decadic dialing, your communications program must be set up to record numbers using the following translation table as this modem does not implement the New Zealand "Reverse Dialing" standard.

Number to be dialed: 0 1 2 3 4 5 6 7 8 9

Number to program into computer: 0 9 8 7 6 5 4 3 2 1

Note that where DTMF dialing is used, the numbers should be

entered normally.

■ The transmit level from this device is set at a fixed level and because of this there may be circumstances where the performance is less than optimal. Before reporting such occurrences as faults, please check the line with a standard Telepermitted telephone, and only report a fault if the phone performance is impaired.

■ It is recommended that this equipment be disconnected from the Telecom line during electrical storms.

■ When relocating the equipment, always disconnect the Telecom line connection before the power connection, and reconnect the power first.

■ This equipment may not be compatible with Telecom Distinctive Alert cadences and services such as FaxAbility.

NOTE THAT FAULT CALLOUTS CAUSED BY ANY OF THE ABOVE CAUSES MAY INCUR A CHARGE FROM TELECOM

General conditions

As required by PTC 100, please ensure that this office is advised of any changes to the specifications of these products which might affect compliance with the relevant PTC Specifications.

The grant of this Telepermit is specific to the above products with the marketing description as stated on the Telepermit label artwork. The Telepermit may not be assigned to other parties or other products without Telecom approval.

A Telepermit artwork for each device is included from which you may prepare any number of Telepermit labels subject to the general instructions on format, size and color on the attached sheet.

The Telepermit label must be displayed on the product at all times as proof to purchasers and service personnel that the product is able to be legitimately connected to the Telecom network.

The Telepermit label may also be shown on the packaging of the product and in the sales literature, as required in PTC 100.

The charge for a Telepermit assessment is $337.50. An additional charge of $337.50 is payable where an assessment is based on reports against non-Telecom New Zealand Specifications. $112.50 is charged for each variation when submitted at the same time as the original.

An invoice for $NZ1237.50 will be sent under separate cover.

Optical disc drive safety instructions

Be sure to check the international precautions at the end of this section.
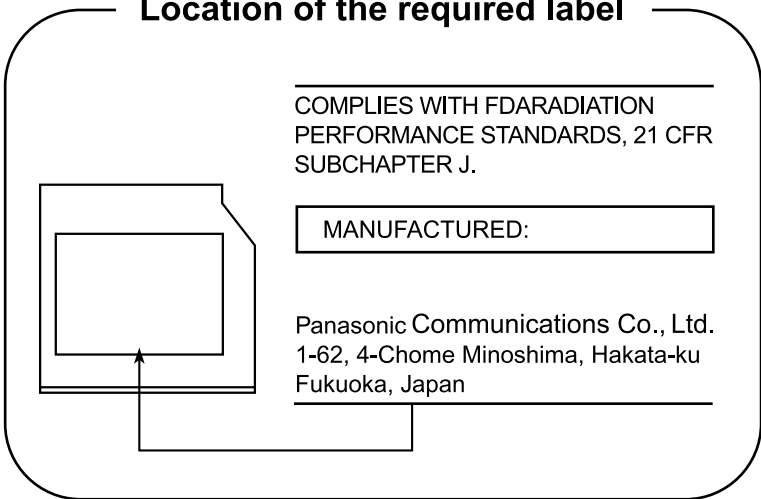
Panasonic

DVD-ROM&CD-R/RW UJDA760

■ *The DVD-ROM&CD-R/RW drive employs a laser system. To ensure proper use of this product, please read this instruction manual carefully and retain for future reference. Should the unit ever require maintenance, contact an authorized service location.*

■ *Use of controls, adjustments or the performance of procedures other than those specified may result in hazardous radiation exposure.*

■ *To prevent direct exposure to the laser beam, do not try to open the enclosure.*
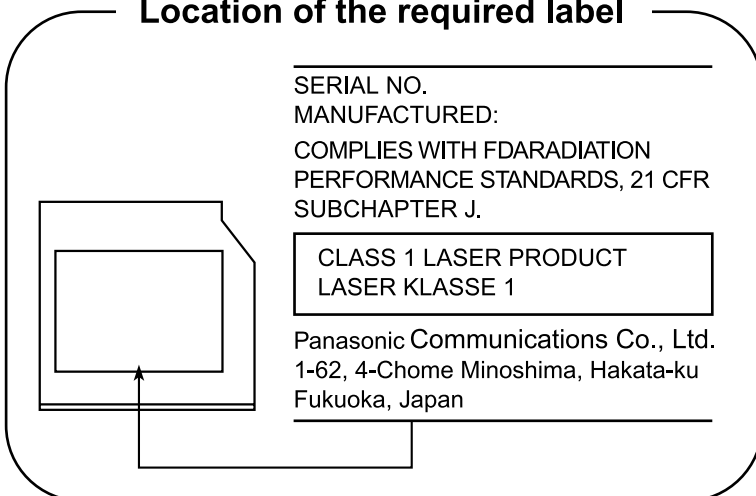
Location of the required label

COMPLIES WITH FDARADIATION
PERFORMANCE STANDARDS, 21 CFR
SUBCHAPTER J.

MANUFACTURED:

Panasonic Communications Co., Ltd.
1-62, 4-Chome Minoshima, Hakata-ku
Fukuoka, Japan

DVD Super Multi with Double Layer Recording UJ-831

■ *The DVD Super Multi drive with Double Layer Recording model employs a laser system. To ensure proper use of this product, please read this instruction manual carefully and retain for future reference. Should the unit ever require maintenance, contact an authorized service location.*

■ *Use of controls, adjustments or the performance of procedures other than those specified may result in hazardous radiation exposure.*

■ *To prevent direct exposure to the laser beam, do not try to open the enclosure.*
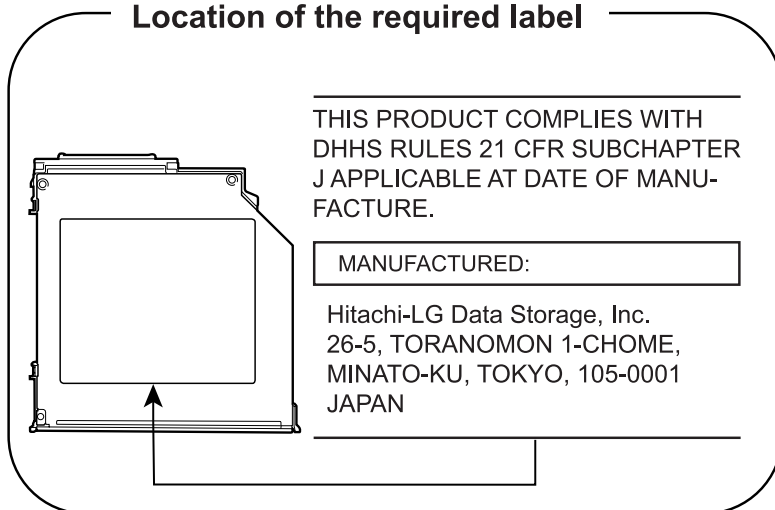
Location of the required label

SERIAL NO.
MANUFACTURED:

COMPLIES WITH FDARADIATION PERFORMANCE STANDARDS, 21 CFR SUBCHAPTER J.

CLASS 1 LASER PRODUCT
LASER KLASSE 1

Panasonic Communications Co., Ltd.
1-62, 4-Chome Minoshima, Hakata-ku
Fukuoka, Japan
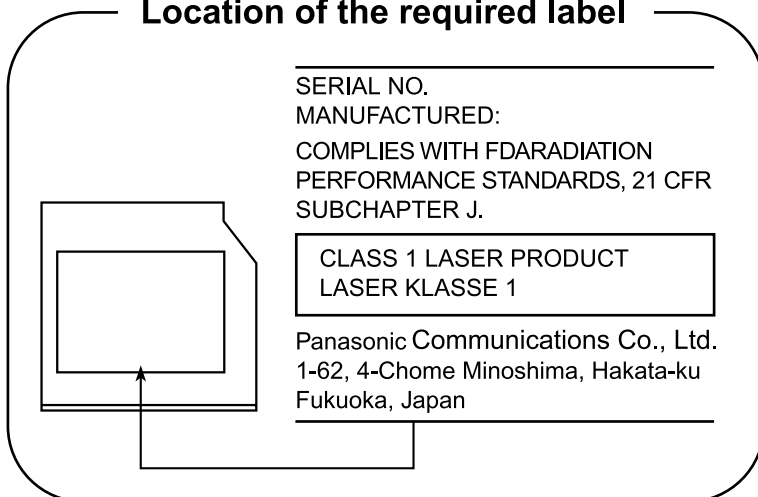
DVD Super Multi UJ-830, UJ-820

■ *The DVD Super Multi drive employs a laser system. To ensure proper use of this product, please read this instruction manual carefully and retain for future reference. Should the unit ever require maintenance, contact an authorized service location.*

■ *Use of controls, adjustments or the performance of procedures other than those specified may result in hazardous radiation exposure.*

■ *To prevent direct exposure to the laser beam, do not try to open the enclosure.*

Location of the required label

SERIAL NO.
MANUFACTURED:

COMPLIES WITH FDARADIATION PERFORMANCE STANDARDS, 21 CFR SUBCHAPTER J.

CLASS 1 LASER PRODUCT
LASER KLASSE 1

Panasonic Communications Co., Ltd.
1-62, 4-Chome Minoshima, Hakata-ku
Fukuoka, Japan

HITACHI LG

DVD Super Multi with Double Layer Recording GSA-4080N

- *The DVD Super Multi drive with Double Layer Recording model employs a laser system. To ensure proper use of this product, please read this instruction manual carefully and retain for future reference. Should the unit ever require maintenance, contact an authorized service location.*
- *Use of controls, adjustments or the performance of procedures other than those specified may result in hazardous radiation exposure.*
- *To prevent direct exposure to the laser beam, do not try to open the enclosure.*

Location of the required label

THIS PRODUCT COMPLIES WITH DHHS RULES 21 CFR SUBCHAPTER J APPLICABLE AT DATE OF MANU-FACTURE.

MANUFACTURED:

Hitachi-LG Data Storage, Inc.
26-5, TORANOMON 1-CHOME, MINATO-KU, TOKYO, 105-0001 JAPAN

TEAC

DVD-ROM&CD-R/RW DW-224E-B

⚠️
- *The DVD-ROM&CD-R/RW drive employs a laser system. To ensure proper use of this product, please read this instruction manual carefully and retain for future reference. Should the unit ever require maintenance, contact an authorized service location.*
- *Use of controls, adjustments or the performance of procedures other than those specified may result in hazardous radiation exposure.*
- *To prevent direct exposure to the laser beam, do not try to open the enclosure.*

Location of the required label
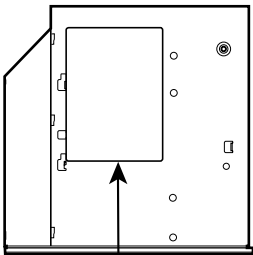
THIS PRODUCT COMPLIES WITH DHHS RULES 21 CFR CHAPTER 1, SUBCHAPTER J APPLICABLE AT DATE OF MANUFACTURE.

MANUFACTURED:

Manufactured by
TEAC Corporation
3-7-3 Naka-cho, Musashino-shi,
Tokyo, Japan

International precautions

CLASS 1 LASER PRODUCT
LASER KLASSE 1 PRODUKT
TO EN 60825-1
クラス 1 レーザ 製品

CAUTION: This appliance contains a laser system and is classified as a "CLASS 1 LASER PRODUCT." To use this model properly, read the instruction manual carefully and keep this manual for your future reference. In case of any trouble with this model, please contact your nearest "AUTHORIZED service station." To prevent direct exposure to the laser beam, do not try to open the enclosure.

CLASS 1 LASER PRODUCT
LASERSCHUTZKLASSE 1
PRODUKT
TOEN60825

VORSICHT: Dieses Gerät enthält ein Laser-System und ist als "LASERSCHUTZKLASSE 1 PRODUKT" klassifiziert. Für den richtigen Gebrauch dieses Modells lesen Sie bitte die Bedienungsanleitung sorgfältig durch und bewahren diese bitte als Referenz auf. Falls Probleme mit diesem Modell auftreten, benachrichtigen Sie bitte die nächste "autorisierte Service-Vertretung". Um einen direkten Kontakt mit dem Laserstrahl zu vermeiden darf das Gerät nicht geöffnet werden.

ADVERSEL:USYNLIG
LASERSTRÅLING VED
ÅBNING, NÅR
SIKKERHEDSAF-BRYDER
ER UDE AF FUNKTION.
UNDGÅ UDSÆTTSLSE
FOR STRÅLING

ADVARSEL: Denne mærking er anbragt udvendigt på apparatet og indikerer, at apparatet arbejder med laserstråler af klasse 1, hviket betyder, at der anvendes laserstrlier af svageste klasse, og at man ikke på apparatets yderside kan bilve udsat for utilladellg kraftig stråling.

APPARATET BOR KUN ÅBNES AF FAGFOLK MED SÆRLIGT KENDSKAB TIL APPARATER MED LASERSTRÅLER!

Indvendigt i apparatet er anbragt den her gengivne advarselsmækning, som advarer imod at foretage sådanne indgreb i apparatet, at man kan komme til at udsatte sig for laserstråling.

OBS! Apparaten innehåller laserkomponent som avger laserstråining överstigande gränsen för laserklass 1.

VAROITUS. Suojakoteloa si saa avata. Laite sisältää laserdiodin, joka lähetää näkymätöntä silmilie vaarallista lasersäteilyä.

CAUTION: USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED IN THE OWNER'S MANUAL MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

VORSICHT: DIE VERWENDUNG VON ANDEREN STEURUNGEN ODER EINSTELLUNGEN ODER DAS DURCHFÜHREN VON ANDEREN VORGÄNGEN ALS IN DER BEDIENUNGSANLEITUNG BESCHRIEBEN KÖNNEN GEFÄHRLICHE STRAHLENEXPOSITIONEN ZUR FOLGE HABEN.

Table of Contents

Preface

Congratulations on your purchase of the Qosmio G10 computer. This powerful notebook computer provides excellent expansion capability, including multimedia devices, and it is designed to provide years of reliable, high-performance computing.

This computer family includes a model with a built-in TV tuner. When you wish to display a TV picture or play CD/DVD with this model before Windows starts, press the TV button or the CD/DVD button (or the same buttons on the remote control) respectively during Windows startup. When Windows is running, you can display or record a TV picture using WinDVR.

This manual tells how to set up and begin using your Qosmio G10 computer. It also provides detailed information on configuring your computer, basic operations and care, using optional devices and troubleshooting.

If you are a new user of computers or if you're new to portable computing, first read over the *Introduction* and *The Grand Tour* chapters to familiarize yourself with the computer's features, components and accessory devices. Then read *Getting Started* for step-by-step instructions on setting up your computer.

If you are an experienced computer user, please continue reading the preface to learn how this manual is organized, then become acquainted with this manual by browsing through its pages. Be sure to look over the *Special features* section of the Introduction, to learn about features that are uncommon or unique to the computers and carefully read *HW Setup*.

Manual contents

This manual is composed of the following ten chapters, nine appendixes, a glossary and an index.

Chapter 1, *Introduction*, is an overview of the computer's features, capabilities, and options.

Chapter 2, *The Grand Tour*, identifies the components of the computer and briefly explains how they function.

Chapter 3, *Getting Started*, provides a quick overview of how to begin operating your computer and gives tips on safety and designing your work area.

Chapter 4, *Operating Basics*, includes instructions on using the following devices: Touch Pad, USB floppy disk drive, optical media drives, TV Tuner, Sound System, Modem, Wireless communication features, LAN. It also provides tips on care of the computer, floppy disks and CD/DVDs.

Chapter 5, *The Keyboard*, describes special keyboard functions including the keypad overlay and hot keys.

Chapter 6, *Power,* gives details on the computer's power resources and battery save modes.

Chapter 7, *HW Setup,* explains how to configure the computer using the HW Setup program.

Chapter 8, *Using the Remote Controller, AV Buttons and QosmioPlayer*, This chapter explains how to use the Remote Controller on Windows XP Media Center Edition and Windows XP Home Edition models as well as provides information about QosmioPlayer.

Chapter 9, *Optional Devices*, describes the optional hardware available.

Chapter 10, *Troubleshooting*, provides helpful information on how to perform some diagnostic tests, and suggests courses of action if the computer doesn't seem to be working properly.

The *Appendixes* provide technical information about your computer.

The *Glossary* defines general computer terminology and includes a list of acronyms used in the text.

The *Index* quickly directs you to the information contained in this manual.

Conventions

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

Abbreviations

On first appearance, and whenever necessary for clarity, abbreviations are enclosed in parentheses following their definition. For example: Read Only Memory (ROM). Acronyms are also defined in the Glossary.

Icons

Icons identify ports, dials, and other parts of your computer. The indicator panel also uses icons to identify the components it is providing information on.

Keys

The keyboard keys are used in the text to describe many computer operations. A distinctive typeface identifies the key top symbols as they appear on the keyboard. For example, **Enter** identifies the Enter key.

Key operation

Some operations require you to simultaneously use two or more keys. We identify such operations by the key top symbols separated by a plus sign (**+**). For example, **Ctrl + C** means you must hold down **Ctrl** and at the same time press **C**. If three keys are used, hold down the first two and at the same time press the third.

ABC   When procedures require an action such as clicking an icon or entering text, the icon's name or the text you are to type in is represented in the type face you see to the left.

Display

ABC   Names of windows or icons or text generated by the computer that appears on its display screen is presented in the type face you see to the left.

Messages

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

Pay attention! A caution informs you that improper use of equipment or failure to follow instructions may cause data loss or damage your equipment.

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

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

General Precautions

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

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

Stress injury

Carefully read the *Instruction Manual for Safety & Comfort*. It contains information on prevention of stress injuries to your hands and wrists than can be caused by extensive keyboard use. Chapter 3, *Getting Started*, also includes information on workspace design, posture and lighting that can help reduce physical stress.

Heat injury

- Avoid prolonged physical contact with the computer. If the computer is used for long periods, its surface can become very warm. While the temperature will not feel hot to the touch, if you maintain physical contact with the computer for a long time (if you rest the computer on your lap, or if you keep your hands on the palm rest, for example) your skin might suffer low-heat injury.

- If the computer has been used for a long time, avoid direct contact with the metal plate supporting the I/O ports. It can become hot.

- The surface of the AC adaptor can become hot when in use. This condition does not indicate a malfunction. If you need to transport the AC adaptor, disconnect it and let it cool before moving it.

- Do not lay the AC adaptor on a material that is sensitive to heat. The material could be damaged.

Pressure or impact damage

Do not apply heavy pressure to the computer or subject it to strong impact. Excessive pressure or impact can cause damage to computer components or otherwise cause malfunctions.

PC card overheating

Some PC cards can become hot with prolonged use. Overheating of a PC card can result in errors or instability in the PC card operation. Also be careful when you remove a PC card that has been used for a long time.

Mobile phone

Use of mobile phones can interfere with the audio system. Computer operation is not impaired but is recommended that a distance of 30 cm be maintained between the computer and a mobile phone in use.

Disclaimers

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

■ TV Tuner will function only in the country where the computer was purchased.

■ All images are simulated for purposes of illustration.

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

■ Used when referencing QosmioPlayer

　■ The Qosmio™Player is not a Windows based application. When using the Qosmio™Player, the Audio / Video recording feature will not function.

■ Used when referencing battery life

　■ The Qosmio™Player is not a Windows based application. Battery life will be less than when using similar applications in the Windows Operating System.

■ Central Processing Unit ("CPU") Performance Disclaimer.

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

　■ use of certain external peripheral products

　■ use of battery power instead of AC power

　■ use of certain multimedia, computer generated graphics or video applications

　■ use of standard telephone lines or low speed network connections

　■ use of complex modeling software, such as high end computer aided design applications

　■ use of several applications or functionalities simultaneously

　■ use of computer in areas with low air pressure (high altitude >1,000 meters or >3,280 feet above sea level)

■ use of computer at temperatures outside the range of 5°C to 30°C (41°F to 86°F) or >25°C (77°F) at high altitude (all temperature references are approximate and may vary depending on the specific computer model - please refer to your Resource Guide or 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. For optimum performance, use your computer product only under recommended conditions. Read additional restrictions under "Environmental Conditions" in your product Resource Guide. Contact TOSHIBA Technical Service and Support for more information.

■ Your LCD display has a brightness approaching that of a TV device. We recommend that you adjust the brightness of your LCD to a comfortable level to prevent possible strain on your eyes.

■ Copy protection technology included in certain media may prevent or limit recording or viewing of the media.

■ SRS audio enhancements are available in the Microsoft Windows operating system only.

■ If you have to operate your PC during a thunderstorm and are connecting the TV tuner to an outside antenna, you should operate your PC using AC power mode. The AC adaptor offers some protection against (but does not entirely prevent) possible electric shock caused by lightning. For complete protection, do not operate your PC during a thunderstorm.

■ 1 Gigabyte (GB) means 1000 × 1000 × 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 × 1024 × 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 the Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

Chapter 1

Introduction

This chapter provides an equipment checklist, and it identifies the computer's features, options and accessories.

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

Equipment checklist

Carefully unpack your computer. Save the box and packing materials for future use.

Hardware

Check to make sure you have all the following items:

■ Qosmio G10 Portable Personal Computer
■ AC adaptor and power cord
■ USB floppy disk drive (Provided with some models)
■ Modular cable
■ Monitor-in cable
■ Remote Controller (Provided with some models)
■ Remote control receiver (Windows XP Media Center Edition model only)
■ Infrared transmitter cable (Windows XP Media Center Edition model only)
■ Antenna adaptor (Provided with some models)

Software

Microsoft®Windows XP Home Edition

- The following software is preinstalled:

  - Microsoft® Windows XP Home Edition
  - TOSHIBA Utilities
  - DVD Video Player
  - TOSHIBA Power Saver
  - TOSHIBA ConfigFree
  - TOSHIBA Console
  - TOSHIBA Controls
  - TOSHIBA PC Diagnostic Tool
  - TOSHIBA Touch and Launch
  - TOSHIBA TouchPad On/Off Utility
  - TOSHIBA Zooming Utility
  - TOSHIBA Picture Enhancement Utility
  - InterVideo WinDVR (Can be used only for TV tuner models)
  - TOSHIBA SD Memory Card Format
  - TOSHIBA Acoustic Silencer
  - TOSHIBA Audio Effect
  - TOSHIBA Hotkey Utility for Display Devices
  - TOSHIBA Display Device Change Utility
  - TOSHIBA Password Utility
  - Wireless Hotkey
  - Online manual

- Product Recovery Media

Microsoft®Windows XP Media Center Edition

- ■ The following software is preinstalled:
    - ■ Microsoft® Windows XP Media Center Edition
    - ■ TOSHIBA Utilities
    - ■ DVD Video Player
    - ■ TOSHIBA Power Saver
    - ■ TOSHIBA Console
    - ■ TOSHIBA Controls
    - ■ TOSHIBA PC Diagnostic Tool
    - ■ TOSHIBA Touch and Launch
    - ■ TOSHIBA TouchPad On/Off Utility
    - ■ TOSHIBA Zooming Utility
    - ■ TOSHIBA Picture Enhancement Utility
    - ■ TOSHIBA ConfigFree
    - ■ TOSHIBA SD Memory Card Format
    - ■ TOSHIBA Acoustic Silencer
    - ■ TOSHIBA Audio Effect
    - ■ TOSHIBA Hotkey Utility for Display Devices
    - ■ TOSHIBA Display Device Change Utility
    - ■ TOSHIBA Password Utility
    - ■ Wireless Hotkey
    - ■ Online manual
- ■ Product Recovery Media

Documentation

- ■ *Qosmio G10 Portable Personal Computer User's Manual*
- ■ Microsoft Windows XP manual package
- ■ *Instruction Manual for Safety & Comfort*
- ■ End User License Agreement

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

Features

The computer uses TOSHIBA's advanced Large Scale Integration (LSI), Complementary Metal-Oxide Semiconductor (CMOS) technology extensively to provide compact size, minimum weight, low power usage, and high reliability. This computer incorporates the following features and benefits:

Processor

Built-in	The computer is equipped with an Intel® processor.
	Intel® Pentium® M processor, which incorporates a 2MB level 2 cache memory.
	It also supports Enhanced Intel® SpeedStep™ technology.

Some models of the computers carry Intel® Centrino™ technology, which is based on three separate components of Intel® Pentium® M, Intel® PRO/ Wireless Network Connection, and Intel® 855 Chipset Family. Intel® 855 Chipset Family is a model by whom Intel® Pentium® M processor is installed.

Memory

Slots	The slot accepts a 256, 512 or 1,024 MB memory modules can be installed in the two memory slots for a maximum of 2,048 MB system memory.
Video RAM	64 MB/128 MB of RAM is provided for video display.

Power

Battery pack	The computer is powered by one rechargeable lithium-ion battery pack.
RTC battery	The internal RTC battery backs up the Real Time Clock and calendar.
AC adaptor	The AC adaptor provides power to the system and recharges the batteries when they are low. It comes with a detachable power cord.
	Because it is universal, it can receive a range of AC voltage from 100 to 240 volts; however, the output current varies among different models. Using the wrong model can damage your computer. Refer to the *AC adaptor* section in Chapter 2, The Grand Tour.

Disks

Hard disk drive	Available in four sizes.
	■ 40.0 billion bytes (37.26GB)
	■ 60.0 billion bytes (55.88 GB)
	■ 80.0 billion bytes (74.52 GB)
	■ 100.0 billion bytes (93.16GB)
	Two types of models are available: one with one hard disk drive and the other with two hard disk drives.
USB floppy disk drive (Optional)	Accommodates either 3 1/2" 1.44-megabyte or 720-kilobyte floppy disks. It connects to a USB port.

Computers in this series can be configured with an optical media drive. The available optical media drives are described below.

DVD-ROM&CD-R/RW drive (UJDA760, DW-224E-B)	Some models are equipped with a full-size, DVD-ROM&CD-R/RW drive module that lets you run CD/DVDs without using an adaptor. It reads DVD-ROMs at maximum 8 speed and CD-ROMs at maximum 24 speed. It writes CD-R at up to 24 speed and CD-RW at up to 24 speed. The drive supports the following format:
	■ DVD-ROM
	■ DVD-Video
	■ CD-DA
	■ CD-Text
	■ Photo CD™ (single/multi-session)
	■ CD-ROM Mode 1, Mode 2
	■ CD-ROM XA Mode 2 (Form1, Form2)
	■ Enhanced CD (CD-EXTRA)
	■ Addressing Method 2
	■ CD-R
	■ CD-RW

DVD Super Multi drive (UJ-830)	Some models are equipped with a full-size DVD Super Multi drive module that lets you record data to rewritable CD/DVDs as well as run either 12cm (4.72") or 8cm (3.15") CD/DVDs without using an adaptor. It reads DVD-ROMs at maximum 8 speed and CD-ROMs at maximum 24 speed. It writes CD-R at up to 24 speed, CD-RW at up to 10 speed, DVD-R and DVD+R at maximum 8 speed, DVD-RW and DVD+RW at maximum 4 speed, DVD-RAM at maximum 3 speed. This drive supports the following formats in addition to DVD-ROM&CD-R/RW drive. ■ DVD-R ■ DVD-RW ■ DVD+R ■ DVD+RW ■ DVD-RAM
DVD Super Multi drive (UJ-820)	Some models are equipped with a full-size DVD Super Multi drive module that lets you record data to rewritable CD/DVDs as well as run either 12cm (4.72") or 8cm (3.15") CD/DVDs without using an adaptor. It reads DVD-ROMs at maximum 8 speed and CD-ROMs at maximum 24 speed. It writes CD-R at up to 16 speed, CD-RW at up to 8 speed, DVD-R at maximum 4 speed, DVD+R and DVD+RW at maximum 2.4 speed, DVD-RW and DVD-RAM at maximum 2 speed. This drive supports the same formats as the DVD Super Multi drive (UJ-830).
DVD Super Multi drive Double Layer (UJ-831, GSA-4080N)	Some models are equipped with a full-size DVD Super Multi drive module that lets you record data to rewritable CD/DVDs as well as run either 12cm (4.72") or 8cm (3.15") CD/DVDs without using an adaptor. It reads DVD-ROMs at maximum 8 speed and CD-ROMs at maximum 24 speed. It writes CD-R at up to 24 speed, CD-RW at up to 10 speed, DVD-R and DVD+R at maximum 8 speed, DVD+R DL at maximum 2.4 speed, DVD-RW and DVD+RW at maximum 4 speed, DVD-RAM at maximum 3 speed. This drive supports the same formats as the DVD Super Multi drive (UJ-830).

Display

The computer's LCD panel supports high-resolution video graphics. The screen can be set at a wide range of viewing angles for maximum comfort and readability.

Built-in	17.0" TFT screen 16 M colors, with a resolution of 1440 horizontal × 900 vertical pixels WXGA+.
Graphics controller	Graphics controller maximizes display performance. Refer to *Display Controller and Modes* section in Appendix B for more information.

Keyboard

Built-in	85 keys or 86 keys, compatible with IBM® enhanced keyboard, embedded numeric overlay, dedicated cursor control, and keys. Refer to Chapter 5, *The Keyboard*, for details.

Pointing Device

Built-in Touch Pad	A Touch Pad, control buttons and scroll button in the palm rest enable control of the on-screen pointer and scrolling of windows.

Ports

External monitor	Analog VGA port supports VESA DDC2B compatible functions.
Universal Serial Bus (USB 2.0)	The computer has Universal Serial Bus ports that comply with the USB 2.0 standard, which enables data transfer speeds 40 times faster than the USB 1.1 standard (The ports also support USB 1.1).
i.LINK™ (IEEE1394)	This port enables high-speed data transfer directly from external devices such as digital video cameras.

Slots

PC card	The PC card slot accommodates a 5 mm Type II card.
Bridge media	This slot lets you insert SD card, Memory Stick (Pro), xD picture card and MultiMediaCard. Refer to Chapter 9, *Optional Devices*.

Multimedia

Sound system	Windows sound system compatible sound system provides internal speakers and microphone as well as jacks for an external microphone and headphone.
Monitor-in port	Used for displaying video from your digital camcorder or video recorder on the internal LCD.
	This port can be used also as line-in port and enables connection of a stereo device for audio input. Refer to the *Monitor-in* section in Chapter 9, Optional Devices.
TV antenna port	Built-in TV Tuner is provided with some models.
	Connect the antenna adaptor to this port to watch TV programs on your computer or record them.
S-Video-in Port	A camcorder or other recording device can be connected to your computer via the S-Video-in cable for importing video data. Connect the cable to this port for this operation. Refer to the *S-Video-in* section in Chapter 9, Optional Devices.
S-Video out port	This S-Video out port lets you transfer NTSC or PAL data to external devices. Refer to *TV* section in Chapter 9, Optional Devices.
D-Video out port	This D-Video out port lets you transfer 525i (480i), 525p (480p), 1125i (1080i) or 750p (720p) data to external devices. Refer to *TV* section in Chapter 9, Optional Devices.
Headphone (S/PDIF) jack	This jack lets you connect digital speakers or a stereo headphone (16 ohm minimum). When you connect a digital speaker or headphones, the internal speaker is automatically disabled.
	This jack can be used also as S/PDIF jack and enables connection of optical digital correspondence apparatus.
Microphone jack	A 3.5 mm mini microphone jack enables connection of a three-conductor mini jack for monaural microphone input.

Built-in TV Tuner	Windows XP Home Edition: Built-in TV Tuner is provided with some models.
	WinDVR allows you to display TV programs on the built-in LCD and record them. It is also possible to edit recorded programs and save on DVD.
	Windows XP Media Center Edition: Media Center is started and My TV is select from a list.
Infrared receiver window	This is a sensor window that receives signals from the Remote Controller which is provided with your computer.
	Not supported by a Windows XP Media Center Edition model.
Remote Controller	Use this device to watch TV or play CD/DVD. Its type and functions may depend on the model of your computer.
Remote control receiver	This is a sensor device that receives signals from the Remote Controller which is provided with your computer. This Remote control receiver is supported only by a Windows XP Media Center Edition model.

Communications

Modem	An internal modem provides capability for data and fax communication. It supports V.90 (V.92). Refer to *V.90* section in Appendix E. The speed of data transfer and fax depends on analog telephone line conditions. It has a modem jack for connecting to a telephone line. It is preinstalled as a standard device in some markets. Both of V.90 and V.92 are supported only in USA, Canada and Australia. Only V.90 is available in other regions.
LAN	The computer has built-in support for Ethernet LAN (10 megabits per second, 10BASE-T) and Fast Ethernet LAN (100 megabits per second, 100BASE-TX).

Wireless LAN	Some computers in this series are equipped with a Wireless LAN mini-PCI card that is compatible with other LAN systems based on Direct Sequence Spread Spectrum/Orthogonal Frequency Division Multiplexing radio technology that complies with the IEEE 802.11 Standard (Revision A, B or G), and Turbo Mode.

- Theoretical maximum speed: 54Mbps (IEEE802.11a, 802.11g)
- Theoretical maximum speed: 11Mbps (IEEE802.11b)
- Theoretical maximum speed: 108Mbps (Turbo Mode; Atheros module type)
- Frequency Channel Selection (5 GHz: Revision A / 2.4 GHz: Revision B/G)
- Roaming over multiple channels
- Card Power Management
- Atheros Super G™ or Super AG™ technology (Atheros module type).
- Wired Equivalent Privacy (WEP) data encryption, based on 152 bit encryption algorithm (Atheros module type).
- Wired Equivalent Privacy (WEP) data encryption, based on 128 bit encryption algorithm (Intel module type).
- Advanced Encryption Standard (AES) data encryption, based on 256 bit encryption algorithm (Atheros module type).

Bluetooth	Some computers in this series are equipped with Bluetooth functions. Bluetooth wireless technology eliminates the need for cables between electronic devices such as computers and printers. Bluetooth provides fast, reliable, and secure wireless communication in a small space.
Wireless communication switch	This switch turns the Wireless LAN and Bluetooth functions on and off.

Security

Security lock slot	Connects an optional security lock to anchor the computer to a desk or other large object.

Special features

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

Hot keys	Key combinations let you quickly change the system configuration directly from the keyboard without running a system configuration program.

The Hot key functions are supported only under Windows, not supported under QosmioPlayer.

Display automatic power off	This feature automatically cuts off power to the internal display when there is no keyboard input for a time specified. Power is restored when any key is pressed. You can specify the time in the *Monitor power off* item of the *Basic Setup* tab in TOSHIBA Power Saver.
HDD automatic power off	This feature automatically cuts off power to the hard disk drive when it is not accessed for a time specified. Power is restored when the hard disk is accessed. You can specify the time in the *HDD power off* item of the *Basic Setup* tab in TOSHIBA Power Saver.
System automatic Standby/Hibernation	This feature automatically shuts down the system in standby mode or Hibernation mode when there is no input or hardware access for a time specified. You can specify the time and select either System Standby or System hibernation in the *System standby and System* item of the *Basic Setup* tab in TOSHIBA Power Saver.
Keypad overlay	A ten-key pad is integrated into the keyboard. Refer to the *Keypad overlay* section in Chapter 5, The Keyboard, for instructions on using the keypad overlay.
Power on password	Two levels of password security, supervisor and user, are available to prevent unauthorized access to your computer.
Instant security	A hot key function blanks the screen and disables the computer providing data security.

Intelligent power supply	A microprocessor in the computer's intelligent power supply detects the battery's charge and calculates the remaining battery capacity. It also protects electronic components from abnormal conditions, such as voltage overload from an AC adaptor. You can monitor remaining battery capacity. Use the *Battery remaining* item in TOSHIBA Power Saver.
Battery save mode	This feature lets you save battery power. You can specify the Power Save Mode in the *Profile* item in TOSHIBA Power Saver.
Panel power on/off	This feature turns power to the computer off when the display panel is closed and turns it back on when the panel is opened. You can specify the setting in the *When I close the lid* item of the *Setup Action* tab in TOSHIBA Power Saver.
Low battery automatic hibernation	When battery power is exhausted to the point that computer operation cannot be continued, the system automatically enters Hibernation and shuts down. You can specify the setting in the *Setup Action* tab in TOSHIBA Power Saver.
Heat dispersal	To protect from overheating, the CPU has an internal temperature sensor. If the computer's internal temperature rises to a certain level, the cooling fan is turned on or the processing speed is lowered. Use the *Cooling Method* item of the *Basic Setup* tab in TOSHIBA Power Saver.

■	Maximum Performance	Turns on fan first, then if necessary lowers CPU processing speed.
■	Performance	Uses a combination of fan and lowering the CPU processing speed.
■	Battery optimized	Lowers the CPU processing speed first, then if necessary turns on the Cooling Method.

Hibernation	This feature lets you turn off the power without exiting from your software. The contents of main memory are saved to the hard disk, when you turn on the power again, you can continue working right where you left off. Refer to the *Turning off the power* section in Chapter 3, Getting Started, for details.
Standby	If you have to interrupt your work, you can turn off the power without exiting from your software. Data is maintained in the computer's main memory. When you turn on the power again, you can continue working right where you left off.

Utilities

This section describes preinstalled utilities and tells how to start them. For details on operations, refer to each utility's online manual, help files or readme.txt files.

TOSHIBA Power Saver	To access this power savings management program, click **Start**, click the **Control Panel**, click **Performance and Maintenance** and select the **TOSHIBA Power Saver** icon.
HW Setup	This program lets you customize your hardware settings according to the way you work with your computer and the peripherals you use. To start the utility, click **Start** and click **Control Panel**. In the Control Panel, select the **TOSHIBA HW Setup** icon.

TOSHIBA Controls	This utility has three sections to let you do the following:
	■ Buttons:
	 ■ TV-Model
	  Assign applications to the REC, Brightness, Monitor-in, TV-out buttons.
	 ■ No TV-Model
	  Assign applications to the TV-out, Brightness, Zoom out, Zoom in buttons.
	■ Media Apps: Set the mode for the Audio/Video control buttons. Select the application for audio and video playback. (It displays only by Windows XP Home Edition.)
	■ TOSHIBA Remote Control: Enable/disable the TOSHIBA Remote Control function. (It displays only by Windows XP Home Edition.)

Fn-esse	This Windows program lets you define your own "shortcut" keys to quickly launch applications and speed your work in Windows. To start the utility, click **Start**, point to **All Programs**, point to **TOSHIBA**, point to **Utilities** and click **Fn-esse**.
DVD Video Player	The DVD Video Player is used to play DVD-Video. It has an on-screen interface and functions. Click **Start**, point to **All Programs**, point to **InterVideo WinDVD**, then click **InterVideo WinDVD**.
TOSHIBA Picture Enhancement Utility	This utility lets you change image quality according to your viewing environment and also lets you select external input settings for Video Camera, Game etc.
TOSHIBA ConfigFree	TOSHIBA ConfigFree is a suite of utilities to allow easy control of communication devices and network connections. TOSHIBA ConfigFree also allows you to find communication problems and create profiles for easy switching between locations and communication networks. To start ConfigFree, click **Start**, point to **All Programs**, point to **TOSHIBA**, point to **Networking** and click **ConfigFree**.
TOSHIBA Console	TOSHIBA Console is a graphical user interface that provides easy access to help and services.
TOSHIBA Zooming Utility	This utility allows you to enlarge or reduce the icon size on the desktop or the application window.
RecordNow! Basic for TOSHIBA	You can create CD/DVDs in several formats including audio CDs that can be played on a standard stereo CD player and data CD/DVDs to store the files and folders on your hard disk drive. This software can be used on a model with DVD-ROM&CD-R/RW drive and DVD Super Multi drive.
DLA for TOSHIBA	DLA (Drive Letter Access) is the packet writing software which provides the function which writes files and/or folders to DVD+RW, DVD-RW or CD-RW disc via a drive letter like a floppy disk or other removable disks.

TOSHIBA PC Diagnostic Tool	TOSHIBA PC Diagnostic Tool displays the basic information on PC, and the test of built-in devices can also be performed. To start TOSHIBA PC Diagnostic Tool, click **Start**, point to **All Programs**, point to **TOSHIBA**, point to **Utility** and click **PC Diagnostic Tool**.
QosmioUI for Hong Kong/Taiwan/ Singapore/Malaysia/ Thai/Indonesia (Only Windows XP Home Edition)	QosmioUI is AV portal on Windows for starting AV application or setting up the state of PC using remote control.
Bluetooth TOSHIBA Stack	This software enables communication between remote Bluetooth devices.

Bluetooth cannot be used in models that do not have a Bluetooth module installed.

TOSHIBA Touch and Launch	TOSHIBA Touch and Launch is a tool that allows you to perform various tasks easily using Touch pad. TOSHIBA Touch and Launch is useful in the following conditions.
	■ To open a file located on the desktop whose icon is obscured by a window.
	■ To open a page contained in the Internet Explorer Favorites menu.
	■ To display the list of currently open windows and change the active window.
	Also TOSHIBA Touch and Launch provides the following functions by customizing the settings.
	■ To open a file stored in a predefined folder.
	■ To quickly launch your frequently used applications which have been registered.
TOSHIBA TouchPad On/Off Utility	This utility has the following function. To disable/ enable the Touch Pad with **Fn** + **F9** key.
TOSHIBA Password Utility	This utility lets you set a password that restricts access to the computer.

Options

You can add a number of options to make your computer even more powerful and convenient to use. The following options are available:

Memory expansion	A 256, 512 or 1,024 MB memory module (PC2700 DDR) can easily be installed in the computer.
Battery pack	An additional battery pack can be purchased from your TOSHIBA dealer. Use it as a spare or replacement.
AC adaptor	If you use your computer at more than one site frequently, it may be convenient to purchase an additional AC adaptor for each site so you will not have to carry the adaptor with you.
Security lock	A slot is available to attach a security cable to the computer to deter theft.
USB floppy disk Kit	USB floppy disk drive accommodates 1.44-megabyte or 720-kilobyte floppy disk. It connects to a USB port (You cannot format 720-kilobyte floppy disks on Windows XP, but you can use previously formatted disks).
Battery charger	The battery charger lets you charge extra batteries outside the computer.

Chapter 2

The Grand Tour

This chapter identifies the various components of your computer. Become familiar with each component before you operate the computer.

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

Front with the display closed

Figure 2-1 shows the computer's front with its display panel in the closed position.

Indicators (1)

Display latch

Infrared receiver window (Provided with some models)

Microphone
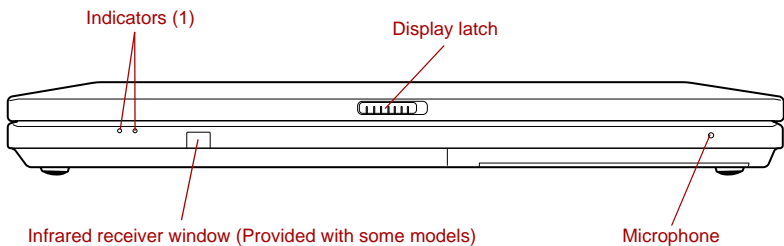
Figure 2-1 Front of the computer with display closed

Indicators (1)	Two LEDs let you monitor the DC IN and power status. Details are in the *Indicators* section.
Infrared receiver window	Infrared receiver window is provided with some models. This is a sensor window that receives signals from the remote control which is provided with your computer. Not supported by a Windows XP Media Center Edition model.

Display latch	This latch secures the LCD panel in its closed position. Slide the latch to open the display.
Microphone	Microphone (built-in) lets you record sounds into your applications. Refer to *Sound System* Section in Chapter 4, Operating Basics.

Left side

Figure 2-2 shows the computer's left side.
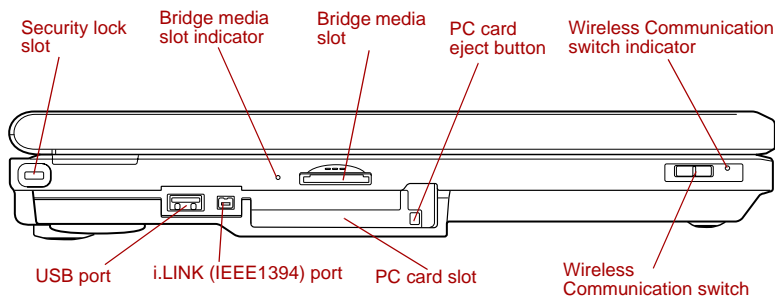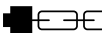
Figure 2-2 The left side of the computer

	Security lock slot	A security cable attaches to this slot. The optional security cable anchors your computer to a desk or other large object to deter theft.
On Off	**Wireless Communication switch**	*Bluetooth is provided with some models. This switch turns the Wireless LAN and Bluetooth functions on and off.

Set the switch to off in airplanes and hospitals. Check the wireless communication indicator. It will stop glowing when the wireless communication function is off.

	Wireless Communication switch indicator	*Bluetooth is provided with some models. The **Wireless Communication switch** indicator glows orange when the Wireless LAN and Bluetooth function is on.
	Universal Serial Bus (USB 2.0) port	The Universal Serial Bus port is on the left side. The port comply with the USB 2.0 standard, which enables data transfer speeds 40 times faster than the USB 1.1 standard (The ports also support USB 1.1).

Keep foreign objects out of the USB connectors. A pin or similar object can damage the computer's circuitry.

Operation of all functions of all USB devices has not been confirmed. Some functions might not execute properly.

⚡ 🔶 𝒙𝑫	**Bridge media slot**	This slot lets you insert SD card, Memory Stick (Pro), xD picture card and MultiMediaCard. Refer to Chapter 9, *Optional Devices*.

Keep foreign objects out of the Bridge media slot. A pin or similar object can damage the computer's circuitry.

	Bridge media slot indicator	The Bridge media slot indicator glows green when the computer is accessing the Bridge media slot.
S400	**i.LINK (IEEE1394) port**	Connect an external device, such as a digital video camera to this port for high-speed data transfer.
CB	**PC card slot**	A PC card slot can accommodate a 5 mm Type II card. The slot supports 16-bit PC cards and CardBus PC cards.

Keep foreign objects out of the PC card slot. A pin or similar object can damage the computer's circuitry.

	PC card eject button	This is a button for taking out PC card from a PC card slot.

Right side

Figure 2-3 shows the computer's right side.
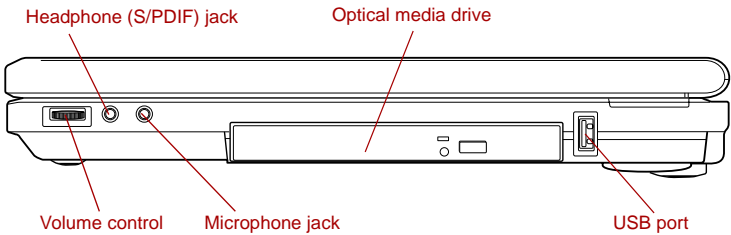
Figure 2-3 The right side of the computer

⌒ ↪	**Headphone (S/PDIF) jack**	This jack lets you connect digital speakers or a stereo headphone (16 ohm minimum). When you connect a digital speaker or headphones, the internal speaker is automatically disabled.
		This jack can be used also as S/PDIF jack and enables connection of optical digital correspondence apparatus.
	Microphone jack	A 3.5 mm mini microphone jack enables connection of a three-conductor mini jack for monaural microphone input.
	Volume control	Use this dial to adjust the volume of the stereo speakers or the stereo headphones.
	Optical media drive	The computer is configured with a DVD-ROM&CD-R/RW drive or a DVD Super Multi drive.
⠿	**Universal Serial Bus (USB 2.0) port**	The Universal Serial Bus port is on the right side. Refer to *Left side* section, for details.

Backside

Figure 2-4 shows the computer's backside.
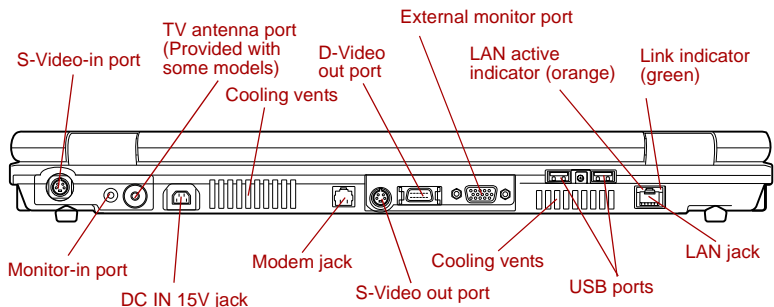
Figure 2-4 The backside of the computer

	Modem jack	In areas where an internal modem is installed as standard equipment, there is a modem jack that lets you use a modular cable to connect the modem directly to a telephone line.

■ *In case of a lightning storm, unplug the modem cable from the telephone jack.*

■ *Do not connect the modem to a digital telephone line. A digital line will damage the modem.*

	Monitor-in port	Used for displaying video from your digital camcorder or video recorder on the internal LCD.
		This port can be used also as line-in port and enables connection of a stereo device for audio input. Refer to the *Monitor-in* section in Chapter 9, Optical Devices.
	TV antenna port	TV antenna port is provided with some models. Connect the antenna adaptor to this port to watch TV programs on your computer or record them.
	S-Video-in port	A camcorder or other recording device can be connected to your computer via the S-Video-in cable for importing video data. Connect the cable to this port for this operation. Refer to the *S-Video-in* section in Chapter 9, Optical Devices.
	Universal Serial Bus (USB 2.0) port	Two Universal Serial Bus ports are on the backside. Refer to *Left side* section, for details.

This port is located near the cooling vents. Areas near the cooling vents get very hot. Check the guaranteed operating temperatures of your USB device when you place it close to these areas instead of putting it at a remote location via an extension cable.

DC IN 15V	**DC IN 15V jack**	The AC adaptor connects to this jack. Use only the model of AC adaptor that comes with the computer. Using the wrong adaptor can damage your computer.
	S-Video out port	This S-Video out port lets you transfer NTSC or PAL data to external devices. Refer to *TV* section in Chapter 9, Optional Devices.
	D-Video out port	This D-Video out port lets you transfer 525i (480i), 525p (480p), 1125i (1080i) or 750p (720p) data to external devices. Refer to *TV* section in Chapter 9, Optional Devices.

	External monitor port	This external monitor port lets you connect an external video display.
	LAN jack	This jack lets you connect to a LAN. The adaptor has built-in support for Ethernet LAN (10 megabits per second, 10BASE-T), Fast Ethernet LAN (100 megabits per second, 100BASE-TX). The LAN has two indicators. Refer to Chapter 4, *Operating Basics*, for details.

■ *Do not connect any cable other than a LAN cable to the LAN jack. It could cause damage or malfunction.*

■ *Do not connect the LAN cable to a power supply. It could cause damage or malfunction.*

Link indicator (green)	This indicator glows green when the computer is connected to a LAN and the LAN is functioning properly.
LAN active indicator (orange)	This indicator glows orange when data is being exchanged between the computer and the LAN.
Cooling vents	Cooling vents help CPU keep from overheating.

Do not to block the cooling vents. Also do not to keep foreign objects out of them. A pin or similar object can damage the computer's circuitry.

Underside

Figure 2-5 shows the underside of the computer. Make sure the display is closed before turning over your computer.
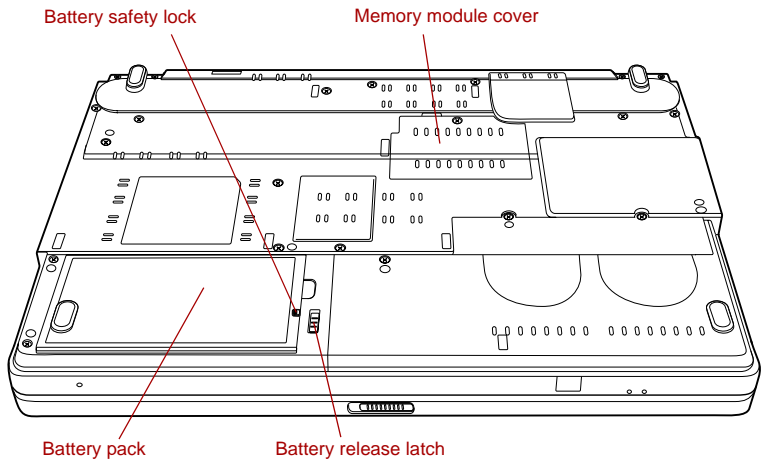
Figure 2-5 The underside of the computer
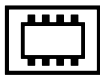
	Memory module cover	This cover protects memory module sockets. Refer to the *Memory expansion* section in Chapter 9, Optional Devices.
	Battery safety lock	Slide the battery safety lock towards the release position to make the battery release latch movable.
	Battery pack	The battery pack powers the computer when the AC adaptor is not connected. For detailed information on the battery pack, refer to Chapter 6, *Power*.
	Battery release latch	Slide and hold this latch to release the battery pack for removal. For detailed information on removing the battery packs, refer to Chapter 6, *Power*.

Front with the display open

This section shows the front of the computer with the display open. Refer to the appropriate illustration for details. To open the display, slide the display latch on the front of the display and lift up. Position the display at a comfortable viewing angle.
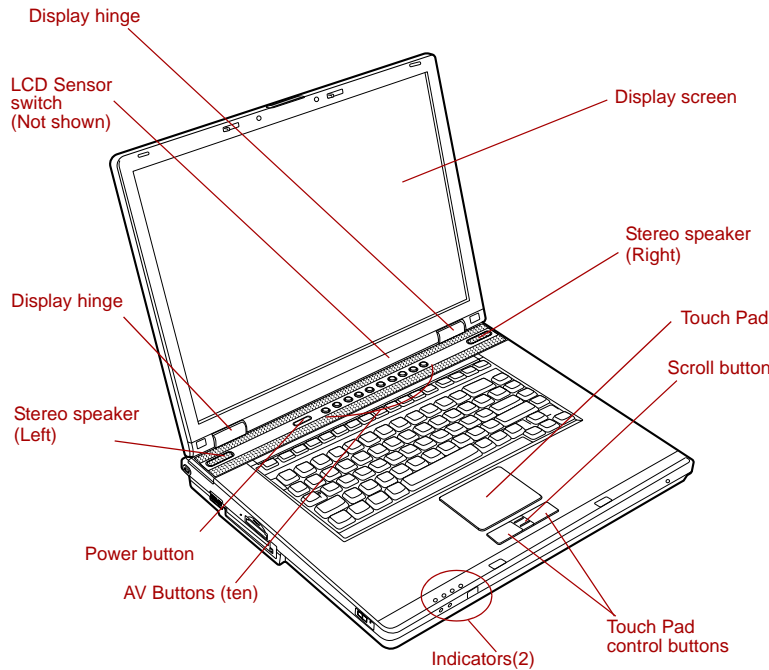
Figure 2-6 The front of the Touch Pad model with the display open

Display hinges	The display hinges hold the display screen at easy-to-view angles.
Display screen	The LCD displays high-contrast text and graphics. The computer's WXGA+ screen consists of 1440 x 900 pixels. Refer to *Display Controller and Modes* in Appendix B. When the computer operates on the AC adaptor the display screen's image will be somewhat brighter than when it operates on battery power. The lower brightness level is intended to save battery power.
harman/kardon **Stereo speakers**	The speakers emit sound generated by your software as well as audio alarms, such as, generated by the system.

	Indicators(2)	These LEDs let you monitor the DC IN, power, battery and HDD status. Details are in the *Indicators* section.
	AV Buttons (ten)	Ten buttons are available for use:
		TV Tuner model or Windows XP Media Center Edition model: TV, CD/DVD, Play/Pause, Stop, Previous, Next, Record, Brightness, Monitor-in, TV-out.
		No TV Tuner model: Internet, CD/DVD, Play/Pause, Stop, Previous, Next, TV-out, Brightness, Zoom out (-), Zoom in (+).
		These buttons allow you to manage Audio/Video, run applications and access utilities.
		Refer to the *AV Buttons function* section in Chapter 8, Using the Remote Controller, AV Buttons and QosmioPlayer for details.
⏻	**Power button**	Press the power button to turn the computer's power on and off.
	Touch Pad	A Touch Pad located in the palm rest is used to control the on-screen pointer. Refer to the *Using the Touch Pad* section in Chapter 4, Operating Basics.
	Touch Pad control buttons	Control buttons below the Touch Pad let you select menu items or manipulate text and graphics designated by the on-screen pointer.
	Scroll button	The scroll button allows you to scroll through the screen. Use this button to view the hidden part of the screen. Press the scroll button upward or downward to scroll the screen up or down.
	LCD Sensor switch	This switch senses when the LCD panel is closed or opened and activates the Panel Power Off/On feature. When you close the panel the computer enters Hibernation mode and shuts down. When you open the panel the computer starts in Hibernation mode. Use the TOSHIBA Power Saver Utility to enable or disable this feature. The default is "enabled". Refer to the TOSHIBA Power Saver Utility and Panel Power Off/On items in Chapter 1, *Introduction*, for details on settings.

> *Do not put a magnetic object close to the switch. The computer will automatically enter Hibernation mode and shut down even if the Panel Power Off features is disabled.*

Indicators

This section describes the indicators.

System indicators

The following indicators on the front of the computer can be monitored even when the display panel is closed.
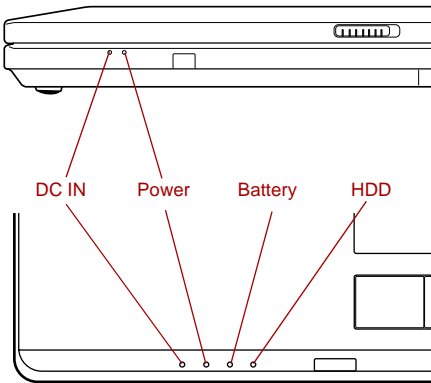
Figure 2-7 System indicators
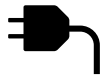
	DC IN	The **DC IN** indicator glows green when DC power is supplied from the AC power adaptor. If the adaptor's output voltage is abnormal or if the power supply malfunctions, this indicator flashes orange.
	Power	The **Power** indicator glows green when the computer is on. If you select **Standby** from `Shut Down Windows`, this indicator flashes orange (one second on, two seconds off) while the computer shuts down.

	Battery	The **Battery** indicator shows the condition of the battery's charge: Green indicates full charge, orange indicates battery charging and flashing orange indicates a low battery charge. Refer to Chapter 6, *Power*.
	HDD	The **HDD** indicator glows green when the computer is accessing the built-in hard disk.

Keyboard indicators

The figures below show the positions of the keypad overlay indicators and the Caps Lock indicator.

The following indicator shows the state of an alphabet key (pressed or released).
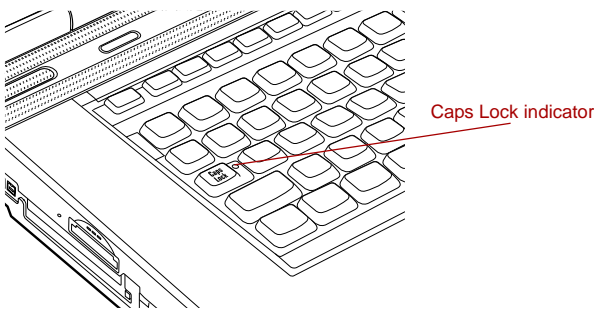
Figure 2-8 Caps Lock indicator

Caps Lock	The **Caps Lock** indicator glows green when the alphabet keys are locked in uppercase.

The following indicators show the status of the display overlay.
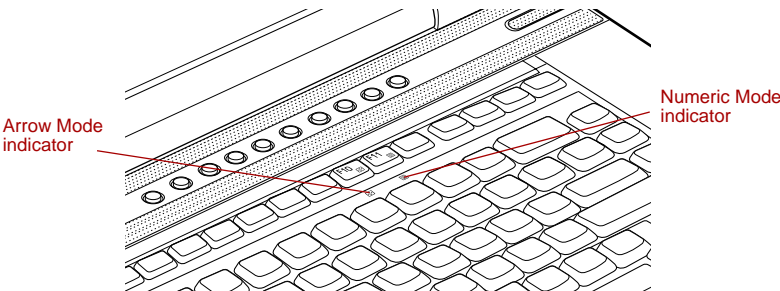
Figure 2-9 Keypad overlay indicators

	Arrow mode	When the **Arrow mode** indicator lights green, you can use the keypad overlay (gray labeled keys) as cursor keys. Refer to the *Keypad overlay* section in Chapter 5, The Keyboard.
	Numeric mode	You can use the keypad overlay (gray labeled keys) for numeric input when the **Numeric mode** indicator lights green. Refer to the *Keypad overlay* section in Chapter 5, The Keyboard.

USB floppy disk drive

USB floppy disk drive accommodates 1.44-megabyte or 720-kilobyte floppy disks. It connects to the USB port.
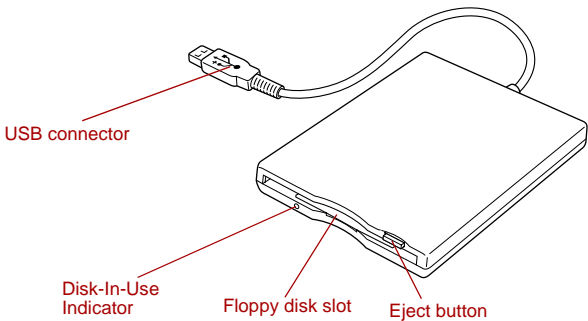
Figure 2-10 USB floppy disk drive

USB connector	Insert this connector to the USB port of your computer.
Disk-In-Use Indicator	This indicator lights when the floppy disk is being accessed.
Floppy disk slot	Insert a floppy disk in this slot.
Eject button	When a floppy disk is fully seated in the drive, the eject button pops out. To remove a floppy disk, push in the eject button and the floppy disk pops out partially for removal.

Check the **Disk-In-Use** *indicator when you use the floppy disk drive. Do not press the eject button or turn off the computer while the light is glowing. Doing so could destroy data and damage the floppy disk or the drive.*

■ *The external floppy disk drive should be placed on a flat, horizontal surface when in use. Do not set the drive on an incline greater than 20º while it is operating.*

■ *Do not set anything on top of the floppy disk drive.*

Optical media drives

One of the following optical media drives is installed in the computer: DVD-ROM&CD-R/RW and DVD Super Multi drives. An ATAPI interface controller is used for CD/DVD-ROM operation. When the computer is accessing a CD/DVD, an indicator on the drive glows.

For information on loading and unloading discs refer to the *Using optical media drives* section in Chapter 4, Operating Basics.

Region codes for DVD drives and media

DVD-ROM&CD-R/RW, DVD Super Multi drives and media are manufactured according to the specifications of six marketing regions. When you purchase DVD-Video, make sure it matches your drive, otherwise it will not play properly.

Code	Region
1	Canada, United States
2	Japan, Europe, South Africa, Middle East
3	Southeast Asia, East Asia
4	Australia, New Zealand, Pacific Islands, Central America, South America, Caribbean
5	Russia, Indian Subcontinent, Africa, North Korea, Mongolia
6	China

Writable discs

This section describes the types of writable CD/DVD discs. Check the specifications for your drive to for the type of discs it can write. Use RecordNow! to write compact discs. Refer to Chapter 4, *Operating Basics*.

CDs

■ CD-R discs can be written only once. The recorded data cannot be erased or changed.

■ CD-RW discs can be recorded more than once. Use either 1, 2, or 4 multi speed CD-RW discs or high-speed 4- to 10-speed discs. The write speed of the ultra-speed CD-RW discs is maximum 24-speed.

DVDs

■ DVD-R and DVD+R discs can be written only once. The recorded data cannot be erased or changed.

■ DVD-RW, DVD+RW and DVD-RAM discs can be recorded more than once.

Formats

The drives support the following formats:

■ DVD-ROM
■ CD-DA
■ Photo CD™ (single/multi-session)
■ CD-ROM XA Mode 2 (Form1, Form2)
■ DVD -Video

■ CD-Text
■ CD-ROM Mode 1, Mode 2
■ Enhanced CD (CD-EXTRA)
■ Addressing Method 2

DVD-ROM&CD-R/RW drive (UJDA760, DW-224-B)

The full-size DVD-ROM&CD-R/RW drive module lets you record data to rewritable CDs as well as run either 12 cm (4.72") or 8 cm (3.15") CD/DVDs without using an adaptor.

The read speed is slower at the center of a disc and faster at the outer edge.

DVD read	8 speed (maximum)
CD read	24 speed (maximum)
CD-R write	24 speed (maximum)
CD-RW write	24 speed (maximum, Ultra-speed media)

DVD Super Multi drive (UJ830)

The full-size DVD Super Multi drive module lets you record data to rewritable CDs as well as run either 12 cm (4.72") or 8 cm (3.15") CD/DVDs without using an adaptor.

The read speed is slower at the center of a disc and faster at the outer edge.

DVD read	8 speed (maximum)
DVD-R write	8 speed (maximum)
DVD-RW write	4 speed (maximum)
DVD+R write	8 speed (maximum)
DVD+RW write	4 speed (maximum)
DVD-RAM write	3 speed (maximum)
CD read	24 speed (maximum)
CD-R write	24 speed (maximum)
CD-RW write	10 speed (maximum, Ultra-speed media)

DVD Super Multi drive (UJ820)

The full-size DVD Super Multi drive module lets you record data to rewritable CDs as well as run either 12 cm (4.72") or 8 cm (3.15") CD/DVDs without using an adaptor.

The read speed is slower at the center of a disc and faster at the outer edge.

DVD read	8 speed (maximum)
DVD-R write	4 speed (maximum)
DVD-RW write	2 speed (maximum)
DVD+R write	2.4 speed (maximum)
DVD+RW write	2.4 speed (maximum)
DVD-RAM write	2 speed (maximum)
CD read	24 speed (maximum)
CD-R write	16 speed (maximum)
CD-RW write	8 speed (maximum, high-speed media)

DVD Super Multi drive Double Layer (UJ831, GSA-4080N)

The full-size DVD Super Multi drive module lets you record data to rewritable CDs as well as run either 12 cm (4.72") or 8 cm (3.15") CD/DVDs without using an adaptor.

The read speed is slower at the center of a disc and faster at the outer edge.

DVD read	8 speed (maximum)
DVD-R write	8 speed (maximum)
DVD-RW write	4 speed (maximum)
DVD+R write	8 speed (maximum)
DVD+RW write	4 speed (maximum)
DVD-RAM write	3 speed (maximum)
CD read	24 speed (maximum)
CD-R write	24 speed (maximum)
CD-RW write	10 speed (maximum, Ultra-speed media)
DVD+R DL	2.4 speed (maximum)

AC adaptor

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

To recharge the battery, simply connect the AC adaptor to a power source and the computer. Refer to Chapter 6 *Power* for details.
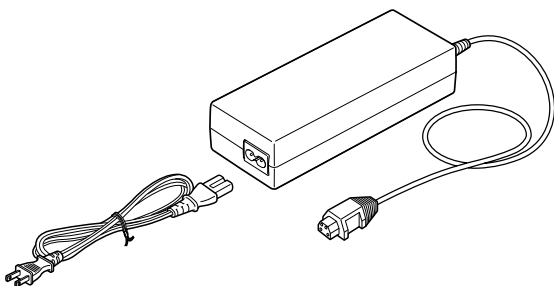
Figure 2-11 The AC adaptor

Use only the AC adaptor that came with the computer or an equivalent optional adaptor. Use of the wrong adaptor could damage your computer. TOSHIBA assumes no liability for any damage in such case.

Use only the AC adaptor supplied as an accessory. Other AC adaptors have different voltage and terminal polarities and use of them may produce heat and smoke or even result in fire or rupture.

Chapter 3

Getting Started

This chapter provides basic information to get you started using your computer. It covers the following topics:

■ Setting up your work space — for your health and safety

Be sure also to read Instruction Manual for Safety & Comfort. This guide, which is included with the computer, explains product liability.

■ Connecting the AC adaptor
■ Opening the display
■ Turning on the power
■ Starting up for the first time
■ Turning off the power
■ Restarting the computer
■ Restoring the preinstalled software

All users should be sure to read the section Starting up for the first time.

Setting up your work space

Establishing a comfortable work site is important for you and your computer. A poor work environment or stressful work habits can result in discomfort or serious injury from repetitive strain to your hands, wrists or other joints. Proper ambient conditions should also be maintained for the computer's operation. This section discusses the following topics:

■ General conditions
■ Placement of the computer
■ Seating and posture
■ Lighting
■ Work habits

General conditions

In general, if you are comfortable, so is your computer, but read the following to make sure your work site provides a proper environment.

- Make sure there is adequate space around the computer for proper ventilation.
- Make sure the AC power cord connects to an outlet that is close to the computer and easily accessible.
- The temperature should be 5 to 35 degrees Centigrade (41 to 95 degrees Fahrenheit) and the relative humidity should be 20 to 80 percent.
- Avoid areas where rapid or extreme changes in temperature or humidity may occur.
- Keep the computer free of dust, moisture, and exposure to direct sunlight.
- Keep the computer away from heat sources, such as electric heaters.
- Do not use the computer near liquids or corrosive chemicals.
- Do not place the computer near objects that create strong magnetic fields (e.g., stereo speakers).
- Some computers in the computer, including data storage media, can be damaged by magnets. Do not place the computer near magnetic objects or bring magnetic objects close to the computer. Be careful of objects, such as stereo speakers, that produce strong magnetic fields during operation. Also, be careful with metal objects, such as bracelets, which can be inadvertently magnetized.
- Do not operate the computer in close proximity to a mobile phone.
- Leave ample ventilation room for the fan. Do not block the vents.
- Your LCD display has a brightness approaching that of a TV device. We recommend that you adjust the brightness of your LCD to a comfortable level to prevent possible strain on your eyes.

Placement of the computer

Position the computer and peripheral devices to provide comfort and safety.

- Set the computer on a flat surface at a comfortable height and distance. The display should be no higher than eye level to avoid eyestrain.
- Place the computer so that it is directly in front of you when you work and make sure you have adequate space to easily operate other devices.
- Allow adequate space behind the computer to let you freely adjust the display. The display should be angled to reduce glare and maximize visibility.
- If you use a paper holder, set it at about the same height and distance as the computer.

Seating and posture

The height of your chair in relation to the computer and keyboard as well as the support it gives your body are primary factors in reducing work strain. Refer to the following tips and to figure 3-1.
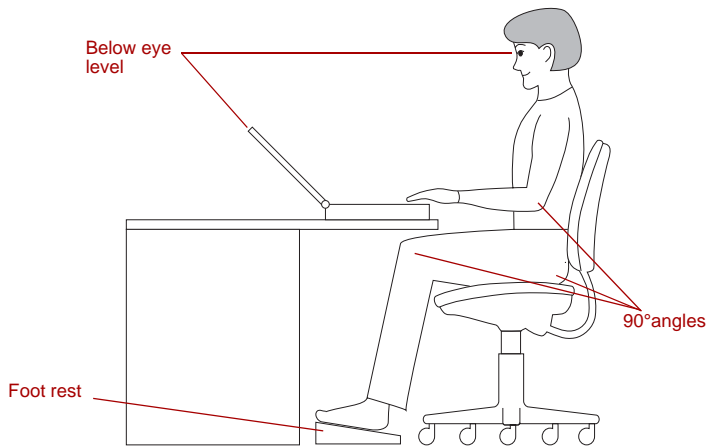
Figure 3-1 Posture and positioning of the computer

■ Place your chair so that the keyboard is at or slightly below the level of your elbow. You should be able to type comfortably with your shoulders relaxed.

■ Your knees should be slightly higher than your hips. If necessary, use a foot rest to raise the level of your knees to ease pressure on the back of your thighs.

■ Adjust the back of your chair so it supports the lower curve of your spine.

■ Sit straight so that your knees, hips and elbows form approximately 90 degree angles when you work. Do not slump forward or lean back too far.

Lighting

Proper lighting can improve legibility of the display and reduce eyestrain.

■ Position the computer so that sunlight or bright indoor lighting does not reflect off the screen. Use tinted windows, shades or other screen to eliminate sun glare.

■ Avoid placing the computer in front of bright light that could shine directly in your eyes.

■ If possible, use soft, indirect lighting in your computer work area. Use a lamp to illuminate your documents or desk, but be sure to position the lamp so that it does not reflect off the display or shine in your eyes.

Work habits

A key to avoiding discomfort or injury from repetitive strain is to vary your activities. If possible, schedule a variety of tasks into your workday. If you must spend long periods at the computer, finding ways to break up the routine can reduce stress and improve your efficiency.

■ Sit in a relaxed posture. Good positioning of your chair and equipment as described earlier can reduce tension in your shoulders or neck and ease back strain.

■ Vary your posture frequently.

■ Occasionally stand up and stretch or exercise briefly.

■ Exercise and stretch your wrists and hands a number of times during the day.

■ Frequently, look away from the computer and focus your eyes on a distant object for several seconds, for example 30 seconds every 15 minutes.

■ Take frequent short breaks instead of one or two long breaks, for example, two or three minutes every half hour.

■ Have your eyes examined regularly and visit a doctor promptly, if you suspect you might be suffering from a repetitive strain injury.

A number of books are available on ergonomics and repetitive strain injury or repetitive stress syndrome. For more information on these topics or for pointers on exercises for such stress points as hands and wrists, please check with your library or book vendor. Also refer to the computer's *Instruction Manual for Safety & Comfort.*

Connecting the AC adaptor

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

The AC adaptor can be connected to any power source supplying from 100 to 240 volts and 50 or 60 hertz. For details on using the AC adaptor to charge the battery pack, refer to Chapter 6, *Power*.

Use only the AC adaptor supplied with your computer or an equivalent adaptor that is compatible. Use of any incompatible adaptor could damage your computer. TOSHIBA assumes no liability for any damage caused by use of an incompatible adaptor.

1. Connect the power cord to the AC adaptor.
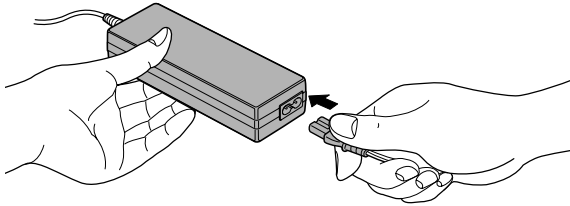
Figure 3-2 Connecting the power cord to the AC adaptor

2. Connect the AC adaptor's DC output plug to the **DC IN 15V** jack on the backside of the computer.

DC IN 15V jack
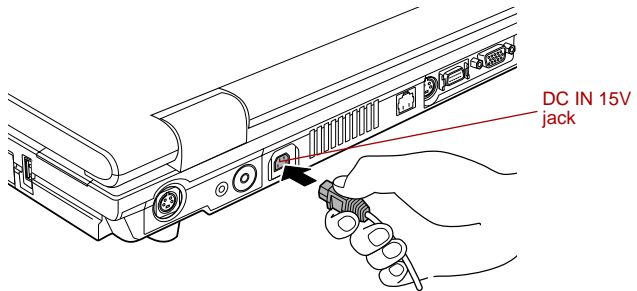
Figure 3-3 Connecting the adaptor to the computer

3. Plug the power cord into a live wall outlet. The **Battery** and **DC IN** indicators on the front of the computer should glow.

Opening the display

The display panel can be rotated in a wide range of angles for optimal viewing.

1. Slide the display latch on the front of the computer to the right.
2. While holding down the palm rest with one hand so that the main body is not raised, lift the panel slowly. Adjust the angle of the panel to provide optimal clarity.

> ⚠️ *Use reasonable care when opening and closing the display panel. Opening it vigorously or slamming it shut could damage the computer.*
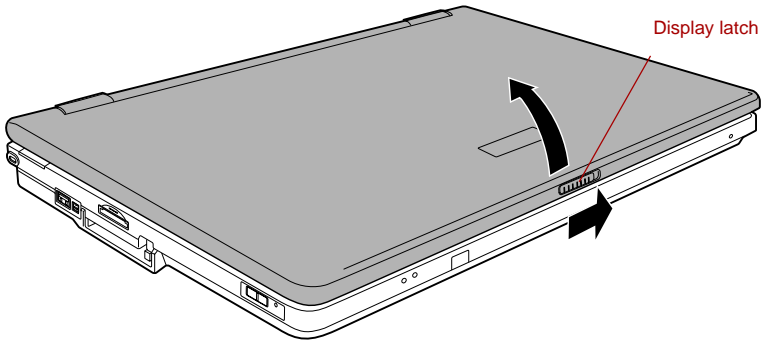
Figure 3-4 Opening the display

Turning on the power

This section describes how to turn on the power.

> ℹ️ *After you turn on the power for the first time, do not turn it off until you have set up the operating system. Refer to the section* Starting up for the first time*.*

1. Open the display.
2. Press and hold the computer's power button for two or three seconds.
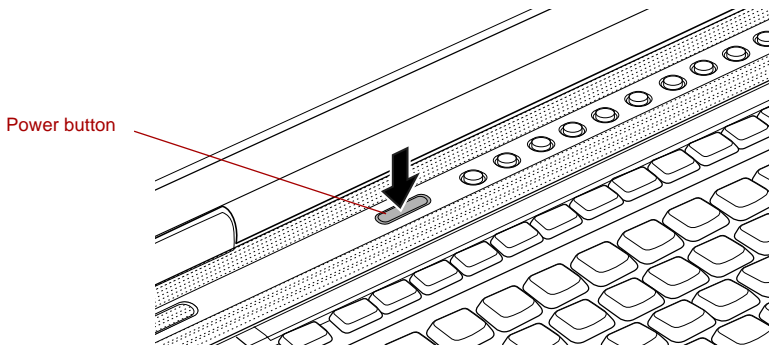
Figure 3-5 Turning on the power

Starting up for the first time

When you first turn on the power, the computer's initial screen is the Microsoft Windows XP Startup Screen Logo. Follow the on-screen directions for each screen. During setup, you can click the **Back** button to return to the previous screen.

Be sure to read the **Windows End User License Agreement** display carefully.

Be sure to read the License Agreement carefully.

Turning off the power

The power can be turned off in one of the following modes: Shut down (Boot), Hibernation or Standby mode.

Shut Down mode (Boot mode)

When you turn off the power in Shut Down mode no data is saved and the computer will boot to the operating system's main screen.

1. If you have entered data, save it to the hard disk or to a floppy disk.
2. Make sure all disk (disc) activity has stopped, then remove the CD/DVDs or floppy disk.

*Make sure the **Disk** indicator is off. If you turn off the power while a disk (disc) is being accessed, you can lose data or damage the disk (disc).*

3. Click **Start** then click **Turn Off Computer**. From the **Turn Off Computer** menu select **Turn Off**.
4. Turn off the power to any peripheral devices.

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

Hibernation mode

The hibernation feature saves the contents of memory to the hard disk when the computer is turned off. The next time the computer is turned on, the previous state is restored. The hibernation feature does not save the status of peripheral devices.

■ *Save your data. While entering hibernation mode, the computer saves the contents of memory to the HDD. However, for safety sake, it is best to save your data manually.*

■ *Data will be lost if you remove the battery or disconnect the AC adaptor before the save is completed. Wait for the **Disk** indicator to go out.*

■ *Do not install or remove a memory module while the computer is in hibernation mode. Data will be lost.*

Benefits of hibernation

The hibernation feature provides the following benefits:

■ Saves data to the hard disk when the computer automatically shuts down because of a low battery.

For the computer to shut down in hibernation mode, the hibernation feature must be enabled in two places: the Hibernate tab in Power Options and Setup Action tab in TOSHIBA Power Saver.

Otherwise, the computer will shut down in Standby mode. If battery power becomes depleted, data saved in Standby mode will be lost.

■ You can return to your previous working environment immediately when you turn on the computer.

■ Saves power by shutting down the system when the computer receives no input or hardware access for the duration set by the System hibernate feature.

■ You can use the panel power off feature.

Starting Hibernation

You can also enable Hibernation by pressing **Fn** + **F4***. Refer to Chapter 5,* The Keyboard*, for details.*

To enter Hibernation mode, follow the steps below.

1. Click **Start**.
2. Select **Turn Off Computer**.
3. Open the **Turn Off Computer** dialog box. `Hibernate` is not displayed.
4. Press the **Shift** key. The `Standby` item will change to `Hibernate`.
5. Select the **Hibernate**.

Automatic Hibernation

The computer will enter Hibernate mode automatically when you press the power button or close the lid. First, however, make the appropriate settings according to the steps below.

1. Click **Start** and open the **Control Panel**.
2. Open **Performance and Maintenance** and open **Power Options**.
3. Select the **Hibernate** window in the `Power Options Properties`, select the **Enable hibernation** check box and click the **Apply** button.
4. Open **TOSHIBA Power Saver**.
5. Select the **Setup Action** window.
6. Enable the desired Hibernation settings for **When I press the power button** and **When I close the lid**.
7. Click the **OK** button.

Data save in hibernation mode

When you turn off the power in hibernation mode, the computer takes a moment to save current memory data to the hard disk. During this time, the **Disk** indicator will light.

After you turn off the computer and memory is saved to the hard disk, turn off the power to any peripheral devices.

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

Standby mode

If you have to interrupt your work, you can turn off the power without exiting from your software. Data is maintained in the computer's main memory. When you turn on the power again, you can continue working right where you left off.

- *When the AC adaptor is connected, the computer will go into Standby mode according to the settings in the TOSHIBA Power Saver utility.*

- *To restore operation from Standby mode, press the power button or press any key. The latter action works only if Wake-up on Keyboard is enabled in HW Setup.*

- *If the computer automatically enters Standby mode while a network application is active, the application might not be restored when the computer wakes up from Standby.*

- *To prevent the computer from automatically entering Standby mode, disable Standby in TOSHIBA Power Saver. That action, however, will nullify the computer's Energy Star compliance.*

- *Before entering Standby mode, be sure to save your data.*

- *Do not install or remove a memory module while the computer is in standby mode. The computer or the module could be damaged.*

- *Do not remove the battery pack while the computer is in standby mode (unless the computer is connected to an AC power source). Data in memory will be lost.*

- *If you carry the computer on board an aircraft or into a hospital, be sure to shut down the computer in hibernation mode or in shutdown mode to avoid radio signal interference.*

Benefits of standby

The standby feature provides the following benefits:

- Restores the previous working environment more rapidly than does hibernation.
- Saves power by shutting down the system when the computer receives no input or hardware access for the duration set by the System Standby feature.
- You can use the panel power off feature.

Executing standby

You can also enable Standby by pressing **Fn** + **F3**. *Refer to Chapter 5,* The Keyboard, *for details.*

You can enter standby mode in one of three ways:

1. Click **Start**, click **Turn Off Computer** and click **Standby**.

2. Close the display panel. This feature must be enabled. Refer to the *Setup Action* tab in *TOSHIBA Power Saver Utility* described in the Control Panel.
   Open **Performance and Maintenance** and open **TOSHIBA Power Saver.**

3. Press the power button. This feature must be enabled. Refer to the *Setup Action* tab in *TOSHIBA Power Saver Utility* described in the Control Panel.
   Open **Performance and Maintenance** and open **TOSHIBA Power Saver.**

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

■ *When the computer is shut down in standby mode, the power indicator flashes orange.*

■ *If you are operating the computer on battery power, you can lengthen the operating time by shutting down in hibernation mode. Standby mode consumes more power.*

Standby limitations

Standby will not function under the following conditions:

■ Power is turned back on immediately after shutting down.

■ Memory circuits are exposed to static electricity or electrical noise.

Restarting the computer

Certain conditions require that you reset the system. For example, if:

■ You change certain computer settings.

■ An error occurs and the computer does not respond to your keyboard commands.

■ There are three ways to reset the computer system:

1. Click **Start** then click **Turn off computer**. From the `Turn off computer` menu select **Restart**.

2. Press **Ctrl** + **Alt** + **Del** to display the `Windows Task Manager`, then select **Shutdown** and **Restart**.

3. Press the power button and hold it down for five seconds. Wait 10 to 15 seconds, then turn the power on again by pressing the power button.

Restoring the preinstalled software

If preinstalled files are damaged, use the Product Recovery Media to restore them. To restore the operating system and all preinstalled software, follow the steps below.

When you reinstall the Windows operating system, the hard disk will be reformatted and all data will be lost.

1. Load the Product Recovery Media in the optional optical media drive and turn off the computer's power.
2. Hold down the **F12** key and turn on the power. When **Qosmio** appears, release the **F12** key.
3. Use the left or right cursor key to select the **CD/DVD-ROM Drive** in the **Boot Devices** menu. For details, refer to the *Boot Priority* section in Chapter 7, HW Setup.
4. Follow the on-screen instructions.

Two types of models are available: one with one hard disk drive and the other with two hard disk drives. When your model has two hard disks installed, data will be recovered onto Built-in HDD1 regardless of the setting for HDD Priority.

Chapter 4

Operating Basics

This chapter gives information on basic operations including using the Touch Pad, the USB floppy disk drive (optional in some models), optical media drives, TV Tuner, Sound System, Modem, Wireless communication features, LAN. It also provides tips on care of the computer, floppy disks and CD/DVDs.

Using the Touch Pad

To use the Touch Pad, simply touch and move your finger tip across it in the direction you want the on-screen pointer to go.
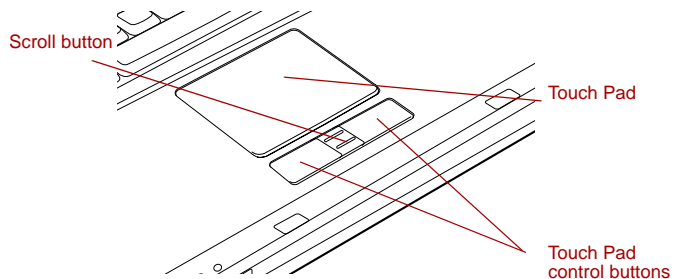
Figure 4-1 Touch Pad and Touch Pad control buttons

Two buttons below the keyboard are used like the buttons on a mouse pointer. Press the left button to select a menu item or to manipulate text or graphics designated by the pointer. Press the right button to display a menu or other function depending on the software you are using.

The scroll button allows you to scroll through the screen. Use this button to view the hidden part of the screen. Press the scroll button upward or downward to scroll the screen up or down. Scrolling is also available with the Touch Pad.

You can also tap the Touch Pad to perform functions similar to those of the left button.

Click: Tap once

Double-click: Tap twice

Drag and drop: Tap to select the material you want to move. Leave your finger on the Touch Pad after the second tap and move the material.

Using the USB floppy disk drive

USB floppy disk drive connects to the computer's USB port. It accommodates 1.44-megabyte or 720-kilobyte floppy disks. Refer to Chapter 2, *The Grand Tour*, for more information.

Connecting USB floppy disk drive

To connect the drive, plug the floppy disk drive's USB connector into a computer's USB port. Refer to Figure 4-2.

Make sure the connector is right side up and properly aligned with the socket. Do not try to force the connection; doing so can damage the connecting pins.

USB port

USB connector
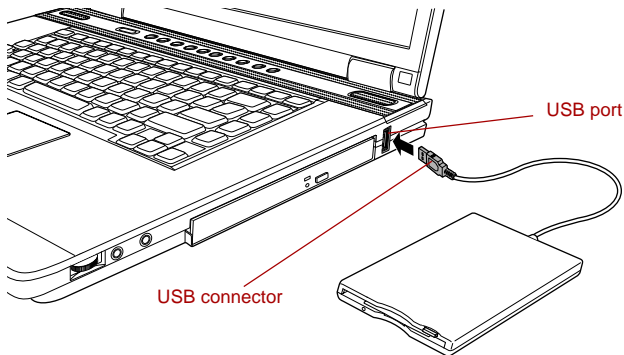
Figure 4-2 Connecting the USB floppy disk drive

If you connect the floppy disk drive after turning on the computer, it will take about 10 seconds for the computer to recognize the drive. Do not disconnect and reconnect before 10 seconds has elapsed.

Disconnecting USB floppy disk drive

When you have finished using the floppy disk drive, follow the procedures below to disconnect it:

1. Wait for the indicator light to go out to make sure all floppy disk activity has stopped.

If you disconnect the floppy disk drive or turn off the power while the computer is accessing the drive you may lose data or damage the floppy disk or the drive.

2. Click the **Safety Remove Hardware** icon on the Task Bar.
3. Click **floppy disk drive**.
4. Pull the floppy disk drive's USB connector out of the computer's USB port.

Using optical media drives

The text and illustrations in this section refer primarily to the optical media drive. However, operation is the same for all other optical media drives. The full-size drive provides high-performance execution of CD/DVD-ROM-based programs. You can run either 12 cm (4.72") or 8 cm (3.15") CD/DVDs without an adaptor. An ATAPI interface controller is used for CD/DVD-ROM operation. When the computer is accessing a CD/DVD-ROM, an indicator on the drive glows.

Use the WinDVD application to view DVD-Video discs.

If you have a DVD-ROM&CD-R/RW drive, refer also to the *Writing CDs on DVD-ROM&CD-R/RW drive* section for precautions on writing to CDs.
If you have a DVD super Multi drive, refer also to the *Writing CD/DVDs on DVD Super Multi drive* section for precautions on writing to CD/DVDs.

Loading discs

To load CD/DVDs, follow the steps below and refer to figures 4-3 to 4-7.
1. a. When the power is on, press the eject button to open the drawer slightly.
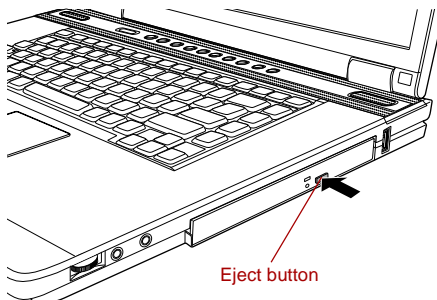
Eject button

Figure 4-3 Pressing the eject button

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b. Pressing the eject button will not open the drawer when the media drive's power is off. If the power is off, you can open the drawer by inserting a slender object (about 15 mm) such as a straightened paper clip into the eject hole just to the right of the eject button.
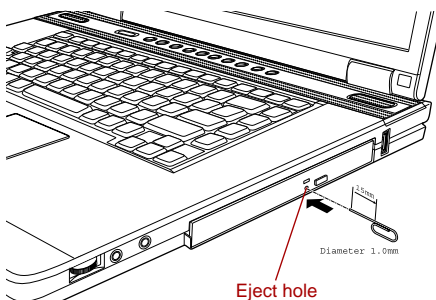
Figure 4-4 Manual release with the eject hole

2. Grasp the drawer gently and pull until it is fully opened.
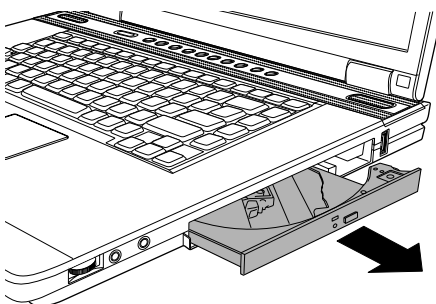
Figure 4-5 Pulling the drawer open

3. Lay the CD/DVD, label side up, in the drawer.
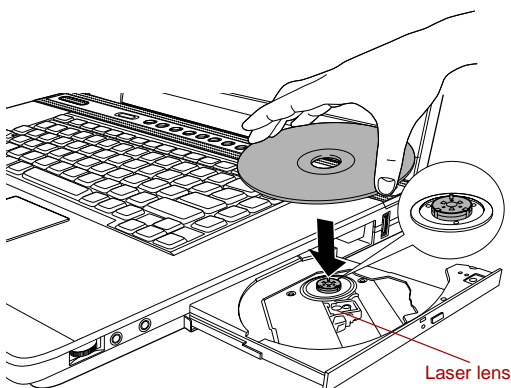
Figure 4-6 Inserting a CD/DVD

When the drawer is fully opened, the edge of the computer will extend slightly over the CD/DVD tray. Therefore, you will need to turn the CD/DVD at an angle when you place it in the tray. After seating the CD/DVD, however, make sure it lies flat, as shown in figure 4-6.

■ *Do not touch the laser lens. Doing so could cause misalignment.*

■ *Prevent foreign objects from entering the drive. Check the surface of the tray, especially the area behind the front edge of the tray, to make sure there are no such objects before closing the drive.*

4. Press gently at the center of the CD/DVD until you feel it click into place. The CD/DVD should lie below the top of the spindle, flush with the spindle base.

5. Push the center of the drawer to close it. Press gently until it locks into place.

If the CD/DVD is not seated properly when the drawer is closed, the CD/DVD might be damaged. Also, the drawer might not open fully when you press the eject button.
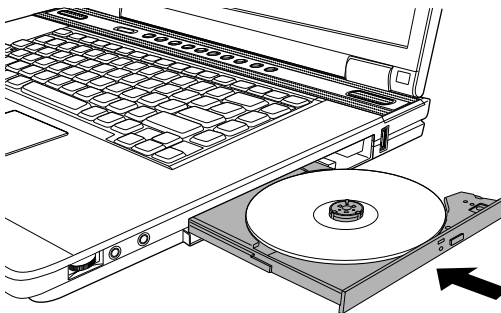
Figure 4-7 Closing the CD/DVD drawer

Removing discs

To remove the CD/DVD, follow the steps below and refer to figure 4-8.

Do not press the eject button while the computer is accessing the media drive. Wait for the Optical media drive indicator to go out before you open the drawer. Also, if the CD/DVD is spinning when you open the drawer, wait for it to stop before you remove it.

1. To pop the drawer partially open, press the eject button. Gently pull the drawer out until it is fully opened.

■ *When the drawer pops open slightly, wait a moment to make sure the CD/DVD has stopped spinning before pulling the drawer fully open.*

■ *Turn off the power before you use the eject hole. If the CD/DVD is spinning when you open the drawer, the CD/DVD could fly off the spindle and cause injury.*

2. The CD/DVD extends slightly over the sides of the drawer so you can hold it. Hold the CD/DVD gently and lift it out.
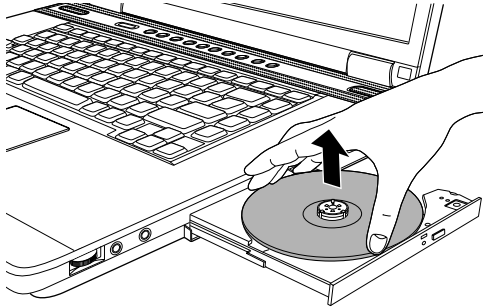
Figure 4-8 Removing a CD/DVD

3. Push the center of the drawer to close it. Press gently until it locks into place.

TV Tuner

Built-in TV Tuner is provided with some models. The model allows you to use WinDVR for displaying TV programs on the built-in LCD and recording them.

WinDVR allows you to display TV programs on the built-in LCD and record them. It is also possible to edit recorded programs and save on DVD.

My TV contained in Media Center is used in Media Center Edition.

According to the government regulation, it is not permitted to bring PAL/ SECAM TV tuner into Korea.

Using the TV Tuner

Antenna

■ The quality of sounds and pictures greatly depends on the radio propagation conditions.

■ When you use your computer in areas where the radio waves are weak, which results in poor radio receiving conditions, contact the dealer you purchased it from, or use a commercially available antenna booster. Please refer to the manual provided with the booster for details.

Connecting the Cable

Use the antenna adaptor that comes with the product to connect the antenna to your computer.

Connecting the antenna adaptor

When lightning occurs, do not touch the antenna line. This may cause an electric shock.

If you have to operate your computer during a thunderstorm and are connecting the TV tuner to an outside antenna, you should operate your computer using AC power mode. The AC adaptor offers some protection against (but does not entirely prevent) possible electric shock caused by lightning. For complete protection, do not operate your computer during a thunderstorm.

1. Save data, shutdown Windows and turn off the power.
2. Connect the antenna adaptor to the TV antenna port of your computer.

TV antenna port
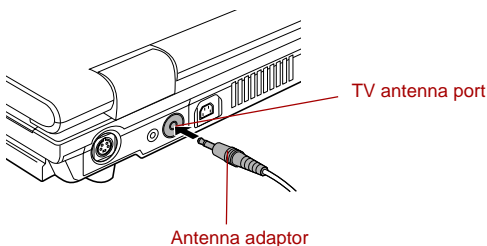
Antenna adaptor

Figure 4-9 Connecting the antenna adaptor

3. Connect the antenna cable to the other end of the antenna adaptor.

Antenna adaptor
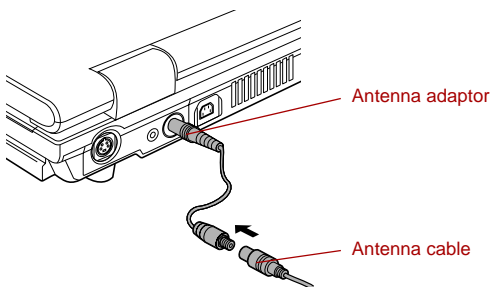
Antenna cable

Figure 4-10 Connecting the antenna cable

When you have been using a descrambler to receive the programs on cable TV or satellite broadcasting, connect the descrambler to the antenna cable.

Precautions when using WinDVR

Refer to the online help of WinDVR for details.

- *TV programs or other visual sources that have been recorded with WinDVR can be used for personal uses only.*

- *When WinDVR is running, do not change the screen resolution or the color depth setting.*

- *Before recording or editing video or sound which is important to you, run a test session to see if your operations work correctly.*

- *Scheduled video recording is not available when your computer is powered off.*

- *When an Internet security software application such as Norton Internet Security is used, a security message appears at the start of the scheduled recording, which may prevent recording. Be sure to check whether the scheduled recording is possible.*

- *When setting up a scheduled recording, be sure to check the maximum recordable time.*

- *Be sure to connect the AC adaptor to your computer so that it is powered by AC power. With the battery power, recording may fail or sound may skip due to a possible low battery condition.*

- *There may be cases where video is not played smoothly depending on operating conditions or scenes to be played.*

- *When the CPU load increases during recording or playing sessions, a time lag between video and audio may occur. In these cases, exit WinDVR and all other application and then restart WinDVR.*

- *The video may skip or stop when a shock or vibration is applied to your computer during recording or playing sessions.*

- *You can use a video deck to send the video data on a tape to this product. However, if the tape is old or has noise, the copy protection feature is triggered, which may result in improper operation.*

- *To receive CATV programs, you need to subscribe to a CATV provider for each device you will use. To watch or record paid programs, you may have to use a home terminal (adaptor). For more information, refer to the manual provided with the adaptor, or contact the CATV company.*

- *Contents that are protected by copyright laws may not be recorded or viewed with WinDVR.*

- *The channel auto scan feature sometimes does not detect channels even if they are normally detected. If it is the case, use the fine-tuning feature for adjustment.*

- *When the CPU load gets high, frame drops or a time lag between video and audio may occur. For this reason, do not use other applications while WinDVR is running.*

- *Scheduled recording is not available after you have logged off.*

- *WinDVR must be installed using the Administrator account.*

■ *When two sequential scheduled recording sessions have been reserved, the first session will terminate about 40 seconds before the specified end time. This is because the second session needs a time for preparation (For example, if two recording sessions of 1:00-2:00pm and 2:00-3:00pm have been booked, the 1:00-2:00pm session will terminate about 40 seconds earlier, that is, at about 1:59:20am).*

■ *When you have set a password for the user account, the scheduled recording cannot be performed any longer once the Standby mode is activated.*

■ *Even if you click the Stop Auto Scan button, the scan may not be stopped due to the timing of processing. In that case, click the button repeatedly.*

■ *If you exit WinDVR one minute or less before the scheduled recording starts, recording may not be performed correctly. Therefore, do not close WinDVR during a period of one minute before the scheduled recording start time.*

■ *When video is imported from a video deck or other devices, noise may appear in the top or bottom part of the screen. This noise is due to the display areas called vertical blanking intervals, and not a failure.*

Sound System

Using the microphone

Your computer has a built-in microphone that can be used to record monaural sounds into your applications. It can also be used to issue voice commands to applications that support such functions.

Since your computer has a built-in microphone and speaker, "howling" may be heard under certain conditions. Howling occurs when sound from the speaker is picked up in the microphone and amplified back to the speaker, which amplifies it again to the microphone.

This howling occurs repeatedly and causes a very loud, high-pitched noise. It is a common phenomenon that occurs in any sound system when the microphone input is output to the speaker (throughput) and the speaker volume is too loud or too close to the microphone. You can control throughput by adjusting the volume of your speaker or through the Mute function.

To adjust the volume or activate Mute, click **start**, point to **All Programs**, point to **Accessories**, point to **Entertainment** and click **Volume control**. In the **Master volume** panel, you can use the slide bars to adjust the volume level or click **Mute** at the bottom of the panel.

SoundMAX control panel

The SoundMAX control panel lets you control additional functions for the Microphone Enhancement and Audio Power Management. To launch the SoundMAX Control Panel, follow the steps below.

1. Click **Start** and click **Control Panel.**
2. If you are viewing the Control Panel in Category View, click on **Switch to Classic View**.
3. Double-click the **SoundMAX** icon.

The **Microphone Setup** allows you to optimize the microphone input settings for your particular configuration. Choose **Standard Microphone** if you have an ordinary desktop microphone. Choose **Headset** if you have a wearable microphone that is positioned directly in front of your mouth.

You can launch the **Setup Wizard** from the Control Panel to help you to automatically set proper microphone input volumes and ensure that your voice input(s) are working correctly. As you speak into the microphone, the Sound Meter indicates the audio signal that your PC is receiving.

The **Noise Reduction** enhancement helps to eliminate ambient noise from the voice input signal to provide a clean and clear signal to applications. This feature can be used with any microphone.

The audio controller can be powered down when the audio function is idle. To enable the Audio Power Management, follow the steps below.

1. Click the **Power Management** tab.
2. Select the **Normal Power Savings** in the Power Mode pull-down list.

If the **No Power Savings** *is selected, the audio controller always runs.*

If you want to a more effect for the power management, you can select another mode, the **High Power Savings** which can save the power than the Normal Power Savings. To select it, follow the steps below.

1. Click the **Power Management** tab.
2. Select the **High Power Savings** in the Power Mode pull-down list.
3. Input a time in **Power Save Delay (Seconds)**.

If the **High Power Saving** *is selected, you need to play an audio file once before you use a microphone or play an audio CD by the analog CD audio.*

TOSHIBA Audio Effect

TOSHIBA Audio Effect includes TOSHIBA Virtual Sound. The purpose of TOSHIBA Virtual Sound is to provide enhancements and more realism to the music and sound that you play on the computer. It uses the SRS WOW XT and SRS TruSurround XT technologies that are provided by SRS Labs, Inc. For more information on using the TOSHIBA Virtual Sound, refer to its help.

To launch the help of TOSHIBA Virtual Sound, click **Start**, point to **All Programs**, point to **TOSHIBA**, point to **Utilities** and click **Virtual Sound Help**.

Writing CDs on DVD-ROM&CD-R/RW drive

Depending on the type of drive installed, you may be able to write CDs. The DVD-ROM&CD-R/RW drive lets you write as well as read CD-ROMs. Observe the precautions in this section to ensure the best performance for writing CDs. For information on loading and unloading CDs refer to the Using optical media drive section.

CD-R discs can be written to only once. CD-RW discs can be rewritten many times.

Before writing or rewriting

Please observe the following points when you write or rewrite the data.

■ We recommend the following manufacturers of CD-R and CD-RW media. Media quality can affect write or rewrite success rates.

CD-R: TAIYO YUDEN CO., LTD.

MITSUBISHI CHEMICAL CORPORATION

RICOH Co., Ltd.

Hitachi Maxell Ltd.

CD-RW (Multi-Speed and High-Speed):

MITSUBISHI CHEMICAL CORPORATION

RICOH Co., Ltd.

CD-RW (Ultra-Speed):

MITSUBISHI CHEMICAL CORPORATION

TOSHIBA has confirmed the operation of CD-R and CD-RW media of the manufacturers above. Operation of other media cannot be guaranteed.

■ CD-RW can generally be rewritten about 1,000 times. However, the actual number of rewrites is affected by the quality of the media and the way it is used.

■ Be sure to connect the AC adaptor when you write or rewrite.

■ Be sure to close all other software programs except the writing software.

■ Do not run software such as a screen saver which can put a heavy load on the CPU.

■ Operate the computer at full power. Do not use power-saving features.

■ Do not write while virus check software is running. Wait for it to finish, then disable virus detection programs including any software that checks files automatically in the background.

■ Ultra Speed + CD-RW media is not available. If used, data may be lost or damaged.

■ Do not use hard disk utilities, including those intended to enhance HDD access speed. They may cause unstable operation and damage data.

■ Write from the computer's HDD to the CD. Do not try to write from shared devices such as a LAN server or any other network device.

■ Writing with software other than Sonic RecordNow! has not been confirmed. Therefore, operation with other software cannot be guaranteed.

When writing or rewriting

Note the following when you write or rewrite a CD-R or CD-RW.

■ Always copy data from the HDD to the CD. Do not use cut-and-paste. The original data will be lost if there is a write error.

■ Do not perform any of the following actions:

■ Change users in the Windows XP operating system.

■ Operate the computer for any other function, including use of a mouse or Touch Pad, closing/opening the LCD panel.

■ Start a communication application such as a modem.

■ Apply impact or vibration to the computer.

■ Install, remove or connect external devices, including the following: PC card, USB devices, external display, optical digital devices.

■ Open the optical media drive.

■ If the media is poor in quality, dirty or damaged, writing or rewriting errors may occur.

■ Set the computer on a level surface and avoid places subject to vibration such as airplanes trains, or cars. Do not use an unstable surface such as a stand.

■ Keep mobile phones and other wireless communication devices away from the computer.

Writing CD/DVDs on DVD Super Multi drive

You can use the DVD Super Multi drive to write data to either CD-R/RW or DVD-R/-RW/+R/+RW/-RAM discs. The following applications for writing are supplied on CD-ROM: RecordNow!, licensed by Sonic Solutions. InterVideo WinDVD Creator Platinum, which is a product of InterVideo, Inc.

Important message

Before you write or rewrite to CD-R/RW or DVD-R/-RW/+R/+RW/-RAM disc, read and follow all setup and operating instructions in this section. If you fail to do so, the DVD Super Multi drive may not function properly, and you may fail to write or rewrite, lose data or incur other damage.

Disclaimer

TOSHIBA does not bear responsibility for the following:

■ Damage to any CD-R/RW or DVD-R/-RW/+R/+RW/-RAM disc that may be caused by writing or rewriting with this product.

■ Any change or loss of the recorded contents of CD-R/RW or DVD-R/-RW/+R/+RW/-RAM disc that may be caused by writing or rewriting with this product, or for any business profit loss or business interruption that may be caused by the change or loss of the recorded contents.

■ Damage that may be caused by using third party equipment or software. Given the technological limitations of current optical disc writing drives, you may experience unexpected writing or rewriting errors due to disc quality or problems with hardware devices. Also, it is a good idea to make two or more copies of important data, in case of undesired change or loss of the recorded contents.

Before writing or rewriting

■ Based on TOSHIBA's limited compatibility testing, we suggest the following manufacturers of CD-R/RW and DVD-R/+R/-RW/+RW/-RAM disc. However, in no event does TOSHIBA guarantee the operation, quality or performance of any disc. Disc quality can affect write or rewrite success rates.

CD-R:	TAIYO YUDEN CO., LTD. MITSUBISHI CHEMICAL CORPORATION RICOH Co., Ltd. Hitachi Maxell Ltd.
CD-RW: (Multi-Speed and High-Speed)	MITSUBISHI CHEMICAL CORPORATION RICOH Co., Ltd.
CD-RW: (Ultra-Speed)	MITSUBISHI CHEMICAL CORPORATION
DVD-R:	**DVD Specifications for Recordable Disc for General Version 2.0** TAIYO YUDEN CO., LTD. PIONEER VIDEO CORPORATION Matsushita Electric Industrial Co., Ltd.
DVD+R:	MITSUBISHI CHEMICAL CORPORATION RICOH Co., Ltd.
DVD+R DL: (Double Layer Recordable drive only)	MITSUBISHI CHEMICAL CORPORATION
DVD-RW:	**DVD Specifications for Recordable Disc for Version 1.1 or version 1.2** VICTOR COMPANY OF JAPAN.LIMITED MITSUBISHI CHEMICAL CORPORATION
DVD+RW:	MITSUBISHI CHEMICAL CORPORATION RICOH Co., Ltd.
DVD-RAM: (DVD Super Multi drive only)	**DVD Specifications for DVD-RAM Disc for Version 2.0 or Version 2.1** Matsushita Electric Industrial Co., Ltd. Hitachi Maxell Ltd.

This drive cannot use discs that allow writing faster than 8 speed (DVD-R, DVD+R), 4 speed (DVD-RW, DVD+RW), 3 speed (DVD-RAM)

■ If the disc is poor in quality, dirty or damaged, writing or rewriting errors may occur. Be careful to check the disc for dirt or damage before you use it.

■ The actual number of rewrites to CD-RW, DVD-RW, DVD+RW or DVD-RAM is affected by the quality of the disc and the way it is used.

■ There are two types of DVD-R discs: authoring and general use discs. Do not use authoring discs. Only general use discs can be written to by a computer drive.

■ You can use DVD-RAM discs that can be removed from a cartridge and DVD-RAM discs designed without a cartridge. You cannot use a disc with a 4.7 GB single-sided capacity or 9.4 GB double-sided capacity.

■ Other DVD-ROM drives for computers or other DVD players may not be able to read DVD-R/-RW or DVD+R/+RW discs.

■ Data written to a CD-R/DVD-R/DVD+R disc cannot be deleted either in whole or in part.

■ Data deleted (erased) from a CD-RW, DVD-RW, DVD+RW and DVD-RAM disc cannot be recovered. Check the content of the disc carefully before you delete it. If multiple drives that can write data to discs are connected, be careful not to delete data from the wrong drive.

■ In writing to a DVD-R/-RW, DVD+R/+RW or DVD-RAM disc, some disc space is required for file management, so you may not be able to write the full capacity of the disc.

■ Since the disc is based on the DVD standard, it might be filled with dummy data if the written data is less than about 1 GB. Even if you write only a small amount of data, it might take time to fill in the dummy data.

■ DVD-RAM formatted by FAT32 cannot be read in Windows 2000 without DVD-RAM Driver Software.

■ When multiple drives that can write data to discs are connected, be careful not to write to the wrong drive.

■ Be sure to connect the AC adaptor before you write or rewrite.

■ Before you enter standby/hibernation mode, be sure to finish DVD-RAM writing. Writing is finished if you can eject DVD-RAM media.

■ Be sure to close all other software programs except the writing software.

■ Do not run software such as a screen saver, which can put a heavy load on the CPU.

■ Operate the computer in the full-power mode. Do not use power-saving features.

■ Do not write while virus check software is running. Wait for it to finish and then disable virus detection programs including any software that checks files automatically in the background.

■ Do not use hard disk utilities, including those intended to enhance HDD access speed. They may cause unstable operation and data damage.

- CD-RW (Ultra Speed +) media is not available. If used, data may be lost or damaged.
- DVD+R DL media is not available. (Except UJ-831 and GSA-4080N.)
- Write from the computer's HDD to the CD/DVD. Do not try to write from shared devices such as a LAN server or any other network device.
- Writing with software other than RecordNow! and InterVideo WinDVD Creator Platinum are not recommended.

When writing or rewriting

Please observe/consider the following when you write or rewrite to a CD-R/RW, DVD-R/-RW/-RAM or DVD+R/+RW disc.

- Do not perform any of the following actions when writing or rewriting:
    - Change users in the Windows XP operating system.
    - Operate the computer for any other function, including using a mouse or Touch Pad or closing/opening the LCD panel.
    - Start a communication application such as a modem.
    - Apply impact or vibration to the computer.
    - Install, remove or connect external devices, including the following: PC card, USB devices, external display, optical digital devices.
    - Use the Audio/Video control button to reproduce music or voice.
    - Open the DVD-ROM&CD-R/RW or DVD Super Multi drive.
- Do not use shut down/log off and standby/hibernation while writing or rewriting.
- Make sure writing or rewriting is completed before going into standby/hibernation. Writing is completed if you can open the DVD-ROM&CD-R/RW or DVD Super Multi drive tray.
- Set the computer on a level surface and avoid places subject to vibration such as airplanes, trains, or cars. Do not use an unstable surface such as a stand.
- Keep mobile phones and other wireless communication devices away from the computer.
- Always copy data from the HDD to the DVD-RAM. Do not use cut-and-paste. The original data will be lost if there is a write error.

RecordNow! Basic for TOSHIBA

Note the following limitations when you use RecordNow!:

■ DVD-Video cannot be created using RecordNow!.

■ DVD-Audio cannot be created using RecordNow!.

■ You cannot use RecordNow!'s "Audio CD for Car or Home CD Player" function to record music to the DVD-R/-RW or DVD+R/+RW disc.

■ Do not use the "Exact Copy" function of RecordNow! to copy DVD-Video and DVD-ROM with copyright protection.

■ DVD-RAM disc cannot be backed up with the "Exact Copy" function of RecordNow!.

■ You cannot back up a CD-ROM or CD-R/RW to DVD-R/-RW or DVD+R/+RW using the "Exact Copy" function of RecordNow!.

■ You cannot back up DVD-ROM, DVD-Video or DVD-R/-RW or DVD+R/+RW to CD-R/RW using the "Exact Copy" function of RecordNow!.

■ RecordNow! cannot record in packet format.

■ You might not be able to use the "Exact Copy" function of RecordNow! to back up a DVD-R/-RW or DVD+R/+RW disc that was made with other software on a different DVD-R/-RW or DVD+R/+RW recorder.

■ If you add data to a DVD-R and DVD+R disc that you have already recorded to, you might not be able to read the added data under some circumstances. It cannot be read in 16-bit operating systems, such as Windows 98SE and Windows ME. In Windows NT4, you will need Service Pack 6 or later to read added data. In Windows 2000, you will need Service Pack 2 or later to read it. Some DVD-ROM and DVD-ROM&CD-R/RW drives cannot read added data regardless of the operating system.

■ RecordNow! does not support recording to DVD-RAM discs. To record to a DVD-RAM, use Explorer or other utility.

■ When you back up a DVD disc, be sure the source drive supports recording to DVD-R/-RW or DVD+R/+RW discs. If the source drive does not support recording to DVD-R/-RW or DVD+R/+RW discs, it might not be backed up correctly.

■ When you back up a DVD-R, DVD-RW, DVD+R or DVD+RW, be sure to use the same type of disc.

■ You cannot partially delete any data written to a CD-RW, DVD-RW or DVD+RW disc.

Data Verification

To verify that data is written or rewritten correctly, follow the steps below before you write or rewrite a Data CD/DVD.

1. Click the **Options** button(🔍) on the RecordNow! Console to open the Options panels.
2. Select the Data in the left-side menu.
3. Mark the Verify data written to the disc after burning check box in the Data Options.
4. Click the **OK** button.

DLA for TOSHIBA

Note the following limitations when you use DLA:

■ This software supports only rewritable discs (DVD+RW, DVD-RW, and CD-RW). It does not support DVD+R, DVD-R, and CD-R discs that are not rewritable.

■ DLA does not support formatting a DVD-RAM disc and writing to it. They are performed by DVD-RAM Driver Software. If DLA Format menu may appear when inserting a DVD-RAM disc into the drive and right-clicking the drive icon in Windows Explorer, please use "DVDForm" to format this disc. You can run "DVDForm" by clicking the Start button on the taskbar to display the Start menu and then selecting "All Programs", "DVD-RAM", "DVD-RAM Driver" and "DVDForm" sequentially.

■ Do not use any discs that have been formatted with packet writing software other than DLA. Similarly, do not use any discs that have been formatted with DLA with any packet writing software other than DLA. When using a disc you are not familiar with, format it by selecting "Full Format" before using it.

■ Do not use the Cut & Paste function for files and folders. A file or folder that has been cut may be lost if writing fails due to an error on the disc.

■ When writing the Setup files for the program to a disc formatted by DLA and starting Setup from this disc, an error may occur. In this case, please copy them to your hard disk and then run Setup.

Video

As for InterVideo WinDVD Creator Platinum. Only the model that can be written in to DVD is attached.

When WinDVD Creator Platinum is used:

You can record video back to your digital camcorder via i.LINK (IEEE1394) using WinDVD Creator Platinum. However, there is a case where its playback sound is choppy.

1. Click **Start** and select the **Control Panel**.
2. Click the **Performance and Maintenance** icon in the Control Panel.
3. Click the **System** icon in the Performance and Maintenance window.

4. Click the **Advanced** tab in the System Properties window.

5. Click the **Settings** icon in the "Performance" section.

6. Click the **Advanced** tab in the Performance Options window.

7. Click the **Change** icon in the "virtual memory" section.

8. Select the **Custom size** button in the Virtual Memory window.

9. Specify much higher values for "Initial size" and "Maximum size."

10. Click the **Set** button in the Virtual Memory window.

11. Click the **OK** button in the Virtual Memory window.

How to make a DVD-Video

Simplified steps for making a DVD-Video from video data captured from a DV-Camcorder:

1. Click [Start]-[All Programs] - [InterVideo WinDVD Creator2] - [InterVideo WinDVD Creator] to launch WinDVD Creator.

2. Click [Capture] button then capture the video data from the DV-Camcorder via IEEE1394.

3. Click [Edit] button then drag the video clips from [Video Library] tab to the edit track.

4. Click [Make Movie] button in the top bar.

5. Double Click the Right arrow button icon in the center of right side.

6. Put a blank DVD-R/+R disc or an erased DVD-RW/+RW disc in the drive.

7. Click [Start] to record to the disc.

8. When recording is finished, the tray opens.

How to learn more about InterVideo WinDVD Creator

Please refer to the on-line Help for additional InterVideo WinDVD Creator information.

Important information for use

Note the following limitations when you write video DVD:

1. Editing digital video

   ■ Log in with Administrator rights to use WinDVD Creator.

   ■ Make sure that your computer is running on AC power when using WinDVD Creator.

   ■ Operate the computer at Full Power. Do not use power-saving features.

   ■ While you are editing DVD, you can display previews. However, if another application is running, the preview might not display properly.

   ■ WinDVD Creator cannot show video on the external monitor when in simultaneous mode.

   ■ WinDVD Creator cannot edit or play copy protected content.

- Do not change display settings while using WinDVD Creator.
- Do not enter standby/hibernation mode while using WinDVD Creator.
- Do not operate WinDVD Creator immediately after turning on the computer. Please wait until all Disc Drive activity has stopped.
- When recording to a DV-Camcorder, to ensure you capture all of your data, let the camcorder record for a few seconds before you begin recording your actual data.
- CD recorder, JPEG functions, DVD-Audio, mini DVD and Video CD functions are not supported in this version.
- While recording video to DVD or tape, please close all other programs.
- Do not run software like a screen saver because it can put a heavy load on the CPU.
- Do not run communication applications like a modem or a LAN.

2. Before recording the video to DVD

- When you record to DVD disc, please use only discs recommended by the Drive manufacturer.
- Do not set the working drive to a slow device like a USB 1.1 hard disk drive or it will fail to write DVD.
- Do not perform any of the following actions:
  - Operate the computer for any other function, including using a mouse or TouchPad or closing/opening the LCD panel.
  - Bump or cause vibration to the computer.
  - Use the Mode control button and Audio/Video control button to reproduce music or voice.
  - Open the DVD drive.
  - Install, remove or connect external devices, including the following:
    PC card, SD card, USB devices, external display, i.LINK. devices, optical digital devices.
- Please verify your disc after recording important data.
- DVD-R/+R/-RW disc cannot be written in VR format.
- A maximum of about 2 hours of video data can be written in DVD Video format to DVD-R/+R/-RW/+RW disc.
- WinDVD Creator cannot export to DVD-Audio, VideoCD, miniDVD format.
- WinDVD Creator can write DVD-RAM/+RW in VR format, but the disc may only play on your computer.
- When writing to DVD disc, WinDVD Creator requires 2GB or more over disk space every one hour of video.
- When you make a fully recorded DVD, the chapter sequence may not play correctly.

3. About Disc Manager

- WinDVD Creator can edit one play list on a disc.
- WinDVD Creator might show a different a thumbnail than you previously set in CE (Consumer Electronics) DVD-RAM recorder.
- Using the Disc Manager, you can edit DVD-VR format on DVD-RAM, DVD+VR format on DVD+RW, and DVD-Video format on DVD-RW.

4. About recorded DVDs

- Some DVD-ROM drives for personal computers or other DVD players may not be able to read DVD-R/+R/-RW/+RW/-RAM discs.
- When playing your recorded disc on your computer, please use the WinDVD software application.
- If you use an over-used rewritable disc, the full formatting might be locked. Please use a brand new disc.

Media care

This section provides tips on protecting data stored on your CD/DVDs and floppy disks.

Handle your media with care. The following simple precautions will increase the lifetime of your media and protect the data stored on them:

CD/DVDs

1. Store your CD/DVDs in the container they came in to protect them and keep them clean.
2. Do not bend the CD/DVD.
3. Do not write on, apply a sticker to, or otherwise mar the surface of the CD/DVD that contains data.
4. Hold the CD/DVD by its outside edge or the edge on the center hole. Fingerprints on the surface can prevent the drive from properly reading data.
5. Do not expose to direct sunlight, extreme heat or cold. Do not place heavy objects on your CD/DVDs.
6. If your CD/DVDs become dusty or dirty, wipe them with a clean dry cloth. Wipe from the center out, do not wipe in a circular direction around the CD/DVD. If necessary, use a cloth dampened in water or a neutral cleaner. Do not use benzine, thinner or similar cleaner.

Floppy disks

1. Store your floppy disks in the container they came in to protect them and keep them clean. If a floppy disk is dirty, do not use cleaning fluid. Clean it with a soft damp cloth.
2. Do not slide back the floppy disk's protective metal covering or touch the floppy disk's magnetic surface. Fingerprints may prevent the floppy disk drive from reading data from the floppy disk.

3. Data may be lost if the floppy disk is twisted; bent; or exposed to direct sunlight, extreme heat or cold.

4. Do not place heavy objects on your floppy disks.

5. Do not eat, smoke, or use erasers near your floppy disks. Foreign particles inside the floppy disk's jacket can damage the magnetic surface.

6. Magnetic energy can destroy the data on your floppy disks. Keep your floppy disks away from speakers, radios, television sets and other sources of magnetic fields.

Modem

This section describes how to connect and disconnect the internal modem to and from a telephone jack.

The internal modem does not support voice functions. All data and fax functions are supported.

- *In case of a lightning storm, unplug the modem cable from the telephone jack.*
- *Do not connect the modem to a digital telephone line. A digital line will damage the modem.*

Region selection

Telecommunication regulations vary from one region to another, so you will need to make sure the internal modem's settings are correct for the region in which it will be used.

To select a region, follow the steps below.

1. Click **Start**, point to **All Programs**, point to **TOSHIBA**, point to **Networking** and click **Modem Region Select**.

Do not use the Country/Region Select function in the Modem setup utility in the Control Panel if the function is available. If you change the Country/ Region in the Control Panel, the change may not take effect.

2. The Region Selection icon will appear in the Windows Task Bar. Click the icon with the primary mouse button to display a list of regions that the modem supports. A sub menu for telephony location information will also be displayed. A check will appear next to the currently selected region and telephony location.

3. Select a region from the region menu or a telephony location from the sub-menu.

- When you click a region it becomes the modem's region selection, and the New Location for telephony will be set automatically.

- When you select a telephony location, the corresponding region is automatically selected and it becomes the modem's current region setting.

Properties menu

Click the icon with the secondary mouse button to display properties menu on the screen.

Setting

You can enable or disable the following settings:

AutoRun Mode

The Region Select utility starts automatically when you start up the operating system.

Open the Dialing Properties dialog box after selecting region.

The dialing properties dialog box will be displayed automatically after you select the region.

Location list for region selection.

A submenu appears displaying location information for telephony.

Open dialog box, if the modem and Telephony Current Location region code do not match.

A warning dialog box is displayed if current settings for region code and telephony location are incorrect.

Modem Selection

If the computer cannot recognize the internal modem, a dialog box is displayed. Select the COM port for your modem to use.

Dialing Properties

Select this item to display the dialing properties.

If you are using the computer in Japan, the Telecommunications Business Law requires that you select Japan region mode. It is illegal to use the modem in Japan with any other selection.

Connecting

To connect the modular cable, follow the steps below.

1. Plug one end of the modular cable into the computer's modem jack.
2. Plug the other end of the modular cable into a telephone jack.
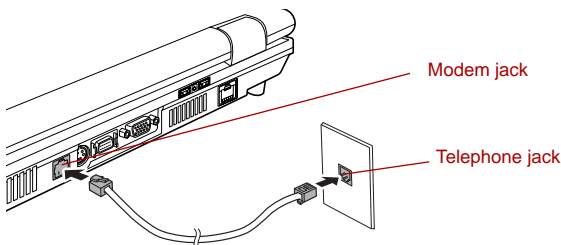
Figure 4-11 Connecting the internal modem

Do not pull on the cable or move the computer while the cable is connected.

If you use a storage device such as an optical drive or HDD connected to a 16-bit PC card, you might experience the following modem problems:

- *Modem speed is slow or communication is interrupted.*
- *Skips may occur in sound.*

Disconnecting

To disconnect the modular cable, follow the steps below.

1. Pinch the lever on the connector in the telephone jack and pull out the connector.
2. Disconnect the modular cable from the computer's modem jack in the same manner.

Wireless communications

The computer's wireless communication function supports both Wireless LAN and Bluetooth devices.

Bluetooth is provided with some models.

Wireless LAN

The Wireless LAN is compatible with other LAN systems based on Direct Sequence Spread Spectrum/Orthogonal Frequency Division Multiplexing radio technology that complies with IEEE802.11 Wireless LAN standard (Revision A, B or G) and Turbo Mode.

Supported features. It supports the following features:

■ Theoretical maximum speed: 54Mbps (IEEE802.11a, 802.11g)

■ Theoretical maximum speed: 11Mbps (IEEE802.11b)

■ Theoretical maximum speed: 108Mbps (Turbo Mode; Atheros module type)

■ Frequency Channel Selection (Revision A/Turbo Mode:5 GHz, Revision B/G: 2.4 GHz)

■ Roaming over multiple channels

■ Card Power Management

■ Atheros Super G™ or Super AG™ technology (Atheros module type).

■ Wired Equivalent Privacy (WEP) data encryption, based on the 152 bit encryption algorithm (Atheros module type).

■ Wired Equivalent Privacy (WEP) data encryption, based on the 128 bit encryption algorithm (Intel module type).

■ Advanced Encryption Standard (AES) data encryption, based on 256 bit encryption algorithm (Atheros module type).

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 Transmit Rate (xx Mbit/s) is the theoretical maximum speed under the IEEE802.11 (a/b/g) standard. The actual transmission speed will be lower than the theoretical maximum speed.

To use the Atheros SuperAG™ or SuperG™ function, your client and access point must support the corresponding feature. Performance of these functions may vary depending on the format of data transmitted.

Security

■ Be sure to enable WEP (encryption) function. Otherwise your computer will allow the illegal access by outsider through Wireless LAN to cause illegal intrusion, eavesdropping, and loss or destruction of stored data. TOSHIBA strongly recommend the customer to enable the WEP function.

■ TOSHIBA is not liable for the eavesdropping of data due to the use of Wireless LAN and the damage thereof.

Bluetooth wireless technology

Bluetooth wireless technology eliminates the need for cables between electronic devices such as desktop computers, printers and mobile phones.

You cannot use the built-in Bluetooth functions and an optional Bluetooth PC card simultaneously.

Bluetooth wireless technology has the following features:

Worldwide operation

The Bluetooth radio transmitter and receiver operates in the 2.45 GHz band, which is license-free and compatible with radio systems in most countries in the world.

Radio links

You can easily establish links between two or more devices. The link is maintained even if the devices are not within line of sight.

Security

Two advanced security mechanisms ensure a high level of security:

■ Authentication prevents access to critical data and makes it impossible to falsify the origin of a message.

■ Encryption prevents eavesdropping and maintains link privacy.

Wireless communication switch

You can enable or disable Wireless LAN and Bluetooth functions, with the on/off switch. No transmissions are sent or received when the switch is off. Slide the switch to the right to turn it on and to the left to turn it off.

⚠️
■ *Set the switch to off in airplanes and hospitals. Check the indicator. It will stop glowing when the wireless communication function is off.*

■ *Turn the computer off when you enter an airplane and check the carrier's regulations before you use a computer on board.*

Wireless communication indicator

The wireless communication indicator indicates the status of the wireless communication functions.

Indicator status	Indication
Indicator off	Wireless communication switch is set to off.
Indicator glows	Wireless communication switch is on. Wireless LAN or Bluetooth is turned on by an application.

If you used the Task Bar to disable W-LAN, restart the computer or follow the procedures below to enable the system to recognize W-LAN. Open or click the following: **start, Control Panel, System, Hardware Device Manager, Network adapters, Intel® PRO/Wireless 2200BG Network Connection** or **Atheros AR5004X/AR5004G Wireless Network Adapter** and enable.

LAN

The computer has built-in support for Ethernet LAN (10 megabits per second, 10BASE-T), Fast Ethernet LAN (100 megabits per second, 100BASE-TX). This section describes how to connect/disconnect to a LAN.

LAN cable types

⚠️ *The computer must be configured properly before connecting to a LAN. Logging onto a LAN using the computer's default settings could cause a malfunction in LAN operation. Check with your LAN administrator regarding set-up procedures.*

If you are using Fast Ethernet LAN (100 megabits per second, 100BASE-TX), be sure to connect with a CAT5 cable. You cannot use a CAT3 cable.

If you are using Ethernet LAN (10 megabits per second, 10BASE-T), you can connect with either a CAT5 or a CAT3.

Connecting LAN cable

To connect the LAN cable, follow the steps below.

1. Turn off the power to the computer and to all external devices connected to the computer.

2. Plug one end of the cable into the LAN jack. Press gently until you hear the latch click into place.
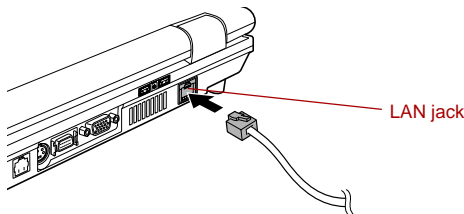

LAN jack

Figure 4-12 Connecting the LAN cable

3. Plug the other end of the cable into a LAN hub connector. Check with your LAN administrator before connecting to a hub.

ℹ️ *When the computer is exchanging data with the LAN, the **LAN Active** indicator glows orange. When the computer is connected to a LAN hub but is not exchanging data, the **Link** indicator glows green.*

Disconnecting LAN cable

To disconnect the LAN cable, follow the steps below.

⚠️ *Make sure the **LAN Active** indicator (orange LED) is out before you disconnect the computer from the LAN.*

1. Pinch the lever on the connector in the computer's LAN jack and pull out the connector.
2. Disconnect the cable from the LAN hub in the same manner. Check with your LAN administrator before disconnecting from the hub.

Cleaning the computer

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

■ Be careful not to spill liquids into the computer. If the computer does get wet, turn the power off immediately and let the computer dry completely before you turn it on again.

■ Clean the computer using a slightly damp (with water) cloth. You can use glass cleaner on the display. Spray a small amount of cleaner on a soft, clean cloth and wipe the screen gently with the cloth.

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

Moving the computer

The computer is designed for rugged durability. However, a few simple precautions taken when moving the computer will help ensure trouble-free operation.

■ Make sure all disk activity has ended before moving the computer. Check the **Disk** indicator on the computer.

■ If a CD/DVD is in the drives, remove it. Also make sure the drawer is securely closed.

■ Turn off the power to the computer.

■ Disconnect the AC adaptor and all peripherals before moving the computer.

■ Close the display. Do not pick up the computer by its display panel.

■ Close all port covers.

■ Use the carrying case when transporting the computer.

■ When carrying your computer, be sure to hold it securely so that it does not fall or hit anything.

■ Do not carry your computer by holding protruded portions.

Heat dispersal

To protect from overheating, the CPU has an internal temperature sensor. If the computer's internal temperature rises to a certain level, the cooling fan is turned on or the processing speed is lowered. You can select whether to control the CPU temperature by turning on the fan first, then if necessary, lowering the CPU speed. Or, by lowering the CPU speed first, then if necessary, turning on the fan. Use the *Cooling Method* item of the *Basic Setup* tab in TOSHIBA Power Saver.

Maximum Performance	Turns on the fan first, then if necessary, lowers the CPU processing speed.
Performance	Uses a combination of the fan and lowering the CPU processing speed.
Battery optimized	Lowers the CPU processing speed first, then if necessary turns on the fan.

When the CPU temperature falls to a normal range, the fan is turned off and the CPU operation returns to standard speed.

If the CPU temperature reaches an unacceptably high level with either setting, the system automatically shuts down to prevent damage. Data in memory will be lost.

Chapter 5

The Keyboard

The computer's keyboard layouts are compatible with a 101/102-key enhanced keyboard. By pressing some keys in combination, all the 101/102-key keyboard functions can be executed on the computer.

The number of keys on your keyboard depends on which country/region's keyboard layout your computer is configured with. Keyboards for numerous languages are available.

There are five types of keys: typewriter keys, keypad overlay, function keys, soft keys and cursor control keys.

Typewriter keys

The typewriter keys produce the upper- and lower-case letters, numbers, punctuation marks, and special symbols that appear on the screen.

There are some differences, however, between using a typewriter and using a computer keyboard:

■ Letters and numbers produced in computer text vary in width. Spaces, which are created by a "space character," may also vary depending on line justification and other factors.

■ The lowercase l (el) and the number 1 (one) are not interchangeable on computers as they are on a typewriter.

■ The uppercase O (oh) and the 0 (zero) are not interchangeable.

■ The **Caps Lock** function key locks only the alphabetic characters in uppercase while the shift lock on a typewriter places all keys in the shifted position.

■ The **Shift** keys, the **Tab** key, and the **BkSp** (backspace) key perform the same function as their typewriter counterparts but also have special computer functions.

F1 … F12 function keys

The function keys (not to be confused with **Fn**) are the 12 keys at the top of your keyboard. These keys function differently from other keys.

F1 through F12 are called function keys because they execute programmed functions when pressed. Used in combination with the **Fn** key, keys marked with icons execute specific functions on the computer. Refer to the section, *Soft keys: Fn key combinations*, in this chapter. The function executed by individual keys depends on the software you are using.

Soft keys: Fn key combinations

The **Fn** (function) is unique to TOSHIBA computers and is used in combination with other keys to form soft keys. Soft keys are key combinations that enable, disable or configure specific features.

Some software may disable or interfere with soft-key operations. Soft-key settings are not restored by the Standby feature.

Emulating keys on enhanced keyboard
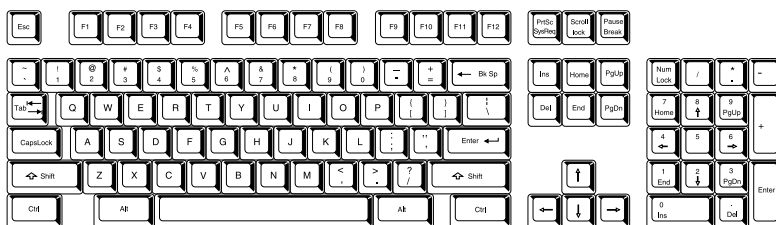
Figure 5-1 A 101-key enhanced keyboard layout

The keyboard is designed to provide all the features of the 101-key enhanced keyboard, shown in figure 5-1. The 101/102-key enhanced keyboard has a numeric keypad and scroll lock key. It also has additional **Enter** and **Ctrl** keys to the right of the main keyboard. Since the keyboard is smaller and has fewer keys, some of the enhanced keyboard functions must be simulated using two keys instead of one on the larger keyboard.

Your software may require you to use keys that the keyboard does not have. Pressing the **Fn** key and one of the following keys simulates the enhanced keyboard's functions.
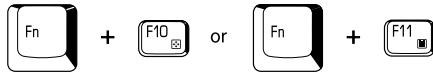
Press **Fn** + **F10** or **Fn** + **F11** to access the integrated keypad. When activated, the keys with gray markings on the bottom edge become numeric keypad k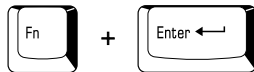eys (**Fn** + **F11**) or cursor control keys (**Fn** + **F10**). Refer to the *Keypad overlay* section in this chapter for more information on how to operate these keys. The power on default for both settings is off.

Press **Fn** + **F12** (**ScrLock**) to lock the cursor on a specific line. The power on default is off.

Press **Fn** + **Enter** to simulate **Enter** on the enhanced keyboard's numeric keypad.

Press **Fn** + **Ctrl** to simulate the enhanced keyboard's right **Ctrl** key.

Hot keys

Hot keys (**Fn** + a **function** or **Esc** key) let you enable or disable certain features of the computers.

The Hot key functions are supported only under Windows, not supported under QosmioPlayer.
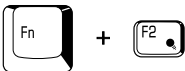
Sound mute: Pressing **Fn** + **Esc** in a Windows environment turns sound on or off. When you press these hot keys, the current setting will change and be displayed as an icon.

Fn + **F1**

Instant security: Press **Fn** + **F1** to blank the screen to prevent others from accessing your data. To restore the screen and original settings, press any key or press the Touch Pad. If a screensaver password is registered, a dialog box will appear. Enter the screensaver password and click **OK**. If no password is set, the screen will be restored when you press any key or press the Touch Pad.

During the Monitor-in mode, **Fn** *+* **F1** *is not available.*

Fn + **F2**

Power save mode: Pressing **Fn** + **F2** changes the power save mode.

If you press **Fn** + **F2** in a Windows environment, the Power Save Mode is displayed in a dialog box similar to the one below. Continue holding down **Fn** and press **F2** again to change the setting. You can also change this setting through the *profile* item in TOSHIBA Power Saver.
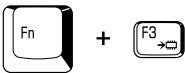
Fn + **F3**

Standby: When you press **Fn** + **F3**, the computer enters Standby. To avoid entering Standby unexpectedly, a dialog box appears for verification. However, if you select the check box, it will not appear in the future.

Fn + **F4**

Hibernation: When you press **Fn** + **F4**, the computer enters Hibernation. To avoid entering Hibernation unexpectedly, a dialog box appears for verification. However, if you select the check box, it will not appear in the future.

Fn + F5

Display selection: Press **Fn** + **F5** to change the active display device. When you press these hot keys, a dialog box appears. Only selectable devices will be displayed. Hold down **Fn** and press **F5** again to change the device. When you release **Fn** and **F5**, the selected device will change. If you hold down these hot keys for five seconds the selection will return to **LCD**.

During the Monitor-in mode, **Fn** + **F5** *is not available.*

Fn + F6

LCD Display Brightness: Pressing **Fn** + **F6** decreases the display brightness in decrements. When you press these hot keys, the current setting will be displayed for two seconds by a pop-up icon. You can also change this setting through the *Screen brightness* item of the *Basic Setup* tab in TOSHIBA Power Saver.
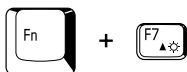
Fn + F7

LCD Display Brightness: Pressing **Fn** + **F7** increases the display brightness in increments. When you press these hot keys, the current setting will be displayed for two seconds by a pop-up icon. You can also change this setting through the *Screen brightness* item of the *Basic Setup* tab in TOSHIBA Power Saver.

■ *The brightness level is always set at the maximum value for about 18 seconds, when the LCD turns on. After 18 seconds, the brightness level will appear at the Power Save Mode setting or you can change it manually.*

■ *Display clarity increases with the brightness level.*

Wireless setting: If your computer has both Bluetooth and wireless LAN functions, you can press **Fn** + **F8** to select which type of wireless communication you want to use. When you press these hot keys, a dialog box will appear. Continue holding down **Fn** and press **F8** to change the setting. If wireless communication is turned off, `Disabled Wireless Communication Switch` will be displayed.

If no wireless communication device is installed, no dialog box will appear.

Touch Pad: Pressing **Fn** + **F9** in a windows environment enables or disables the Touch Pad function. When you press these hot keys, the current setting will change and be displayed as an icon.
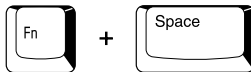
Display resolution selection: Press **Fn** + **space** keys to change the display resolution. Each time when you press these hot keys, the display resolution changes as follows: From the current resolution (the original resolution) to 1024 × 768, from 1024 × 768 to 800 × 600, from 800 × 600 to the original resolution.

TOSHIBA Zooming Utility (reduce): To reduce the icon size on the desktop or the application window, press the **1** key while holding down the **Fn** key.
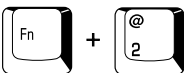
TOSHIBA Zooming Utility (enlarge): To enlarge the icon size on the desktop or the application window, press the **2** key while holding down the **Fn** key.

QosmioEngine modes: Pressing **Fn** + **3** to change the QosmioEngine screen mode on Dynamic, Standard or Theater. Refer to the *QosmioPlayer* section in Chapter 8, Using the Remote Controller, AV Buttons and QosmioPlayer.

Monitor-in: Pressing **Fn** + **4** will toggle mode between Windows and AV Input. In Monitor mode, both DVD/CD and Digital Audio indictors are on and the Audio button is disabled. Pressing this button in the power-off condition will do nothing. Press **Fn** + **4** to change the aspect ratio in the order: Normal -> Aspect Ratio of 4:3 -> Aspect Ratio of 16:9.

Fn Sticky key

You can use the TOSHIBA Accessibility Utility to make the **Fn** key sticky, that is, you can press it once, release it, and then press an "**F number**" key. To start the TOSHIBA Accessibility Utility, click **start**, point to **All Programs**, point to **TOSHIBA,** point to **Utilities** and click **Accessibility**.

Windows special keys

The keyboard provides two keys that have special functions in Windows: Windows logo key activates the **start** menu and the other, the application key, has the same function as the secondary mouse button.

This key activates the Windows **start** menu.

This key has the same function as the secondary mouse button.

Keypad overlay

Your computer's keyboard does not have an independent numeric keypad, but its numeric keypad overlay functions like one.

The keys in the center of the keyboard with gray letters make up the numeric keypad overlay. The overlay provides the same functions as the numeric keypad on the 101/102-key enhanced keyboard in figure 5-2.

Turning on the overlays

The numeric keypad overlay can be used for numeric data input or cursor and page control.

Arrow mode

To turn on the Arrow mode, press **Fn** + **F10**. The Arrow mode **F10** indicator lights. Now try cursor and page control using the keys shown in figure 5-2. Press **Fn** + **F10** again to turn off the overlay.

Numeric mode

To turn on the Numeric mode, press **Fn** + **F11**. The Numeric mode **F11** indicator lights. Now try numeric data entry using the keys in figure 5-2. Press **Fn** + **F11** again to turn off the overlay.

Figure 5-2 The numeric keypad overlay
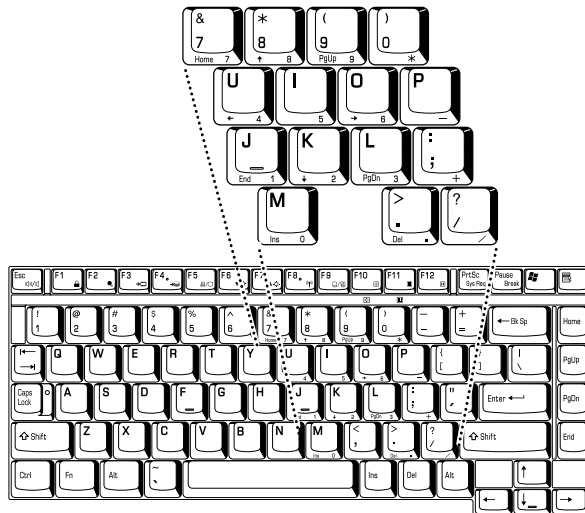
Temporarily using normal keyboard (overlay on)

While using the overlay, you can temporarily access the normal keyboard without turning off the overlay:

1. Hold **Fn** and press any other key. All keys will operate as if the overlay were off.

2. Type upper-case characters by holding **Fn** + **Shift** and pressing a character key.

3. Release **Fn** to continue using the overlay.

Temporarily using overlay (overlay off)

While using the normal keyboard, you can temporarily use the keypad overlay without turning it on:

1. Press and hold down **Fn**.
2. Check the keyboard indicators. Pressing **Fn** turns on the most recently used overlay. If the Numeric mode indicator lights, you can use the overlay for numeric entry. If the Arrow mode indicator lights, you can use the overlay for cursor and page control.
3. Release **Fn** to return to normal keyboard operation.

Temporarily changing modes

If the computer is in **Numeric mode**, you can switch temporarily to **Arrow mode** by pressing a shift key.

If the computer is in **Arrow mode**, you can switch temporarily to **Numeric mode** by pressing a shift key.

Generating ASCII characters

Not all ASCII characters can be generated using normal keyboard operation. But, you can generate these characters using their ASCII codes.

With the overlay on:

1. Hold down **Alt**.
2. Using the overlay keys, type the ASCII code.
3. Release **Alt**, and the ASCII character appears on the display screen.

With the overlay off:

1. Hold down **Alt** + **Fn**.
2. Using the overlay keys, type the ASCII code.
3. Release **Alt** + **Fn**, and the ASCII character appears on the display screen.

Chapter 6

Power

The computer's power resources include the AC adaptor and internal batteries. This chapter gives details on making the most effective use of these resources including charging and changing batteries, tips for saving battery power, and power up modes.

Power conditions

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

Table 6-1 Power conditions

		Power on	**Power off (no operation)**

AC adaptor connected	Battery fully charged	• Operates
		• LED: **Battery** green
		    DC IN green
			• LED: **Battery** green
			    DC IN green

	Battery partially charged or no charge	• Operates
		• Quick Charge
		• LED: **Battery** orange
		    DC IN green
			• Quick charge
			• LED: **Battery** orange
			    DC IN green

	No battery installed	• Operates
		• No charge
		• LED: **Battery** off
		    DC IN green
			• No charge
			• LED: **Battery** off
			    DC IN green

Table 6-1 Power conditions continued

		Power on	**Power off (no operation)**
AC adaptor not connected	Battery charge is above low battery trigger point	• Operates • LED: **Battery** off **DC IN** off	

	Battery charge is below low battery trigger point	• Operates
		• LED: **Battery**
		    flashes orange
		    DC IN off	

	Battery charge is exhausted	Computer goes into resume mode shuts down	
	No battery installed	• Cannot operate • LED: **Battery** off **DC IN** off	

Power indicators

As shown in the above table, the **Battery, DC IN** and **Power** indicators on the system indicator alert you to the computer's operating capability and battery charge status.

Battery indicator

Check the **Battery** indicator to determine the status of the battery pack. The following indicator lights indicate the battery status:

Flashing orange	The battery charge is low. The AC adaptor must be connected to recharge the battery.
Orange	Indicates the AC adaptor is connected and charging the battery.
Green	Indicates the AC adaptor is connected and the battery is fully charged.
No light	Under any other conditions, the indicator does not light.

If the battery becomes too hot while it is being charged, the charge will stop and the battery indicator will go out. When the battery's temperature falls to a normal range, charge will resume. This occurs whether the computer's power is on or off.

DC IN indicator

Check the **DC IN** indicator to determine the power status with the AC adaptor connected:

Green	Indicates the AC adaptor is connected and supplying proper power to the computer.
Flashing orange	Indicates a problem with the power supply. Plug the AC adaptor into another outlet. If it still does not operate properly, contact your dealer.
No light	Under any other conditions, the indicator does not light.

Power indicator

Check the **Power** indicator to determine the power status:

Green	Indicates power is being supplied to the computer and the computer is turned on.
Blinking orange	Indicates power is being supplied to the computer while the computer is in Standby mode. The indicator turns on for one second and off for two seconds.
No light	Under any other conditions, the indicator does not light.

Battery types

The computer has two types of batteries:

■ Battery pack
■ Real Time Clock (RTC) battery

Battery pack

When the AC adaptor is not connected, the computer's main power source is a removable lithium ion battery pack, also referred to in this manual as the battery. You can purchase additional battery packs for extended use of the computer away from an AC power source.

Before you remove the battery pack, set the computer to Hibernation mode or save your data and shut down the computer. Do not change the battery pack while the AC adaptor is connected.

■ *The battery pack is a lithium ion battery, which can explode if not properly replaced, used, handled or disposed of. Dispose of the battery as required by local ordinances or regulations. Use only batteries recommended by TOSHIBA as replacements.*

■ *Do not remove the battery pack while the computer is in Standby mode. Data is stored in RAM, so if the computer loses power it will be lost. When the computer is powered off in Standby mode, and the AC adaptor is not connected, the battery pack supply power to maintain data and program in memory. If the battery pack is completely discharged, Standby mode does not function and the computer loses all data in memory.*

To ensure that the battery pack maintains its maximum capacity, operate the computer on battery power at least once a month until the battery pack is fully discharged. Refer to *Extending battery life* in this chapter for procedures. If the computer is continuously operated on AC power through an AC adaptor for an extended period, more than a month, the battery may fail to retain a charge. It may not function efficiently over the expected life of the battery and the **Battery** indicator may not indicate a low-battery condition.

Real Time Clock battery

The Real Time Clock (RTC) battery provides power for the internal real time clock and calendar. It also maintains the system configuration.

If the RTC battery becomes completely discharged, the system loses this data and the real time clock and calendar stop working. The following message appears when you turn on the power:

> **** RTC battery is low or CMOS checksum is
> inconsistent ****
> Press [F1] key to set Date/Time.

> *The computer's RTC battery is a Ni-MH battery and should be replaced only by your dealer or by a TOSHIBA service representative. The battery can explode if not properly replaced, used, handled or disposed of. Dispose of the battery as required by local ordinances or regulations.*

> *You can change the setting of RTC by pressing **F1** key. Refer to Chapter 10 Troubleshooting for the detail.*

Care and use of the battery pack

The battery pack is a vital component of portable computing. Taking proper care of it will help ensure longer operating time on battery power as well as a longer life for your battery pack. Follow the instructions in this section carefully to ensure safe operation and maximum performance.

Safety precautions

Mishandling of batteries can cause death, serious injury or property damage. Carefully observe the following advisories:

Danger: Indicates an imminently hazardous situation, which could result in death or serious injury, if you do not follow instructions.

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

Caution: Indicates a potentially hazardous situation, which if not avoided, may result in moderate or minor injury or property damage.

Note: Provides important information.

Danger

1. Never try to dispose of the battery pack by burning or expose it to a heating device such as a microwave oven. The battery pack could explode and cause bodily injury.

2. Never try to disassemble, repair or otherwise tamper with a battery pack. The battery pack will overheat and ignite. Leakage of caustic alkaline solution or other electrolytic substances will cause fire or injury, possibly resulting in death or serious injury.

3. Never short-circuit the battery pack by contacting the terminals with a metal object. A short-circuit can cause fire or otherwise damage the battery pack and possibly cause injury. To avoid accidental short-circuit, always wrap the battery pack in plastic and cover the terminals with electrical tape when storing or disposing of the battery pack.

4. Never puncture the battery pack with a nail or other sharp object. Never strike it with a hammer or other object. Never step on it.

5. Never try to charge the battery pack in any manner other than that described in the user's manual. Never connect the battery pack to a plug socket or to an automobile's cigarette lighter socket. It may rupture or ignite.

6. Use only the battery pack supplied with the computer or other device or a battery pack approved by the computer or device's manufacturer. Battery packs have different voltages and terminal polarities. Use of an improper battery could cause smoke, fire or rupture of the battery pack.

7. Never subject a battery pack to heat, such as storage near a heat source. Exposure to heat can cause the battery pack to ignite, explode or leak caustic liquid and cause death or serious injury. It could also fail or malfunction causing data loss.

8. Never expose the battery pack to abnormal shock, vibration or pressure. The battery pack's internal protective device will fail, causing it to overheat, explode, ignite or leak caustic liquids possibly resulting in death or serious injury.

9. Never let a battery pack become wet. A wet battery pack will overheat, ignite or rupture possibly resulting in death or serious injury.

Warning

1. Never allow caustic electrolyte fluid leaked from a battery pack to contact your eyes, skin or clothing. If caustic electrolyte fluid should contact your eyes, immediately wash your eyes with large amounts of running water and seek medical attention, to help prevent eye damage. If electrolyte fluid should contact your skin immediately wash it under running water to prevent rash. If it contacts your clothes, promptly remove them to prevent the fluid from contacting your skin or eyes.

2. Immediately turn off the power, disconnect the AC adaptor and remove the battery if any of the following events are observed in the battery pack: offensive or unusual odor, excessive heat, discoloration or deformation. Never use the computer again until it has been checked by a TOSHIBA service provider. It might generate smoke or fire, or the battery pack might rupture.

3. Make sure the battery is securely installed in the computer before attempting to charge the battery pack. Improper installation could generate smoke or fire, or cause the battery pack to rupture.

4. Keep the battery pack out of reach of infants and children. It can cause injury.

Caution

1. Never continue to use a battery pack after its recharging capacity has become impaired, or after the display of a warning message indicating that the battery pack's power is exhausted. Continued use of an exhausted or impaired battery pack could cause the loss of data.

2. Never dispose of battery packs with normal trash. Bring them to your TOSHIBA dealer or to another recycling center to save resources and prevent environmental damage. Cover the terminals with electrical tape to prevent short-circuits, which could cause the battery pack to ignite or rupture.

3. Use only battery packs recommended by TOSHIBA as replacements.

4. Always make sure the battery pack is installed correctly and securely. Otherwise, a battery pack could fall out and possibly cause injury.

5. Charge the battery pack only in an ambient temperature between 5 and 35 degrees Celsius. Otherwise, the electrolyte solution might leak, battery pack performance might deteriorate and the battery life might be shortened.

6. Be sure to monitor the remaining battery power. If the battery pack and real time clock battery discharge completely, Standby and Suspend will not function and data in memory will be lost. Also, the computer might register an incorrect time and date. In this case, connect the AC adaptor to recharge the batteries.

7. Never install or remove the battery pack without first turning off the power and disconnecting the AC adaptor. Never remove the battery pack while the computer is in Suspend or Standby mode. Data will be lost.

Note

1. Never remove the battery pack while the Wake-up on LAN function is enabled. Data will be lost. Before you remove a battery pack, disable the Wake-up on LAN function.

2. To ensure the battery pack maintains maximum capacity, operate the computer on battery power once a week until the battery pack is fully discharged. Refer to the section *Extending battery life* in this chapter for procedures. If the computer is continuously operated on AC power for an extended period, more than a week, the battery might fail to retain a charge. It might not function efficiently over the expected life of the battery pack and the **Battery** indicator might not indicate a low-battery condition.

3. After the battery pack is charged, avoid leaving the AC adaptor connected and the computer turned off for more than a few hours at a time. Continuing to charge a fully-charged battery pack can damage the battery.

Charging the batteries

When the power in the battery pack becomes low, the **Battery** indicator flashes orange indicating that only a few minutes of battery power remain. If you continue to use the computer while the **Battery** indicator flashes, the computer enables Hibernation mode (so you don't lose data) and automatically turns off.

The computer enters Hibernate mode only if Hibernation is enabled in two places: the Hibernate tab in Power Options and Setup Action tab in TOSHIBA Power Saver.

You must recharge a battery pack when it becomes discharged.

Procedures

To recharge a battery pack while it is installed in the computer, connect the AC adaptor to the **DC IN 15V** jack and plug the other end into a working outlet.

The **Battery** indicator glows orange when the battery is being charged.

Use only the computer connected to an AC power source or the optional TOSHIBA Battery charger to charge the battery pack. Never attempt to charge the battery pack with any other charger.

Time

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

Charging time (hours)

Battery type	Power on	Power off
Battery pack (4400mAh)	about 3.5 or longer	about 3.0
RTC battery	8	Doesn't charge

The charging time when the computer is on is affected by ambient temperature, the temperature of the computer and how you use the computer. If you make heavy use of external devices, for example, the battery might scarcely charge at all during operation. Refer also to the section Maximizing battery operating time*.*

Battery charging notice

The battery may not charge right away under the following conditions:

■ The battery is extremely hot or cold. If the battery is extremely hot, it might not charge at all. To ensure the battery charges to its full capacity, charge the battery at room temperature of 10° to 30°C (50° to 88°F).

■ The battery is nearly completely discharged. Leave the AC adaptor connected for a few minutes and the battery should begin charging.

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

■ The battery has not been used for a long time.

■ The battery has completely discharged and been left in the computer for a long time.

■ A cool battery is installed in a warm computer.

In such case, follow the steps below.

1. Fully discharge the battery by leaving it in the computer with the power on until the power automatically shuts off.

2. Plug in the AC adaptor.

3. Charge the battery until the **Battery** indicator glows green.

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

Leaving the AC adaptor connected will shorten battery life. At least once a month, run the computer on battery power until the battery is fully discharged, then recharge the battery.

Monitoring battery capacity

Remaining battery power can be monitored in TOSHIBA Power Saver.

■ *Wait at least 16 seconds after turning on the computer before trying to monitor the remaining operating time. The computer needs this time to check the battery's remaining capacity and to calculate the remaining operating time, based on the current power consumption rate and remaining battery capacity. The actual remaining operating time may differ slightly from the calculated time.*

■ *With repeated discharges and recharges, the battery's capacity will gradually decrease. Therefore, an often used, older battery will not operate for as long as a new battery even when both are fully charged. In this case, TOSHIBA Power Saver will indicate a 100% charge for both the old and new battery, but the displayed estimated time remaining will be shorter for the older battery.*

Maximizing battery operating time

A battery's usefulness depends on how long it can supply power on a single charge.

How long the charge lasts in a battery depends on:

■ How you configure the computer (for example, whether you enable battery-power saving options). The computer provides a battery save mode, which can be set in TOSHIBA Power Saver, to conserve battery power. This mode has the following options:

■ CPU Processing speed

■ Screen brightness

■ Cooling Method

■ System standby

■ System Hibernation

■ Monitor Power off

■ HDD Power off

■ How often and how long you use the hard disk, optical disc and the floppy disk drive.

■ How much charge the battery contained to begin with.

■ How you use optional devices, such as a PC card, to which the battery supplies power.

■ Enabling Standby mode conserves battery power if you are frequently turning the computer off and on.

■ Where you store your programs and data.

■ Closing the display when you are not using the keyboard saves power.

■ Operating time decreases at low temperatures.

■ The condition of the battery terminals. Make sure the battery terminals stay clean by wiping them with a clean dry cloth before installing the battery pack.

Retaining data with power off

When you turn off your computer with fully charged batteries, the batteries retain data for the following approximate time periods.

Battery pack (4400mAh)	about 3 days (Standby mode)
	about 15 days (Boot mode)
RTC battery	30 days

Extending 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 adaptor and turn on the computer's power. If it does not turn on go to step 4.

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

4. Connect the AC adaptor to the computer and the power cord to a power outlet. The **DC IN** indicator should glow green, and the **Battery** indicator should glow orange to indicate that the battery pack is being charged. If the **DC IN** indicator does not glow, power is not being supplied. Check the connections for the AC adaptor and power cord.

5. Charge the battery pack until the **Battery** indicator glows green.

■ 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 adaptor when the battery is fully charged. Overcharging makes the battery hot and shortens life.

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

■ Store spare battery packs in a cool dry place out of direct sunlight.

Replacing the battery pack

When the battery pack reaches the end of its operating life you will need to install a new one. The life of the battery pack is generally about 500 recharges. If the **Battery** indicator flashes orange shortly after fully recharging the battery, the battery pack needs to be replaced.

You might also replace a discharged battery pack with a charged spare when you are operating your computer away from an AC power source. This section explains how to remove and install the battery pack.

Removing the battery pack

To replace a discharged battery, follow the steps below.

⚠️
- *When handling battery packs, do not short-circuit the terminals. Also do not drop, hit or otherwise apply impact; do not scratch or break the casing and do not twist or bend the battery pack.*

- *Do not remove the battery pack while the computer is in Standby mode. Data is stored in RAM, so if the computer loses power it will be lost.*

- *In Hibernation mode, data will be lost if you remove the battery or disconnect the AC adaptor before the save is completed. Wait for the **Disk** indicator to go out.*

- *Do not touch the latch while holding the computer. Or you may get injured by the dropped battery by unintentional release of the latch.*

1. Save your work.
2. Turn the computer's power off. Make sure the **Power** indicator is off.
3. Remove all cables connected to the computer.
4. Turn the computer upside down.
5. Slide the battery safety lock towards the release (⌒▬) position to make the battery release latch movable.
6. Slide the battery release latch to free the battery pack for removal, then slide out the battery pack.
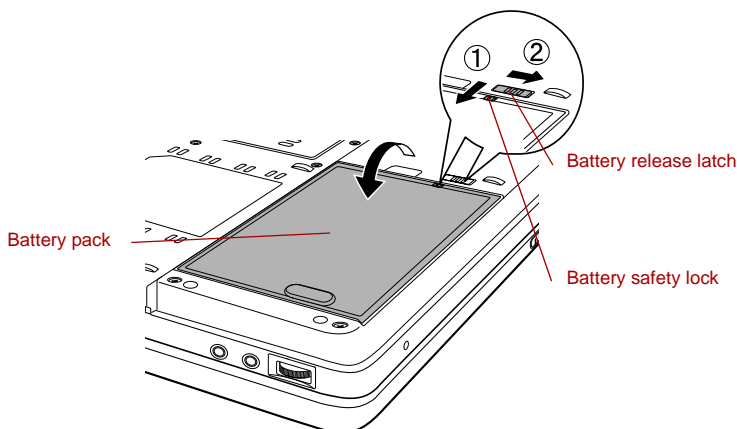

Figure 6-1 Releasing the battery pack

⚠️
For environmental reasons, do not throw away a spent battery pack. Please return spent battery packs to your TOSHIBA dealer.

Installing the battery pack

To install a battery, follow the steps below.

⚠️ ■ *The battery pack is a lithium ion battery, which can explode if not properly replaced, used, handled or disposed of. Dispose of the battery as required by local ordinances or regulations. Use only batteries recommended by TOSHIBA as replacements.*

■ *Do not touch the latch while holding the computer. Or you may get injured by the dropped battery by unintentional release of the latch.*

1. Turn the computer's power off.
2. Disconnect all cables connected to the computer.
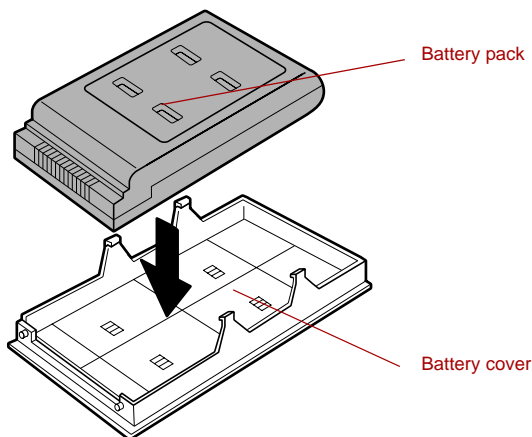3. Attach the battery pack in a battery cover.

Battery pack

Battery cover

Figure 6-2 Attach the battery pack in a battery cover

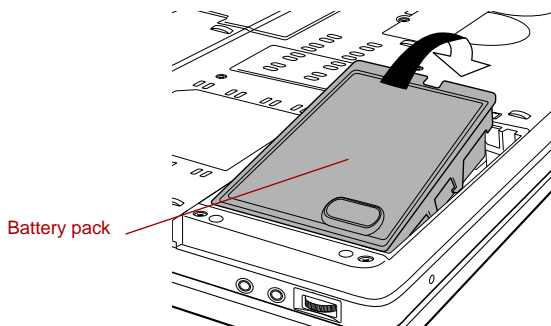4. Insert the battery pack with a battery cover.

Battery pack

Figure 6-3 Securing the battery pack

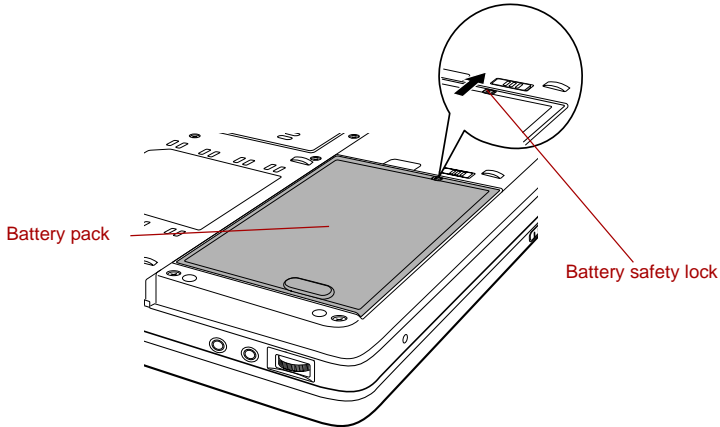5. Slide the battery safety lock to the Lock (🔒) position.

Figure 6-4 Lock the battery safety lock

TOSHIBA Password Utility

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

Passwords set in TOSHIBA Password Utility are different from the Windows password.

User password

To start the utility, point to or click the following items:

Start -> All Programs -> TOSHIBA -> Utilities ->Password Utility

■ **Set** (button)
Click this button to register a password of up to 50 characters. After a password is set, you will be prompted to enter it when you start the computer.

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

■ **Delete** (button)
Click this button to delete a registered password. Before you can delete a password, you must first enter the current password correctly.

■ **Change** (button)
Click this button to change a registered password. Before you can change a password, you must first enter the current password correctly.

■ **Owner String** (text box)
You can use this box to associate text with the password. After you enter text, click **Apply** or **OK**. At the time of a startup of a computer, this text is displayed, when you can ask for the input of a password.

Supervisor password

To set a supervisor password, follow the steps below.
1. Click **Start**.
2. Click **Run**.
3. Enter the following:`C:\Program Files\Toshiba\Windows Utilities\SVPWTool\TOSPU.EXE`

If you set a supervisor password, some functions might be restricted when a user logs on with the user password.

This utility lets you do the following:
■ Register, delete or change the supervisor password.
■ Specify restrictions for general users.

Starting the computer by password

To start up the computer with the user password, follow these steps:
1. Turn on the power as described in Chapter 3, *Getting Started*. The following message appears:

Password =

*At this point, the hotkeys **Fn** + **F1** to **F9** do not work. They will function after you enter the password.*

2. Enter the password.
3. Press **Enter**.

If you enter the password incorrectly three times in a row, the computer shuts off. In this case, you must turn the computer back on to retry password entry.

Power-up modes

The computer has the following power-up modes:

■ Boot: Computer shuts down without saving data. Always save your work before you turn the computer off in boot mode.

■ Hibernation: Data in memory is saved to the hard disk.

■ Standby: Data is maintained in the computer's main memory.

Refer also to the sections Turning on the power *and* Turning off the power *in Chapter 3, Getting Started.*

Windows utilities

You can specify the setting in TOSHIBA Power Saver.

Hot keys

You can use hot keys **Fn** + **F3** to enter Standby mode and **Fn** + **F4** to enter Hibernation. Refer to Chapter 5, *The Keyboard* for details.

Panel power on/off

You can set up your computer so that power turns off automatically when you close the display panel. When you open the panel, power turns on in Standby or Hibernation mode but not in boot mode.

If the panel power off function is enabled and you use Shut down Windows, do not close the display until the shut down function is completed.

System Auto Off

This feature turns the system off automatically if it is not used for a set duration. The system shuts down in Standby mode or Hibernation mode in Windows.

Chapter 7

HW Setup

This chapter explains how to use TOSHIBA HW Setup program to configure your computer. TOSHIBA HW Setup lets you configure settings for General, Boot Priority, Keyboard, CPU, LAN, Device Config, USB and Button Setting.

Accessing HW Setup

To run HW Setup, click **Start**, click **Control Panel**, click **Printers and Other Hardware** and select **TOSHIBA HW Setup**.

HW Setup window

The HW Setup window contains the following tabs: General, Display, Boot Priority, Keyboard, CPU, LAN, Device Config, USB and Button Setting.

There are also three buttons: **OK**, **Cancel** and **Apply**.

`OK`	Accepts your changes and closes the HW Setup window.
`Cancel`	Closes the window without accepting your changes.
`Apply`	Accepts all your changes without closing the HW Setup window.

General

This window displays the BIOS version and contains two buttons: **Default** and **About**.

`Default`	Return all HW Setup values to the factory settings.
`About`	Display the HW Setup version.

Setup

This field displays `BIOS Version` and date.

Display

This tab lets you customize your computer's display settings for either the internal LCD screen or for an external monitor.

Power On Display

Lets you use the display to be used when the computer is booted.

Auto-Selected	Selects an external monitor if one is connected. Otherwise, it selects the internal LCD (Default).
LCD + Analog RGB	Selects both the internal LCD and external monitor for simultaneous display.

Boot Priority

There are two types of models: one with one hard disk drive and the other with two hard disk drives. Setting options may vary depending on the model.

Boot Priority Options

This option sets the priority for booting the computer. Select from the following settings:

"HDD" here refers to the Built-in HDD that is defined in the HDD Priority Option so that it should be recognized first.

HDD $\rightarrow$ **FDD** $\rightarrow$ **CD-ROM** $\rightarrow$ **LAN**	The computer looks for bootable files in the following order: HDD, floppy disk drive, CD-ROM and LAN. (Default)
FDD $\rightarrow$ **HDD** $\rightarrow$ **CD-ROM** $\rightarrow$ **LAN**	The computer looks for bootable files in the following order: floppy disk drive, HDD, CD-ROM and LAN.
HDD $\rightarrow$ **CD-ROM** $\rightarrow$ **LAN** $\rightarrow$ **FDD**	The computer looks for bootable files in the following order: HDD, CD-ROM, LAN and floppy disk drive.
FDD $\rightarrow$ **CD-ROM** $\rightarrow$ **LAN** $\rightarrow$ **HDD**	The computer looks for bootable files in the following order: floppy disk drive, CD-ROM, LAN and HDD.
CD-ROM $\rightarrow$ **LAN** $\rightarrow$ **HDD** $\rightarrow$ **FDD**	The computer looks for bootable files in the following order: CD-ROM, LAN, HDD, floppy disk drive.
CD-ROM $\rightarrow$ **LAN** $\rightarrow$ **FDD** $\rightarrow$ **HDD**	The computer looks for bootable files in the following order: CD-ROM, LAN, floppy disk drive and HDD.

You can override the settings and manually select a boot device by pressing one of the following keys while the computer is booting:

U	Selects the USB floppy disk drive.
N	Selects the Network.
1	Selects the primary HDD1.
2	Selects the primary HDD2[*1].
C	Selects the CD-ROM[*2].

[*1] Only the model with two HDDs is supported.

[*2] In this computer, CD-ROM refers to the Fixed optical media drive.

To change the boot drive, follow the steps below.

1. Hold down **F12** and boot the computer.
2. The following menu will be displayed with the following icons: Built-in HDD1, Built-in HDD2, CD-ROM, FDD, Network (LAN), boot.
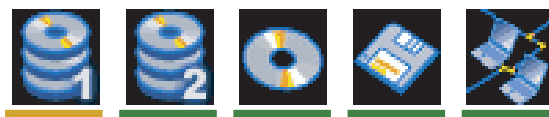
A bar will appear only under the selected device.

3. Use the left/right cursor keys to highlight the boot device you want and press **Enter**.

- *If a supervisor password is set only, it is the following.*
  - *The menu above appear when you use the user password to start the computer (able to run HW Setup).*
  - *The menu above does not appear when you use the user password to start the computer (unable to run HW Setup).*
- *If the supervisor and user password are set, it is the following.*
  - *The menu above appear when you use the supervisor and user password to start the computer (able to run HW Setup).*
  - *The menu above does not appear when you use the user password to start the computer (unable to run HW Setup).*
  - *The menu above appear when you use the supervisor password to start the computer (unable to run HW Setup).*
- *The selection method above does not change the boot priority settings in HW Setup.*
- *If you press a key other than one of those above or if the selected device is not installed, the system will boot according to the current setting in HW Setup.*

HDD Priority Options

This option lets you set the priority for HDD detection. If the first detected HDD has a boot command, the system will boot from the HDD.

`Built-in HDD1` −> `Built-in HDD2` `(Default)`	The computer will look for the Built-in HDD1 first, next the Built-in HDD2 (Default).
`Built-in HDD2` −> `Built-in HDD1`	The computer will look for the Built-in HDD2 first, next the Built-in HDD1.

■ *If a boot command is not found on the first detected HDD, the system will not boot from the other HDD. It will search the next device in the boot priority for a boot command.*

■ *Although, generally, most models have two hard disks installed, some models have only one hard disk. In the case of models with one hard disk, this setting item will not be displayed.*

Network Boot Protocol

This feature sets the protocol to remotely boot from the network.

[PXE] Sets PXE as the protocol (Default).

[RPL] Sets RPL as the protocol.

Keyboard

Wake-up on Keyboard

When this feature is enabled and the computer is in Standby mode, you can turn on the computer by pressing any key. It is effective only for the internal keyboard and only when the computer is in standby mode.

`Enabled`	Enables the Wake-up on Keyboard.
`Disabled`	Disables the Wake-up on Keyboard (Default).

CPU

This function lets you set the CPU operating mode.

It is displayed in Pentium-M model only.

Dynamic CPU Frequency Mode

This option lets you choose from the following settings:

Dynamically Switchable	CPU power consumption and clock speed automatic switching function is enabled. When the computer is in use, CPU operation is automatically switched when necessary (Default).
Always High	CPU power consumption and clock speed automatic switching function is disabled. The CPU always runs at its fastest speed.
Always Low	CPU power consumption and clock speed automatic switching function is disabled. The CPU always runs at low power consumption and low speed.

LAN

Built-in LAN

This feature enables or disables the Built-in LAN.

Enabled	Enables Built-in LAN functions (Default).
Disabled	Disables Built-in LAN functions.

Device Config

Device Configuration

This option lets you set the device configuration.

All Devices	BIOS sets all devices.
Setup by OS	Operating system sets devices that it can control (Default).

USB

USB KB/Mouse Legacy Emulation

Use this option to enable or disable USB KB/Mouse Legacy Emulation. If your operating system does not support USB, you can still use a USB mouse and keyboard by setting the **USB KB/Mouse Legacy Emulation** item to **Enabled**.

Enabled	Enables the USB KB/Mouse Legacy Emulation (Default).
Disabled	Disables the USB KB/Mouse Legacy Emulation.

USB-FDD Legacy Emulation

Use this option to enable or disable USB-FDD Legacy Emulation.

Enabled	Enables the USB-FDD Legacy Emulation (Default).
Disabled	Disables the USB-FDD Legacy Emulation.

Button Setting

Power Button Lamp

This drop-down menu enables you to specify how the Power button lamp glows depending on the status of your computer.

off	Always off
Mode 1	Sets Mode1 Glows blue (Power on), Glows yellow (Standby), Glows orange (Power off/ Hibernation) (Default).
Mode 2	Sets Mode2 Glows blue (Power on), Alternately flashes green and orange (Standby), Alternately flashes green and blue (Power off/Hibernation).
Mode 3	Sets Mode3 Changes in order of green, orange and blue (Power on), Glows yellow (Standby), Glows orange (Power off/Hibernation).

That when you remove both the AC adaptor and the Battery pack, Mode 1 (default) is automatically selected. However, the setting will return to the mode you has selected when you power your computer on.

Sound Logo

Use this option to enable or disable sound to sound, when a personal computer is started.

Enabled	Enables sound to sound (Default).
Disabled	Disables sound to sound.

Start Up logo

This option lets you select from the following two types of logos which is displayed at computer startup.

Animation	The Logo appears as an animated image (Default).
Picture	The Logo appears as a static image.

Chapter 8

Using the Remote Controller, AV Buttons and QosmioPlayer

This chapter explains how to use the Remote Controller on Windows XP Media Center Edition and Windows XP Home Edition models as well as provides information about QosmioPlayer.

The state where Windows XP is active is referred to as Windows mode, whereas the state where QosmioPlayer is active QosmioPlayer mode.

Windows XP Media Center Edition and QosmioPlayer

Windows XP Media Center Edition

My TV has been preinstalled on the MCE model. Do not install other TV viewing software such as WinDVR. If installed, it will not operate.

Windows XP Media Center Edition has the following function.

■ Watch TV or a DVD movie.
■ Pause, rewind, and fast forward TV programs using the Media Center time shifting feature.
■ Watch an instant replay.
■ Play back your digital videos.
■ View your digital pictures, or play them as a slide show.
■ Browse, select, and play music CDs and DVD movies.
■ Update the Television Program Guide from the Internet.

For more information, refer to the manual in the Microsoft® Windows® XP Media Center Edition.

QosmioPlayer

QosmioPlayer is a quick play feature that enables users to perform TV, DVD and CD playback, as well as AV input (image and voice data) without using Windows. QosmioPlayer is provided with some models.

Remote Controller

This computer includes a TV Remote Controller. It enables you to perform some functions of your computer from a distant location.

Remote Controller is provided with some models.

Part Names of Remote Controller

The figure below shows the buttons on the Remote Controller. Refer to the descriptions on the next page for the functions of each button.

Windows XP Home Edition

This section describes the Remote Controller provided with a Windows XP Home Edition model.

Refer to the *Using the Remote Controller* section in this chapter for how to use the Remote Controller as well as how to install and remove its batteries.

Power

TV

Input switching

Time shift

Replay

Numbers

Option selection

Arrows

Set up

Record

Channel

Fast rewind

Play/Pause

Previous

Display

Angle

CD/DVD

Full screen

Skip

Brightness

DVD Menu

OK

Back

Volume

Mute

Fast forward

Stop

Next

Audio

Subtitle

POWER

INPUT   FULLSCREEN

TIME SHIFT   REPLAY   SKIP

1   2   3

4   5   6

7   8   9

0

SELECT   DVD MENU

OK

SET UP   BACK

CH   VOL

REC

MUTE

DISPLAY   ANGLE   SUBTITLE   AUDIO

TOSHIBA
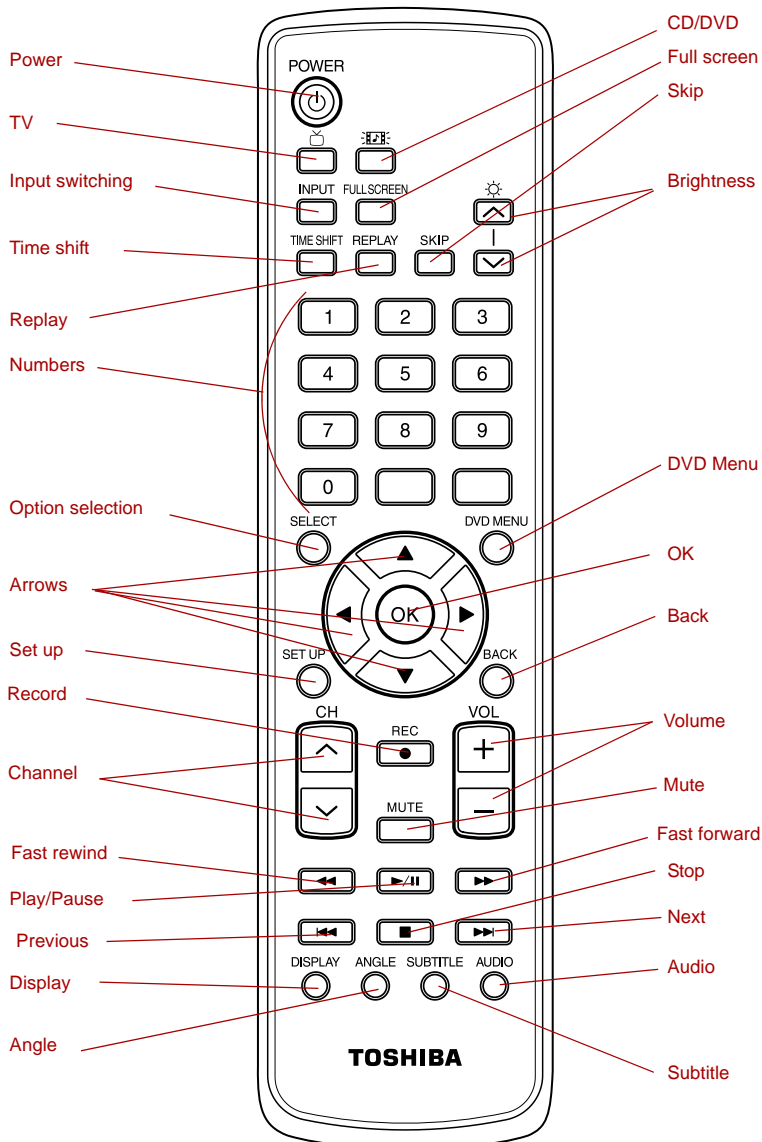
Figure 8-1 Remote Controller

Power	Starts or terminates the OS. Terminates QosmioPlayer Play.
TV	Starts or terminates Software for TV. Starts QosmioPlayer (TV).
CD/DVD	Starts QosmioUI, Windows Media Player, WinDVD, QosmioPlayer (CD), and/or QosmioPlayer (DVD).
Input switching	Toggles between the video input signals (TV antenna/S-Video/composite).
Full screen	Displays the TV/DVD screen in Normal size, zoom size, full size on QosmioPlayer (TV).
Time shift	Activates the time shift feature of Software for TV. When using the QosmioPlayer, the Time shift feature will not function.
Replay	Rewinds the video by several tens of seconds during tape or QosmioPlayer (DVD) replay. WinDVD does not support this button. Use the **Ctrl + B** key from a keyboard. Or press the Fast rewind button to rewind and then press it again to start playing.
Brightness $\wedge$	Increases the brightness of the internal LCD display.
Brightness $\vee$	Decreases the brightness of the internal LCD display.
Skip	Skips the video by several tens of seconds during tape or QosmioPlayer (DVD) replay. WinDVD does not support this button. Use the **Ctrl + Q** key from a keyboard. Or press the Fast forward button to fast forward and then press it again to start playing.
Option selection	Allows you to select an option from the menus for Software for TV, WinDVD or Windows Media Player by placing the cursor. When using QosmioPlayer, the Option selection feature will not function.

Numbers	Allows you to select a channel or chapter number while watching TV, or CD/DVD replay.
	To select a channel or chapter number of two or more digits, press the buttons sequentially. For example, press the "1" button and then the "0" button to select the number 10.
DVD Menu	Displays the top menu in DVD replay.
Arrows	Moves the cursor between options.
OK	Executes the selected option (works the same as the ENTER key).
Set up	Displays or hides the Settings Menu in TV watching or DVD replay.
Back	Allows you to cancel the last action you performed in TV watching or DVD replay (works the same as the **ESC** key). In DVD replay, returns to the screen that has been specified in DVD. For more information on this feature, refer to the instruction provided with the DVD to be replayed.
Channel ∧	Switches to the next channel in TV watching.
Channel ∨	Switches to the previous channel in TV watching.
Record	Starts recording in Software for TV.
	The **Ctrl + R** key combination is available from the keyboard.
	When using the QosmioPlayer, the Audio/Video (TV) recording feature will not function.
Volume +	Increases the volume in TV watching or CD/DVD replay.
Volume -	Decreases the volume in TV watching or CD/DVD replay.
Mute	Mutes the volume in TV watching or CD/DVD replay.

Play/Pause	Plays or pauses the current video in CD/DVD replay.
	When using the QosmioPlayer (TV), the Play/Pause feature will not function.
Fast rewind	Rewinds the video quickly in DVD replay. Or rewinds the audio by about 10 seconds in QosmioPlayer (CD).
	Fast rewind button does not function during QosmioPlayer (TV) mode.
Fast forward	Forwards the video quickly in DVD replay. Or skips the audio by about 10 seconds in QosmioPlayer (CD).
	Fast forward button does not function during QosmioPlayer (TV) mode.
Stop	Stops playing music or video.
Previous	Plays the previous track chapter in CD/DVD replay.
Next	Plays the next track chapter in CD/DVD replay.
Display	Changes the screen display in QosmioPlayer Play.
Angle	Changes the angle of the screen in DVD replay.
Subtitle	Displays or hides the caption or changes the language in DVD replay.
Audio	Changes the sound quality or language in TV watching or QosmioPlayer (DVD). WinDVD does not support this button. Use the **A** key from a keyboard.

Functions via the Remote Controller and the keyboard in the QosmioPlayer mode

The list shows how the functions available from the keyboard correspond to those available from the Remote Controller in the QosmioPlayer mode. Note that some functions via the Remote Controller in the list may not be supported by the Remote Controller you are using. Check the model and specifications of your Remote Controller before use.

Remote Controller	Computer	QosmioPlayer (TV)	QosmioPlayer (CD)	QosmioPlayer (DVD)
Power	Power switch	Terminates QosmioPlayer (TV)	Terminates QosmioPlayer (CD)	Terminates QosmioPlayer (DVD)
TV	F10	-	Terminates QosmioPlayer (CD) -> Starts QosmioPlayer (TV)	Terminates QosmioPlayer (DVD) -> Starts QosmioPlayer (TV)
CD/DVD	F11	Terminates QosmioPlayer (TV) -> Starts QosmioPlayer (CD or DVD)	-	-
INPUT (Input switching)	I	TV antenna/S-Video/composite	-	-
(Brightness)	Fn + F7	Increases the brightness	Increases the brightness	Increases the brightness
(Brightness)	Fn + F6	Decreases the brightness	Decreases the brightness	Decreases the brightness
TIME SHIFT	Ctrl + T	-	-	-
REPLAY	Ctrl + K	-	-	Rewinds by about 10 seconds
SKIP	Ctrl + L	-	-	Skip by about 30 seconds
1	1	Select a channel 1	Select a track 1	Select a chapter 1
2	2	Select a channel 2	Select a track 2	Select a chapter 2
3	3	Select a channel 3	Select a track 3	Select a chapter 3

4	4	Select a channel 4	Select a track 4	Select a chapter 4
5	5	Select a channel 5	Select a track 5	Select a chapter 5
6	6	Select a channel 6	Select a track 6	Select a chapter 6
7	7	Select a channel 7	Select a track 7	Select a chapter 7
8	8	Select a channel 8	Select a track 8	Select a chapter 8
9	9	Select a channel 9	Select a track 9	Select a chapter 9
0	1, 0	Select a channel 10	-	-
	0	-	Normally functions as "0"	Normally functions as "0"
-	1, 1	Select a channel 11	-	-
-	1, 2	Select a channel 12	-	-
DVD MENU	F8 or F9	-	-	Displays the top menu
▲	↑	Move the cursor	-	Move the cursor
▼	↓	Move the cursor	-	Move the cursor
◄	←	Move the cursor	-	Move the cursor
►	→	Move the cursor	-	Move the cursor
OK	Enter	Executes the selected option	Executes the selected option	Executes the selected option
SET UP	F2	Displays or hides the Settings Menu	-	Displays or hides the Settings Menu

BACK	Esc	Menu cancel or hides	-	Menu cancel or back or return
CH ∧ (Channel)	PgUp	Next channel	-	-
CH ∨ (Channel)	PgDn	Previous channel	-	-
VOL + (Volume)	Ctrl + ↑	Increases the volume	Increases the volume	Increases the volume
VOL - (Volume)	Ctrl + ↓	Decreases the volume	Decreases the volume	Decreases the volume
REC ● (Record)	Ctrl + R	-	-	-
MUTE	M	Mute the volume	Mute the volume	Mute the volume
◀◀	〈	-	Rewinds by about 10 seconds	Rewinds the quickly
▶▶	〉	-	Skip by about 10 seconds	Forwards the quickly
◀◀◀	K	-	Previous title	Previous chapter
▶▶▶	L	-	Next title	Next chapter
▶/❙❙	Space	-	Play or pauses	Play or pauses
■	Ctrl + Space	-	Stop	Stop
-	Ctrl + R	-	Repeat	-
-	Ctrl + S	-	Shuffle	-
DISPLAY	D	Changes the screen	Changes the screen	Changes the screen
ANGLE	G	-	-	Changes the angle

SUBTITLE	S	-	-	Changes the subtitle
AUDIO	A	Changes the sound quality	-	Changes the language
-	T	-	-	Select the title
-	Y	-	-	Slow play
-	F1	Display the keyguide	Display the keyguide	Display the keyguide
-	E	-	Open the disktray	Open the disktray
SELECT (Option selection)	F9 or Tab	-	-	-

Windows XP Media Center Edition

This section describes the Remote Controller provided with a Windows XP Media Center Edition model.

You can use your remote control with Media Center to play CDs, DVDs and videos; to view pictures; and to watch and record television programs.
The remote control helps you navigate the Media Center windows on your computer just as a cable TV remote control navigates cable TV options or controls the playback of a movie in a VCR or DVD player.
Using the remote control, you can:

■ Navigate and control all Media Center windows.

■ Control the video or live TV display.

■ Place the computer in and out of standby mode.

Before using the Remote Controller provided with a Windows XP Media Center Edition model, you must connect the Remote control receiver that is also provided with the model to your computer. Refer to the *Using the Remote Controller* section in this chapter for detailed information on how to connect Remote control receiver as well as important notes.
Refer to the *Using the Remote Controller* section in this chapter for information on how to use the Remote Controller as well as how to install and remove its batteries.

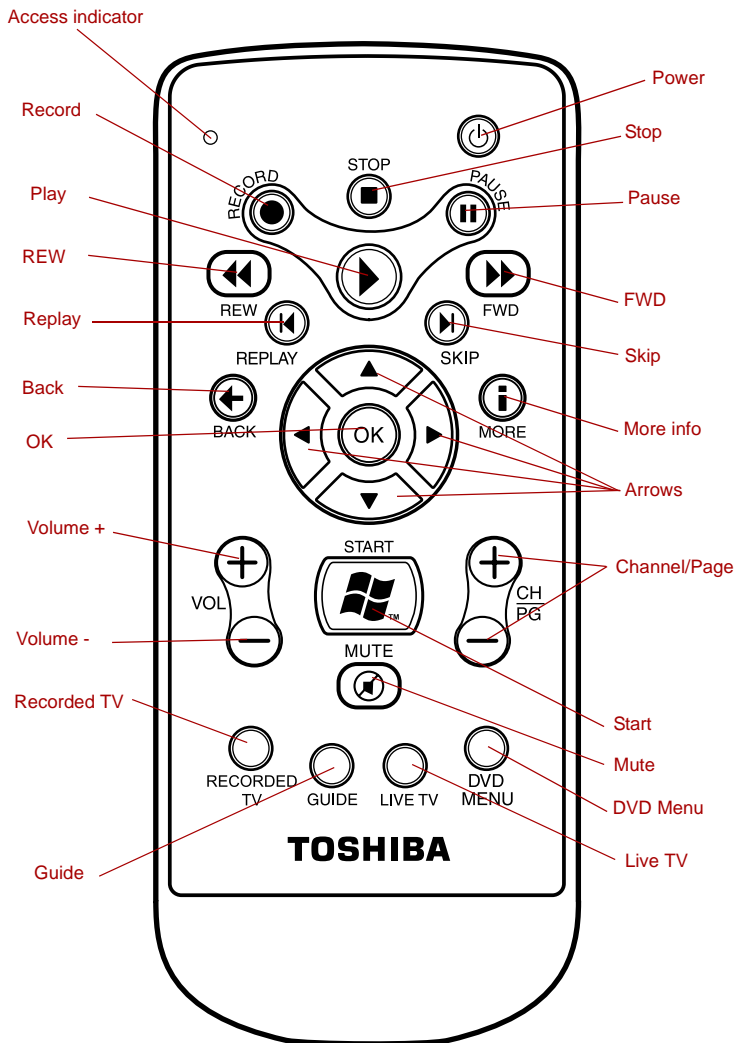Access indicator

Record

Play

REW

Replay

Back

OK

Volume +

Volume -

Recorded TV

Guide

RECORD

STOP

REW

REPLAY

BACK

START

VOL

MUTE

RECORDED TV

GUIDE

LIVE TV

DVD MENU

OK

FWD

SKIP

MORE

CH PG

TOSHIBA

Power

Stop

Pause

FWD

Skip

More info

Arrows

Channel/Page

Start

Mute

DVD Menu

Live TV

Figure 8-2 Remote Controller

Power	Starts or terminates the OS. This button functions like the Power button of your computer. By default, the Standby mode is equivalent to the Power Off state of your computer. To change the setting, select **Control panel** -> **TOSHIBA Power Saver** -> **Setup Action** -> **Manual Setup**. The following five options are available: No action, Ask me what to do, Standby, Hibernate and Shut down.
Access indicator	The Access indicator is on while sending signals. Note that this indicator will not go on even when you press the button after the battery has been completely discharged.
Record	Records the selected television program and stores it on your hand disk.
Stop	Stops the media currently playing.
Pause	Pauses an audio or video track, and live or recorded TV programs.
Play	Plays the selected media.
REW (Rewind)	Moves the media (video, DVD, music, and so on) backwards.
FWD (Fast forward)	Moves media forward.
Replay	Moves media backward (seven seconds for videos and live TV, one music track or one DVD chapter at a time).
Skip	Moves media forward (30 seconds for videos and live TV, one music track or one DVD chapter).
Back	Displays the previous window.
Arrows	Moves the cursor to navigate within Media Center windows.
OK	Selects the desired action or window option. It acts like the Enter Key. If watching TV in full screen mode, pressing OK switches back to the previous viewed channel. Press again to toggle back. It acts the same way as a Jump button on some TV remote controls.

More Info	The button provides more details on a TV program that is listed in the Guide.
Volume +	Increases the volume in TV watching or CD/DVD replay.
Volume -	Decreases the volume in TV watching or CD/DVD replay.
Start	Opens Media Center to the main window.
Channel/Page up(+) and down(-)	Changes the TV channel or moves a page up and down, depending on the available options.
Mute	Turns your computer sound off.
Recorded TV	Allows you to start recording of TV programs. The Recorded TV feature of Media Center Edition will be activated.
Guide	Opens the Television Program Guide to display available TV channels and programs to watch and record.
Live TV	A shortcut to the full screen view. It also takes you to the current point in a live TV program after pausing live TV.
DVD Menu	Opens the main menu on a DVD movie, if available.

AV Buttons function

This section describes the functions of the AV button in the Windows mode and QosmioPlayer mode.

Windows mode

Ten buttons are available for use:

TV Tuner model or MCE model: TV, CD/DVD, Play/Pause, Stop, Previous, Next, Record, Brightness, Monitor-in, TV-out.

No TV Tuner model: Internet, CD/DVD, Play/Pause, Stop, Previous, Next, TV-out, Brightness, Zoom out (-), Zoom in (+).

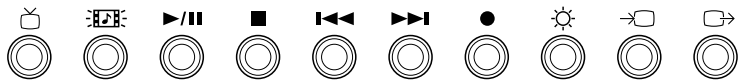These buttons allow you to manage Audio/Video, run applications and access utilities.
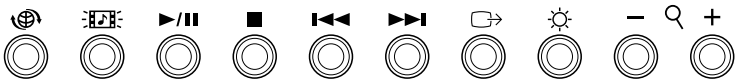
Figure 8-3-1 TV Tuner model and MCE model
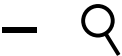
Figure 8-3-2 No TV Tuner model

	TV button	Starts or terminates Software for TV.
	CD/DVD button	Pressing this button will launch an application program that allows for watching CD/DVD.
		Pressing this button in the power-off condition will run QosmioPlayer (DVD) or QosmioPlayer (CD). Once QosmioPlayer (DVD) or QosmioPlayer (CD) is launched, DVD/CD LED turns on and the audio button is enables. Meanwhile, when QosmioPlayer (DVD) or QosmioPlayer (CD) is running, pressing this button will do nothing. Pressing this button in the power-on or standby conditions will launch QosmioUI or Windows Media Player/WinDVD.
	Play/Pause button	Press this button to begin or pause play.
		Press this button to run Windows Media Player/ WinDVD. When Windows Media Player/WinDVD was already running, this button becomes to Play/Pause function.
	STOP button	Press this button to stop play.
	Previous button	Press this button to advances to the previous track, chapter or data.
	Next button	Press this button to advances to the next track, chapter or data.

	Record button	Record button is provided with some models.
		Press this button when using Windows to start recording a TV program or recording via Software for TV.
		When using the QosmioPlayer, the Audio/Video recording feature will not function.
	Brightness button	Use this button to adjust the brightness of the built-in LCD.
	Monitor-in button	*Monitor-in button is provided with some models.
		Pressing this button will toggle mode between Windows and AV Input. In Monitor mode, both DVD/CD and Digital Audio indictors are on and the Audio button is disabled. Pressing this button in the power-off condition will do nothing.
	TV-out button	Pressing this button while Windows is running will switch the display unit to TV. The TV-out button should be programmable under Windows and designed as a utility that allows users to configure options.
	Internet button	*Internet button is provided with some models. Press this button to launch an Internet browser. If the computer's power is off, you can press this button to turn on the computer's power and launch the browser automatically in one step.
	Zoom out (-) button	*Zoom out (-) button is provided with some models.
		Press this button to reduce the icon size on the desktop or the application window. Refer to the *Hot keys* section in Chapter 5, The keyboard.
	Zoom in (+) button	*Zoom in (+) button is provided with some models.
		Press this button to enlarge the icon size on the desktop or the application window. Refer to the *Hot keys* section in Chapter 5, The keyboard.

Function comparison list for TV/DVD/CD software

Icon	AV Button	Windows mode		
		Software for TV (TV)	WinDVD5 DVD (DVD)	Windows Media Player 10 (CD)
(TV icon)	TV	Activate Software for TV	-	-
(CD/DVD icon)	CD/DVD	-	Detect and activate media	Detect and activate media
▶/❙❙	Play/Pause	-	Detect and activate media or Play/Pause	Detect and activate media or Play/Pause
■	Stop	-	Stop	Stop
❙◀◀	Previous	-	Previous chapter	Previous track
▶▶❙	Next	-	Next chapter	Next track
●	Rec	Recording	-	-
☼	Brightness	Changes the brightness level of LCD; 1->2->···8->1		
→▢	Monitor-in mode	Switch LCD display to TV/TV input (configurable with utility)		
− ◯ +	Zoom out(-) Zoom in(+)	Enlarge or reduce the screen in the Smooth View		

QosmioPlayer mode

Ten buttons are available for use:

TV Tuner model: TV, CD/DVD, Play/Pause, Stop, Previous, Next, Record, Brightness, Monitor-in, TV-out.

No TV Tuner model: Internet, CD/DVD, Play/Pause, Stop, Previous, Next, TV-out, Brightness, Zoom out (-), Zoom in (+).

These buttons allow you to manage Audio/Video, run applications and access utilities.
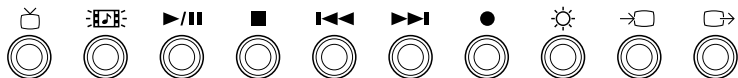
Figure 8-4-1 TV Tuner model
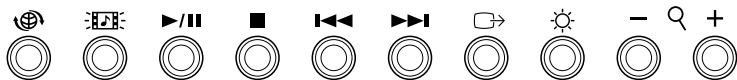
Figure 8-4-2 No TV Tuner model

Refer to the AV Buttons in the *Windows mode* section in this Chapter.

Function comparison list for TV/DVD/CD software

		QosmioPlayer mode	
Icon	AV Button	View QosmioPlayer (TV)	Play QosmioPlayer (CD/DVD)
Ö	TV	Activate TV application	-
♫	CD/DVD	-	Detect and activate media
▶/❚❚	Play/Pause	-	Play/Pause
■	Stop	-	Stop
◄◄	Previous	This button does not function during QosmioPlayer (TV) mode.	Previous track/chapter
▶▶❘	Next	This button does not function during QosmioPlayer (TV) mode.	Next track/chapter
●	Rec	-	-
☼	Brightness	Changes the brightness level of LCD; 1->2->···8->1	
→▢	Monitor-in mode	TV input	
− � +	Zoom out(-) Zoom in(+)	-	-

Using the Remote Controller

Remote Controller is provided with some models.

This computer includes a remote control unit, which allows you to control some of your computer's functions from a distant location.

■ *The Remote Controller is designed specifically for this computer.*

■ *Some application programs may not support remote control functions.*

Connecting the Remote control receiver

An infrared receiver, which connects to one of the computer's USB ports, allows remote control and enables the use of Microsoft® Windows® XP Media Center Edition.
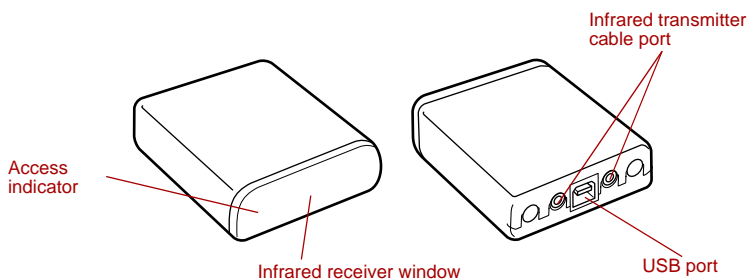
Figure 8-5 The Remote control receiver

The Access indicator turns on when signals are received from the controller.

1. Connect a provided USB cable to the USB port of the Remote control receiver.
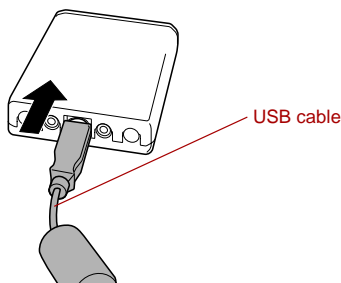
Figure 8-6 Connecting the USB cable to the Remote control receiver

2. Connect the external infrared the Remote control receiver to one of the computer's USB ports.
Proceed to Step 3 if you are a subscriber of satellite or CATV.
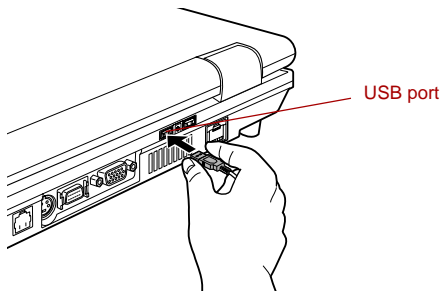
USB port

Figure 8-7 Connecting the USB cable to the computer's USB port

3. Connect the infrared transmitter cable to the external infrared the Remote control receiver. (Your descrambler's infrared remote control must be compatible.)

Infrared transmitter cable
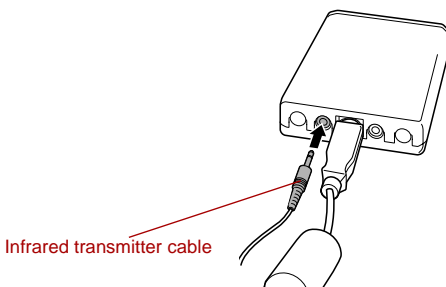
Figure 8-8 Connecting the infrared transmitter cable

This USB remote control only works with Microsoft® Windows® XP Media Center Edition and therefore cannot be used directly with QosmioPlayer.

Operational range of the remote control

Remote Controller is provided with some models.

Point the remote control at your computer and press a button. The operational angle and distance are described below.

Distance	Within 5 m from the infrared receiver window.
Angle	Within about 30 degrees horizontally and about 15 degrees vertically of perpendicular to the infrared receiver window.
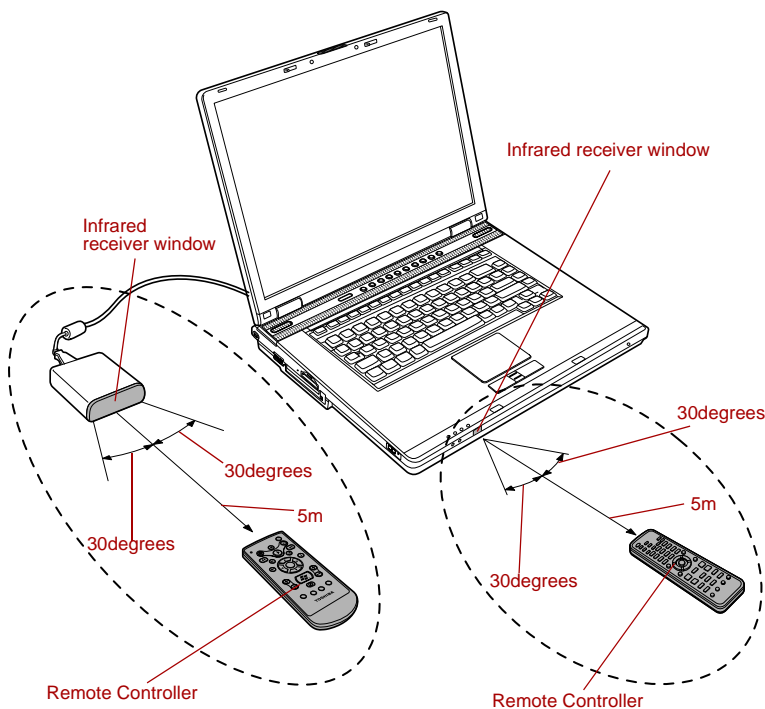
*Figure 8-9 Operational range of the remote control
(Left: Windows XP Media Center Edition model,
Right: Windows XP Home Edition model.)*

* The appearance of the provided Remote Controller may vary from model to model, and it is not provided with some models. The Remote control receiver is only provided with a Windows XP Media Center Edition model.

Disabling the remote control (Windows XP Home Edition model only)

Follow the steps below to disable the remote control features

1. Open the **Control Panel** and click the **Printer and Other Hardware** icon.
2. Click the **TOSHIBA Control** option.
   The Property of the TOSHIBA Control screen appears.
3. In the **Remote Control** tab, uncheck the Use **Remote Control** check box.

   Turn on this check box to use the Remote Controller.
4. Click the **OK** button.

Follow the precautions below when using the Remote Controller.

■ *Do not drop the remote control or subject it to heavy impact.*
■ *Do not leave the remote control in a high-temperature or high-humidity environment.*
■ *Do not allow the remote control to be wet with water and do not place it on a wet surface.*
■ *Do not disassemble the remote control.*

Precautions for use

Even if within the effective scope as described above, the remote control may malfunction or not work correctly in the following cases.

■ *When an obstacle stands between the infrared receiver window of your computer and the Remote Controller.*
■ *When direct sunlight or strong fluorescent light strikes the infrared receiver window.*
■ *When the infrared receiver window or the infrared emission part of the Remote Controller is dirty.*
■ *When other computers with this computer and the Remote Controller are used near your computer and the Remote Controller.*
■ *When a low battery condition is present*

Installing/Removing batteries

Be sure to install the dry battery (ies) provided with this product before using the Remote Controller.

The procedures for installing and removing the battery vary depending on the type of the Remote Controller. Check the type and then install or remove the battery as instructed.

Store the battery for the remote control beyond the reach of children.

If a child swallows a battery, this might result in choking. If it happens, contact a doctor immediately.

Observe the following precautions when using the battery of the Remote Controller.

- *Do not use batteries other than specified.*
- *Insert the battery with correct polarity (+ or -).*
- *Do not recharge, heat, disassemble or short the battery, or put it into the flame.*
- *Do not use the dry battery of which "recommended expiration date (printed on it)" has been reached, or the dry battery which is completely discharged.*
- *Do not use different types of batteries or old and new batteries at the same time.*
- *Do not carry the battery together with metal necklaces, hairpins or other metal accessories.*
- *When storing or dispose of used batteries, make sure to put some insulation tape such as cellophane tape on their terminals (+ and -).*

If these precautions are not followed, heating, fluid leakage or explosion may occur. This may cause burns or personal injury. If battery fluid gets on your skin or clothes, wash immediately with clean water. If battery fluid gets in your eyes, rinse your eyes with clean water immediately and see a doctor. Do not touch the battery fluid on instruments or devices with bare hands. Wipe off with a cloth or paper towel.

Windows XP Home Edition Remote Controller

Type of battery that can be used for the Remote Controller

When the dry batteries shipped with the Remote Controller are discharged, replace them with commercially available dry batteries. Type of battery that can be used with the remote control is AA manganese battery or AA alkaline battery (✕ 2). Other types or battery cannot be used.

Installing the batteries

1. Open the battery cover on the back side of the Remote Controller. Push the tab in the direction of the arrow (1) to open the cover (2).
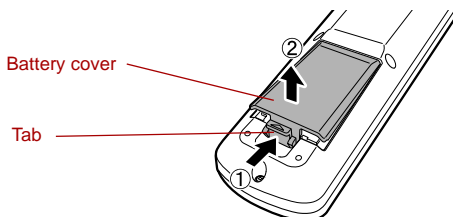
Figure 8-10 Opening the battery cover

2. Insert the batteries in place.
   Be sure to place the batteries with their polarities (+ and -) in the correct position.
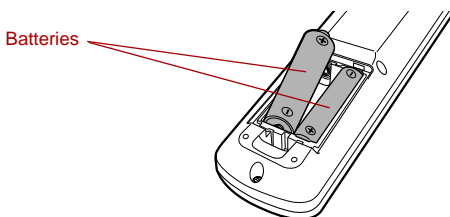
Figure 8-11 Inserting the batteries

3. Close the battery cover.
   Close the cover securely until it clicks.
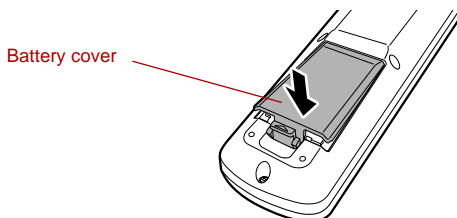
Figure 8-12 Closing the battery cover

Replacing the batteries

When the batteries in the Remote Controller become a low battery condition, the Remote Controller may not operate correctly or work only within a short distance from your computer. In these cases, purchase proper batteries and replace the discharged ones with the new ones.

1. Open the battery cover on the back side of the Remote Controller.

2. Replace the batteries.
    Be sure to place the batteries with their polarities (+ and -) in the correct position.
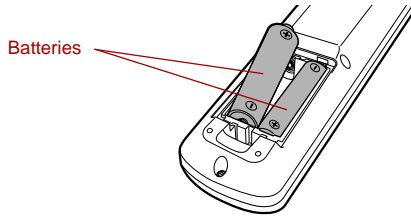
Batteries

Figure 8-13 Removing the batteries

3. Close the battery cover.
    Close the cover securely until it clicks.

Windows XP Media Center Edition Remote Controller

Type of battery that can be used for the Remote Controller

When the dry batteries shipped with the Remote Controller are discharged replace them with commercially available dry batteries. Type of battery that can be used with the remote control is Ni-MH battery (✕1). Other types or battery cannot be used.

If you use the product for the first time, you will see an insulating tape like cellophane tape on a battery terminal. If so, remove it.
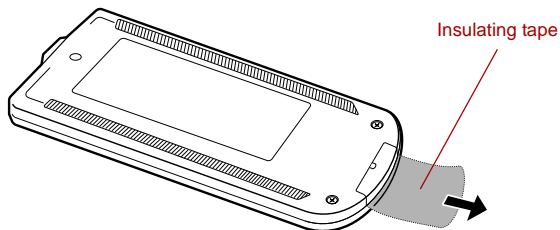
Insulating tape

Figure 8-14 Removing the insulating tape

Replacing the batteries

1. Remove the battery holder by inserting a tool with a pointed tip such as a pen into the eject hole located on the rear panel of the Remote Controller.
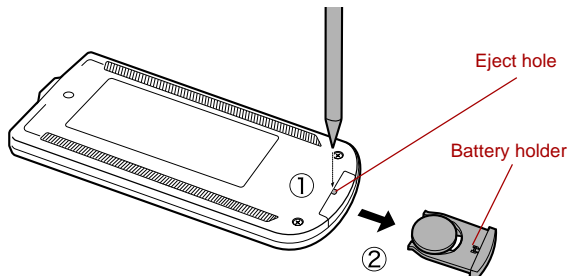
Figure 8-15 Opening the battery holder

2. Remove the battery from the battery holder.
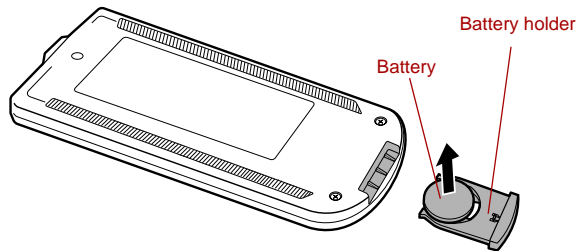
Figure 8-16 Removing the battery

3. Replace the battery with a new one. Reinstall the battery holder. Close the Battery holder securely until it clicks.
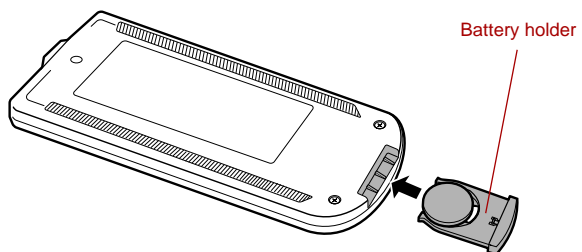
Figure 8-17 Reinstalling the battery holder

Switching video Input

Follow the steps below to define the Monitor Input feature that allows video from a device such as an analog camera or game machine to be displayed on the LCD of your computer.

This product supports several screen mode switching modes. When you select a mode that provides an aspect ratio different from that supported by software, for example TV mode, video may be displayed differently from the original. We recommend you check a mode before selecting it.

1. Select **Start -> All Programs ->TOSHIBA -> Utilities->Picture Enhancement Utility.**

The **TOSHIBA Picture Enhancement Utility** window appears.
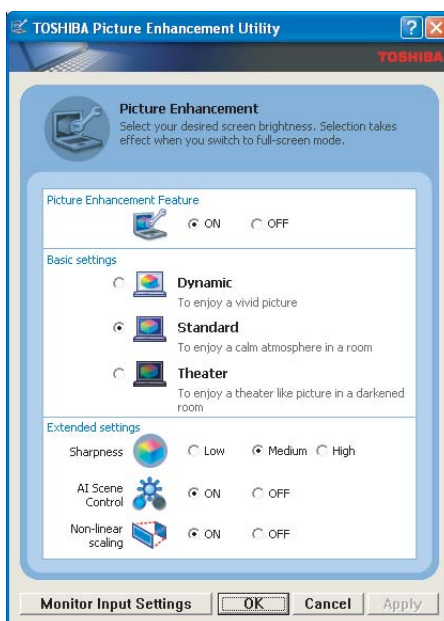
Figure 8-18 TOSHIBA Picture Enhancement Utility window

■ *The AI Scene Control setting is available. The default is OFF. When this setting is ON, brightness is automatically controlled by your computer.*

■ *The Non-linear scaling setting is available. The default is OFF. When viewing DVD videos with WinDVD or TV programs with WinDVR, some videos or programs may be displayed in the normal mode, that is, with the aspect ratio of 4:3. Change the setting from OFF to ON to watch DVD videos or TV programs in the full display mode, the aspect ratio of 16:10. (Windows XP Home Edition only)*

2. Click the **Monitor Input Settings** button in the **TOSHIBA Picture Enhancement Utility** window.

The **Monitor Input Settings** window appears.
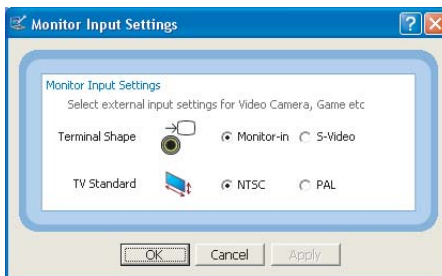
Figure 8-19 Monitor Input Settings window

3. Select the item for the **Terminal Shape**.

   ■ Select the **S-Video** item for the **Terminal Shape**. (Using the S-Video-in port for video input)

   ■ Select the **Monitor-in** item for the **Terminal Shape**. (Using the Monitor-in port for video input)

4. Select the **NTSC** or **PAL** item for the **TV Standard**.

5. Click the **OK** button.

QosmioPlayer

The section describes the QosmioPlayer.

QosmioEngine

Please enjoy vivid and striking visuals through the full-screen capability of WinDVD and the QosmioEngine feature of QosmioPlayer.

Users can select from three video quality modes depending on their preferences for watching videos. A dedicated utility (TOSHIBA Picture Enhancement Utility) running on Windows is developed to allow users to select a mode and a sharpness level.

Modes

There are the following three modes.

■ Dynamic: Users can enjoy videos in a bright and exciting way.

■ Standard: Users can enjoy videos in their room in a relaxed way.

■ Theater: Users can enjoy videos as if they were in a theater in their dimly-lit room.

Three sharpness levels are available: Low, Medium, High Image sharpness is emphasized if a higher level is chosen.

Automatic brightness adjustment function

This is the mode which changes quality of video automatically according to the video to watch.

Restrictions of the QosmioPlayer

The current mode must be maintained, and it should be restored at the next power-on, at the Resume and/or at the recovery from Hibernation.

QosmioEngine is available only for the LCD and has the following restrictions.

■ *QosmioEngine does not support LCD/CRT, CRT, TV, LCD/TV and Multi-Monitor.*

■ *Depending the video being played, noise may be present.*

■ *When WinDVD uses pre-installation.*

■ *When DVD is played with QosmioPlayer.*

■ *When AV Input is performed while Windows is running (The Monitor Mode control button allows for toggling between Windows and AV Input modes).*

■ *When AV Input is performed while QosmioPlayer is running (The Monitor Mode control button allows for toggling between QosmioPlayer and AV Input modes).*

■ *External display output (CRT/S-Video out) is not supposed to support.*

■ *Strings are displayed in low quality while video is played with WinDVD or Software for TV (QosmioEngine allows to clearly display video images, while the tradeoff is the low-quality rendering of static data such as captions on the screen).*

■ *Noises contained in original video images may increase when playing these images with WinDVD, Software for TV and/or QosmioPlayer (This is because not only video images but also their noises are displayed in high quality).*

Restrictions of the Monitor-in mode

■ Disable the Windows' Monitor Auto Off feature (this will override the Monitor-in mode).

■ If the Monitor Auto Off is on, the LCD displays nothing even when you click the Monitor-in button to switch to the Monitor-in mode.

■ During the Monitor-in mode, any Windows messages will not be displayed. Disable the Monitor-in mode to see Windows messages.

■ When the mode is switched to Monitor-in mode, the aspect ratio (the ratio of length to width of the screen) is set to 4:3. Press **Fn** + **4** to change the aspect ratio in the order: Normal -> Aspect Ratio of 4:3 -> Aspect Ratio of 16:9.

■ *Windows sounds are still heard even when the mode has been switched to Monitor-in.*

■ **Fn** + **F1**∕**Fn** + **F5** *are not available.*

■ *With the Monitor-in mode, the screens of other applications will be invisible. This condition may cause you to operate an application incorrectly by pressing a mouse button or any key on the keyboard. To prevent operational errors, it is recommended to perform the following:*

   ■ *Close any applications running on your system.*

   ■ *Do not touch the mouse or keyboard.*

■ *The Monitor-in button will remain disabled for about 30 seconds immediately after power-on or returning from the Standby or Hibernation mode.*

■ *Do not turn off the power while the Monitor-in mode is active. Be sure to turn off the power after switching to the Windows or QosmioPlayer mode.*

■ *When you connect the Monitor-in cable to the Monitor-in port, audio data from the input device will be played through the speakers on your computer. This is because the Monitor-in port also works as the LINE in port, resulting in a false recognition.*
In that case, right-click the **Volume** *icon in the message area located at the top right corner of the desktop, and select the* **Open Volume Control** *option from the menu that appears.*
The **Volume Control** *tab opens. Turn on the* **Mute** *checkbox in the* **Line In** *section on the far right of the tab.*

Chapter 9

Optional Devices

Optional devices can expand the computer's capabilities and its versatility. This chapter describes connection or installation of the following devices, which are available from your TOSHIBA dealer:

Cards/memory

■ PC card
■ Bridge media slot
    ■ SD card
    ■ Memory Stick/Memory Stick Pro
    ■ xD picture card
    ■ MultiMediaCard
■ Memory expansion

Power devices

■ Battery packs
■ AC adaptor
■ Battery charger

Peripheral devices

■ USB floppy disk drive
■ External monitor
■ TV
■ Monitor-in
■ S-Video-in
■ i.LINK (IEEE1394)
■ Wireless TV Tuner

Other

■ Security lock

PC card

The computer is equipped with a PC card slot that can accommodate one 5 mm Type II card. Any PC card that meets industry standards (manufactured by TOSHIBA or other vendor) can be installed. The slot supports 16-bit PC cards, including PC card 16's multifunction card and CardBus PC cards.

CardBus supports the new standard of 32-bit PC cards. The bus provides superior performance for the greater demands of multimedia data transmission.

Inserting a PC card

The PC card slot is located on the left side of the computer.

Windows hot-install feature lets you insert PC cards while the computer's power is on.

Do not insert a PC card while the computer is in standby or hibernation mode. Some cards might not work properly.

To insert a PC card, follow the steps below:

1. Insert the PC card.
2. Press gently to ensure a firm connection.

PC card

PC card slot
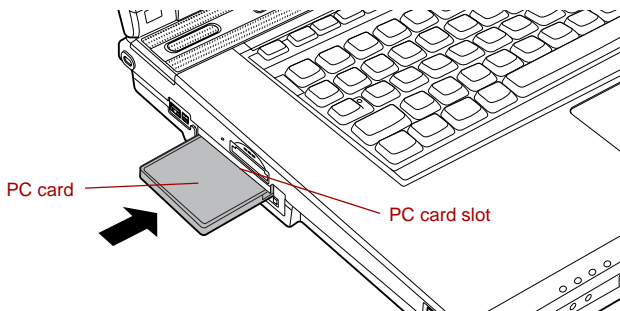
Figure 9-1 Inserting the PC card

3. After inserting the card, refer to the PC card's documentation and check the configuration in Windows to make sure it is appropriate for your PC card.

Removing a PC card

To remove the PC card, follow the steps below.

1. Open the **Safety Remove Hardware** icon on the Task Bar.
2. Click **PC card**.
3. Press the PC card eject button to pop it up.

If the PC card is not inserted all the way, the eject button may not pop out. Be sure to push the PC card firmly and press the eject button again.

4. Press the PC card eject button to pop the PC card out slightly.

5. Grasp the PC card and draw it out.

PC card

PC card
eject button
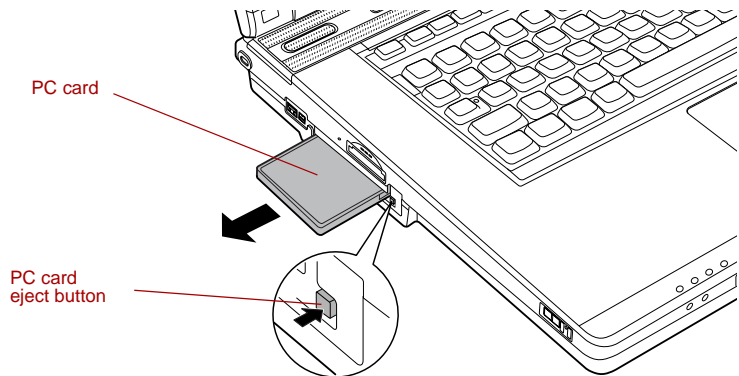
Figure 9-2 Removing the PC card

Bridge media slot

This slot lets you insert SD card, Memory Stick (Pro), xD picture card and MultiMediaCard.

This Bridge media slot supports the following cards.

- *SD card*
- *SDIO card*
- *Memory Stick*
- *Memory Stick PRO*
- *xD picture card*
- *MultiMediaCard*

Precautions on using cards.

Cards have not been verified to work correctly. Therefore, it is not guaranteed that all cards operate properly.

SD card

The computer is equipped with the Bridge media slot that can accommodate Secure Digital flash memory cards with various memory capacities. SD cards let you easily transfer data from devices, such as digital cameras and Personal Digital Assistants, that use SD card flash-memory. The cards have a high level of security and copy protection features.

Keep foreign objects out of the Bridge media slot A pin or similar object can damage the computer's circuitry.

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

Formatting an SD card

SD memory cards are sold with format in conformity to the Standards of SD memory card. If you format the SD card again, be sure to format it with the utility of TOSHIBA SD memory card format, not in the format defined as the Windows standard format.

In order to run TOSHIBA SD memory card format, click windows start button, point to **All Programs**, point to **TOSHIBA**, point to **Utilities** and click **SD memory card Format**.

TOSHIBA SD memory card format does not format the protected area of SD memory card. When you format all area of the SD memory card including the protected area, use the application that responds to the copy protection system.

Inserting an SD card

To insert an SD card, follow the steps below.

1. Insert the SD card.
2. Press gently to ensure a firm connection.
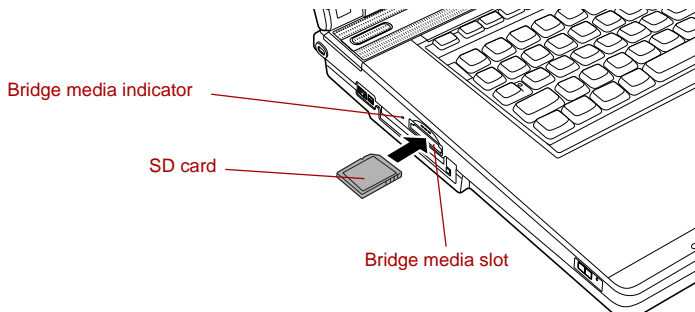
Figure 9-3 Inserting an SD card

■ *Make sure the SD card is oriented properly before you insert it.*
■ *Do not switch to the Standby or Hibernate mode while files are being copied. If so, data may be lost.*

Removing an SD card

To remove an SD card, follow the steps below.

1. Open the **Safety Remove Hardware** icon on the Task Bar.
2. Point to **Safety Remove Secure Digital Storage Device-Drive (X:)** and click.
3. Push in the card and release it to pop the card out slightly.
4. Grasp the card and remove it.

Bridge media indicator

SD card

Bridge media slot

Figure 9-4 Removing an SD card

■ *Make sure the indicator is out before you remove the SD card or turn off the computer's power. If you remove the SD card or turn off the power while the computer is accessing the SD card you may lose data or damage the card.*

■ *Do not remove an SD card while the computer is in Standby or Hibernation mode. The computer could become unstable or data in the SD card could be lost.*

SD card care

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

1. Do not write to an SD card if the battery power is low. Low power could affect writing accuracy.
2. Do not remove an SD card while read/write is in progress.
3. The SD card is designed so that it can be inserted only one way. Do not try to force the card into the slot.
4. Do not leave an SD card partially inserted in the slot. Press the SD card until you hear it click into place.
5. Do not twist or bend SD cards.
6. Do not expose SD cards to liquids or store in humid areas or lay media close to containers of liquid.
7. After using an SD card, return it to its case.
8. Do not touch the metal part or expose it to liquids or let it get dirty.

Memory Stick/Memory Stick Pro

The computer is equipped with the Bridge media slot that can accommodate Secure Digital flash memory cards with various memory capacities. Memory Stick let you easily transfer data from devices, such as digital cameras and Personal Digital Assistants, that use Memory Stick.

⚠️ *Keep foreign objects out of the Bridge media slot. A pin or similar object can damage the computer's circuitry.*

ℹ️ ■ *The slot does not support Magic Gate functions.*
■ *Memory Stick Duo/PRO Duo and the Memory Stick adaptor are not compatible with the Bridge media slot. Do not insert Memory Stick Duo/ PRO Duo into the slot. Data may be lost or damaged if you use any card other than those supported.*

Write protection

Memory Stick can be write protected to safeguard your data. To write-protect a Memory Stick, slide the lock on the back of the Memory Stick to the lock position.

Inserting a Memory Stick

To insert a Memory Stick, follow the steps below.

1. Insert the Memory Stick into the slot.
2. Press gently to ensure a firm connection.
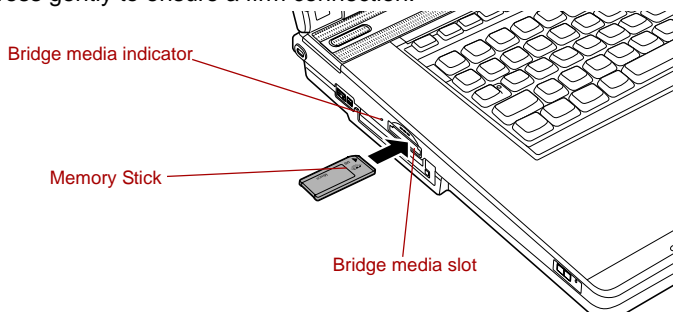
Figure 9-5 Inserting a Memory Stick

Removing a Memory Stick

To remove a Memory Stick, follow the steps below.

1. Open the **Safety Remove Hardware** icon on the Task Bar.
2. Point to **Memory Stick** and click.
3. Push in the card and release it to pop the card out slightly.
4. Grasp the card and remove it.

Do not remove a Memory Stick while the computer is in Standby or Hibernation mode. The computer could become unstable or data in the Memory Stick could be lost.

xD picture card

The computer is equipped with the Bridge media slot that can accommodate Secure Digital flash memory cards with various memory capacities. The xD picture card let you easily transfer data from devices, such as digital cameras that use xD picture card flash-memory.

Keep foreign objects out of the Bridge media slot. A pin or similar object can damage the computer's circuitry.

Inserting an xD picture card

To insert an xD picture card, follow the steps below.

1. Insert the xD picture card into the slot.
2. Press gently to ensure a firm connection.

Bridge media indicator

xD picture card

Bridge media slot
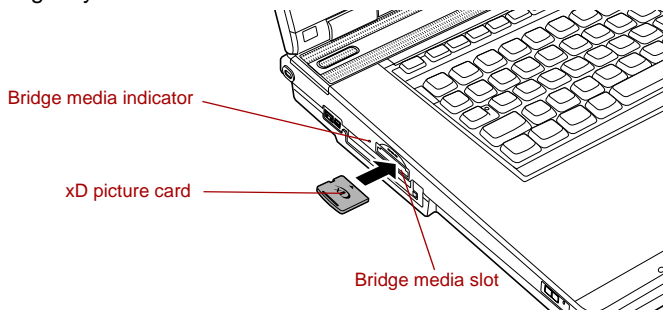
Figure 9-6 Inserting an xD picture card

Removing an xD picture card

To remove an xD picture card, follow the steps below.

1. Open the **Safety Remove Hardware** icon on the Task Bar.
2. Point to **xD picture card** and click.
3. Push in the card and release it to pop the card out slightly.
4. Grasp the card and remove it.

Do not remove an xD picture card while the computer is in Standby or Hibernation mode. The computer could become unstable or data in the xD picture card could be lost.

Memory card care

1. Memory cards are consumable items, so make sure you back up important data.
2. Do not twist or bend memory cards.

3. Do not expose memory cards to liquids or store in humid areas or lay media close to containers of liquid.

4. Do not touch the metal part of a memory card or expose it to liquids or let it get dirty.

5. After using memory card, return it to its case.

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

MultiMediaCard

The computer is equipped with the Bridge media slot that can accommodate Secure Digital flash memory cards with various memory capacities. MultiMediaCards let you easily transfer data from devices, such as digital cameras and Personal Digital Assistants, that use MultiMediaCard flash-memory. The cards have a high level of security and copy protection features.

Keep foreign objects out of the Bridge media slot A pin or similar object can damage the computer's circuitry.

MultiMediaCards comply with SDMI (Secure Digital Music Initiative), which is a technology adopted to prevent unlawful copy or playback of digital music. For this reason, you cannot copy or playback protected material on another computer or other device. You may not use the reproduction of any copyrighted material except for your personal enjoyment.

Inserting a MultiMediaCard

To insert a MultiMediaCard, follow the steps below.

1. Insert the MultiMediaCard.

2. Press gently to ensure a firm connection.

Bridge media indicator

MultiMediaCard

Bridge media slot
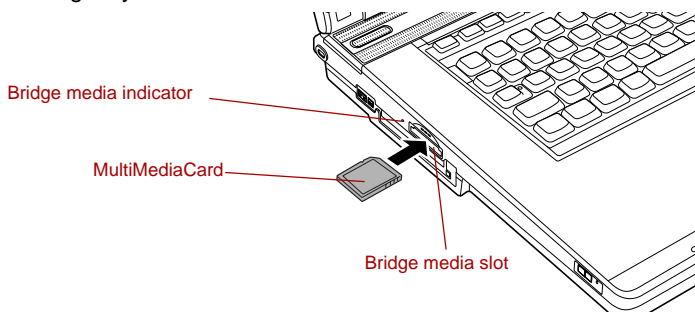
Figure 9-7 Inserting a MultiMediaCard

Make sure the MultiMediaCard is oriented properly before you insert it.

Removing a MultiMediaCard

To remove a MultiMediaCard, follow the steps below.

1. Open the **Safety Remove Hardware** icon on the Task Bar.
2. Point to **Safety Remove MultiMediaCard** and click.
3. Push in the card and release it to pop the card out slightly.
4. Grasp the card and remove it.

Bridge media indicator

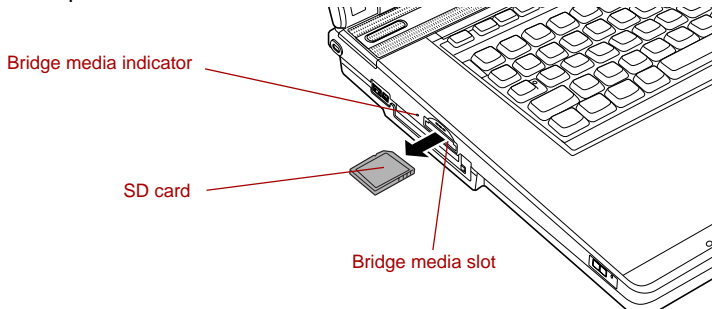MultiMediaCard

Bridge media slot
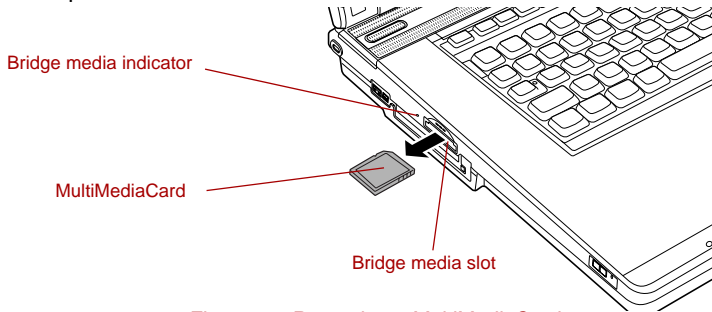
Figure 9-8 Removing a MultiMediaCard

⚠
- *Make sure the indicator is out before you remove the MultiMediaCard or turn off the computer's power. If you remove the MultiMediaCard or turn off the power while the computer is accessing the MultiMediaCard you may lose data or damage the card.*
- *Do not remove a MultiMediaCard while the computer is in Standby or Hibernation mode. The computer could become unstable or data in the MultiMediaCard could be lost.*

MultiMediaCard care

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

1. Do not write to a MultiMediaCard if the battery power is low. Low power could affect writing accuracy.
2. Do not remove a MultiMediaCard while read/write is in progress.
3. The MultiMediaCard is designed so that it can be inserted only one way. Do not try to force the card into the slot.
4. Do not leave a MultiMediaCard partially inserted in the slot. Press the MultiMediaCard until you hear it click into place.
5. Do not twist or bend MultiMediaCards.
6. Do not expose MultiMediaCards to liquids or store in humid areas or lay media close to containers of liquid.
7. After using a MultiMediaCard, return it to its case.
8. Do not touch the metal part or expose it to liquids or let it get dirty.

Memory expansion

You can install additional memory in the computer's memory module socket to increase the amount of RAM. This section describes how to install and remove a memory module.

> ■ *Use only memory modules approved by TOSHIBA.*
> ■ *Do not try to install or remove a memory module under the following conditions. You can damage the computer and the module. Also, data will be lost.*
>   a. The computer is turned on.
>   b. The computer was shut down using the Standby mode or Hibernation mode.
>   c. Wake-up on LAN is enabled.
> ■ *Some memory modules can be physically installed but are not compatible with the computer. In this case, the computer will issue a warning. When you turn on the power, a series of short beeps will sound in the pattern of one, three, three, one. Shut down the power and remove the incompatible module.*
> ■ *Be careful not to let screws or other foreign matter fall into the computer. It could cause malfunction or electric shock.*

> *Use a point size 0 Phillips screwdriver to remove and fasten the screws. Use of an incorrect screwdriver can damage the screw heads.*

Installing memory module

There are slots for two memory modules, one over the other. The procedures are the same for installing either module.

1. Set the computer to boot mode and turn the computer's power off. Make sure the **Power** indicator is off.
2. Remove AC adaptor and all cables connected to the computer.
3. Turn the computer upside down and remove the battery pack. Refer to *Replacing the battery pack* section in Chapter 6, Power, for details.
4. Loose a screw securing the memory module cover. The screw is attached to the cover to prevent it from being lost.

5. Slide your fingernail or a thin object under the cover and lift it off.
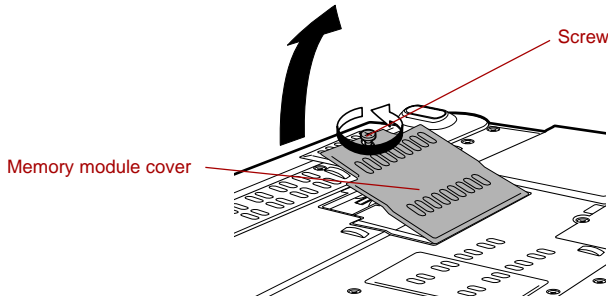
Figure 9-9 Removing the memory module cover

6. Fit the memory module's connectors into the socket at about a 45 degree angle and push the module down until latches on either side snap into place.
Align the notch of the memory module with that of the memory slot and gently insert the module into the slot.
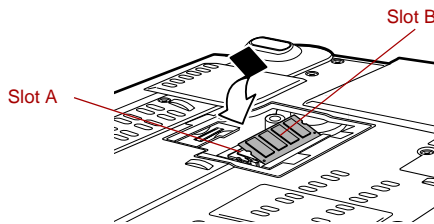
Figure 9-10 Seating the memory module

■ *Be careful not to drop the screw inside the computer.*

■ *Do not touch the connectors on the memory module or on the computer. Debris on the connectors may cause memory access problems.*

7. Seat the memory module cover and secure it with one screw.

8. Install the battery pack. Refer to *Replacing the battery pack* section in Chapter 6, Power, for details.

9. Return your computer to the upright position.

10. Turn the computer power on and make sure the added memory is recognized. Open **System Properties** in the Control Panel and click the **General** tab.

Removing memory module

To remove the memory module, make sure the computer is in boot mode then:

1. Set the computer to boot mode and turn the computer's power off. Make sure the **Power** indicator is off.

2. Remove AC adaptor and all cables connected to the computer.

3. Turn the computer upside down and remove the battery pack. Refer to *Replacing the battery pack* section in Chapter 6, Power, for details.

4. Loose a screw securing the memory module cover. The screw is attached to the cover to prevent it from being lost.

5. Slide your fingernail or a thin object under the cover and lift it off.

6. Push the latches to the outside to release the module. A spring will force one end of the module up.

7. Grasp the module by the sides and pull it out.

> ■ *If you use the computer for a long time, the memory modules and the circuits located close to the memory modules will become hot. In this case, let them cool to room temperature before you replace them.*
>
> ■ *Do not touch the connectors on the memory module or on the computer. Debris on the connectors may cause memory access problems.*
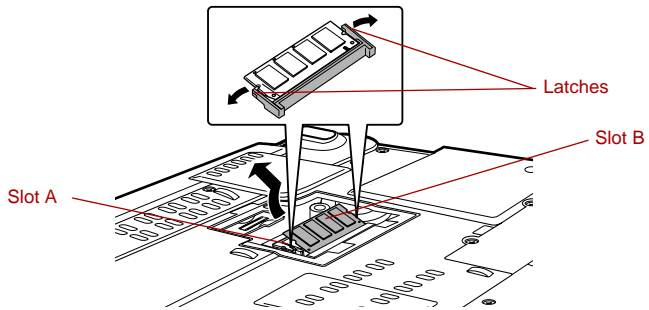
Figure 9-11 Removing the memory module

8. Seat the memory module cover and secure it with one screw.

9. Install the battery pack. Refer to *Replacing the battery pack* section in Chapter 6, Power, for details.

10. Return your computer to the upright position.

Battery packs

You can increase the portability of the computer with additional standard or high-capacity battery packs. If you're away from an AC power source and your battery runs low, you can replace it with a freshly charged battery. Refer to Chapter 6, *Power*.

AC adaptor

If you frequently transport the computer between different sites such as your home and office, purchasing an AC adaptor for each location will reduce the weight and bulk of your carrying load.

Battery charger

The battery charger provides a convenient way to charge battery packs without requiring the use of your computer. The battery charger holds up to two lithium ion battery packs.

USB floppy disk drive

The USB floppy disk drive module can be connected to the USB port. For details on connecting the USB floppy disk drive module, refer to Chapter 4, *Operating Basics*.

External monitor

An external analog monitor can be connected to the external monitor port on the computer. The computer supports VGA and Super VGA video modes. To connect a monitor, follow the steps below.

1. Turn the computer off.
2. Connect the monitor cable to the external monitor port.
3. Turn the monitor's power on.
4. Turn the computer on.

When you turn on the power, the computer automatically recognizes the monitor and determines whether it is color or monochrome.

To change the display settings, press **Fn** + **F5**. If you disconnect the monitor before you turn the computer off, be sure to press **Fn** + **F5** to switch to the internal display. Refer to Chapter 5, *The Keyboard*, for details on using hot keys to change the display setting.

TV

The S-Video or D-Video data on your computer can be viewed on a TV set. To do so, connect your computer's S-Video out port to the TV using the S-Video out cable, or your computer's D-Video out port to the TV using the D-Video out cable.

You can use the hotkeys **Fn** + **F5** to change the display device. Refer to Chapter 5, *The Keyboard*.

Installation

Connection via the S-Video out port

1. Plug one end of the S-Video out cable into the S-Video out port of your computer.
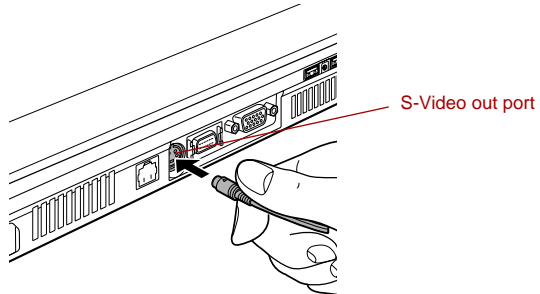
S-Video out port

Figure 9-12 Connecting the S-Video out port

2. Insert the other end of the S-Video out cable into the S1-/S2 video input of the TV set (Use your computer's speakers or a headphone to get sound. Connect the headphone to the computer's headphone jack).

Connection via the D-Video out port

1. Plug one end of the D-Video out cable into the D-Video out port of your computer.
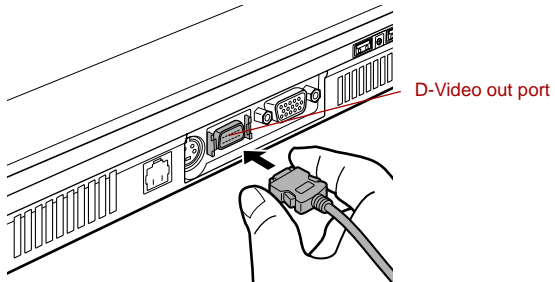
D-Video out port

Figure 9-13 Connecting the D-Video out port

2. Insert the other end of the D-Video out cable into the video input terminal of the TV set. (Use your computer's speakers or a headphone to get sound. Connect the headphone to the computer's headphone jack).

Settings for display video on TV

To view video on the TV set, be sure to configure the following settings. If not, nothing is displayed on the TV screen.

■ *Be sure to select the display unit on which video is displayed before starting to play video including DVD-Video. Do not change the display device while playing video.*

■ *Do not change the display device under the following conditions.*

   ■ *While data is being read or written*

   ■ *While communication is being carried out*

■ *If a television is connected to the computer, set the TV type in Display Properties. Follow the steps below.*

   ■ *Click* **start** *and click* **Control Panel**.

   ■ *Double-click the* **Display** *icon to open the Display Properties window.*

   ■ *Click the* **Settings** *tab and click the* **Advanced** *button.*

   ■ *Click the* **Geforce FX Go5700** *tab, click* **Current display** *and select* **TV**.

   ■ *Click* **Device Settings**.

   ■ *Select the* **Select TV format** *and select the format that your TV supports.*

   M/NTSC, M (Japan)/NTSC, B/PAL, 525p (480p, D2), 750p (720p, D4), 1125i (1080i, D3), 525i (480i, D1)

   When TV is connected via the D-Video out cable, and the 1125i (1080i, D3) or 750p (720p, D4) option is selected, copy-guarded DVD videos may not be played correctly.

Changing the resolution

After you connect a TV (NTSC), follow the steps below to set the Display resolution to 640 x 480.

1. Open **Display properties** and select the **Settings** tab.
2. Select **Advanced**.
3. Select the **Adapter** tab, then select **List All Modes...**.
4. Select **640 by 480, High Color (16 bit), 60 Hertz**.

Monitor-in

Set up Terminal Shape before connecting with Monitor-in port. Refer to the section Switching video Input *in Chapter 8, Using the Remote Controller, AV Buttons and QosmioPlayer for details.*

Model with the TV Tuner

The Monitor-in allows you to connect the following devices to display video on the built-in LCD.

■ Analog video camera
■ Analog video deck/recorder
■ Home TV game machine
■ Mobile phone with TV output

Switching between devices

Make sure to power off your computer before performing the following steps.

1. Insert the plug of the Monitor-in cable into the Monitor-in port of your computer.
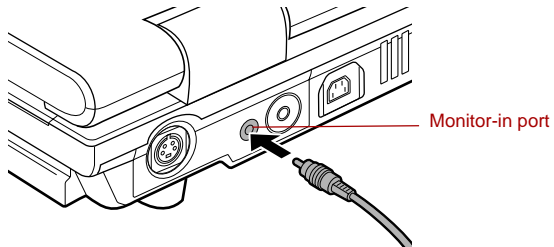
Monitor-in port

Figure 9-14 Connecting the Monitor-in port

2. Insert the corresponding plugs of the output cable of the device you wish to use into the sound input terminals (red: sound, right channel, white: sound, left channel) and the video input (yellow: composite) of the Monitor-in cable.

Sound right input (red)   Sound left input (white)

white

red

Video input (yellow)

yellow
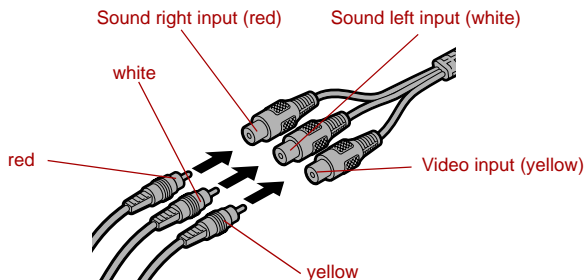
Figure 9-15 Connecting the cable

3. Insert the plugs at the other end of the output cable of the device you wish to use into the output terminals of that device.

4. Power on the device you wish to use (connected via the output cable).

5. Press the power button of your computer to turn it on.

When you press the power button, Windows starts. If a music CD or DVD video disk is present in the drive, automatic play is activated. In that case, cancel it.

6. Press the computer's Monitor-in button.

This will switch the mode to QosmioPlayer. Use the buttons of the device you have connected for operations such as playing video.

Refer to the *QosmioPlayer* Section in Chapter 8, Using the Remote Controller AV Buttons and QosmioPlayer about a Monitor-in restriction.

Exiting the QosmioPlayer mode

You must first exit the QosmioPlayer mode before you power off your computer. If you power off your computer while the QosmioPlayer mode is active, data may be lost.

1. Press the computer's Monitor-in button.

When pressing the power button of your computer, the Windows screen appears.

Audio device

The Monitor-in port allows you to connect audio devices other than the devices described above. This port also functions as a line-in port.

Connecting an audio device

Use the Monitor-in cable shipped with this product and a commercially available audio cable to connect an audio device. The audio cable must be a one with a 3.5mm stereo mini jack.

1. Insert the plug of the Monitor-in cable into the Monitor-in port of your computer.
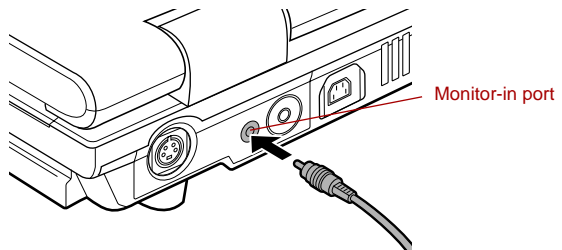
Monitor-in port

Figure 9-16 Connecting the Monitor-in port

Check the shape of the connector before inserting into the port.

2. Insert the corresponding plugs of the audio cable into the sound input terminals (red: sound, right channel, white: sound, left channel) of the Monitor-in cable.

Sound right input (red)

red

Sound left input (white)

white
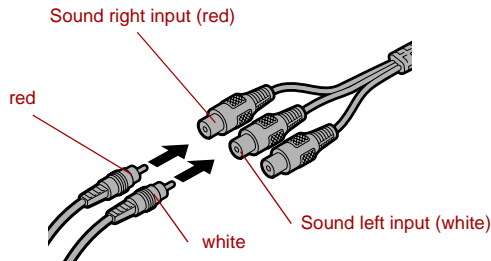
Figure 9-17 Connecting the cable

3. Insert the other end of the audio cable into the line out port of the audio device.

Disconnecting an audio device

When removing the audio device, first disconnect the plugs of the audio cable from the Monitor-in cable, and then disconnect the Monitor-in cable from the Monitor-in port.

Model without the TV Tuner

The model without the TV Tuner only supports the Monitor Input feature. This feature allows you to display video from a device such as an analog video camera or game machine on the LCD of your computer while Windows is running by connecting such device to the Monitor-in port of your computer. Refer to the section *Switching video Input* in Chapter 8, Using the Remote Controller, AV Buttons and QosmioPlayer for the information how to configure the feature.

S-Video-in

Set up Terminal Shape before connecting with S-Video-in port. Refer to the section Switching video Input *in Chapter 8, Using the Remote Controller, AV Buttons and QosmioPlayer for details.*

This port allows you to import video data from analog video cameras or video decks by connecting your computer to this type of device. Imported video can be edited or written to a DVD disk.

1. Insert one end of the S-Video-in cable into the S-Video-in port of your computer.
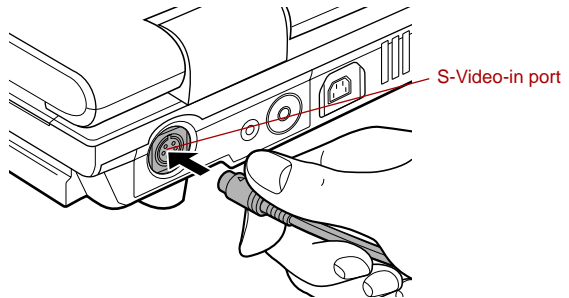
Figure 9-18 Connecting the S-Video-in port

2. Insert the other end of the S-Video-in cable into the output port of the analog device you wish to connect. To hear sounds, use a video cable to connect the sound terminals of the audio device and your computer (red: sound, right channel, white: sound, left channel).

After connecting an analog video camera or a video deck to your computer, run WinDVR. WinDVR is started by selecting **Start -> All Programs -> InterVideo WinDVR**.

Model without the TV Tuner

The model without the TV Tuner only supports the Monitor Input feature. This feature allows you to display video from a device such as an analog video camera or game machine on the LCD of your computer while Windows is running by connecting such device to the S-Video-in port of your computer. Refer to the section *Switching video Input* in Chapter 8, Using the Remote Controller, AV Buttons and QosmioPlayer for the information how to configure the feature.

i.LINK (IEEE1394)

i.LINK (IEEE1394) is used for high-speed data transfer for a range of compatible devices such as

■ Digital video cameras

■ Hard disk drives

■ MO drives

■ CD-RW drives

i.LINK uses a four-pin connector, which does not carry electriccurrent. External devices will need their own power supply.

Precautions

■ Make a back-up of your data before transferring it to the computer. There is a possibility that the original data will be damaged. There is a particular risk that some frames will be deleted in the case of digital video transfer. TOSHIBA assumes no liability for such loss of data.

■ Do not transfer data in areas where static electricity is easily generated or in areas subjected to electronic noise. Data can be destroyed.

■ If you are transferring data through an IEEE1394 hub, do not connect or disconnect other devices from the hub during data transfer. There is a likelihood that data will be damaged. Connect all devices to the hub before you turn on the computer's power.

■ You may not use any copyrighted video or music data copied from a video camera except for your personal enjoyment.

■ If you connect/disconnect an i.LINK device to/from another i.LINK device that is currently exchanging data with the computer, data frames might be dropped.

■ Make sure data transfer has ended or turn off the computer, before you:

■ Connect/disconnect an i.LINK device to/from the computer.

■ Connect/disconnect an i.LINK device to/from another i.LINK device that is connected to the computer.

Connecting

1. Make sure the connectors are properly aligned and plug the i.LINK (IEEE1394) cable into the computer.

i.LINK (IEEE1394) port
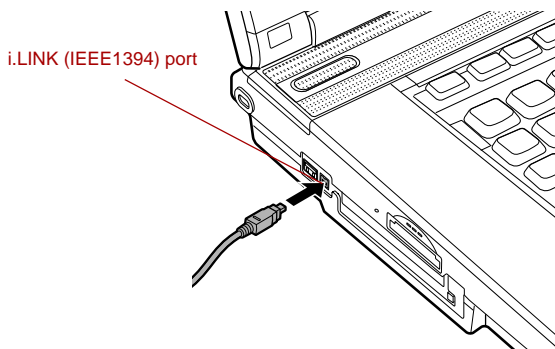
Figure 9-19 Connecting the i.LINK (IEEE1394) port

2. Plug the other end of the cable into the device.

Note the following when you use i.LINK:

■ You may need to install drivers for your i.LINK devices.

■ Not all i.LINK devices have been tested. Therefore, compatibility with all i.LINK devices cannot be guaranteed.

■ Use S100, S200 or S400 cables no longer than three meters.

■ Some devices might not support standby or automatic off functions.

■ Do not connect or disconnect an i.LINK device while it is using an application or when the computer is automatically shutting it down to save power. Data might be destroyed.

Disconnecting

1. Open the **Safety Remove Hardware** icon on the Task Bar.
2. Point to **i.LINK (IEEE1394) device** and click.
3. Disconnect the cable from the computer then from the i.LINK device.

Refer also to the documentation that came with your i.LINK device.

Security lock

Security locks enable you to anchor your computer a desk or other heavy object to help prevent unauthorized removal of the computer.

Attach one end of a cable to a desk and the other end to the security lock slot on the left side of the computer.
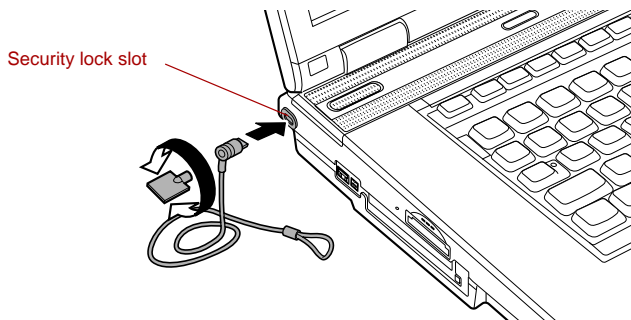
Security lock slot

Figure 9-20 Security lock

Chapter 10

Troubleshooting

TOSHIBA designed the computer for durability. However, should problems occur, following the procedures in this chapter can help to determine the cause.

All readers should become familiar with this chapter. Knowing what might go wrong can help prevent problems from occurring.

Problem solving process

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

■ Stop immediately when you recognize a problem exists. Further action may result in data loss or damage. You may destroy valuable problem-related information that can help solve the problem.

■ Observe what is happening. Write down what the system is doing and what actions you performed immediately before the problem occurred. If you have a printer attached, print a copy of the screen using **PrtSc**.

The questions and procedures offered in this chapter are meant as a guide, they are not definitive problem solving techniques. Many problems can be solved simply, but a few may require help from your dealer. If you find you need to consult your dealer or others, be prepared to describe the problem in as much detail as possible.

Preliminary checklist

Consider the simplest solution first. The items in this checklist are easy to fix and yet can cause what appears to be a serious problem.

■ Make sure you turn on all peripheral devices before you turn on the computer. This includes your printer and any other external device you are using.

■ Before you attach an external device, turn the computer off. When you turn the computer back on it recognizes the new device.

■ Make sure all options are set properly in the setup program.

■ Check all cables. Are they correctly and firmly attached? Loose cables can cause signal errors.

■ Inspect all connecting cables for loose wires and all connectors for loose pins.

■ Check that your floppy disk or CD/DVD-ROM is correctly inserted and that the floppy disk's write protect tab is correctly set.

Make notes of your observations and keep them in a permanent error log. This will help you describe your problems to your dealer. If a problem recurs, the log will help you identify the problem faster.

Analyzing the problem

Sometimes the system gives clues that can help you identify why it is malfunctioning. Keep the following questions in mind:

■ Which part of the system is not operating properly: keyboard, floppy disk drives, hard disk drive, optical media drive, display. Each device produces different symptoms.

■ Is the operating system configuration set properly? Check the configuration options.

■ What appears on the display screen? Does it display any messages or random characters? If you have a printer attached, print a copy of the screen using **PrtSc**. Look up the messages in the software and operating system documentation. Check that all connecting cables are correctly and firmly attached. Loose cables can cause erroneous or intermittent signals.

■ Do any indicators light? Which ones? What color are they? Do they stay on or blink? Write down what you see.

■ Do you hear any beeps? How many? Are they long or short? Are they high pitched or low? Is the computer making any unusual noises? Write down what you hear.

Record your observations so you can describe them to your dealer.

Software	The problems may be caused by your software or disk. If you cannot load a software package, the media may be damaged or the program might be corrupted. Try loading another copy of the software.
	If an error message appears while you are using a software package, check the software documentation. These documents usually include a problem solving section or a summary of error messages.
	Next, check any error messages in the OS documentation.
Hardware	If you cannot find a software problem, check your hardware. First run through the items in the preliminary checklist above. If you still cannot correct the problem, try to identify the source. The next section provides checklists for individual components and peripherals.

Hardware and system checklist

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

- System start-up
- Self test
- Power
- Password
- Keyboard
- LCD panel
- Hard disk drive
- DVD-ROM&CD-R/RW drive
- DVD Super Multi drive
- USB floppy disk drive
- PC card
- SD card
- Memory Stick/Memory Stick Pro
- xD picture card
- MultiMediaCard
- Infrared receiver window
- Pointing device
- USB
- Memory expansion
- Sound system
- Monitor
- Modem
- LAN
- Wireless LAN
- TV output signal
- i.LINK (IEEE1394)

System start-up

When the computer does not start properly, check the following items:

- Self Test
- Power Sources
- Power-on Password

Self test

When the computer starts up, the self test will be run automatically, and the following will be displayed:

 QOSMIO

This message remains on the screen for a few seconds.

If the self test is successful, the computer tries to load the operating system, depending on how the Boot Priority is set in the TOSHIBA HW Setup program.

If any of the following conditions are present, the self test failed:

■ The computer stops and does not proceed to display information or messages except the Qosmio logo.

■ Random characters appear on the screen, and the system does not function normally.

■ The screen displays an error message.

Turn off the computer and check all cable connections. If the test fails again, contact your dealer.

Power

When the computer is not plugged into an AC outlet, the battery pack is the primary power source. However, your computer has a number of other power resources, including intelligent power supply, Real Time Clock battery. These resources are interrelated and any one could affect apparent power problems. This section provides checklists for AC power and the battery. If you cannot resolve a problem after following them, the cause could lie with another power resource. In such case, contact your dealer.

Overheating power down

If the computer's internal temperature becomes too high, the computer will automatically shut down.

Problem	Procedure
Computer shuts down and **DC IN** indicator flashes orange	Leave the computer off until the computer reaches room temperature, then turn it back on.
	If the computer is still too warm, the **DC IN** indicator will continue blinking when you turn on the power. Let it cool longer and try again.
	If the computer has reached room temperature and still does not start, or if it starts but shuts down quickly, contact your dealer.

AC power

If you have trouble turning on the computer with the AC adaptor connected, check the **DC IN** indicator. Refer to Chapter 6, *Power* for more information.

Problem	Procedure
AC adaptor doesn't power the computer (**DC IN** indicator does not glow green)	Check the connections. Make sure the cord is firmly connected to the computer and a power outlet.
	Check the condition of the cord and terminals. If the cord is frayed or damaged, replace it. If the terminals are soiled, wipe them with cotton or a clean cloth.
	If the AC adaptor still does not power the computer, contact your dealer.

Battery

If you suspect a problem with the battery, check the **DC IN** indicator as well as the **Battery** indicator. For information on indicators and battery operation refer to Chapter 6, *Power*.

Problem	Procedure
Battery doesn't power the computer	The battery may be discharged. Connect the AC adaptor to charge the battery.
Battery doesn't charge when the AC adaptor is attached (**Battery** indicator does not glow in orange.)	If the battery is completely discharged, it will not begin charging immediately. Wait a few minutes. If the battery still does not charge, make sure the outlet of the AC adaptor is supplying power. Plug in an appliance and see if it works. If it doesn't, try another power source.
	Check whether the battery is hot or cold to the touch. If the battery is too hot or too cold, it will not charge properly. Let it reach room temperature.

Problem	Procedure
	Unplug the AC adaptor and remove the battery to make sure the terminals are clean. If necessary wipe them with a soft dry cloth dipped in alcohol.
	Connect the AC adaptor and replace the battery. Make sure it is securely seated.
	Check the **Battery** indicator. If it does not glow, let the computer charge the battery for at least 20 minutes. If the **Battery** indicator glows after 20 minutes, let the battery continue to charge at least another 20 minutes before turning on the computer.
	If the indicator still does not glow, the battery may be at the end of its operating life. Replace it.
	If you do not think the battery is at the end of its operating life, see your dealer.
Battery doesn't power the computer as long as expected	Check the power consumption settings in TOSHIBA Power Saver utility. Consider using a power saving mode.

Real Time Clock

Problem	Procedure
The following message is Displayed on the LCD: `RTC battery is low or CMOS checksum is inconsistent. Press [F1] key to set Date/Time.`	The battery for RTC is wearing. Set the date and time in BIOS setup with the following steps: 1. Press **F1** key. BIOS setup will boot up. 2. Set the date in **System Date**. 3. Set the time in **System Time**. 4. Press **End** key. Confirmation message will appear. 5. Press **Y** key. BIOS setup will terminate and the computer will be rebooted.

Password

Problem	Procedure
Cannot enter password	Refer to the *TOSHIBA Password Utility* section in Chapter 6, Power.

Keyboard

Keyboard problems can be caused by your setup configuration. For more information refer to Chapter 5, *The Keyboard*.

Problem	Procedure
Some letter keys produce numbers	Check that the numeric keypad overlay is not selected. Press **Fn** + **F10** and try typing again.
Output to screen is garbled	Make sure the software you are using is not remapping the keyboard. Remapping involves reassigning the meaning of each key. See your software's documentation.
	If you are still unable to use the keyboard, consult your dealer.

LCD panel

Apparent LCD problems may be related to the computer's setup. Refer to Chapter 7, *HW Setup*, for more information.

Problem	Procedure
No display	Press hotkeys **Fn** + **F5** to change the display priority, to make sure it is not set for an external monitor.
Markings appear on the LCD.	They might have come from contact with the keyboard, Touch Pad. Try wiping the LCD gently with a clean dry cloth. If markings remain, use LCD cleaner. Be sure to let the LCD dry before closing it.
Problems above remain unresolved or other problems occur	Refer to your software's documentation to determine if the software is causing the difficulty.
	Contact your dealer if the problems continue.

Hard disk drive

Problem	Procedure
Computer does not boot from hard disk drive	Check if a floppy disk is in the floppy disk drive or a CD-ROM is in the optical media drive. Remove any floppy disk and/or CD-ROM and check Boot priority. Refer to the *Boot Priority* section in Chapter 7, HW Setup.
	There may be a problem with your operating system files. Refer to your OS documentation.

Problem	Procedure
Slow performance	Your files may be fragmented. Run Disk Defragmenter to check the condition of your files and disk. Refer to your OS documentation or online HELP for information on running the Disk Defragmenter.
	As a last resort, reformat the hard disk. Then, reload the operating system and other files.
	If problems persist, contact your dealer.

DVD-ROM&CD-R/RW drive

For more information, refer to Chapter 4, *Operating Basics.*

Problem	Procedure
You cannot access a CD/DVD in the drive	Make sure the drive's drawer is securely closed. Press gently until it clicks into place.
	Open the drawer and make sure the CD/DVD is properly seated. It should lie flat with the label facing up.
	A foreign object in the drawer could block laser light from reading the CD/DVD. Make sure there is no obstruction. Remove any foreign object.
	Check whether the CD/DVD is dirty. If it is, wipe it with a clean cloth dipped in water or a neutral cleaner. Refer to the *Media care* section in Chapter 4 for details on cleaning.
Some CD/DVDs run correctly, but others do not	The software or hardware configuration may be causing a problem. Make sure the hardware configuration matches your software's needs. Check the CD/DVD's documentation.
	Check the type of CD/DVD you are using. The drive supports: DVD-ROM: DVD-ROM, DVD-Video CD-ROM: CD-DA, CD-Text, Photo CD (single/multi-session), CD-ROM Mode 1, Mode 2, CD-ROM XA Mode 2 (Form1, Form2), Enhanced CD (CD-EXTRA), Addressing Method 2
	Check the region code on the DVD. It must match that on the DVD-ROM&CD-R/RW drive. Region codes are listed in the *Optical media drives* section in Chapter 2, The Grand Tour.

Problem	Procedure
Cannot write correctly	If you have trouble writing, make sure you are observing the following precautions:
	■ Use only media recommended by TOSHIBA.
	■ Do not use the mouse or keyboard during writing.
	■ Use only the software supplied with the computer for recording.
	■ Do not run or start other software during writing.
	■ Do not jar the computer during writing.
	■ Do not connect/disconnect external devices or install/remove internal cards during writing.
	If problems persist, contact your dealer.

DVD Super Multi drive

For more information, refer to Chapter 4, *Operating Basics.*

Problem	Procedure
You cannot access a CD/DVD in the drive	Make sure the drive's drawer is securely closed. Press gently until it clicks into place.
	Open the drawer and make sure the CD/DVD is properly seated. It should lie flat with the label facing up.
	A foreign object in the drawer could block laser light from reading the CD/DVD. Make sure there is no obstruction. Remove any foreign object.
	Check whether the CD/DVD is dirty. If it is, wipe it with a clean cloth dipped in water or a neutral cleaner. Refer to the *Media care* section in Chapter 4 for details on cleaning.
Some CD/DVDs run correctly, but others do not	The software or hardware configuration may be causing a problem. Make sure the hardware configuration matches your software's needs. Check the CD/DVD's documentation.

Check the type of CD/DVD you are using. The drive supports:

DVD-ROM: DVD-ROM, DVD-Video

CD-ROM: CD-DA, CD-Text, Photo CD (single/multi-session), CD-ROM Mode 1, Mode 2, CD-ROM XA Mode 2 (Form1, Form2), Enhanced CD (CD-EXTRA), Addressing Method 2

Check the region code on the DVD. It must match that on the DVD Super Multi drive. Region codes are listed in the *Optical media drives* section in Chapter 2, The Grand Tour.

USB floppy disk drive

For more information, refer to Chapter 4, *Operating Basics.*

Problem	Procedure
Drive does not operate	There may be a faulty cable connection. Check the connection to the computer and to the drive.
You cannot access the external USB floppy disk drive	Try another floppy disk. If you can access the floppy disk, the original floppy disk (not the drive) is probably causing the problem.
	If problems persist, contact your dealer.

PC card

Refer also to Chapter 9, *Optional Devices*.

Problem	Procedure
PC card error occurs	Reseat the PC card to make sure it is firmly connected.
	Make sure the connection between the external device and the PC card is firm.
	Check the PC card's documentation.
	If problems persist, contact your dealer.

SD card

Refer also to Chapter 9, *Optional Devices*.

Problem	Procedure
SD card error occurs	Reseat the SD card to make sure it is firmly connected.
	Check the SD card's documentation.
You cannot write to an SD card	Make sure the SD card is not write protected.
You cannot read a file	Make sure the target file is on the SD card inserted in the slot.
	If problems persist, contact your dealer.

Memory Stick/Memory Stick Pro

Refer also to Chapter 9, *Optional Devices*.

Problem	Procedure
Memory Stick/Memory Stick Pro error occurs	Reseat the Memory Stick/Memory Stick Pro to make sure it is firmly connected.
	Check the card's documentation.
You cannot write to an Memory Stick/Memory Stick Pro	Make sure the Memory Stick/Memory Stick Pro is not write protected.
You cannot read a file	Make sure the target file is on the Memory Stick/ Memory Stick Pro inserted in the slot.
	If problems persist, contact your dealer.

xD picture card

Refer also to Chapter 9, *Optional Devices*.

Problem	Procedure
xD picture card error occurs	Reseat the xD picture card to make sure it is firmly connected.
	Check the card's documentation.
You cannot read a file	Make sure the target file is on the xD picture card inserted in the slot.
	If problems persist, contact your dealer.

MultiMediaCard

Refer also to Chapter 9, *Optional Devices*.

Problem	Procedure
MultiMediaCard error occurs	Reseat the MultiMediaCard to make sure it is firmly connected.
	Check the MultiMediaCard's documentation.
You cannot write to an MultiMediaCard	Make sure the MultiMediaCard is not write protected.
You cannot read a file	Make sure the target file is on the MultiMediaCard inserted in the slot.
	If problems persist, contact your dealer.

Infrared receiver window

Refer also to the documentation for your IrDA compatible device and related software.

Problem	Procedure
Infrared devices do not work as expected	Make sure there is no obstruction blocking communication between the computer and the target device.
	If problems persist, contact your dealer.

Pointing device

If you are using a USB mouse, also refer to the USB section in this chapter and to your mouse documentation.

Touch Pad

Problem	Procedure
On-screen pointer does not respond to Pad operation	The system might be busy. If the pointer is shaped as an hourglass, wait for it to standby its normal shape and try again to move it.
Double-tapping does not work	Try changing the double-click speed setting in the mouse control utility.
	1. Click **Start**, click **Control Panel**, select the **Mouse** icon and press **Enter**.
	2. Click the **Buttons** tab.
	3. Set the double-click speed as instructed and click **OK.**
The mouse pointer moves too fast or too slow	Try changing the speed setting in the mouse control utility.
	1. Click **Start**, click **Control Panel**, select the **Mouse** icon and press **Enter**.
	2. Click the **Pointer Options** tab.
	3. Set the speed as instructed and click **OK**.
	If problems persist, contact your dealer.

USB mouse

Problem	Procedure
On-screen pointer does not respond to mouse operation	The system might be busy. If the pointer is shaped as an hourglass, wait for it to resume its normal shape and try again to move it.
	Make sure the mouse is properly connected to the USB port.
Double-clicking does not work	Try changing the double-click speed setting in the mouse control utility.
	1. Click **Start**, click **Control Panel**, select the **Mouse** icon and press **Enter**.
	2. Click the **Buttons** tab.
	3. Set the double-click speed as instructed and click **OK**.

Problem	Procedure
The mouse pointer moves too fast or too slow	Try changing the speed setting in the mouse control utility.
	1. Click **Start**, click **Control Panel**, select the **Mouse** icon and press **Enter**.
	2. Click the **Pointer Options** tab.
	3. Set the speed as instructed and click **OK**.
The mouse pointer moves erratically	The mouse might be dirty. Refer to your mouse documentation for instructions on cleaning.
	If problems persist, contact your dealer.

USB

Refer also to your USB device's documentation.

Problem	Procedure
USB device does not work	Check for a firm cable connection between the USB ports on the computer and the USB device.
	Make sure the USB device drivers are properly installed. Refer to your Windows XP documentation for information on checking the drivers.
	If problems persist, contact your dealer.

Memory expansion

Refer also to Chapter 9, *Optional Devices*, for information on installing memory modules.

Problem	Procedure
Beeps sound in the pattern of one, three, three, one.	Make sure the memory module installed in the expansion slot is compatible with the computer.
	If an incompatible module has been installed, follow the steps below.
	1. Turn off the power.
	2. Disconnect the AC adaptor and all peripheral devices.
	3. Remove the battery pack.
	4. Remove the memory module.
	5. Install the battery pack and/or connect the AC adaptor.
	6. Turn on the power.
	If problems persist, contact your dealer.

Sound system

Refer also to documentation for your audio devices.

Problem	Procedure
No sound is heard	Adjust the volume control dial.
	Check the software volume settings.
	Make sure the headphone connection is secure.

Monitor

Refer also to Chapter 9, *Optional Devices,* and to your monitor's documentation.

Problem	Procedure
Monitor does not turn on	Make sure that the external monitor's power switch is on. Confirm that the external monitor's power cable is plugged into a working power outlet.
No display	Try adjusting the contrast and brightness controls on the external monitor.
	Press hot keys **Fn + F5** to change the display priority and make sure it is not set for the internal display.
Display error occurs	Check that the cable connecting the external monitor to the computer is attached firmly.
	If problems persist, contact your dealer.

Modem

Refer to Appendix C, *AT Commands* and Appendix D*, S-registers.*

Problem	Procedure
Communication software can't initialize modem	Make sure the computer's internal modem settings are correct. Refer to *Phone and Modem* Properties in the Control Panel.
You can hear a dial tone but can't make a call	If the call is going through a PBX machine, make sure the communication application's tone dial detection feature is disabled.
	You can also use the ATX command. Refer to Appendix C, *AT Commands.*
You place a call, but a connection can't be made	Make sure the settings are correct in your communications application.

Problem	Procedure
After making a call you can't hear a ring	Make sure the tone or pulse selection in your communications application is set correctly.
	You can also use the ATD command. Refer to Appendix C, *AT Commands*.
Communication is cut off unexpectedly	The computer will automatically cut off communication when connection with the carrier is not successful for a set time interval. Try lengthening this time interval.
A **CONNECT** display is quickly replaced by **NO CARRIER**	Check the error control setting in your communications application.
	You can also use the AT\N command. Refer to Appendix C, *AT Commands*.
Character display becomes garbled during a communication	In data transmission, make sure the parity bit and stop bit settings correspond with those of the remote computer.
	Check the flow control and communication protocol.
You cannot receive an incoming call	Check the rings before auto answer setting in your communications application.
	You can also use the ATS0 command. Refer to Appendix D, *S-registers*.
	If problems persist, contact your dealer.

LAN

Problem	Procedure
Cannot access LAN	Check for a firm cable connection between the LAN jack and the LAN HUB.
Wake-up on LAN does not work	Make sure the AC adaptor is connected. The Wake-up on LAN function consumes power even when the system is off.
	If problems persist, consult your LAN administrator.

Wireless LAN

If the following procedures do not restore LAN access, consult your LAN administrator. For more information on wireless communication, refer to Chapter 4, *Operating Basics*.

Problem	Procedure
Cannot access Wireless LAN	Make sure the computer's wireless communication switch is set to on.
	If problems persist, contact your LAN administrator.

TV output signal

Problem	Procedure
Display on TV is poor	Make sure the TV type is correct for your area: NTSC (US, JAPAN), PAL (Europe).
No display	Try adjusting the contrast and brightness controls on the external monitor.
	Press hotkeys **Fn** + **F5** to change the display. Refer to Chapter 5, *The Keyboard*.
	If problems persist, contact your dealer.

If you turn the computer off in Standby mode while the display is on TV, the computer will select either the internal LCD or an external computer CRT as the display device.

i.LINK (IEEE1394)

Problem	Procedure
i.LINK device does not function	Make sure the cable is securely connected to the computer and to the device.
	Make sure the device's power is turned on.
	Click **Start**, click **Control Panel** and double-click the **Add Hardware** icon. Follow the on-screen directions.
	Restart Windows.
	If problems persist, contact your dealer.

TOSHIBA support

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

Before you call

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

■ Review troubleshooting sections in the documentation for software and peripheral devices.

■ If a problem occurs when you are running software applications, consult the software documentation for troubleshooting suggestions. Call the software company's technical support for assistance.

■ Consult the dealer you purchased your computer and/or software from. They are your best sources for current information and support.

Where to write

If you are still unable to solve the problem and suspect that it is hardware related, write to TOSHIBA at the nearest location listed below:

Outside of Europe	In Europe
Australia TOSHIBA Australia Pty. Ltd. Information Systems Division 84-92 Talavera Road North Ryde N.S.W. 2113 Sydney	**Germany & Austria** TOSHIBA Europe (I.E.) GmbH Geschäftsbereich, Deutschland-Österreich Hammfelddamm 8, D-41460 Neuss, Germany
Canada TOSHIBA of Canada Ltd. 191 McNabb Street, Markham, Ontario L3R 8H2	**France** TOSHIBA Systèms France S.A. 7, Rue Ampère B.P. 131, 92804 Puteaux Cedex
China TOSHIBA Computer Systems (Shanghai) Co., Ltd. Bldg. 33, No. 351, Jinzang Road, Pudong New Area, Shanghai, P.R. China 201206	**Netherlands** TOSHIBA Information Systems, Benelux B.V. Rivium Boulevard 41 2909 LK Capelle a/d IJssel

Outside of Europe	In Europe
Singapore TOSHIBA Singapore Pte. Ltd. 438B Alexandra Road #06-01 Alexandra Technopark Singapore 119968	**Spain** TOSHIBA Information Systems, ESPAÑA Parque Empresarial San Fernando Edificio Europa, Iª Planta, Escalera A 28830 Madrid
United States of America TOSHIBA America Information Systems, Inc. 9740 Irvine Boulevard Irvine, California 92618 USA	**United Kingdom** TOSHIBA Information Systems (U.K.) Ltd. TOSHIBA Court Weybridge Business Park Addlestone Road Weybridge, Surrey KT15 2UL
	The Rest of Europe TOSHIBA Europe (I.E.) GmbH Geschäftsbereich, Deutschland-Österreich Hammfelddamm 8, D-41460 Neuss, Germany

Appendix A

Specifications

This appendix summarizes the computer's technical specifications.

Physical Dimensions

Weight (typical)	4.4 kilograms, configured with: Pentium-M processor 2.0 GHz, 17.0" WXGA+, 1024MB+1024MB RAM, 100GB+100GB HDD, DVD Super Multi drive, TV-Tuner, Wireless LAN Intel-abg, BT.
Size	406 (w) x 285 (d) x 37.5/43.5 (h) millimeters (not including parts that extend beyond the main body)

Environmental Requirements

Conditions	Ambient temperature	Relative humidity
Operating	5°C (41°F) to 35°C (95°F)	20% to 80%
Non-operating	-20°C (-4°F) to 65°C (149°F)	10% to 90%
Thermal Gradient	20°C per hour maximum	
Wet-bulb temperature	26°C maximum	
Conditions	**Altitude (from sea level)**	
Operating	-60 to 3,000 meters	
Non-operating	-60 to 10,000 meters maximum	

Power Requirements

AC adaptor	100-240 volts AC
	50 or 60 hertz (cycles per second)
Computer	15 VDC
	8.0 amperes

Built-in Modem

Network control unit (NCU)		
Type of NCU	AA	
Type of line	Telephone line (analog only)	
Type of dialing	Pulse Tone	
Control command	AT commands EIA-578 commands	
Monitor function	Computer's speaker	
Communication specifications		
Communication system	Data: Full duplex Fax: Half duplex	
Communication protocol	Data	
	ITU-T-Rec (Former CCITT)	V.21/V.22/V.22bis/V.32/ V.32bis/V.34/V.90
	Bell	103/212A
	Fax	
	ITU-T-Rec (Former CCITT)	V.17/V.29/V.27ter/V.21 ch2

Communication speed	Data transmission and reception
	300/1200/2400/4800/7200/9600/12000/14400/ 16800/19200/21600/24000/26400/28800/31200/ 33600 bps
	Data reception only with V.90
	28000/29333/30666/32000/33333/34666/36000/ 37333/38666/40000/41333/42666/44000/45333/ 46666/48000/49333/50666/52000/53333/54666/ 56000 bps
	Fax
	2400/4800/7200/9600/12000/14400 bps
Transmitting level	-10 dBm
Receiving level	-10 to -40 dBm
Input/output impedance	600 ohms ±30%
Error correcting	MNP class 4 and ITU-T V.42
Data compression	MNP class 5 and ITU-T V.42bis
Power supply	+3.3V (supplied by computer)

Appendix B

Display Controller and Modes

Display controller

The display controller interprets software commands into hardware commands that turn particular pels on or off.

The controller is an advanced Video Graphics Array (VGA) that provides Super VGA (SVGA) and Extended Graphics Array (XGA) support for the internal LCD and External monitors.

A high-resolution external monitor connected to the computer can display up to 2048 horizontal and 1536 vertical pixels at 16 M colors.

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

Software written for a given video mode will run on any computer that supports the mode.

The computer's display controller supports all VGA and SVGA modes, the most widely used industry standards.

Video modes

The computer supports video modes defined in the tables below. If your application offers a selection of mode numbers that do not match the numbers on the table, select a mode based on mode type, resolution, character matrix, number of colors and refresh rates. Also, if your software supports both graphics and text modes, the screen display may appear to operate faster using a text mode.

Table1 Video modes (VGA)

Video mode	Type	Resolution	Character matrix (pels)	LCD colors	CRT colors	Scanning frequency Vertical (Hz)
0, 1	VGA Text	40 × 25 Characters	8 × 8	16 of 256K	16 of 256K	70
2, 3	VGA Text	80 × 25 Characters	8 × 8	16 of 256K	16 of 256K	70
0*, 1*	VGA Text	40 × 25 Characters	8 × 14	16 of 256K	16 of 256K	70
2*, 3*	VGA Text	80 × 25 Characters	8 × 14	16 of 256K	16 of 256K	70
0+, 1+	VGA Text	40 × 25 Characters	9 × 16	16 of 256K	16 of 256K	70
2+, 3+	VGA Text	80 × 25 Characters	9 × 16	16 of 256K	16 of 256K	70
4, 5	VGA Grph	320 × 200 Pels	8 × 8	4 of 256K	4 of 256K	70
6	VGA Grph	640 × 200 Pels	8 × 8	2 of 256K	2 of 256K	70
7	VGA Text	80 × 25 Characters	9 × 14	Mono	Mono	70
7+	VGA Text	80 × 25 Characters	9 × 16	Mono	Mono	70

Table1 Video modes (VGA) continued

Video mode	Type	Resolution	Character matrix (pels)	LCD colors	CRT colors	Scanning frequency Vertical (Hz)
D	VGA Grph	320 × 200 Pels	8 × 8	16 of 256K	16 of 256K	70
E	VGA Grph	640 × 200 Pels	8 × 8	16 of 256K	16 of 256K	70
F	VGA Grph	640 × 350 Pels	8 × 14	Mono	Mono	70
10	VGA Grph	640 × 350 Pels	8 × 14	16 of 256K	16 of 256K	70
11	VGA Grph	640 × 480 Pels	8 × 16	2 of 256K	2 of 256K	60
12	VGA Grph	640 × 480 Pels	8 × 16	16 of 256K	16 of 256K	60
13	VGA Grph	320 × 200 Pels	8 × 8	256 of 256K	256 of 256K	70

Table 2 Video modes (SVGA)

Vertical Frequency can be set up when outputting to External Monitor.

Resolution	LCD colors	CRT colors	Vertical frequency (Hz)
640 × 480	256/256K	256/256K	60 75 85 100
800 × 600	256/256K	256/256K	60 75 85 100
1024 × 768	256/256K	256/256K	60 75 85 100
1280 × 1024 (Virtual)*	256/256K	256/256K	60 75 85 100
1440 × 900	256/256K	256/256K	60 75 85 100
1600 × 1200 (Virtual)*	256/256K	256/256K	60 75 85 100
1920 × 1440 (Virtual)*	256/256K	256/256K	60 75 85
2048 × 1536 (Virtual)*	256/256K	256/256K	60 75

Table 2 Video modes (SVGA) continued

Resolution	LCD colors	CRT colors	Vertical frequency (Hz)
640 × 480	64K/64K	64K/64K	60 75 85 100
800 × 600	64K/64K	64K/64K	60 75 85 100
1024 × 768	64K/64K	64K/64K	60 75 85 100
1280 × 1024 (Virtual)*	64K/64K	64K/64K	60 75 85 100
1440 × 900	64K/64K	64K/64K	60 75 85 100
1600 × 1200 (Virtual)*	64K/64K	64K/64K	60 75 85 100
1920 × 1440 (Virtual)*	64K/64K	64K/64K	60 75 85
2048 × 1536 (Virtual)*	64K/64K	64K/64K	60 75

Table 2 Video modes (SVGA) continued

Resolution	LCD colors	CRT colors	Vertical frequency (Hz)
640 × 480	16M/16M	16M/16M	60 75 85 100
800 × 600	16M/16M	16M/16M	60 75 85 100
1024 × 768	16M/16M	16M/16M	60 75 85 100
1280 × 1024 (Virtual)*	16M/16M	16M/16M	60 75 85 100
1440 × 900	16M/16M	16M/16M	60 75 85 100
1600 × 1200 (Virtual)*	16M/16M	16M/16M	60 75 85 100
1920 × 1440 (Virtual)*	16M/16M	16M/16M	60 75
2048 × 1536 (Virtual)*	16M/16M	16M/16M	60 75

* Only when displaying on LCD.

Some video modes do not support multimonitor display.

Appendix C

AT Commands

In most cases, you will not need to type AT commands manually. However, there might be some occasions when you will need to do so.

This chapter describes AT commands for data mode. Fax and voice commands are taken care of by application software.

The format for entering AT commands is:

ATXn

where **X** is the AT command, and **n** is the specific value for that command. After you type in the command press **Enter**.

Any command issued is acknowledged with a response in either text or numeric values known as result codes.

All commands and command-values accepted by the modem are described in this section; any entry other than those listed results in an error.

+++   Escape sequence

The escape sequence allows the modem to exit data mode and enter on-line command mode. While in on-line command mode, you can communicate directly to your modem using AT commands. Once you finish, you can return to data mode using the ATO command.

A pause, the length of which is set by Escape Guard Time (S12), must be completed after an escape sequence is entered. This pause prevents the modem from interpreting the escape sequence as data.

The value of the escape sequence character may be changed using register S2.

A/   Repeat last command

This command repeats the last command string entered. Do not precede this command with an AT prefix or conclude it by pressing **Enter**.

A   Answer command

This command instructs the modem to go off-hook and answer an incoming call.

Bn   Communication standard setting

This command determines the communication standard CCITT or Bell.

B0   Selects CCITT V.22 mode when the modem is at 1200 bps.

B1   Selects Bell 212A when the modem is at 1200 bps (default).

B15   Selects V.21 when the modem is at 300 bps.

B16   Selects Bell 103J when the modem is at 300 bps (default).

Result Codes:

OK   n=0,1,15,16

ERROR Otherwise

Dn   Dial

This command instructs the modem to dial a telephone number. Enter **n** (the telephone number and any modifiers) after the ATD command.

Any digit or symbol (0-9, *, #, A, B, C, D) may be dialed as touch-tone digits. Characters such as spaces, hyphens, and parentheses do not count. They are ignored by the modem, but you may want to include them to make the number and modifiers easier to read.

The following may be used as phone number modifiers:

P   Pulse dialing.

T   Touch-tone dialing (default).

,   Pause during dialing. Pause for time specified in Register S8 before processing the next character in the dial string.

W   Wait for dial tone. Modem waits for a second dial tone before processing the dial string.

@   Wait for quiet answer. Wait for five seconds of silence after dialing the number. If silence is not detected, the modem sends a NO ANSWER result code back to the caller.

!   Hook flash. Causes the modem to go on-hook for 0.5 seconds and then return to off-hook.

;   Return to command mode. Causes the modem to return to command mode after dialing a number, without disconnecting the call.

S=n   Dial a telephone number previously stored using the &Zn=X command (See &Zn=X command for more information). The range is 0-3.

En   Echo command

This command controls whether or not the characters entered from your computer keyboard are displayed on your monitor (echoed) while the modem is in command mode.

E0   Disables echo to the computer.

E1   Enables echo to the computer (default).

Result Codes:
OK   n=0,1
ERROR Otherwise

Hn   Hook control

This command instructs the modem to go on-hook to disconnect a call, or off-hook to make the phone line busy.

H0   Modem goes on-hook (default).

H1   Modem goes off-hook.

Result Codes:
OK   n=0,1
ERROR Otherwise

In   Request ID information

This command displays product information about the modem.

I0   Returns modem identity string and driver version number.

I3   Same as **I0**.

I9   Returns region ID in English.

Result Codes:
OK   n=0,3,9
ERROR Otherwise

Ln   Monitor speaker volume

This command sets speaker volume to low, medium, or high.

L0   Low volume.

L1   Low volume. (Same as **L0**)

L2   Medium volume (default).

L3   High volume.

Result Codes:
OK   n=0,1,2,3
ERROR Otherwise

Mn   Monitor speaker mode

This command turns the speaker on or off.

M0   The speaker is off.

M1   The speaker is on until the modem detects the carrier signal (default).

M2   The speaker is always on when modem is off-hook.

M3   Speaker is on until the carrier is detected, except when dialing.

Result Codes:
OK   n=0,1,2,3
ERROR Otherwise

Nn   Modulation handshake

This command controls whether or not the local modem performs a negotiated handshake at connection time with the remote modem when the communication speed of the two modems is different.

N0   When originating or answering, this is for handshake only at the communication standard specified by S37 and the ATB command.

N1   When originating or answering, begin the handshake at the communication standard specified by S37 and the ATB command (default).

During handshake, a lower transmission speed may be selected.

Result Codes:
OK   n=0,1
ERROR Otherwise

On   Return on-line to data mode

O0   Instructs the modem to exit on-line command mode and return to data mode (see AT escape sequence, +++).

O1   This command issues a retrain before returning to on-line data mode.

O3   This command issues a rate renegotiation before returning to on-line data mode.

Result Codes:
OK   n=0,1,3
ERROR Otherwise

P   Select pulse dialing

This command configures the modem for pulse (non touch-tone) dialing. Dialed digits are pulsed until a T command or dial modifier is received. Tone dial is the default setting.

Qn   Result code control

Result codes are informational messages sent from the modem and displayed on your monitor. Basic result codes are **OK**, **CONNECT**, **RING**, **NO CARRIER**, and **ERROR**. The ATQ command allows the user to turn result codes on or off.

Q0   Enables modem to send result codes to the computer (default).

Q1   Disables modem from sending result codes to the computer.

Result Codes:
OK   n=0,1
ERROR Otherwise

T   Select tone dialing

This command instructs the modem to send DTMF tones while dialing. Dialed digits are tone dialed until a P command or dial modifier is received. This is the default setting.

Vn   DCE response format

This command controls whether result codes (including call progress and negotiation progress messages) are displayed as words or their numeric equivalents.

V0   Displays result codes as digits.

V1   Displays result codes as text (default).

Result Codes:
OK   n=0,1
ERROR Otherwise

Xn   Result code selection, call progress monitoring

This command selects which result codes will be used by the modem.

Command	Dial tone detect	Busy signal detect	Supported Result Code
X0	Disable	Disable	OK, CONNECT, RING, NO CARRIER, ERROR
X1	Disable	Disable	OK, RING, NO CARRIER, ERROR, CONNECT <RATE>
X2	Enable	Disable	OK, RING, NO CARRIER, ERROR, NODIALTONE, CONNECT <RATE>
X3	Disable	Enable	OK, RING, NO CARRIER, ERROR, BUSY, CONNECT <RATE>, BLACKLISTED
X4 (default)	Enable	Enable	OK, RING, NO CARRIER, ERROR, NODIALTONE, BUSY, CONNECT <RATE>, DELAYED, BLACKLISTED, REORDER, WARBLE, CALL WAITING DETECTED
X5	Enable	Enable	OK, RING, NO CARRIER, ERROR, NODIALTONE, BUSY, CONNECT <RATE>, RRING, NO BONGTONE, DELAYED, BLACKLISTED, REORDER, WARBLE, CALL WAITING DETECTED

Dial tone detect

Disabled: The modem dials a call regardless of whether it detects a dial tone.

Enabled: The modem dials only upon detection of a dial tone, and disconnects the call if the dial tone is not detected within 10 seconds.

Busy tone detect

Disabled: The modem ignores any busy tones it receives.

Enabled: The modem monitors for busy tones.

Result Codes:
OK   n=0,1,2,3,4,5
ERROR Otherwise

Zn   Recall stored profile

The modem performs a soft reset and restores (recalls) the configuration profile according to the parameter supplied. If no parameter is specified, zero is assumed. Either Z0 or Z1 restores the profile.

Result Codes:
OK   n=0,1
ERROR Otherwise

&Cn Data Carrier Detect (DCD) control

Data Carrier Detect is a signal from the modem to the computer indicating that a carrier signal is being received from a remote modem. DCD normally turns off when the modem no longer detects the carrier signal.

&C0   The state of the carrier from the remote modem is ignored. DCD circuit is always on.

&C1   DCD turns on when the remote modem's carrier signal is detected, and off when the carrier signal is not detected (default).

Result Codes:
OK   n=0,1
ERROR Otherwise

&Dn DTR control

This command interprets how the modem responds to the state of the DTR signal and changes to the DTR signal.

&D0   Ignore. The modem ignores the true status of DTR and treats it as always on. This should only be used if your communication software does not provide DTR to the modem

&D1   If the DTR signal is not detected while in on-line data mode, the modem enters command mode, issues an **OK** result code, and remains connected.

&D2 If the DTR signal is not detected while in on-line data mode, the modem disconnects (default).

&D3 Reset on the on-to-off DTR transition.

Result Codes:
OK n=0,1,2,3
ERROR Otherwise

&F Load factory settings

This command loads the configuration stored and programmed at the factory. This operation replaces all of the command options and the S-register settings in the active configuration with factory values.

&F Recall factory setting as active configuration.

&Gn V.22bis guard tone control

This command determines which guard tone, if any, to transmit while transmitting in the high band (answer mode). This command is only used in V.22 and V.22bis mode. This option is not used in North America and is for international use only.

&G0 Guard tone disabled (default).

&G1 Sets guard tone to 550 Hz.

&G2 Sets guard tone to 1800 Hz.

Result Codes:
OK n=0,1,2
ERROR Otherwise

&Kn Local flow control selection

&K0 Disable flow control.

&K3 Enable CTS/RTS flow control (default).

&K4 Enable XON/XOFF flow control.

Result Codes:
OK n=0,3,4
ERROR Otherwise

&Pn Select Pulse Dial Make/Break Ratio (WW)

&P0 Selects 39% - 61% make/break ratio at 10 pulses per second.

&P1 Selects 33% - 67% make/break ratio at 10 pulses per second.

&P2 Selects 33% - 67% make/break ratio at 20 pulses per second.

Result Codes:
OK n=0,1,2
ERROR Otherwise

&Tn Self-test commands

These tests can help to isolate problems if you experience periodic data loss or random errors.

&T0 Abort. Stops any test in progress.

&T1 Local analog loop. This test verifies modem operation, as well as the connection between the modem and computer. Any data entered at the local DTE is modulated, then demodulated, and returned to the local DTE. To work properly, the modem must be off-line.

Result Codes:
OK   n=0
CONNECT n=1
ERROR   Otherwise

&V   Display Current Configuration

This command displays the current configuration of the modem. If nonvolatile memory is supported the stored profiles are displayed as well.

&V   View profiles.

&W   Store current configuration

Saves the current (active) configuration (profile), including S-Registers.

The current configuration comprises a list of storable parameters illustrated in the **&V** command. These settings are restored to the active configuration upon receiving a **Zn** command or at power up. Refer to the **&V** command.

&W   Stores the current configuration.

&Zn=x Store telephone number

This command is used to store up to four dialing strings in the modem's nonvolatile memory for later dialing. The format for the command is **&Zn**="stored number" where n is the location 0-3 to which the number should be written. The dial string may contain up to 34 characters. The ATDS=n command dials using the string stored in location **n**.

Result Codes:
OK   n=0, 1, 2, 3
ERROR Otherwise

\Nn   Error control mode selection

This command determines the type of error control used by the modem when sending or receiving data.

\N0   Buffer mode. No error control.

\N1   Direct mode.

\N2   MNP or disconnect mode. The modem attempts to connect using MNP2-4 error control procedures. If this fails, the modem disconnects.

This is also known as MNP reliable mode.

\N3 V.42, MNP, or buffered (default).

The modem attempts to connect in V.42 error control mode. If this fails, it attempts to connect in MNP mode. If this fails, it connects in buffer mode and continues operation. This is also known as V.42/MNP auto reliable mode (same as **&Q5**).

\N4 V.42 or disconnect. The modem attempts to connect in V.42 error control mode. If this fails, the modem disconnects.

\N5 V.42. MNP or buffered (same as **\N3**).

\N7 V.42. MNP or buffered (same as **\N3**).

Result Codes:

OK n=0,1,2,3,4,5,7

ERROR Otherwise

\Qn Local flow control selection

\Q0 Disable flow control.

\Q1 XON/XOFF software flow control.

\Q3 CTS/RTS to DTE (default).

Result Codes:

OK n=0,1,3

ERROR Otherwise

\Vn Protocol result code

\V0 Disable protocol result code appended to DCE speed.

\V1 Enable protocol result code appended to DCE speed (default).

Result Codes:

OK n=0,1

ERROR Otherwise

%B View numbers in blacklist

If blacklisting is in effect, this command displays the numbers for which the last call attempted in the past two hours failed. The ERROR result code appears in regions that do not require blacklisting.

%Cn Data compression control

This command determines the operation of V.42bis and MNP class 5 data compression. On-line changes do not take effect until a disconnect occurs first.

%C0 V.42bis/MNP 5 disabled. No data compression.

%C3 V.42bis/MNP 5 enabled. Data compression enabled (default).

Result Codes:

OK n=0,3

ERROR Otherwise

Appendix D

S-registers

S-registers contain the settings that determine how a number of functions of the internal modem operate. For example, how many times to let the telephone ring before the modem answers and how long to wait before it hangs up if a connection fails. You can also customize certain AT commands such as the escape sequence and command line termination.

The contents of the registers are changed automatically when you modify corresponding settings in your communication software. If you choose, however, you can display and edit the contents of the registers manually when the modem is in command mode. If the value is out of the acceptable range, then an error is generated.

This chapter describes the settings for each S-register.

S-register values

The format for displaying the value of an S-register is:

ATSn?

where **n** is the register number. After you type in the register press **Enter**.

The format for modifying the value of an S-register is:

ATSn=r

where **n** is the register number, and **r** is the new register value. After you type in the register and its new value press **Enter**.

Some registers vary from one country/region to another.

S0   Auto answer ring number

This register determines the number of rings the modem will count before automatically answering a call. Enter 0 (zero) if you do not want the modem to automatically answer at all. When disabled, the modem can only answer with an ATA command.

Range:0-255

Default:0

Units:rings

S1   Ring counter

This register is read only. The value of S1 is incremented with each ring. If no ring occurs over a six-second interval, this register is cleared.

Range:0-225

Default:0

Units:rings

S2   AT escape character (user defined)

This register determines the ASCII values used for an escape sequence. The default is the + character. The escape sequence allows the modem to exit data mode and enter command mode when on-line. Values greater than 127 disable the escape sequence.

Range:0-255, ASCII decimal

Default:43

Units:ASCII

S3   Command line termination character (user defined)

This register determines the ASCII values as the carriage return character. This character is used to end command lines and result codes.

Range:0-127, ASCII decimal

Default:13 (carriage return)

Units:ASCII

S4   Response formatting character (user defined)

This register determines the ASCII value used as the line feed character. The modem uses a line feed character in command mode when it responds to the computer.

Range:0-127, ASCII decimal

Default:10 (line feed)

Units:ASCII

S5   Command line editing character (user defined)

This register sets the character recognized as a backspace and pertains to asynchronous only. The modem will not recognize the backspace character if it is set to a value that is greater than 32 ASCII. This character can be used to edit a command line. When the echo command is enabled, the modem echoes back to the local DTE the backspace character, an ASCII space character, and a second backspace character. This means a total of three characters are transmitted each time the modem processes the backspace character.

Range:0-127, ASCII decimal

Default:8 (backspace)

Units:ASCII

S6   Wait before dialing

This register sets the length of time, in seconds, that the modem must wait (pause) after going off-hook before dialing the first digit of the telephone number. The modem always pauses for a minimum of two seconds, even if the value of S6 is less that two seconds. The wait for dial tone call progress feature (W dial modifier in the dial string) will override the value in register S6. This operation, however, may be affected by some ATX options according to country/region restrictions. In some countries/regions, S6 will set dial tone detect time.

Range:3-255

Default:3

Units:seconds

S7   Connection completion time-out

This register sets the time, in seconds, that the modem must wait before hanging up because carrier is not detected. The timer is started when the modem finishes dialing (originate), or goes off-hook (answer). In originate mode, the timer is reset upon detection of an answer tone if allowed by county restriction. The timer also specifies the wait for silence time for the @ dial modifier in seconds. S7 is not associated with the W dial modifier.

Range:1-255

Default:50

Units:seconds

S8   Comma pause time

This register sets the time, in seconds, that the modem must pause when it encounters a comma (,) in the dial command string. In some countries/regions, S8 will set both wait before dialing and comma pause time.

Range:0-255

Default:2

Units:seconds

S11   DTMF dialing speed

This register determines the dialing speed which is prefixed for each country/region.

Range:50-255

Default:95

Units:.001 seconds

S12   Escape guard time

This register sets the value (in 20 millisecond increments) for the required pause after the escape sequence.

Range:0-255

Default:50

Units:.02 seconds

S37   Dial line rate

S37 = 0 (default)	maximum modem speed
S37 = 1	reserved
S37 = 2	1200/75 bps
S37 = 3	300 bps
S37 = 4	reserved
S37 = 5	1200 bps
S37 = 6	2400 bps
S37 = 7	4800 bps
S37 = 8	7200 bps
S37 = 9	9600 bps
S37 = 10	12000 bps
S37 = 11	14400 bps
S37 = 12	16800 bps
S37 = 13	19200 bps
S37 = 14	21600 bps
S37 = 15	24000 bps
S37 = 16	26400 bps
S37 = 17	28800 bps
S37 = 18	31200 bps
S37 = 19	33600 bps

AT command set result codes

The following table shows the result codes.

The result code summary

Result Code	Numeric	Description
OK	0	Command executed
CONNECT	1	Modem connected to line
RING	2	A ring signal has been detected
NO CARRIER	3	Modem lost carrier signal, or does not detect carrier signal, or does not detect answer tone
ERROR	4	Invalid command
CONNECT 1200 EC*[1]	5	Connection at 1200 bps
NO DIAL TONE	6	No dial tone detected
BUSY	7	Busy signal detected
NO ANSWER	8	No quiet answer
CONNECT 2400 EC*[1]	10	Connection at 2400 bps
CONNECT 4800 EC*[1]	11	Connection at 4800 bps
CONNECT 9600 EC*[1]	12	Connection at 9600 bps
CONNECT 14400 EC*[1]	13	Connection at 14400 bps
CONNECT 19200 EC*[1]	14	Connection at 19200 bps
CONNECT 7200 EC*[1]	24	Connection at 7200 bps
CONNECT 12000 EC*[1]	25	Connection at 12000 bps
CONNECT 16800 EC*[1]	86	Connection at 16800 bps
CONNECT 300 EC*[1]	40	Connection at 300 bps
CONNECT 21600 EC*[1]	55	Connection at 21600 bps
CONNECT 24000 EC*[1]	56	Connection at 24000 bps
CONNECT 26400 EC*[1]	57	Connection at 26400 bps
CONNECT 28800 EC*[1]	58	Connection at 28800 bps
CONNECT 31200 EC*[1]	59	Connection at 31200 bps

CONNECT 33600 EC[1]	60	Connection at 33600 bps
DELAYED[2]	88	Delay is in effect for the dialed number
BLACKLISTED[2]	89	Dialed number is blacklisted
BLACKLIST FULL[2]	90	Blacklist is full

1: EC only appears when the Extended Result Codes configuration option is enabled. EC is replaced by one of the following symbols, depending upon the error control method used:

  V.42bis - V.42 error control and V.42bis data compression.

  V.42 - V.42 error control only.

  MNP 5 - MNP class 4 error control and MNP class 5 data compression.

  MNP 4 - MNP class 4 error control only.

  NoEC - No error control protocol.

2: In some countries/regions, these result codes may not appear.

Appendix E

V.90

The TOSHIBA internal modem uses V.90 technology. The modem is capable of downstream speeds of 56kbps (kilobits per second) when connected to an Internet service provider that supports V.90. As with any modem, the actual throughput (speed of data transfer) depends on analog telephone line conditions, which can vary considerably. Therefore, many users will experience throughput in the range of 28-50kbps under normal telephone line conditions. Upstream data flows at the V.34 rate.

V.90 rates can be achieved only when one V.90-capable host modem is connected to another. The TOSHIBA Internal modem will select automatically V.34 if the remote modem lacks V.90 capability or if a combination of network and/or phone line conditions prevent V.90 connection.

V.90 mode

Function	Transmission speed
Data V.90	From 56kbps (maximum) to 28kbps (minimum)
	Reception only

Table E-1 Result codes for a V.90 connection

No.	Result code	Description
70	CONNECT 32000 EC*	Connection at 32000 bps
72	CONNECT 36000 EC*	Connection at 36000 bps
74	CONNECT 40000 EC*	Connection at 40000 bps
76	CONNECT 44000 EC*	Connection at 44000 bps
78	CONNECT 48000 EC*	Connection at 48000 bps
80	CONNECT 52000 EC*	Connection at 52000 bps
82	CONNECT 56000 EC*	Connection at 56000 bps
100	CONNECT 28000 EC*	Connection at 28000 bps
101	CONNECT 29333 EC*	Connection at 29333 bps
102	CONNECT 30666 EC*	Connection at 30666 bps
103	CONNECT 33333 EC*	Connection at 33333 bps
104	CONNECT 34666 EC*	Connection at 34666 bps
105	CONNECT 37333 EC*	Connection at 37333 bps
106	CONNECT 38666 EC*	Connection at 38666 bps
107	CONNECT 41333 EC*	Connection at 41333 bps
108	CONNECT 42666 EC*	Connection at 42666 bps
109	CONNECT 45333 EC*	Connection at 45333 bps
110	CONNECT 46666 EC*	Connection at 46666 bps
111	CONNECT 49333 EC*	Connection at 49333 bps
112	CONNECT 50666 EC*	Connection at 50666 bps
113	CONNECT 53333 EC*	Connection at 53333 bps
114	CONNECT 54666 EC*	Connection at 54666 bps

* EC stands for the Error Control method, which appears only when the extended result codes configuration option is enabled. EC is replaced by one of the following symbols, depending on the error control method used.

V42bis	V.42 error control and V.42bis data compression
V42	V.42 error control only
NoEC	No error control protocol

AT Command

-V90=*	V.90 Dial Line Rate
	-V90 sets the maximum V.90 downstream that the modem attempts to connect.
-V90=0	V.90 disabled
-V90=1	V.90 enabled: automatic speed selection - maximum modem speed (default)

Appendix F

Wireless LAN

This appendix is intended to help you get your Wireless LAN network up and running, with a minimum of parameters.

Card Specifications

Form Factor	Mini PCI TypeIII
Compatibility	■ IEEE 802.11 Standard for Wireless LANs ■ Wi-Fi (Wireless Fidelity) certified by the Wi-Fi Alliance. The 'Wi-Fi CERTIFIED' logo is a certification mark of the Wi-Fi Alliance.
Network Operating System	■ Microsoft Windows® Networking
Media Access Protocol **Data Rate**	■ CSMA/CA (Collision Avoidance) with Acknowledgment (ACK) ■ Theoretical maximum speed: 54Mbps(IEEE802.11a, 802.11g) ■ Theoretical maximum speed: 11Mbps(IEEE802.11b) ■ Theoretical maximum speed: 108Mbps(Turbo Mode; Atheros module type)

* The Transmit Rate (xx Mbit/s) is the theoretical maximum speed under the IEEE802.11 (a/b/g) standard. The actual transmission speed will be lower than the theoretical maximum speed.

Radio Characteristics

Radio Characteristics of Wireless LAN Cards may vary according to:

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

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

Refer to the sheet "Information to the User" for regulatory information that may apply in your country/region.

R-F Frequency	■ Band 5GHz (5150-5850 MHz) (Revision A, Turbo Mode)
	■ Band2.4GHz (2400-2483.5 MHz) (Revision B, G, Turbo Mode)
Modulation Technique	■ DSSS-CCK, DSSS-DQPSK, DSSS-DBPSK (Revision B)
	■ OFDM-BPSK, OFDM-QPSK, OFDM-16QAM, OFDM-64QAM (Revision A, G, Turbo Mode)

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

■ The range of your wireless devices can be affected when the antennas are placed near metal surfaces and solid high-density materials.

■ Range is also impacted due to "obstacles" in the signal path of the radio that may either absorb or reflect the radio signal.

Supported Frequency Sub-bands

Subject to the radio regulations that apply in the countries/regions, your Wireless LAN card may support a different set of 5 GHz/2.4 GHz channels. Consult your Authorized Wireless LAN or your dealer for information about the radio regulations that apply in the countries/regions.

Wireless IEEE 802.11 Channels Sets (Revision B and G)

Frequency Range **Channel ID**	2400-2483.5 MHz
1	2412
2	2417
3	2422
4	2427
5	2432

6	2437	
7	2442	
8	2447	
9	2452	
10	**2457*1**	
11	2462	
12	**2467*2**	
13	**2472*2**	

Wireless IEEE 802.11 Channels Sets (Turbo Mode)

Frequency Range **Channel ID**	2400-2483.5 MHz	**Note**
6	2437	US only*[4]

When installing Wireless LAN cards, the channel configuration is managed as follows:

■ For wireless clients that operate in a Wireless LAN Infrastructure, the Wireless LAN card will automatically start operation at the channel identified by the Wireless LAN Access Point. When roaming between different access points the station can dynamically switch to another channel if required.

■ For Wireless LAN cards installed in wireless clients that operating in a peer-to-peer mode, the card will use the default channel 10.

■ In a Wireless LAN Access Point, the Wireless LAN card will use the factory-set default channel (printed in bold), unless the LAN Administrator selected a different channel when configuring the Wireless LAN Access Point device.

Wireless IEEE 802.11 Channels Sets (Revision A)

Frequency Range **Channel ID**	5150-5850 MHz	**Note**
36	5180	
40	5200	
44	5220	

48	5240	
52	5260	
56	5280	
60	5300	
64	5320	
100	5500*[3]	
104	5520*[3]	
108	5540*[3]	
112	5560*[3]	
116	5580*[3]	
120	5600*[3]	
124	5620*[3]	
128	5640*[3]	
132	5660*[3]	
136	5680*[3]	
140	5700*[3]	
149	5745*[3]	US only *[4]
153	5765*[3]	US only *[4]
157	5785*[3]	US only *[4]
161	5805*[3]	US only *[4]

Wireless Channels Sets (Turbo Mode)

Frequency Range Channel ID	5150-5850 MHz	**Note**
42	5210*[3]	US only *[4]
50	5250*[3]	US only *[4]

58	5290*³	US only *⁴
152	5760*³	US only *⁴
160	5800*³	US only *⁴

*1 Factory-set default channels

*2 Refer to the sheet *Approved Countries/Regions for use* for the countries/regions that in which these channels can be used.

*3 These channels are available to A/B/G combo type only.

*4 Available Area: US (USA, CANADA) only.

Appendix G

AC Power Cord and Connectors

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

Length:	Minimum 2 meters
Wire size:	Minimum 0.75 mm^2
Current rating:	Minimum 2.5 amperes
Voltage rating:	125 or 250 VAC (depending on country/region's power standards)

Certification agencies

U.S. and Canada:	UL listed and CSA certified No. 18 AWG, Type SVT or SPT-2 two conductors
Australia:	AS
Japan:	DENANHO

Europe:

Austria:	OVE	**Italy:**	IMQ
Belgium:	CEBEC	**The Netherlands:**	KEMA
Denmark:	DEMKO	**Norway:**	NEMKO
Finland:	SETI	**Sweden:**	SEMKO

France:	UTE	**Switzerland:**	SEV
Germany:	VDE	**United Kingdom:**	BSI

In Europe, power cords must be VDE type, H05VVH2-F and two conductors.

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

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

USA and Canada
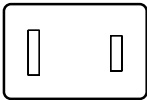
United Kingdom

UL approved
CSA approved
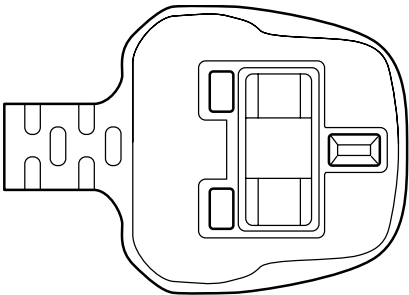
BS approved

Australia
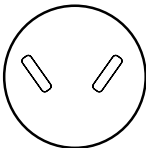
Europe

AS approved

Approved by the
appropriate agency

Appendix H

Parts Numbers

The computer configuration and parts numbers, printed on a label on the bottom of the computer, indicate the CPU, Memory, 1st HDD, 2nd HDD, W-LAN, BT, TV Tuner and VGA.

Configurations

The following table shows the computer configuration indicated on a label. Shaded areas indicate abbreviations used on the label. The explanations are to the left of the shading. Abbreviations are not limited to those in this chart. They may change without notice.

CPU		Memory		1st HDD	
Pentium-M 765 (2.1)		1024MB+1024MB	2048M	100GB (5,400rpm)	100-5
Pentium-M 755 (2.0)	PM755	1024MB	1024M	100GB (4,200rpm)	100-4
Pentium-M 745 (1.8)	PM745	1024MB+512MB	1536M	80GB (5,400rpm)	80-5
Pentium-M 735 (1.7A)	PM735	1024MB+256MB	1280M	80GB (4,200rpm)	80-4
Pentium-M 725 (1.6A)	PM725	512MB	512M	60GB (5,400rpm)	60-5
Pentium-M 715 (1.5A)	PM715	512MB+256MB	768M	60GB (4,200rpm)	60-4
		256MB	256M		

2nd HDD		W-LAN		BT	
100GB (5,400rpm)	100-5	802.11b	WLb	BT (V1.2)	BT
100GB (4,200rpm)	100-4	802.11b/g	WLg	No	
80GB (5,400rpm)	80-5	802.11a/b/g	WLag		
80GB (4,200rpm)	80-4	None			
60GB (5,400rpm)	60-5				
60GB (4,200rpm)	60-4				
40GB (5,400rpm)	40-5				
40GB (4,200rpm)	40-4				
None					

TV Tuner		VGA	
WW TV Tuner (NTSC)	TV	NV36m (64M)	64V
WW TV Tuner (PAL)	TV	NV36m (128M)	128V
TV Tuner for China (PAL)	TV		
NO			
TV Tuner for Korea (NTSC)	TV		

Appendix I

Usage Restrictions

This appendix describes the Usage Restrictions.

■ This configuration is designed to work with a signal from a conventional (standard or analog) TV antenna.

■ TOSHIBA does not guarantee that signals received by satellite or cable TV receivers will work properly and does not provide technical support for them.

■ The TOSHIBA Qosmio's AC power adaptor must be connected to get the best possible audio and video performance.

■ For copyright protection reasons, TOSHIBA has incorporated CGMS (Copy Generation Management System) restrictions into this product. This allows a broadcasting channel to send a signal to prevent a motion picture from being copied.

■ The Microsoft® Windows® XP Media Center Edition's radio features cannot be used because the TV feature does not include a radio receiver (FM tuner).

■ It is not possible to record a TV program on one channel and simultaneously view a TV program on another channel because the computer only has one TV feature. However, it is possible to view one recorded TV program and simultaneously record another.

■ The TV feature lets you capture and record a video stream (S-Video/Composite Video) from a camcorder, DVD player, etc.
Because of the large number of peripherals currently on the market, TOSHIBA does not guarantee that this type of configuration will work properly and does not provide support for this functionality.

■ Teletext functionality is not supported.

Glossary

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

Abbreviations

AC: alternating current

AGP: accelerated graphics port

ANSI: American National Standards Institute

APM: advanced power manager

ASCII: American Standard Code for Information Interchange

BIOS: basic input output system

CD-ROM: Compact Disc-Read Only Memory

CD-RW: Compact Disc-Read/Write

CMOS: complementary metal-oxide semiconductor

CPU: central processing unit

CRT: cathode ray tube

DC: direct current

DDC: display data channel

DMA: direct memory access

DOS: disk operating system

DVD: digital versatile disc

DVD-R: Digital Versatile Disc Recordable

DVD-RAM: Digital Versatile Disc Random Access Memory

DVD-ROM: Digital Versatile Disc Read Only Memory

DVD-RW: Digital Versatile Disc ReWritable

DVD+R DL: Digital Versatile Disc Recordable Double Layer

ECP: extended capabilities port

FDD: floppy disk drive

FIR: fast infrared

HDD: hard disk drive

IDE: integrated drive electronics

I/O: input/output

IrDA: Infrared Data Association

IRQ: interrupt request

KB: kilobyte

LCD: liquid crystal display

LED: light emitting diode

LSI: large scale integration

MB: megabyte

OCR: optical character recognition (reader)

PCB: printed circuit board

PCI: peripheral component interconnect

RAM: random access memory

RGB: red, green, and blue

ROM: read only memory

RTC: real time clock

SCSI: small computer system interface

SIO: serial input/output

SXGA+: super extended graphics array plus

TFT: thin-film transistor

UART: universal asynchronous receiver/transmitter

USB: Universal Serial Bus

VESA: Video Electronic Standards Association

VGA: video graphics array

VRT: voltage reduction technology

WXGA: wide extended graphics array

XGA: extended graphics array

A

adaptor: A device that provides an interface between two dissimilar electronic devices. For example, the AC adaptor modifies the power from a wall outlet for use by the computer. This term also refers to the add-in circuit cards that control external devices, such as video monitors and magnetic tape devices.

allocate: To assign a space or function for a specific task.

alphanumeric: Keyboard characters including letters, numbers and other symbols, such as punctuation marks or mathematical symbols.

alternating current (AC): Electric current that reverses its direction of flow at regular intervals.

analog signal: A signal whose characteristics such as amplitude and frequency vary in proportion to (are an analog of) the value to be transmitted. Voice communications are analog signals.

ANSI: American National Standards Institute. An organization established to adopt and define standards for a variety of technical disciplines. For example, ANSI defined the ASCII standard and other information processing requirements.

antistatic: A material used to prevent the buildup of static electricity.

application: A group of programs that together are used for a specific task such as accounting, financial planning, spreadsheets, word processing and games.

ASCII: American Standard Code for Information Interchange. ASCII code is a set of 256 binary codes that represent the most commonly used letters, numbers, and symbols.

async: Short for asynchronous.

asynchronous: Lacking regular time relationship. As applied to computer communications, asynchronous refers to the method of transmitting data that does not require a steady stream of bits to be transmitted at regular time intervals.

B

backup: A duplicate copy of files kept as a spare in case the original is destroyed.

batch file: A file that can be executed from the system prompt containing a sequence of operating system commands or executable files.

binary: The base two number system composed of zeros and ones (off or on), used by most digital computers. The right-most digit of a binary number has a value of 1, the next a value of 2, then 4, 8, 16, and so on. For example, the binary number 101 has a value of 5. *See also* ASCII.

BIOS: Basic Input Output System. The firmware that controls data flow within the computer. *See also* firmware.

bit: Derived from "binary digit," the basic unit of information used by the computer. It is either zero or one. Eight bits is one byte. *See also* byte.

board: A circuit board. An internal card containing electronic components, called chips, which perform a specific function or increase the capabilities of the system.

boot: Short for bootstrap. A program that starts or restarts the computer. The program reads instructions from a storage device into the computer's memory.

bps: Bits per second. Typically used to describe the data transmission speed of a modem.

buffer: The portion of the computer's memory where data is temporarily stored. Buffers often compensate for differences in the rate of flow from one device to another.

bus: An interface for transmission of signals, data or electric power.

byte: The representation of a single character. A sequence of eight bits treated as a single unit; also the smallest addressable unit within the system.

C

cache memory: High speed memory which stores data that increases processor speed and data transfer rate. When the CPU reads data from main memory, it stores a copy of this data in cache memory. The next time the CPU needs that same data, it looks for it in the cache memory rather than the main memory, which saves time. The computer has two cache levels. Level one is incorporated into the processor and level two resides in external memory.

capacity: The amount of data that can be stored on a magnetic storage device such as a floppy disk or hard disk. It is usually described in terms of kilobytes (KB), where one KB = 1024 bytes and megabytes (MB), where one MB = 1024 KB.

card: Synonym for board. *See* board.

CardBus: An industry standard bus for 32-bit PC cards.

CD-ROM: A Compact Disc-Read Only Memory is a high capacity disc that can be read from but not written to. The CD-ROM drive uses a laser, rather than magnetic heads, to read data from the disc.

CD-R: A Compact Disc-Recordable disc can be written once and read many times. See also CD-ROM.

CD-RW: A Compact Disc-ReWritable disc can be rewritten many times. *See* also CD-ROM.

character: Any letter, number, punctuation mark, or symbol used by the computer. Also synonymous with byte.

chassis: The frame containing the computer.

chip: A small semiconductor containing computer logic and circuitry for processing, memory, input/output functions and controlling other chips.

CMOS: Complementary Metal-Oxide Semiconductor. An electronic circuit fabricated on a silicon wafer that requires very little power. Integrated circuits implemented in CMOS technology can be tightly packaged and are highly reliable.

cold start: Starting a computer that is currently off (turning on the power).

COM1, COM2, COM3 and COM4: The names assigned to the serial and communication ports.

commands: Instructions you enter at the terminal keyboard that direct the actions of the computer or its peripheral devices.

communications: The means by which a computer transmits and receives data to and from another computer or device.

compatibility: 1) The ability of one computer to accept and process data in the same manner as another computer without modifying the data or the media upon which it is being transferred.
2) the ability of one device to connect to or communicate with another system or component.

components: Elements or parts (of a system) which make up the whole (system).

Composite Video (YUV): A standard video signal used to transmit images, e.g. from a VCR to a TV.

computer program: A set of instructions written for a computer that enable it to achieve a desired result.

computer system: A combination of hardware, software, firmware, and peripheral components assembled to process data into useful information.

configuration: The specific components in your system (such as the terminal, printer, and disk drives) and the settings that define how your system works. You use the HW Setup program to control your system configuration.

control keys: A key or sequence of keys you enter from the keyboard to initiate a particular function within a program.

controller: Built-in hardware and software that controls the functions of a specific internal or peripheral device (e.g. keyboard controller).

co-processor: A circuit built into the processor that is dedicated to intensive math calculations.

CPS: Characters Per Second. Typically used to indicate the transmission speed of a printer.

CPU: Central Processing Unit. The portion of the computer that interprets and executes instructions.

CRT: Cathode Ray Tube. A vacuum tube in which beams projected on a fluorescent screen-producing luminous spots. An example is the television set.

cursor: A small, blinking rectangle or line that indicates the current position on the display screen.

D

data: Information that is factual, measurable or statistical that a computer can process, store, or retrieve.

data bits: A data communications parameter controlling the number of bits (binary digits) used to make up a byte. If data bits = 7 the computer can generate 128 unique characters. If data bits = 8 the computer can generate 256 unique characters.

DC: Direct Current. Electric current that flows in one direction. This type of power is usually supplied by batteries.

default: The parameter value automatically selected by the system when you or the program do not provide instructions. Also called a preset value.

delete: To remove data from a disk or other data storage device. Synonymous with erase.

device driver: A program that controls communication between a specific peripheral device and the computer. The CONFIG.SYS file contains device drivers that MS-DOS loads when you turn the computer on.

dialog box: A window that accepts user input to make system settings or record other information.

Digital Audio: An audio compression standard that enables high-quality transmission and real-time playback of sound files.

disk drive: The device that randomly accesses information on a disk and copies it to the computer's memory. It also writes data from memory to the disk. To accomplish these tasks, the unit physically rotates the disk at high speed past a read-write head.

disk storage: Storing data on magnetic disk. Data is arranged on concentric tracks much like a phonograph record.

display: A CRT, LCD, or other image producing device used to view computer output.

documentation: The set of manuals and/or other instructions written for the users of a computer system or application. Computer system documentation typically includes procedural and tutorial information as well as system functions.

DOS: Disk Operating System. *See* operating system.

driver: A software program, generally part of the operating system, that controls a specific piece of hardware (frequently a peripheral device such as a printer or mouse).

DVB-T (Digital Video Broadcasting - Terrestrial): Also known as terrestrial digital TV. Digital TV broadcasting standard.

DVD-R (+R, -R): A Digital Versatile Disc-Recordable disk can be written once and read many times. The DVD-R drive uses a laser to read data from the disc.

DVD-RAM: A Digital Versatile Disc Random Access Memory is a high-capacity, high performance disc that lets you store large volumes of data. The DVD-RAM drive uses a laser to read data from the disc.

DVD-ROM: A Digital Versatile Disc Read Only Memory is a high capacity, high performance disc suitable for play back of video and other high-density files. The DVD-ROM drive uses a laser to read data from the disc.

DVD-RW (+RW, -RW): A Digital Versatile Disc-ReWritable disc can be rewritten many times.

DLD+R DL: A disc having two layers on one side with the DVD+R storage capacity about 1.8 times larger than before. The DVD-RW drive uses a laser to read data from the disc.

E

echo: To send back a reflection of the transmitted data to the sending device. You can display the information on the screen, or output it to the printer, or both. When a computer receives back data it transmitted to a CRT (or other peripheral device) and then retransmits the data to printer, the printer is said to echo the CRT.

erase: *See* delete.

escape: 1) A code (ASCII code 27), signaling the computer that what follows are commands; used with peripheral devices such as printers and modems.
2) A means of aborting the task currently in progress.

escape guard time: A time before and after an escape code is sent to the modem which distinguishes between escapes that are part of the transmitted data, and escapes that are intended as a command to the modem.

execute: To interpret and execute an instruction.

Extended Capability Port: An industry standard that provides a data buffer, switchable forward and reverse data transmission, and run length encoding (RLE) support.

F

fast infrared: An industry standard that enables cableless infrared serial data transfer at speeds of up to 4 Mbps.

file: A collection of related information; a file can contain data, programs, or both.

firmware: A set of instructions built into the hardware which controls and directs a microprocessor's activities.

floppy disk: A removable disk that stores magnetically encoded data.

floppy disk drive (FDD): An electromechanical device that reads and writes to floppy disks.

Fn-esse: A TOSHIBA utility that lets you assign functions to hot keys.

folder: An icon in Windows used to store documents or other folders.

format: The process of readying a blank disk for its first use. Formatting establishes the structure of the disk that the operating system expects before it writes files or programs onto the disk.

function keys: The keys labeled **F1** through **F12** that tell the computer to perform certain functions.

G

gigabyte (GB): A unit of data storage equal to 1024 megabytes. *See also* megabyte.

graphics: Drawings, pictures, or other images, such as charts or graphs, to present information.

H

hard disk: A non-removable disk usually referred to as drive C. The factory installs this disk and only a trained engineer can remove it for servicing. Also called fixed disk.

hard disk drive (HDD): An electromechanical device that reads and writes a hard disk. *See also* hard disk.

hardware: The physical electronic and mechanical components of a computer system: typically, the computer itself, external disk drives, etc. *See also* software and firmware.

hertz: A unit of wave frequency that equals one cycle per second.

hexadecimal: The base 16 numbering system composed of the digits 0 through 9 and the letters A, B, C, D, E, and F.

host computer: The computer that controls, regulates, and transmits information to a device or another computer.

hot key: The computer's feature in which certain keys in combination with the extended function key, **Fn**, can be used to set system parameters, such as speaker volume.

HW Setup: A TOSHIBA utility that lets you set the parameters for various hardware components.

I

icon: A small graphic image displayed on the screen or in the indicator panel. In Windows, an icon represents an object that the user can manipulate.

i.LINK (IEEE1394): This port enables high-speed data transfer directly from external devices such as digital video cameras.

input: The data or instructions you provide to a computer, communication device or other peripheral device from the keyboard or external or internal storage devices. The data sent (or output) by the sending computer is input for the receiving computer.

instruction: Statements or commands that specify how to perform a particular task.

interface: 1) Hardware and/or software components of a system used specifically to connect one system or device to another.
2) To physically connect one system or device to another to exchange information.
3) The point of contact between user, the computer, and the program, for example, the keyboard or a menu.

interrupt request: A signal that gives a component access to the processor.

I/O: Input/output. Refers to acceptance and transfer of data to and from a computer.

I/O devices: Equipment used to communicate with the computer and transfer data to and from it.

IrDA 1.1: An industry standard that enables cableless infrared serial data transfer at speeds of up to 4 Mbps.

J

jumper: A small clip or wire that allows you to change the hardware characteristics by electrically connecting two points of a circuit.

K

K: Taken from the Greek word kilo, meaning 1000; often used as equivalent to 1024, or 2 raised to the 10th power. *See also* byte and kilobyte.

KB: *See* kilobyte.

keyboard: An input device containing switches that are activated by manually pressing marked keys. Each keystroke activates a switch that transmits a specific code to the computer. For each key, the transmitted code is, in turn, representative of the (ASCII) character marked on the key.

kilobyte (KB): A unit of data storage equal to 1024 bytes. *See also* byte and megabyte.

L

level 2 cache: *See* cache.

Light Emitting Diode (LED): A semiconductor device that emits light when a current is applied.

Liquid Crystal Display (LCD): Liquid crystal sealed between two sheets of glass coated with transparent conducting material. The viewing-side coating is etched into character forming segments with leads that extend to the edge of the glass. Applying a voltage between the glass sheets alters the brightness of the liquid crystal.

LSI: Large Scale Integration.
   1) A technology that allows the inclusion of up to 100,000 simple logic gates on a single chip.
   2) An integrated circuit that uses large scale integration.

M

main board: *See* motherboard.

megabyte (MB): A unit of data storage equal to 1024 kilobytes. *See also* kilobyte.

megahertz: A unit of wave frequency that equals 1 million cycles per second. *See also* hertz.

menu: A software interface that displays a list of options on the screen. Also called a screen.

microprocessor: A hardware component contained in a single integrated circuit that carries out instructions. Also called the central processing unit (CPU), one of the main parts of the computer.

mode: A method of operation, for example, the boot mode, standby mode or the hibernation mode.

modem: Derived from modulator/demodulator, a device that converts (modulates) digital data for transmission over telephone lines and then converts modulated data (demodulates) to digital format where received.

monitor: A device that uses rows and columns of pixels to display alphanumeric characters or graphic images. *See also* CRT.

motherboard: A name sometimes used to refer to the main printed circuit board in processing equipment. It usually contains integrated circuits that perform the processor's basic functions and provides connectors for adding other boards that perform special functions. Sometimes called a main board.

N

non-system disk: A formatted floppy disk you can use to store programs and data but you cannot use to start the computer. *See* system disk.

nonvolatile memory: Memory, usually read-only (ROM), that is capable of permanently storing information. Turning the computer's power off does not alter data stored in nonvolatile memory.

numeric keypad overlay: A feature that allows you to use certain keys on the keyboard to perform numeric entry, or to control cursor and page movement.

O

OCR: Optical Character Recognition (reader). A technique or device that uses laser or visible light to identify characters and input them into a storage device.

online state: A functional state of a peripheral device when it is ready to receive or transmit data.

operating system: A group of programs that controls the basic operation of a computer. Operating system functions include interpreting programs, creating data files, and controlling the transmission and receipt (input/output) of data to and from memory and peripheral devices.

output: The results of a computer operation. Output commonly indicates data.
1) printed on paper, 2) displayed at a terminal, 3) sent through the serial port of internal modem, or 4) stored on some magnetic media.

P

PAL: PAL (Phase Alternating Line) is the dominant video and broadcasting standard in Europe.

parity: 1) The symmetrical relationship between two parameter values (integers) both of which are either on or off; odd or even; 0 or 1. 2) In serial communications, an error detection bit that is added to a group of data bits making the sum of the bits even or odd. Parity can be set to none, odd, or even.

password: A unique string of characters used to identify a specific user. The computer provides various levels of password protection such as user and supervisor.

pel: The smallest area of the display that can be addressed by software. Equal in size to a pixel or group of pixels. *See* pixel.

peripheral component interconnect: An industry standard 32-bit bus.

peripheral device: An I/O device that is external to the central processor and/or main memory such as a printer or a mouse.

Péritel: Péritel is a 21-pin connecting cable/port system that allows images and high-quality stereo sound (including Dolby® Pro-Logic sound formats) to be sent from one audio-visual device to another. It is also known as a "SCART connector" or "Euro connector".

pixel: A picture element. The smallest dot that can be made on a display or printer. Also called a pel.

plug and play: A capability with Windows that enables the system to automatically recognize connections of external devices and make the necessary configurations in the computer.

port: The electrical connection through which the computer sends and receives data to and from devices or other computers.

Power Saver Utility: A TOSHIBA utility that lets you set the parameters for various power-saving functions.

printed circuit board (PCB): A hardware component of a processor to which integrated circuits and other components are attached. The board itself is typically flat and rectangular, and constructed of fiberglass, to form the attachment surface.

program: A set of instructions a computer can execute that enables it to achieve a desired result. *See also* application.

prompt: A message the computer provides indicating it is ready for or requires information or an action from you.

R

Radio frequency interference (RFI) shield: A metal shield enclosing the printed circuit boards of the printer or computer to prevent radio and TV interference. All computer equipment generates radio frequency signals. The FCC regulates the amount of signals a computing device can allow past its shielding. A Class A device is sufficient for office use. Class B provides a more stringent classification for home equipment use. TOSHIBA portable computers comply with Class B computing device regulations.

Random Access Memory (RAM): High speed memory within the computer circuitry that can be read or written to.

restart: Resetting a computer without turning it off (also called "warm boot" or "soft reset"). *See also* boot.

RGB: Red, green, and blue. A device that uses three input signals, each activating an electron gun for a primary additive color (red, green, and blue) or port for using such a device. *See also* CRT.

RJ11: A modular telephone jack.

RJ45: A modular LAN jack.

ROM: Read Only Memory: A nonvolatile memory chip manufactured to contain information that controls the computer's basic operation. You cannot access or change information stored in ROM.

S

S-Video: Short for *Super-Video*, a type of connection used by S-VHS videocassette players, camcorders, DVD players, etc. to transmit high-quality video signals.

SCSI: Small Computer System Interface is an industry standard interface for connection of a variety of peripheral devices.

SD card: Secure Digital cards are flash memory widely used in a variety of digital devices such as digital cameras and Personal Digital Assistants.

SECAM L: SECAM (Sequential Color Memory) is a broadcasting standard used in France.

serial communications: A communications technique that uses as few as two interconnecting wires to send bits one after another.

serial interface: Refer to a type of information exchange that transmits information sequentially, one bit at a time.

SIO: Serial Input/Output. The electronic methodology used in serial data transmission.

soft key: Key combinations that emulate keys on the IBM keyboard, change some configuration options, stop program execution, and access the numeric keypad overlay.

software: The set of programs, procedures and related documentation associated with a computer system. Specifically refers to computer programs that direct and control the computer system's activities. *See also* hardware.

stop bit: One or more bits of a byte that follow the transmitted character or group codes in asynchronous serial communications.

subpixel: Three elements, one red, one green and blue (RGB), that make up a pixel on the color LCD. The computer sets subpixels independently, each may emit a different degree of brightness. *See also* pixel.

synchronous: Having a constant time interval between successive bits, characters or events.

system disk: A disk that has been formatted with an operating system. For MS-DOS the operating system is contained in two hidden files and the COMMAND.COM file. You can boot a computer using a system disk. Also called an operating system disk.

T

terminal: A typewriter-like keyboard and CRT display screen connected to the computer for data input/output.

TFT display: A liquid crystal display (LCD) made from an array of liquid crystal cells using active-matrix technology with thin film transistor (TFT) to drive each cell.

Touch Pad: A pointing device integrated into the TOSHIBA computer palm rest.

TTL: Transistor-transistor logic. A logic circuit design that uses switching transistors for gates and storage.

U

Universal Serial Bus: This serial interface lets you communicate with several devices connected in a chain to a single port on the computer.

V

VGA: Video Graphics Array is an industry standard video adaptor that lets you run any popular software.

volatile memory: Random access memory (RAM) that stores information as long as power is supplied to the computer.

W

warm start: Restarting or resetting a computer without turning it off.

window: A portion of the screen that can display its own application, document or dialog box. Often used to mean a Microsoft Windows window.

Wireless LAN: Local Area Network (LAN) through wireless communication.

write protection: A method for protecting a floppy disk from accidental erasure.

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